

2015 COMMUNITY HEALTH NEEDS ASSESSMENT

DICKENSON COMMUNITY HOSPITAL

Published June 29, 2015

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Introduction

Mountain States Health Alliance (MSHA) is an integrated health care delivery system providing a comprehensive continuum of care to people in 29 counties in Tennessee, Virginia, Kentucky, and North Carolina. MSHA was formed after Johnson City Medical Center Hospital, Inc. acquired six Columbia/HCA hospitals in Northeast Tennessee on September 1, 1998; and was later renamed Mountain States Health Alliance in January 1999.

Today, MSHA is the largest regional health care system with 13 hospitals operating at approximately $1.0 billion in net revenues. The hospitals are:

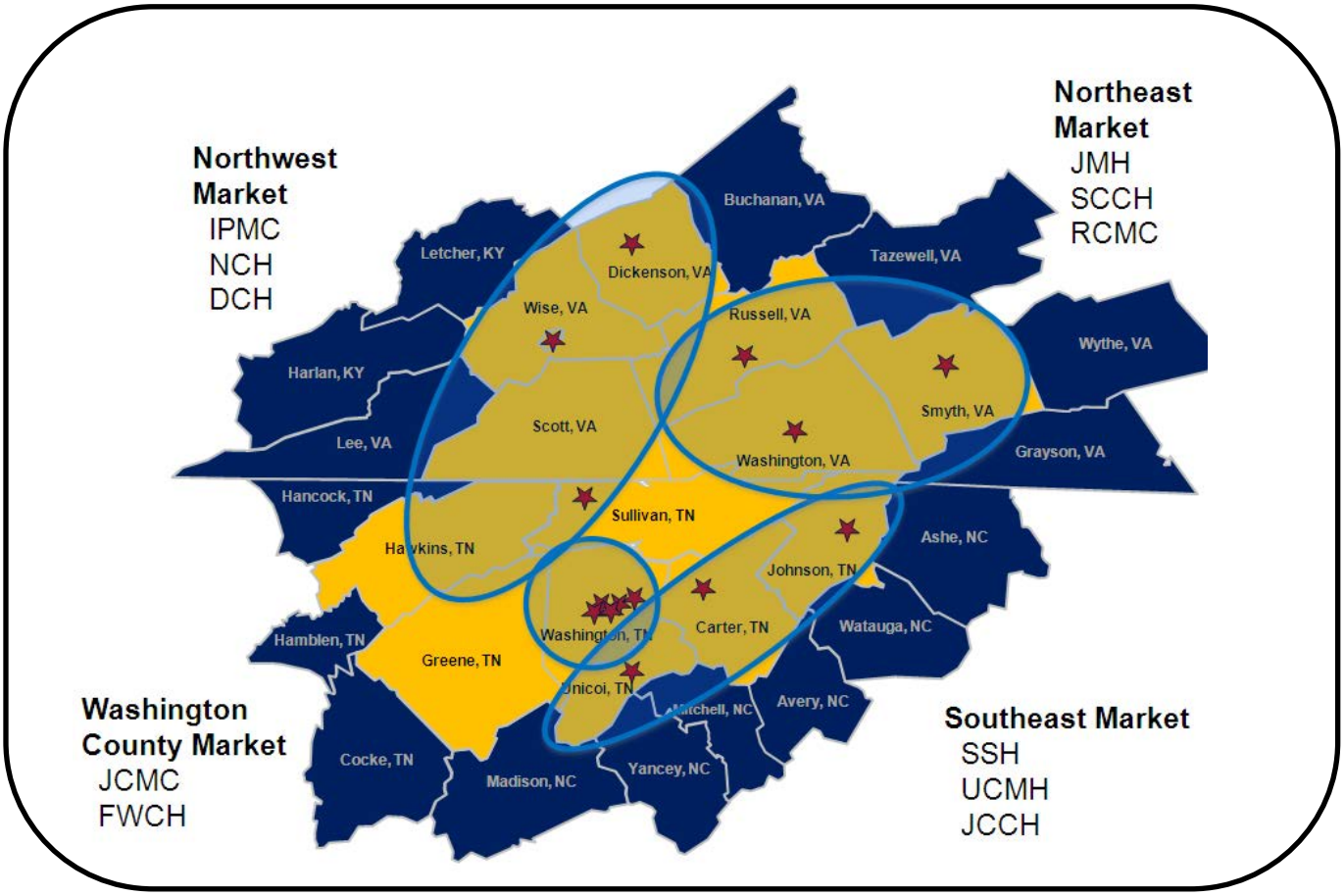
- Johnson City Medical Center
- Niswonger Children's Hospital
- Woodridge Psychiatric Hospital
- Franklin Woods Community Hospital
- Unicoi County Community Hospital
- Indian Path Medical Center
- Johnson County Community Hospital
- Sycamore Shoals Hospital
- Dickenson Community Hospital
- Johnston Memorial Hospital
- Norton Community Hospital
- Russell County Medical Center
- Smyth County Community Hospital

In addition to 13 hospitals, MSHA's integrated health care delivery system includes primary/preventive care centers and numerous outpatient care sites, including First Assist Urgent Care, MedWorks, Same Day Surgery, and Mountain States Rehabilitation.

Executive Summary

Regional and national rankings for health factors continue to be disappointing as cancer, heart disease, and diabetes rates continue to increase each year. Obesity and smoking continue to be major problems in the United States, leading to additional diseases. From a global perspective, the United States falls behind other developing nations in health outcomes. Clearly, there are many needs that exist and need attention. The interrelatedness between the health of a community, its economic status, and its educational attainment levels is becoming increasingly recognized. Mountain States Health Alliance (MSHA) exists to "*identify and respond to the health care needs of individuals and communities in our region and to assist them in attaining their highest possible level of health.*" In doing so, MSHA recognizes this is a very complex challenge that involves the engagement of many prongs of the community.

In order for MSHA to serve its region most effectively, it is essential to understand each community's individual needs. MSHA has conducted a Community Health Needs Assessment to profile the health of the residents within the local region (a map of the MSHA service area is provided on the following page). Activities associated with the development of this assessment have taken place from spring of 2014 through spring of 2015, including state, regional and county-specific secondary data collection and primary data obtained through individual surveys and focus groups with individuals from the local communities.



★ Represents county in which MSHA owns a facility. MSHA has part-ownership in other hospitals but they are not included in this assessment.

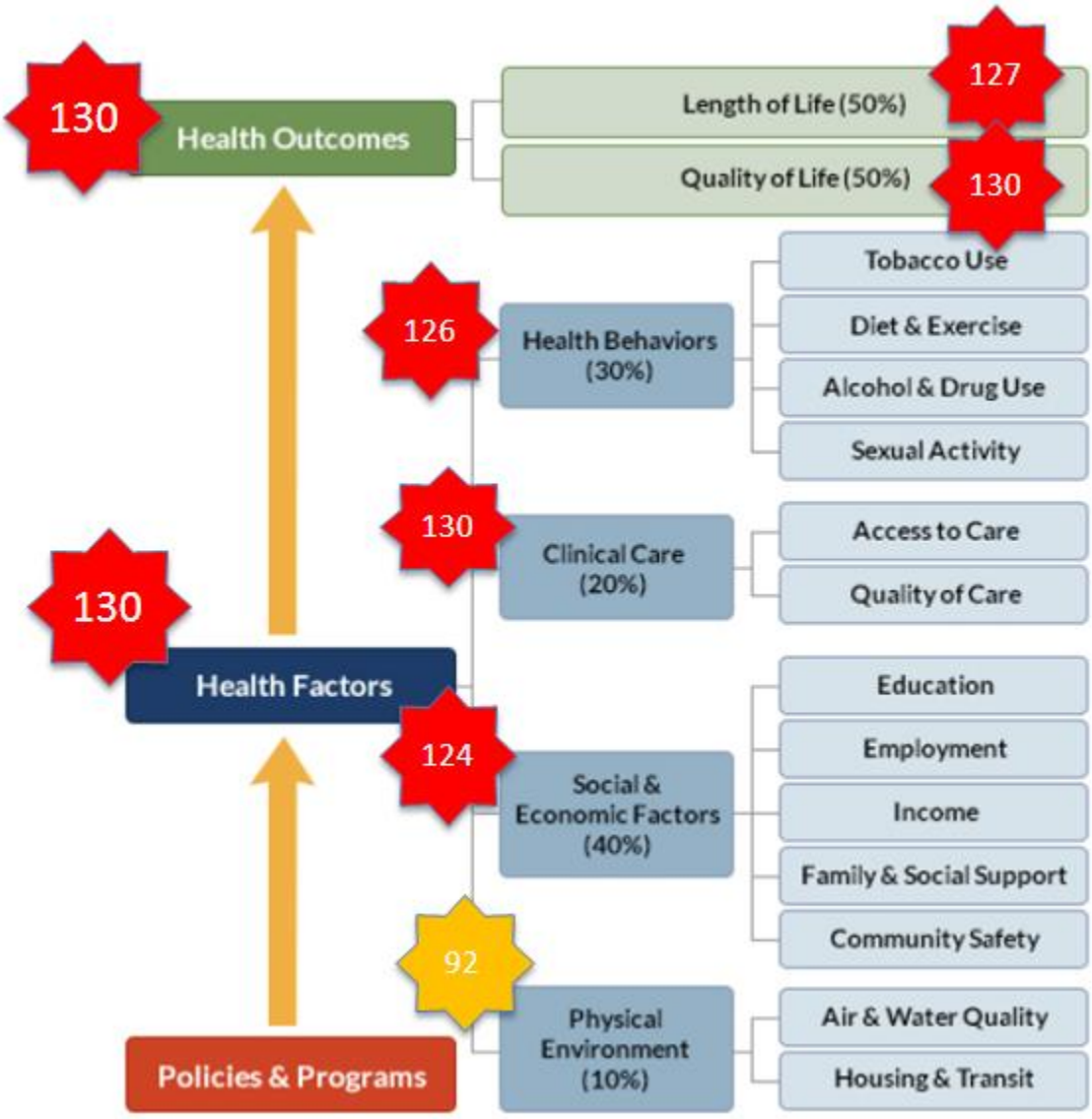
*Service Area is defined by approximately 80% of inpatient population.

Throughout the assessment, high priority was given to determining the health status and available resources within each community. Community members from each county met with MSHA to discuss current health priorities and identify potential solutions. The information gathered from a local perspective, paired with regional, state and national data, helps to communicate the region's health situation in order to begin formulating solutions for improvement.

In 2014, Tennessee ranked 45th and Virginia ranked 21st out of 50 states for overall health outcomes. Both states had high rates of adult obesity, cancer deaths, infant mortality, and diabetes. Though Virginia's overall ranking is moderately low, the health outcomes in Southwest Virginia counties, where MSHA's facilities are located, resembles those of Tennessee. After compiling the various sources of information, the top health priorities were identified for the communities that each of the MSHA hospitals serve. This effort has determined the top health priorities identified in Dickenson County to include **diabetes, mental health, substance abuse and obesity**. There are certainly a number of other health challenges in this community, but these rise to the top based on this assessment.

According to the 2015 County Health Rankings, Dickenson County is ranked 130th Virginia for health outcomes and 130th for health factors out of 133 counties. The leading causes of death for ages 65 and over are heart disease, cancer, and stroke. Dickenson County also ranked 126th in health behaviors. When compared to other Virginia counties, Dickenson County has high physical inactivity, high rates of smoking, high teen birth rates, and high overweight/obesity rates. As for social and economic factors, Dickenson County ranks 124th due to low rates of college education, high rates of children in poverty, and high unemployment rates.

Dickenson County Health Ranking
2015 County Health Rankings
www.countyhealthrankings.org



*Ranking is in comparison to all 133 localities in the state of Virginia.

Community Interview Summary

In spring 2014 the MSHA Strategic Planning Department completed individual interviews to connect with community members of Dickenson County and determine the needs of the community that Dickenson Community Hospital serves. MSHA hospital administration teams were contacted in order to obtain names of individuals in the community who were considered public health officials or community leaders. The eight interviewees included representatives from the local school system, hospital, sheriff's office and treasurer's office. These individuals were invited to discuss and assist in determining the health priorities and resources available in their community of Dickenson County.

Collecting Community Input

In order to complete the community health needs assessment for Dickenson Community Hospital, MSHA met with various individuals from Dickenson County, VA. The organizations that were represented are listed in Table 1.1.

Table 1.1 – Summary Organizations Participating in DCH's CHNA

Reported Organizations Providing Input for Assessment
Dickenson County Public Schools Dickenson County Hospital Dickenson County Sheriff's Office Dickenson County Treasurer's Office

To begin the community health needs assessment, MSHA's strategic planning staff presented data that had been collected to illustrate past and current health trends for Virginia and Dickenson County. The presentation depicted the current national health rankings, in addition to providing a snapshot of the county.

Following the presentation, each participant was given a survey to determine the individual's personal assessment of their county's health priorities. Secondly, the individuals were asked to submit ideas and suggestions as to how MSHA could use the available resources in order to improve the health priorities determined. After the surveys had been completed, each group discussed the questions and continued brainstorming ways to address obstacles and utilize resources. All of the information collected from the surveys and open discussion was evaluated and prioritized based on health needs.

In surveys obtained from the Dickenson County representatives, several community health needs and resources were identified. Table 1.2 lists the survey questions given to each participant in the assessment.

Table 1.2 – Community Survey Questions

	Survey Questions
1	How would you rate the general health status of the patient population in this community on a scale of 1 to 10 (with 1 being the poorest and 10 being the best)?
2	Keeping in mind resources are not unlimited, can you identify the top 1-2 health priorities in your local community that you feel should be addressed in the following areas: a)Health Outcomes/Diseases b)Health Behaviors c)Social Environment
3	What existing resources, such as organized groups or public health initiatives have been developed and are in place to address these health priorities?
4	What ideas do you have that may serve to improve these health priorities?

Health Status Rating

Overall, the general health status of Dickenson County was rated as 3.8 on a scale of 1 – 10, with 1 being the poorest and 10 being the best. Individual responses ranged from 2 to 6. The health ranking for Dickenson County can be found below in Table 1.3.

Table 1.3 – Average Health Status Ranking

MSHA Facility/County	Number of Individuals	Average of Health Status Rating
DICKENSON COMMUNITY HOSPITAL, Dickenson County, VA	8	3.8

Top Health Priorities

From the results of the surveys, the most prevalent health priorities in Dickenson County were diabetes, mental health, substance abuse and obesity (physical inactivity/poor diet). Table 1.4 lists the health priorities input provided by community participants.

Table 1.4 – Top Identified Health Issues

Dickenson County

Top Health Priorities	Responses	% of Total Responses
Health Outcomes/Diseases		
Diabetes	5	71.43%
Mental/Behavioral health	5	71.43%
Obesity	4	57.14%
Cancer	4	57.14%
Cardiovascular disease	3	42.86%
COPD	1	14.29%
Health Behaviors		
Substance and prescription drug abuse	5	71.43%
Smoking	4	57.14%
Poor nutrition	4	57.14%
Physical inactivity	2	28.57%
Diabetes compliance/monitoring	1	14.29%
Social Environment		
Teen pregnancy	2	28.57%
Domestic violence / abuse / bullying	2	28.57%
Poverty	1	14.29%
Unemployment	1	14.29%
Built environment for recreation	1	14.29%

*Individuals submitted multiple answers regarding health priorities. Rank order of responses is provided in parenthesis.

These priorities are consistent with the secondary data findings.

- Diabetes
  - The percentage of adults who have been diagnosed with diabetes in Dickenson County is on par with the state at 9%
  - Diabetic monitoring is slightly lower than the state average (defined as the percentage of diabetic Medicare enrollees ages 65-75 that receive HbA1c monitoring; 85% vs. 87%)
- Mental health
  - The average number of reported poor mental health days in Dickenson County is twice that of the state (6.4 vs. 3.1)
  - The number of population per mental health provider in Dickenson County is over four times that of the state (3,097 per 1 provider vs. 724 per 1 provider)
- Substance abuse
  - The rate of drug poisoning deaths in Dickenson is nearly 6 times the state average per 100,000 (53 vs. 9)
- Obesity
  - The number of adults in Dickenson county that are obese is 30% compared to the state which is 27%
  - Self-reported physical inactivity rates among Dickenson County residents exceed the state average (26% vs. 22%)

All of these issues lead to a higher percentage of self-reported age-adjusted fair or poor health rates in Dickenson County compared to the state (31% vs. 14%) as well as a significant higher number of years of potential life lost before 75 per 100,000 (a measure of premature death) at 11,985 in the county vs. 6,192 in VA.

Dickenson (DI)

	Dickenson County	Error Margin	Top U.S. Performers*	Virginia	Rank (of 133)
Health Outcomes					130
Length of Life					127
Premature death	11,985	9,996-13,973	5,200	6,192	
Quality of Life					130
Poor or fair health	31%	24-39%	10%	14%	
Poor physical health days	7.7	5.6-9.7	2.5	3.2	
Poor mental health days	6.4	4.4-8.3	2.3	3.1	
Low birthweight	8.5%	7.0-10.0%	5.9%	8.3%	
Health Factors					130
Health Behaviors					126
Adult smoking	32%	23-42%	14%	18%	
Adult obesity	29%	23-36%	25%	28%	
Food environment index	8.3		8.4	8.3	
Physical inactivity	32%	25-39%	20%	22%	
Access to exercise opportunities	47%		92%	81%	
Excessive drinking			10%	16%	
Alcohol-impaired driving deaths	70%		14%	31%	
Sexually transmitted infections	300		138	427	
Teen births	53	46-61	20	29	
Clinical Care					130
Uninsured	17%	15-18%	11%	14%	
Primary care physicians	3,923:1		1,045:1	1,344:1	
Dentists	15,486:1		1,377:1	1,611:1	
Mental health providers	3,097:1		386:1	724:1	
Preventable hospital stays	130	113-146	41	55	
Diabetic monitoring	85%	74-95%	90%	87%	
Mammography screening	57.9%	45.5-70.3%	70.7%	63.4%	
Social & Economic Factors					124
High school graduation	83%			83%	
Some college	47.5%	40.1-55.0%	71.0%	68.2%	
Unemployment	10.0%		4.0%	5.5%	
Children in poverty	28%	20-35%	13%	16%	
Income inequality	4.6	3.9-5.4	3.7	4.8	
Children in single-parent households	33%	25-42%	20%	30%	
Social associations	4.5		22.0	11.3	
Violent crime	106		59	200	
Injury deaths	146	120-173	50	52	
Physical Environment					92
Air pollution - particulate matter	13.0		9.5	12.7	
Drinking water violations	0%		0%	2%	
Severe housing problems	11%	9-14%	9%	15%	
Driving alone to work	84%	81-86%	71%	77%	
Long commute - driving alone	46%	38-53%	15%	38%	

* 90th percentile, i.e., only 10% are better.
Note: Blank values reflect unreliable or missing data

2015

Identifying Available Resources

MSHA realizes that there are numerous resources in all of the counties it serves that can provide care for individuals. Our goal, in order to reduce costs and provide the best care possible for patients, is to identify these resources to prevent duplication of services and efforts. The interviewees were asked to list all of the services and resources within their community. The interviewees acknowledged that many resources currently exist to help meet health needs. Table 1.5 lists the current resources within each county that offer health services to the community.

Table 1.5 – Identified Available Resources

Resources Available
Dickenson County, Virginia
Smoke-free schools
Cumberland Plateau Health District
Health Department
Health Wagon
Drug Court
School nurses
Remote Area Medical (RAM)
Free clinics (Stone Mountain Health Clinic)
Quit Line referrals
Lion's Club
Behavioral health services at DCH
Head Start – Kids Central
Obesity prevention program in middle schools
Farmer's markets
Frontier Health
Junction Center
Appalachian College of Pharmacy
Centennial Heights Program

*MSHA understands that there are other resources available in each county that are not listed in this table. This table represents only the resources listed by participants in community health needs assessment. MSHA will continue to identify resources.

Improving Health Priorities

The community members who were surveyed provided helpful ideas as to how to begin formulating a plan to improve the health priorities throughout the region. To enhance existing resources, the participants stressed the significance of increasing public awareness of both addressing one's health needs and the availability of health care options within each community. Additional suggestions as to how MSHA can improve the previously identified health priorities are listed in Table 1.6.

Table 1.6 – Ideas to Improve Health Priorities

	Responses
1	Child and youth health education / health promotion
2	Job creation
3	Substance abuse education
4	Collaboration among community organizations and members
5	More community activities for children and families
6	Press releases/fliers to inform public about health programs
7	Disseminate diabetes fact sheet
8	In-home monitoring of health conditions
9	Dental assistants/hygienists to visit schools
10	ER physicians to be trained on minor dental procedures
11	More community involvement
12	After school programming for children

However, it is also helpful to understand from a more global perspective the health status of our nation as a whole, since many issues we face in our service area are not limited to just our region. Compiled on an annual basis, the *America's Health Rankings* publication developed by the United Health Foundation, the American Public Health Association and Partnership for Prevention provides one of the most comprehensive assessments regarding the status of the nation's health. The following information in the national and regional overview is from the 2015 edition

Health is a result of our behaviors, our individual genetic predisposition to disease, the environment and the community in which we live, the clinical care we receive and the policies and practices of our health care and prevention systems. Each of us, individually, as a community, and as a society, strives to optimize these health determinants, so that all of us can have a long, disease-free, and robust life regardless of race, gender or socio-economic status.

This report looks at the four groups of health determinants that can be affected:

1. **Behaviors** include the everyday activities we do that affect our personal health. It includes habits and practices we develop as individuals and families that have an effect on our personal health and on our utilization of health resources. These behaviors are modifiable with effort by the individual supported by community, policy and clinical interventions.

2. **Community and environment** reflects the reality that the daily conditions in which we live our lives have a great effect on achieving optimal individual health.

3**. Public and health policies** are indicative of the availability of resources to encourage and maintain health and the extent that public and health programs reach into the general population.

4. **Clinical care reflect**s the quality, appropriateness and cost of the care we receive at doctors' offices, clinics and hospitals.

All health determinants are intertwined and must work together to be optimally effective. For example, an initiative that addresses tobacco cessation requires not only efforts on the part of the individual but also support from the community in the form of public and health policies that promote non-smoking and the availability of effective counseling and care at clinics. Similarly sound prenatal care requires individual effort, access to and availability of prenatal care coupled with high quality health care services. Addressing obesity, which is a health epidemic now facing this country, requires coordination among almost all sectors of the economy including food producers, distributors, restaurants, grocery and convenience stores, exercise facilities, parks, urban and transportation design, building design, educational institutions, community organizations, social groups, health care delivery and insurance to complement and augment individual actions.



America's Health Rankings® combines individual measures of each of these determinants with the resultant health outcomes into one, comprehensive view of the health of a state. Additionally, it discusses health determinants separately from health outcomes and provides related health, economic and social information to present a comprehensive profile of the overall health of each state.

America's Health Rankings® employs a unique methodology, developed and periodically reviewed by a panel of leading public health scholars, which balances the contributions of various factors, such as smoking, obesity, binge drinking, high school graduation rates, children in poverty, access to care and incidence of preventable disease, to a state's health. The report is based on data from the

U.S. Departments of Health and Human Services, Commerce, Education and Labor; U.S. Environmental Protection Agency; U.S. Census Bureau, the American Medical Association; the American Dental Association; the Dartmouth Atlas Project; and the Trust for America's Health.

Purpose

The ultimate purpose of *America's Health Rankings*® is to stimulate action by individuals, elected officials, health care professionals, employers, and communities to improve the health of the population of the United States. We do this by promoting public conversation concerning health in our states, as well as providing information to facilitate citizen, community and group participation. We encourage participation in all elements: behaviors, community and environment, clinical care, and public and health policies. Each person individually, and in their capacity as an employee, employer, voter, community volunteer, health official or elected official, can contribute to the advancement of the healthiness of their state. Proven, effective and innovative actions can improve the health of people in every state whether the state is first or 50th.

Findings

Comparison to Other Nations

When health in the United States is compared to health in other countries, the picture is disappointing. The World Health Organization, in its annual World Health Statistics 2013, compares the United States to the nations of the world on a large variety of measures. While the U.S. does exceed many countries, it is far from the best in many of the common measures used to gauge healthiness and lags behind its peers in other developed countries.

The United States ranks at or near the bottom among high-income countries on nearly all indicators of mortality, survival, and life expectancy. Life expectancy is a measure that indicates the number of years that a newborn is expected to live. Japan, San Marino, and Switzerland are the persistent leaders for developed countries in this measure, with an overall life expectancy of 83 years. At 81 years for women and 76 years of men, the United States ranks 33rd among the 193 reporting nations of the WHO. The United States male life expectancy rates are on par with Chile, Cuba, Brunei Darussalam, and Maldives, while the female life expectancy rates are on par with Columbia, Costa Rica, Czech Republic, Estonia, Poland, and Qatar. There are 32 other countries that exceed the United States in healthy life expectancy, including Australia, Italy, Spain, France, Germany, Greece and the United Kingdom.

One of the underlying causes for these differences is the gap in infant mortality rates between the United States and many other countries. The infant mortality rate for the U.S. in 2011 was 6 deaths per 1,000 live births, ranking 40th among WHO nations. The infant mortality rates in Finland, Japan, and Sweden were *one* third that of the U.S. rate. Of the 193 countries rated, 39 countries had lower infant mortality rates than the United States.

These countries also have considerably lower infant mortality rates than that of non-Hispanic whites in the United States, which is the ethnic/racial group with the lowest infant mortality rate. The racial/ethnic disparities related to infant mortality could be related to differences in risk factors among different racial/ethnic groups, including risk for low birth weight delivery, access to medical care, and socioeconomic status. However, many of the racial/ethnic differences in infant mortality remain unexplained. It should also be noted that the reporting and classification of infant mortality varies among countries, which could be reflected in the ranks.

In addition to infant mortality, youth and young adults' mortality impacts life expectancy. Unintentional injuries claim approximately 30 percent of the years lost before age 50, along with violence and suicides, among U.S. young adults and adolescents. Non-communicable (chronic)

diseases, such as cancer, heart disease, and other conditions that are not caused by infections, begin to be more of a contributing factor after the age of 30.

Differences in healthy life expectancy are also affected by the effectiveness of treating disease, especially those that are amenable to care, including bacterial infections, treatable cancers, diabetes, cardiovascular and cerebrovascular disease, some ischemic heart disease, and complications from common surgical procedures. The age-adjusted amenable mortality rate before age 75 for the United States was 95.5 deaths per 100,000 population in 2006 to 2007, which is still a slower rate of improvement than in other Organization for Economic Cooperation and Development (OECD) nations studied. The rate in the U.S. is 50 percent higher than the rate in France, Japan, Italy, and Australia.

Additionally, the study indicated that despite spending more than any other country on health care, the United States continues to slip further behind and has one of the highest inequalities in health compared to other developed countries. The U.S. ranks among the worst OECD countries for child health well-being, having an inequality higher than average. Furthermore, although the United States has the highest income per person, it continues to rank as the worst country for income inequality, which is thought to explain why it has the highest index of health and social problems compared to other developed nations.

Physical inactivity and obesity play major contributions to disease worldwide and in the United States. Physical inactivity is the fourth leading risk factor for global mortality, and is responsible for an estimated 6 to 10 percent of non-communicable diseases, such as type 2 diabetes, heart disease, colon cancer, and breast cancer. North America has 34 percent of the world's biomass due to obesity; however, it only makes up for 6 percent of the world's population. Asia, on the other hand, has 61 percent of the world's population, yet only has 13 percent of its biomass due to obesity. While the U.S. is only one of several countries that form North America, it is the only North American nation to rank among the heaviest nations globally. It is estimated that eliminating physical activity in the United States would add approximately 1 year to life expectancy and dramatically reduce the burden of chronic diseases.

The results of these studies should be a wake-up call to everyone in the United States to strive to improve all aspects of our health system, including education, safety, prevention, and clinical care. Other countries have improved their overall health, indicating that we, too, can do the same.

National Changes since 1990

In the past year, 20 health measures improved, 8 measures declined, and 1 measure remained unchanged. Table 1 shows the national changes in the last year. These improvements were offset by deterioration in several measures, including increases in the prevalence of obesity, the percentage of children in poverty and lack of health insurance.

Since 2012, the prevalence of smoking declined from 21.2 percent to 19 percent among adults. The binge drinking prevalence rate dropped from 18.3 percent to 16.8 percent of adults who binged in the last 30 days, and physical inactivity decreased from 26.2 percent to 25.3 percent. The incidence of pertussis increased sharply from 9.0 to 15.5 cases per 100,000 populations. The percentages of children in poverty, lack of health insurance, child immunization coverage, and low birth weight have also suppressed faster improvement in our nation's health.

Table 1 – National Successes and Challenges

SUCCESSES

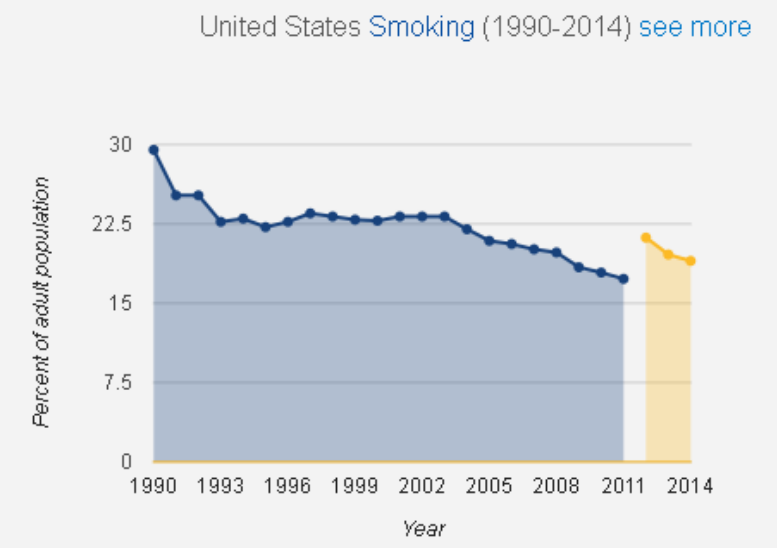
Smoking	Since 1990, smoking decreased 36% from 29.5% to 19.0% of adults who smoke regularly.
High School Graduation	At 81% of ninth graders graduating within 4 years, high school graduation is still a challenge. However, it is slowly trending upward from 71.7% in 2004.
Violent Crime	At 387 offenses per 100,000 population, violent crime is 37% lower than in 1990 and 49% lower than its peak in 1993.
Air Pollution	The average amount of fine particulates in the air continues to decline from 13.2 micrograms per cubic meter in 2003 to 9.9 micrograms per cubic meter in 2014.
Preventable Hospitalizations	Preventable hospitalizations continue to decline. In 2001, there were 82.5 discharges per 1,000 Medicare beneficiaries; in 2014, there were 62.9 discharges per 1,000 Medicare beneficiaries.
Occupational Fatalities	Occupational fatalities have declined in the last 8 years from 5.3 deaths per 100,000 workers in 2007 to 3.8 deaths per 100,000 workers. This is the second consecutive year the rate is below 4 deaths per 100,000 workers.
Infant Mortality	Since 1990, infant mortality decreased 41% from 10.2 to 6.0 deaths per 1,000 live births, although most of that decline occurred between 1990 and 1999. Even though the infant mortality rate is the lowest in US history, it is double the rate of many developed countries. In addition, large racial and geographic disparities exist within the country.
Premature Death	Since 1990, premature death declined 20% from 8,716 to 6,976 years of potential life lost before age 75. Premature death, like several other metrics, has leveled off in the last decade compared with improvements made in the 1990s.
Cancer Deaths	Cancer deaths declined 4% from 197.5 deaths in 1990 to 189.9 deaths per 100,000 population.
Cardiovascular Deaths	Since 1990, cardiovascular deaths declined 38% from 405.1 to 251.4 deaths per 100,000 population. This continues a relatively constant improvement of 2% to 3% yearly.

CHALLENGES

Obesity	Since 1990, obesity has increased 153% from 11.6% to 29.4% of adults.
Physical Inactivity	Physical inactivity remains high at 23.5% of adults and has not changed appreciably for the last decade.
Children in Poverty	At 19.9% of children, the children in poverty measure is far above the 23-year low of 15.8% in the 2002 Edition and near the 1990 level of 20.6%.
Public Health Funding	State public health funding continues its slow decline over the past 4 years. Since 2011, it decreased from $95.01 to $90.00 in expenditures per person at the state level.
Immunization Coverage — Children	Nationwide, comprehensive immunization coverage among children aged 19 to 35 months is only 70.4%. It increased marginally in the past year.
Immunization Coverage — Adolescents	Nationwide, comprehensive immunization coverage among teens aged 13 to 17 years is only 67.1%. It increased marginally in the past year.
Low Birthweight	In the last 20 years, the prevalence of low birthweight infants has increased from 7.1% to 8.0% nationwide. The good news is that it appears to have peaked in 2009 and is trending downward.
Diabetes	In the nation, 9.6% of adults report they have been told they have diabetes. There has been a steady, upward climb in the prevalence of diabetes, although data from the last 3 years shows a leveling of the prevalence.

The United States has the potential to return to the rates of improvement typical in the 1990s. However, to do so, it must address the drivers of health directly by focusing on reducing important risk factors. For example, the prevalence of smoking had been stagnant for many years and recently started to show improvement in the last two decades. However, there was an increase in rates from 2010 to 2012. In the last year, the prevalence of smoking declined in the United States from 21.2 percent to 19 percent of adults who smoke regularly; however Tennessee ranks 46th as one of the bottom five states with 24.3 percent of adults smoking and Virginia ranks 24th at 19.1 percent.

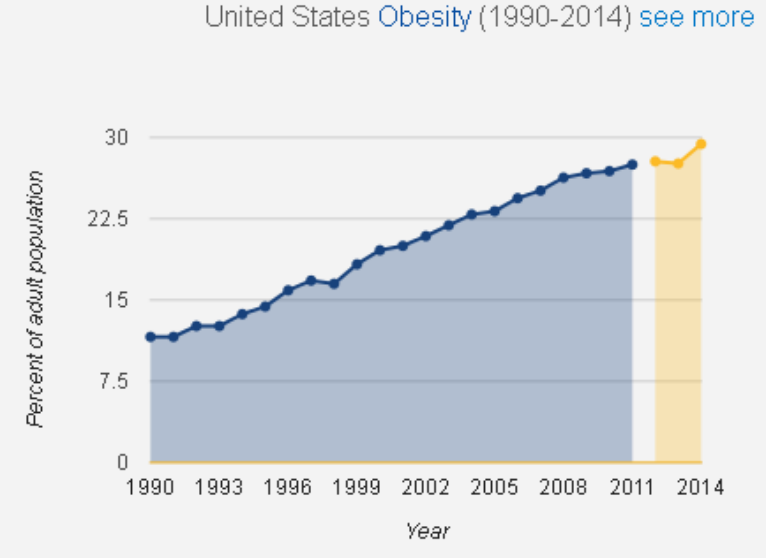
Graph 1 - Prevalence of Smoking Since 1990



Unprecedented and unchecked growth in the prevalence of obesity over the last 20 years has also dramatically affected the overall health of the United States. The prevalence of obesity, a risk factor for numerous illnesses including heart disease and diabetes, appears to be leveling off after increasing for decades. However, more than one in four people in the U.S. is considered obese - a category that the Centers for Disease Control and Prevention reserves for those who are significantly over the suggested body weight given their height. In the United States, the prevalence of obesity is 29.4 percent of adults, which has increased from 27.8 percent in 2012. Virginia's obesity score ranks 18th at 27.2 percent, while Tennessee ranks 47th at 33.7 percent of obese adults.

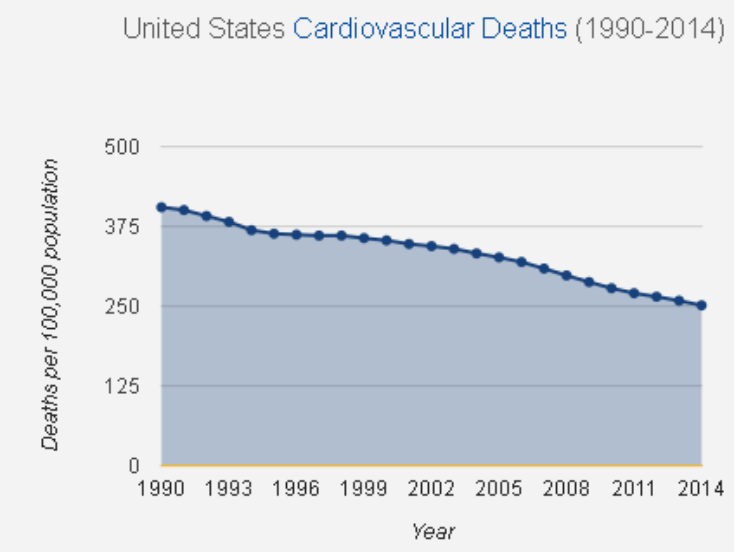
These very high obesity rates are gathered from the Behavioral Risk Factor Surveillance System, the nation's largest phone survey about health, and rely on self-reported height and weight. Actual obesity rates, as measured by health professionals, may be almost 10 percent higher, meaning that over one-third of the population is now obese.

Graph 2 - Prevalence of Obesity Since 1990



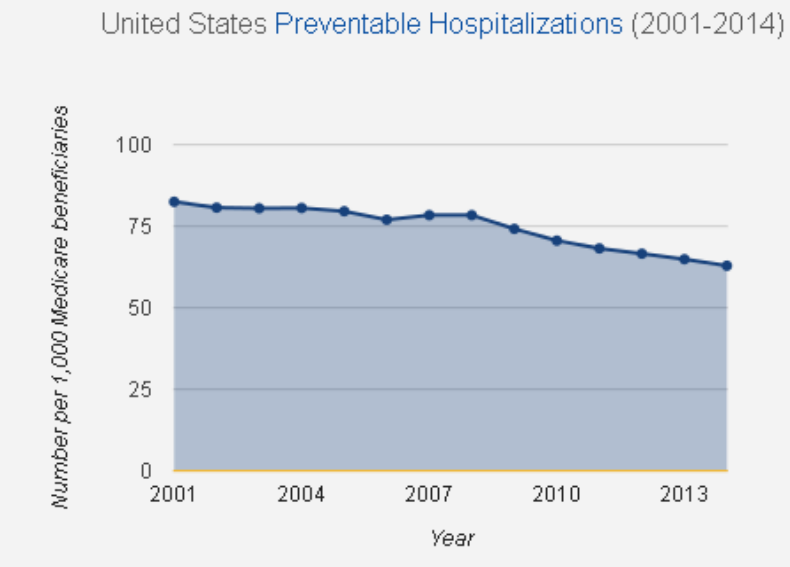
Despite increasing risk factors such as obesity, high cholesterol, and high blood pressure, deaths contributed to cardiovascular disease have consistently declined by 2 to 3 percent per year for the last decade. Cardiovascular disease accounts for 30 percent of Medicare spending, 17 percent of medical spending, and totals nearly $150 billion each year. For cardiovascular deaths, Virginia ranked 25th with a rate of 241.1 per 100,000 and Tennessee ranked 44th with the rate of 300.6.

Graph 3 – Prevalence of Cardiovascular Deaths Since 1990



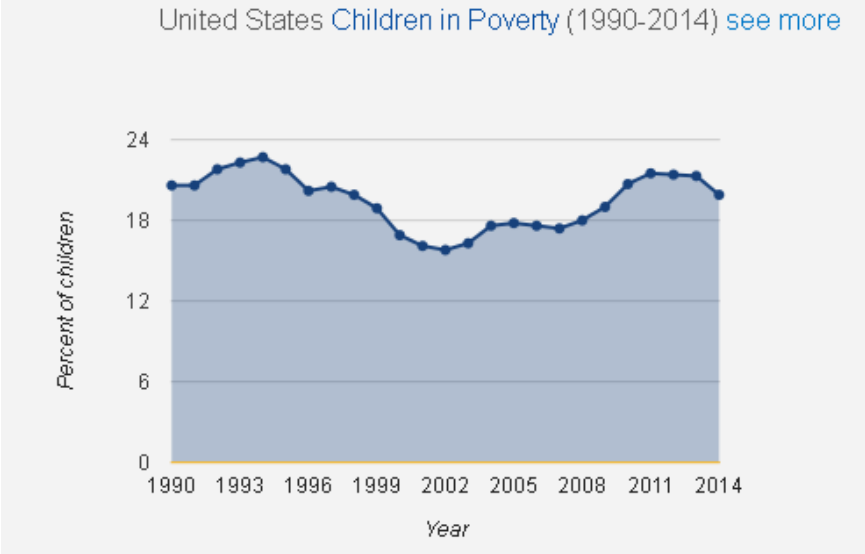
Like cardiovascular disease, potentially preventable hospitalizations have steadily decreased over the past 12 years. Preventable hospitalizations (hospitalizations that may be preventable with high quality primary and preventive care) have decreased from 82.5 to 62.9 discharges per 1,000 Medicare enrollees since 2001. Preventable hospitalizations reflect how efficiently a population uses various health care options for care and often occur as a result of a failure to detect or treat conditions early. Preventable hospitalizations could be avoided with earlier, less costly interventions. Virginia ranked 22nd in this measure with a 55.2 rate and Tennessee ranked 47th with a rate of 78.5.

Graph 4 – Preventable Hospitalizations Since 2001



The current economic climate also increases the challenge of maintaining a healthy population. Poverty is an indication of the lack of access to health care, including preventive care, for this vulnerable population. Graph 5 shows the recent increase in the percentage of children in poverty in the last few years, increasing from 16.1 percent of children in the 2011 Edition to 19.9 percent of children in the 2014 Edition. On this measure Virginia ranks 12th with a 14.5 percent of children living in poverty and Tennessee ranks 45th with 26.7 percent. In the 2002 Edition, the child poverty rate was at a historic low of 15.8 percent of persons under age 18.

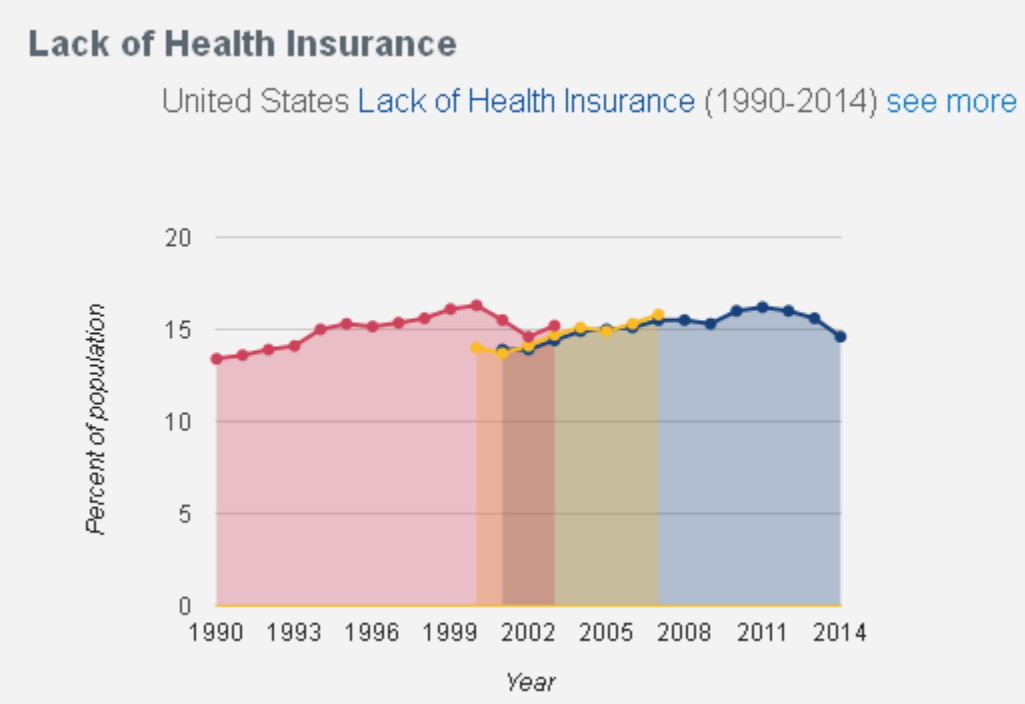
Graph 5 – Children in Poverty since 1990



Lack of health insurance coverage increased from 13.9 percent in the 2001 Edition to 14.6 percent of the population in the 2014 Edition. Lack of health insurance not only inhibits people from getting the proper care when needed but also reduces access to necessary preventive care to curtail or minimize future illnesses.

Massachusetts, with the lack of health insurance at 3.8 percent of the population, is substantially better than all other states and less than one-fourth of the national average. Texas has a rate six times that of Massachusetts. Changes in national health care laws have the potential to dramatically affect this metric over the next few years.

Graph 6 – Lack of Health Insurance Since 2001



2014 State Results

America's Health Rankings®-2014 Edition shows Hawaii at the top of the list of healthiest states again this year. The state has steadily remained within the top 5 healthiest states since 1990. Hawaii has consistently sustained its place within the top 5 healthiest states for the last 22 years, excluding 2002 when it was ranked 6th. Hawaii's strengths include its number one position for overall health rank and ranking in the top 5 states for a low rate of preventable hospitalizations, high immunization coverage among children, low prevalence of smoking and obesity, high per capita public health funding, a low rate of uninsured population, and low cancer and cardiovascular mortality rates. Hawaii's three challenges are a high prevalence of binge drinking, low high school graduate rate, and a high incidence of Salmonella infections.

Mississippi is 50th this year, the same as the last ten years, excluding in 2011 when it ranked 49th. It has been in the bottom three states since the 1990 Edition. The state ranks well for a low prevalence of binge drinking, higher immunization coverage among children, and small disparity in health status by educational attainment. In the past year, despite ranking last in the nation for immunization coverage among adolescents, coverage increased from 30.2 percent to 35.4 percent of persons aged 13 to 17 years. Mississippi also ranks last in many health outcomes, including infant mortality, low birth weight, premature death, cardiovascular death, infectious diseases, and overall health status. Mississippi's prevalence of obesity, physical inactivity, and diabetes remain among the highest in the nation with approximately 690,000 physically inactive adults, 770,000 obese adults, and 280,000 adults with diabetes. It ranks 48th in health determinants and 49th in health outcomes; therefore, its overall ranking is unlikely to change significantly in the near future

2014 Edition Ranking

2014 RANK (1–50)	STATE	SCORE
1	Hawaii	.91
2	Vermont	.85
3	Massachusetts	.74
4	Connecticut	.74
5	Utah	.73
6	Minnesota	.73
7	New Hampshire	.68
8	Colorado	.57
9	North Dakota	.55
10	Nebraska	.50
11	New Jersey	.47
12	Oregon	.41
13	Washington	.40
14	New York	.39
15	Rhode Island	.37
16	Maryland	.35
17	California	.35
18	Idaho	.34
18	South Dakota	.34
20	Maine	.30
21	Virginia	.30
22	Montana	.28
23	Wisconsin	.23
24	Iowa	.22
25	Wyoming	.21

2014 Edition Ranking

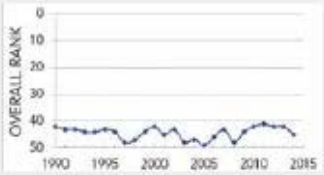
2014 RANK (1–50)	STATE	SCORE
26	Alaska	.13
27	Kansas	.08
28	Pennsylvania	.01
29	Arizona	-.04
30	Illinois	-.08
31	Texas	-.11
32	Florida	-.15
33	New Mexico	-.18
34	Michigan	-.21
35	Delaware	-.23
36	Missouri	-.28
37	North Carolina	-.29
38	Georgia	-.32
39	Nevada	-.33
40	Ohio	-.36
41	Indiana	-.38
42	South Carolina	-.64
43	Alabama	-.66
44	West Virginia	-.71
45	Tennessee	-.71
46	Oklahoma	-.74
47	Kentucky	-.75
48	Louisiana	-.80
49	Arkansas	-.93
50	Mississippi	-1.00

Tennessee



Overall Rank: 45

Change: ▼ 3
Determinants Rank: 44
Outcomes Rank: 46



Strengths:

- Low prevalence of binge drinking
- Low incidence of pertussis
- Ready availability of primary care physicians

Challenges:

- High prevalence of obesity
- High prevalence of physical inactivity
- High violent crime rate

Ranking:

Tennessee is 45th this year; it was 42nd in 2013. The ranking for senior health in Tennessee was 43rd in 2014.

Highlights:

- In the past year, physical inactivity increased by 17 percent from 28.6 percent to 33.6 percent of adults.
- In the past year, binge drinking decreased by 15 percent from 11.3 percent to 9.6 percent of adults, the lowest rate in the nation.
- In the past year, preventable hospitalizations decreased by 10 percent from 80.8 to 73.1 per 1,000 Medicare beneficiaries.
- In the last 2 years, immunization coverage among adolescents increased by 16 percent from 52.7 percent to 61.2 percent of adolescents aged 13 to 17 years.
- Since 1990, children in poverty decreased by 10 percent from 29.6 percent to 26.7 percent of children.

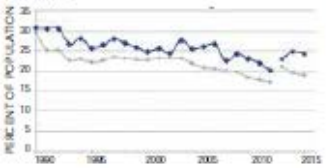
State Health Department Website:

http://health.state.tn.us

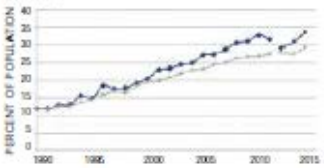
	2014 VALUE	2014 RANK	NO.1 STATE
Behaviors			
Smoking (Percent of adult population)	24.3	46	10.3
Binge Drinking (Percent of adult population)	9.6	1	9.6
Drug Deaths (Deaths per 100,000 population)	17.2	40	3.0
Obesity (Percent of adult population)	33.7	47	21.3
Physical Inactivity (Percent of adult population)	33.6	49	16.2
High School Graduation (Percent of incoming ninth graders)	83.0	20	93.0
Community & Environment			
Violent Crime (Offenses per 100,000 population)	644	50	123
Occupational Fatalities (Deaths per 100,000 workers)	5.0	32	2.2
Infectious Disease (Combined score Chlamydia, Pertussis, *Salmonella**)	0.01	29	-0.9
Chlamydia (Cases per 100,000 population)	507.9	39	233.0
Pertussis (Cases per 100,000 population)	4.8	10	1.6
Salmonella (Cases per 100,000 population)	17.2	35	6.8
Children in Poverty (Percent of children)	26.7	45	9.2
Air Pollution (Micrograms of fine particles per cubic meter)	9.5	30	4.9
Policy			
Lack of Health Insurance (Percent of population)	13.9	26	3.8
Public Health Funding (Dollars per person)	$83	20	$219
Immunization–Children (Percent aged 19 to 35 months)	68.5	33	82.1
Immunization–Adolescents (Percent aged 13 to 17 years)	61.2	36	81.3
Clinical Care			
Low Birthweight (Percent of live births)	9.2	44	5.7
Primary Care Physicians (Number per 100,000 population)	124.4	19	324.6
Dentists (Number per 100,000 population)	50.9	36	107.6
Preventable Hospitalizations (Number per 1,000 Medicare beneficiaries)	73.1	46	28.2
ALL DETERMINANTS	-0.43	44	0.71
OUTCOMES			
Diabetes (Percent of adult population)	12.2	46	6.5
Poor Mental Health Days (Days in previous 30 days)	3.7	24	2.5
Poor Physical Health Days (Days in previous 30 days)	5.0	49	2.8
Disparity in Health Status (Percent difference by education level**)	32.1	38	15.5
Infant Mortality (Deaths per 1,000 live births)	7.3	41	4.2
Cardiovascular Deaths (Deaths per 100,000 population)	300.6	44	184.7
Cancer Deaths (Deaths per 100,000 population)	213.5	44	145.7
Premature Deaths (Years lost per 100,000 population)	9,168	43	5,345
ALL OUTCOMES	-0.29	46	0.34
OVERALL	-0.71	45	0.91

*Negative score denotes less disease than US average, positive score indicates more than US average
**Difference in the percentage of adults aged 25 and older with vs without a high school education who report their health is very good or excellent

SMOKING



OBESITY



STATE ◆——◆ NATION ●——●

The 2012–2014 data in the above graphs are not directly comparable to prior years. See Methodology for additional information.

ECONOMIC ENVIRONMENT	TN	US
Annual Unemployment Rate (2013)	8.2	7.4
Annual Underemployment Rate (2013)	14.7	13.8
Median Household Income (2013)	$42,499	$51,939

MEASURE	ADULT POPULATION AFFECTED
Smoking	1,163,000
Obesity	1,595,000
Physical Inactivity	1,691,000
Diabetes	615,000

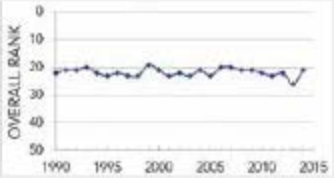
Virginia

VIRGINIA



Overall Rank: 21

Change: ▲ 5
Determinants Rank: 19
Outcomes Rank: 23



Strengths:

- Low rate of drug deaths
- Low violent crime rate
- Low percentage of children in poverty

Challenges:

- Low immunization coverage among children
- Low immunization coverage among teens
- High infant mortality rate

Ranking:

Virginia is 21st this year; it was 26th in 2013. The ranking for senior health in Virginia was 21st in 2014.

Highlights:

- In the past year, air pollution decreased by 6 percent from 9.3 to 8.7 micrograms of fine particles per cubic meter.
- In the last 2 years, drug deaths decreased by 10 percent from 9.3 to 8.4 deaths per 100,000 population.
- In the last 10 years, preventable hospitalizations decreased by 25 percent from 73.8 to 55.2 per 1,000 Medicare beneficiaries.
- Since 1990, cardiovascular deaths decreased by 42 percent from 413.2 to 241.1 deaths per 100,000 population.
- Since 1990, infant mortality decreased by 38 percent from 10.6 to 6.6 deaths per 1,000 live births.

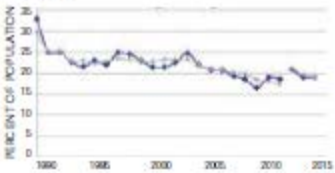
State Health Department Website:

www.vdh.state.va.us

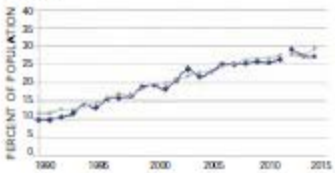
	2014 VALUE	2014 RANK	NO 1 STATE
Behaviors			
Smoking (Percent of adult population)	19.0	24	10.3
Binge Drinking (Percent of adult population)	15.9	20	9.6
Drug Deaths (Deaths per 100,000 population)	8.4	4	3.0
Obesity (Percent of adult population)	27.2	18	21.3
Physical Inactivity (Percent of adult population)	23.0	20	16.2
High School Graduation (Percent of incoming ninth graders)	84.0	16	93.0
Community & Environment			
Violent Crime (Offenses per 100,000 population)	190	4	123
Occupational Fatalities (Deaths per 100,000 workers)	4.4	25	2.2
Infectious Disease (Combined score Chlamydia, Pertussis, *Salmonella**)	-0.29	16	-0.9
Chlamydia (Cases per 100,000 population)	431.8	26	233.0
Pertussis (Cases per 100,000 population)	7.7	18	1.6
Salmonella (Cases per 100,000 population)	14.1	25	6.8
Children in Poverty (Percent of children)	14.5	12	9.2
Air Pollution (Micrograms of fine particles per cubic meter)	8.7	19	4.9
Policy			
Lack of Health Insurance (Percent of population)	12.4	20	3.8
Public Health Funding (Dollars per person)	$68	28	$219
Immunization–Children (Percent aged 19 to 35 months)	69.2	29	82.1
Immunization–Adolescents (Percent aged 13 to 17 years)	58.5	42	81.3
Clinical Care			
Low Birthweight (Percent of live births)	8.1	27	5.7
Primary Care Physicians (Number per 100,000 population)	125.8	16	324.6
Dentists (Number per 100,000 population)	61.6	19	107.6
Preventable Hospitalizations (Number per 1,000 Medicare beneficiaries)	55.2	22	28.2
ALL DETERMINANTS	0.24	19	0.71
OUTCOMES			
Diabetes (Percent of adult population)	9.8	26	6.5
Poor Mental Health Days (Days in previous 30 days)	3.3	11	2.5
Poor Physical Health Days (Days in previous 30 days)	3.6	15	2.8
Disparity in Health Status (Percent difference by education level**)	29.1	27	15.5
Infant Mortality (Deaths per 1,000 live births)	6.6	31	4.2
Cardiovascular Deaths (Deaths per 100,000 population)	241.1	25	184.7
Cancer Deaths (Deaths per 100,000 population)	189.5	23	145.7
Premature Deaths (Years lost per 100,000 population)	6,502	19	5,345
ALL OUTCOMES	0.06	23	0.34
OVERALL	0.30	21	0.91

*Negative score denotes less disease than US average, positive score indicates more than US average
**Difference in the percentage of adults aged 25 and older with vs without a high school education who report their health is very good or excellent

SMOKING



OBESITY



STATE ◆—◆ NATION ●—●

The 2012–2014 data in the above graphs are not directly comparable to prior years. See Methodology for additional information.

ECONOMIC ENVIRONMENT	VA	US
Annual Unemployment Rate (2013)	5.5	7.4
Annual Underemployment Rate (2013)	11.5	13.8
Median Household Income (2013)	$67,620	$51,939

MEASURE	ADULT POPULATION AFFECTED
Smoking	1,159,000
Obesity	1,632,000
Physical Inactivity	1,481,000
Diabetes	631,000

As Mountain States Health Alliance works to develop an implementation plan based on the findings from this assessment, key focus areas for consideration to impact the health of our community would be the 27 measures that comprise the *America's Health Rankings*. These determinants have been carefully selected by leaders in health and public policy as factors which have the greatest impact on future health of a population. For a state (or area for that matter) to improve the health of its population, efforts must focus on changing the determinants of health. A description of these determinants is outlined below.

Selection of Components

Four primary considerations drove the design of *America's Health Rankings*® and the selection of the individual measures:

1. The overall rankings had to represent a broad range of issues that affect a population's health,
2. Individual measures needed to use common health measurement criteria,
3. Data had to be available at a state level, and
4. Data had to be current and updated periodically.

While not perfect, the measures selected are believed to be the best available indicators of the various aspects of healthiness at this time and are consistent with past reports.

The measures are divided into two categories - Determinants and Outcomes. For further clarity, determinants are divided into four groups: Behaviors, Community and Environment, Public and Health Policies, and Clinical Care. These four groups of measures influence the health outcomes of the population in a state, and improving these inputs will improve outcomes over time. Most measures are actually a combination of activities in all four groups. For example, the prevalence of smoking is a behavior that is strongly influenced by the community and environment in which we live, by public policy including taxation and restrictions on smoking in public places, and by the care received to treat the chemical and behavioral addictions associated with tobacco. However, for simplicity, we placed each measure in a single category.

For *America's Health Rankings*® to continue to meet its objectives it must evolve and incorporate new information as it becomes available. The Scientific Advisory Committee provides guidance for the evolution of the rankings, balancing the need to change with the desire for longitudinal comparability. Over the last few years, change is being driven by: 1) the acknowledgment that health is more than years lived but also includes the quality of those years; 2) data about the quality and cost of health care delivery are becoming available on a comparative basis; and 3) measurement of the additional determinants of health are being initiated and/or improved. The committee also emphasizes that the real impact on health will be made by addressing the determinants, and making improvements on these items will affect the long-term health of the population. The determinants are the predictors of our future health.

Outcomes are traditionally measured using mortality measures which include premature death, infant mortality, cancer and cardiovascular mortality. While these measures overlap significantly, they do present different views of mortality outcomes of a population. Two measures of the quality of life- poor mental health days and poor physical health days - are also included and defined as the number of days in the previous 30 days when a person indicates their activities are limited due to mental or physical health difficulties.

As with all indices, the positive and negative aspects of each measure must be weighed when choosing and developing them. These aspects for consideration include: 1) the interdependence of

the different measures; 2) the possibility that the overall ranking may disguise the effects of individual measures; 3) an inability to adjust all data by age and race; 4) an over-reliance on mortality data; and 5) the use of indirect measures to estimate some effects on health. These concerns cannot be addressed directly by adjusting the methodology; however, assigning weights to the individual measures can mitigate their impact.

Each measure is assigned a weight that determines its percentage of the overall score. Determinants account for 75 percent of the overall ranking and outcomes account for 25 percent, a shift from the 50/50 balance in the original 1990 index. This reflects the importance and growing availability of determinant data.

A short description of each measure immediately follows. The data for each year is the most current data available at the time the report was compiled.

The table includes the core measures included in the current model, plus supplemental measures that can be used to further understand each state's unique situation. The supplemental measures are more fully described at http://www.americashealthrankings.org/About/Model.

Data for each state and the United States is available at Get Informed or by clicking the link above.

Core Measures

Determinants

Behaviors	Description
Smoking	Percentage of adults who are current smokers (smoked at least 100 cigarettes in their lifetime and currently smoke).
Binge Drinking	Percentage of adults who self-report having 4 or more (women) or 5 or more (men) alcoholic beverages on at least 1 occasion in the past 30 days.
Drug Deaths	Number of deaths due to drug injury of any intent (unintentional, suicide, homicide, or undetermined) per 100,000 population.
Obesity	Percentage of adults who are obese, with a body mass index (BMI) of 30.0 or higher.
Physical Inactivity	Percentage of adults who report doing no physical activity or exercise (such as running, calisthenics, golf, gardening, or walking) other than their regular job in the last 30 days.
High School Graduation	Percentage of incoming ninth graders who graduate in 4 years from a high school with a regular degree.

Community and Environment

Violent Crime	Number of murders, rapes, robberies, and aggravated assaults per 100,000 population.
Occupational Fatalities	Number of fatalities from occupational injuries per 100,000 workers.
Children in Poverty	Percentage of persons younger than 18 years who live in households at or below the poverty threshold.
Infectious Disease	Combined average z-score using the values of incident cases of chlamydia, pertussis, and *Salmonella* per 100,000 population.

Air Pollution	Average exposure of the general public to particulate matter of 2.5 microns or less in size (PM2.5).

Policy

Lack of Health Insurance	Percentage of the population that does not have health insurance privately, through their employer, or the government.
Public Health Funding	State funding dedicated to public health as well as federal funding directed to states by the Centers for Disease Control and Prevention and the Health Resources and Services Administration.
Immunization-Children	Percentage of children receiving the recommended doses of DTaP, polio, MMR, Hib, hepatitis B, varicella, and PCV vaccines by age 19–35 months.
Immunization-Adolescents	Percentage of adolescents aged 13 to 17 years who have received 1 dose of Tdap since the age of 10 years, 1 dose of meningococcal conjugate vaccine, and 3 doses of HPV vaccine (females only).

Clinical Care

Low Birth weight	Percentage of infants weighing less than 2,500 grams (5 pounds, 8 ounces) at birth.
Primary Care Physicians	Number of primary care physicians (including general practice, family practice, OB-GYN, pediatrics, and internal medicine) per 100,000 population.
Dentists	Number of dentists per 100,000 population
Preventable Hospitalizations	Discharge rate among the Medicare population for diagnoses that are amenable to non-hospital based care.

Outcomes

Diabetes	Percentage of adults who have been told by a health professional that they have diabetes (does not include pre-diabetes or diabetes during pregnancy).
Poor Mental Health Days	Number of days in the previous 30 days when a person indicates their activities were limited due to mental health difficulties.
Poor Physical Health Days	Number of days in the previous 30 days when a person indicates their activities were limited due to physical health difficulties.
Disparity in Health Status	Percent difference in adults aged 25 and older who did not graduate high school and adults with at least a high school education who self-report being in excellent or very good health.
Infant Mortality	Number of infant deaths (before age 1) per 1,000 live births.
Cardiovascular Deaths	Number of deaths due to all cardiovascular diseases, including heart disease and strokes, per 100,000 population
Cancer Deaths	Number of deaths due to all causes of cancer per 100,000 population
Premature Death	Number of years of potential life lost prior to age 75 per 100,000 population

Supplemental Measures

Behaviors

Cholesterol Check	Percentage of adults who have had their blood cholesterol checked within the last 5 years.
Dental Visit, Annual	Percentage of adults who have visited the dentist or dental clinic within the past year for any reason.
Diet, Fruit	Number of fruits consumed on an average day.
Diet, Vegetables	Number of vegetables consumed on an average day.
Teen Birth Rate	Number of births per 1,000 mothers aged 15 to 19 years.
Youth Smoking	Percentage of high school youth who smoked cigarettes on at least 1 day during the last 30 days.
Youth Obesity	Percentage of high school students who were greater or equal to the 95th percentile for body mass index, based on sex and age-specific reference data from the 2000 CDC growth charts.

Chronic Disease

Heart Disease	Percentage of adults who have been told by a health professional that they have angina or coronary heart disease.
High Cholesterol	Percentage of adults who have had their cholesterol checked and been told that it was high.
Heart Attack	Percentage of adults who have been told by a health professional that they had a heart attack (myocardial infarction).
Stroke	Percentage of adults who have been told by a health professional that they had a stroke.
Hypertension	Percentage of adults who have been told by a health professional that they have high blood pressure.

Clinical Care

Preterm Birth	Percentage of babies born before 37 weeks gestation.

Economic Environment

Personal Income	Per capita personal income in current dollars.
Median Household Income	The amount of income that divides the income distribution into 2 equal groups.
Unemployment Rate	Total unemployed as a percentage of the civilian labor force (U-3 definition).
Underemployment Rate	Total unemployed, plus all marginally attached workers, plus total employed part-time for economic reasons, as a percent of the civilian labor force (U-6 Definition).
Income Disparity (Gini coefficient)	A common measure of income inequality, where 0 represents complete equality and 1 indicates complete inequality.

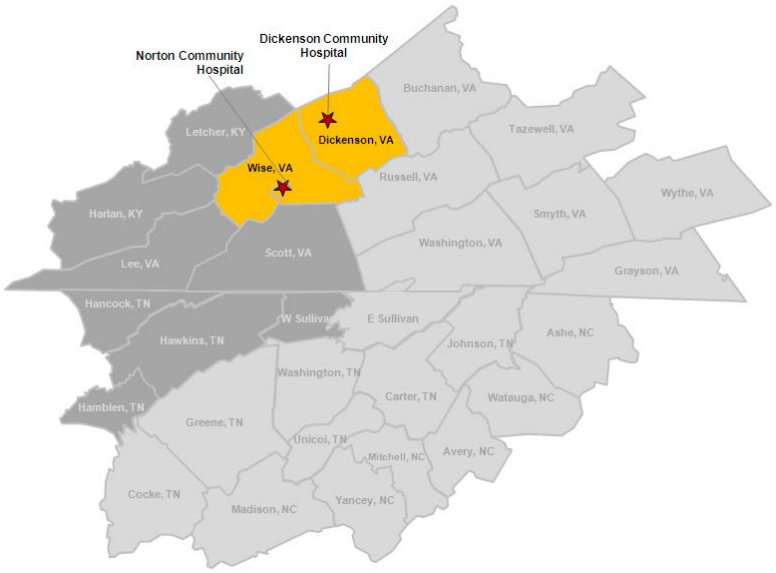
Outcomes

Low Health Status	Percentage of adults who describe their general health as fair or poor.
Suicide	Number of deaths due to intentional self-harm per 100,000 population.

Overview

The County Snapshots consists of demographics, key indicators of health status, interview highlights, and local resources. The model for the key indicators of health status analysis was based on the 2015 *County Health Rankings*, a key component of the Mobilizing Action Toward Community Health (MATCH). MATCH is collaboration between the Robert Wood Johnson Foundation and the University of Wisconsin Population Health Institute. Indicators are organized into two broad categories: Health Outcomes and Health Factors. The Health Factors have multiple components, including Clinical Care, Health Behaviors, Social and Economic Factors, and Physical Environment. A number of additional key indicators of health status were included in this analysis from other sources (they are noted in blue font in the snapshot section). For each indicator, the state and county score is provided as well as a comparison of the county's performance to that of the state.

DICKENSON COMMUNITY HOSPITAL

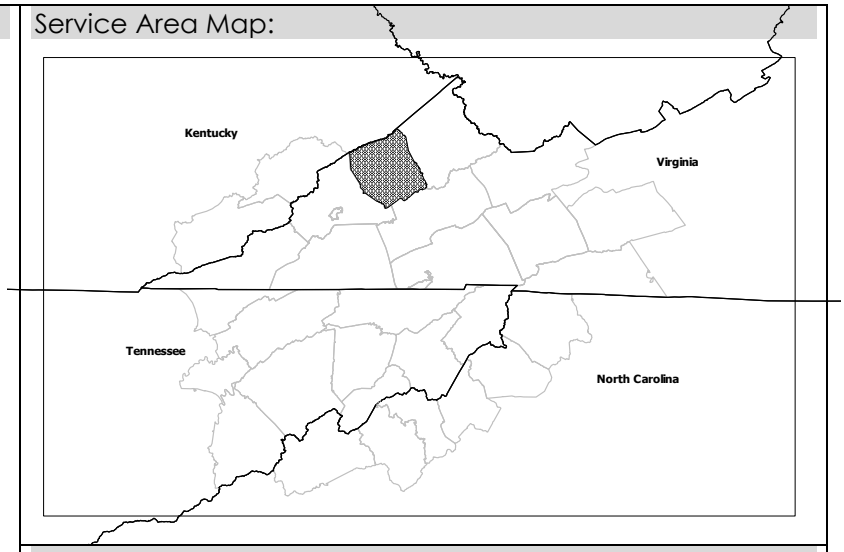
Service Area Counties:	Primary Service Area Map:
▪ Dickenson, VA ▪ Wise, VA	
	Facility Profiles: **Dickenson Community Hospital (DCH)**, located in Clintwood, Virginia opened in November 2003. It is a 25-bed not-for-profit 1-bed critical access hospital owned by Norton Community Hospital. A recent expansion included a 5,700 square foot physician office building on the hospital campus.

A 6-page profile of each county is provided. The profile includes demographic highlights, key indicators of health status, utilization projections, and survey results specific to the county. A detailed demographic analysis by county is provided in the appendix which follows the collection of county snapshots.

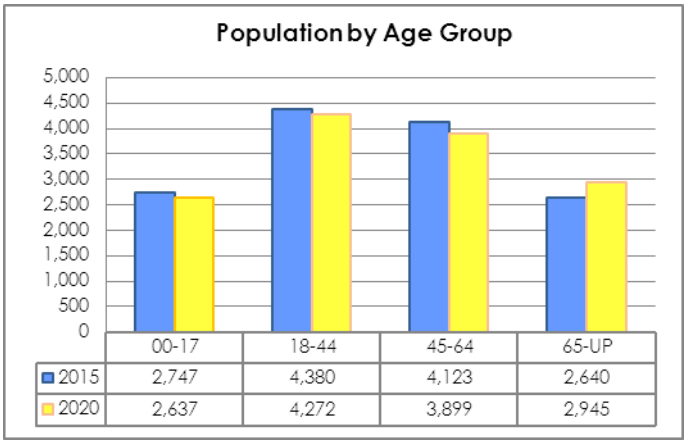
Demographic Highlights:

- Large elderly population compared to VA and US
- Declining rate of females of child-bearing age expected
- Low average household income level (17.7% of households make less than $15,000)
- Lower level of educational attainment compared to state and country (15.2% with no high school education compared to 5.9% nationally)
- Low level of diversity compared to state and national

Service Area Map:



Age Distribution and Population Projections:



Key Statistics:

	Dickenson County	Virginia	U.S.
2015 Total Population	13,890	8,417,864	321,369,000
% Change 2015-2020	-1.0%	4.7%	4.1%
% of Population 65+ (2015)	19.0%	14.0%	14.9%
% Minority (2015)	2.0%	30.8%	38.3%

	2015	2020	% Change
Total Male Population	7,031	6,986	-0.6%
Total Female Population	6,859	6,767	-1.3%
Females, Child Bearing Age (15-44)	2,323	2,265	-2.5%

Local Health Highlights:

STRENGTHS:

- Cerebrovascular mortality
- Increased enrollment in Medicaid
- Binge Drinking
- STDs
- Violent Crime

WEAKNESSES:

- High rate reporting fair/poor general health status
- Cardiovascular, cancer, suicide, and diabetes mortality
- Individuals unable to see a doctor due to cost
- Increased rates of smoking, physical inactivity, and obesity
- Child Abuse and Neglect
- Injury-related Mortality
- Poverty Rate

Leading Causes of Death (all ages):

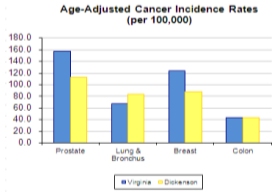
Cause of Death	Rate	Rank
Malignant Neoplasms	308.4	1
Heart Disease	220.3	2
Chronic Lower Respiratory Disease	138.5	3
Unintentional Injury	113.3	4
Influenza & Pneumonia	56.6	5
Diabetes Mellitus	37.8	6
Suicide	37.8	6
Nephritis & Nephrosis	25.2	7
Hypertension & Renal Disease	18.9	8
Cerebrovascular Disease	12.6	9
Alzheimer's Disease	12.6	9
Chronic Liver Disease	6.3	10

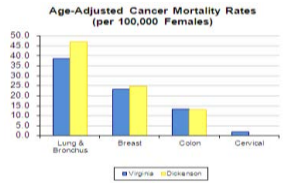
Key Indicators of Health Status:

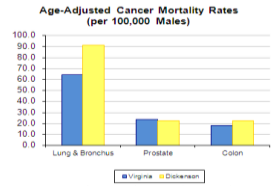
County: Dickenson, VA

	VA	Dickenson	2010	Desired
Health Outcomes				
Low Birth Weight (%)	8.3%	7.4%	11%	↓
General Health Status (% fair/poor health)	14.0%	31.0%	34%	↓
Very Low Birth Weight (%)	1.6%	2.4%	3.20%	↓
Infant Mortality (per 100,000)	8.3	9.1	2	↓
Mortality Rate (per 100,000)	735.8	1,014.5	774.4	↓
Cardiovascular Deaths (per 100,000)	161.3	173.9	174.5	↓
Cancer Deaths (5-yr avg rate per 100,000)	174.8	188.2	198.7	↓
Diabetes Mellitus Deaths (Age Adjusted Rate per 100,000)	20.0	37.8	31.3	↓
Cerebrovascular Deaths (Age Adjusted Rate per 100,000)	40.8	12.6	17.9	↓
Suicide Deaths (Age Adjusted Rate per 100,000)	12.9	37.7	15.4	↓
Mortality rate for ages 0 - 4 yrs (per 100,000)	152.9	239.2	229.6	↓
Mortality rate for ages 5 - 14 yrs (per 100,000)	18.5	53.8	0	↓
Mortality rate for ages 15 - 19 yrs (per 100,000)	44.5	0.0	103.4	↓
Mortality rates for ages 65+ (per 1,000)	43.6	46.5	37.6	↓
Lung Cancer Deaths (5-yr avg rate per 100,000)*	49.5	66.1	66.6	↓
Female Breast Cancer Deaths (5-yr avg rate per 100,000)*	23.4	24.9	66.6	↓
Percent of Adults with Asthma*	8.0%	6.0%	10.80%	↓
Prevalence of Diabetes (% of adults)*	9.0%	8.0%	12.40%	↓
Psychosis Discharges (per 100,000)	332.7	132.2	523	↓
Health Determinants				
Health Care Resources				
No Health Insurance (%)	18.0%	19.0%	26.60%	↓
Medicaid/Tenncare Enrollees (%)	14.7%	28.9%	27.60%	↓
Medical Doctors	255.5	3.0	65.5	↑
No Biennial Mammography (%)*	28.0%	25.0%	35.30%	↓
PSA Testing Past 2 Years (%)*	56.0%	54.0%	47.40%	↑
Pap Test Past 3 Years (%)*	84.0%	85.0%	24.90%	↑
Sigmoidoscopy/Colonoscopy (%)*	72.0%	62.0%	50.50%	↑
Inadequate or No Prenatal Care (%)	13.0%	11.0%	18%	↓
First Trimester Prenatal Care (%)	81.9%	72.9%	67.10%	↑
Hospital Staffed Beds (per 1,000)	2.2	1.6	0.1	↑
Licensed Nursing Beds (per 1,000 65+)	3.9	6.3	38.7	↑
# of Primary Care MDs	122.3	3.0	25.1	↑
# of Psychiatric Specialists	6,827	0	0	↓
State Mental Health Facility Beds (per 100,000)*	18.7	28.7	13.9	↑
Inpatient Discharge Rate (per 1,000) - Total	157.2	146.2	143.3	↓
Could Not See Doctor Due to Cost (%)	10.0%	17.0%	11%	↓
Health Behaviors				
Cigarette Smoking (%)	18.0%	35.0%	24.90%	↓
Physical Inactivity (%)	24.0%	30.0%	21%	↓
Overweight/Obesity (% BMI > 25)	62.0%	68.0%	57%	↓
Obesity (% BMI > 30)	28.0%	31.0%	29%	↓
Low Fruit and Vegetable Consumption (% <5 a day)	80.0%	82.0%	77%	↓
Binge Drinking (%)	18.0%	12.0%	16%	↓
Teen Birth Rate (per 1,000)	18.6	19.7	25	↓
Sexually Transmitted Diseases (per 100,000)	385.0	82.0	115.8	↓
Violent Crime (per 100,000)	233.0	144.0	161	↓
Motor Vehicle Crash Deaths (per 100,000)	11.0	20.0	30	↓
Unmarried Mother Birth Rate (%)	35.0%	36.0%	28%	↓
Injury-related Mortality (Age Adjusted Rate per 100,000)	33.4	113.3	129.4	↓
Homicides (per 100,000)	5.0	0.0	5.3	↓

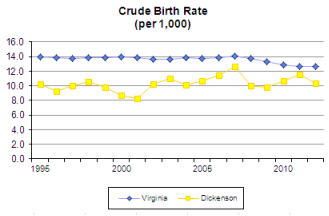
Cancer Incidence:

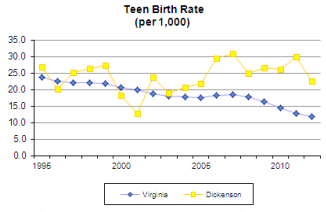






Birth Rate Trend:





Key Indicators of Health Status:

Socioecomonic Factors				
High School Graduation Rate (%)	88.0%	88.0%	86.60%	↑
Level of Education (%)	88.0%	71.0%	61%	↑
Unemployment (%)	6.2%	8.1%	9%	↓
Children (age 0 to 17) in poverty ratio (%)	15.5%	26.9%	27%	↓
Food Stamp Eligible Recipients (% of individuals)	11.6%	21.3%	19.50%	↓
Poverty Rate (% of all ages)	12.0%	21.0%	20.50%	↓
Temporary Assistance for Needy Families	0.8%	0.1%	1.00%	↓
High School Dropout Rate	1.4%	1.2%	1.90%	↓
Physical Environment				
Pre-1950 Housing (%)	13.2%	17.2%	19.70%	↓
Lead Poisoned Children (%)	0.2%	0.0%	0%	↓
Child Abuse and Neglect (rate per 1,000)	3.3	7.8	6.3	↓
Daily Fine Particulate Matter	12.5	12.6	12.2	↓
Communicable Diseases				
Hepatitis A (per 100,000)	0.6	0.0	0	↓
Campylobacter Infection (per 100,000)	9.4	6.4	6.2	↓
Salmonellosis (per 100,000)	14.1	6.4	0	↓
Shigellosis (per 100,000)	1.1	0.0	12.4	↓
AIDS/HIV cases (per 100,000)	305.3	25.4	0	↓
Early Stage Syphilis (per 100,000)	7.3	0.0	0	↓
Tuberculosis (per 100,000)	2.9	0.0	0	↓
Chlamydia (per 100,000)	432.5	298.6	111.3	↓
Gonorrhea (per 100,000)	85.1	12.7	0	↓

Inpatient Projections

	2014	2019		2024	
DRG Service Line	**Discharges**	**Discharges**	**% Change**	**Discharges**	**% Change**
Cardiac Surgery	22	21	-2.50%	22	-0.50%
Cardiology	173	151	-12.50%	135	-22.10%
Cardiology Intervention	68	62	-8.70%	58	-14.80%
Endocrinology	68	54	-21.20%	48	-29.10%
ENT Surgery	1	1	12.30%	1	18.60%
Gastroenterology	146	137	-6.30%	133	-8.80%
General Medicine	211	210	-0.30%	196	-7.00%
General Surgery	110	103	-6.60%	99	-10.00%
Gynecology	23	21	-8.30%	20	-14.20%
Hematology	24	23	-2.20%	24	0.00%
Neonatology	33	30	-8.30%	28	-14.50%
Nephrology	97	89	-8.60%	77	-20.30%
Neurology	97	97	-0.50%	98	1.30%
Neurosurgery	34	33	-3.00%	33	-4.30%
Normal Newborns	69	71	3.30%	71	2.40%
OB Deliveries Sections	38	33	-13.70%	30	-19.90%
OB Deliveries Vaginal	72	76	6.10%	76	6.00%
OB Other	19	18	-3.50%	18	-5.40%
Oncology Medicine	28	26	-5.50%	24	-15.60%
Oncology Surgery	16	16	-0.60%	15	-3.20%
Ophthalmic Medicine	1	1	-12.90%	1	-19.00%
Ophthalmic Surgery	1	1	-2.70%	1	-10.10%
Oral Surgery	1	1	7.20%	1	19.90%
Orthopedic Medicine	22	22	0.80%	22	1.20%
Orthopedic Surgery	93	96	2.90%	95	2.10%
Otolaryngology	10	9	-13.80%	8	-20.30%
Plastic Surgery	5	5	-3.70%	5	-9.00%
Psychiatry	75	80	6.70%	75	-0.60%
Pulmonary	383	328	-14.50%	302	-21.20%
Rehabilitation	37	30	-20.00%	31	-15.10%
Rheumatology	5	5	-1.30%	5	-0.90%
Substance Abuse	5	5	0.60%	5	-1.20%
Thoracic Surgery	15	13	-13.10%	12	-20.00%
Trauma Medical	6	6	-8.10%	5	-10.80%
Urology Medicine	7	6	-14.60%	5	-22.20%
Urology Surgery	16	14	-12.60%	12	-21.90%
Vascular Surgery	30	29	-4.20%	28	-7.50%
Womens Other	1	1	-1.10%	1	-10.30%
Grand Total	**2,062**	**1,923**	**-6.70%**	**1,821**	**-11.70%**

Outpatient Projections

	2014		2019			2024	
Site of Care	**Volumes**		**Volumes**	**% Change**		**Volumes**	**% Change**
ED	6,942		6,853	-1.30%		6,471	-6.80%
Home	14,949		17,005	13.80%		18,301	22.40%
Hosp OP/ASC	19,607		20,735	5.80%		20,927	6.70%
Office/Clinic	122,786		129,639	5.60%		122,202	-0.50%
Other	28,231		30,791	9.10%		30,787	9.10%
SNF	283		306	8.20%		318	12.30%
Urgent/Retail	88		91	3.50%		87	-0.30%
Virtual			3,220			13,399	
Grand Total	**192,886**		**208,638**	**8.20%**		**212,493**	**10.20%**

Interview Highlights:

INTERVIEWEES:

- Eight (8) individuals

KEY FINDINGS:

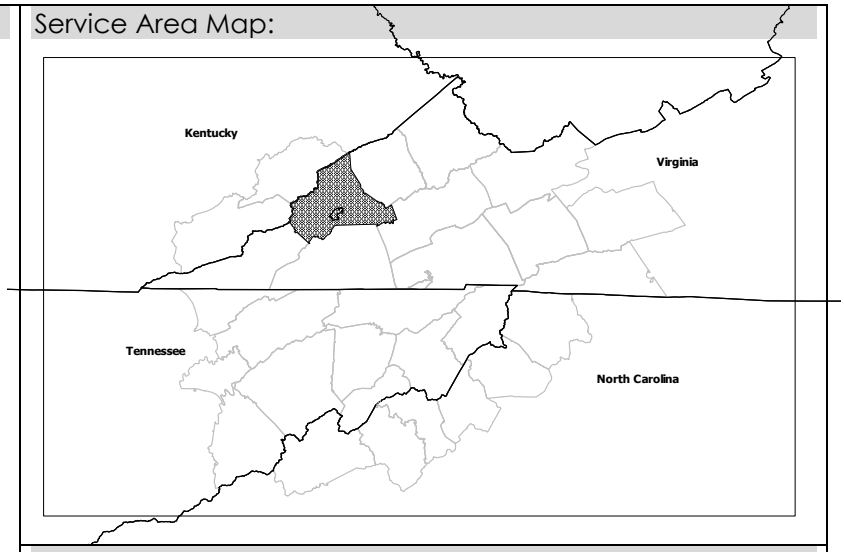
- Average rating of health status is 3.8, with a range in responses of 2.5 to 6
- Top health issues are:
  - Diabetes
  - Mental Health
  - Substance abuse
  - Obesity
- Additional health issues are:
  - Cancer
  - Smoking/Tobacco use
  - Poor nutrition
  - Cardiovascular disease
  - Physical inactivity
  - Teen pregnancy
  - Domestic violence / abuse / bullying
  - COPD
  - Diabetes compliance/monitoring
  - Poverty
  - Unemployment
  - Built environment for recreation
  - Lack of access to care
  - Immunizations
  - Prenatal care
  - Dental care
- Ideas to improve these conditions include:
  - Press releases/ fliers to inform public about health programs
  - Disseminate diabetes fact sheets
  - In home monitoring of health conditions
  - Dental assistants/ hygienists to visit schools
  - ER physicians to be trained on minor dental procedures
  - Child and youth health education / health promotion
  - Job creation
  - Substance abuse education
  - Collaboration among community organizations and members
  - More community activities for children and families
  - More community involvement
  - After school programming for children

Sources:	Local Resources:
▪ Medstat ▪ County Health Rankings ▪ Kidscount ▪ VA Atlas of Community Health ▪ VA Dept of Health ▪ Kaiser Family Foundation ▪ VA Dept of Behavioral Health and Developmental Services ▪ VA Dept of Social Services ▪ U.S. Census ▪ CDC Wonder	▪ Smoke-free schools ▪ Cumberland Plateau Health District ▪ Health Department ▪ Health Wagon ▪ Drug Court ▪ School nurses ▪ Remote Area Medical (RAM) ▪ Free clinics (Stone Mountain Health Clinic) ▪ Quit Line referrals ▪ Lion's Club ▪ Behavioral health services at DCH ▪ Head Start – Kids Central ▪ Obesity prevention program in middle schools ▪ Farmer's markets ▪ Frontier Health ▪ Junction Center ▪ Appalachian College of Pharmacy

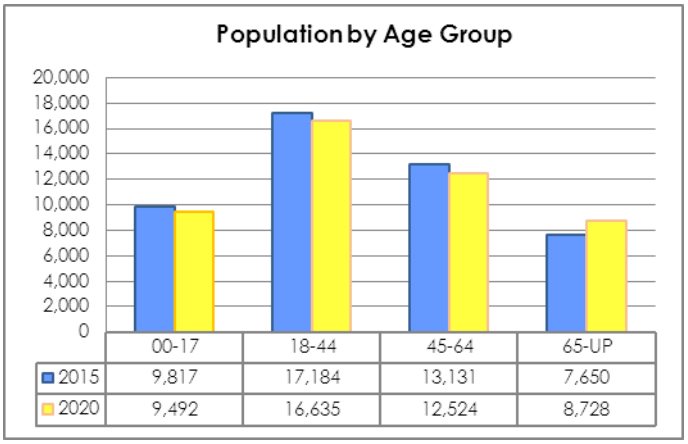
Demographic Highlights:

- Large elderly population compared to VA and US
- Declining rate of females of child-bearing age expected
- Low average household income level (21.4% of households make less than $15,000)
- Lower level of educational attainment compared to state and country (12.9% with no high school education compared to 5.9% nationally)
- Low level of diversity compared to state and national

Service Area Map:



Age Distribution and Population Projections:



Key Statistics:

	Norton & Wise	Virginia	U.S.
2015 Total Population	47,782	8,417,864	321,369,000
% Change 2015-2020	-0.8%	4.7%	4.1%
% of Population 65+ (2015)	16.0%	14.0%	14.9%
% Minority (2015)	8.1%	30.8%	38.3%

	2015	2020	% Change
Total Male Population	24,421	24,184	-1.0%
Total Female Population	23,361	23,195	-0.7%
Females, Child Bearing Age (15-44)	8,618	8,317	-3.5%

Local Health Highlights (Wise County):

STRENGTHS:

- Binge Drinking
- STDs
- Injury-related mortality
- High school graduation rate
- Violent crime

WEAKNESSES:

- High percent of Medicaid eligible and Temporary Assistance for Needy Families
- Smoking
- Pre-1950s Housing
- Prenatal Care
- Low fruit and vegetable consumption
- High rates of death due to cardiovascular, cancer, diabetes, cerebrovascular, and suicide
- Teen birth rate
- Poverty and children in poverty rates

Leading Causes of Death (Wise County):

Norton

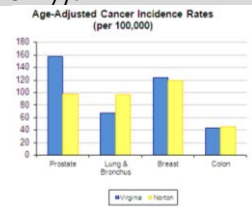
Cause of Death	Rate	Rank
Heart Disease	372.9	1
Malignant Neoplasms	298.4	2
Chronic Lower Respiratory Disease	99.5	3
Suicide	49.7	4
Hypertension & Renal Disease	49.7	4
Diabetes Mellitus	24.9	5
Unintentional Injury	24.9	5
Cerebrovascular Disease	24.9	5

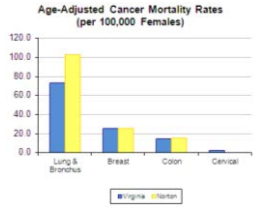
Key Indicators of Health Status (Wise County):

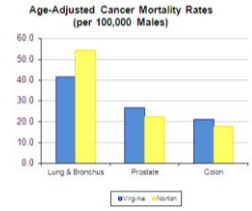
County: Wise, VA

	VA	Wise	2010	Desired
Health Outcomes				
Low Birth Weight (%)	8.3%	9.6%	8%	↓
General Health Status (% fair/poor health)	14.0%	26.0%	28%	↓
Very Low Birth Weight (%)	1.6%	0.7%	2.30%	↓
Infant Mortality (per 100,000)	8.3	6.3	4	↓
Mortality Rate (per 100,000)	735.8	1,033.2	1095	↓
Cardiovascular Deaths (per 100,000)	161.3	223.1	252.1	↓
Cancer Deaths (5-yr avg rate per 100,000)	174.8	226.8	219.4	↓
Diabetes Mellitus Deaths (Age Adjusted Rate per 100,000)	20.0	24.1	33.4	↓
Cerebrovascular Deaths (Age Adjusted Rate per 100,000)	40.8	52.9	43.7	↓
Suicide Deaths (Age Adjusted Rate per 100,000)	12.9	24.1	25.2	↓
Mortality rate for ages 0 - 4 yrs (per 100,000)	152.9	129.0	167.1	↓
Mortailty rate for ages 5 - 14 yrs (per 100,000)	13.5	0.0	0	↓
Mortality rate for ages 15 - 19 yrs (per 100,000)	44.5	36.3	0	↓
Mortality rates for ages 65+(per 1,000)	43.6	57.1	63.4	↓
Lung Cancer Deaths (5-yr avg rate per 100,000)*	49.5	74.6	74.6	↓
Female Breast Cancer Deaths (5-yr avg rate per 100,000)*	23.4	27.9	25.4	↓
Percent of Adults with Asthma*	8.0%	6.0%	12.40%	↓
Prevalence of Diabetes (% of adults)*	9.0%	10.0%	12.90%	↓
Psychosis Discharges (per 100,000)	332.7	135.8	184	↓
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No Health Insurance (%)	18.0%	20.0%	23.50%	↓
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PSA Testing Past 2 Years (%)*	56.0%	53.0%	45.20%	↑
Pap Test Past 3 Years (%)*	84.0%	82.0%	12%	↑
Sigmoidoscopy/Colonoscopy (%)*	72.0%	66.0%	51%	↑
Inadequate or No Prenatal Care (%)	13.0%	14.0%	16%	↓
First Trimester Prenatal Care (%)	81.9%	68.3%	66.20%	↑
Hospital Staffed Beds (per 1,000)	2.2	2.3	0	↑
Licensed Nursing Beds (per 1,000 65+)	3.9	6.7	49.3	↑
# of Primary Care MDs Per Capita (per 100,000)	73.7	50.5	510.1	↑
# of Psychiatric Specialists	6,827	1	1	↓
State Mental Health Facility Beds (per 100,000)*	18.7	28.7	23.7	↑
Inpatient Discharge Rate (per 1,000) - Total		188.0	219.8	↓
Could Not See Doctor Due to Cost (%)	10.0%	15.0%	12%	↓
Health Behaviors				
Cigarette Smoking (%)	18.0%	34.0%	31.50%	↓
Physical Inactivity (%)	24.0%	38.0%	21%	↓
Overweight/Obesity (% BMI > 25)	62.0%	66.0%	56%	↓
Obesity (% BMI > 30)	28.0%	35.0%	31%	↓
Low Fruit and Vegetable Consumption (% <5 a day)	80.0%	86.0%	77%	↓
Binge Drinking (%)	18.0%	14.0%	10%	↓
Teen Birth Rate (per 1,000)	18.6	28.5	32.7	↓
Sexually Transmitted Diseases (per 100,000)	385.0	215.0	259.9	↓
Violent Crime (per 100,000)	233.0	160.0	194	↓
Motor Vehicle Crash Deaths (per 100,000)	11.0	14.0	19	↓
Unmarried Mother Birth Rate (%)	35.0%	40.0%	37%	↓
Injury-related Mortality (Age Adjusted Rate per 100,000)	33.4	77.3	52.4	↓
Homicides (per 100,000)	5.0	0.0	3.3	↓

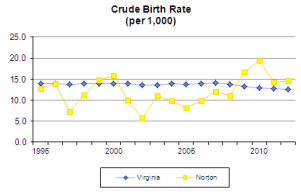
Cancer Incidence (Wise County):

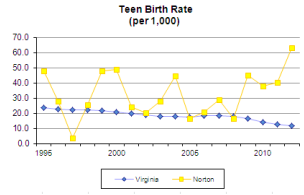






Birth Rate Trend (Wise County):





Key Indicators of Health Status (Wise County):

Socioecomonic Factors				
High School Graduation Rate (%)	88.0%	86.0%	84.90%	↑
Level of Education (%)	88.0%	74.0%	71%	↑
Unemployment (%)	6.2%	6.7%	7%	↓
Children (age 0 to 17) in poverty ratio (%)	15.5%	29.3%	27.10%	↓
Food Stamp Eligible Recipients (% of individuals)	11.6%	22.3%	21%	↓
Poverty Rate (% of all ages)	12.0%	26.0%	19.30%	↓
Temporary Assistance for Needy Families	0.8%	1.6%	2.10%	↓
High School Dropout Rate	1.4%	1.8%	1.90%	↓
Physical Environment				
Pre-1950 Housing (%)	13.2%	19.4%	21.60%	↓
Lead Poisoned Children (%)	0.2%	0.0%	0.50%	↓
Child Abuse and Neglect (rate per 1,000)	3.3	15.5	18.6	↓
Daily Fine Particulate Matter	12.5	12.7	12.3	↓
Communicable Diseases				
Hepatitis A (per 100,000)	0.6	4.4	0	↓
Campylobacter Infection (per 100,000)	9.4	13.2	11	↓
Salmonellosis (per 100,000)	14.1	17.5	17.6	↓
Shigellosis (per 100,000)	1.1	0.0	0	↓
AIDS/HIV cases (per 100,000)	305.3	98.6	107.9	↓
Early Stage Syphilis (per 100,000)	7.3	0.0	0	↓
Tuberculosis (per 100,000)	2.9	2.2	0	↓
Chlamydia (per 100,000)	432.5	335.4	242.3	↓
Gonorrhea (per 100,000)	85.1	19.7	11	↓

Local Health Highlights (Norton City):

STRENGTHS:

- Very low birth weight rate
- Binge drinking
- STDs
- Violent crime
- Lead poisoned children

WEAKNESSES:

- Reported general health status
- Very high rate of Medicaid enrollees
- High rates of death due to cardiovascular, cancer, diabetes, cerebrovascular, suicide, and injuries
- Prenatal care
- Smoking
- Increased rates of physical inactivity, overweight, and obesity
- Poverty and children in poverty
  Child abuse and neglect

Leading Causes of Death (Norton City):

Wise

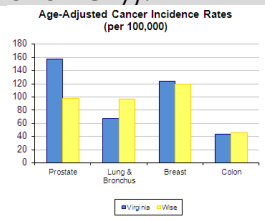
Cause of Death	Rate	Rank
Malignant Neoplasms	272	1
Heart Disease	248.0	2
Unintentional Injury	79.4	3
Chronic Lower Respiratory Diseae	65	4
Cerebrovascular Disease	53	5
Nephritis & Nephrosis	33.7	6
Alzheimer's Disease	28.9	7
Suicide	24.1	8
Diabetes Mellitus	24	9
Influenza & Pneumonia	12.0	10

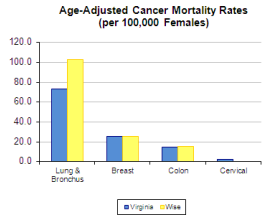
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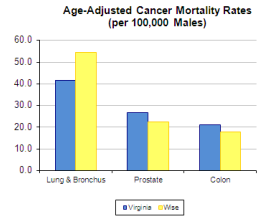
County: Norton, VA

	VA	Norton	2010	Desired
Health Outcomes				
Low Birth Weight (%)	8.3%	9.3%	10%	↓
General Health Status (% fair/poor health)	14.0%	11.0%	0%	↓
Very Low Birth Weight (%)	1.6%	2.6%	6.50%	↓
Infant Mortality (per 100,000)	8.3	7.1	1	↓
Mortality Rate (per 100,000)	735.8	884.4	854.2	↓
Cardiovascular Deaths (per 100,000)	161.3	370.0	169.4	↓
Cancer Deaths (5-yr avg rate per 100,000)	174.8	183.7	215.8	↓
Diabetes Mellitus Deaths (Age Adjusted Rate per 100,000)	20.0	24.7	22.5	↓
Cerebrovascular Deaths (Age Adjusted Rate per 100,000)	40.8	24.7	62.7	↓
Suicide Deaths (Age Adjusted Rate per 100,000)	12.9	49.3	18	↓
Mortality rate for ages 0 - 4 yrs (per 100,000)	152.9	411.5	526.3	↓
Mortality rate for ages 5 - 14 yrs (per 100,000)	13.5	0.0	0	↓
Mortality rate for ages 15 - 19 yrs (per 100,000)	44.5	0.0	0	↓
Mortality rates for ages 65+(per 1,000)	43.6	47.0	44.4	↓
Lung Cancer Deaths (5-yr avg rate per 100,000)*	49.5	74.6	74.6	↓
Female Breast Cancer Deaths (5-yr avg rate per 100,000)*	23.4	27.9	25.4	↓
Percent of Adults with Asthma*	8.0%	6.0%	12.40%	↓
Prevalence of Diabetes (% of adults)*	9.0%	7.0%	12.90%	↓
Psychosis Discharges (per 100,000)	332.7	394.7	1,262	↓
Health Determinants				
Health Care Resources				
No Health Insurance (%)	18.0%	16.0%	24.70%	↓
Medicaid/Tenncare Enrollees (%)	14.7%	35.5%	30%	↓
Medical Doctors	255.5	59.9	59.9	↑
No Biennial Mammography (%)*	28.0%	33.0%	29.20%	↓
PSA Testing Past 2 Years (%)*	56.0%	57.0%	45.20%	↑
Pap Test Past 3 Years (%)*	84.0%	77.0%	12%	↑
Sigmoidoscopy/Colonoscopy (%)*	72.0%	63.0%	51%	↑
Inadequate or No Prenatal Care (%)	13.0%	9.0%	32%	↓
First Trimester Prenatal Care (%)	81.9%	62.3%	62.90%	↑
Hospital Staffed Beds (per 1,000)	2.2	31.8	22.1	↑
Licensed Nursing Beds (per 1,000 65+)	3.9	10.9	73.7	↑
# of Primary Care MDs Per Capita (per 100,000)	73.7	426.7	510.1	↑
# of Psychiatric Specialists	6,827	1	1	↓
State Mental Health Facility Beds (per 100,000)*	18.7	28.7	23.7	↑
Inpatient Discharge Rate (per 1,000) - Total	157.2	188.0	74.6	↓
Could Not See Doctor Due to Cost (%)	10.0%	13.0%	12%	↓
Health Behaviors				
Cigarette Smoking (%)	18.0%	26.0%	31.50%	↓
Physical Inactivity (%)	24.0%	25.0%	22%	↓
Overweight/Obesity (% BMI > 25)	62.0%	61.0%	56%	↓
Obesity (% BMI > 30)	28.0%	28.0%	27%	↓
Low Fruit and Vegetable Consumption (% <5 a day)	80.0%	95.0%	76%	↓
Binge Drinking (%)	18.0%	10.0%	15%	↓
Teen Birth Rate (per 1,000)	18.6	52	16.5	↓
Sexually Transmitted Diseases (per 100,000)	385.0	278.0	259.9	↓
Violent Crime (per 100,000)	233.0	212.0	325	↓
Motor Vehicle Crash Deaths (per 100,000)	11.0	14.0	15	↓
Unmarried Mother Birth Rate (%)	35.0%	50.0%	46%	↓
Injury-related Mortality (Age Adjusted Rate per 100,000)	33.4	24.7	36.6	↓
Homicides (per 100,000)	5.0	0.0	3.3	↓

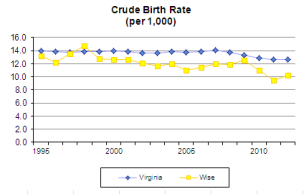
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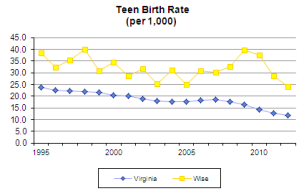






Birth Rate Trend (Norton City):





Key Indicators of Health Status (Norton City):

Socioecomonic Factors				
High School Graduation Rate (%)	88.0%	98.0%	83.10%	↑
Level of Education (%)	88.0%	81.0%	68%	↑
Unemployment (%)	6.2%	6.3%	6.60%	↓
Children (age 0 to 17) in poverty ratio (%)	15.5%	31.2%	31.40%	↓
Food Stamp Eligible Recipients (% of individuals)	11.6%	27.4%	28.60%	↓
Poverty Rate (% of all ages)	12.0%	18.0%	20.90%	↓
Temporary Assistance for Needy Families	0.8%	2.6%	3.80%	↓
High School Dropout Rate	1.4%	1.8%	2.40%	↓
Physical Environment				
Pre-1950 Housing (%)	13.2%	20.4%	26.60%	↓
Lead Poisoned Children (%)	0.2%	0.0%	0.00%	↓
Child Abuse and Neglect (rate per 1,000)	3.3	37	6.7	↓
Daily Fine Particulate Matter	12.5	12.8	11.8	↓
Communicable Diseases				
Hepatitis A (per 100,000)	0.6	4.4	0	↓
Campylobacter Infection (per 100,000)	9.4	13.2	11	↓
Salmonellosis (per 100,000)	14.1	17.5	17.6	↓
Shigellosis (per 100,000)	1.1	0.0	0	↓
AIDS/HIV cases (per 100,000)	305.3	98.7	0	↓
Early Stage Syphilis (per 100,000)	7.3	0.0	0	↓
Tuberculosis (per 100,000)	2.9	2.2	0	↓
Chlamydia (per 100,000)	432.5	335.4	242.3	↓
Gonorrhea (per 100,000)	85.1	19.7	11	↓

Inpatient Projections

	2014	2019		2024	
DRG Service Line	**Discharges**	**Discharges**	**% Change**	**Discharges**	**% Change**
Cardiac Surgery	53	53	0.20%	55	3.30%
Cardiology	927	799	-13.80%	701	-24.30%
Cardiology Intervention	224	207	-7.50%	195	-12.80%
Endocrinology	241	193	-19.70%	177	-26.70%
ENT Surgery	17	15	-9.80%	14	-15.30%
Gastroenterology	736	688	-6.60%	673	-8.50%
General Medicine	869	876	0.80%	820	-5.60%
General Surgery	465	441	-5.10%	426	-8.30%
Gynecology	81	73	-10.00%	67	-16.80%
Hematology	91	90	-1.60%	92	1.10%
Neonatology	148	135	-8.50%	125	-15.40%
Nephrology	383	354	-7.50%	314	-18.10%
Neurology	332	328	-1.30%	335	0.80%
Neurosurgery	99	94	-5.40%	91	-8.40%
Normal Newborns	336	344	2.50%	338	0.60%
OB Deliveries Sections	186	158	-15.00%	145	-22.20%
OB Deliveries Vaginal	311	326	4.80%	323	3.70%
OB Other	101	96	-4.70%	93	-7.60%
Oncology Medicine	99	94	-4.80%	85	-14.60%
Oncology Surgery	26	26	0.80%	25	-2.20%
Ophthalmic Medicine	10	9	-12.60%	8	-18.00%
Oral Surgery	7	6	-9.00%	6	-13.90%
Orthopedic Medicine	82	83	0.80%	84	2.30%
Orthopedic Surgery	366	381	4.10%	384	5.00%
Otolaryngology	35	29	-16.20%	27	-22.50%
Plastic Surgery	27	25	-6.20%	23	-14.80%
Psychiatry	325	353	8.50%	329	1.10%
Pulmonary	1,197	1,035	-13.50%	964	-19.50%
Rehabilitation	181	145	-20.00%	154	-14.90%
Rheumatology	35	34	-3.50%	35	-1.20%
Substance Abuse	37	38	3.00%	38	2.10%
Thoracic Surgery	49	45	-7.80%	44	-11.10%
Trauma Medical	32	31	-3.10%	32	-1.60%
Unspecified	5	5	0.00%	5	0.00%
Urology Medicine	27	22	-16.70%	20	-26.70%
Urology Surgery	50	45	-9.60%	41	-17.20%
Vascular Surgery	86	83	-3.50%	82	-5.10%
Womens Other	1	1	-1.00%	1	-10.10%
Grand Total	**8,277**	**7,763**	**-6.20%**	**7,370**	**-11.00%**

Outpatient Projections

	2014		2019			2024	
Site of Care	**Volumes**		**Volumes**	**% Change**		**Volumes**	**% Change**
ED	29,773		29,910	0.50%		28,603	-3.90%
Home	54,945		63,828	16.20%		69,750	26.90%
Hosp OP/ASC	83,295		89,646	7.60%		91,776	10.20%
Office/Clinic	408,336		431,832	5.80%		409,652	0.30%
Other	22,723		24,930	9.70%		25,051	10.20%
SNF	1,353		1,477	9.20%		1,554	14.90%
Urgent/Retail	337		350	3.80%		338	0.20%
Virtual			9,463			38,779	
Grand Total	**600,763**		**651,436**	**8.40%**		**665,503**	**10.80%**

APPENDIX

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1. Dickenson, VA Detailed Demographics
2. Wise, VA (including Norton City) Detailed Demographics

Mountain State Health Alliance

Dickenson County, VA

Population and Gender	Market 2015 Population	Market 2015 % of Total	Market 2020 Population	Market 2020 % of Total	Market Population % Change	National 2015 % of Total
Female Population	6,859	49.4%	6,767	49.2%	(1.3)%	50.8%
Male Population	7,031	50.6%	6,986	50.8%	(0.6)%	49.2%
Total	13,890	100.0%	13,753	100.0%	(1.0)%	100.0%

Age Groups	Market 2015 Population	Market 2015 % of Total	Market 2020 Population	Market 2020 % of Total	Market Population % Change	National 2015 % of Total
00-17	2,747	19.8%	2,637	19.2%	(4.0)%	23.1%
18-44	4,380	31.5%	4,272	31.1%	(2.5)%	35.9%
45-64	4,123	29.7%	3,899	28.4%	(5.4)%	26.3%
65-UP	2,640	19.0%	2,945	21.4%	11.6%	14.7%
Total	13,890	100.0%	13,753	100.0%	(1.0)%	100.0%

Ethnicity/Race	Market 2015 Population	Market 2015 % of Total	Market 2020 Population	Market 2020 % of Total	Market Population % Change	National 2015 % of Total
Asian & Pacific Is. Non-Hispanic	21	0.2%	27	0.2%	28.6%	5.3%
Black Non-Hispanic	62	0.5%	74	0.5%	19.4%	12.3%
Hispanic	94	0.7%	124	0.9%	31.9%	17.6%
White Non-Hispanic	13,609	98.0%	13,409	97.5%	(1.5)%	61.8%
All Others	104	0.8%	119	0.9%	14.4%	3.1%
Total	13,890	100.0%	13,753	100.0%	(1.0)%	100.0%

Language*	Market 2015 Population	Market 2015 % of Total	Market 2020 Population	Market 2020 % of Total	Market Population % Change	National 2015 % of Total
Korean at Home	9	0.1%	10	0.1%	11.1%	0.4%
Only English at Home	12,957	98.3%	12,837	98.3%	(0.9)%	79.0%
Other Indo-European Lang at Home	78	0.6%	76	0.6%	(2.6)%	1.8%
Other Lang at Home	14	0.1%	14	0.1%	0.0%	0.9%
Spanish at Home	115	0.9%	110	0.8%	(4.4)%	13.0%
All Others	9	0.1%	8	0.1%	(11.1)%	4.9%
Total	13,182	100.0%	13,055	100.0%	(1.0)%	100.0%

Mountain State Health Alliance

Dickenson County, VA

Household Income	Market 2015 Households	Market 2015 % of Total	Market 2020 Households	Market 2020 % of Total	Market Households % Change	National 2015 % of Total
<$15K	1,021	17.7%	878	15.3%	(14.0)%	12.7%
$15-25K	942	16.3%	848	14.8%	(10.0)%	10.8%
$25-50K	1,802	31.2%	1,786	31.1%	(0.9)%	23.9%
$50-75K	927	16.1%	872	15.2%	(5.9)%	17.8%
$75-100K	535	9.3%	588	10.2%	9.9%	12.0%
$100K-200K	496	8.6%	690	12.0%	39.1%	17.9%
>$200K	48	0.8%	78	1.4%	62.5%	5.0%
Total	5,771	100.0%	5,740	100.0%	(0.5)%	100.0%

Education Level**	Market 2015 Population	Market 2015 % of Total	Market 2020 Population	Market 2020 % of Total	Market Population % Change	National 2015 % of Total
Less than High School	1,534	15.2%	1,534	15.3%	0.0%	5.9%
Some High School	1,549	15.4%	1,546	15.4%	(0.2)%	8.0%
High School Degree	3,514	34.9%	3,496	34.9%	(0.5)%	28.1%
Some College/Assoc. Degree	2,569	25.5%	2,549	25.5%	(0.8)%	31.1%
Bachelor's Degree or Greater	909	9.0%	886	8.9%	(2.5)%	26.9%
Total	10,075	100.0%	10,011	100.0%	(0.6)%	100.0%

*Excludes population age <5, **Excludes population age <25

Mountain State Health Alliance

Wise County, VA

Population and Gender	Market 2015 Population	Market 2015 % of Total	Market 2020 Population	Market 2020 % of Total	Market Population % Change	National 2015 % of Total
Female Population	23,361	48.9%	23,195	49.0%	(0.7)%	50.8%
Male Population	24,421	51.1%	24,184	51.0%	(1.0)%	49.2%
Total	47,782	100.0%	47,379	100.0%	(0.8)%	100.0%

Age Groups	Market 2015 Population	Market 2015 % of Total	Market 2020 Population	Market 2020 % of Total	Market Population % Change	National 2015 % of Total
00-17	9,817	20.6%	9,492	20.0%	(3.3)%	23.1%
18-44	17,184	36.0%	16,635	35.1%	(3.2)%	35.9%
45-64	13,131	27.5%	12,524	26.4%	(4.6)%	26.3%
65-UP	7,650	16.0%	8,728	18.4%	14.1%	14.7%
Total	47,782	100.0%	47,379	100.0%	(0.8)%	100.0%

Ethnicity/Race	Market 2015 Population	Market 2015 % of Total	Market 2020 Population	Market 2020 % of Total	Market Population % Change	National 2015 % of Total
Asian & Pacific Is. Non-Hispanic	241	0.5%	285	0.6%	18.3%	5.3%
Black Non-Hispanic	2,222	4.7%	2,095	4.4%	(5.7)%	12.3%
Hispanic	752	1.6%	944	2.0%	25.5%	17.6%
White Non-Hispanic	43,894	91.9%	43,247	91.3%	(1.5)%	61.8%
All Others	673	1.4%	808	1.7%	20.1%	3.1%
Total	47,782	100.0%	47,379	100.0%	(0.8)%	100.0%

Language*	Market 2015 Population	Market 2015 % of Total	Market 2020 Population	Market 2020 % of Total	Market Population % Change	National 2015 % of Total
French at Home	151	0.3%	152	0.3%	0.7%	0.7%
Only English at Home	44,033	97.5%	43,755	97.6%	(0.6)%	79.0%
Other Indo-European Lang at Home	38	0.1%	36	0.1%	(5.3)%	1.8%
Other Lang at Home	162	0.4%	155	0.4%	(4.3)%	0.9%
Spanish at Home	628	1.4%	614	1.4%	(2.2)%	13.0%
All Others	135	0.3%	127	0.3%	(5.9)%	4.5%
Total	45,147	100.0%	44,839	100.0%	(0.7)%	100.0%

Mountain State Health Alliance

Wise County, VA

Household Income	Market 2015 Households	Market 2015 % of Total	Market 2020 Households	Market 2020 % of Total	Market Households % Change	National 2015 % of Total
<$15K	4,027	21.4%	3,637	19.3%	(9.7)%	12.7%
$15-25K	2,810	14.9%	2,753	14.6%	(2.0)%	10.8%
$25-50K	4,749	25.2%	4,623	24.6%	(2.7)%	23.9%
$50-75K	3,236	17.2%	3,126	16.6%	(3.4)%	17.8%
$75-100K	1,868	9.9%	1,967	10.5%	5.3%	12.0%
$100K-200K	1,913	10.2%	2,367	12.6%	23.7%	17.9%
>$200K	247	1.3%	334	1.8%	35.2%	5.0%
Total	18,850	100.0%	18,807	100.0%	(0.2)%	100.0%

Education Level**	Market 2015 Population	Market 2015 % of Total	Market 2020 Population	Market 2020 % of Total	Market Population % Change	National 2015 % of Total
Less than High School	4,274	12.9%	4,318	13.0%	1.0%	5.9%
Some High School	4,631	14.0%	4,675	14.1%	1.0%	8.0%
High School Degree	10,469	31.7%	10,514	31.7%	0.4%	28.1%
Some College/Assoc. Degree	9,575	29.0%	9,606	29.0%	0.3%	31.1%
Bachelor's Degree or Greater	4,103	12.4%	4,070	12.3%	(0.8)%	26.9%
Total	33,052	100.0%	33,183	100.0%	0.4%	100.0%

*Excludes population age <5, **Excludes population age <25



2015 COMMUNITY HEALTH NEEDS ASSESSMENT

FRANKLIN WOODS COMMUNITY HOSPITAL

Published June 29, 2015

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V. Regional Perspective
- a. FWCH Area Snapshot

Introduction

Mountain States Health Alliance (MSHA) is an integrated health care delivery system providing a comprehensive continuum of care to people in 29 counties in Tennessee, Virginia, Kentucky, and North Carolina. MSHA was formed after Johnson City Medical Center Hospital, Inc. acquired six Columbia/HCA hospitals in Northeast Tennessee on September 1, 1998; and was later renamed Mountain States Health Alliance in January 1999.

Today, MSHA is the largest regional health care system with 13 hospitals operating at approximately $1.0 billion in net revenues. The hospitals are:

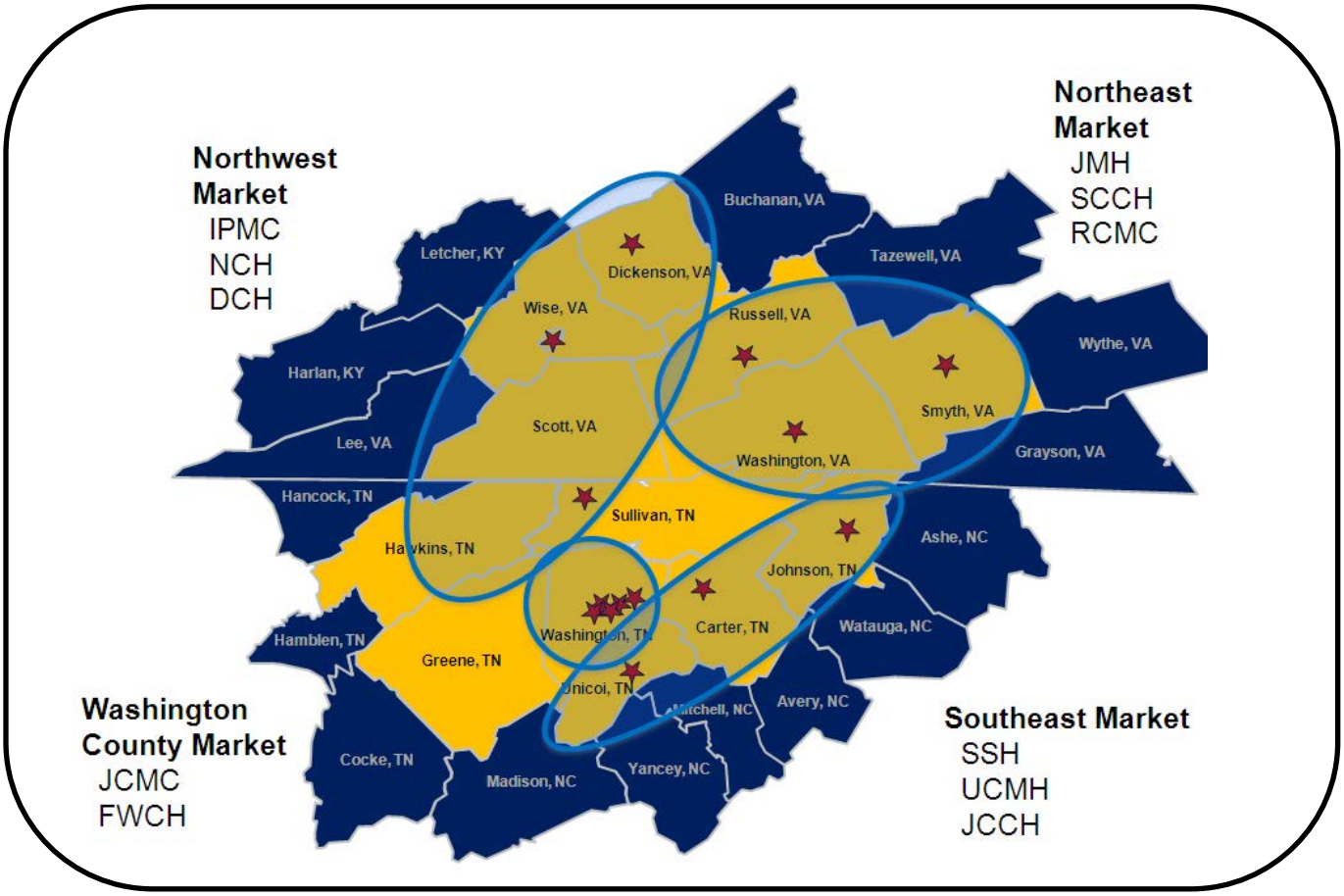
- Johnson City Medical Center
- Niswonger Children's Hospital
- Woodridge Psychiatric Hospital
- Franklin Woods Community Hospital
- Unicoi County Community Hospital
- Indian Path Medical Center
- Johnson County Community Hospital
- Sycamore Shoals Hospital
- Dickenson Community Hospital
- Johnston Memorial Hospital
- Norton Community Hospital
- Russell County Medical Center
- Smyth County Community Hospital

In addition to 13 hospitals, MSHA's integrated health care delivery system includes primary/preventive care centers and numerous outpatient care sites, including First Assist Urgent Care, MedWorks, Same Day Surgery, and Mountain States Rehabilitation.

Executive Summary

Regional and national rankings for health factors continue to be disappointing as cancer, heart disease, and diabetes rates continue to increase each year. Obesity and smoking continue to be major problems in the United States, leading to additional diseases. From a global perspective, the United States falls behind other developing nations in health outcomes. Clearly, there are many needs that exist and need attention. The interrelatedness between the health of a community, its economic status, and its educational attainment levels is becoming increasingly recognized. Mountain States Health Alliance (MSHA) exists to "*identify and respond to the health care needs of individuals and communities in our region and to assist them in attaining their highest possible level of health.*" In doing so, MSHA recognizes this is a very complex challenge that involves the engagement of many prongs of the community.

In order for MSHA to serve its region most effectively, it is essential to understand each community's individual needs. MSHA has conducted a Community Health Needs Assessment to profile the health of the residents within the local region (a map of the MSHA service area is provided on the following page). Activities associated with the development of this assessment have taken place from spring of 2014 through spring of 2015, including state, regional and county-specific secondary data collection and primary data obtained through individual surveys and focus groups with individuals from the local communities.



★ Represents county in which MSHA owns a facility. MSHA has part-ownership in other hospitals but they are not included in this assessment.

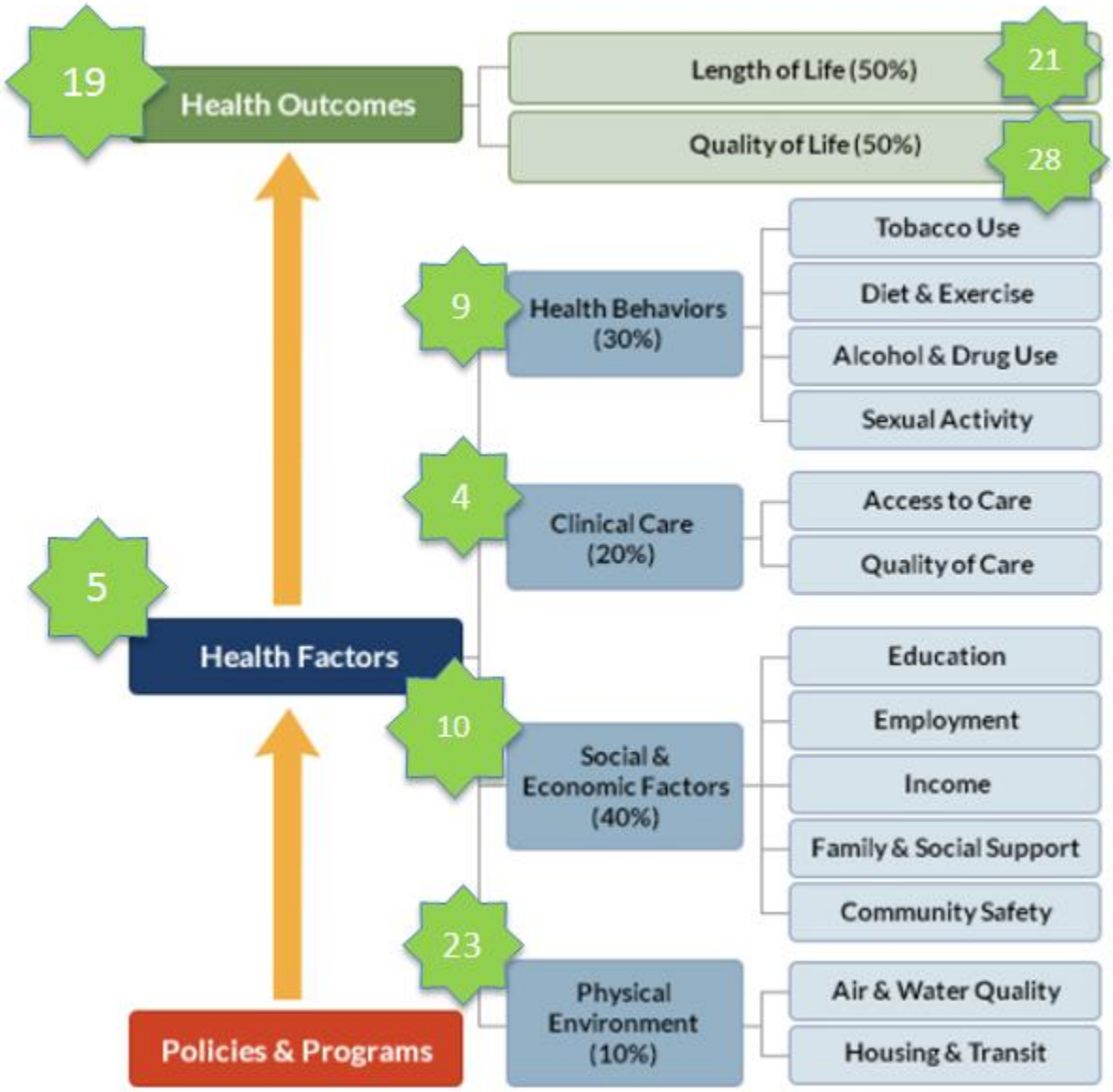
*Service Area is defined by approximately 80% of inpatient population.

Throughout the assessment, high priority was given to determining the health status and available resources within each community. Community members from each county met with MSHA to discuss current health priorities and identify potential solutions. The information gathered from a local perspective, paired with regional, state and national data, helps to communicate the region's health situation in order to begin formulating solutions for improvement.

In 2014, Tennessee ranked 45th and Virginia ranked 21st out of 50 states for overall health outcomes. Both states had high rates of adult obesity, cancer deaths, infant mortality, and diabetes. Though Virginia's overall ranking is moderately low, the health outcomes in Southwest Virginia counties, where MSHA's facilities are located, resembles those of Tennessee. After compiling the various sources of information, the top health priorities were identified for the communities that each of the MSHA hospitals serve. This effort has determined the top health priorities identified in Washington County, TN to include **substance and prescription drug abuse, smoking, obesity/diabetes/physical activity and cardiovascular disease**. There are certainly a number of other health challenges in this community, but these rise to the top based on this assessment.

According to the 2015 County Health Rankings, Washington County is ranked 19th in Tennessee for health outcomes and 5th for health factors out of 95 counties. The leading causes of death for ages 65 and over are heart disease, cancer, and stroke. Washington County, TN also ranked 9th in health behaviors and 10th in social and economic factors. While Tennessee compares favorably within the state of Tennessee, it does not compare favorably to the top performing counties in the nation. Washington County, TN has high rates of smoking, obesity, and physical inactivity. Many of these health issues are the result of lack-luster social and economic factors such as high rates of poverty, income inequality and unemployment.

Washington County, TN Health Ranking
2015 County Health Rankings
www.countyhealthrankings.org



*Ranking is in comparison to all 95 counties in the state of Tennessee.

Community Interview Summary

Between spring 2014 and spring 2015 the MSHA Strategic Planning Department completed individual interviews and a focus group in order to connect with community members of Washington County, TN and determine the needs of the community that Johnson City Medical Center serves. MSHA hospital administration teams were contacted in order to obtain names of individuals in the community who were considered public health officials or community leaders. The 18 interviewees included representatives from the county and regional health departments, community health center, East Tennessee State University, Chamber of Commerce, local government, United Way, local emergency medical service and several local non-profit community organizations. These individuals were invited to discuss and assist in determining the health priorities and resources available in their community of Washington County.

Collecting Community Input

In order to complete the community health needs assessment for Franklin Woods Community Hospital, MSHA met with various individuals from Washington County, TN. The organizations that were represented are listed in Table 1.1.

Table 1.1 – Summary Organizations Participating in FWCH's CHNA

Reported Organizations Providing Input for Assessment
Washington County Health Department
Frontier Health
ETSU College of Nursing
ETSU Johnson City Community Health Center
ETSU College of Public Health
Washington County Commission
Northeast Tennessee Regional Health Department
Washington County/Johnson City Emergency Medical Services
United Way
Project Access
Chamber of Commerce
Families Free
City of Johnson City
Center on Aging and Health

To begin the community health needs assessment, MSHA's strategic planning staff presented data that had been collected to illustrate past and current health trends for Tennessee and Washington County. The presentation depicted the current national health rankings, in addition to providing a snapshot of the county.

Following the presentation, each participant was given a survey to determine the individual's personal assessment of their county's health priorities. Secondly, the individuals were asked to submit ideas and suggestions as to how MSHA could use the available resources in order to improve the health priorities determined. After the surveys had been completed, each group discussed the questions and continued brainstorming ways to address obstacles and utilize resources. All of the information collected from the surveys and open discussion was evaluated and prioritized based on health needs.

In surveys obtained from the Washington County representatives, several community health needs and resources were identified. Table 1.2 lists the survey questions given to each participant in the assessment.

Table 1.2 – Community Survey Questions

	Survey Questions
1	How would you rate the general health status of the patient population in this community on a scale of 1 to 10 (with 1 being the poorest and 10 being the best)?
2	Keeping in mind resources are not unlimited, can you identify the top 1-2 health priorities in your local community that you feel should be addressed in the following areas: a)Health Outcomes/Diseases b)Health Behaviors c)Social Environment
3	What existing resources, such as organized groups or public health initiatives have been developed and are in place to address these health priorities?
4	What ideas do you have that may serve to improve these health priorities?

Health Status Rating

Overall, the general health status of Washington County, TN was rated as 5.3 on a scale of 1 – 10, with 1 being the poorest and 10 being the best. Individual responses ranged from 2 to 7. The health ranking for Washington County can be found below in Table 1.3.

Table 1.3 – Average Health Status Ranking

MSHA Facility/County	Number of Individuals	Average of Health Status Rating
FRANKLIN WOODS COMMUNITY HOSPITAL, Washington County, TN	18	5.3

Top Health Priorities

From the results of the surveys, the most prevalent health priorities in Washington County were substance and prescription drug abuse, smoking, obesity/diabetes/physical activity and cardiovascular disease. Table 1.4 lists the health priorities input provided by community participants.

Table 1.4 – Top Identified Health Priorities

Washington County, TN		
Top Health Priorities	**Responses**	**% of Total Responses**
Health Outcomes/Diseases		
Obesity	10	62.50%
Cardiovascular Disease	8	50.00%
Diabetes	7	43.75%
Cancer	4	25.00%
Mental Health	3	18.75%
Liver Disease (Hepatitis C)	2	12.50%
Neonatal Abstinence Syndrome	2	12.50%
Health Behaviors		
Substance and Prescription Drug Abuse	12	75.00%
Smoking/Tobacco Use	11	68.75%
Physical Inactivity	10	62.50%
Poor Nutrition	6	37.50%
Risk Taking	1	6.25%
Social Environment		
Education	5	31.25%
Income inequality	3	18.75%
Literacy	3	18.75%
Poverty	2	12.50%
Aging population	2	12.50%
Transportation Barriers	2	12.50%
Stigma of substance use and mental health disorders	1	6.25%
Access to care	1	6.25%
Living wage	1	6.25%
Lack of Job Training	1	6.25%
Built Environment for Physical Activity	1	6.25%
Poor Parenting Skills	1	6.25%
Convenient Access to Fast Food	1	6.25%
Economy	1	6.25%
Adverse Childhood Experiences	1	6.25%
Domestic Violence	1	6.25%

*Individuals submitted multiple answers regarding health priorities.

These priorities are consistent with the secondary data findings.

- Substance and prescription drug abuse
    - The rate of drug poisoning deaths per 100,000 in Washington County, TN exceeds the state average (17 vs. 16).
    - While the state average for Neonatal Abstinence Syndrome is 6.7 per 1,000, it is three times that rate in Washington County, TN at 18.7 per 1,000.
- Smoking
    - Maternal smoking rates in Washington County, TN exceed those of the state (26% vs. 23%)
    - Approximately 24% of Washington County adults smoke compared to 23% of TN and 18% when compared nationally.
- Obesity/Diabetes/Physical Activity
    - Close to 33% of Washington County, TN residents are obese, compared to 27% nationally.
    - Additionally, another 38% of Washington County, TN residents are considered overweight compared to state and national percentages of 36%
    - Self-reported physical inactivity rates among Washington County, TN residents exceed the national average (32% vs. 23%)
- Cardiovascular disease
    - The age-adjusted death rate for heart disease in Washington County, TN exceeds both the state (232.45 vs. 218.67 per 100,000 population) and the nation (184.55 per 100,000)

All of these issues lead to a higher percentage of self-reported age-adjusted fair or poor health rates in Washington County, TN compared nationally(19% vs. 16%) as well as a higher number of years of potential life lost before 75 per 100,000 (a measure of premature death) at 8,155 in the county vs. 6,851 nationally.

Washington (WS)

	Washington County	Error Margin	Top U.S. Performers*	Tennessee	Rank (of 95)
Health Outcomes					19
Length of Life					21
Premature death	8,403	7,831-8,974	5,200	8,696	
Quality of Life					28
Poor or fair health	19%	15-22%	10%	19%	
Poor physical health days	4.5	3.8-5.2	2.5	4.3	
Poor mental health days	3.8	3.0-4.6	2.3	3.4	
Low birthweight	8.4%	7.9-9.0%	5.9%	9.2%	
Health Factors					5
Health Behaviors					9
Adult smoking	24%	21-28%	14%	23%	
Adult obesity	31%	27-35%	25%	32%	
Food environment index	7.3		8.4	6.9	
Physical inactivity	30%	26-34%	20%	30%	
Access to exercise opportunities	72%		92%	70%	
Excessive drinking	7%	5-10%	10%	9%	
Alcohol-impaired driving deaths	31%		14%	28%	
Sexually transmitted infections	201		138	504	
Teen births	33	31-35	20	47	
Clinical Care					4
Uninsured	17%	15-18%	11%	16%	
Primary care physicians	596:1		1,045:1	1,388:1	
Dentists	1,846:1		1,377:1	1,996:1	
Mental health providers	345:1		386:1	786:1	
Preventable hospital stays	82	77-87	41	73	
Diabetic monitoring	89%	84-93%	90%	86%	
Mammography screening	63.6%	58.7-68.5%	70.7%	61.8%	
Social & Economic Factors					10
High school graduation	93%			87%	
Some college	66.0%	62.3-69.6%	71.0%	57.7%	
Unemployment	7.3%		4.0%	8.2%	
Children in poverty	24%	18-29%	13%	27%	
Income inequality	5.1	4.8-5.5	3.7	4.8	
Children in single-parent households	31%	27-36%	20%	36%	
Social associations	13.9		22.0	11.5	
Violent crime	415		59	621	
Injury deaths	71	64-77	50	78	
Physical Environment					23
Air pollution - particulate matter	13.1		9.5	13.8	
Drinking water violations	0%		0%	4%	
Severe housing problems	15%	14-17%	9%	15%	
Driving alone to work	87%	86-88%	71%	84%	
Long commute - driving alone	22%	20-23%	15%	32%	

* 90th percentile, i.e., only 10% are better.
Note: Blank values reflect unreliable or missing data

2015

Identifying Available Resources

MSHA realizes that there are numerous resources in all of the counties it serves that can provide care for individuals. Our goal, in order to reduce costs and provide the best care possible for patients, is to identify these resources to prevent duplication of services and efforts. The interviewees were asked to list all of the services and resources within their community. The interviewees acknowledged that many resources currently exist to help meet health needs. Table 1.5 lists the current resources within each county that offer health services to the community.

Table 1.5 – Identified Available Resources

Resources Available
Washington County, Tennessee
Families Free
Health Department
Washington County Anti-Drug Coalition
Tennessee Suicide Prevention Network
Tennessee Prevention Alliance
TAADAS
Tweetsie Trail
Senior Center
Food Pantries
One Acre Café
Backpack/Student food supplement program
Project Access
JCCH
Johnson City Housing Authority
United Way
Coordinated School Health
Head Start
Johnson City Parks and Recreation
Morning Mile
JCMC/FWCH
ETSU College of Medicine
ETSU College of Public Health
ETSU College of Pharmacy
ETSU College of Nursing
ETSU College of Clinical and Rehabilitative Health Sciences
Day Center
MEAL
Girls on the Run
Washington County Health Council
Washington County Wellness Committee
The Women's Fund of the East Tennessee Foundation
Appalachian Funders Network
Washington County PDAM
Local school systems
Local churches
UT-Washington County Extension Service

*MSHA understands that there are other resources available in each county that are not listed in this table. This table represents only the resources listed by participants in community health needs assessment. MSHA will continue to identify resources.

Improving Health Priorities

The community members who were surveyed provided helpful ideas as to how to begin formulating a plan to improve the health priorities throughout the region. To enhance existing resources, the

participants stressed the significance of increasing public awareness of both addressing one's health needs and the availability of health care options within each community. Additional suggestions as to how MSHA can improve the previously identified health priorities are listed in Table 1.6.

Table 1.6 – Ideas to Improve Health Priorities

	Responses
1	Organizational collaboration
2	Comprehensive community emphasis on exercise
3	Increase physical activity in schools
4	Health education on the health effects of behaviors: smoking, food choices, inactivity
5	Expansion of Project Access
6	Increase health care access with financial resources and partnerships
7	Focus on high school graduation
8	Increase number of walking trails
9	CEASE program
10	Provide/promote smoking cessation programs
11	Offer wellness initiatives
12	Work with schools on food options for students
13	Promote early screenings
14	Educate children early on the importance of exercise and healthy eating
15	Healthcare navigators/care coordinators to help community members with health education and free/reduced cost health care services
16	Offer additional activities/opportunities for families to engage in physical activity
17	Develop network of clinics, hospitals, long-term health facilities and health departments to discuss and develop health improvement initiatives.
18	Better marketing of health resources to the community
19	Promote literacy programs for educational attainment

However, it is also helpful to understand from a more global perspective the health status of our nation as a whole, since many issues we face in our service area are not limited to just our region. Compiled on an annual basis, the *America's Health Rankings* publication developed by the United Health Foundation, the American Public Health Association and Partnership for Prevention provides one of the most comprehensive assessments regarding the status of the nation's health. The following information in the national and regional overview is from the 2015 edition

Health is a result of our behaviors, our individual genetic predisposition to disease, the environment and the community in which we live, the clinical care we receive and the policies and practices of our health care and prevention systems. Each of us, individually, as a community, and as a society, strives to optimize these health determinants, so that all of us can have a long, disease-free, and robust life regardless of race, gender or socio-economic status.

This report looks at the four groups of health determinants that can be affected:

1. **Behaviors** include the everyday activities we do that affect our personal health. It includes habits and practices we develop as individuals and families that have an effect on our personal health and on our utilization of health resources. These behaviors are modifiable with effort by the individual supported by community, policy and clinical interventions.

2. **Community and environment** reflects the reality that the daily conditions in which we live our lives have a great effect on achieving optimal individual health.

3**. Public and health policies** are indicative of the availability of resources to encourage and maintain health and the extent that public and health programs reach into the general population.

4. **Clinical care reflect**s the quality, appropriateness and cost of the care we receive at doctors' offices, clinics and hospitals.

All health determinants are intertwined and must work together to be optimally effective. For example, an initiative that addresses tobacco cessation requires not only efforts on the part of the individual but also support from the community in the form of public and health policies that promote non-smoking and the availability of effective counseling and care at clinics. Similarly sound prenatal care requires individual effort, access to and availability of prenatal care coupled with high quality health care services. Addressing obesity, which is a health epidemic now facing this country, requires coordination among almost all sectors of the economy including food producers, distributors, restaurants, grocery and convenience stores, exercise facilities, parks, urban and transportation design, building design, educational institutions, community organizations, social groups, health care delivery and insurance to complement and augment individual actions.



America's Health Rankings® combines individual measures of each of these determinants with the resultant health outcomes into one, comprehensive view of the health of a state. Additionally, it discusses health determinants separately from health outcomes and provides related health, economic and social information to present a comprehensive profile of the overall health of each state.

America's Health Rankings® employs a unique methodology, developed and periodically reviewed by a panel of leading public health scholars, which balances the contributions of various factors, such as smoking, obesity, binge drinking, high school graduation rates, children in poverty, access to care and incidence of preventable disease, to a state's health. The report is based on data from the

U.S. Departments of Health and Human Services, Commerce, Education and Labor; U.S. Environmental Protection Agency; U.S. Census Bureau, the American Medical Association; the American Dental Association; the Dartmouth Atlas Project; and the Trust for America's Health.

Purpose

The ultimate purpose of *America's Health Rankings*® is to stimulate action by individuals, elected officials, health care professionals, employers, and communities to improve the health of the population of the United States. We do this by promoting public conversation concerning health in our states, as well as providing information to facilitate citizen, community and group participation. We encourage participation in all elements: behaviors, community and environment, clinical care, and public and health policies. Each person individually, and in their capacity as an employee, employer, voter, community volunteer, health official or elected official, can contribute to the advancement of the healthiness of their state. Proven, effective and innovative actions can improve the health of people in every state whether the state is first or 50th.

Findings

Comparison to Other Nations

When health in the United States is compared to health in other countries, the picture is disappointing. The World Health Organization, in its annual World Health Statistics 2013, compares the United States to the nations of the world on a large variety of measures. While the U.S. does exceed many countries, it is far from the best in many of the common measures used to gauge healthiness and lags behind its peers in other developed countries.

The United States ranks at or near the bottom among high-income countries on nearly all indicators of mortality, survival, and life expectancy. Life expectancy is a measure that indicates the number of years that a newborn is expected to live. Japan, San Marino, and Switzerland are the persistent leaders for developed countries in this measure, with an overall life expectancy of 83 years. At 81 years for women and 76 years of men, the United States ranks 33rd among the 193 reporting nations of the WHO. The United States male life expectancy rates are on par with Chile, Cuba, Brunei Darussalam, and Maldives, while the female life expectancy rates are on par with Columbia, Costa Rica, Czech Republic, Estonia, Poland, and Qatar. There are 32 other countries that exceed the United States in healthy life expectancy, including Australia, Italy, Spain, France, Germany, Greece and the United Kingdom.

One of the underlying causes for these differences is the gap in infant mortality rates between the United States and many other countries. The infant mortality rate for the U.S. in 2011 was 6 deaths per 1,000 live births, ranking 40th among WHO nations. The infant mortality rates in Finland, Japan, and Sweden were *one* third that of the U.S. rate. Of the 193 countries rated, 39 countries had lower infant mortality rates than the United States.

These countries also have considerably lower infant mortality rates than that of non-Hispanic whites in the United States, which is the ethnic/racial group with the lowest infant mortality rate. The racial/ethnic disparities related to infant mortality could be related to differences in risk factors among different racial/ethnic groups, including risk for low birth weight delivery, access to medical care, and socioeconomic status. However, many of the racial/ethnic differences in infant mortality remain unexplained. It should also be noted that the reporting and classification of infant mortality varies among countries, which could be reflected in the ranks.

In addition to infant mortality, youth and young adults' mortality impacts life expectancy. Unintentional injuries claim approximately 30 percent of the years lost before age 50, along with violence and suicides, among U.S. young adults and adolescents. Non-communicable (chronic)

diseases, such as cancer, heart disease, and other conditions that are not caused by infections, begin to be more of a contributing factor after the age of 30.

Differences in healthy life expectancy are also affected by the effectiveness of treating disease, especially those that are amenable to care, including bacterial infections, treatable cancers, diabetes, cardiovascular and cerebrovascular disease, some ischemic heart disease, and complications from common surgical procedures. The age-adjusted amenable mortality rate before age 75 for the United States was 95.5 deaths per 100,000 population in 2006 to 2007, which is still a slower rate of improvement than in other Organization for Economic Cooperation and Development (OECD) nations studied. The rate in the U.S. is 50 percent higher than the rate in France, Japan, Italy, and Australia.

Additionally, the study indicated that despite spending more than any other country on health care, the United States continues to slip further behind and has one of the highest inequalities in health compared to other developed countries. The U.S. ranks among the worst OECD countries for child health well-being, having an inequality higher than average. Furthermore, although the United States has the highest income per person, it continues to rank as the worst country for income inequality, which is thought to explain why it has the highest index of health and social problems compared to other developed nations.

Physical inactivity and obesity play major contributions to disease worldwide and in the United States. Physical inactivity is the fourth leading risk factor for global mortality, and is responsible for an estimated 6 to 10 percent of non-communicable diseases, such as type 2 diabetes, heart disease, colon cancer, and breast cancer. North America has 34 percent of the world's biomass due to obesity; however, it only makes up for 6 percent of the world's population. Asia, on the other hand, has 61 percent of the world's population, yet only has 13 percent of its biomass due to obesity. While the U.S. is only one of several countries that form North America, it is the only North American nation to rank among the heaviest nations globally. It is estimated that eliminating physical activity in the United States would add approximately 1 year to life expectancy and dramatically reduce the burden of chronic diseases.

The results of these studies should be a wake-up call to everyone in the United States to strive to improve all aspects of our health system, including education, safety, prevention, and clinical care. Other countries have improved their overall health, indicating that we, too, can do the same.

National Changes since 1990

In the past year, 20 health measures improved, 8 measures declined, and 1 measure remained unchanged. Table 1 shows the national changes in the last year. These improvements were offset by deterioration in several measures, including increases in the prevalence of obesity, the percentage of children in poverty and lack of health insurance.

Since 2012, the prevalence of smoking declined from 21.2 percent to 19 percent among adults. The binge drinking prevalence rate dropped from 18.3 percent to 16.8 percent of adults who binged in the last 30 days, and physical inactivity decreased from 26.2 percent to 25.3 percent. The incidence of pertussis increased sharply from 9.0 to 15.5 cases per 100,000 populations. The percentages of children in poverty, lack of health insurance, child immunization coverage, and low birth weight have also suppressed faster improvement in our nation's health.

Table 1 – National Successes and Challenges

SUCCESSES

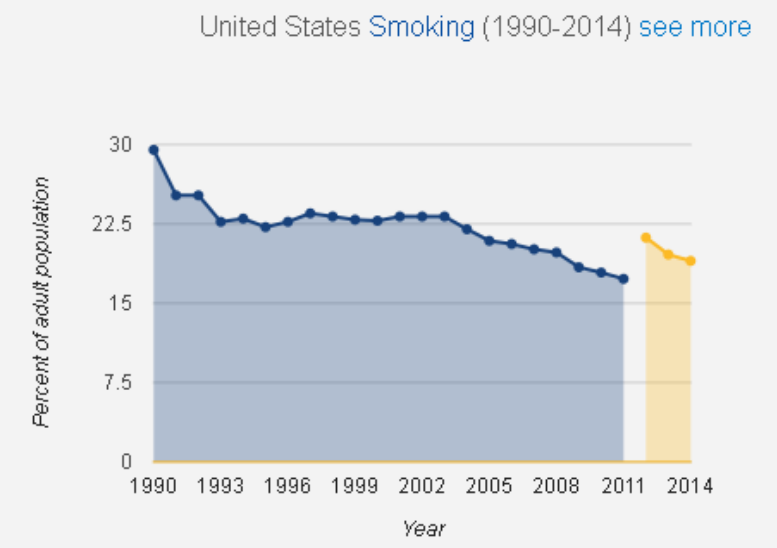
Smoking	Since 1990, smoking decreased 36% from 29.5% to 19.0% of adults who smoke regularly.
High School Graduation	At 81% of ninth graders graduating within 4 years, high school graduation is still a challenge. However, it is slowly trending upward from 71.7% in 2004.
Violent Crime	At 387 offenses per 100,000 population, violent crime is 37% lower than in 1990 and 49% lower than its peak in 1993.
Air Pollution	The average amount of fine particulates in the air continues to decline from 13.2 micrograms per cubic meter in 2003 to 9.9 micrograms per cubic meter in 2014.
Preventable Hospitalizations	Preventable hospitalizations continue to decline. In 2001, there were 82.5 discharges per 1,000 Medicare beneficiaries; in 2014, there were 62.9 discharges per 1,000 Medicare beneficiaries.
Occupational Fatalities	Occupational fatalities have declined in the last 8 years from 5.3 deaths per 100,000 workers in 2007 to 3.8 deaths per 100,000 workers. This is the second consecutive year the rate is below 4 deaths per 100,000 workers.
Infant Mortality	Since 1990, infant mortality decreased 41% from 10.2 to 6.0 deaths per 1,000 live births, although most of that decline occurred between 1990 and 1999. Even though the infant mortality rate is the lowest in US history, it is double the rate of many developed countries. In addition, large racial and geographic disparities exist within the country.
Premature Death	Since 1990, premature death declined 20% from 8,716 to 6,976 years of potential life lost before age 75. Premature death, like several other metrics, has leveled off in the last decade compared with improvements made in the 1990s.
Cancer Deaths	Cancer deaths declined 4% from 197.5 deaths in 1990 to 189.9 deaths per 100,000 population.
Cardiovascular Deaths	Since 1990, cardiovascular deaths declined 38% from 405.1 to 251.4 deaths per 100,000 population. This continues a relatively constant improvement of 2% to 3% yearly.

CHALLENGES

Obesity	Since 1990, obesity has increased 153% from 11.6% to 29.4% of adults.
Physical Inactivity	Physical inactivity remains high at 23.5% of adults and has not changed appreciably for the last decade.
Children in Poverty	At 19.9% of children, the children in poverty measure is far above the 23-year low of 15.8% in the 2002 Edition and near the 1990 level of 20.6%.
Public Health Funding	State public health funding continues its slow decline over the past 4 years. Since 2011, it decreased from $95.01 to $90.00 in expenditures per person at the state level.
Immunization Coverage — Children	Nationwide, comprehensive immunization coverage among children aged 19 to 35 months is only 70.4%. It increased marginally in the past year.
Immunization Coverage — Adolescents	Nationwide, comprehensive immunization coverage among teens aged 13 to 17 years is only 67.1%. It increased marginally in the past year.
Low Birthweight	In the last 20 years, the prevalence of low birthweight infants has increased from 7.1% to 8.0% nationwide. The good news is that it appears to have peaked in 2009 and is trending downward.
Diabetes	In the nation, 9.6% of adults report they have been told they have diabetes. There has been a steady, upward climb in the prevalence of diabetes, although data from the last 3 years shows a leveling of the prevalence.

The United States has the potential to return to the rates of improvement typical in the 1990s. However, to do so, it must address the drivers of health directly by focusing on reducing important risk factors. For example, the prevalence of smoking had been stagnant for many years and recently started to show improvement in the last two decades. However, there was an increase in rates from 2010 to 2012. In the last year, the prevalence of smoking declined in the United States from 21.2 percent to 19 percent of adults who smoke regularly; however Tennessee ranks 46th as one of the bottom five states with 24.3 percent of adults smoking and Virginia ranks 24th at 19.1 percent.

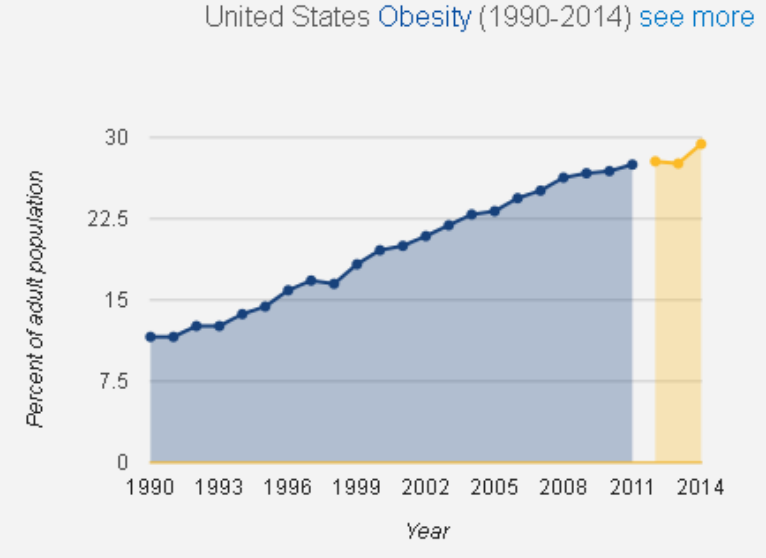
Graph 1 - Prevalence of Smoking Since 1990



Unprecedented and unchecked growth in the prevalence of obesity over the last 20 years has also dramatically affected the overall health of the United States. The prevalence of obesity, a risk factor for numerous illnesses including heart disease and diabetes, appears to be leveling off after increasing for decades. However, more than one in four people in the U.S. is considered obese - a category that the Centers for Disease Control and Prevention reserves for those who are significantly over the suggested body weight given their height. In the United States, the prevalence of obesity is 29.4 percent of adults, which has increased from 27.8 percent in 2012. Virginia's obesity score ranks 18th at 27.2 percent, while Tennessee ranks 47th at 33.7 percent of obese adults.

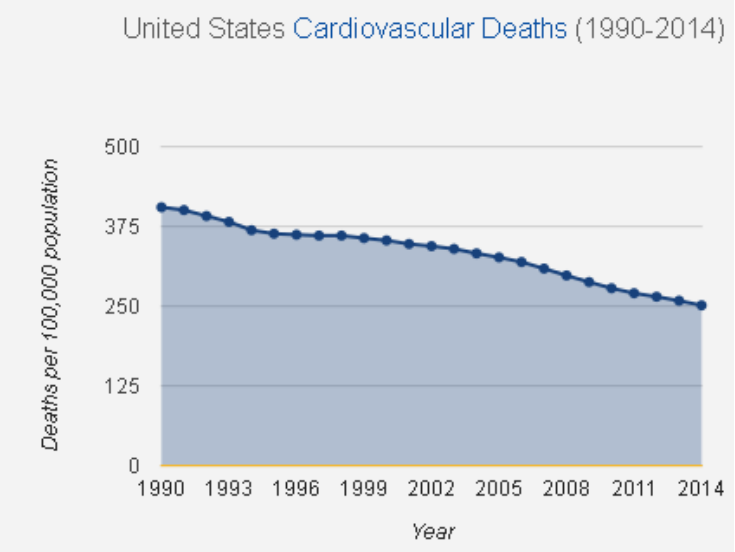
These very high obesity rates are gathered from the Behavioral Risk Factor Surveillance System, the nation's largest phone survey about health, and rely on self-reported height and weight. Actual obesity rates, as measured by health professionals, may be almost 10 percent higher, meaning that over one-third of the population is now obese.

Graph 2 - Prevalence of Obesity Since 1990



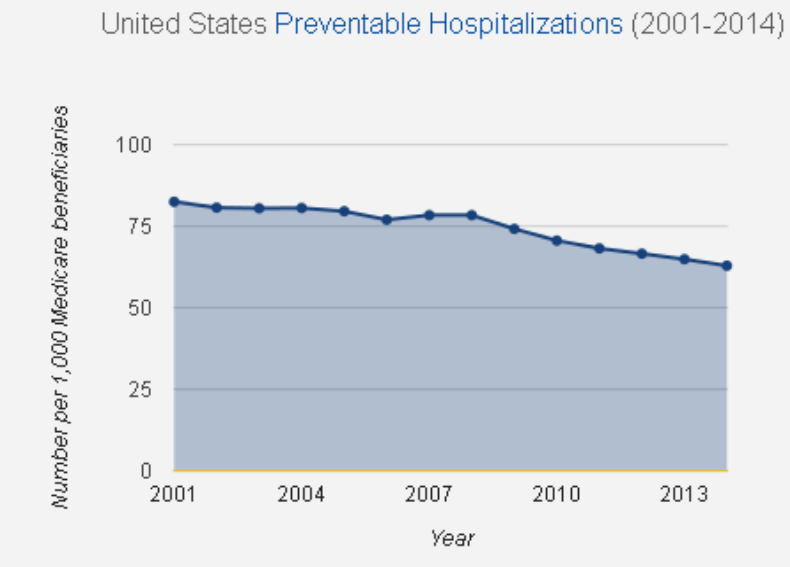
Despite increasing risk factors such as obesity, high cholesterol, and high blood pressure, deaths contributed to cardiovascular disease have consistently declined by 2 to 3 percent per year for the last decade. Cardiovascular disease accounts for 30 percent of Medicare spending, 17 percent of medical spending, and totals nearly $150 billion each year. For cardiovascular deaths, Virginia ranked 25th with a rate of 241.1 per 100,000 and Tennessee ranked 44th with the rate of 300.6.

Graph 3 – Prevalence of Cardiovascular Deaths Since 1990



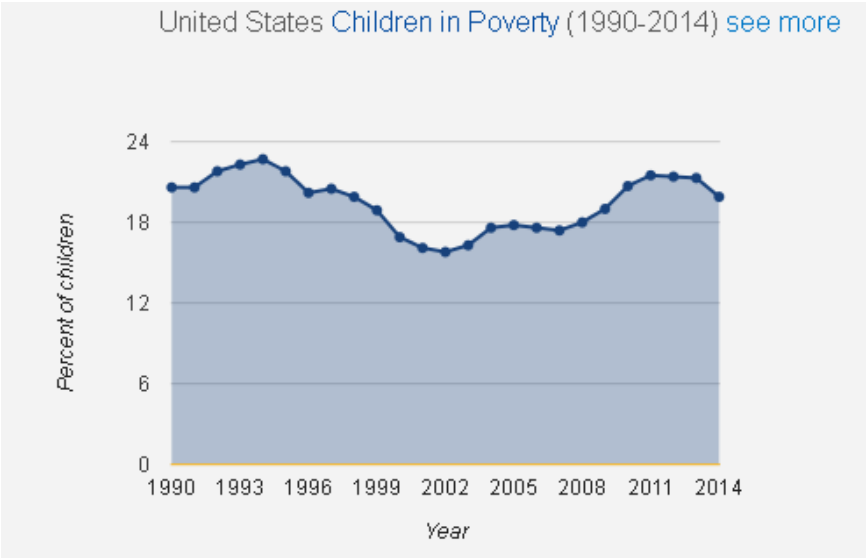
Like cardiovascular disease, potentially preventable hospitalizations have steadily decreased over the past 12 years. Preventable hospitalizations (hospitalizations that may be preventable with high quality primary and preventive care) have decreased from 82.5 to 62.9 discharges per 1,000 Medicare enrollees since 2001. Preventable hospitalizations reflect how efficiently a population uses various health care options for care and often occur as a result of a failure to detect or treat conditions early. Preventable hospitalizations could be avoided with earlier, less costly interventions. Virginia ranked 22nd in this measure with a 55.2 rate and Tennessee ranked 47th with a rate of 78.5.

Graph 4 – Preventable Hospitalizations Since 2001



The current economic climate also increases the challenge of maintaining a healthy population. Poverty is an indication of the lack of access to health care, including preventive care, for this vulnerable population. Graph 5 shows the recent increase in the percentage of children in poverty in the last few years, increasing from 16.1 percent of children in the 2011 Edition to 19.9 percent of children in the 2014 Edition. On this measure Virginia ranks 12th with a 14.5 percent of children living in poverty and Tennessee ranks 45th with 26.7 percent. In the 2002 Edition, the child poverty rate was at a historic low of 15.8 percent of persons under age 18.

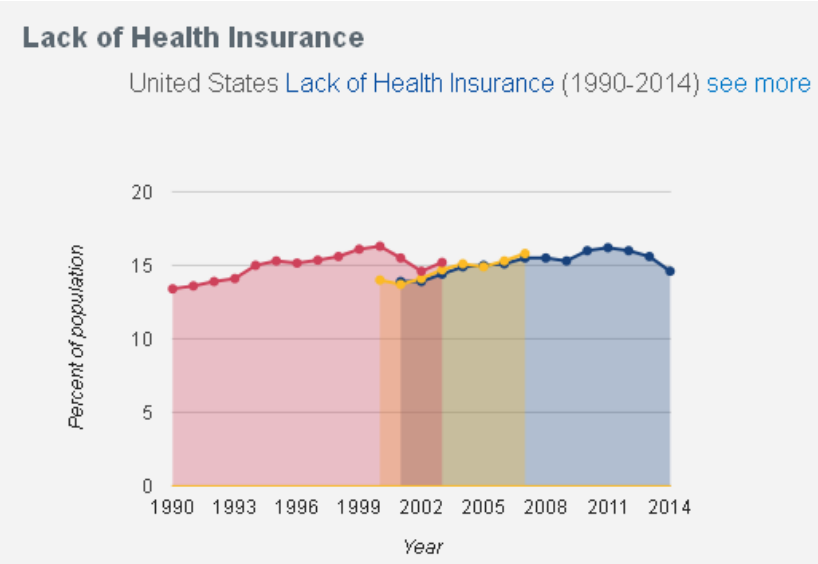
Graph 5 – Children in Poverty since 1990



Lack of health insurance coverage increased from 13.9 percent in the 2001 Edition to 14.6 percent of the population in the 2014 Edition. Lack of health insurance not only inhibits people from getting the proper care when needed but also reduces access to necessary preventive care to curtail or minimize future illnesses.

Massachusetts, with the lack of health insurance at 3.8 percent of the population, is substantially better than all other states and less than one-fourth of the national average. Texas has a rate six times that of Massachusetts. Changes in national health care laws have the potential to dramatically affect this metric over the next few years.

Graph 6 – Lack of Health Insurance Since 2001



2014 State Results

America's Health Rankings®-2014 Edition shows Hawaii at the top of the list of healthiest states again this year. The state has steadily remained within the top 5 healthiest states since 1990. Hawaii has consistently sustained its place within the top 5 healthiest states for the last 22 years, excluding 2002 when it was ranked 6th. Hawaii's strengths include its number one position for overall health rank and ranking in the top 5 states for a low rate of preventable hospitalizations, high immunization coverage among children, low prevalence of smoking and obesity, high per capita public health funding, a low rate of uninsured population, and low cancer and cardiovascular mortality rates. Hawaii's three challenges are a high prevalence of binge drinking, low high school graduate rate, and a high incidence of Salmonella infections.

Mississippi is 50th this year, the same as the last ten years, excluding in 2011 when it ranked 49th. It has been in the bottom three states since the 1990 Edition. The state ranks well for a low prevalence of binge drinking, higher immunization coverage among children, and small disparity in health status by educational attainment. In the past year, despite ranking last in the nation for immunization coverage among adolescents, coverage increased from 30.2 percent to 35.4 percent of persons aged 13 to 17 years. Mississippi also ranks last in many health outcomes, including infant mortality, low birth weight, premature death, cardiovascular death, infectious diseases, and overall health status. Mississippi's prevalence of obesity, physical inactivity, and diabetes remain among the highest in the nation with approximately 690,000 physically inactive adults, 770,000 obese adults, and 280,000 adults with diabetes. It ranks 48th in health determinants and 49th in health outcomes; therefore, its overall ranking is unlikely to change significantly in the near future

2014 Edition Ranking

2014 RANK (1–50)	STATE	SCORE
1	Hawaii	.91
2	Vermont	.85
3	Massachusetts	.74
4	Connecticut	.74
5	Utah	.73
6	Minnesota	.73
7	New Hampshire	.68
8	Colorado	.57
9	North Dakota	.55
10	Nebraska	.50
11	New Jersey	.47
12	Oregon	.41
13	Washington	.40
14	New York	.39
15	Rhode Island	.37
16	Maryland	.35
17	California	.35
18	Idaho	.34
18	South Dakota	.34
20	Maine	.30
21	Virginia	.30
22	Montana	.28
23	Wisconsin	.23
24	Iowa	.22
25	Wyoming	.21

2014 Edition Ranking

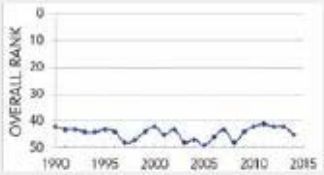
2014 RANK (1–50)	STATE	SCORE
26	Alaska	.13
27	Kansas	.08
28	Pennsylvania	.01
29	Arizona	-.04
30	Illinois	-.08
31	Texas	-.11
32	Florida	-.15
33	New Mexico	-.18
34	Michigan	-.21
35	Delaware	-.23
36	Missouri	-.28
37	North Carolina	-.29
38	Georgia	-.32
39	Nevada	-.33
40	Ohio	-.36
41	Indiana	-.38
42	South Carolina	-.64
43	Alabama	-.66
44	West Virginia	-.71
45	Tennessee	-.71
46	Oklahoma	-.74
47	Kentucky	-.75
48	Louisiana	-.80
49	Arkansas	-.93
50	Mississippi	-1.00

Tennessee



Overall Rank: 45

Change: ▼ 3
Determinants Rank: 44
Outcomes Rank: 46



Strengths:

- Low prevalence of binge drinking
- Low incidence of pertussis
- Ready availability of primary care physicians

Challenges:

- High prevalence of obesity
- High prevalence of physical inactivity
- High violent crime rate

Ranking:

Tennessee is 45th this year; it was 42nd in 2013. The ranking for senior health in Tennessee was 43rd in 2014.

Highlights:

- In the past year, physical inactivity increased by 17 percent from 28.6 percent to 33.6 percent of adults.
- In the past year, binge drinking decreased by 15 percent from 11.3 percent to 9.6 percent of adults, the lowest rate in the nation.
- In the past year, preventable hospitalizations decreased by 10 percent from 80.8 to 73.1 per 1,000 Medicare beneficiaries.
- In the last 2 years, immunization coverage among adolescents increased by 16 percent from 52.7 percent to 61.2 percent of adolescents aged 13 to 17 years.
- Since 1990, children in poverty decreased by 10 percent from 29.6 percent to 26.7 percent of children.

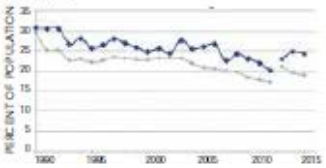
State Health Department Website:

http://health.state.tn.us

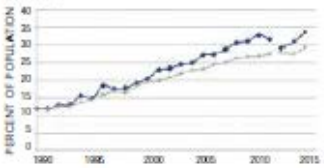
	2014 VALUE	2014 RANK	NO.1 STATE
Behaviors			
Smoking (Percent of adult population)	24.3	46	10.3
Binge Drinking (Percent of adult population)	9.6	1	9.6
Drug Deaths (Deaths per 100,000 population)	17.2	40	3.0
Obesity (Percent of adult population)	33.7	47	21.3
Physical Inactivity (Percent of adult population)	33.6	49	16.2
High School Graduation (Percent of incoming ninth graders)	83.0	20	93.0
Community & Environment			
Violent Crime (Offenses per 100,000 population)	644	50	123
Occupational Fatalities (Deaths per 100,000 workers)	5.0	32	2.2
Infectious Disease (Combined score Chlamydia, Pertussis, *Salmonella**)	0.01	29	-0.9
Chlamydia (Cases per 100,000 population)	507.9	39	233.0
Pertussis (Cases per 100,000 population)	4.8	10	1.6
Salmonella (Cases per 100,000 population)	17.2	35	6.8
Children in Poverty (Percent of children)	26.7	45	9.2
Air Pollution (Micrograms of fine particles per cubic meter)	9.5	30	4.9
Policy			
Lack of Health Insurance (Percent of population)	13.9	26	3.8
Public Health Funding (Dollars per person)	$83	20	$219
Immunization–Children (Percent aged 19 to 35 months)	68.5	33	82.1
Immunization–Adolescents (Percent aged 13 to 17 years)	61.2	36	81.3
Clinical Care			
Low Birthweight (Percent of live births)	9.2	44	5.7
Primary Care Physicians (Number per 100,000 population)	124.4	19	324.6
Dentists (Number per 100,000 population)	50.9	36	107.6
Preventable Hospitalizations (Number per 1,000 Medicare beneficiaries)	73.1	46	28.2
ALL DETERMINANTS	-0.43	44	0.71
OUTCOMES			
Diabetes (Percent of adult population)	12.2	46	6.5
Poor Mental Health Days (Days in previous 30 days)	3.7	24	2.5
Poor Physical Health Days (Days in previous 30 days)	5.0	49	2.8
Disparity in Health Status (Percent difference by education level**)	32.1	38	15.5
Infant Mortality (Deaths per 1,000 live births)	7.3	41	4.2
Cardiovascular Deaths (Deaths per 100,000 population)	300.6	44	184.7
Cancer Deaths (Deaths per 100,000 population)	213.5	44	145.7
Premature Deaths (Years lost per 100,000 population)	9,168	43	5,345
ALL OUTCOMES	-0.29	46	0.34
OVERALL	-0.71	45	0.91

*Negative score denotes less disease than US average, positive score indicates more than US average
**Difference in the percentage of adults aged 25 and older with vs without a high school education who report their health is very good or excellent

SMOKING



OBESITY



STATE ◆——◆ NATION ●——●

The 2012–2014 data in the above graphs are not directly comparable to prior years. See Methodology for additional information.

ECONOMIC ENVIRONMENT	TN	US
Annual Unemployment Rate (2013)	8.2	7.4
Annual Underemployment Rate (2013)	14.7	13.8
Median Household Income (2013)	$42,499	$51,939

MEASURE	ADULT POPULATION AFFECTED
Smoking	1,163,000
Obesity	1,595,000
Physical Inactivity	1,691,000
Diabetes	615,000

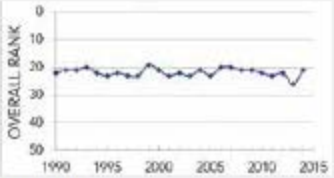
Virginia

VIRGINIA



Overall Rank: 21

Change: ▲ 5
Determinants Rank: 19
Outcomes Rank: 23



Strengths:

- Low rate of drug deaths
- Low violent crime rate
- Low percentage of children in poverty

Challenges:

- Low immunization coverage among children
- Low immunization coverage among teens
- High infant mortality rate

Ranking:

Virginia is 21st this year; it was 26th in 2013. The ranking for senior health in Virginia was 21st in 2014.

Highlights:

- In the past year, air pollution decreased by 6 percent from 9.3 to 8.7 micrograms of fine particles per cubic meter.
- In the last 2 years, drug deaths decreased by 10 percent from 9.3 to 8.4 deaths per 100,000 population.
- In the last 10 years, preventable hospitalizations decreased by 25 percent from 73.8 to 55.2 per 1,000 Medicare beneficiaries.
- Since 1990, cardiovascular deaths decreased by 42 percent from 413.2 to 241.1 deaths per 100,000 population.
- Since 1990, infant mortality decreased by 38 percent from 10.6 to 6.6 deaths per 1,000 live births.

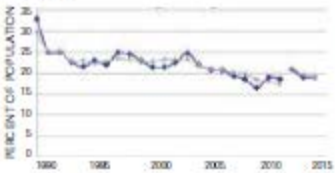
State Health Department Website:

www.vdh.state.va.us

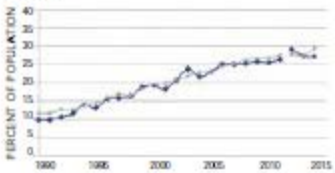
	2014 VALUE	2014 RANK	NO 1 STATE
Behaviors			
Smoking (Percent of adult population)	19.0	24	10.3
Binge Drinking (Percent of adult population)	15.9	20	9.6
Drug Deaths (Deaths per 100,000 population)	8.4	4	3.0
Obesity (Percent of adult population)	27.2	18	21.3
Physical Inactivity (Percent of adult population)	23.0	20	16.2
High School Graduation (Percent of incoming ninth graders)	84.0	16	93.0
Community & Environment			
Violent Crime (Offenses per 100,000 population)	190	4	123
Occupational Fatalities (Deaths per 100,000 workers)	4.4	25	2.2
Infectious Disease (Combined score Chlamydia, Pertussis, *Salmonella**)	-0.29	16	-0.9
Chlamydia (Cases per 100,000 population)	431.8	26	233.0
Pertussis (Cases per 100,000 population)	7.7	18	1.6
Salmonella (Cases per 100,000 population)	14.1	25	6.8
Children in Poverty (Percent of children)	14.5	12	9.2
Air Pollution (Micrograms of fine particles per cubic meter)	8.7	19	4.9
Policy			
Lack of Health Insurance (Percent of population)	12.4	20	3.8
Public Health Funding (Dollars per person)	$68	28	$219
Immunization–Children (Percent aged 19 to 35 months)	69.2	29	82.1
Immunization–Adolescents (Percent aged 13 to 17 years)	58.5	42	81.3
Clinical Care			
Low Birthweight (Percent of live births)	8.1	27	5.7
Primary Care Physicians (Number per 100,000 population)	125.8	16	324.6
Dentists (Number per 100,000 population)	61.6	19	107.6
Preventable Hospitalizations (Number per 1,000 Medicare beneficiaries)	55.2	22	28.2
ALL DETERMINANTS	0.24	19	0.71
OUTCOMES			
Diabetes (Percent of adult population)	9.8	26	6.5
Poor Mental Health Days (Days in previous 30 days)	3.3	11	2.5
Poor Physical Health Days (Days in previous 30 days)	3.6	15	2.8
Disparity in Health Status (Percent difference by education level**)	29.1	27	15.5
Infant Mortality (Deaths per 1,000 live births)	6.6	31	4.2
Cardiovascular Deaths (Deaths per 100,000 population)	241.1	25	184.7
Cancer Deaths (Deaths per 100,000 population)	189.5	23	145.7
Premature Deaths (Years lost per 100,000 population)	6,502	19	5,345
ALL OUTCOMES	0.06	23	0.34
OVERALL	0.30	21	0.91

*Negative score denotes less disease than US average, positive score indicates more than US average
**Difference in the percentage of adults aged 25 and older with vs without a high school education who report their health is very good or excellent

SMOKING



OBESITY



STATE ◆—◆ NATION ●—●

The 2012–2014 data in the above graphs are not directly comparable to prior years. See Methodology for additional information.

ECONOMIC ENVIRONMENT	VA	US
Annual Unemployment Rate (2013)	5.5	7.4
Annual Underemployment Rate (2013)	11.5	13.8
Median Household Income (2013)	$67,620	$51,939

MEASURE	ADULT POPULATION AFFECTED
Smoking	1,159,000
Obesity	1,632,000
Physical Inactivity	1,481,000
Diabetes	631,000

As Mountain States Health Alliance works to develop an implementation plan based on the findings from this assessment, key focus areas for consideration to impact the health of our community would be the 27 measures that comprise the *America's Health Rankings*. These determinants have been carefully selected by leaders in health and public policy as factors which have the greatest impact on future health of a population. For a state (or area for that matter) to improve the health of its population, efforts must focus on changing the determinants of health. A description of these determinants is outlined below.

Selection of Components

Four primary considerations drove the design of *America's Health Rankings*® and the selection of the individual measures:

1. The overall rankings had to represent a broad range of issues that affect a population's health,
2. Individual measures needed to use common health measurement criteria,
3. Data had to be available at a state level, and
4. Data had to be current and updated periodically.

While not perfect, the measures selected are believed to be the best available indicators of the various aspects of healthiness at this time and are consistent with past reports.

The measures are divided into two categories - Determinants and Outcomes. For further clarity, determinants are divided into four groups: Behaviors, Community and Environment, Public and Health Policies, and Clinical Care. These four groups of measures influence the health outcomes of the population in a state, and improving these inputs will improve outcomes over time. Most measures are actually a combination of activities in all four groups. For example, the prevalence of smoking is a behavior that is strongly influenced by the community and environment in which we live, by public policy including taxation and restrictions on smoking in public places, and by the care received to treat the chemical and behavioral addictions associated with tobacco. However, for simplicity, we placed each measure in a single category.

For *America's Health Rankings*® to continue to meet its objectives it must evolve and incorporate new information as it becomes available. The Scientific Advisory Committee provides guidance for the evolution of the rankings, balancing the need to change with the desire for longitudinal comparability. Over the last few years, change is being driven by: 1) the acknowledgment that health is more than years lived but also includes the quality of those years; 2) data about the quality and cost of health care delivery are becoming available on a comparative basis; and 3) measurement of the additional determinants of health are being initiated and/or improved. The committee also emphasizes that the real impact on health will be made by addressing the determinants, and making improvements on these items will affect the long-term health of the population. The determinants are the predictors of our future health.

Outcomes are traditionally measured using mortality measures which include premature death, infant mortality, cancer and cardiovascular mortality. While these measures overlap significantly, they do present different views of mortality outcomes of a population. Two measures of the quality of life- poor mental health days and poor physical health days - are also included and defined as the number of days in the previous 30 days when a person indicates their activities are limited due to mental or physical health difficulties.

As with all indices, the positive and negative aspects of each measure must be weighed when choosing and developing them. These aspects for consideration include: 1) the interdependence of

the different measures; 2) the possibility that the overall ranking may disguise the effects of individual measures; 3) an inability to adjust all data by age and race; 4) an over-reliance on mortality data; and 5) the use of indirect measures to estimate some effects on health. These concerns cannot be addressed directly by adjusting the methodology; however, assigning weights to the individual measures can mitigate their impact.

Each measure is assigned a weight that determines its percentage of the overall score. Determinants account for 75 percent of the overall ranking and outcomes account for 25 percent, a shift from the 50/50 balance in the original 1990 index. This reflects the importance and growing availability of determinant data.

A short description of each measure immediately follows. The data for each year is the most current data available at the time the report was compiled.

The table includes the core measures included in the current model, plus supplemental measures that can be used to further understand each state's unique situation. The supplemental measures are more fully described at http://www.americashealthrankings.org/About/Model.

Data for each state and the United States is available at Get Informed or by clicking the link above.

Core Measures

Determinants

Behaviors	Description
Smoking	Percentage of adults who are current smokers (smoked at least 100 cigarettes in their lifetime and currently smoke).
Binge Drinking	Percentage of adults who self-report having 4 or more (women) or 5 or more (men) alcoholic beverages on at least 1 occasion in the past 30 days.
Drug Deaths	Number of deaths due to drug injury of any intent (unintentional, suicide, homicide, or undetermined) per 100,000 population.
Obesity	Percentage of adults who are obese, with a body mass index (BMI) of 30.0 or higher.
Physical Inactivity	Percentage of adults who report doing no physical activity or exercise (such as running, calisthenics, golf, gardening, or walking) other than their regular job in the last 30 days.
High School Graduation	Percentage of incoming ninth graders who graduate in 4 years from a high school with a regular degree.

Community and Environment

Violent Crime	Number of murders, rapes, robberies, and aggravated assaults per 100,000 population.
Occupational Fatalities	Number of fatalities from occupational injuries per 100,000 workers.
Children in Poverty	Percentage of persons younger than 18 years who live in households at or below the poverty threshold.
Infectious Disease	Combined average z-score using the values of incident cases of chlamydia, pertussis, and *Salmonella* per 100,000 population.

Air Pollution	Average exposure of the general public to particulate matter of 2.5 microns or less in size (PM2.5).

Policy

Lack of Health Insurance	Percentage of the population that does not have health insurance privately, through their employer, or the government.
Public Health Funding	State funding dedicated to public health as well as federal funding directed to states by the Centers for Disease Control and Prevention and the Health Resources and Services Administration.
Immunization-Children	Percentage of children receiving the recommended doses of DTaP, polio, MMR, Hib, hepatitis B, varicella, and PCV vaccines by age 19–35 months.
Immunization-Adolescents	Percentage of adolescents aged 13 to 17 years who have received 1 dose of Tdap since the age of 10 years, 1 dose of meningococcal conjugate vaccine, and 3 doses of HPV vaccine (females only).

Clinical Care

Low Birth weight	Percentage of infants weighing less than 2,500 grams (5 pounds, 8 ounces) at birth.
Primary Care Physicians	Number of primary care physicians (including general practice, family practice, OB-GYN, pediatrics, and internal medicine) per 100,000 population.
Dentists	Number of dentists per 100,000 population
Preventable Hospitalizations	Discharge rate among the Medicare population for diagnoses that are amenable to non-hospital based care.

Outcomes

Diabetes	Percentage of adults who have been told by a health professional that they have diabetes (does not include pre-diabetes or diabetes during pregnancy).
Poor Mental Health Days	Number of days in the previous 30 days when a person indicates their activities were limited due to mental health difficulties.
Poor Physical Health Days	Number of days in the previous 30 days when a person indicates their activities were limited due to physical health difficulties.
Disparity in Health Status	Percent difference in adults aged 25 and older who did not graduate high school and adults with at least a high school education who self-report being in excellent or very good health.
Infant Mortality	Number of infant deaths (before age 1) per 1,000 live births.
Cardiovascular Deaths	Number of deaths due to all cardiovascular diseases, including heart disease and strokes, per 100,000 population
Cancer Deaths	Number of deaths due to all causes of cancer per 100,000 population
Premature Death	Number of years of potential life lost prior to age 75 per 100,000 population

Supplemental Measures

Behaviors

Cholesterol Check	Percentage of adults who have had their blood cholesterol checked within the last 5 years.
Dental Visit, Annual	Percentage of adults who have visited the dentist or dental clinic within the past year for any reason.
Diet, Fruit	Number of fruits consumed on an average day.
Diet, Vegetables	Number of vegetables consumed on an average day.
Teen Birth Rate	Number of births per 1,000 mothers aged 15 to 19 years.
Youth Smoking	Percentage of high school youth who smoked cigarettes on at least 1 day during the last 30 days.
Youth Obesity	Percentage of high school students who were greater or equal to the 95th percentile for body mass index, based on sex and age-specific reference data from the 2000 CDC growth charts.

Chronic Disease

Heart Disease	Percentage of adults who have been told by a health professional that they have angina or coronary heart disease.
High Cholesterol	Percentage of adults who have had their cholesterol checked and been told that it was high.
Heart Attack	Percentage of adults who have been told by a health professional that they had a heart attack (myocardial infarction).
Stroke	Percentage of adults who have been told by a health professional that they had a stroke.
Hypertension	Percentage of adults who have been told by a health professional that they have high blood pressure.

Clinical Care

Preterm Birth	Percentage of babies born before 37 weeks gestation.

Economic Environment

Personal Income	Per capita personal income in current dollars.
Median Household Income	The amount of income that divides the income distribution into 2 equal groups.
Unemployment Rate	Total unemployed as a percentage of the civilian labor force (U-3 definition).
Underemployment Rate	Total unemployed, plus all marginally attached workers, plus total employed part-time for economic reasons, as a percent of the civilian labor force (U-6 Definition).
Income Disparity (Gini coefficient)	A common measure of income inequality, where 0 represents complete equality and 1 indicates complete inequality.

Outcomes

Low Health Status	Percentage of adults who describe their general health as fair or poor.
Suicide	Number of deaths due to intentional self-harm per 100,000 population.

Overview

The County Snapshots consists of demographics, key indicators of health status, interview highlights, and local resources. The model for the key indicators of health status analysis was based on the 2015 *County Health Rankings*, a key component of the Mobilizing Action Toward Community Health (MATCH). MATCH is collaboration between the Robert Wood Johnson Foundation and the University of Wisconsin Population Health Institute. Indicators are organized into two broad categories: Health Outcomes and Health Factors. The Health Factors have multiple components, including Clinical Care, Health Behaviors, Social and Economic Factors, and Physical Environment. A number of additional key indicators of health status were included in this analysis from other sources (they are noted in blue font in the snapshot section). For each indicator, the state and county score is provided as well as a comparison of the county's performance to that of the state.

FRANKLIN WOODS COMMUNITY HOSPITAL

Service Area Counties:

- Carter, TN
- East Sullivan, TN
- Greene, TN
- Unicoi, TN
- Washington, TN

Primary Service Area Map:



Facility Profiles:

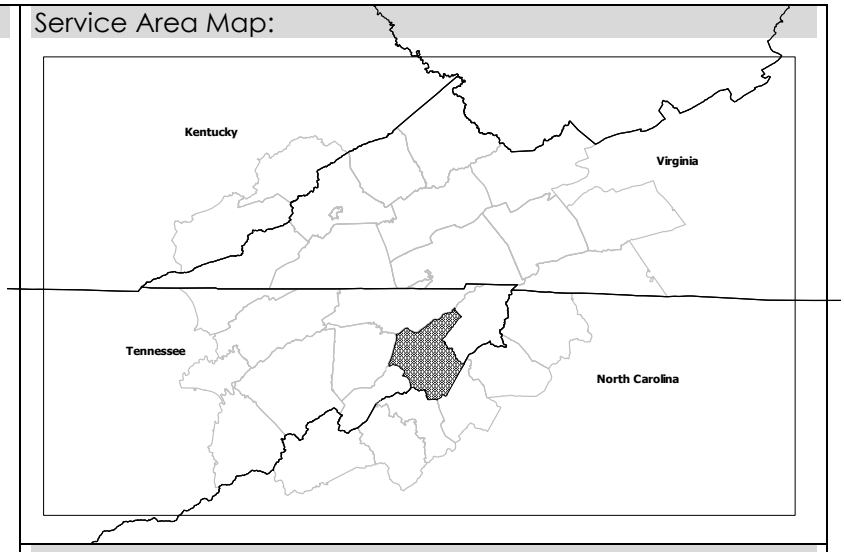
Franklin Woods Community Hospital, has approximately 240,000 square feet and was built on a 25-acre lot adjacent to The Wellness Center inside Med Tech Park. It is a not-for-profit, 80-bed hospital dedicated to bringing quality health care home to East Tennessee. FWCH is the first "green" hospital in the state, offering a full array of primary care and some specialty services. Mountain States Health Alliance opened FWCH in 2010. FWCH was named a Quest Top Performing Hospital in 2013.

A 6-page profile of each county is provided. The profile includes demographic highlights, key indicators of health status, utilization projections, and survey results specific to the county. A detailed demographic analysis by county is provided in the appendix which follows the collection of county snapshots.

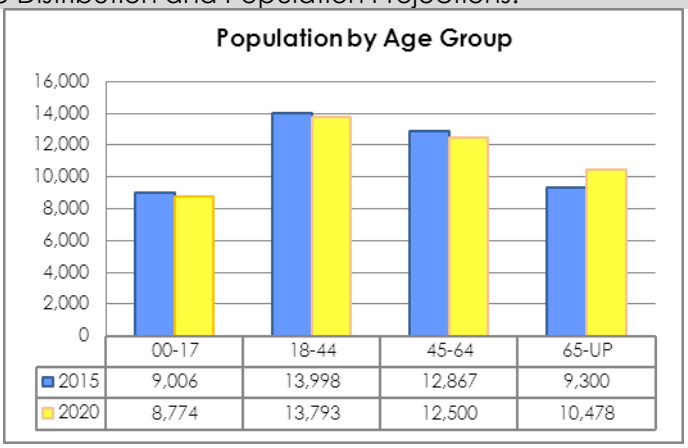
Demographic Highlights:

- Large elderly population compared to TN and US
- Declining rate of females of child-bearing age expected
- Low average household income level (20.6% of households make less than $15,000)
- Lower level of educational attainment compared to state and country (9.1% with no high school education compared to 5.9% nationally)
- Low level of diversity compared to state and national

Service Area Map:



Age Distribution and Population Projections:



Key Statistics:

	Carter County	Tennessee	U.S.
2015 Total Population	45,171	6,735,022	321,369,000
% Change 2015-2020	0.8%	5.5%	4.1%
% of Population 65+ (2015)	20.6%	15.6%	14.9%
% Minority (2015)	4.5%	26.1%	38.3%

	2015	2020	% Change
Total Male Population	22,105	22,298	0.9%
Total Female Population	23,066	23,247	0.8%
Females, Child Bearing Age (15-44)	7,730	7,608	-1.6%

Local Health Highlights:

STRENGTHS:

- Divorce Rate
- STD
- Teen Pregnancy
- Binge Drinking
- Deaths due to diabetes
- Children Un/Improperly Restrained in a Crash

WEAKNESSES:

- Pre-1950 housing
- Diabetic HbA1c testing
- Smoking During Pregnancy
- Deaths due to cardiovascular and cancer
- No Biennial Mammogram
- Air Quality Hazard Index

Leading Causes of Death:

Leading Causes of Death

Ages 1 - 14 years

Cause of Death	Rate	Rank
Accidents	22.5	1
Motor Vehicle Accident	11.1	2
Malformation/Abnormalities	7.3	3
All Other Causes	0.0	*

Ages 15 - 21 years

Cause of Death	Rate	Rank
Accidents	17.9	1
Meningitis	6	2
Suicide	5.9	3
All Other Causes	0	*

Ages 22 - 64

Cause of Death	Rate	Rank
Cancer	116.8	1
Heart Disease	85.9	2
Accidents	46.9	3
Chronic Lower Respiratory	30.6	4
Liver & Cirrhosis	21.1	5
Diabetes Mellitus	16.3	6
Influenza/Pneumonia	15.3	7
Suicide	14.4	8
Cerebrovascular Disease	11.5	9
Viral Hepatitis	8.6	10
All Other Causes	91.1	*

Ages 65+

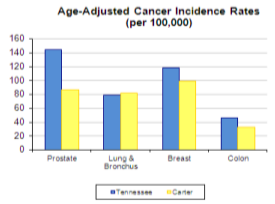
Cause of Death	Rate	Rank
Heart Disease	1153.9	1
Cancer	1041.2	2
Chronic Lower Respiratory	348.2	3
Influenza & Pneumonia	307.2	4
Alzheimer's Disease	273.1	5
Cerebrovascular Disease	218.5	6
Accidents	105.8	7
Diabetes Mellitus	102.4	8
Septicemia	75.1	9
Pneumonitis	58	10
All Other Causes	1031	*

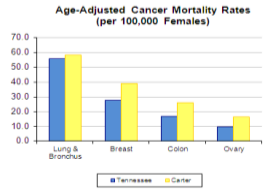
Key Indicators of Health Status:

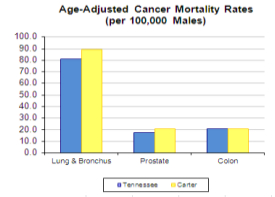
County: Carter, TN

	TN	Carter	2010	Desired
Health Outcomes				↓
Mortality (years of potential life lost/ 100,000)	8,790	9,292	9447	↓
Low Birth Weight (3-yr avg %)	9.0%	9.2%	9.30%	↓
General Health Status (% fair/poor health)*	19.0%	25.0%	26.00%	↓
Very Low Birth Weight (%)	1.6%	1.0%	3.30%	↓
Infant Mortality (3-yr avg rate per 1,000)	8.1	10.8	11.7	↓
Mortality Rate (3-yr avg rate per 100,000)	953.0	1,053.0	972.6	↓
Cardiovascular Deaths (per 100,000)	226.5	237.9	295.6	↓
Cancer Deaths (3-yr avg rate per 100,000)	214.4	237.9	220.5	↓
Diabetes Mellitus Deaths (per 100,000)	28.7	18.3	35.3	↓
Cerebrovascular Deaths (per 100,000)	47.0	45.0	48.7	↓
Suicide Deaths (per 100,000)	15.0	15.0	23.5	↓
Mortality rate for ages 1- 14 yrs	66.8	86.4	95.2	↓
Mortality rate for ages 15 - 21yrs	70.4	30.0	107.2	↓
Mortality rates for ages 65+	4,870.1	4,714.4	5472	↓
Lung Cancer Deaths (3-yr avg rate per 100,000)	68.8	77.4	71.6	↓
Female Breast Cancer Deaths (3-yr avg rate per 100,000)	14.1	17.3	20.5	↓
Prevalence of Asthma (%)	9.3	13.2	90.5	↓
Prevalence of Diabetes (%)	11.3	12.8	57.7	↓
Health Determinants				↓
Health Care Resources				↓
No Health Insurance (%)*	21.0%	22.0%	16.40%	↓
Medicaid/Tenncare Enrollees (%)	18.7%	19.6%	20.20%	↓
Medical Doctors Per Capita (per 100,000)	246.1	71.4	55.7	↑
Dentists Per Capita (per 100,000)	52.2	27.9	32	↑
Percent without Pneumococcal Vaccinations (%)*	74.2%	66.7%	72.30%	↓
Percent without Influenza Vaccinations (%)*	59.4%	50.7%	59.30%	↓
No Diabetic Eye Exams (%)	74.3%	72.2%	58.30%	↓
No Diabetic HbA1c Testing (%)	16.0%	24.0%	18.30%	↓
No Biennial Mammography (%)*	23.3%	29.3%	23.30%	↓
Inadequate or No Prenatal Care (%)	40.7%	33.6%	5.50%	↓
Month Prenatal Care Began	3.2	2.9	2.9	↓
First Trimester Prenatal Care (%)	59.3%	66.4%	72.40%	↑
Children (0-18 yrs) with Medicaid/Tenncare Coverage (%)	46.8%	52.3%	54.60%	↓
Hospital Staffed Beds (per 1,000)	3.6	2.1	2	↑
Licensed Nursing Beds (per 1,000 65+)	44.8	56.7	61	↑
# of Primary Care MDs	7,703	18	18	↓
# of Psychiatric Specialists	684	1	0	↓
Inpatient Discharge Rate (per 1,000) - Total	126.3	112.1	118.9	↓
Health Behaviors (continued)				↓
Cigarette Smoking (%)*	23.0%	28.0%	28.90%	↓
Smoking During Pregnancy (%)	16.3%	29.8%	37.30%	↓
Physical Inactivity (%)*	30.0%	33.0%	38.40%	↓
Overweight/Obesity (% BMI > 25)*	67.8%	67.8%	67.90%	↓
Obesity (% BMI > 30)*	32.0%	35.0%	34.00%	↓
Low Fruit and Vegetable Consumption (% <5 a day)*	76.7%	73.0%	76.60%	↓
Binge Drinking (%)*	10.0%	5.0%	7.90%	↓
% of Children (0-4) Un/Improperly Restrained in a Crash	14.5%	5.2%	7.40%	↓
Teen Birth Rate (per 1,000)	37.3	34.4	49	↓
Sexually Transmitted Diseases (per 100,000)	446	150	108	↓
Violent Crime (per 100,000)	667.0	219.0	240	↓
Motor Vehicle Crash Deaths (per 100,000)	19	18	19	↓
Unmarried Mother Birth Rate (%)	44.1%	42.7%	43.60%	↓
Injury-related Mortality (3-yr avg rate per 100,000)	53.7	50.1	75.6	↓
Young Driver Crash Rate 15 - 24	116.9	94.6	103.5	↓
Elderly Drive Crash Rate (65+)	31.3	24	28.8	↓
Homicides (per 100,000)	8	4.0	0	↓
All accidental deaths per 100,000 population	52	46.7	53.7	↓
Average Fatality Rate in Alchohol-Related Crashes (per 100,000 population)	6.9	3.5	11.1	↓

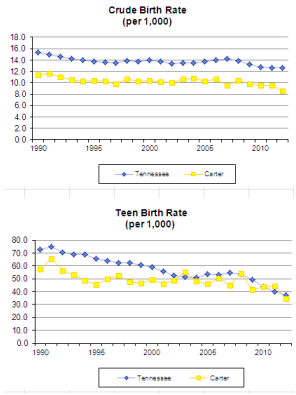
Cancer Incidence:







Birth Rate Trend:



Key Indicators of Health Status:

Socioecomonic Factors				↓
High School Graduation Rate (%)	86.0%	92.0%	88.60%	↑
Level of Education (%)	83.2%	78.6%	75.90%	↑
Unemployment (%)	8.8%	11.1%	8.10%	↓
Children (age 0 to 17) in poverty ratio (%)	26.5%	31.4%	30.30%	↓
Divorce Rate (per 100,000)	4.3	4.1	1.8	↓
Food Stamp Recipients (% of individuals)	21.1%	22.3%	17.70%	↓
Poverty Rate (% of all ages)	18.4%	20.6%	21.50%	↓
Temporary Assistance for Needy Families (% of individuals)	2.6%	1.1%	1.10%	↓
High School Dropout Rate	6.9%	6.7%	7.10%	↓
Average Annual Wage	$ 36,576	$ 27,962	$23,987	↑
Physical Environment				↓
Air Quality Cancer Risk (per 1,000,000)	4.6	3.1	24.1	↓
Air Quality Hazard Index (per 1,000,000)	1.4	9.1	2.8	↓
Air Quality - Fine Particulate Matter in Air (3 yr avg Mg/m3)*	13.2	12.7	14.5	↓
Ozone Level (ppb)*	0.062	0.063	0.082	↓
Nitrate Levels in drinking water (mg/L)	0.70	0.50	1.60	↓
Pre-1950 Housing (%)	11.8%	19.4%	23.60%	↓
Lead Poisoned Children (%)	0.1%	n/a	0.90%	↓
Child Abuse and Neglect (rate per 1,000)	5.5	4.9	5.2	↓
Communicable Diseases				↓
Hepatitis A (per 100,000)	0.3	0.0	n/a	↓
Campylobacter Infection (per 100,000)	7.2	6.8	n/a	↓
Salmonella, Non Typhoid (per 100,000)	17.6	3.4	n/a	↓
Shigellosis (per 100,000)	3.3	0.0	n/a	↓
AIDS/HIV (per 100,000)	293	82	n/a	↓
Primary and Secondary Syphilis (per 100,000)	4.3	0.0	n/a	↓
Penicillin-Sensitive *Streptococcus pneumoniae* (per 100,000)	0.0	0.0	n/a	↓
Group B *Streptococcus* (per 100,000)	6.2	0.0	n/a	↓
Chlamydia (per 100,000)	517.3	164.3	n/a	↓
Gonorrhea (per 100,000)	144.8	27.1	n/a	↓

Inpatient Projections

	2014	2019		2024	
DRG Service Line	**Discharges**	**Discharges**	**% Change**	**Discharges**	**% Change**
Cardiac Surgery	71	68	-3.50%	69	-3.20%
Cardiology	622	539	-13.30%	477	-23.20%
Cardiology Intervention	248	226	-8.90%	209	-15.70%
Endocrinology	159	126	-20.90%	113	-29.00%
ENT Surgery	11	10	-6.80%	10	-11.90%
Gastroenterology	646	611	-5.40%	599	-7.30%
General Medicine	633	635	0.30%	594	-6.20%
General Surgery	364	352	-3.20%	342	-6.20%
Gynecology	55	50	-8.40%	47	-13.90%
Hematology	96	93	-2.80%	95	-0.80%
Neonatology	199	184	-7.50%	172	-13.50%
Nephrology	330	305	-7.50%	276	-16.30%
Neurology	318	316	-0.70%	321	1.00%
Neurosurgery	125	122	-2.10%	122	-2.10%
Normal Newborns	242	249	2.90%	246	1.50%
OB Deliveries Sections	141	121	-14.50%	111	-21.20%
OB Deliveries Vaginal	275	288	4.80%	286	3.90%
OB Other	45	43	-4.50%	42	-7.30%
Oncology Medicine	121	117	-3.10%	107	-11.20%
Oncology Surgery	35	35	-0.70%	33	-5.70%
Ophthalmic Medicine	7	6	-11.50%	6	-16.80%
Ophthalmic Surgery	2	2	-11.70%	2	-11.50%
Oral Surgery	7	7	-6.60%	7	-6.10%
Orthopedic Medicine	84	84	-0.40%	84	0.40%
Orthopedic Surgery	355	373	5.10%	379	6.80%
Otolaryngology	32	28	-12.80%	27	-16.60%
Plastic Surgery	14	13	-6.70%	12	-16.70%
Psychiatry	462	513	11.00%	486	5.30%
Pulmonary	905	781	-13.60%	741	-18.10%
Rehabilitation	89	75	-16.30%	80	-9.70%
Rheumatology	29	27	-6.20%	27	-7.50%
Substance Abuse	62	64	3.30%	62	0.00%
Thoracic Surgery	52	49	-6.30%	47	-9.90%
Trauma Medical	26	24	-8.40%	24	-7.40%
Urology Medicine	25	22	-10.50%	22	-13.80%
Urology Surgery	60	56	-6.10%	53	-12.40%
Vascular Surgery	102	99	-2.60%	96	-5.70%
Womens Other	4	4	-8.90%	3	-20.80%
Grand Total	**7,053**	**6,719**	**-4.70%**	**6,428**	**-8.90%**

Outpatient Projections

	2014		2019			2024	
Site of Care	**Volumes**		**Volumes**	**% Change**		**Volumes**	**% Change**
ED	28,480		28,487	0.00%		27,274	-4.20%
Home	62,251		72,114	15.80%		78,595	26.30%
Hosp OP/ASC	70,077		74,750	6.70%		75,887	8.30%
Office/Clinic	378,290		403,160	6.60%		388,891	2.80%
Other	27,103		29,580	9.10%		30,021	10.80%
SNF	1,708		1,850	8.30%		1,945	13.90%
Urgent/Retail	666		699	5.10%		668	0.40%
Virtual			7,613			31,509	
Grand Total	**568,574**		**618,252**	**8.70%**		**634,791**	**11.60%**

Interview Highlights:

INTERVIEWEES:

- Seventeen (17) individuals

KEY FINDINGS:

- Average rating of health status is 4.7, with a range in responses of 2.5 to 7
- Top health issues are:
  - Obesity
  - Smoking/Tobacco Use
  - Diabetes
  - Substance and Prescription Drug Abuse
- Additional health issues are:
  - Physical Inactivity
  - Poor Nutrition
  - Education
  - Poverty
  - Cardiovascular Disease
  - Cancer
  - COPD
  - Asthma
  - Shift in family culture/norms
  - Transportation barriers
  - Access to dental care
  - Built environment for physical activity
  - Cultural barriers (pride, trust)
  - Fast food culture
  - High cost healthy food
  - Hypertension
  - Stroke
  - Immunizations
  - Literacy
  - Prenatal care/education
  - Teen pregnancy
  - Utilization of health screenings
- Ideas to improve these conditions include:
  - Smoking Cessation Programs
  - MSHA Mobile Health bus travel to Roan Mountain
  - Increase community health events
  - Community Paramedic Program
  - Cooking education classes
  - More public healthcare initiatives for free healthcare and screenings
  - Low cost or free exercise programs/opportunities
  - Low cost or free nutrition coaches
  - Local farmers markets
  - Support groups for grandparents raising grandchildren
  - Organizational collaboration
  - Healthcare navigators/care coordinators
  - COPD clinics
  - Urgent care clinics
  - Care transition coordination
  - Tighter legislation on tobacco products
  - Better promotion/marketing of health programs and services

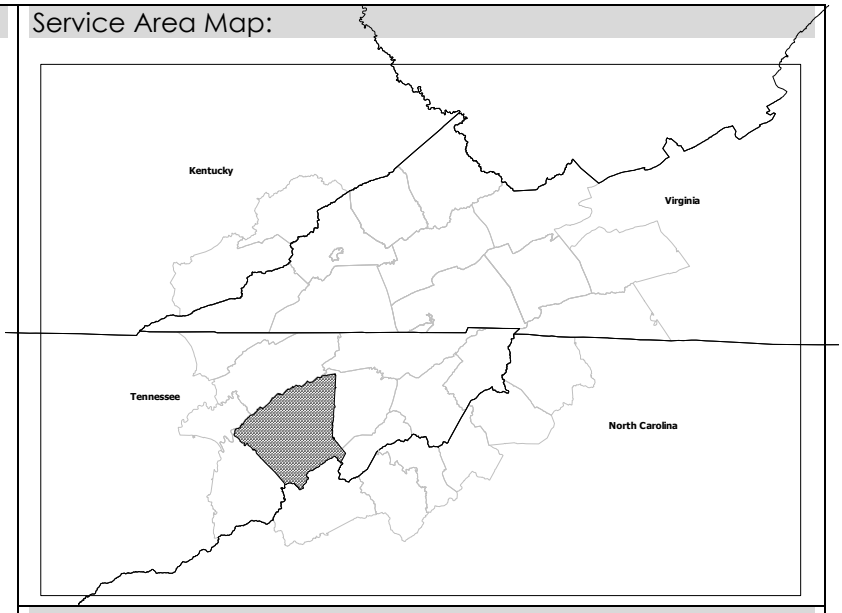
- Legislation on artificial sugar substances
- Additional mental health services
- Parenting skills classes
- Community gardens
- Repeal TN pregnancy criminalization legislation
- Project Access
- Promote health education to younger populations
- Inpatient and outpatient substance abuse treatment programs

Sources:	Local Resources:
▪ Medstat ▪ County Health Rankings ▪ TN Advisory Commission on Intergovernmental Relations ▪ TN Dept of Health ▪ BRFSS ▪ TennCare ▪ Kidscount ▪ TN Dept of Safety and Homeland Security ▪ EPA ▪ CDC Wonder ▪ TN Dept of Environment & Conservation ▪ Childhood Lead Poisoning Prevention Program	▪ Local Health Clinics ▪ Free blood sugar testing at local community events ▪ MSHA Mobile Health bus ▪ Company wellness programs ▪ Coordinated School Health ▪ Carter County Health Council ▪ Carter County Health Department ▪ Walking trails/Tweetsie Trail ▪ Healthy Tennessee / Small Starts ▪ Tennessee Education Initiative ▪ Carter County Anti-Drug Coalition ▪ TNCEP ▪ Tobacco Settlement Fund ▪ TIPS-Maternal Smoking Cessation Program ▪ ReadNPlay ▪ Mommy and Me Support Group ▪ Red Legacy ▪ Project Access ▪ MSHA Health Resources Center

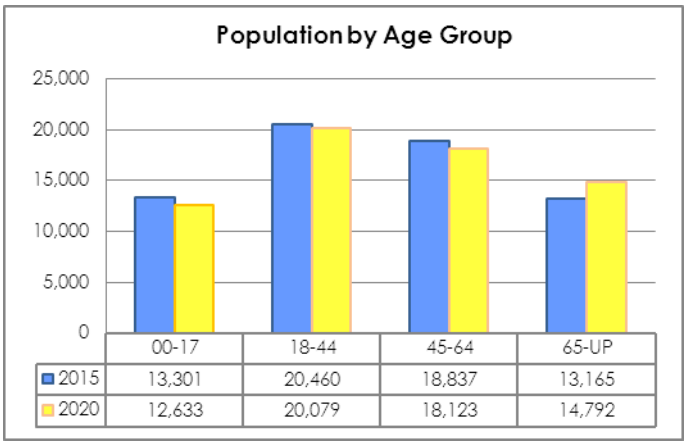
Demographic Highlights:

- Large elderly population compared to TN and US
- Declining rate of females of child-bearing age expected
- Low average household income level (19.0% of households make less than $15,000)
- Lower level of educational attainment compared to state and country (7.6% with no high school education compared to 5.9% nationally)
- Low level of diversity compared to state and national

Service Area Map:



Age Distribution and Population Projections:



Key Statistics:

	Greene County	Tennessee	U.S.
2015 Total Population	65,763	6,735,022	321,369,000
% Change 2015-2020	-0.2%	5.5%	4.1%
% of Population 65+ (2015)	20.0%	15.6%	14.9%
% Minority (2015)	7.2%	26.1%	38.3%

	2015	2020	% Change
Total Male Population	32,312	32,269	-0.1%
Total Female Population	33,451	33,358	-0.3%
Females, Child Bearing Age (15-44)	11,327	11,036	-2.6%

Local Health Highlights:

STRENGTHS:

- High School Graduation Rate
- Infant Mortality
- Binge Drinking
- STDs
- Violent Crime Rate
- Young Drive Crash Rate

WEAKNESSES:

- Poverty Rate
- Pre-1950 Housing
- Deaths due to cardiovascular, cancer, cerebrovascular, injuries, and diabetes
- No Biennial Mammogram
- Smoking During Pregnancy

Leading Causes of Death:

Ages 1 - 14 years

Cause of Death	Rate	Rank
Accidents	6.1	1
Cancer	3.1	2
Congenital Malformations	3	3
All Other Causes	3	*

Ages 15 - 21 years

Cause of Death	Rate	Rank
Accidents	26.3	1
Homicide	10.5	2
Septicemia	5.3	3
Cancer	5.3	3
Suicide	5.2	4
All Other Causes	15.7	*

Ages 22 - 64

Cause of Death	Rate	Rank
Cancer	163.8	1
Heart diseases	119.1	2
Accidents	81.4	3
Respiratory	37.7	4
Suicide	25.4	5
Liver &Cirrhosis	20.1	6
Diabetes	20	7
Cebrovascular	13.1	8
Septicemia	13	9
Flu/Pneumonia	12.3	10
All Other Causes	139.4	*

Ages 65+

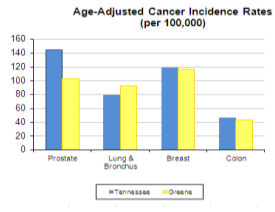
Cause of Death	Rate	Rank
Heart diseases	1375	1
Cancer	1107.5	2
Respiratory	431.5	3
Respiratory	354.25	4
Cerebrovascular	319.3	5
Flu/Pneumonia	189.9	6
Alzheimer's	158.2	7
Diabetes Mellitus	143.8	8
Accidents	141	9
Nephritis	115.1	10
All Other Causes	701.3	*

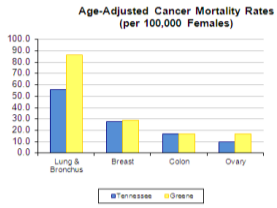
Key Indicators of Health Status:

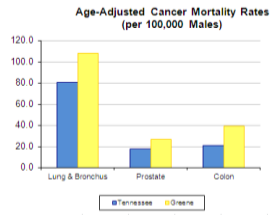
County: Greene, TN 2013 Population: 69,339

	TN	Greene	2010	Desired
Health Outcomes				↓
Mortality (years of potential life lost/100,000)	8,790	10,052	9,870	↓
Low Birth Weight (3-yr avg %)	9.0%	10.7%	8.50%	↓
General Health Status (%fair/poor health)*	19.0%	23.0%	22%	↓
Very Low Birth Weight (%)	1.6%	1.0%	1.00%	↓
Infant Mortality (3-yr avg rate per 1,000)	8.1	4.6	7.8	↓
Mortality Rate (3-yr avg rate per 100,000)	953.0	1,238.9	981.1	↓
Cardiovascular Deaths (per 100,000)	226.5	302.1	326.7	↓
Cancer Deaths (3-yr avg rate per 100,000)	214.4	282.4	237.8	↓
Diabetes Mellitus Deaths (per 100,000)	28.7	38.2	29.8	↓
Cerebrovascular Deaths (per 100,000)	47.0	54.4	58.2	↓
Suicide Deaths (per 100,000)	15.0	22.0	22.5	↓
Mortality rate for ages 1- 14 yrs	66.8	9.0	31.1	↓
Mortality rate for ages 15 - 21yrs	70.4	31.4	135.2	↓
Mortality rates for ages 65+	4,870.1	5,041.3	5300.8	↓
Lung Cancer Deaths (3-yr avg rate per 100,000)	68.8	102.3	85.1	↓
Female Breast Cancer Deaths (3-yr avg rate per 100,000)	14.1	13.8	34.8	↓
Prevalence of Asthma (%)	9.3	13.2	12.8	↓
Prevalence of Diabetes (%)	11.00%	12.00%	11.00%	↓
Health Determinants				↓
Health Care Resources				↓
No Health Insurance (%)*	21.0%	17.0%	16.40%	↓
Medicaid/Tenncare Enrollees (%)	18.7%	18.3%	20.20%	↓
Medical Doctors Per Capita (per 100,000)	246.1	119.1	137.3	↑
Dentists Per Capita (per 100,000)	52.2	29.1	46.5	↑
Percent without Pneumococcal Vaccinations (%)*	74.2%	66.7%	72.30%	↓
Percent without Influenza Vaccinations (%)*	59.4%	49.3%	59.30%	↓
No Diabetic Eye Exams (%)	74.3%	72.2%	49.90%	↓
No Diabetic HbA 1c Testing (%)	16.0%	18.0%	11.60%	↓
No Biennial Mammography (%)*	23.3%	29.3%	23.30%	↓
Inadequate or No Prenatal Care (%)	40.7%	37.0%	9.50%	↓
Month Prenatal Care Began	3.0	2.9	2.9	↓
First Trimester Prenatal Care (%)	59.3%	63.0%	67.70%	↑
Children (0-18 yrs) with Medicaid/Tenncare Coverage (%)	46.8%	44.8%	48.20%	↓
Hospital Staffed Beds (per 1,000)	3.6	3.8	2.6	↑
Licensed Nursing Beds (per 1,000 65+)	44.8	40.9	44.8	↑
# of Primary Care MDs	7,703	36	59	↓
# of Psychiatric Specialists	684	8	5	↓
Inpatient Discharge Rate (per 1,000) - Total	126.3	121.5	141.7	↓
Health Behaviors (continued)				↓
Cigarette Smoking (%)*	23.0%	29.0%	28.90%	↓
Smoking During Pregnancy (%)	16.3%	29.8%	32.90%	↓
Physical Inactivity (%)*	30.0%	34.0%	38.40%	↓
Overweight/Obesity (% BMI > 25)	67.8%	67.8%	67.90%	↓
Obesity (% BMI > 30)*	32.0%	32.0%	33.00%	↓
Low Fruit and Vegetable Consumption (% <5 a day)*	76.7%	73.0%	76.60%	↓
Binge Drinking (%)*	10.0%	4.0%	7.90%	↓
%of Children (0-4) Un/Improperly Restrained in a Crash	14.5%	10.2%	7.90%	↓
Teen Birth Rate (per 1,000)	37.3	43.2	60	↓
Sexually Transmitted Diseases (3 yr avg per 10,000)	446	190	141	↓
Violent Crime (per 100,000)	667.0	373.0	743	↓
Motor Vehicle Crash Deaths (per 100,000)	19	24	24	↓
Unmarried Mother Birth Rate (%)	44.1%	49.1%	44.20%	↓
Injury-related Mortality (3-yr avg rate per 100,000)	53.7	73.8	87.7	↓
Young Driver Crash Rate 15 - 24	116.9	108.3	132.4	↓
Elderly Drive Crash Rate (65+)	31.3	31.7	31.2	↓
Homicides (per 100,000)	8	4.0	3	↓
All accidental deaths per 100,000 population	52	72	64.1	↓
Average Fatality Rate in Alchohol-Related Crashes (per 100,000 population)	6.9	5.1	7.05	↓

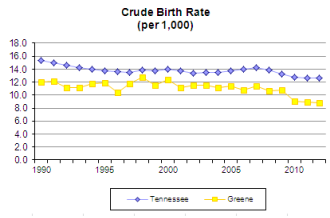
Cancer Incidence:

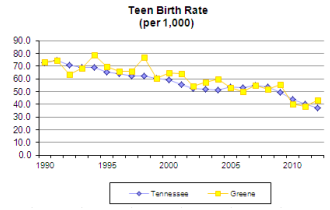






Birth Rate Trend:





Key Indicators of Health Status:

Socioecomonic Factors				
High School Graduation Rate (%)	86.0%	94.0%	93.40%	↑
Level of Education (%)	83.2%	79.2%	75.90%	↑
Unemployment (%)	8.8%	10.3%	10.90%	↓
Children (age 0 to 17) in poverty ratio (%)	26.5%	37.8%	29.50%	↓
Divorce Rate (per 100,000)	4.3	5.1	5.7	↓
Food Stamp Recipients (% of individuals)	21.1%	19.4%	19%	↓
Poverty Rate (% of all ages)	18.4%	24.4%	17.80%	↓
Temporary Assistance for Needy Families	2.6%	1.6%	1.70%	↓
High School Dropout Rate	6.9%	1.9%	1.90%	↓
Average Annual Wage	$ 36,576	$ 32,331	$ 31,490	↑
Physical Environment				↓
Air Quality Cancer Risk (per 1,000,000)	4.6	3.4	22.6	↓
Air Quality Hazard Index (per 1,000,000)	1.4	8.4	2.2	↓
Air Quality - Fine Particulate Matter in Air (3 yr avg Mg/m3)*	13.2	12.8	14.5	↓
Ozone Level (ppb)*	0.062	0.063	0.082	↓
Nitrate Levels in drinking water (mg/L)	0.70	1.30	2.80	↓
Pre-1950 Housing (%)	11.8%	16.0%	18.70%	↓
Lead Poisoned Children (%)	0.1%	n/a	0.20%	↓
Child Abuse and Neglect (rate per 1,000)	5.5	4.4	4.8	↓
Communicable Diseases				↓
Hepatitis A (per 100,000)	0.3	0.0	n/a	↓
Campylobacter Infection (per 100,000)	7.2	4.5	n/a	↓
Salmonella, Non Typhoid (per 100,000)	17.6	21.1	n/a	↓
Shigellosis (per 100,000)	3.3	0.0	n/a	↓
AIDS/HIV (per 100,000)	293	77	n/a	↓
Primary and Secondary Syphilis (per 100,000)	4.3	4.5	n/a	↓
Penicillin-Sensitive *Streptococcus pneumoniae* (per 100,000)	0.0	0.0	n/a	↓
Group B *Streptococcus* (per 100,000)	6.2	10.6	n/a	↓
Chlamydia (per 100,000)	517.3	215.7	n/a	↓
Gonorrhea (per 100,000)	144.8	21.1	n/a	↓

Inpatient Projections

	2014	2019		2024	
DRG Service Line	**Discharges**	**Discharges**	**% Change**	**Discharges**	**% Change**
Cardiac Surgery	91	94	3.10%	100	9.30%
Cardiology	760	654	-14.00%	553	-27.20%
Cardiology Intervention	259	239	-7.80%	223	-13.80%
Endocrinology	229	181	-20.80%	163	-28.70%
ENT Surgery	22	21	-2.40%	21	-2.50%
Gastroenterology	733	694	-5.30%	691	-5.70%
General Medicine	788	797	1.20%	750	-4.90%
General Surgery	550	546	-0.70%	538	-2.20%
Gynecology	52	49	-5.90%	47	-9.00%
Hematology	72	71	-1.40%	73	1.90%
Neonatology	249	231	-7.40%	216	-13.30%
Nephrology	387	362	-6.30%	324	-16.30%
Neurology	444	441	-0.60%	451	1.70%
Neurosurgery	154	148	-3.90%	147	-4.40%
Normal Newborns	389	402	3.20%	398	2.20%
OB Deliveries Sections	185	159	-13.80%	148	-20.20%
OB Deliveries Vaginal	429	453	5.60%	452	5.30%
OB Other	38	36	-4.40%	35	-7.00%
Oncology Medicine	131	125	-4.90%	112	-14.20%
Oncology Surgery	44	44	0.80%	44	-0.90%
Ophthalmic Medicine	3	3	-4.60%	3	-3.90%
Ophthalmic Surgery	2	2	-15.90%	2	-22.20%
Oral Surgery	11	10	-11.80%	9	-17.10%
Orthopedic Medicine	90	88	-2.30%	87	-2.90%
Orthopedic Surgery	565	596	5.40%	605	7.10%
Otolaryngology	45	39	-13.40%	36	-19.10%
Plastic Surgery	15	15	-1.40%	14	-6.90%
Psychiatry	468	519	10.80%	496	5.90%
Pulmonary	1,359	1,152	-15.20%	1,071	-21.20%
Rehabilitation	167	138	-17.10%	149	-11.00%
Rheumatology	38	37	-2.60%	37	-3.20%
Substance Abuse	40	42	4.60%	41	3.20%
Thoracic Surgery	34	33	-1.80%	32	-4.60%
Trauma Medical	34	33	-2.80%	34	0.20%
Urology Medicine	26	23	-12.70%	21	-19.30%
Urology Surgery	65	61	-6.00%	57	-12.40%
Vascular Surgery	137	136	-0.80%	137	0.20%
Womens Other	4	4	-6.50%	3	-17.80%
Grand Total	**9,109**	**8,678**	**-4.70%**	**8,321**	**-8.60%**

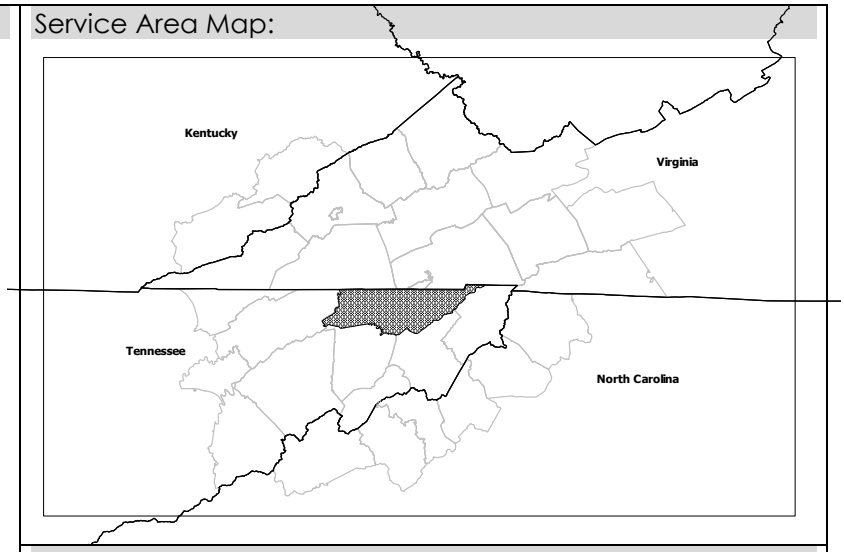
Outpatient Projections

	2014		2019			2024	
Site of Care	**Volumes**		**Volumes**	**% Change**		**Volumes**	**% Change**
ED	38,850		39,090	0.60%		37,609	-3.20%
Home	103,040		120,440	16.90%		131,920	28.00%
Hosp OP/ASC	135,865		147,630	8.70%		149,508	10.00%
Office/Clinic	561,214		598,528	6.60%		577,772	3.00%
Other	28,381		30,833	8.60%		31,028	9.30%
SNF	1,660		1,795	8.20%		1,892	14.00%
Urgent/Retail	560		589	5.10%		575	2.60%
Virtual			13,032			52,023	
Grand Total	**869,570**		**951,936**	**9.50%**		**982,326**	**13.00%**

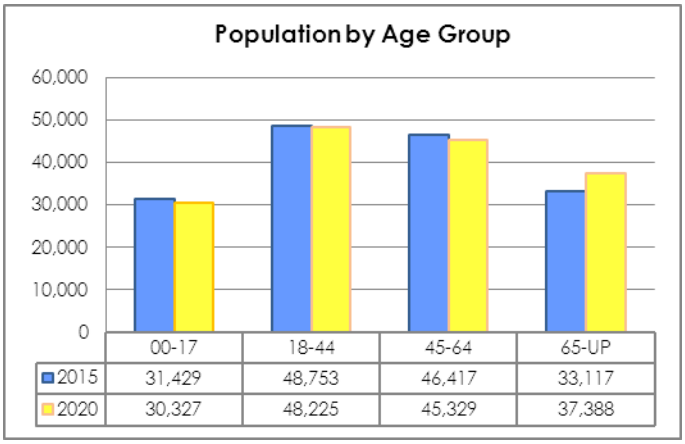
Demographic Highlights:

- Large elderly population compared to TN and US
- Declining rate of females of child-bearing age expected
- Low average household income level (15.6% of households make less than $15,000)
- Low level of educational attainment compared to state and country (6.6% with no high school education compared to 5.9% nationally)
- Low level of diversity compared to state and national

Service Area Map:



Age Distribution and Population Projections:



Key Statistics:

	Sullivan County	Tennessee	U.S.
2015 Total Population	159,716	6,735,022	321,369,000
% Change 2015-2020	1.0%	5.5%	4.1%
% of Population 65+ (2015)	20.7%	15.6%	14.9%
% Minority (2015)	6.6%	26.1%	38.3%

	2015	2020	% Change
Total Male Population	77,249	78,076	1.1%
Total Female Population	82,467	83,193	0.9%
Females, Child Bearing Age (15-44)	27,268	26,913	-1.3%

Local Health Highlights:

STRENGTHS:

- Unemployment Rate
- Medical Doctors
- Decreased percentage of individuals with no health insurance
- Percentage of Children Un/Improperly Restrained in a Crash
- STDs

WEAKNESSES:

- Prevalence of asthma and diabetes
- Vaccinations
- Smoking during pregnancy
- Pre-1950 Housing
- Deaths due to cardiovascular, diabetes, cerebrovascular, cancer, suicide, and injuries

Leading Causes of Death:

Ages 1 - 14 years

Cause of Death	Rate	Rank
Heart Disease	4.12	1
Cancer	4.12	2
Anemia	4.12	3
All Other Causes	4.12	*

Ages 15 - 21 years

Cause of Death	Rate	Rank
Accidents	53.6	1
Suicide	23	2
All Other Causes	53.5	*

Ages 22 - 64

Cause of Death	Rate	Rank
Cancer	144.7	1
Heart Disease	141.2	2
Accidents	45.2	3
Suicide	22	4
Respiratory	22	5
Cerebrovascular	15.1	6
Liver/Cirrhosis	13.9	7
Diabetes Mellitus	12.7	8
Septicemia	8.1	9
Viral Hepatits	7	10
All Other Causes	119.1	*

Ages 65+

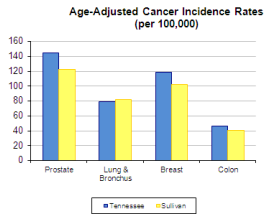
Cause of Death	Rate	Rank
Heart disease	1238.4	1
Cancer	1127.7	2
Respiratory	449.7	3
Alzheimer's Disease	280.2	4
Cerebrovascular	256	5
Flu/Pneumonia	176.4	6
Diabetes Mellitus	148.7	7
Hypertension	131.5	8
Septicemia	100.3	9
Accidents	76.1	10
All Other Causes	1307.5	*

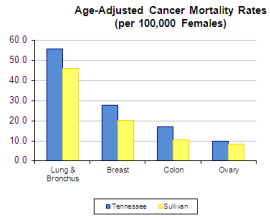
Key Indicators of Health Status:

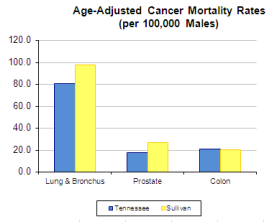
County: Sullivan, TN

	TN	Sullivan	2010	Desired
Health Outcomes				↓
Mortality (years of potential life lost/100,000)	8,790	9,005	9,860	↓
Low Birth Weight (3-yr avg %)	9.0%	8.1%	8.7%	↓
General Health Status (%fair/poor health)*	19.0%	21.0%	19.0%	↓
Very Low Birth Weight (%)	1.6%	1.0%	1.4%	↓
Infant Mortality (3-yr avg rate per 1,000)	8.1	9.2	9.1	↓
Mortality Rate (3-yr avg rate per 100,000)	953.0	1,281.3	945.5	↓
Cardiovascular Deaths (per 100,000)	226.5	402.6	280.9	↓
Cancer Deaths (3-yr avg rate per 100,000)	214.4	291.7	206.3	↓
Diabetes Mellitus Deaths (per 100,000)	28.7	35.0	31.2	↓
Cerebrovascular Deaths (per 100,000)	47.0	56.4	54.6	↓
Suicide Deaths (per 100,000)	15.0	19.5	15.6	↓
Mortality rate for ages 1- 14 yrs	66.8	16.5	24.5	↓
Mortality rate for ages 15 - 21 yrs	70.4	130.1	98.8	↓
Mortality rates for ages 65+	4,870.1	5,292.5	5,202.00	↓
Lung Cancer Deaths (3-yr avg rate per 100,000)	68.8	93.6	71.9	↓
Female Breast Cancer Deaths (3-yr avg rate per 100,000)	14.1	17.1	19.6	↓
Prevalence of Asthma (%)	9.3%	13.2%	12.4%	↓
Prevalence of Diabetes (%)	11.0%	14.0%	13.0%	↓
Health Determinants				↓
Health Care Resources				↓
No Health Insurance (%)*	21.0%	15.0%	17.9%	↓
Medicaid/Tenncare Enrollees (%)	18.7%	17.4%	18.1%	↓
Medical Doctors Per Capita (per 100,000)	246.1	289.5	312.3	↑
Dentists Per Capita (per 100,000)	52.2	61.2	93.8	↑
Percent without Pneumococcal Vaccinations (%)*	74.2%	66.7%	67.3%	↓
Percent without Influenza Vaccinations (%)*	59.4%	50.7%	53.4%	↓
No Diabetic Eye Exams (%)	74.3%	72.2%	53.6%	↓
No Diabetic HbA1c Testing (%)	16.0%	10.0%	10.0%	↓
No Biennial Mammography (%)*	23.3%	29.3%	23.3%	↓
Inadequate or No Prenatal Care (%)	40.7%	38.1%	8.1%	↓
Month Prenatal Care Began	3.2	3.2	2.9	↓
First Trimester Prenatal Care (%)	59.3%	61.9%	67.6%	↑
Children (0-18yrs) with Medicaid/Tenncare Coverage (%)	46.8%	46.0%	44.9%	↓
Hospital Staffed Beds (per 1,000)	3.6	6.7	4.7	↑
Licensed Nursing Beds (per 1,000 65+)	44.8	34.7	37.7	↑
# of Primary Care MDs	7,703	102	100	↓
# of Psychiatric Specialists	684	9	9	↓
Inpatient Discharge Rate (per 1,000) - Total	126.3	132.8	131.2	↓
Health Behaviors (continued)				
Cigarette Smoking (%)*	23.0%	25.0%	30.4%	↓
Smoking During Pregnancy (%)	16.3%	27.9%	29.8%	↓
Physical Inactivity (%)*	30.0%	31.0%	34.4%	↓
Overweight/Obesity (% BMI > 25)	67.8%	67.8%	67.9%	↓
Obesity (% BMI > 30)*	32.0%	35.0%	30.0%	↓
Low Fruit and Vegetable Consumption (% <5 a day)*	73.7%	73.0%	76.6%	↓
Binge Drinking (%)*	10.0%	9.0%	8.5%	↓
% of Children (0-4) Un/Improperly Restrained in a Crash	14.5%	5.3%	13.5%	↓
Teen Birth Rate (per 1,000)	37.3	42	60	↓
Sexually Transmitted Diseases	446	188	194	↓
Violent Crime (per 100,000)	667.0	512.0	538	↓
Motor Vehicle Crash Deaths (per 100,000)	19	16	22	↓
Unmarried Mother Birth Rate (%)	44.1%	42.7%	39.8%	↓
Injury-related Mortality (3-yr avg rate per 100,000)	53.7	88.2	81.9	↓
Young Driver Crash Rate 15 - 24	116.9	86.6	90.83	↓
Elderly Drive Crash Rate (60+)	31.3	28.5	25.14	↓
Homicides (per 100,000)	8	3.2	1.3	↓
All accidental deaths per 100,000 population	52	45.4	46.2	↓
Average Fatality Rate in Alcohol-Related Crashes (per 100,000 population)	6.9	3.5	5.11	↓

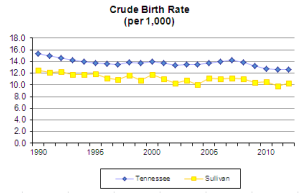
Cancer Incidence:

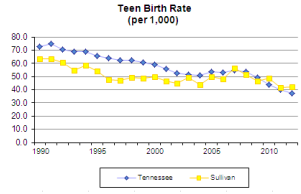






Birth Rate Trend:





Key Indicators of Health Status:

Socioeconomic Factors				
High School Graduation Rate (%)	86.0%	90.0%	81.7%	↑
Level of Education (%)	83.2%	82.7%	80.4%	↑
Unemployment (%)	8.8%	8.4%	5.8%	↓
Children (age 0 to 17) in poverty ratio (%)	26.5%	26.9%	22.4%	↓
Divorce Rate (per 1,000)	4.3	5.1	4.8	↓
Food Stamp Recipients (% of individuals)	21.1%	18.8%	16.2%	↓
Poverty Rate (% of all ages)	18.4%	18.2%	14.1%	↓
Temporary Assistance for Needy Families	2.6%	1.7%	1.9%	↓
High School Dropout Rate	6.9%	3.6%	7.1%	↓
Average Annual Wage	$ 36,576	$ 35,000	$ 32,141	↑
Physical Environment				↓
Air Quality Cancer Risk (per 1,000,000)	4.6	4.7	40.4	↓
Air Quality Hazard Index (per 1,000,000)	1.4	4.7	3.7	↓
Air Quality - Fine Particulate Matter in Air (3 yr avg Mg/m3)*	13.2	13.0	14.5	↓
Ozone Level (ppb)*	0.062	0.063	0.082	↓
Nitrate Levels in drinking water (mg/L Average)	0.7	0.4	0.6	↓
Pre-1950 Housing (%)	11.8%	15.8%	19.4%	↓
Lead Poisoned Children (%)	0.1%	n/a	0.7%	↓
Child Abuse and Neglect (rate per 1,000)	5.5	7.8	11.6	↓
Communicable Diseases				↓
Hepatitis A (per 100,000)	0.3	0.0	n/a	↓
Campylobacter Infection (per 100,000)	7.2	12.7	n/a	↓
Salmonella, Non Typhoid (per 100,000)	17.6	5.7	n/a	↓
Shigellosis (per 100,000)	3.3	0.0	n/a	↓
AIDS/HIV (per 100,000)	293	91	n/a	↓
Primary and Secondary Syphilis (per 100,000)	4.3	0.6	n/a	↓
Penicillin-Sensitive *Streptococcus pneumoniae* (per 100,000)	0.0	0.0	n/a	↓
Group B *Streptococcus* (per 100,000)	6.2	6.4	n/a	↓
Chlamydia (per 100,000)	517.3	259.8	n/a	↓
Gonorrhea (per 100,000)	144.8	36.8	n/a	↓

Inpatient Projections

	2014	2019		2024	
DRG Service Line	**Discharges**	**Discharges**	**% Change**	**Discharges**	**% Change**
Cardiac Surgery	237	240	1.30%	250	5.50%
Cardiology	1,851	1,601	-13.50%	1,382	-25.40%
Cardiology Intervention	594	552	-7.10%	519	-12.70%
Endocrinology	508	402	-21.00%	362	-28.80%
ENT Surgery	34	33	-1.80%	33	-2.10%
Gastroenterology	1,693	1,606	-5.10%	1,592	-5.90%
General Medicine	1,716	1,738	1.30%	1,645	-4.10%
General Surgery	1,204	1,161	-3.60%	1,141	-5.20%
Gynecology	156	145	-7.00%	139	-10.60%
Hematology	220	217	-1.50%	223	1.20%
Neonatology	676	629	-7.00%	592	-12.50%
Nephrology	920	855	-7.00%	762	-17.20%
Neurology	986	979	-0.70%	1,010	2.50%
Neurosurgery	428	416	-2.90%	414	-3.20%
Normal Newborns	969	1,005	3.70%	1,000	3.20%
OB Deliveries Sections	567	490	-13.50%	456	-19.60%
OB Deliveries Vaginal	991	1,053	6.30%	1,055	6.50%
OB Other	130	125	-4.00%	122	-6.10%
Oncology Medicine	251	241	-4.00%	218	-13.20%
Oncology Surgery	109	111	1.50%	108	-1.00%
Ophthalmic Medicine	12	11	-12.20%	10	-18.30%
Ophthalmic Surgery	1	1	-9.40%	1	-6.70%
Oral Surgery	18	17	-7.60%	17	-6.90%
Orthopedic Medicine	227	227	0.00%	231	1.80%
Orthopedic Surgery	1,487	1,576	6.00%	1,610	8.20%
Otolaryngology	88	77	-12.90%	74	-15.80%
Plastic Surgery	37	34	-8.20%	31	-16.10%
Psychiatry	1,440	1,580	9.70%	1,502	4.30%
Pulmonary	2,500	2,159	-13.60%	2,046	-18.20%
Rehabilitation	433	338	-22.00%	351	-18.90%
Rheumatology	73	71	-3.30%	70	-3.50%
Substance Abuse	172	178	3.30%	173	0.50%
Thoracic Surgery	153	145	-5.50%	141	-7.50%
Trauma Medical	71	68	-4.30%	69	-2.70%
Unspecified	4	4	2.30%	4	4.50%
Urology Medicine	66	58	-12.70%	53	-19.70%
Urology Surgery	148	140	-5.10%	130	-12.00%
Vascular Surgery	246	245	-0.60%	246	0.00%
Womens Other	13	12	-4.90%	11	-12.20%
Grand Total	**21,429**	**20,537**	**-4.20%**	**19,794**	**-7.60%**

Outpatient Projections

	2014		2019			2024	
Site of Care	**Volumes**		**Volumes**	**% Change**		**Volumes**	**% Change**
ED	93,692		94,233	0.60%		90,513	-3.40%
Home	211,861		245,806	16.00%		267,901	26.50%
Hosp OP/ASC	255,993		275,109	7.50%		281,172	9.80%
Office/Clinic	1,497,314		1,605,147	7.20%		1,556,518	4.00%
Other	72,130		78,500	8.80%		78,786	9.20%
SNF	4,604		4,958	7.70%		5,181	12.50%
Urgent/Retail	4,389		4,798	9.30%		4,586	4.50%
Virtual			31,971			128,757	
Grand Total	**2,139,982**		**2,340,523**	**9.40%**		**2,413,414**	**12.80%**

Interview Highlights:

INTERVIEWEES:

- 10 individuals

KEY FINDINGS:

- Average rating of health status is 3.6 with a range in responses of 1.5 to 8.
- Top health issues are:
  - Obesity
  - Cancer
  - Diabetes
  - Cardiovascular Disease
- Additional health issues are:
  - Smoking and Tobacco Use
  - Prescription Drug Abuse
  - Oral Health
  - Physical Inactivity
  - Behavioral Health
  - Education
  - Food Insecurity
  - Lack of Free Medical Center
- Ideas to improve these conditions include:
  - Mobile dental clinic linked to dental providers
  - Collaboration across various health systems/programs to provide united approach/solutions
  - Engage business leaders
  - Consolidate efforts among stakeholders to maximize scarce resources
  - More city and corporate support
  - Community forum/Health Summit similar to 1999 Economic Summit
  - Education through public media campaign
  - Target kids
  - Invest more resources and leadership time and commitment to Healthy Kingsport
  - Collaborative Impact Model

Sources:

- Medstat
- County Health Rankings
- TN Advisory Commission on Intergovernmental Relations
- TN Dept of Health
- BRFSS
- TennCare
- Kidscount
- TN Dept of Safety and Homeland Security
- EPA
- CDC Wonder
- TN Dept of Environment & Conservation
- Childhood Lead Poisoning Prevention Program

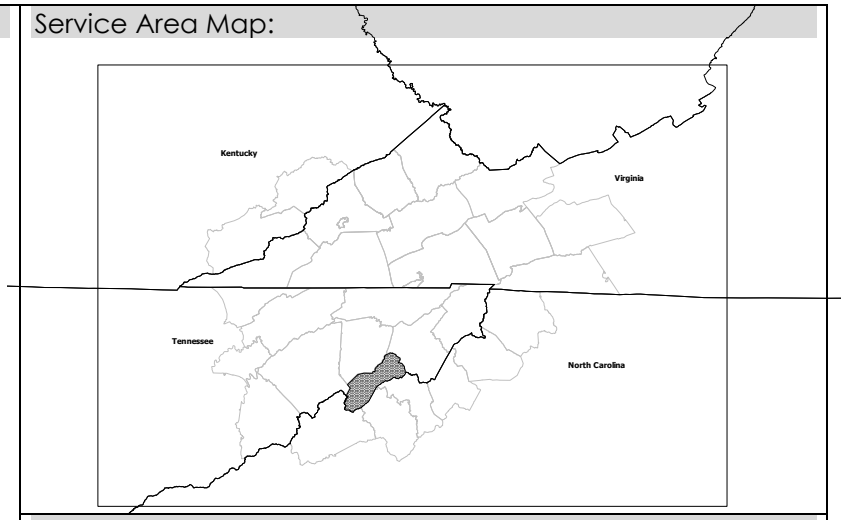
Local Resources:

- Coordinated School Health
- East Tennessee State University, School of Public Health
- Friends in Need
- Health Resources Center
- Healthy Kingsport
- Parish Nurse Program
- PEAK (young professional organization)
- Providence Medical Clinic
- School System
- Sullivan County Health Council
- Sullivan County Health Department
- United Way of Greater Kingsport, Health Safety & Stability Vision Council
- YMCA

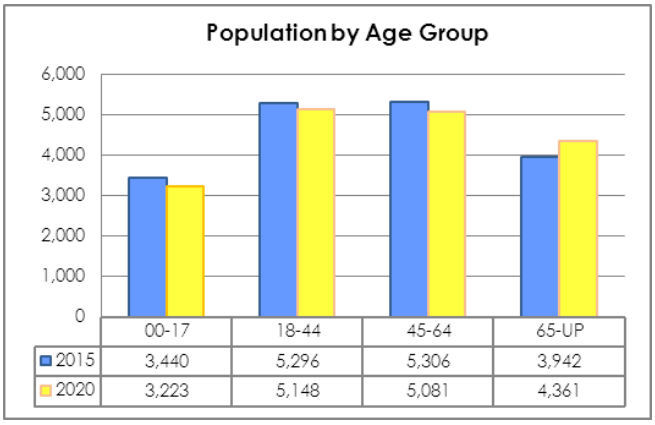
Demographic Highlights:

- Large elderly population compared to TN and US
- Declining rate of females of child-bearing age expected
- Low average household income level (19.1% of households make less than $15,000)
- Lower level of educational attainment compared to state and country (10.6% with no high school education compared to 5.9% nationally)
- Low level of diversity compared to state and national

Service Area Map:



Age Distribution and Population Projections:



Key Statistics:

	Unicoi County	Tennessee	U.S.
2015 Total Population	17,984	6,735,022	321,369,000
% Change 2015-2020	-1.0%	5.5%	4.1%
% of Population 65+ (2015)	21.9%	15.6%	14.9%
% Minority (2015)	6.8%	26.1%	38.3%

	2015	2020	% Change
Total Male Population	8,824	8,741	-0.9%
Total Female Population	9,160	9,072	-1.0%
Females, Child Bearing Age (15-44)	2,962	2,855	-3.6%

Local Health Highlights:

STRENGTHS:

- STD
- High school graduation rate
- Health Insurance
- Percent of Children Un/Improperly Restrained in a Crash

WEAKNESSES:

- Low birth weight
- Pre-1950 Housing
- Teen birth rate
- Smoking During Pregnancy
- Deaths due to cardiovascular, cancer, diabetes, cerebrovascular, injuries and suicide

Leading Causes of Death:

Ages 1 - 14 years

Cause of Death	Rate	Rank
All Causes	0	1

Ages 15 - 21 years

Cause of Death	Rate	Rank
All Causes	0	1

Ages 22 - 64

Cause of Death	Rate	Rank
Cancer	160.1	1
Heart Disease	110.1	2
Accidents	50.1	3
Diabetes Mellitus	30	4
Suicide	30	4
Liver/Cirrhosis	20	5
Flu/pneumonia	10	6
Respiratory	10	6
Malformations/ Deformations	10	6
All Other Causes	70.2	*

Ages 65+

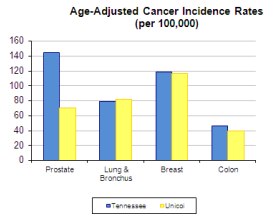
Cause of Death	Rate	Rank
Heart diseases	1299.4	1
Cancer	1045.2	2
Cerebrovascular	452	3
Respiratory	395.5	4
Alzheimer's	254.2	5
Diabetes Mellitus	169.5	6
Flu/Pneumonia	113	7
Parkinson's	56.5	8
Aortic Aneurysm and Dissection	56.5	9
Hypertension	56.5	10
All Other Causes	1242.9	*

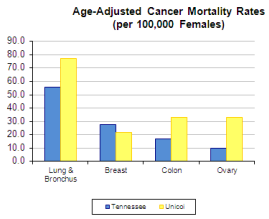
Key Indicators of Health Status:

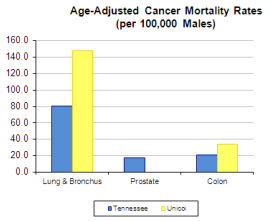
County: Unicoi, TN

	TN	Uni Co	2010	Desired
Health Outcomes				
Mortality (years of potential life lost/100,000)	8,790	9,655	10,961	↓
Low Birth Weight (3-yr avg %)	9.0%	12.3%	7.7%	↓
General Health Status (% fair/poor health)*	19.0%	22.0%	22.0%	↑
Very Low Birth Weight (%)	1.6%	1.3%	3.0%	↓
Infant Mortality (3-yr avg rate per 1,000)	8.1	7.6	7	↓
Mortality Rate (3-yr avg rate per 100,000)	953.0	1,373.3	1,046.80	↓
Cardiovascular Deaths (3-yr avg rate per 100,000)	226.5	446.0	368.2	↓
Cancer Deaths (3-yr avg rate per 100,000)	214.4	300.4	218.9	↓
Diabetes Mellitus Deaths (3-yr avg rate per 100,000)	28.7	35.6	36.8	↓
Cerebrovascular Deaths (3-yr avg rate per 100,000)	47.0	67.2	43.7	↓
Suicide Deaths (per 100,000)	15.0	22.4	11.3	↓
Mortality rate for ages 1- 14 yrs	66.8	0.0	24.9	↓
Mortality rate for ages 15 - 21yrs	70.4	0.0	161.6	↓
Mortality rates for ages 65+	4,870.1	5,141.2	5,897.40	↓
Lung Cancer Deaths (3-yr avg rate per 100,000)	68.8	119.4	63.7	↓
Female Breast Cancer Deaths (3-yr avg rate per 100,000)	14.1	13.1	27.9	↓
Prevalence of Asthma (%)	9.3%	13.2%	12.4%	↓
Prevalence of Diabetes (%)	11.0%	12.0%	14.0%	↓
Health Determinants				
Health Care Resources				
No Health Insurance (%)*	21.0%	16.0%	14.0%	↓
Medicaid/Tenncare Enrollees (%)	18.7%	19.1%	20.2%	↓
Medical Doctors Per Capita (per 100,000)	246.1	49.1	537.9	↑
Dentists Per Capita (per 100,000)	52.2	27.3	60.7	↑
Percent without Pneumococcal Vaccinations (%)*	74.2%	66.7%	67.7%	↑
Percent without Influenza Vaccinations (%)*	59.4%	50.7%	55.3%	↑
No Diabetic Eye Exams (%)	74.3%	72.2%	64.0%	↓
No Diabetic HbA1c Testing (%)	16.0%	17.0%	12.5%	↑
No Biennial Mammography (%)*	23.3%	29.3%	25.1%	↑
Inadequate or No Prenatal Care (%)	40.7%	32.5%	6.4%	↓
Month Prenatal Care Began	3.2	3.0	2.9	↓
First Trimester Prenatal Care (%)	59.3%	67.5%	85-94%	↓
Children (0-18 yrs) with Medicaid/Tenncare Coverage (%)	46.8%	50.7%	46.1%	↑
Hospital Staffed Beds (per 1,000)	3.6	2.6	1.5	↓
Licensed Nursing Beds (per 1,000 65+)	44.8	83.0	87.5	↓
# of Primary Care MDs	7,703	5	5	↑
# of Psychiatric Specialists	684	1	0	↓
Inpatient Discharge Rate (per 1,000) - Total	126.3	158.9	174.5	↓
Health Behaviors (continued)				
Cigarette Smoking (%)*	23.0%	21.0%	25.4%	↓
Smoking During Pregnancy (%)	16.3%	29.4%	37.3%	↓
Physical Inactivity (%)*	30.0%	32.0%	31.2%	↓
Overweight/Obesity (% BMI > 25)	67.8%	67.8%	63.8%	↓
Obesity (% BMI > 30)*	32.0%	33.0%	30.0%	↓
Low Fruit and Vegetable Consumption (% <5 a day)*	76.7%	73.0%	37.1%	↓
Binge Drinking (%)*	10.0%	6.0%	7.5%	↓
% of Children (0-4) Un/Improperly Restrained in a Crash	14.5%	5.3%	19.0%	↓
Teen Birth Rate (per 1,000)	37.3	45.4	59	↓
Sexually Transmitted Diseases (100,000)	446	98	73	↓
Violent Crime (per 100,000)	667.0	139.0	207	↓
Motor Vehicle Crash Deaths (per 100,000)	19	21	32	↓
Unmarried Mother Birth Rate (%)	44.1%	38.0%	33.8%	↓
Injury-related Mortality (3-yr avg rate per 100,000)	53.7	87.7	124.8	↓
Young Driver Crash Rate 15 - 24	116.9	62.3	79.3	↓
Elderly Drive Crash Rate (65+)	31.3	19.4	14.2	↓
Homicides (per 100,000)	8	0.0	11.3	↓
All accidental deaths per 100,000 population	52	33.6	39.5	↓
Average Fatality Rate in Alchohol-Related Crashes (per 100,000 population)	6.9	4.6	5.3	↓

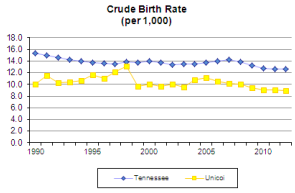
Cancer Incidence:

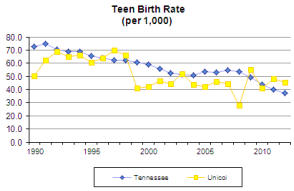






Birth Rate Trend:





Key Indicators of Health Status:

Socioecomonic Factors				
High School Graduation Rate (%)	86.0%	94.0%	77.0%	↓
Level of Education (%)	83.2%	75.3%	63.3%	↓
Unemployment (%)	8.8%	8.1%	7.9%	↓
Children (age 0 to 17) in poverty ratio (%)	26.5%	29.0%	30.3%	↓
Divorce Rate (per 100,000)	4.3	3.4	4	↓
Food Stamp Recipients (% of individuals)	21.1%	22.1%	10.6%	↓
Poverty Rate (% of all ages)	18.4%	20.4%	14.9%	↓
Temporary Assistance for Needy Families	2.6%	1.4%	2.1%	↓
High School Dropout Rate	6.9%	1.9%	6.0%	↓
Average Annual Wage	$ 36,576	$ 30,910	$30,235	↓
Physical Environment				
Air Quality Cancer Risk (per 1,000,000)	4.6	2.8	21.6	↓
Air Quality Hazard Index (per 1,000,000)	1.4	7	2.2	↓
Air Quality - Fine Particulate Matter in Air (3 yr avg Mg/m3)*	13.2	13.1	14.7	↓
Ozone Level (ppb)*	0.062	0.063	0.082	↓
Nitrate Levels in drinking water (mg/L Avg.)	0.70	1.34	1.08	↓
Pre-1950 Housing (%)	11.8%	21.6%	9.4%	↓
Lead Poisoned Children (%)	0.1%	n/a	0.0%	↓
Child Abuse and Neglect (rate per 1,000)	5.5	6.0	5	↓
Communicable Diseases				
Hepatitis A (per 100,000)	0.3	0.0	n/a	↓
Campylobacter Infection (per 100,000)	7.2	11.3	n/a	↓
Salmonella, Non Typhoid (per 100,000)	17.7	5.6	n/a	↓
Shigellosis (per 100,000)	3.3	0.0	n/a	↓
AIDS/HIV (per 100,000)	293	58	n/a	↓
Primary and Secondary Syphilis (per 100,000)	4.3	0.0	n/a	↓
Penicillin-Sensitive *Streptococcus pneumoniae* (per 100,000)	0.0	0.0	n/a	↓
Group B *Streptococcus* (per 100,000)	6.2	0.0	n/a	↓
Chlamydia (per 100,000)	517.3	146.6	n/a	↓
Gonorrhea (per 100,000)	144.8	22.5	n/a	↓

Inpatient Projections

	2014	2019		2024	
DRG Service Line	**Discharges**	**Discharges**	**% Change**	**Discharges**	**% Change**
Cardiac Surgery	27	27	1.80%	29	5.90%
Cardiology	284	247	-13.00%	220	-22.60%
Cardiology Intervention	126	116	-7.70%	110	-12.80%
Endocrinology	72	56	-21.60%	52	-28.10%
ENT Surgery	6	6	-1.90%	6	-2.70%
Gastroenterology	294	277	-5.70%	274	-6.70%
General Medicine	219	221	1.00%	206	-5.80%
General Surgery	184	175	-4.70%	169	-7.90%
Gynecology	24	22	-8.60%	21	-13.50%
Hematology	53	52	-2.30%	53	-0.10%
Neonatology	64	60	-7.00%	56	-12.40%
Nephrology	172	160	-6.90%	140	-18.80%
Neurology	141	141	-0.30%	142	1.00%
Neurosurgery	41	38	-7.90%	37	-10.40%
Normal Newborns	91	94	3.50%	94	2.80%
OB Deliveries Sections	52	45	-13.50%	42	-19.50%
OB Deliveries Vaginal	105	111	5.70%	111	5.40%
OB Other	15	14	-4.00%	14	-6.10%
Oncology Medicine	69	66	-4.20%	60	-13.30%
Oncology Surgery	20	20	-2.20%	19	-5.10%
Ophthalmic Medicine	2	2	-15.70%	1	-26.30%
Oral Surgery	8	7	-12.30%	7	-16.60%
Orthopedic Medicine	58	56	-3.10%	56	-3.80%
Orthopedic Surgery	150	153	1.90%	152	1.20%
Otolaryngology	13	12	-6.50%	12	-4.50%
Plastic Surgery	4	4	-3.80%	4	-12.10%
Psychiatry	148	163	10.20%	156	5.50%
Pulmonary	406	339	-16.50%	309	-23.90%
Rehabilitation	35	28	-19.70%	29	-16.90%
Rheumatology	9	8	-9.60%	8	-13.90%
Substance Abuse	9	9	3.90%	9	1.40%
Thoracic Surgery	14	14	-2.10%	13	-3.80%
Trauma Medical	12	11	-8.00%	11	-7.40%
Unspecified	1	1	8.70%	1	17.40%
Urology Medicine	12	10	-13.80%	9	-21.30%
Urology Surgery	27	26	-5.50%	25	-9.10%
Vascular Surgery	43	41	-3.50%	40	-6.00%
Womens Other	1	1	-15.10%	1	-33.10%
Grand Total	**3,011**	**2,834**	**-5.90%**	**2,697**	**-10.40%**

Outpatient Projections

	2014		2019			2024	
Site of Care	**Volumes**		**Volumes**	**% Change**		**Volumes**	**% Change**
ED	9,919		9,938	0.20%		9,518	-4.00%
Home	18,118		20,713	14.30%		22,390	23.60%
Hosp OP/ASC	29,338		31,605	7.70%		32,399	10.40%
Office/Clinic	148,825		157,392	5.80%		151,068	1.50%
Other	8,047		8,593	6.80%		8,372	4.00%
SNF	562		596	5.90%		624	11.00%
Urgent/Retail	304		329	8.20%		324	6.60%
Virtual			3,315			12,682	
Grand Total	**215,112**		**232,480**	**8.10%**		**237,377**	**10.40%**

Interview Highlights:

INTERVIEWEES:

- Eight individuals

KEY FINDINGS:

- Average rating of health status is 4.9, with a range in responses of 3 to 6
- Top health issues are:
  - Obesity
  - Diabetes
  - Cancer
  - Substance/Prescription Drug Abuse
- Additional identified health priorities:
  - Addiction
  - Neonatal Abstinence Syndrome
  - Mental Health
  - COPD/ Respiratory Needs
  - Cardiovascular disease
  - Physical inactivity
  - Utilization of wellness screenings
  - Parenting education
  - Smoking/Tobacco and vapor cigarette use
  - Second-Hand Smoke
  - Medical non-compliance
  - Access to urgent care clinics
  - Access to primary care clinics
  - Access to physical activity
  - Access to long-term care
  - Unemployment
  - Access to health education
  - Fast food prevalence
  - Transportation barriers
  - Cultural barriers
- Ideas to improve these conditions include:
  - Better marketing of available health-related programs and resources
  - Community gardens
  - Fitness center programs
  - Increase health education programs and opportunities
  - Community health events
  - School-based fitness programs
  - Nutrition education
  - Wellness screenings
  - More urgent care clinics
  - More primary care clinics
  - Legislative regulations on prescription drugs/prescribing practices
  - Legislation on smoking/vapor cigarettes
  - Diabetes education
  - Family support services
  - Elderly support services
  - Offering SNAO benefits at farmers market
  - Substance abuse/mental health facilities and programs

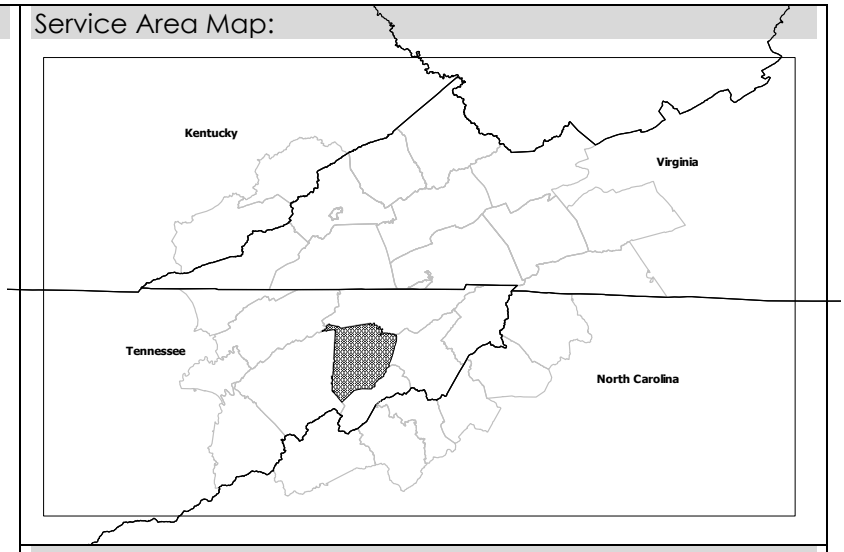
Sources:	Local Resources:

▪ Medstat ▪ County Health Rankings ▪ TN Advisory Commission on Intergovernmental Relations ▪ TN Dept of Health ▪ BRFSS ▪ TennCare ▪ Kidscount ▪ TN Dept of Safety and Homeland Security ▪ EPA ▪ CDC Wonder ▪ TN Dept of Environment & Conservation ▪ Childhood Lead Poisoning Prevention Program	▪ Telamon Migrant Head Start ▪ Unicoi County Health Department ▪ Unicoi County Chamber of Commerce ▪ Unicoi County Memorial Hospital ▪ Unicoi County Family YMCA ▪ Senior Center ▪ Walking trails ▪ Alzheimers Support Group ▪ Farmers Market ▪ Tobacco Settlement Funds ▪ SNAP ▪ Community health events

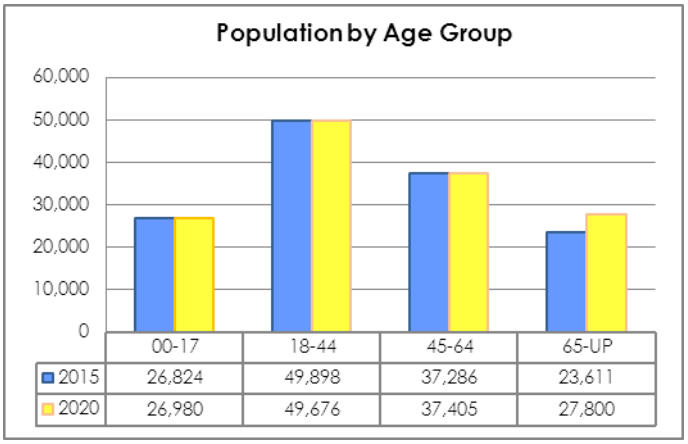
Demographic Highlights:

- Slightly larger elderly population compared to TN and US
- Slight inclining rate of females of child-bearing age expected
- Low average household income level (16.2% of households make less than $15,000)
- Level of educational attainment close to national average (5.2% with no high school education compared to 5.9% nationally)
- Low level of diversity compared to state and national

Service Area Map:



Age Distribution and Population Projections:



Key Statistics:

	Washington County	Tennessee	U.S.
2015 Total Population	137,619	6,735,022	321,369,000
% Change 2015-2020	3.1%	5.5%	4.1%
% of Population 65+ (2015)	17.2%	15.6%	14.9%
% Minority (2015)	10.4%	26.1%	38.3%

	2015	2020	% Change
Total Male Population	67,293	69,376	3.1%
Total Female Population	70,326	72,485	3.1%
Females, Child Bearing Age (15-44)	27,500	27,551	0.2%

Local Health Highlights:

STRENGTHS:

- No health insurance
- Violent crime
- High school graduation STDs

WEAKNESSES:

- Unemployment rate
- Smoking during pregnancy
- Deaths due to cardiovascular, cancer, cerebrovascular, suicide, and injuries

Leading Causes of Death:

Ages 1 - 14 years

Cause of Death	Rate	Rank
Congenital Malformations, Deformations and Chromosomal Abnormalities	5.24	1
All Other Causes	0	*

Ages 15 - 21 years

Cause of Death	Rate	Rank
Accidents	17.6	1
Suicide	8.8	2
Homicide	8.8	3
Nephritis/ Nephrosis	8.8	4
All Other Causes	8.64	*

Ages 22 - 64

Cause of Death	Rate	Rank
Heart Disease	142.6	1
Cancer	133.9	2
Accidents	42.2	3
Liver & Cirrhosis	30.6	4
Suicide	29.1	5
Respiratory	24.7	6
Septicemia	10.2	7
Diabetes Mellitus	8.7	8
Cerebrovascular	8.7	9
Nephritis	8.7	10
All Other Causes	87.5	*

Ages 65+

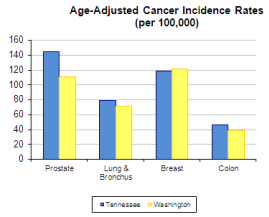
Cause of Death	Rate	Rank
Heart Disease	1350.9	1
Cancer	1026.5	2
Respiratory	308.5	3
Alzheimer's Disease	297.8	4
Cerebrovascular	292.5	5
Flu/ Pneumonia	202.1	6
Accidents	148.9	7
Nephritis/ Nephrosis	95.7	8
Hypertension	95.7	9
Parkinson's	74.5	10
All Other Causes	1207.4	*

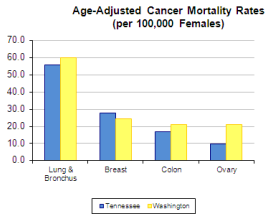
Key Indicators of Health Status:

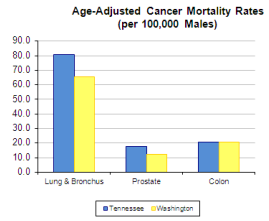
County: Washington, TN

	TN	Wash Co	2010	Desired
Health Outcomes				↓
Mortality (years of potential life lost/100,000)	8,790	8,155	9672	↓
Low Birth Weight (3-yr avg %)	9.0%	7.5%	8.9%	↓
General Health Status (% fair/poor health)*	19.0%	19.0%	21.0%	↓
Very Low Birth Weight (%)	1.6%	1.7%	2.5%	↓
Infant Mortality (3-yr avg rate per 1,000)	8.1	9.9	9.4	↓
Mortality Rate (3-yr avg rate per 100,000)	953.0	1,085.5	928.2	↓
Cardiovascular Deaths (per 100,000)	226.5	368.6	264.2	↓
Cancer Deaths (3-yr avg rate per 100,000)	214.4	237.7	200.5	↓
Diabetes Mellitus Deaths (per 100,000)	28.7	14.2	16.2	↓
Cerebrovascular Deaths (per 100,000)	47.0	51.1	53.9	↓
Suicide Deaths (per 100,000)	15.0	21.8	9.4	↓
Mortality rate for ages 1- 14 yrs	66.8	5.2	23.5	↓
Mortality rate for ages 15 - 21yrs	70.4	52.6	110.3	↓
Mortality rates for ages 65+	4,870.1	5,100.5	5231.9	↓
Lung Cancer Deaths (3-yr avg rate per 100,000)	68.8	72.2	63.6	↓
Female Breast Cancer Deaths (3-yr avg rate per 100,000)	14.1	13.8	24	↓
Prevalence of Asthma (%)	9.3%	13.2%	12.4%	↓
Prevalence of Diabetes (%)	11.0%	11.0%	12.8%	↓
Health Determinants				↓
Health Care Resources				↓
No Health Insurance (%)*	21.0%	15.0%	17.9%	↓
Medicaid/Tenncare Enrollees (%)	18.7%	15.4%	16.3%	↓
Medical Doctors Per Capita (per 100,000)	246.1	348.8	329.6	↑
Dentists Per Capita (per 100,000)	52.2	50.4	72.4	↑
Percent without Pneumococcal Vaccinations (%)*	74.2%	66.7%	72.3%	↓
Percent without Influenza Vaccinations (%)*	59.4%	50.7%	59.3%	↓
No Diabetic Eye Exams (%)	74.3%	72.2%	53.1%	↓
No Diabetic HbA1c Testing (%)	16.0%	15.0%	15.1%	↓
No Biennial Mammography (%)*	23.3%	29.3%	23.3%	↓
Inadequate or No Prenatal Care (%)	40.7%	34.6%	5.6%	↓
Month Prenatal Care Began	3.2	3.0	2.9	↓
First Trimester Prenatal Care (%)	59.3%	65.4%	74.6%	↑
Children (0-18 yrs) with Medicaid/Tenncare Coverage (%)	46.8%	40.3%	39.10%	↓
Hospital Staffed Beds (per 1,000)	3.6	4.8	4.9	↑
Licensed Nursing Beds (per 1,000 65+)	44.8	47.1	51.1	↑
# of Primary Care MDs	7,703	68	68	↓
# of Psychiatric Specialists	684	22	22	↓
Inpatient Discharge Rate (per 1,000) - Total	126.3	134.1	149.5	↓
Health Behaviors (continued)				↓
Cigarette Smoking (%)*	23.0%	26.0%	28.9%	↓
Smoking During Pregnancy (%)	16.3%	19.5%	25.4%	↓
Physical Inactivity (%)*	30.0%	29.0%	38.4%	↓
Overweight/Obesity (% BMI > 25)	67.8%	67.8%	67.9%	↓
Obesity (% BMI > 30)*	32.0%	29.0%	29.0%	↓
Low Fruit and Vegetable Consumption (% <5 a day)*	76.7%	73.0%	41.5%	↓
Binge Drinking (%)*	10.0%	7.0%	7.9%	↓
% of Children (0-4) Un/Improperly Restrained in a Crash	14.5%	5.2%	9.4%	↓
Teen Birth Rate (per 1,000)	37.3	32	46	↓
Sexually Transmitted Diseases (100,000)	446	186	214	↓
Violent Crime (per 100,000)	667.0	451.0	493	↓
Motor Vehicle Crash Deaths (per 100,000)	19	18	18	↓
Unmarried Mother Birth Rate (%)	44.1%	35.8%	36.6%	↓
Injury-related Mortality (3-yr avg rate per 100,000)	53.7	76.2	79.3	↓
Young Driver Crash Rate 15 - 24	116.9	135.2	117.1	↓
Elderly Drive Crash Rate (60+)	31.3	37	43.8	↓
Homicides (per 100,000)	8	1.7	3.5	↓
All accidental deaths per 100,000 population	52	50.3	45.3	↓
Average Fatality Rate in Alchohol-Related Crashes (per 100,000 population)	6.9	3.4	6.28	↓

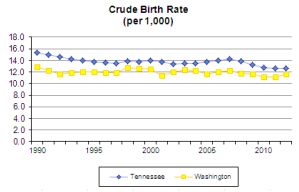
Cancer Incidence:

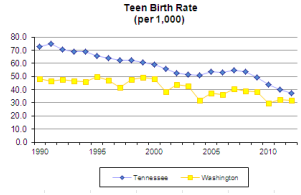






Birth Rate Trend:





Key Indicators of Health Status:

Socioecomonic Factors				↓
High School Graduation Rate (%)	86.0%	90.0%	84.9%	↑
Level of Education (%)	83.2%	85.1%	82.8%	↑
Unemployment (%)	8.8%	9.6%	6.1%	↓
Children (age 0 to 17) in poverty ratio (%)	26.5%	23.5%	20.8%	↓
Divorce Rate (per 1,000)	4.3	5.3	4.6	↓
Food Stamp Recipients (% of individuals)	21.1%	16.6%	15.3%	↓
Poverty Rate (% of all ages)	18.4%	18.3%	14.0%	↓
Temporary Assistance for Needy Families	2.6%	1.2%	1.4%	↓
High School Dropout Rate	6.9%	2.3%	3.2%	↓
Average Annual Wage	$ 36,576	$ 35,215	$ 30,516	↑
Physical Environment				↓
Air Quality Cancer Risk (per 1,000,000)	4.6	4.0	33.6	↓
Air Quality Hazard Index (per 1,000,000)	1.4	1.2	4.1	↓
Air Quality - Fine Particulate Matter in Air (3 yr avg Mg/m3)*	13.2	12.8	14.5	↓
Ozone Level (ppb)*	0.062	0.063	0.082	↓
Nitrate Levels in drinking water (mg/L Avg.)	0.70	0.27	0.38	↓
Pre-1950 Housing (%)	11.8%	13.4%	16.6%	↓
Lead Poisoned Children (%)	0.1%	n/a	0.8%	↓
Child Abuse and Neglect (rate per 1,000)	5.5	5.5	3.1	↓
Communicable Diseases				↓
Hepatitis A (per 100,000)	0.3	0.0	n/a	↓
Campylobacter Infection (per 100,000)	7.2	9.6	n/a	↓
Salmonella, Non Typhoid (per 100,000)	17.6	5.6	n/a	↓
Shigellosis (per 100,000)	3.3	1.6	n/a	↓
AIDS/HIV (per 100,000)	293	165	n/a	↓
Primary and Secondary Syphilis (per 100,000)	4.3	0.8	n/a	↓
Penicillin-Sensitive *Streptococcus pneumoniae* (per 100,000)	0.0	0.0	n/a	↓
Group B *Streptococcus* (per 100,000)	6.2	8.0	n/a	↓
Chlamydia (per 100,000)	517.3	202.6	n/a	↓
Gonorrhea (per 100,000)	144.8	41.0	n/a	↓

Inpatient Projections

	2014	2019		2024	
DRG Service Line	**Discharges**	**Discharges**	**% Change**	**Discharges**	**% Change**
Cardiac Surgery	164	170	3.80%	182	10.90%
Cardiology	1,524	1,381	-9.40%	1,272	-16.50%
Cardiology Intervention	670	636	-5.10%	615	-8.20%
Endocrinology	456	377	-17.30%	354	-22.40%
ENT Surgery	19	19	-2.00%	18	-3.00%
Gastroenterology	1,454	1,414	-2.80%	1,436	-1.20%
General Medicine	1,476	1,518	2.80%	1,462	-0.90%
General Surgery	1,026	1,026	0.00%	1,031	0.50%
Gynecology	105	99	-5.30%	97	-7.20%
Hematology	220	226	2.50%	239	8.50%
Neonatology	660	628	-4.80%	604	-8.50%
Nephrology	747	719	-3.70%	662	-11.30%
Neurology	788	803	1.90%	851	8.10%
Neurosurgery	320	323	1.00%	338	5.50%
Normal Newborns	760	804	5.80%	816	7.30%
OB Deliveries Sections	465	409	-12.10%	388	-16.60%
OB Deliveries Vaginal	895	971	8.40%	993	10.90%
OB Other	110	108	-1.80%	108	-2.00%
Oncology Medicine	262	262	0.10%	246	-6.00%
Oncology Surgery	97	103	6.40%	105	8.40%
Ophthalmic Medicine	11	10	-7.90%	10	-10.20%
Ophthalmic Surgery	8	8	-0.80%	8	6.00%
Oral Surgery	31	29	-7.40%	29	-6.30%
Orthopedic Medicine	218	225	3.10%	233	6.80%
Orthopedic Surgery	954	1,043	9.30%	1,097	15.00%
Otolaryngology	83	75	-10.20%	74	-10.30%
Plastic Surgery	24	24	-1.70%	22	-7.20%
Psychiatry	1,335	1,502	12.50%	1,451	8.70%
Pulmonary	1,988	1,752	-11.90%	1,686	-15.20%
Rehabilitation	325	282	-13.10%	315	-3.20%
Rheumatology	76	75	-1.70%	76	-0.40%
Substance Abuse	181	190	5.00%	189	4.50%
Thoracic Surgery	89	85	-4.50%	84	-5.60%
Trauma Medical	71	70	-2.00%	73	3.20%
Unspecified	2	2	0.90%	2	1.70%
Urology Medicine	73	66	-9.80%	61	-16.30%
Urology Surgery	130	128	-1.40%	125	-4.20%
Vascular Surgery	254	257	1.10%	261	2.80%
Womens Other	12	11	-8.70%	10	-19.30%
Grand Total	**18,083**	**17,828**	**-1.40%**	**17,624**	**-2.50%**

Outpatient Projections

	2014		2019			2024	
Site of Care	**Volumes**		**Volumes**	**% Change**		**Volumes**	**% Change**
ED	69,931		72,043	3.00%		70,998	1.50%
Home	153,277		185,700	21.20%		209,747	36.80%
Hosp OP/ASC	190,142		210,092	10.50%		220,008	15.70%
Office/Clinic	1,208,462		1,334,727	10.40%		1,333,601	10.40%
Other	53,254		59,778	12.20%		62,306	17.00%
SNF	3,178		3,587	12.90%		3,887	22.30%
Urgent/Retail	1,932		2,148	11.10%		2,158	11.70%
Virtual			25,381			104,289	
Grand Total	**1,680,177**		**1,893,457**	**12.70%**		**2,006,995**	**19.50%**

Interview Highlights:

INTERVIEWEES:

- 18 individuals

KEY FINDINGS:

- Average rating of health status is 5.3, with a range in responses of two (2) through seven (7)
- Top health issues are:
  - Substance and prescription drug abuse
  - Smoking/tobacco use
  - Obesity
  - Cardiovascular disease
- Additional health issues are:
  - Physical inactivity
  - Diabetes
  - Poor nutrition
  - Education
  - Cancer
  - Mental health
  - Income inequality
  - Literacy
  - Liver disease (Hepatitis C)
  - Neonatal Abstinence Syndrome (NAS)
  - Poverty
  - Aging population
  - Transportation barriers
  - Risk taking
  - Stigma of mental health disorders and substance abuse
  - Access to care
  - Living wage
  - Lack of job training
  - Built environment to promote physical activity
  - Parenting skills
  - Access to fast food
  - Economy
  - Adverse Childhood Experiences (ACEs)
  - Domestic violence
- Ideas to improve these conditions include:
  - Organizational collaboration
  - Emphasis on exercise
  - Increase physical activity in schools
  - Health education on health effects of behaviors: smoking, eating, inactivity
  - Expansion of Project Access
  - Increase health care access with financial resources and partnerships
  - Focus on high school graduation
  - Increase number of walking trails
  - Promote CEASE program
  - Provide/promote smoking cessation programs
  - Offer wellness initiatives
  - Work with schools on food options
  - Promote early screenings
  - Educate children early on the importance of exercise and healthy eating

- Healthcare navigators to help community members with health education and free/reduced cost health care services
- Offering additional activities for families to promote physical activity
- Develop network of clinics, hospitals, long-term care facilities, and health departments to discuss and develop health improvement initiatives.
- Better marketing of health resources to the community
- Promote literacy programs for educational attainment

Sources:	Local Resources:
▪ Medstat ▪ County Health Rankings ▪ TN Advisory Commission on Intergovernmental Relations ▪ TN Dept of Health ▪ BRFSS ▪ TennCare ▪ Kidscount ▪ TN Dept of Safety and Homeland Security ▪ EPA ▪ CDC Wonder ▪ TN Dept of Environment & Conservation ▪ Childhood Lead Poisoning Prevention Program	• Families Free • Health Department • Washington County Anti-Drug Coalition • Tennessee Suicide Prevention Network • Tennessee Prevention Alliance • TAADAS • Tweetsie Trail • Senior Center • Food Pantries • One Acre Café • Backpack/Student food supplement program • Project Access • JCCH • Johnson City Housing Authority • United Way • Coordinated School Health • Head Start • Johnson City Parks and Recreation • Morning Mile • JCMC/FWCH • ETSU College of Medicine • ETSU College of Public Health • ETSU College of Pharmacy • ETSU College of Nursing • ETSU College of Clinical and Rehabilitative Health Sciences • Day Center • MEAL • Girls on the Run • Washington County Health Council • Washington County Wellness Committee • The Women's Fund of the East Tennessee Foundation • Appalachian Funders Network • Washington County PDAM • Local school systems • Local churches • UT-Washington County Extension

APPENDIX

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1. Carter, TN Detailed Demographics
2. Greene, TN Detailed Demographics
3. Sullivan, TN Detailed Demographics
4. Unicoi, TN Detailed Demographics
5. Washington, TN Detailed Demographics

Mountain State Health Alliance

Carter County, TN

Population and Gender	Market 2015 Population	Market 2015 % of Total	Market 2020 Population	Market 2020 % of Total	Market Population % Change	National 2015 % of Total
Female Population	23,066	51.1%	23,247	51.0%	0.8%	50.8%
Male Population	22,105	48.9%	22,298	49.0%	0.9%	49.2%
Total	45,171	100.0%	45,545	100.0%	0.8%	100.0%

Age Groups	Market 2015 Population	Market 2015 % of Total	Market 2020 Population	Market 2020 % of Total	Market Population % Change	National 2015 % of Total
00-17	9,006	19.9%	8,774	19.3%	(2.6)%	23.1%
18-44	13,998	31.0%	13,793	30.3%	(1.5)%	35.9%
45-64	12,867	28.5%	12,500	27.5%	(2.9)%	26.3%
65-UP	9,300	20.6%	10,478	23.0%	12.7%	14.7%
Total	45,171	100.0%	45,545	100.0%	0.8%	100.0%

Ethnicity/Race	Market 2015 Population	Market 2015 % of Total	Market 2020 Population	Market 2020 % of Total	Market Population % Change	National 2015 % of Total
Asian & Pacific Is. Non-Hispanic	129	0.3%	123	0.3%	(4.7)%	5.3%
Black Non-Hispanic	570	1.3%	611	1.3%	7.2%	12.3%
Hispanic	777	1.7%	940	2.1%	21.0%	17.6%
White Non-Hispanic	43,145	95.5%	43,286	95.0%	0.3%	61.8%
All Others	550	1.2%	585	1.3%	6.4%	3.1%
Total	45,171	100.0%	45,545	100.0%	0.8%	100.0%

Language*	Market 2015 Population	Market 2015 % of Total	Market 2020 Population	Market 2020 % of Total	Market Population % Change	National 2015 % of Total
French at Home	63	0.2%	64	0.2%	1.6%	0.7%
Only English at Home	41,998	98.1%	42,400	98.1%	1.0%	79.0%
Other Indo-European Lang at Home	79	0.2%	77	0.2%	(2.5)%	1.8%
Spanish at Home	412	1.0%	413	1.0%	0.2%	13.0%
Tagalog at Home	125	0.3%	125	0.3%	0.0%	0.6%
All Others	158	0.4%	158	0.4%	0.0%	4.9%
Total	42,835	100.0%	43,237	100.0%	0.9%	100.0%

Mountain State Health Alliance

Carter County, TN

Household Income	Market 2015 Households	Market 2015 % of Total	Market 2020 Households	Market 2020 % of Total	Market Households % Change	National 2015 % of Total
<$15K	3,924	20.6%	3,550	18.4%	(9.5)%	12.7%
$15-25K	2,963	15.6%	2,734	14.2%	(7.7)%	10.8%
$25-50K	5,691	29.9%	5,757	29.9%	1.2%	23.9%
$50-75K	3,341	17.6%	3,257	16.9%	(2.5)%	17.8%
$75-100K	1,667	8.8%	1,930	10.0%	15.8%	12.0%
$100K-200K	1,268	6.7%	1,808	9.4%	42.6%	17.9%
>$200K	172	0.9%	245	1.3%	42.4%	5.0%
Total	19,026	100.0%	19,281	100.0%	1.3%	100.0%

Education Level**	Market 2015 Population	Market 2015 % of Total	Market 2020 Population	Market 2020 % of Total	Market Population % Change	National 2015 % of Total
Less than High School	2,964	9.1%	3,038	9.2%	2.5%	5.9%
Some High School	3,909	12.0%	4,002	12.1%	2.4%	8.0%
High School Degree	12,544	38.6%	12,793	38.7%	2.0%	28.1%
Some College/Assoc. Degree	8,678	26.7%	8,784	26.6%	1.2%	31.1%
Bachelor's Degree or Greater	4,428	13.6%	4,447	13.5%	0.4%	26.9%
Total	32,523	100.0%	33,064	100.0%	1.7%	100.0%

*Excludes population age <5, **Excludes population age <25

Mountain State Health Alliance

Greene County, TN

Population and Gender	Market 2015 Population	Market 2015 % of Total	Market 2020 Population	Market 2020 % of Total	Market Population % Change	National 2015 % of Total
Female Population	33,451	50.9%	33,358	50.8%	(0.3)%	50.8%
Male Population	32,312	49.1%	32,269	49.2%	(0.1)%	49.2%
Total	65,763	100.0%	65,627	100.0%	(0.2)%	100.0%

Age Groups	Market 2015 Population	Market 2015 % of Total	Market 2020 Population	Market 2020 % of Total	Market Population % Change	National 2015 % of Total
00-17	13,301	20.2%	12,633	19.3%	(5.0)%	23.1%
18-44	20,460	31.1%	20,079	30.6%	(1.9)%	35.9%
45-64	18,837	28.6%	18,123	27.6%	(3.8)%	26.3%
65-UP	13,165	20.0%	14,792	22.5%	12.4%	14.7%
Total	65,763	100.0%	65,627	100.0%	(0.2)%	100.0%

Ethnicity/Race	Market 2015 Population	Market 2015 % of Total	Market 2020 Population	Market 2020 % of Total	Market Population % Change	National 2015 % of Total
Asian & Pacific Is. Non-Hispanic	357	0.5%	464	0.7%	30.0%	5.3%
Black Non-Hispanic	1,466	2.2%	1,624	2.5%	10.8%	12.3%
Hispanic	1,972	3.0%	2,346	3.6%	19.0%	17.6%
White Non-Hispanic	61,056	92.8%	60,233	91.8%	(1.4)%	61.8%
All Others	912	1.4%	960	1.5%	5.3%	3.1%
Total	65,763	100.0%	65,627	100.0%	(0.2)%	100.0%

Language*	Market 2015 Population	Market 2015 % of Total	Market 2020 Population	Market 2020 % of Total	Market Population % Change	National 2015 % of Total
French at Home	148	0.2%	142	0.2%	(4.1)%	0.7%
Germanic Lang at Home	129	0.2%	128	0.2%	(0.8)%	0.5%
Only English at Home	60,044	96.2%	60,016	96.2%	(0.1)%	79.0%
Other Asian-Pacific Lang at Home	74	0.1%	70	0.1%	(5.4)%	0.9%
Spanish at Home	1,719	2.8%	1,702	2.7%	(1.0)%	13.0%
All Others	311	0.5%	311	0.5%	0.0%	5.9%
Total	62,425	100.0%	62,369	100.0%	(0.1)%	100.0%

Mountain State Health Alliance

Greene County, TN

Household Income	Market 2015 Households	Market 2015 % of Total	Market 2020 Households	Market 2020 % of Total	Market Households % Change	National 2015 % of Total
<$15K	5,081	19.0%	4,637	17.4%	(8.7)%	12.7%
$15-25K	4,255	15.9%	3,968	14.9%	(6.8)%	10.8%
$25-50K	8,445	31.6%	8,384	31.4%	(0.7)%	23.9%
$50-75K	4,258	15.9%	4,295	16.1%	0.9%	17.8%
$75-100K	2,499	9.3%	2,545	9.5%	1.8%	12.0%
$100K-200K	1,823	6.8%	2,343	8.8%	28.5%	17.9%
>$200K	398	1.5%	493	1.9%	23.9%	5.0%
Total	26,759	100.0%	26,665	100.0%	(0.4)%	100.0%

Education Level**	Market 2015 Population	Market 2015 % of Total	Market 2020 Population	Market 2020 % of Total	Market Population % Change	National 2015 % of Total
Less than High School	3,557	7.6%	3,590	7.6%	0.9%	5.9%
Some High School	5,984	12.8%	6,070	12.9%	1.4%	8.0%
High School Degree	18,659	39.9%	18,843	40.0%	1.0%	28.1%
Some College/Assoc. Degree	11,382	24.4%	11,443	24.3%	0.5%	31.1%
Bachelor's Degree or Greater	7,152	15.3%	7,137	15.2%	(0.2)%	26.9%
Total	46,734	100.0%	47,083	100.0%	0.8%	100.0%

*Excludes population age <5, **Excludes population age <25

Mountain State Health Alliance

Sullivan County, TN

Population and Gender	Market 2015 Population	Market 2015 % of Total	Market 2020 Population	Market 2020 % of Total	Market Population % Change	National 2015 % of Total
Female Population	82,467	51.6%	83,193	51.6%	0.9%	50.8%
Male Population	77,249	48.4%	78,076	48.4%	1.1%	49.2%
Total	159,716	100.0%	161,269	100.0%	1.0%	100.0%

Age Groups	Market 2015 Population	Market 2015 % of Total	Market 2020 Population	Market 2020 % of Total	Market Population % Change	National 2015 % of Total
00-17	31,429	19.7%	30,327	18.8%	(3.5)%	23.1%
18-44	48,753	30.5%	48,225	29.9%	(1.1)%	35.9%
45-64	46,417	29.1%	45,329	28.1%	(2.3)%	26.3%
65-UP	33,117	20.7%	37,388	23.2%	12.9%	14.7%
Total	159,716	100.0%	161,269	100.0%	1.0%	100.0%

Ethnicity/Race	Market 2015 Population	Market 2015 % of Total	Market 2020 Population	Market 2020 % of Total	Market Population % Change	National 2015 % of Total
Asian & Pacific Is. Non-Hispanic	1,181	0.7%	1,426	0.9%	20.8%	5.3%
Black Non-Hispanic	3,819	2.4%	4,313	2.7%	12.9%	12.3%
Hispanic	3,015	1.9%	3,712	2.3%	23.1%	17.6%
White Non-Hispanic	149,096	93.4%	148,907	92.3%	(0.1)%	61.8%
All Others	2,605	1.6%	2,911	1.8%	11.8%	3.1%
Total	159,716	100.0%	161,269	100.0%	1.0%	100.0%

Language*	Market 2015 Population	Market 2015 % of Total	Market 2020 Population	Market 2020 % of Total	Market Population % Change	National 2015 % of Total
Germanic Lang at Home	285	0.2%	283	0.2%	(0.7)%	0.5%
Only English at Home	147,691	97.3%	149,340	97.4%	1.1%	79.0%
Other Indo-European Lang at Home	602	0.4%	601	0.4%	(0.2)%	1.8%
Other Lang at Home	202	0.1%	203	0.1%	0.5%	0.9%
Spanish at Home	2,177	1.4%	2,186	1.4%	0.4%	13.0%
All Others	764	0.5%	758	0.5%	(0.8)%	4.7%
Total	151,721	100.0%	153,371	100.0%	1.1%	100.0%

Mountain State Health Alliance

Sullivan County, TN

Household Income	Market 2015 Households	Market 2015 % of Total	Market 2020 Households	Market 2020 % of Total	Market Households % Change	National 2015 % of Total
<$15K	10,586	15.6%	9,374	13.6%	(11.5)%	12.7%
$15-25K	10,321	15.2%	9,508	13.8%	(7.9)%	10.8%
$25-50K	18,992	28.0%	19,038	27.7%	0.2%	23.9%
$50-75K	11,811	17.4%	11,702	17.0%	(0.9)%	17.8%
$75-100K	6,376	9.4%	6,984	10.2%	9.5%	12.0%
$100K-200K	7,914	11.7%	9,619	14.0%	21.5%	17.9%
>$200K	1,858	2.7%	2,505	3.6%	34.8%	5.0%
Total	67,858	100.0%	68,730	100.0%	1.3%	100.0%

Education Level**	Market 2015 Population	Market 2015 % of Total	Market 2020 Population	Market 2020 % of Total	Market Population % Change	National 2015 % of Total
Less than High School	7,645	6.6%	7,867	6.7%	2.9%	5.9%
Some High School	9,906	8.6%	10,189	8.7%	2.9%	8.0%
High School Degree	40,421	35.1%	41,336	35.2%	2.3%	28.1%
Some College/Assoc. Degree	34,264	29.7%	34,808	29.6%	1.6%	31.1%
Bachelor's Degree or Greater	23,046	20.0%	23,244	19.8%	0.9%	26.9%
Total	115,282	100.0%	117,444	100.0%	1.9%	100.0%

*Excludes population age <5, **Excludes population age <25

Mountain State Health Alliance

Unicoi County, TN

Population and Gender	Market 2015 Population	Market 2015 % of Total	Market 2020 Population	Market 2020 % of Total	Market Population % Change	National 2015 % of Total
Female Population	9,160	50.9%	9,072	50.9%	(1.0)%	50.8%
Male Population	8,824	49.1%	8,741	49.1%	(0.9)%	49.2%
Total	17,984	100.0%	17,813	100.0%	(1.0)%	100.0%

Age Groups	Market 2015 Population	Market 2015 % of Total	Market 2020 Population	Market 2020 % of Total	Market Population % Change	National 2015 % of Total
00-17	3,440	19.1%	3,223	18.1%	(6.3)%	23.1%
18-44	5,296	29.5%	5,148	28.9%	(2.8)%	35.9%
45-64	5,306	29.5%	5,081	28.5%	(4.2)%	26.3%
65-UP	3,942	21.9%	4,361	24.5%	10.6%	14.7%
Total	17,984	100.0%	17,813	100.0%	(1.0)%	100.0%

Ethnicity/Race	Market 2015 Population	Market 2015 % of Total	Market 2020 Population	Market 2020 % of Total	Market Population % Change	National 2015 % of Total
Asian & Pacific Is. Non-Hispanic	51	0.3%	72	0.4%	41.2%	5.3%
Black Non-Hispanic	88	0.5%	143	0.8%	62.5%	12.3%
Hispanic	842	4.7%	1,012	5.7%	20.2%	17.6%
White Non-Hispanic	16,759	93.2%	16,299	91.5%	(2.7)%	61.8%
All Others	244	1.4%	287	1.6%	17.6%	3.1%
Total	17,984	100.0%	17,813	100.0%	(1.0)%	100.0%

Language*	Market 2015 Population	Market 2015 % of Total	Market 2020 Population	Market 2020 % of Total	Market Population % Change	National 2015 % of Total
French at Home	40	0.2%	42	0.3%	5.0%	0.7%
Germanic Lang at Home	57	0.3%	57	0.3%	0.0%	0.5%
Only English at Home	16,318	95.2%	16,188	95.2%	(0.8)%	79.0%
Other Asian-Pacific Lang at Home	13	0.1%	9	0.1%	(30.8)%	0.9%
Spanish at Home	716	4.2%	704	4.1%	(1.7)%	13.0%
All Others	5	0.0%	5	0.0%	0.0%	5.9%
Total	17,149	100.0%	17,005	100.0%	(0.8)%	100.0%

Mountain State Health Alliance

Unicoi County, TN

Household Income	Market 2015 Households	Market 2015 % of Total	Market 2020 Households	Market 2020 % of Total	Market Households % Change	National 2015 % of Total
<$15K	1,447	19.1%	1,329	17.7%	(8.2)%	12.7%
$15-25K	1,296	17.1%	1,189	15.9%	(8.3)%	10.8%
$25-50K	2,058	27.2%	2,023	27.0%	(1.7)%	23.9%
$50-75K	1,154	15.2%	1,171	15.6%	1.5%	17.8%
$75-100K	699	9.2%	700	9.3%	0.1%	12.0%
$100K-200K	810	10.7%	940	12.5%	16.1%	17.9%
>$200K	113	1.5%	149	2.0%	31.9%	5.0%
Total	7,577	100.0%	7,501	100.0%	(1.0)%	100.0%

Education Level**	Market 2015 Population	Market 2015 % of Total	Market 2020 Population	Market 2020 % of Total	Market Population % Change	National 2015 % of Total
Less than High School	1,402	10.6%	1,411	10.7%	0.6%	5.9%
Some High School	1,762	13.3%	1,767	13.4%	0.3%	8.0%
High School Degree	5,358	40.6%	5,353	40.6%	(0.1)%	28.1%
Some College/Assoc. Degree	3,271	24.8%	3,248	24.7%	(0.7)%	31.1%
Bachelor's Degree or Greater	1,421	10.8%	1,396	10.6%	(1.8)%	26.9%
Total	13,214	100.0%	13,175	100.0%	(0.3)%	100.0%

*Excludes population age <5, **Excludes population age <25

Mountain State Health Alliance

Washington County, TN

Population and Gender	Market 2015 Population	Market 2015 % of Total	Market 2020 Population	Market 2020 % of Total	Market Population % Change	National 2015 % of Total
Female Population	70,326	51.1%	72,485	51.1%	3.1%	50.8%
Male Population	67,293	48.9%	69,376	48.9%	3.1%	49.2%
Total	137,619	100.0%	141,861	100.0%	3.1%	100.0%

Age Groups	Market 2015 Population	Market 2015 % of Total	Market 2020 Population	Market 2020 % of Total	Market Population % Change	National 2015 % of Total
00-17	26,824	19.5%	26,980	19.0%	0.6%	23.1%
18-44	49,898	36.3%	49,676	35.0%	(0.4)%	35.9%
45-64	37,286	27.1%	37,405	26.4%	0.3%	26.3%
65-UP	23,611	17.2%	27,800	19.6%	17.7%	14.7%
Total	137,619	100.0%	141,861	100.0%	3.1%	100.0%

Ethnicity/Race	Market 2015 Population	Market 2015 % of Total	Market 2020 Population	Market 2020 % of Total	Market Population % Change	National 2015 % of Total
Asian & Pacific Is. Non-Hispanic	1,723	1.3%	1,938	1.4%	12.5%	5.3%
Black Non-Hispanic	5,448	4.0%	5,992	4.2%	10.0%	12.3%
Hispanic	4,490	3.3%	5,150	3.6%	14.7%	17.6%
White Non-Hispanic	123,331	89.6%	125,943	88.8%	2.1%	61.8%
All Others	2,627	1.9%	2,838	2.0%	8.0%	3.1%
Total	137,619	100.0%	141,861	100.0%	3.1%	100.0%

Language*	Market 2015 Population	Market 2015 % of Total	Market 2020 Population	Market 2020 % of Total	Market Population % Change	National 2015 % of Total
Chinese at Home	400	0.3%	403	0.3%	0.8%	1.0%
Germanic Lang at Home	497	0.4%	514	0.4%	3.4%	0.5%
Only English at Home	124,597	95.5%	128,679	95.5%	3.3%	79.0%
Other Indo-European Lang at Home	572	0.4%	586	0.4%	2.5%	1.8%
Spanish at Home	3,399	2.6%	3,479	2.6%	2.4%	13.0%
All Others	1,064	0.8%	1,082	0.8%	1.7%	4.7%
Total	130,529	100.0%	134,743	100.0%	3.2%	100.0%

Mountain State Health Alliance

Washington County, TN

Household Income	Market 2015 Households	Market 2015 % of Total	Market 2020 Households	Market 2020 % of Total	Market Households % Change	National 2015 % of Total
<$15K	9,365	16.2%	8,993	15.0%	(4.0)%	12.7%
$15-25K	7,745	13.4%	7,785	13.0%	0.5%	10.8%
$25-50K	16,023	27.7%	15,901	26.5%	(0.8)%	23.9%
$50-75K	10,659	18.4%	11,228	18.7%	5.3%	17.8%
$75-100K	5,615	9.7%	6,034	10.1%	7.5%	12.0%
$100K-200K	6,531	11.3%	7,728	12.9%	18.3%	17.9%
>$200K	2,015	3.5%	2,359	3.9%	17.1%	5.0%
Total	57,953	100.0%	60,028	100.0%	3.6%	100.0%

Education Level**	Market 2015 Population	Market 2015 % of Total	Market 2020 Population	Market 2020 % of Total	Market Population % Change	National 2015 % of Total
Less than High School	4,979	5.2%	5,295	5.2%	6.4%	5.9%
Some High School	8,727	9.0%	9,208	9.1%	5.5%	8.0%
High School Degree	29,518	30.6%	31,134	30.7%	5.5%	28.1%
Some College/Assoc. Degree	28,123	29.1%	29,508	29.1%	4.9%	31.1%
Bachelor's Degree or Greater	25,224	26.1%	26,306	25.9%	4.3%	26.9%
Total	96,571	100.0%	101,451	100.0%	5.1%	100.0%

*Excludes population age <5, **Excludes population age <25

MOUNTAIN STATES HEALTH ALLIANCE

2015 COMMUNITY HEALTH NEEDS ASSESSMENT

INDIAN PATH MEDICAL CENTER

Published June 29, 2015

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Introduction

Mountain States Health Alliance (MSHA) is an integrated health care delivery system providing a comprehensive continuum of care to people in 29 counties in Tennessee, Virginia, Kentucky, and North Carolina. MSHA was formed after Johnson City Medical Center Hospital, Inc. acquired six Columbia/HCA hospitals in Northeast Tennessee on September 1, 1998; and was later renamed Mountain States Health Alliance in January 1999.

Today, MSHA is the largest regional health care system with 13 hospitals operating at approximately $1.0 billion in net revenues. The hospitals are:

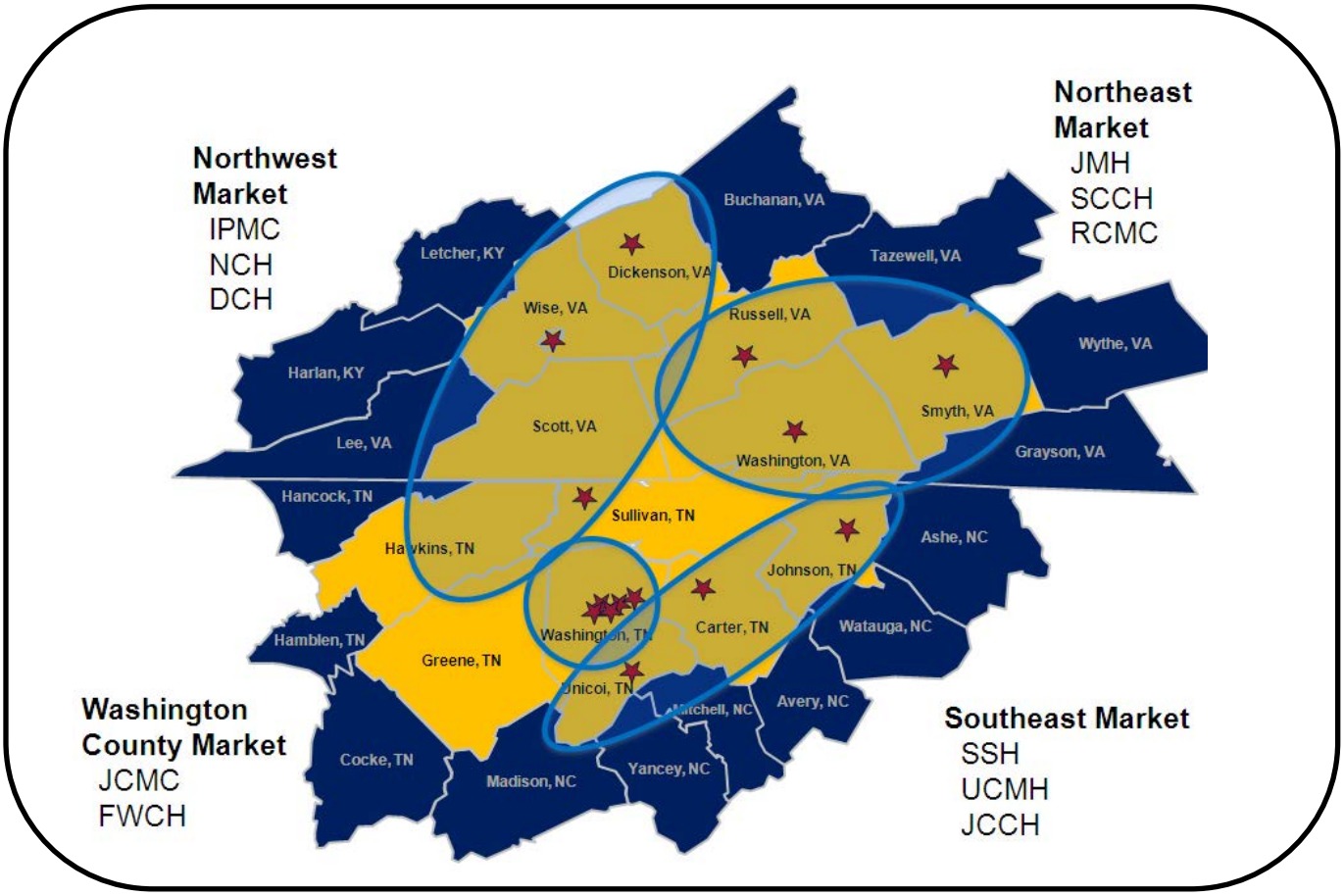
- Johnson City Medical Center
- Niswonger Children's Hospital
- Woodridge Psychiatric Hospital
- Franklin Woods Community Hospital
- Unicoi County Community Hospital
- Indian Path Medical Center
- Johnson County Community Hospital
- Sycamore Shoals Hospital
- Dickenson Community Hospital
- Johnston Memorial Hospital
- Norton Community Hospital
- Russell County Medical Center
- Smyth County Community Hospital

In addition to 13 hospitals, MSHA's integrated health care delivery system includes primary/preventive care centers and numerous outpatient care sites, including First Assist Urgent Care, MedWorks, Same Day Surgery, and Mountain States Rehabilitation.

Executive Summary

Regional and national rankings for health factors continue to be disappointing as cancer, heart disease, and diabetes rates continue to increase each year. Obesity and smoking continue to be major problems in the United States, leading to additional diseases. From a global perspective, the United States falls behind other developing nations in health outcomes. Clearly, there are many needs that exist and need attention. The interrelatedness between the health of a community, its economic status, and its educational attainment levels is becoming increasingly recognized. Mountain States Health Alliance (MSHA) exists to "*identify and respond to the health care needs of individuals and communities in our region and to assist them in attaining their highest possible level of health.*" In doing so, MSHA recognizes this is a very complex challenge that involves the engagement of many prongs of the community.

In order for MSHA to serve its region most effectively, it is essential to understand each community's individual needs. MSHA has conducted a Community Health Needs Assessment to profile the health of the residents within the local region (a map of the MSHA service area is provided on the following page). Activities associated with the development of this assessment have taken place from spring of 2014 through spring of 2015, including state, regional and county-specific secondary data collection and primary data obtained through individual surveys and focus groups with individuals from the local communities.



★ Represents county in which MSHA owns a facility. MSHA has part-ownership in other hospitals but they are not included in this assessment.

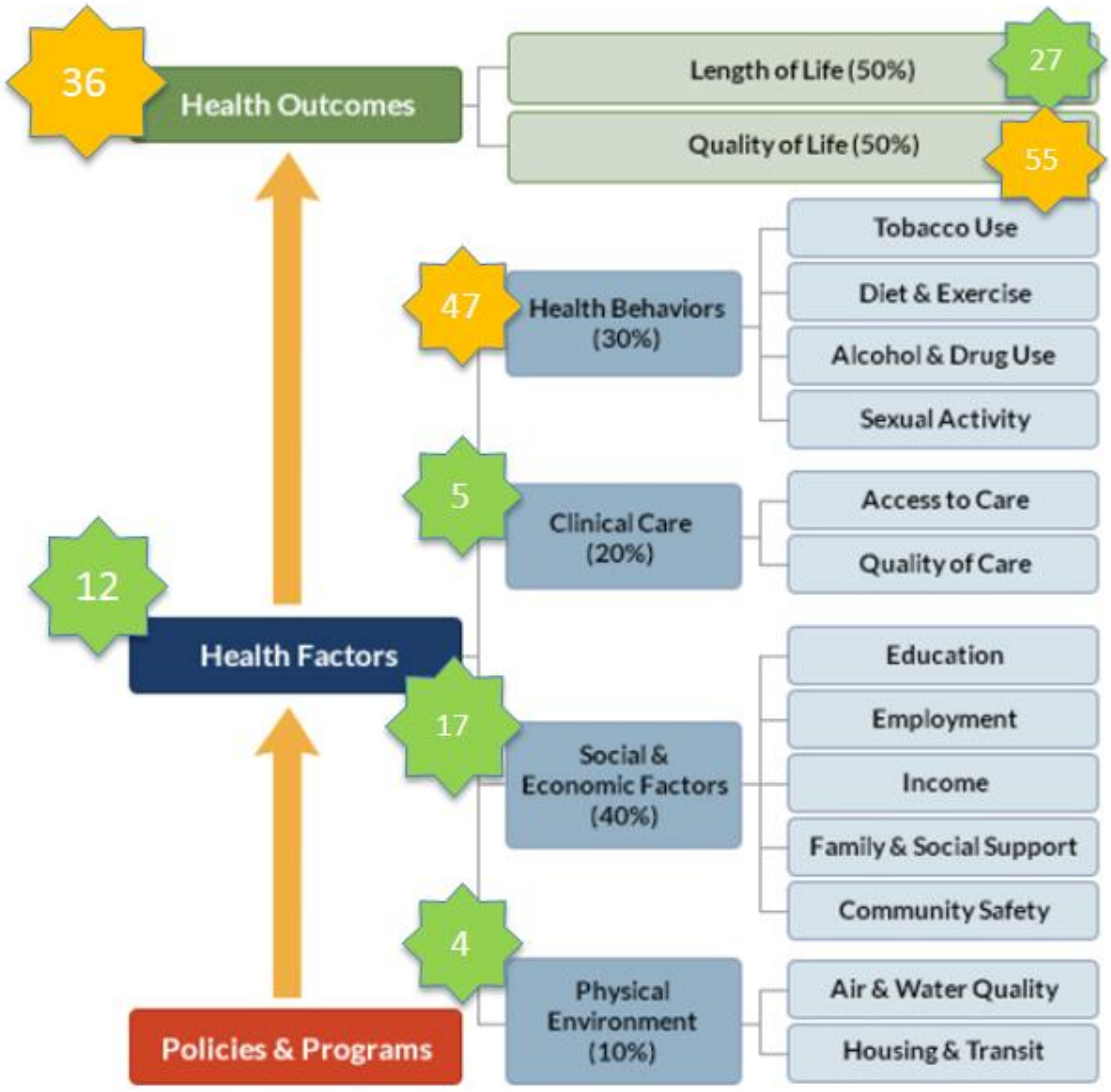
*Service Area is defined by approximately 80% of inpatient population.

Throughout the assessment, high priority was given to determining the health status and available resources within each community. Community members from each county met with MSHA to discuss current health priorities and identify potential solutions. The information gathered from a local perspective, paired with regional, state and national data, helps to communicate the region's health situation in order to begin formulating solutions for improvement.

In 2014, Tennessee ranked 45th and Virginia ranked 21st out of 50 states for overall health outcomes. Both states had high rates of adult obesity, cancer deaths, infant mortality, and diabetes. Though Virginia's overall ranking is moderately low, the health outcomes in Southwest Virginia counties, where MSHA's facilities are located, resembles those of Tennessee. After compiling the various sources of information, the top health priorities were identified for the communities that each of the MSHA hospitals serve. This effort has determined the top health priorities identified in Sullivan County to include **obesity, diabetes, cancer, heart disease, and substance abuse/NAS**. There are certainly a number of other health challenges in this community, but these rise to the top based on this assessment.

According to the 2015 County Health Rankings, Sullivan County is ranked 36th in Tennessee for health outcomes and 12th for health factors out of 95 counties. The leading causes of death for ages 65 and over are heart disease, cancer, and stroke. Sullivan County also ranked 47th in health behaviors. When compared to other Tennessee counties, Sullivan County has high physical inactivity, low consumption of vegetables, and high overweight/obesity rates. As for social and economic factors, Sullivan County ranks 17th due to high rates of high school education and lower unemployment rates; however the county does have high rates of children in poverty and low rates of college education.

Sullivan County Health Ranking
2015 County Health Rankings
www.countyhealthrankings.org



*Ranking is in comparison to all 95 counties in the state of Tennessee.

Community Interview Summary

MSHA Strategic Planning Department completed a focus group in order to connect with community members of Sullivan County and determine the needs of the community that Indian Path Medical Center serves. MSHA hospital administration teams were contacted in order to obtain names of individuals in the community who were considered public health officials or community leaders. The 10 participants included representatives from the local health department, the Chamber, school nursing program, school system administration and economic development. These individuals were invited to discuss and assist in determining the health priorities and resources available in their community of Sullivan County.

Collecting Community Input

In order to complete the community health needs assessment for Indian Path Medical Center, MSHA met with various individuals from Sullivan County, TN. The organizations that were represented are listed in Table 1.1.

Table 1.1 – Summary Organizations Participating in IPMC's CHNA

Reported Organizations Providing Input for Assessment
Healthy Kingsport
Kingsport City Schools
United Way of Greater Kingsport
Sullivan County Health Department
IPMC Health Resource Center
Sullivan County Department of Education
Kingsport Chamber of Commerce
Kingsport Board of Mayor and Alderman

To begin the community health needs assessment, MSHA's strategic planning staff presented data that had been collected to illustrate past and current health trends for Tennessee and Sullivan County. The presentation depicted the current national health rankings, in addition to providing a snapshot of the county.

Following the presentation, each participant was given a survey to determine the individual's personal assessment of their county's health priorities. Secondly, the individuals were asked to submit ideas and suggestions as to how MSHA could use the available resources in order to improve the health priorities determined. After the surveys had been completed, each group discussed the questions and continued brainstorming ways to address obstacles and utilize resources. All of the information collected from the surveys and open discussion was evaluated and prioritized based on health needs.

In surveys obtained from the Sullivan County representatives, several community health needs and resources were identified. Table 1.2 lists the survey questions given to each participant in the assessment.

Table 1.2 – Community Survey Questions

	Survey Questions
1	How would you rate the general health status of the patient population in this community on a scale of 1 to 10 (with 1 being the poorest and 10 being the best)?
2	Keeping in mind resources are not unlimited, can you identify the top 1-2 health priorities in your local community that you feel should be addressed in the following areas: a)Health Outcomes/Diseases b)Health Behaviors c)Social Environment
3	What existing resources, such as organized groups or public health initiatives have been developed and are in place to address these health priorities?
4	What ideas do you have that may serve to improve these health priorities?

Health Status Rating

Overall, the general health status of Sullivan County was rated as 3.6 on a scale of 1 – 10, with 1 being the poorest and 10 being the best. Individual responses ranged from 1.5 to 8. The health ranking for Sullivan County can be found below in Table 1.3.

Table 1.3 – Average Health Status Ranking

MSHA Facility/County	Number of Individuals	Average of Health Status Rating
INDIAN PATH MEDICAL CENTER, Sullivan County, TN	10	3.6

Top Health Priorities

From the results of the surveys, the most prevalent health priorities in Sullivan County were diabetes, heart disease, cancer, obesity (physical inactivity/poor diet), and substance abuse/NAS. Table 1.4 lists the health priorities input provided by community participants.

Table 1.4 – Top Identified Health Priorities

Top Health Priorities	Responses	% of Total Responses
Health Outcomes/Diseases		
Obesity	10	100%
Cancer	9	90%
Diabetes	9	90%
Cardiovascular Disease	9	90%
Oral Health	3	30%
Behavioral Health	1	10%
Health Behaviors		
Smoking and Tobacco Use	6	60%
Prescription Drug Abuse/NAS	4	40%
Physical Inactivity	2	20%
Social Environment		
Education	1	10%
Food Insecurity	1	10%
Lack of Free Medical Care	1	10%

*Individuals submitted multiple answers regarding health priorities.

These priorities are consistent with the secondary data findings.

- Obesity
    - Self-reported physical inactivity rates among Sullivan County residents exceed the state average (35% vs. 30%)
- Cancer
    - Both age-adjusted lung cancer and prostate cancer mortality rates of men well exceed the state average
    - The three year average rate of cancer deaths per 100,000 in Sullivan County well exceeds the state rate (292 vs. 214)
    - Cancer is the number one cause of death in those ages 22 to 64
- Diabetes
    - The prevalence rate of diabetes in Sullivan County well exceeds the state average (14% vs. 11%)
- Cardiovascular Disease
    - The rate of cardiovascular deaths per 100,000 in Sullivan County is nearly twice the state rate (403 vs. 226)
    - Heart disease is the number one cause of death in those ages 1 to 14 and 65+ in Sullivan County
- Substance Abuse/NAS
    - The rate of Neonatal Abstinence Syndrome in Sullivan County is nearly triple the state rate per 1,000 live births (17.8 vs. 6.7)

All of these issues lead to a higher percentage of self-reported age-adjusted fair or poor health rates in Sullivan County compared to the state (22% vs. 19%) as well as a higher number of years of potential life lost before 75 per 100,000 (a measure of premature death) at just short of 9,000 in the county vs. 8,700 in TN.

Sullivan (SL)

	Sullivan County	Error Margin	Top U.S. Performers*	Tennessee	Rank (of 95)
Health Outcomes					36
Length of Life					27
Premature death	8,978	8,421-9,534	5,200	8,696	
Quality of Life					55
Poor or fair health	22%	20-25%	10%	19%	
Poor physical health days	5.4	4.8-6.0	2.5	4.3	
Poor mental health days	4.5	3.8-5.1	2.3	3.4	
Low birthweight	8.6%	8.0-9.1%	5.9%	9.2%	
Health Factors					12
Health Behaviors					47
Adult smoking	26%	23-28%	14%	23%	
Adult obesity	33%	30-36%	25%	32%	
Food environment index	6.7		8.4	6.9	
Physical inactivity	35%	32-38%	20%	30%	
Access to exercise opportunities	77%		92%	70%	
Excessive drinking	9%	7-11%	10%	9%	
Alcohol-impaired driving deaths	23%		14%	28%	
Sexually transmitted infections	259		138	504	
Teen births	49	47-51	20	47	
Clinical Care					5
Uninsured	15%	14-17%	11%	16%	
Primary care physicians	754:1		1,045:1	1,388:1	
Dentists	1,424:1		1,377:1	1,996:1	
Mental health providers	865:1		386:1	786:1	
Preventable hospital stays	86	81-92	41	73	
Diabetic monitoring	90%	85-94%	90%	86%	
Mammography screening	66.5%	61.5-71.5%	70.7%	61.8%	
Social & Economic Factors					17
High school graduation	92%			87%	
Some college	55.2%	52.4-58.0%	71.0%	57.7%	
Unemployment	7.5%		4.0%	8.2%	
Children in poverty	28%	23-33%	13%	27%	
Income inequality	4.9	4.7-5.2	3.7	4.8	
Children in single-parent households	35%	32-39%	20%	36%	
Social associations	14.7		22.0	11.5	
Violent crime	530		59	621	
Injury deaths	73	67-79	50	78	
Physical Environment					7
Air pollution - particulate matter	13.0		9.5	13.8	
Drinking water violations	4%		0%	4%	
Severe housing problems	11%	10-12%	9%	15%	
Driving alone to work	87%	86-88%	71%	84%	
Long commute - driving alone	24%	22-25%	15%	32%	

* 90th percentile, i.e., only 10% are better.
Note: Blank values reflect unreliable or missing data

2015

Identifying Available Resources

MSHA realizes that there are numerous resources in all of the counties it serves that can provide care for individuals. Our goal, in order to reduce costs and provide the best care possible for patients, is to identify these resources to prevent duplication of services and efforts. The interviewees were asked to list all of the services and resources within their community. The interviewees acknowledged that many resources currently exist to help meet health needs. Table 1.5 lists the current resources within each county that offer health services to the community.

Table 1.5 – Identified Available Resources

Resources Available
Sullivan County, Tennessee
Coordinated School Health
East Tennessee State University, School of Public Health
Friends in Need
Health Resources Center
Healthy Kingsport
Parish Nurse Program
PEAK (young professional organization)
Providence Medical Clinic
School System
Sullivan County Health Council
Sullivan County Health Department
United Way of Greater Kingsport, Health Safety & Stability Vision Council
YMCA

*MSHA understands that there are other resources available in each county that are not listed in this table. This table represents only the resources listed by participants in community health needs assessment. MSHA will continue to identify resources.

Improving Health Priorities

The community members who were surveyed provided helpful ideas as to how to begin formulating a plan to improve the health priorities throughout the region. To enhance existing resources, the participants stressed the significance of increasing public awareness of both addressing one's health needs and the availability of health care options within each community. Additional suggestions as to how MSHA can improve the previously identified health priorities are listed in Table 1.6.

Table 1.6 – Ideas to Improve Health Priorities

	Responses
1	Mobile dental clinic linked to dental providers
2	Collaboration across various health systems/programs to provide united approach/solutions
3	Engage business leaders
4	Consolidate efforts among stakeholders to maximize scarce resources
5	More city and corporate support
6	Community forum/Health Summit similar to 1999 Economic Summit
7	Education through public media campaign
8	Target kids
9	Invest more resources and leadership time and commitment to Healthy Kingsport
10	Collaborative Impact Model

However, it is also helpful to understand from a more global perspective the health status of our nation as a whole, since many issues we face in our service area are not limited to just our region. Compiled on an annual basis, the *America's Health Rankings* publication developed by the United Health Foundation, the American Public Health Association and Partnership for Prevention provides one of the most comprehensive assessments regarding the status of the nation's health. The following information in the national and regional overview is from the 2015 edition

Health is a result of our behaviors, our individual genetic predisposition to disease, the environment and the community in which we live, the clinical care we receive and the policies and practices of our health care and prevention systems. Each of us, individually, as a community, and as a society, strives to optimize these health determinants, so that all of us can have a long, disease-free, and robust life regardless of race, gender or socio-economic status.

This report looks at the four groups of health determinants that can be affected:

1. **Behaviors** include the everyday activities we do that affect our personal health. It includes habits and practices we develop as individuals and families that have an effect on our personal health and on our utilization of health resources. These behaviors are modifiable with effort by the individual supported by community, policy and clinical interventions.

2. **Community and environment** reflects the reality that the daily conditions in which we live our lives have a great effect on achieving optimal individual health.

3**. Public and health policies** are indicative of the availability of resources to encourage and maintain health and the extent that public and health programs reach into the general population.

4. **Clinical care reflect**s the quality, appropriateness and cost of the care we receive at doctors' offices, clinics and hospitals.

All health determinants are intertwined and must work together to be optimally effective. For example, an initiative that addresses tobacco cessation requires not only efforts on the part of the individual but also support from the community in the form of public and health policies that promote non-smoking and the availability of effective counseling and care at clinics. Similarly sound prenatal care requires individual effort, access to and availability of prenatal care coupled with high quality health care services. Addressing obesity, which is a health epidemic now facing this country, requires coordination among almost all sectors of the economy including food producers, distributors, restaurants, grocery and convenience stores, exercise facilities, parks, urban and transportation design, building design, educational institutions, community organizations, social groups, health care delivery and insurance to complement and augment individual actions.



America's Health Rankings® combines individual measures of each of these determinants with the resultant health outcomes into one, comprehensive view of the health of a state. Additionally, it discusses health determinants separately from health outcomes and provides related health, economic and social information to present a comprehensive profile of the overall health of each state.

America's Health Rankings® employs a unique methodology, developed and periodically reviewed by a panel of leading public health scholars, which balances the contributions of various factors, such as smoking, obesity, binge drinking, high school graduation rates, children in poverty, access to care and incidence of preventable disease, to a state's health. The report is based on data from the

U.S. Departments of Health and Human Services, Commerce, Education and Labor; U.S. Environmental Protection Agency; U.S. Census Bureau, the American Medical Association; the American Dental Association; the Dartmouth Atlas Project; and the Trust for America's Health.

Purpose

The ultimate purpose of *America's Health Rankings®* is to stimulate action by individuals, elected officials, health care professionals, employers, and communities to improve the health of the population of the United States. We do this by promoting public conversation concerning health in our states, as well as providing information to facilitate citizen, community and group participation. We encourage participation in all elements: behaviors, community and environment, clinical care, and public and health policies. Each person individually, and in their capacity as an employee, employer, voter, community volunteer, health official or elected official, can contribute to the advancement of the healthiness of their state. Proven, effective and innovative actions can improve the health of people in every state whether the state is first or 50th.

Findings

Comparison to Other Nations

When health in the United States is compared to health in other countries, the picture is disappointing. The World Health Organization, in its annual World Health Statistics 2013, compares the United States to the nations of the world on a large variety of measures. While the U.S. does exceed many countries, it is far from the best in many of the common measures used to gauge healthiness and lags behind its peers in other developed countries.

The United States ranks at or near the bottom among high-income countries on nearly all indicators of mortality, survival, and life expectancy. Life expectancy is a measure that indicates the number of years that a newborn is expected to live. Japan, San Marino, and Switzerland are the persistent leaders for developed countries in this measure, with an overall life expectancy of 83 years. At 81 years for women and 76 years of men, the United States ranks 33rd among the 193 reporting nations of the WHO. The United States male life expectancy rates are on par with Chile, Cuba, Brunei Darussalam, and Maldives, while the female life expectancy rates are on par with Columbia, Costa Rica, Czech Republic, Estonia, Poland, and Qatar. There are 32 other countries that exceed the United States in healthy life expectancy, including Australia, Italy, Spain, France, Germany, Greece and the United Kingdom.

One of the underlying causes for these differences is the gap in infant mortality rates between the United States and many other countries. The infant mortality rate for the U.S. in 2011 was 6 deaths per 1,000 live births, ranking 40th among WHO nations. The infant mortality rates in Finland, Japan, and Sweden were *one* third that of the U.S. rate. Of the 193 countries rated, 39 countries had lower infant mortality rates than the United States.

These countries also have considerably lower infant mortality rates than that of non-Hispanic whites in the United States, which is the ethnic/racial group with the lowest infant mortality rate. The racial/ethnic disparities related to infant mortality could be related to differences in risk factors among different racial/ethnic groups, including risk for low birth weight delivery, access to medical care, and socioeconomic status. However, many of the racial/ethnic differences in infant mortality remain unexplained. It should also be noted that the reporting and classification of infant mortality varies among countries, which could be reflected in the ranks.

In addition to infant mortality, youth and young adults' mortality impacts life expectancy. Unintentional injuries claim approximately 30 percent of the years lost before age 50, along with violence and suicides, among U.S. young adults and adolescents. Non-communicable (chronic)

diseases, such as cancer, heart disease, and other conditions that are not caused by infections, begin to be more of a contributing factor after the age of 30.

Differences in healthy life expectancy are also affected by the effectiveness of treating disease, especially those that are amenable to care, including bacterial infections, treatable cancers, diabetes, cardiovascular and cerebrovascular disease, some ischemic heart disease, and complications from common surgical procedures. The age-adjusted amenable mortality rate before age 75 for the United States was 95.5 deaths per 100,000 population in 2006 to 2007, which is still a slower rate of improvement than in other Organization for Economic Cooperation and Development (OECD) nations studied. The rate in the U.S. is 50 percent higher than the rate in France, Japan, Italy, and Australia.

Additionally, the study indicated that despite spending more than any other country on health care, the United States continues to slip further behind and has one of the highest inequalities in health compared to other developed countries. The U.S. ranks among the worst OECD countries for child health well-being, having an inequality higher than average. Furthermore, although the United States has the highest income per person, it continues to rank as the worst country for income inequality, which is thought to explain why it has the highest index of health and social problems compared to other developed nations.

Physical inactivity and obesity play major contributions to disease worldwide and in the United States. Physical inactivity is the fourth leading risk factor for global mortality, and is responsible for an estimated 6 to 10 percent of non-communicable diseases, such as type 2 diabetes, heart disease, colon cancer, and breast cancer. North America has 34 percent of the world's biomass due to obesity; however, it only makes up for 6 percent of the world's population. Asia, on the other hand, has 61 percent of the world's population, yet only has 13 percent of its biomass due to obesity. While the U.S. is only one of several countries that form North America, it is the only North American nation to rank among the heaviest nations globally. It is estimated that eliminating physical activity in the United States would add approximately 1 year to life expectancy and dramatically reduce the burden of chronic diseases.

The results of these studies should be a wake-up call to everyone in the United States to strive to improve all aspects of our health system, including education, safety, prevention, and clinical care. Other countries have improved their overall health, indicating that we, too, can do the same.

National Changes since 1990

In the past year, 20 health measures improved, 8 measures declined, and 1 measure remained unchanged. Table 1 shows the national changes in the last year. These improvements were offset by deterioration in several measures, including increases in the prevalence of obesity, the percentage of children in poverty and lack of health insurance.

Since 2012, the prevalence of smoking declined from 21.2 percent to 19 percent among adults. The binge drinking prevalence rate dropped from 18.3 percent to 16.8 percent of adults who binged in the last 30 days, and physical inactivity decreased from 26.2 percent to 25.3 percent. The incidence of pertussis increased sharply from 9.0 to 15.5 cases per 100,000 populations. The percentages of children in poverty, lack of health insurance, child immunization coverage, and low birth weight have also suppressed faster improvement in our nation's health.

Table 1 – National Successes and Challenges

SUCCESSES

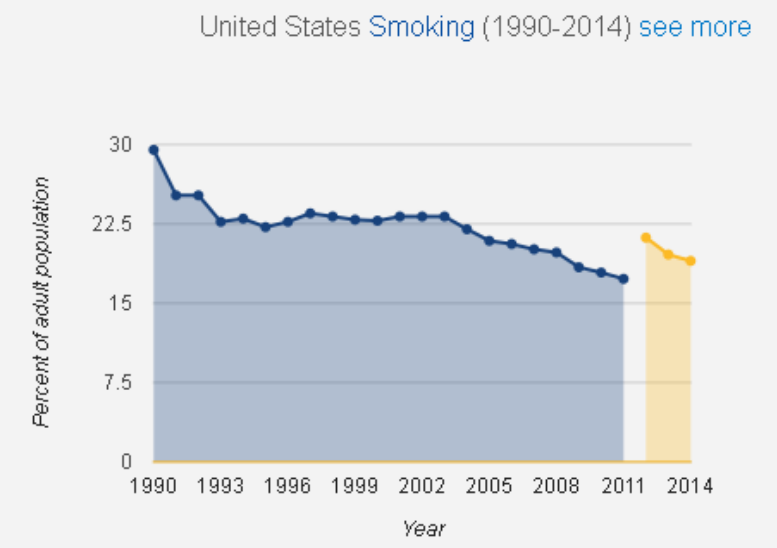
Smoking	Since 1990, smoking decreased 36% from 29.5% to 19.0% of adults who smoke regularly.
High School Graduation	At 81% of ninth graders graduating within 4 years, high school graduation is still a challenge. However, it is slowly trending upward from 71.7% in 2004.
Violent Crime	At 387 offenses per 100,000 population, violent crime is 37% lower than in 1990 and 49% lower than its peak in 1993.
Air Pollution	The average amount of fine particulates in the air continues to decline from 13.2 micrograms per cubic meter in 2003 to 9.9 micrograms per cubic meter in 2014.
Preventable Hospitalizations	Preventable hospitalizations continue to decline. In 2001, there were 82.5 discharges per 1,000 Medicare beneficiaries; in 2014, there were 62.9 discharges per 1,000 Medicare beneficiaries.
Occupational Fatalities	Occupational fatalities have declined in the last 8 years from 5.3 deaths per 100,000 workers in 2007 to 3.8 deaths per 100,000 workers. This is the second consecutive year the rate is below 4 deaths per 100,000 workers.
Infant Mortality	Since 1990, infant mortality decreased 41% from 10.2 to 6.0 deaths per 1,000 live births, although most of that decline occurred between 1990 and 1999. Even though the infant mortality rate is the lowest in US history, it is double the rate of many developed countries. In addition, large racial and geographic disparities exist within the country.
Premature Death	Since 1990, premature death declined 20% from 8,716 to 6,976 years of potential life lost before age 75. Premature death, like several other metrics, has leveled off in the last decade compared with improvements made in the 1990s.
Cancer Deaths	Cancer deaths declined 4% from 197.5 deaths in 1990 to 189.9 deaths per 100,000 population.
Cardiovascular Deaths	Since 1990, cardiovascular deaths declined 38% from 405.1 to 251.4 deaths per 100,000 population. This continues a relatively constant improvement of 2% to 3% yearly.

CHALLENGES

Obesity	Since 1990, obesity has increased 153% from 11.6% to 29.4% of adults.
Physical Inactivity	Physical inactivity remains high at 23.5% of adults and has not changed appreciably for the last decade.
Children in Poverty	At 19.9% of children, the children in poverty measure is far above the 23-year low of 15.8% in the 2002 Edition and near the 1990 level of 20.6%.
Public Health Funding	State public health funding continues its slow decline over the past 4 years. Since 2011, it decreased from $95.01 to $90.00 in expenditures per person at the state level.
Immunization Coverage — Children	Nationwide, comprehensive immunization coverage among children aged 19 to 35 months is only 70.4%. It increased marginally in the past year.
Immunization Coverage — Adolescents	Nationwide, comprehensive immunization coverage among teens aged 13 to 17 years is only 67.1%. It increased marginally in the past year.
Low Birthweight	In the last 20 years, the prevalence of low birthweight infants has increased from 7.1% to 8.0% nationwide. The good news is that it appears to have peaked in 2009 and is trending downward.
Diabetes	In the nation, 9.6% of adults report they have been told they have diabetes. There has been a steady, upward climb in the prevalence of diabetes, although data from the last 3 years shows a leveling of the prevalence.

The United States has the potential to return to the rates of improvement typical in the 1990s. However, to do so, it must address the drivers of health directly by focusing on reducing important risk factors. For example, the prevalence of smoking had been stagnant for many years and recently started to show improvement in the last two decades. However, there was an increase in rates from 2010 to 2012. In the last year, the prevalence of smoking declined in the United States from 21.2 percent to 19 percent of adults who smoke regularly; however Tennessee ranks 46th as one of the bottom five states with 24.3 percent of adults smoking and Virginia ranks 24th at 19.1 percent.

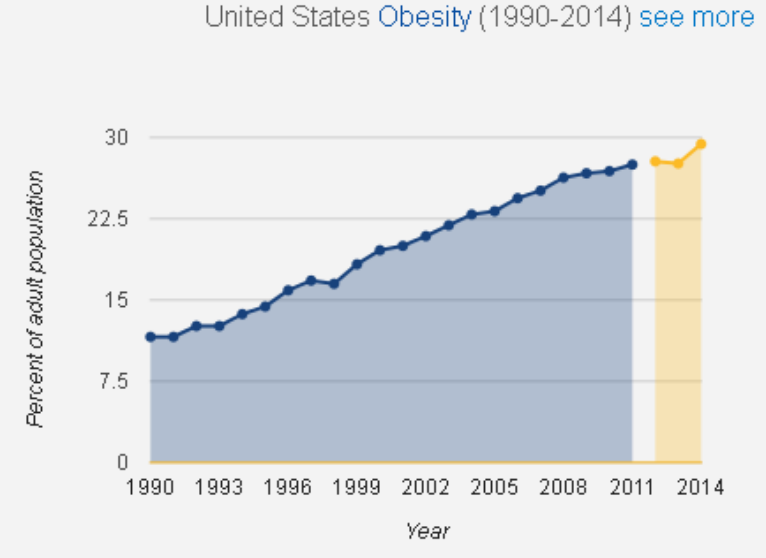
Graph 1 - Prevalence of Smoking Since 1990



Unprecedented and unchecked growth in the prevalence of obesity over the last 20 years has also dramatically affected the overall health of the United States. The prevalence of obesity, a risk factor for numerous illnesses including heart disease and diabetes, appears to be leveling off after increasing for decades. However, more than one in four people in the U.S. is considered obese - a category that the Centers for Disease Control and Prevention reserves for those who are significantly over the suggested body weight given their height. In the United States, the prevalence of obesity is 29.4 percent of adults, which has increased from 27.8 percent in 2012. Virginia's obesity score ranks 18th at 27.2 percent, while Tennessee ranks 47th at 33.7 percent of obese adults.

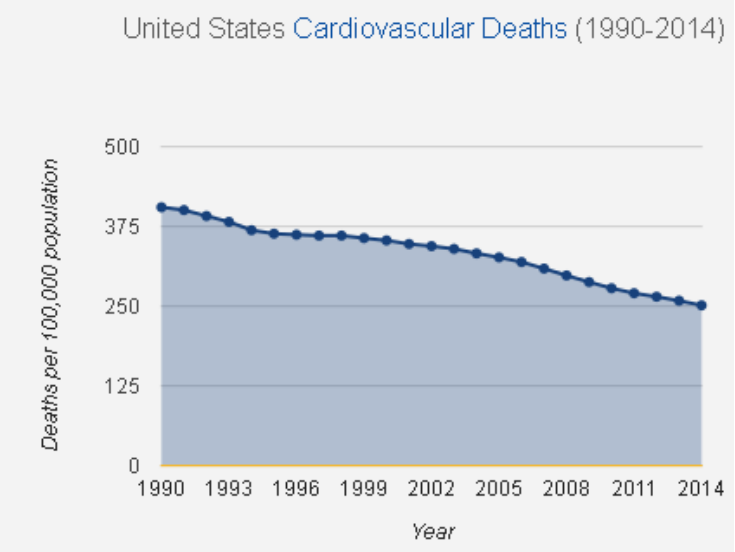
These very high obesity rates are gathered from the Behavioral Risk Factor Surveillance System, the nation's largest phone survey about health, and rely on self-reported height and weight. Actual obesity rates, as measured by health professionals, may be almost 10 percent higher, meaning that over one-third of the population is now obese.

Graph 2 - Prevalence of Obesity Since 1990



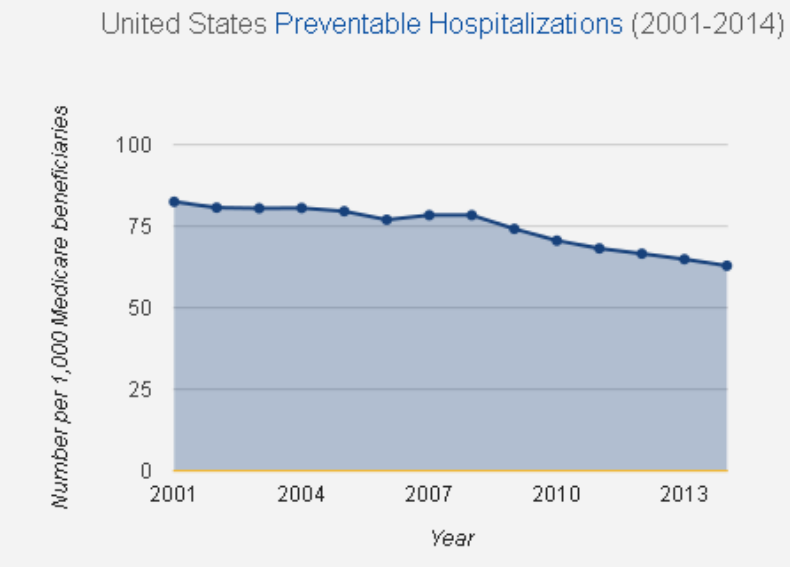
Despite increasing risk factors such as obesity, high cholesterol, and high blood pressure, deaths contributed to cardiovascular disease have consistently declined by 2 to 3 percent per year for the last decade. Cardiovascular disease accounts for 30 percent of Medicare spending, 17 percent of medical spending, and totals nearly $150 billion each year. For cardiovascular deaths, Virginia ranked 25th with a rate of 241.1 per 100,000 and Tennessee ranked 44th with the rate of 300.6.

Graph 3 – Prevalence of Cardiovascular Deaths Since 1990



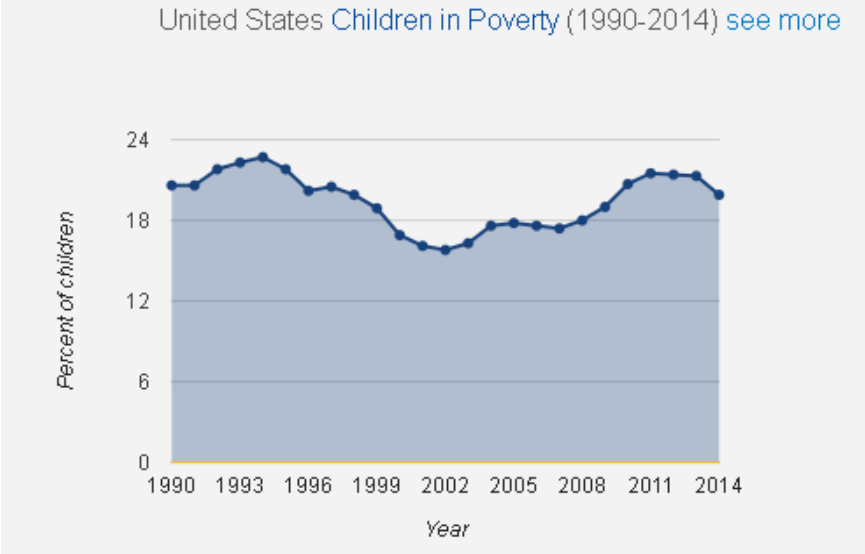
Like cardiovascular disease, potentially preventable hospitalizations have steadily decreased over the past 12 years. Preventable hospitalizations (hospitalizations that may be preventable with high quality primary and preventive care) have decreased from 82.5 to 62.9 discharges per 1,000 Medicare enrollees since 2001. Preventable hospitalizations reflect how efficiently a population uses various health care options for care and often occur as a result of a failure to detect or treat conditions early. Preventable hospitalizations could be avoided with earlier, less costly interventions. Virginia ranked 22nd in this measure with a 55.2 rate and Tennessee ranked 47th with a rate of 78.5.

Graph 4 – Preventable Hospitalizations Since 2001



The current economic climate also increases the challenge of maintaining a healthy population. Poverty is an indication of the lack of access to health care, including preventive care, for this vulnerable population. Graph 5 shows the recent increase in the percentage of children in poverty in the last few years, increasing from 16.1 percent of children in the 2011 Edition to 19.9 percent of children in the 2014 Edition. On this measure Virginia ranks 12th with a 14.5 percent of children living in poverty and Tennessee ranks 45th with 26.7 percent. In the 2002 Edition, the child poverty rate was at a historic low of 15.8 percent of persons under age 18.

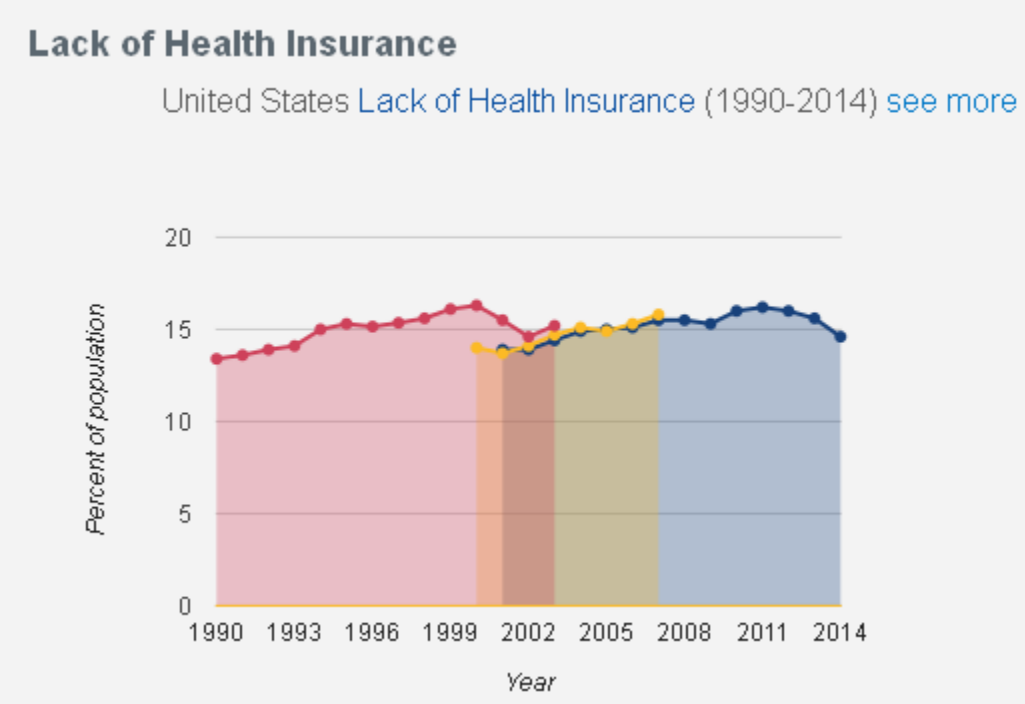
Graph 5 – Children in Poverty since 1990



Lack of health insurance coverage increased from 13.9 percent in the 2001 Edition to 14.6 percent of the population in the 2014 Edition. Lack of health insurance not only inhibits people from getting the proper care when needed but also reduces access to necessary preventive care to curtail or minimize future illnesses.

Massachusetts, with the lack of health insurance at 3.8 percent of the population, is substantially better than all other states and less than one-fourth of the national average. Texas has a rate six times that of Massachusetts. Changes in national health care laws have the potential to dramatically affect this metric over the next few years.

Graph 6 – Lack of Health Insurance Since 2001



2014 State Results

America's Health Rankings®-2014 Edition shows Hawaii at the top of the list of healthiest states again this year. The state has steadily remained within the top 5 healthiest states since 1990. Hawaii has consistently sustained its place within the top 5 healthiest states for the last 22 years, excluding 2002 when it was ranked 6th. Hawaii's strengths include its number one position for overall health rank and ranking in the top 5 states for a low rate of preventable hospitalizations, high immunization coverage among children, low prevalence of smoking and obesity, high per capita public health funding, a low rate of uninsured population, and low cancer and cardiovascular mortality rates. Hawaii's three challenges are a high prevalence of binge drinking, low high school graduate rate, and a high incidence of Salmonella infections.

Mississippi is 50th this year, the same as the last ten years, excluding in 2011 when it ranked 49th. It has been in the bottom three states since the 1990 Edition. The state ranks well for a low prevalence of binge drinking, higher immunization coverage among children, and small disparity in health status by educational attainment. In the past year, despite ranking last in the nation for immunization coverage among adolescents, coverage increased from 30.2 percent to 35.4 percent of persons aged 13 to 17 years. Mississippi also ranks last in many health outcomes, including infant mortality, low birth weight, premature death, cardiovascular death, infectious diseases, and overall health status. Mississippi's prevalence of obesity, physical inactivity, and diabetes remain among the highest in the nation with approximately 690,000 physically inactive adults, 770,000 obese adults, and 280,000 adults with diabetes. It ranks 48th in health determinants and 49th in health outcomes; therefore, its overall ranking is unlikely to change significantly in the near future

2014 Edition Ranking

2014 RANK (1–50)	STATE	SCORE
1	Hawaii	.91
2	Vermont	.85
3	Massachusetts	.74
4	Connecticut	.74
5	Utah	.73
6	Minnesota	.73
7	New Hampshire	.68
8	Colorado	.57
9	North Dakota	.55
10	Nebraska	.50
11	New Jersey	.47
12	Oregon	.41
13	Washington	.40
14	New York	.39
15	Rhode Island	.37
16	Maryland	.35
17	California	.35
18	Idaho	.34
18	South Dakota	.34
20	Maine	.30
21	Virginia	.30
22	Montana	.28
23	Wisconsin	.23
24	Iowa	.22
25	Wyoming	.21

2014 Edition Ranking

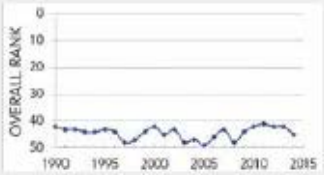
2014 RANK (1–50)	STATE	SCORE
26	Alaska	.13
27	Kansas	.08
28	Pennsylvania	.01
29	Arizona	-.04
30	Illinois	-.08
31	Texas	-.11
32	Florida	-.15
33	New Mexico	-.18
34	Michigan	-.21
35	Delaware	-.23
36	Missouri	-.28
37	North Carolina	-.29
38	Georgia	-.32
39	Nevada	-.33
40	Ohio	-.36
41	Indiana	-.38
42	South Carolina	-.64
43	Alabama	-.66
44	West Virginia	-.71
45	Tennessee	-.71
46	Oklahoma	-.74
47	Kentucky	-.75
48	Louisiana	-.80
49	Arkansas	-.93
50	Mississippi	-1.00

Tennessee



Overall Rank: 45

Change: ▼ 3
Determinants Rank: 44
Outcomes Rank: 46



Strengths:

- Low prevalence of binge drinking
- Low incidence of pertussis
- Ready availability of primary care physicians

Challenges:

- High prevalence of obesity
- High prevalence of physical inactivity
- High violent crime rate

Ranking:

Tennessee is 45th this year; it was 42nd in 2013. The ranking for senior health in Tennessee was 43rd in 2014.

Highlights:

- In the past year, physical inactivity increased by 17 percent from 28.6 percent to 33.6 percent of adults.
- In the past year, binge drinking decreased by 15 percent from 11.3 percent to 9.6 percent of adults, the lowest rate in the nation.
- In the past year, preventable hospitalizations decreased by 10 percent from 80.8 to 73.1 per 1,000 Medicare beneficiaries.
- In the last 2 years, immunization coverage among adolescents increased by 16 percent from 52.7 percent to 61.2 percent of adolescents aged 13 to 17 years.
- Since 1990, children in poverty decreased by 10 percent from 29.6 percent to 26.7 percent of children.

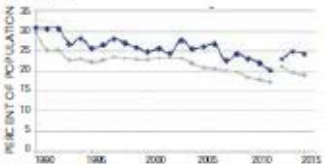
State Health Department Website:

http://health.state.tn.us

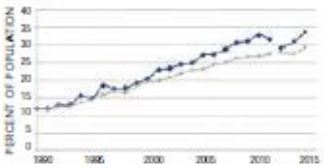
	2014 VALUE	2014 RANK	NO.1 STATE
Behaviors			
Smoking (Percent of adult population)	24.3	46	10.3
Binge Drinking (Percent of adult population)	9.6	1	9.6
Drug Deaths (Deaths per 100,000 population)	17.2	40	3.0
Obesity (Percent of adult population)	33.7	47	21.3
Physical Inactivity (Percent of adult population)	33.6	49	16.2
High School Graduation (Percent of incoming ninth graders)	83.0	20	93.0
Community & Environment			
Violent Crime (Offenses per 100,000 population)	644	50	123
Occupational Fatalities (Deaths per 100,000 workers)	5.0	32	2.2
Infectious Disease (Combined score Chlamydia, Pertussis, *Salmonella**)	0.01	29	-0.9
Chlamydia (Cases per 100,000 population)	507.9	39	233.0
Pertussis (Cases per 100,000 population)	4.8	10	1.6
Salmonella (Cases per 100,000 population)	17.2	35	6.8
Children in Poverty (Percent of children)	26.7	45	9.2
Air Pollution (Micrograms of fine particles per cubic meter)	9.5	30	4.9
Policy			
Lack of Health Insurance (Percent of population)	13.9	26	3.8
Public Health Funding (Dollars per person)	$83	20	$219
Immunization–Children (Percent aged 19 to 35 months)	68.5	33	82.1
Immunization–Adolescents (Percent aged 13 to 17 years)	61.2	36	81.3
Clinical Care			
Low Birthweight (Percent of live births)	9.2	44	5.7
Primary Care Physicians (Number per 100,000 population)	124.4	19	324.6
Dentists (Number per 100,000 population)	50.9	36	107.6
Preventable Hospitalizations (Number per 1,000 Medicare beneficiaries)	73.1	46	28.2
ALL DETERMINANTS	-0.43	44	0.71
OUTCOMES			
Diabetes (Percent of adult population)	12.2	46	6.5
Poor Mental Health Days (Days in previous 30 days)	3.7	24	2.5
Poor Physical Health Days (Days in previous 30 days)	5.0	49	2.8
Disparity in Health Status (Percent difference by education level**)	32.1	38	15.5
Infant Mortality (Deaths per 1,000 live births)	7.3	41	4.2
Cardiovascular Deaths (Deaths per 100,000 population)	300.6	44	184.7
Cancer Deaths (Deaths per 100,000 population)	213.5	44	145.7
Premature Deaths (Years lost per 100,000 population)	9,168	43	5,345
ALL OUTCOMES	-0.29	46	0.34
OVERALL	-0.71	45	0.91

*Negative score denotes less disease than US average, positive score indicates more than US average
**Difference in the percentage of adults aged 25 and older with vs without a high school education who report their health is very good or excellent

SMOKING



OBESITY



STATE ◆——◆ NATION ●——●

The 2012–2014 data in the above graphs are not directly comparable to prior years. See Methodology for additional information.

ECONOMIC ENVIRONMENT	TN	US
Annual Unemployment Rate (2013)	8.2	7.4
Annual Underemployment Rate (2013)	14.7	13.8
Median Household Income (2013)	$42,499	$51,939

MEASURE	ADULT POPULATION AFFECTED
Smoking	1,163,000
Obesity	1,595,000
Physical Inactivity	1,691,000
Diabetes	615,000

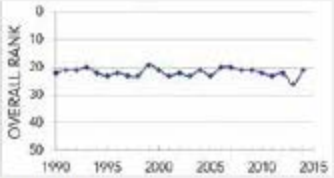
Virginia

VIRGINIA



Overall Rank: 21

Change: ▲ 5
Determinants Rank: 19
Outcomes Rank: 23



Strengths:

- Low rate of drug deaths
- Low violent crime rate
- Low percentage of children in poverty

Challenges:

- Low immunization coverage among children
- Low immunization coverage among teens
- High infant mortality rate

Ranking:

Virginia is 21st this year; it was 26th in 2013. The ranking for senior health in Virginia was 21st in 2014.

Highlights:

- In the past year, air pollution decreased by 6 percent from 9.3 to 8.7 micrograms of fine particles per cubic meter.
- In the last 2 years, drug deaths decreased by 10 percent from 9.3 to 8.4 deaths per 100,000 population.
- In the last 10 years, preventable hospitalizations decreased by 25 percent from 73.8 to 55.2 per 1,000 Medicare beneficiaries.
- Since 1990, cardiovascular deaths decreased by 42 percent from 413.2 to 241.1 deaths per 100,000 population.
- Since 1990, infant mortality decreased by 38 percent from 10.6 to 6.6 deaths per 1,000 live births.

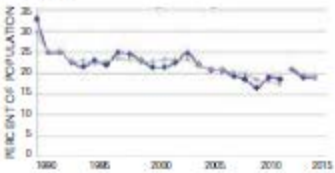
State Health Department Website:

www.vdh.state.va.us

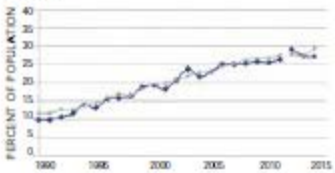
	2014 VALUE	2014 RANK	NO 1 STATE
Behaviors			
Smoking (Percent of adult population)	19.0	24	10.3
Binge Drinking (Percent of adult population)	15.9	20	9.6
Drug Deaths (Deaths per 100,000 population)	8.4	4	3.0
Obesity (Percent of adult population)	27.2	18	21.3
Physical Inactivity (Percent of adult population)	23.0	20	16.2
High School Graduation (Percent of incoming ninth graders)	84.0	16	93.0
Community & Environment			
Violent Crime (Offenses per 100,000 population)	190	4	123
Occupational Fatalities (Deaths per 100,000 workers)	4.4	25	2.2
Infectious Disease (Combined score Chlamydia, Pertussis, *Salmonella**)	-0.29	16	-0.9
Chlamydia (Cases per 100,000 population)	431.8	26	233.0
Pertussis (Cases per 100,000 population)	7.7	18	1.6
Salmonella (Cases per 100,000 population)	14.1	25	6.8
Children in Poverty (Percent of children)	14.5	12	9.2
Air Pollution (Micrograms of fine particles per cubic meter)	8.7	19	4.9
Policy			
Lack of Health Insurance (Percent of population)	12.4	20	3.8
Public Health Funding (Dollars per person)	$68	28	$219
Immunization–Children (Percent aged 19 to 35 months)	69.2	29	82.1
Immunization–Adolescents (Percent aged 13 to 17 years)	58.5	42	81.3
Clinical Care			
Low Birthweight (Percent of live births)	8.1	27	5.7
Primary Care Physicians (Number per 100,000 population)	125.8	16	324.6
Dentists (Number per 100,000 population)	61.6	19	107.6
Preventable Hospitalizations (Number per 1,000 Medicare beneficiaries)	55.2	22	28.2
ALL DETERMINANTS	0.24	19	0.71
OUTCOMES			
Diabetes (Percent of adult population)	9.8	26	6.5
Poor Mental Health Days (Days in previous 30 days)	3.3	11	2.5
Poor Physical Health Days (Days in previous 30 days)	3.6	15	2.8
Disparity in Health Status (Percent difference by education level**)	29.1	27	15.5
Infant Mortality (Deaths per 1,000 live births)	6.6	31	4.2
Cardiovascular Deaths (Deaths per 100,000 population)	241.1	25	184.7
Cancer Deaths (Deaths per 100,000 population)	189.5	23	145.7
Premature Deaths (Years lost per 100,000 population)	6,502	19	5,345
ALL OUTCOMES	0.06	23	0.34
OVERALL	0.30	21	0.91

*Negative score denotes less disease than US average, positive score indicates more than US average
**Difference in the percentage of adults aged 25 and older with vs without a high school education who report their health is very good or excellent

SMOKING



OBESITY



STATE ◆—◆ NATION ●—●

The 2012–2014 data in the above graphs are not directly comparable to prior years. See Methodology for additional information.

ECONOMIC ENVIRONMENT	VA	US
Annual Unemployment Rate (2013)	5.5	7.4
Annual Underemployment Rate (2013)	11.5	13.8
Median Household Income (2013)	$67,620	$51,939

MEASURE	ADULT POPULATION AFFECTED
Smoking	1,159,000
Obesity	1,632,000
Physical Inactivity	1,481,000
Diabetes	631,000

As Mountain States Health Alliance works to develop an implementation plan based on the findings from this assessment, key focus areas for consideration to impact the health of our community would be the 27 measures that comprise the *America's Health Rankings*. These determinants have been carefully selected by leaders in health and public policy as factors which have the greatest impact on future health of a population. For a state (or area for that matter) to improve the health of its population, efforts must focus on changing the determinants of health. A description of these determinants is outlined below.

Selection of Components

Four primary considerations drove the design of *America's Health Rankings*® and the selection of the individual measures:

1. The overall rankings had to represent a broad range of issues that affect a population's health,
2. Individual measures needed to use common health measurement criteria,
3. Data had to be available at a state level, and
4. Data had to be current and updated periodically.

While not perfect, the measures selected are believed to be the best available indicators of the various aspects of healthiness at this time and are consistent with past reports.

The measures are divided into two categories - Determinants and Outcomes. For further clarity, determinants are divided into four groups: Behaviors, Community and Environment, Public and Health Policies, and Clinical Care. These four groups of measures influence the health outcomes of the population in a state, and improving these inputs will improve outcomes over time. Most measures are actually a combination of activities in all four groups. For example, the prevalence of smoking is a behavior that is strongly influenced by the community and environment in which we live, by public policy including taxation and restrictions on smoking in public places, and by the care received to treat the chemical and behavioral addictions associated with tobacco. However, for simplicity, we placed each measure in a single category.

For *America's Health Rankings*® to continue to meet its objectives it must evolve and incorporate new information as it becomes available. The Scientific Advisory Committee provides guidance for the evolution of the rankings, balancing the need to change with the desire for longitudinal comparability. Over the last few years, change is being driven by: 1) the acknowledgment that health is more than years lived but also includes the quality of those years; 2) data about the quality and cost of health care delivery are becoming available on a comparative basis; and 3) measurement of the additional determinants of health are being initiated and/or improved. The committee also emphasizes that the real impact on health will be made by addressing the determinants, and making improvements on these items will affect the long-term health of the population. The determinants are the predictors of our future health.

Outcomes are traditionally measured using mortality measures which include premature death, infant mortality, cancer and cardiovascular mortality. While these measures overlap significantly, they do present different views of mortality outcomes of a population. Two measures of the quality of life- poor mental health days and poor physical health days - are also included and defined as the number of days in the previous 30 days when a person indicates their activities are limited due to mental or physical health difficulties.

As with all indices, the positive and negative aspects of each measure must be weighed when choosing and developing them. These aspects for consideration include: 1) the interdependence of

the different measures; 2) the possibility that the overall ranking may disguise the effects of individual measures; 3) an inability to adjust all data by age and race; 4) an over-reliance on mortality data; and 5) the use of indirect measures to estimate some effects on health. These concerns cannot be addressed directly by adjusting the methodology; however, assigning weights to the individual measures can mitigate their impact.

Each measure is assigned a weight that determines its percentage of the overall score. Determinants account for 75 percent of the overall ranking and outcomes account for 25 percent, a shift from the 50/50 balance in the original 1990 index. This reflects the importance and growing availability of determinant data.

A short description of each measure immediately follows. The data for each year is the most current data available at the time the report was compiled.

The table includes the core measures included in the current model, plus supplemental measures that can be used to further understand each state's unique situation. The supplemental measures are more fully described at http://www.americashealthrankings.org/About/Model.

Data for each state and the United States is available at Get Informed or by clicking the link above.

Core Measures

Determinants

Behaviors	Description
Smoking	Percentage of adults who are current smokers (smoked at least 100 cigarettes in their lifetime and currently smoke).
Binge Drinking	Percentage of adults who self-report having 4 or more (women) or 5 or more (men) alcoholic beverages on at least 1 occasion in the past 30 days.
Drug Deaths	Number of deaths due to drug injury of any intent (unintentional, suicide, homicide, or undetermined) per 100,000 population.
Obesity	Percentage of adults who are obese, with a body mass index (BMI) of 30.0 or higher.
Physical Inactivity	Percentage of adults who report doing no physical activity or exercise (such as running, calisthenics, golf, gardening, or walking) other than their regular job in the last 30 days.
High School Graduation	Percentage of incoming ninth graders who graduate in 4 years from a high school with a regular degree.

Community and Environment

Violent Crime	Number of murders, rapes, robberies, and aggravated assaults per 100,000 population.
Occupational Fatalities	Number of fatalities from occupational injuries per 100,000 workers.
Children in Poverty	Percentage of persons younger than 18 years who live in households at or below the poverty threshold.
Infectious Disease	Combined average z-score using the values of incident cases of chlamydia, pertussis, and *Salmonella* per 100,000 population.

Air Pollution	Average exposure of the general public to particulate matter of 2.5 microns or less in size (PM2.5).

Policy

Lack of Health Insurance	Percentage of the population that does not have health insurance privately, through their employer, or the government.
Public Health Funding	State funding dedicated to public health as well as federal funding directed to states by the Centers for Disease Control and Prevention and the Health Resources and Services Administration.
Immunization-Children	Percentage of children receiving the recommended doses of DTaP, polio, MMR, Hib, hepatitis B, varicella, and PCV vaccines by age 19–35 months.
Immunization-Adolescents	Percentage of adolescents aged 13 to 17 years who have received 1 dose of Tdap since the age of 10 years, 1 dose of meningococcal conjugate vaccine, and 3 doses of HPV vaccine (females only).

Clinical Care

Low Birth weight	Percentage of infants weighing less than 2,500 grams (5 pounds, 8 ounces) at birth.
Primary Care Physicians	Number of primary care physicians (including general practice, family practice, OB-GYN, pediatrics, and internal medicine) per 100,000 population.
Dentists	Number of dentists per 100,000 population
Preventable Hospitalizations	Discharge rate among the Medicare population for diagnoses that are amenable to non-hospital based care.

Outcomes

Diabetes	Percentage of adults who have been told by a health professional that they have diabetes (does not include pre-diabetes or diabetes during pregnancy).
Poor Mental Health Days	Number of days in the previous 30 days when a person indicates their activities were limited due to mental health difficulties.
Poor Physical Health Days	Number of days in the previous 30 days when a person indicates their activities were limited due to physical health difficulties.
Disparity in Health Status	Percent difference in adults aged 25 and older who did not graduate high school and adults with at least a high school education who self-report being in excellent or very good health.
Infant Mortality	Number of infant deaths (before age 1) per 1,000 live births.
Cardiovascular Deaths	Number of deaths due to all cardiovascular diseases, including heart disease and strokes, per 100,000 population
Cancer Deaths	Number of deaths due to all causes of cancer per 100,000 population
Premature Death	Number of years of potential life lost prior to age 75 per 100,000 population

Supplemental Measures

Behaviors

Cholesterol Check	Percentage of adults who have had their blood cholesterol checked within the last 5 years.
Dental Visit, Annual	Percentage of adults who have visited the dentist or dental clinic within the past year for any reason.
Diet, Fruit	Number of fruits consumed on an average day.
Diet, Vegetables	Number of vegetables consumed on an average day.
Teen Birth Rate	Number of births per 1,000 mothers aged 15 to 19 years.
Youth Smoking	Percentage of high school youth who smoked cigarettes on at least 1 day during the last 30 days.
Youth Obesity	Percentage of high school students who were greater or equal to the 95th percentile for body mass index, based on sex and age-specific reference data from the 2000 CDC growth charts.

Chronic Disease

Heart Disease	Percentage of adults who have been told by a health professional that they have angina or coronary heart disease.
High Cholesterol	Percentage of adults who have had their cholesterol checked and been told that it was high.
Heart Attack	Percentage of adults who have been told by a health professional that they had a heart attack (myocardial infarction).
Stroke	Percentage of adults who have been told by a health professional that they had a stroke.
Hypertension	Percentage of adults who have been told by a health professional that they have high blood pressure.

Clinical Care

Preterm Birth	Percentage of babies born before 37 weeks gestation.

Economic Environment

Personal Income	Per capita personal income in current dollars.
Median Household Income	The amount of income that divides the income distribution into 2 equal groups.
Unemployment Rate	Total unemployed as a percentage of the civilian labor force (U-3 definition).
Underemployment Rate	Total unemployed, plus all marginally attached workers, plus total employed part-time for economic reasons, as a percent of the civilian labor force (U-6 Definition).
Income Disparity (Gini coefficient)	A common measure of income inequality, where 0 represents complete equality and 1 indicates complete inequality.

Outcomes

Low Health Status	Percentage of adults who describe their general health as fair or poor.
Suicide	Number of deaths due to intentional self-harm per 100,000 population.

Overview

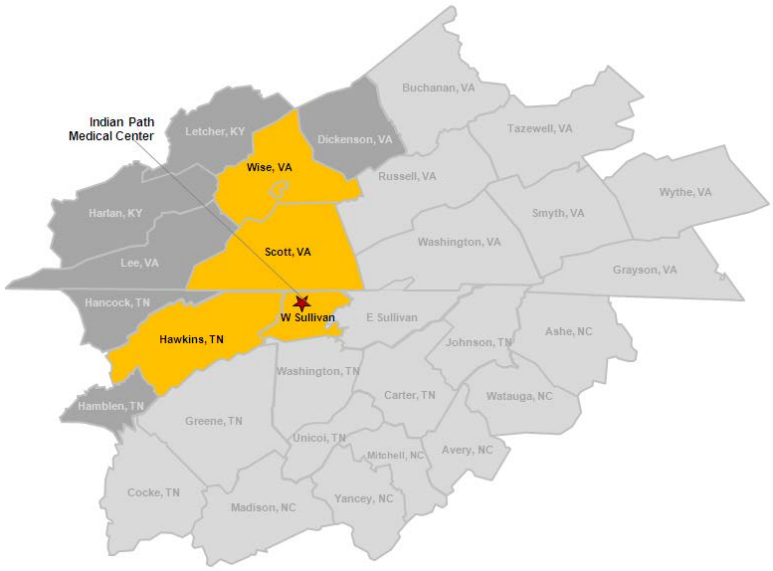
The County Snapshots consists of demographics, key indicators of health status, interview highlights, and local resources. The model for the key indicators of health status analysis was based on the 2015 *County Health Rankings*, a key component of the Mobilizing Action Toward Community Health (MATCH). MATCH is collaboration between the Robert Wood Johnson Foundation and the University of Wisconsin Population Health Institute. Indicators are organized into two broad categories: Health Outcomes and Health Factors. The Health Factors have multiple components, including Clinical Care, Health Behaviors, Social and Economic Factors, and Physical Environment. A number of additional key indicators of health status were included in this analysis from other sources (they are noted in blue font in the snapshot section). For each indicator, the state and county score is provided as well as a comparison of the county's performance to that of the state.

INDIAN PATH MEDICAL CENTER

Service Area Counties:

- West Sullivan, TN
- Hawkins, TN
- Scott, VA
- Wise, VA

Primary Service Area Map:



Facility Profiles:

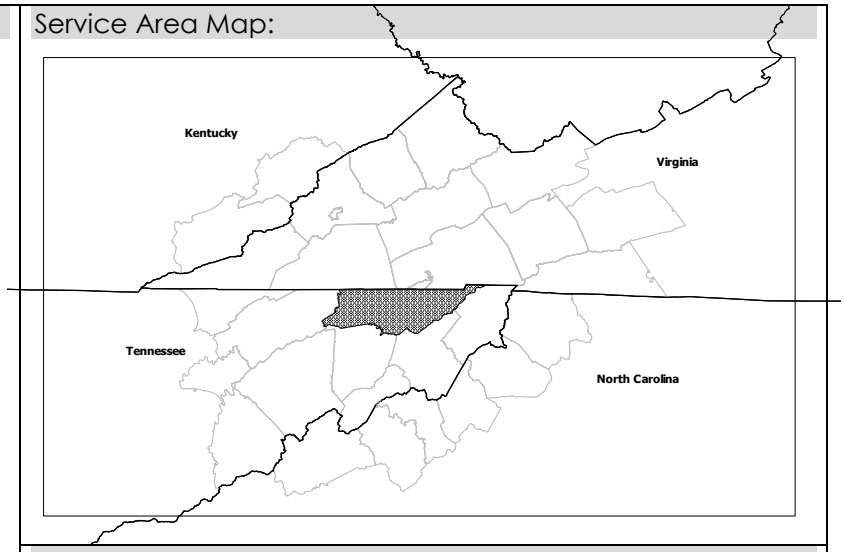
Indian Path Medical Center (IPMC), Kingsport, Tenn., is a 261-bed, not-for-profit hospital. IPMC provides convenient parking, easy access and private rooms, as well as a variety of menu options and convenient room service 24 hours a day. All ancillary and outpatient services are on the ground floor to provide more expedient care. IPMC joined Mountain States Health Alliance in 1998. This hospital serves as a regional referral center providing advanced care in the areas of orthopedics, oncology, cardiology, and women's.

A 6-page profile of each county is provided. The profile includes demographic highlights, key indicators of health status, utilization projections, and survey results specific to the county. A detailed demographic analysis by county is provided in the appendix which follows the collection of county snapshots.

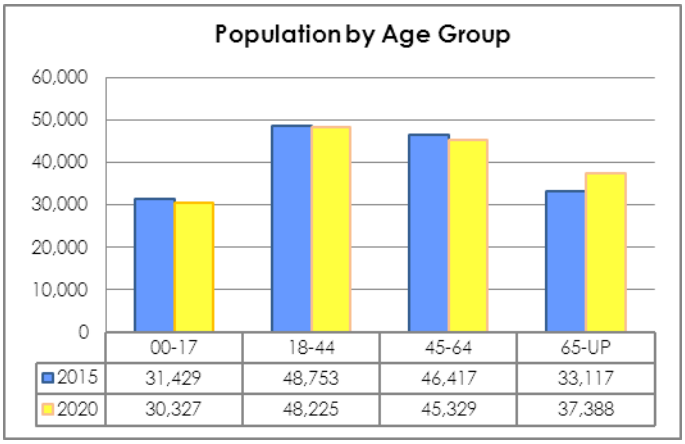
Demographic Highlights:

- Large elderly population compared to TN and US
- Declining rate of females of child-bearing age expected
- Low average household income level (15.6% of households make less than $15,000)
- Low level of educational attainment compared to state and country (6.6% with no high school education compared to 5.9% nationally)
- Low level of diversity compared to state and national

Service Area Map:



Age Distribution and Population Projections:



Key Statistics:

	Sullivan County	Tennessee	U.S.
2015 Total Population	159,716	6,735,022	321,369,000
% Change 2015-2020	1.0%	5.5%	4.1%
% of Population 65+ (2015)	20.7%	15.6%	14.9%
% Minority (2015)	6.6%	26.1%	38.3%

	2015	2020	% Change
Total Male Population	77,249	78,076	1.1%
Total Female Population	82,467	83,193	0.9%
Females, Child Bearing Age (15-44)	27,268	26,913	-1.3%

Local Health Highlights:

STRENGTHS:

- Unemployment Rate
- Medical Doctors
- Decreased percentage of individuals with no health insurance
- Percentage of Children Un/Improperly Restrained in a Crash
- STDs

WEAKNESSES:

- Prevalence of asthma and diabetes
- Vaccinations
- Smoking during pregnancy
- Pre-1950 Housing
- Deaths due to cardiovascular, diabetes, cerebrovascular, cancer, suicide, and injuries

Leading Causes of Death:

Ages 1 - 14 years

Cause of Death	Rate	Rank
Heart Disease	4.12	1
Cancer	4.12	2
Anemia	4.12	3
All Other Causes	4.12	*

Ages 15 - 21 years

Cause of Death	Rate	Rank
Accidents	53.6	1
Suicide	23	2
All Other Causes	53.5	*

Ages 22 - 64

Cause of Death	Rate	Rank
Cancer	144.7	1
Heart Disease	141.2	2
Accidents	45.2	3
Suicide	22	4
Respiratory	22	5
Cerebrovascular	15.1	6
Liver/Cirrhosis	13.9	7
Diabetes Mellitus	12.7	8
Septicemia	8.1	9
Viral Hepatits	7	10
All Other Causes	119.1	*

Ages 65+

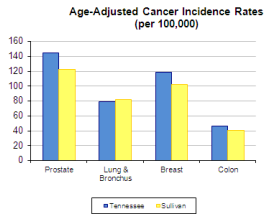
Cause of Death	Rate	Rank
Heart disease	1238.4	1
Cancer	1127.7	2
Respiratory	449.7	3
Alzheimer's Disease	280.2	4
Cerebrovascular	256	5
Flu/Pneumonia	176.4	6
Diabetes Mellitus	148.7	7
Hypertension	131.5	8
Septicemia	100.3	9
Accidents	76.1	10
All Other Causes	1307.5	*

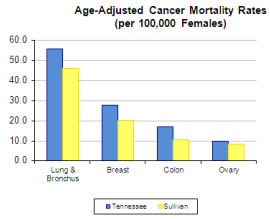
Key Indicators of Health Status:

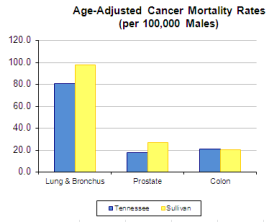
County: Sullivan, TN

	TN	Sullivan	2010	Desired
Health Outcomes				↓
Mortality (years of potential life lost/100,000)	8,790	9,005	9,860	↓
Low Birth Weight (3-yr avg %)	9.0%	8.1%	8.7%	↓
General Health Status (%fair/poor health)*	19.0%	21.0%	19.0%	↓
Very Low Birth Weight (%)	1.6%	1.0%	1.4%	↓
Infant Mortality (3-yr avg rate per 1,000)	8.1	9.2	9.1	↓
Mortality Rate (3-yr avg rate per 100,000)	953.0	1,281.3	945.5	↓
Cardiovascular Deaths (per 100,000)	226.5	402.6	280.9	↓
Cancer Deaths (3-yr avg rate per 100,000)	214.4	291.7	206.3	↓
Diabetes Mellitus Deaths (per 100,000)	28.7	35.0	31.2	↓
Cerebrovascular Deaths (per 100,000)	47.0	56.4	54.6	↓
Suicide Deaths (per 100,000)	15.0	19.5	15.6	↓
Mortality rate for ages 1- 14 yrs	66.8	16.5	24.5	↓
Mortality rate for ages 15 - 21 yrs	70.4	130.1	98.8	↓
Mortality rates for ages 65+	4,870.1	5,292.5	5,202.00	↓
Lung Cancer Deaths (3-yr avg rate per 100,000)	68.8	93.6	71.9	↓
Female Breast Cancer Deaths (3-yr avg rate per 100,000)	14.1	17.1	19.6	↓
Prevalence of Asthma (%)	9.3%	13.2%	12.4%	↓
Prevalence of Diabetes (%)	11.0%	14.0%	13.0%	↓
Health Determinants				↓
Health Care Resources				↓
No Health Insurance (%)*	21.0%	15.0%	17.9%	↓
Medicaid/Tenncare Enrollees (%)	18.7%	17.4%	18.1%	↓
Medical Doctors Per Capita (per 100,000)	246.1	289.5	312.3	↑
Dentists Per Capita (per 100,000)	52.2	61.2	93.8	↑
Percent without Pneumococcal Vaccinations (%)*	74.2%	66.7%	67.3%	↓
Percent without Influenza Vaccinations (%)*	59.4%	50.7%	53.4%	↓
No Diabetic Eye Exams (%)	74.3%	72.2%	53.6%	↓
No Diabetic HbA1c Testing (%)	16.0%	10.0%	10.0%	↓
No Biennial Mammography (%)*	23.3%	29.3%	23.3%	↓
Inadequate or No Prenatal Care (%)	40.7%	38.1%	8.1%	↓
Month Prenatal Care Began	3.2	3.2	2.9	↓
First Trimester Prenatal Care (%)	59.3%	61.9%	67.6%	↑
Children (0-18yrs) with Medicaid/Tenncare Coverage (%)	46.8%	46.0%	44.9%	↓
Hospital Staffed Beds (per 1,000)	3.6	6.7	4.7	↑
Licensed Nursing Beds (per 1,000 65+)	44.8	34.7	37.7	↑
# of Primary Care MDs	7,703	102	100	↓
# of Psychiatric Specialists	684	9	9	↓
Inpatient Discharge Rate (per 1,000) - Total	126.3	132.8	131.2	↓
Health Behaviors (continued)				
Cigarette Smoking (%)*	23.0%	25.0%	30.4%	↓
Smoking During Pregnancy (%)	16.3%	27.9%	29.8%	↓
Physical Inactivity (%)*	30.0%	31.0%	34.4%	↓
Overweight/Obesity (% BMI > 25)	67.8%	67.8%	67.9%	↓
Obesity (% BMI > 30)*	32.0%	35.0%	30.0%	↓
Low Fruit and Vegetable Consumption (% <5 a day)*	73.7%	73.0%	76.6%	↓
Binge Drinking (%)*	10.0%	9.0%	8.5%	↓
% of Children (0-4) Un/Improperly Restrained in a Crash	14.5%	5.3%	13.5%	↓
Teen Birth Rate (per 1,000)	37.3	42	60	↓
Sexually Transmitted Diseases	446	188	194	↓
Violent Crime (per 100,000)	667.0	512.0	538	↓
Motor Vehicle Crash Deaths (per 100,000)	19	16	22	↓
Unmarried Mother Birth Rate (%)	44.1%	42.7%	39.8%	↓
Injury-related Mortality (3-yr avg rate per 100,000)	53.7	88.2	81.9	↓
Young Driver Crash Rate 15 - 24	116.9	86.6	90.83	↓
Elderly Drive Crash Rate (60+)	31.3	28.5	25.14	↓
Homicides (per 100,000)	8	3.2	1.3	↓
All accidental deaths per 100,000 population	52	45.4	46.2	↓
Average Fatality Rate in Alcohol-Related Crashes (per 100,000 population)	6.9	3.5	5.11	↓

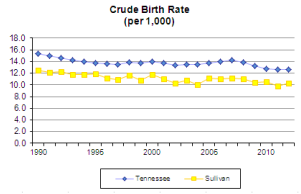
Cancer Incidence:

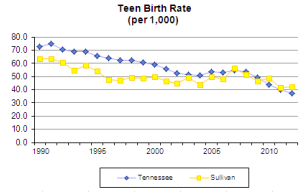






Birth Rate Trend:





Key Indicators of Health Status:

Socioecomonic Factors				
High School Graduation Rate (%)	86.0%	90.0%	81.7%	↑
Level of Education (%)	83.2%	82.7%	80.4%	↑
Unemployment (%)	8.8%	8.4%	5.8%	↓
Children (age 0 to 17) in poverty ratio (%)	26.5%	26.9%	22.4%	↓
Divorce Rate (per 1,000)	4.3	5.1	4.8	↓
Food Stamp Recipients (% of individuals)	21.1%	18.8%	16.2%	↓
Poverty Rate (% of all ages)	18.4%	18.2%	14.1%	↓
Temporary Assistance for Needy Families	2.6%	1.7%	1.9%	↓
High School Dropout Rate	6.9%	3.6%	7.1%	↓
Average Annual Wage	$ 36,576	$ 35,000	$ 32,141	↑
Physical Environment				↓
Air Quality Cancer Risk (per 1,000,000)	4.6	4.7	40.4	↓
Air Quality Hazard Index (per 1,000,000)	1.4	4.7	3.7	↓
Air Quality - Fine Particulate Matter in Air (3 yr avg Mg/m3)*	13.2	13.0	14.5	↓
Ozone Level (ppb)*	0.062	0.063	0.082	↓
Nitrate Levels in drinking water (mg/L Average)	0.7	0.4	0.6	↓
Pre-1950 Housing (%)	11.8%	15.8%	19.4%	↓
Lead Poisoned Children (%)	0.1%	n/a	0.7%	↓
Child Abuse and Neglect (rate per 1,000)	5.5	7.8	11.6	↓
Communicable Diseases				↓
Hepatitis A (per 100,000)	0.3	0.0	n/a	↓
Campylobacter Infection (per 100,000)	7.2	12.7	n/a	↓
Salmonella, Non Typhoid (per 100,000)	17.6	5.7	n/a	↓
Shigellosis (per 100,000)	3.3	0.0	n/a	↓
AIDS/HIV (per 100,000)	293	91	n/a	↓
Primary and Secondary Syphilis (per 100,000)	4.3	0.6	n/a	↓
Penicillin-Sensitive *Streptococcus pneumoniae* (per 100,000)	0.0	0.0	n/a	↓
Group B *Streptococcus* (per 100,000)	6.2	6.4	n/a	↓
Chlamydia (per 100,000)	517.3	259.8	n/a	↓
Gonorrhea (per 100,000)	144.8	36.8	n/a	↓

Inpatient Projections

	2014	2019		2024	
DRG Service Line	**Discharges**	**Discharges**	**% Change**	**Discharges**	**% Change**
Cardiac Surgery	237	240	1.30%	250	5.50%
Cardiology	1,851	1,601	-13.50%	1,382	-25.40%
Cardiology Intervention	594	552	-7.10%	519	-12.70%
Endocrinology	508	402	-21.00%	362	-28.80%
ENT Surgery	34	33	-1.80%	33	-2.10%
Gastroenterology	1,693	1,606	-5.10%	1,592	-5.90%
General Medicine	1,716	1,738	1.30%	1,645	-4.10%
General Surgery	1,204	1,161	-3.60%	1,141	-5.20%
Gynecology	156	145	-7.00%	139	-10.60%
Hematology	220	217	-1.50%	223	1.20%
Neonatology	676	629	-7.00%	592	-12.50%
Nephrology	920	855	-7.00%	762	-17.20%
Neurology	986	979	-0.70%	1,010	2.50%
Neurosurgery	428	416	-2.90%	414	-3.20%
Normal Newborns	969	1,005	3.70%	1,000	3.20%
OB Deliveries Sections	567	490	-13.50%	456	-19.60%
OB Deliveries Vaginal	991	1,053	6.30%	1,055	6.50%
OB Other	130	125	-4.00%	122	-6.10%
Oncology Medicine	251	241	-4.00%	218	-13.20%
Oncology Surgery	109	111	1.50%	108	-1.00%
Ophthalmic Medicine	12	11	-12.20%	10	-18.30%
Ophthalmic Surgery	1	1	-9.40%	1	-6.70%
Oral Surgery	18	17	-7.60%	17	-6.90%
Orthopedic Medicine	227	227	0.00%	231	1.80%
Orthopedic Surgery	1,487	1,576	6.00%	1,610	8.20%
Otolaryngology	88	77	-12.90%	74	-15.80%
Plastic Surgery	37	34	-8.20%	31	-16.10%
Psychiatry	1,440	1,580	9.70%	1,502	4.30%
Pulmonary	2,500	2,159	-13.60%	2,046	-18.20%
Rehabilitation	433	338	-22.00%	351	-18.90%
Rheumatology	73	71	-3.30%	70	-3.50%
Substance Abuse	172	178	3.30%	173	0.50%
Thoracic Surgery	153	145	-5.50%	141	-7.50%
Trauma Medical	71	68	-4.30%	69	-2.70%
Unspecified	4	4	2.30%	4	4.50%
Urology Medicine	66	58	-12.70%	53	-19.70%
Urology Surgery	148	140	-5.10%	130	-12.00%
Vascular Surgery	246	245	-0.60%	246	0.00%
Womens Other	13	12	-4.90%	11	-12.20%
Grand Total	**21,429**	**20,537**	**-4.20%**	**19,794**	**-7.60%**

Outpatient Projections

	2014		2019			2024	
Site of Care	**Volumes**		**Volumes**	**% Change**		**Volumes**	**% Change**
ED	93,692		94,233	0.60%		90,513	-3.40%
Home	211,861		245,806	16.00%		267,901	26.50%
Hosp OP/ASC	255,993		275,109	7.50%		281,172	9.80%
Office/Clinic	1,497,314		1,605,147	7.20%		1,556,518	4.00%
Other	72,130		78,500	8.80%		78,786	9.20%
SNF	4,604		4,958	7.70%		5,181	12.50%
Urgent/Retail	4,389		4,798	9.30%		4,586	4.50%
Virtual			31,971			128,757	
Grand Total	**2,139,982**		**2,340,523**	**9.40%**		**2,413,414**	**12.80%**

Interview Highlights:

INTERVIEWEES:

- 10 individuals

KEY FINDINGS:

- Average rating of health status is 3.6 with a range in responses of 1.5 to 8.
- Top health issues are:
  - Obesity
  - Cancer
  - Diabetes
  - Cardiovascular Disease
  - Substance Abuse/NAS
- Additional health issues are:
  - Smoking and Tobacco Use
  - Oral Health
  - Physical Inactivity
  - Behavioral Health
  - Education
  - Food Insecurity
  - Lack of Free Medical Center
- Ideas to improve these conditions include:
  - Mobile dental clinic linked to dental providers
  - Collaboration across various health systems/programs to provide united approach/solutions
  - Engage business leaders
  - Consolidate efforts among stakeholders to maximize scarce resources
  - More city and corporate support
  - Community forum/Health Summit similar to 1999 Economic Summit
  - Education through public media campaign
  - Target kids
  - Invest more resources and leadership time and commitment to Healthy Kingsport
  - Collaborative Impact Model

Sources:

- Medstat
- County Health Rankings
- TN Advisory Commission on Intergovernmental Relations
- TN Dept of Health
- BRFSS
- TennCare
- Kidscount
- TN Dept of Safety and Homeland Security
- EPA
- CDC Wonder
- TN Dept of Environment & Conservation
- Childhood Lead Poisoning Prevention Program

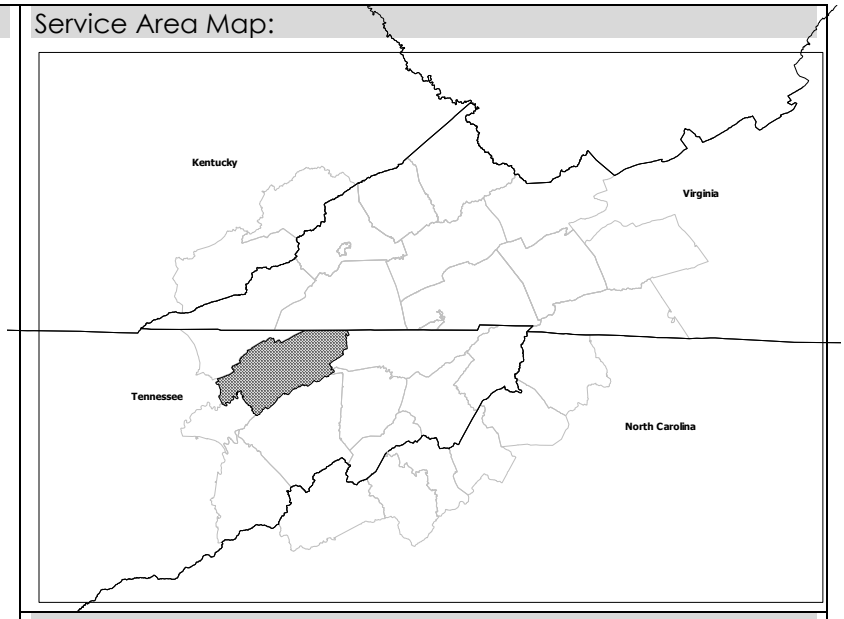
Local Resources:

- Coordinated School Health
- East Tennessee State University, School of Public Health
- Friends in Need
- Health Resources Center
- Healthy Kingsport
- Parish Nurse Program
- PEAK (young professional organization)
- Providence Medical Clinic
- School System
- Sullivan County Health Council
- Sullivan County Health Department
- United Way of Greater Kingsport, Health Safety & Stability Vision Council
- YMCA

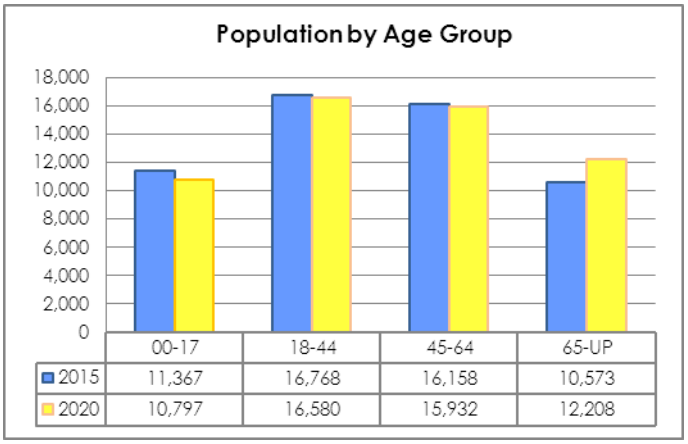
Demographic Highlights:

- Large elderly population compared to TN and US
- Declining rate of females of child-bearing age expected
- Low average household income level (14.5% of households make less than $15,000)
- Lower level of educational attainment compared to state and country (10.2% with no high school education compared to 5.9% nationally)
- Low level of diversity compared to state and national

Service Area Map:



Age Distribution and Population Projections:



Key Statistics:

	Hawkins County	Tennessee	U.S.
2015 Total Population	54,866	6,735,022	321,369,000
% Change 2015-2020	1.2%	5.5%	4.1%
% of Population 65+ (2015)	19.3%	15.6%	14.9%
% Minority (2015)	4.7%	26.1%	38.3%

	2015	2020	% Change
Total Male Population	27,010	27,310	1.1%
Total Female Population	27,856	28,207	1.3%
Females, Child Bearing Age (15-44)	9,433	9,335	-1.0%

HAWKINS COUNTY, TN

2015 COUNTY SNAPSHOT

Local Health Highlights:

STRENGTHS:

- Binge Drinking
- Unemployment Rate
- Health Insurance
- Vaccinations
- STDs
- Violent Crime

WEAKNESSES:

- High School Graduation Rates
- Smoking During Pregnancy
- Deaths due to cardiovascular, cancer, diabetes, injuries, and suicide
- No Biennial Mammogram

Key Indicators of Health Status:

Leading Causes of Death:

Ages 1 - 14 years

Cause of Death	Rate	Rank
Cancer	3.4	1
Flu/Pneumonia	3.4	1
Homicide	3.4	1
All Other Causes	6.57	*

Ages 15 - 21 years

Cause of Death	Rate	Rank
Accidents	75.7	1
Suicide	12.6	2
All Other Causes	19	*

Ages 22 - 64

Cause of Death	Rate	Rank
Cancer	140.4	1
Heart Disease	101.8	2
Accidents	69.2	3
Suicide	25.7	4
Diabetes Mellitus	16.8	5
Respiratory	15.8	6
Liver/Cirrhosis	14.8	7
Cerebrovascular	13.8	8
Viral Hepatitis	8.9	9
Septicemia	6.9	10
All Other Causes	115.7	*

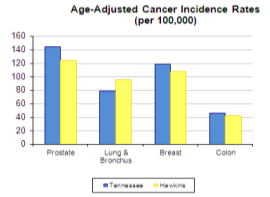
Ages 65+

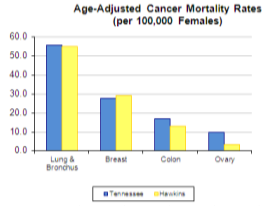
Cause of Death	Rate	Rank
Heart diseases	1244.3	1
Cancer	1150.7	2
Respiratory	346.6	3
Cerebrovascular	246.1	4
Alzheimer's	242.6	5
Diabetes Mellitus	142.1	6
Nephritis	104	7
Flu/Pneumonia	93.6	8
Accidents	79.7	9
Pneumonitis	62.4	10
All Other Causes	1026	*

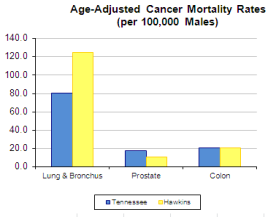
County: Hawkins, TN

	TN	Hawkins	2010	Desired
Health Outcomes				↓
Mortality (years of potential life lost/100,000)	8,790	9,725	9,417	↓
Low Birth Weight (3-yr avg %)	9.0%	10.3%	8.40%	↓
General Health Status (% fair/poor health)*	19.0%	26.0%	23%	↓
Very Low Birth Weight (%)	1.6%	1.0%	1.20%	↓
Infant Mortality (3-yr avg rate per 1,000)	8.1	8.1	7.3	↓
Mortality Rate (3-yr avg rate per 100,000)	953.0	1,092.9	936.9	↓
Cardiovascular Deaths (per 100,000)	226.5	264.8	267.7	↓
Cancer Deaths (3-yr avg rate per 100,000)	214.4	267.9	194.4	↓
Diabetes Mellitus Deaths (per 100,000)	28.7	43.6	36	↓
Cerebrovascular Deaths (per 100,000)	47.0	40.2	32.6	↓
Suicide Deaths (per 100,000)	15.0	18.4	17.2	↓
Mortality rate for ages 1- 14 yrs	66.8	30.0	17.2	↓
Mortality rate for ages 15- 21yrs	70.4	94.0	137.5	↓
Mortality rates for ages 65+	4,870.1	4,602.8	5,081.90	↓
Lung Cancer Deaths (3-yr avg rate per 100,000)	68.8	92.3	62	↓
Female Breast Cancer Deaths (3-yr avg rate per 100,000)	14.1	14.6	35.2	↓
Prevalence of Asthma (%)	9.3%	13.2%	12.8%	↓
Prevalence of Diabetes (%)	11.0%	13.0%	14.0%	↓
Health Determinants				↓
Health Care Resources				↓
No Health Insurance (%)*	21.0%	15.0%	16.40%	↓
Medicaid/Tenncare Enrollees (%)	18.7%	20.7%	22.10%	↓
Medical Doctors Per Capita (per 100,000)	246.1	29.9	31.4	↑
Dentists Per Capita (per 100,000)	52.2	12.3	22.5	↑
Percent without Pneumococcal Vaccinations (%)*	74.2%	66.7%	72.30%	↓
Percent without Influenza Vaccinations (%)*	59.4%	49.3%	59.30%	↓
No Diabetic Eye Exams (%)	74.3%	72.2%	52.40%	↓
No Diabetic HbA 1c Testing (%)	16.0%	14.0%	10.40%	↓
No Biennial Mammography (%)*	23.3%	29.3%	23.30%	↓
Inadequate or No Prenatal Care (%)	40.7%	42.4%	5.50%	↓
Month Prenatal Care Began	3.2	3.2	2.9	↓
First Trimester Prenatal Care (%)	59.3%	57.6%	63.10%	↑
Children (0-18 yrs) with Medicaid/Tenncare Coverage (%)	46.8%	50.0%	49.80%	↓
Hospital Staffed Beds (per 1,000)	3.6	0.9	0.8	↑
Licensed Nursing Beds (per 1,000 65+)	44.8	36.9	39.7	↑
# of Primary Care MDs	7,703	14	24	↓
# of Psychiatric Specialists	684	1	1	↓
Inpatient Discharge Rate (per 1,000) - Total	126.3	115.5	120	↓
Health Behaviors (continued)				↓
Cigarette Smoking (%)*	23.0%	26.0%	28.90%	↓
Smoking During Pregnancy (%)	16.3%	30.5%	30.10%	↓
Physical Inactivity (%)*	30.0%	33.0%	38.40%	↓
Overweight/Obesity (% BMI > 25)	67.8%	67.8%	67.90%	↓
Obesity (% BMI > 30)*	32.0%	34.0%	32.00%	↓
Low Fruit and Vegetable Consumption (% <5 a day)*	76.7%	73.0%	76.60%	↓
Binge Drinking (%)*	10.0%	5.0%	7.90%	↓
% of Children (0-4) Un/Improperly Restrained in a Crash	14.5%	5.8%	18.90%	↓
Teen Birth Rate (per 1,000)	37.3	34.6	54	↓
Sexually Transmitted Diseases (3 yr avg per 10,000)	446	141	144	↓
Violent Crime (per 100,000)	667.0	280.0	701	↓
Motor Vehicle Crash Deaths (per 100,000)	19	29	29	↓
Unmarried Mother Birth Rate (%)	44.1%	40.7%	39.90%	↓
Injury-related Mortality (3-yr avg rate per 100,000)	53.7	97.2	90.1	↓
Young Driver Crash Rate 15 - 24	116.9	79.4	78.6	↓
Elderly Drive Crash Rate (60+)	31.3	21.5	18	↓
Homicides (per 100,000)	8	3.4	1.7	↓
All accidental deaths per 100,000 population	52	55.3	80.7	↓
Average Fatality Rate in Alcohol-Related Crashes (per 100,000 population)	6.9	6.8	10.98	↓

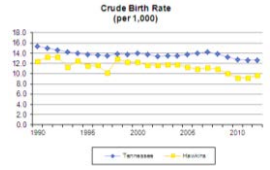
Cancer Incidence:

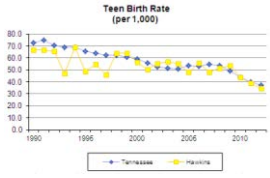






Birth Rate Trend:





Key Indicators of Health Status:

Socioecomonic Factors				
High School Graduation Rate (%)	86.0%	91.0%	81.20%	↑
Level of Education (%)	83.2%	79.0%	76.50%	↑
Unemployment (%)	8.8%	9.4%	7.60%	↓
Children (age 0 to 17) in poverty ratio (%)	26.5%	28.5%	23.90%	↓
Divorce Rate (per 100,000)	4.3	4.9	4.9	↓
Food Stamp Recipients (% of individuals)	21.1%	22.4%	20.50%	↓
Poverty Rate (% of all ages)	18.4%	17.9%	20.30%	↓
Temporary Assistance for Needy Families	2.6%	1.5%	1.90%	↓
High School Dropout Rate	6.9%	2.4%	6.30%	↓
Average Annual Wage	$ 36,576	$ 28,610	$ 25,023	↑
Physical Environment				↓
Air Quality Cancer Risk (per 1,000,000)	4.6	3.5	21.9	↓
Air Quality Hazard Index (per 1,000,000)	1.4	8.9	2	↓
Air Quality - Fine Particulate Matter in Air (3 yr avg Mg/m3)*	13.2	12.8	14.5	↓
Ozone Level (ppb)*	0.062	0.063	0.082	↓
Nitrate Levels in drinking water (mg/L)	0.7	0.85	2	↓
Pre-1950 Housing (%)	11.8%	13.7%	14.40%	↓
Lead Poisoned Children (%)	0.1%	n/a	0.30%	↓
Child Abuse and Neglect (rate per 1,000)	5.5	6.5	3.7	↓
Communicable Diseases				↓
Hepatitis A (per 100,000)	0.3	0.0	n/a	↓
Campylobacter Infection (per 100,000)	7.2	6.9	n/a	↓
Salmonella, Non Typhoid (per 100,000)	17.6	12.5	n/a	↓
Shigellosis (per 100,000)	3.3	18	n/a	↓
AIDS (per 100,000)	293	44	n/a	↓
Primary and Secondary Syphilis (per 100,000)	4.3	0.0	n/a	↓
Penicillin-Sensitive *Streptococcus pneumoniae* (per 100,000)	0.0	0.0	n/a	↓
Group B *Streptococcus* (per 100,000)	6.2	7.2	n/a	↓
Chlamydia (per 100,000)	517.3	297.7	n/a	↓
Gonorrhea (per 100,000)	144.8	3.5	n/a	↓

Inpatient Projections

	2014	2019		2024	
DRG Service Line	**Discharges**	**Discharges**	**% Change**	**Discharges**	**% Change**
Cardiac Surgery	63	65	2.80%	68	7.70%
Cardiology	561	494	-12.00%	436	-22.30%
Cardiology Intervention	213	199	-6.80%	185	-13.20%
Endocrinology	182	144	-21.00%	129	-29.30%
ENT Surgery	15	15	-2.50%	14	-4.70%
Gastroenterology	526	500	-5.00%	495	-5.90%
General Medicine	705	718	1.90%	675	-4.20%
General Surgery	394	389	-1.40%	383	-2.90%
Gynecology	64	58	-8.90%	55	-14.40%
Hematology	91	91	0.50%	96	5.50%
Neonatology	213	195	-8.40%	181	-14.90%
Nephrology	272	257	-5.60%	235	-13.60%
Neurology	342	344	0.60%	358	4.80%
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OB Deliveries Vaginal	321	338	5.30%	336	4.70%
OB Other	28	27	-4.60%	26	-7.40%
Oncology Medicine	107	104	-3.00%	95	-11.20%
Oncology Surgery	48	49	2.20%	49	1.80%
Ophthalmic Medicine	3	3	-14.80%	2	-23.60%
Ophthalmic Surgery	3	3	-6.80%	3	-4.60%
Oral Surgery	7	6	-9.00%	6	-8.30%
Orthopedic Medicine	84	85	1.00%	86	2.70%
Orthopedic Surgery	416	444	6.80%	458	10.20%
Otolaryngology	28	25	-12.20%	23	-16.70%
Plastic Surgery	17	16	-5.70%	14	-14.90%
Psychiatry	410	447	9.10%	422	2.90%
Pulmonary	921	802	-12.90%	764	-17.10%
Rehabilitation	162	127	-21.40%	133	-17.70%
Rheumatology	24	23	-4.70%	23	-6.00%
Substance Abuse	37	37	1.20%	36	-3.10%
Thoracic Surgery	56	54	-3.60%	53	-5.70%
Trauma Medical	22	21	-5.30%	21	-6.50%
Unspecified	4	4	1.60%	4	3.20%
Urology Medicine	16	14	-14.40%	13	-21.80%
Urology Surgery	33	30	-9.30%	27	-18.50%
Vascular Surgery	84	82	-2.90%	81	-4.10%
Womens Other	3	3	-7.80%	2	-19.50%
Grand Total	**7,100**	**6,817**	**-4.00%**	**6,574**	**-7.40%**

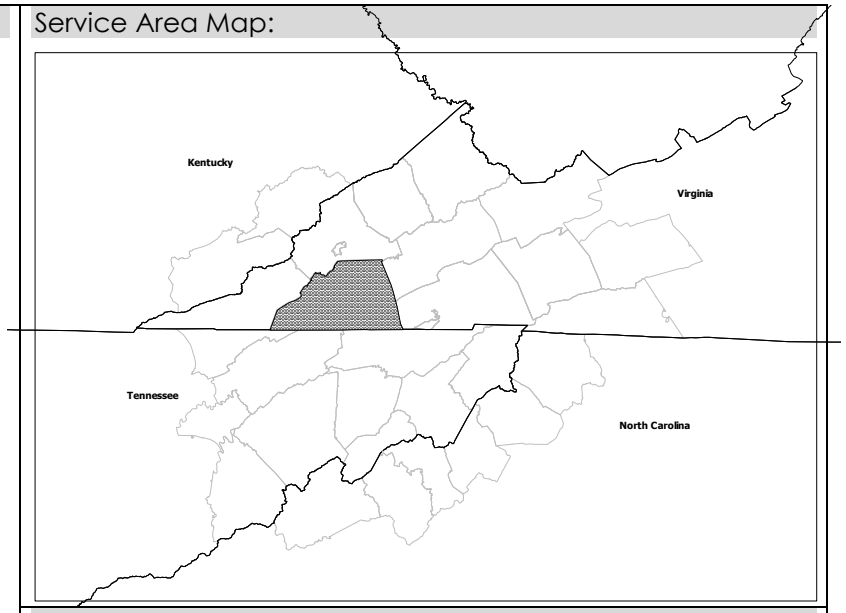
Outpatient Projections

	2014		2019			2024	
Site of Care	**Volumes**		**Volumes**	**% Change**		**Volumes**	**% Change**
ED	30,771		30,709	-0.20%		29,250	-4.90%
Home	104,888		124,740	18.90%		138,276	31.80%
Hosp OP/ASC	81,291		87,807	8.00%		90,003	10.70%
Office/Clinic	479,332		511,407	6.70%		491,681	2.60%
Other	34,003		37,352	9.80%		37,055	9.00%
SNF	1,022		1,123	9.80%		1,189	16.30%
Urgent/Retail	490		522	6.60%		510	4.10%
Virtual			10,859			44,215	
Grand Total	**731,798**		**804,518**	**9.90%**		**832,179**	**13.70%**

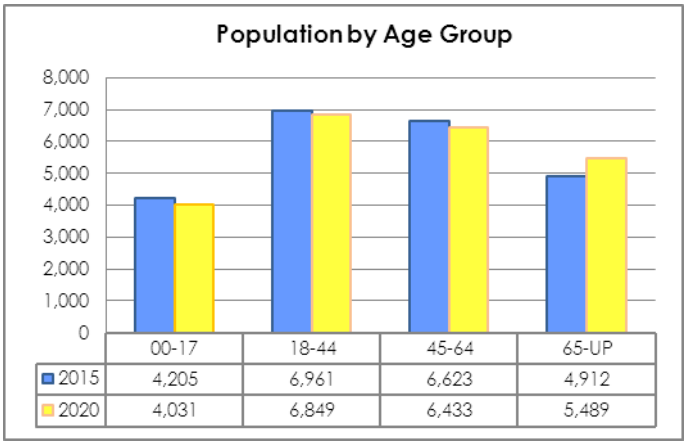
Demographic Highlights:

- Large elderly population compared to VA and US
- Declining rate of females of child-bearing age expected
- Low average household income level (18.2% of households make less than $15,000)
- Lower level of educational attainment compared to state and country (13.8% with no high school education compared to 5.9% nationally)
- Low level of diversity compared to state and national

Service Area Map:



Age Distribution and Population Projections:



Key Statistics:

	Scott County	Virginia	U.S.
2015 Total Population	22,701	8,417,864	321,369,000
% Change 2015-2020	0.4%	4.7%	4.1%
% of Population 65+ (2015)	21.6%	14.0%	14.9%
% Minority (2015)	3.4%	30.8%	38.3%

	2015	2020	% Change
Total Male Population	11,389	11,457	0.6%
Total Female Population	11,312	11,345	0.3%
Females, Child Bearing Age (15-44)	3,686	3,612	-2.0%

Local Health Highlights:

STRENGTHS:

- Lowest rate of AIDS/HIV cases
- Low Binge Drinking percentage
- Low STD rate
- High Rate of High School Graduation

WEAKNESSES:

- High rates of Medicaid enrollees
- High Teen Birth Rate
- High rates of death due to cardiovascular, cancer, cerebrovascular, diabetes, suicide, and injuries
- Low percentages of prenatal care
- High percentage of smoking
- High rates of poverty and children in poverty

Leading Causes of Death (all ages):

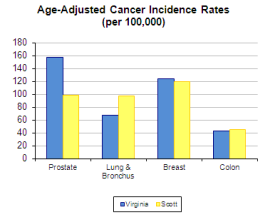
Cause of Death	Rate	Rank
Malignant Neoplasms	341.5	1
Heart Disease	259.4	2
Chronic Lower Respiratory	82.1	3
Unintentional Injury	69.2	4
Cerebrovascular Disease	64.8	5
Alzheimer's Disease	51.9	6
Diabetes Mellitus	47.6	7
Influenza & Pneumonia	30.3	8
Suicide	25.9	9
Nephritis & Nephrosis	21.6	10

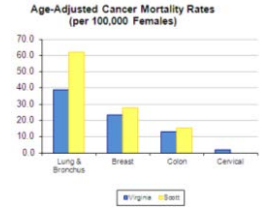
Key Indicators of Health Status:

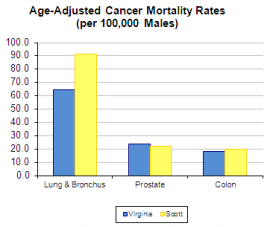
County: Scott, VA

	VA	Scott	2010	Desired
Health Outcomes				
Low Birth Weight (%)	8.3%	8.3%	10%	↓
General Health Status (% fair/poor health)	14.0%	24.0%	22%	↓
Very Low Birth Weight (%)	1.6%	0.5%	3.10%	↓
Infant Mortality (per 100,000)	8.3	12.0	2	↓
Mortality Rate (per 100,000)	735.8	899.9	957.8	↓
Cardiovascular Deaths (per 100,000)	161.3	172.8	239.1	↓
Cancer Deaths (5-yr avg rate per 100,000)	174.8	195.0	178.5	↓
Diabetes Mellitus Deaths (Age Adjusted Rate per 100,000)	20.0	47.6	38.5	↓
Cerebrovascular Deaths (Age Adjusted Rate per 100,000)	40.8	64.8	41.1	↓
Suicide Deaths (Age Adjusted Rate per 100,000)	12.9	25.9	22.8	↓
Mortality rate for ages 0 - 4 yrs (per 100,000)	152.9	265.0	266	↓
Mortaliy rate for ages 5 - 14 yrs (per 100,000)	13.5	0.0	0	↓
Mortality rate for ages 15 - 19 yrs (per 100,000)	44.5	82.3	79.9	↓
Mortality rates for ages 65+ (per 1,000)	43.6	48.0	49.1	↓
Lung Cancer Deaths (5-yr avg rate per 100,000)*	49.5	76.8	74.6	↓
Female Breast Cancer Deaths (5-yr avg rate per 100,000)*	23.5	27.9	25.4	↓
Percent of Adults with Asthma*	8.0%	6.0%	12.40%	↓
Prevalence of Diabetes (% of adults)*	9.0%	8.0%	12.90%	↓
Psychosis Discharges (per 100,000)	332.7	47.6	44	↓
Health Determinants				
Health Care Resources				
No Health Insurance (%)	18.0%	19.0%	23.60%	↓
Medicaid/Tenncare Enrollees (%)	14.7%	24.1%	26.90%	↓
Medical Doctors Per Capita (per 100,000)	255.5	12.7	75.6	↑
No Biennial Mammography (%)*	28.0%	28.0%	29.20%	↓
PSA Testing Past 2 Years (%)*	56.0%	56.0%	45.20%	↑
Pap Test Past 3 Years (%)*	84.0%	79.0%	12%	↑
Sigmoidoscopy/Colonoscopy (%)*	72.0%	64.0%	51%	↑
Inadequate or No Prenatal Care (%)	13.0%	12.0%	19%	↓
First Trimester Prenatal Care (%)	81.9%	26.1%	14.70%	↑
Hospital Staffed Beds (per 1,000)	2.2	0.0	0	↑
Licensed Nursing Beds (per 1,000 65+)	3.9	13.0	14	↑
# of Primary Care MDs Per Capita (per 100,000)	122.3	25.9	71.2	↑
# of Psychiatric Specialists	6,827	0	0	↓
State Mental Health Facility Beds (per 100,000)*	18.7	28.7	23.7	↑
Inpatient Discharge Rate (per 1,000) - Total	157.2	136.1	148.8	↓
Could Not See Doctor Due to Cost (%)	10.0%	14.0%	11%	↓
Health Behaviors (continued)				
Cigarette Smoking (%)	18.0%	30.0%	31.50%	↓
Physical Inactivity (%)	24.0%	32.0%	22%	↓
Overweight/Obesity (% BMI > 25)	62.0%	66.0%	57%	↓
Obesity (% BMI > 30)	28.0%	28.0%	30%	↓
Low Fruit and Vegetable Consumption (% <5 a day)	80.0%	85.0%	76%	↓
Binge Drinking (%)	18.0%	12.0%	15%	↓
Teen Birth Rate (per 1,000)	18.6	27.4	24.4	↓
Sexually Transmitted Diseases (per 100,000)	385.0	121.0	161.9	↓
Violent Crime (per 100,000)	233.0	163.0	166	↓
Motor Vehicle Crash Deaths (per 100,000)	11.0	27.0	26	↓
Unmarried Mother Birth Rate (%)	35.0%	45.0%	31%	↓
Injury-related Mortality (Age Adjusted Rate per 100,000)	33.4	69.2	61.8	↓
Homicides (per 100,000)	5.0	0.0	3.3	↓

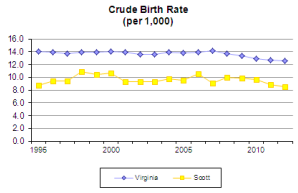
Cancer Incidence:

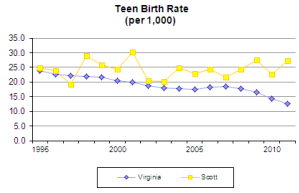






Birth Rate Trend:





Key Indicators of Health Status:

Socioecomonic Factors				
High School Graduation Rate (%)	88.0%	94.0%	92.30%	↑
Level of Education (%)	88.0%	73.0%	75%	↑
Unemployment (%)	6.2%	8.1%	9.50%	↓
Children (age 0 to 17) in poverty ratio (%)	15.5%	28.2%	24.10%	↓
Food Stamp Eligible Recipients (% of individuals)	11.6%	18.1%	16.80%	↓
Poverty Rate (% of all ages)	12.0%	21.0%	19.20%	↓
Temporary Assistance for Needy Families	0.8%	1.7%	1.70%	↓
High School Dropout Rate	1.4%	0.6%	0.70%	↓
Physical Environment				
Pre-1950 Housing (%)	13.2%	21.0%	26.60%	↓
Lead Poisoned Children (%)	0.2%	0.5%	0.60%	↓
Child Abuse and Neglect (rate per 1,000)	3.3	5.8	12.3	↓
Daily Fine Particulate Matter	12.5	13	12.3	↓
Communicable Diseases				
Hepatitis A (per 100,000)	0.6	4.3	0	↓
Campylobacter Infection (per 100,000)	9.4	30.3	17.6	↓
Salmonellosis (per 100,000)	14.1	13.0	17.6	↓
Shigellosis (per 100,000)	1.1	0.0	0	↓
AIDS/HIV cases (per 100,000)	305.3	43.2	0	↓
Early Stage Syphilis (per 100,000)	7.3	0.0	0	↓
Tuberculosis (per 100,000)	2.9	4.3	0	↓
Chlamydia (per 100,000)	432.5	121.1	149.2	↓
Gonorrhea (per 100,000)	85.1	4.3	8.8	↓

Inpatient Projections

	2014	2019		2024	
DRG Service Line	**Discharges**	**Discharges**	**% Change**	**Discharges**	**% Change**
Cardiac Surgery	35	36	2.00%	37	6.70%
Cardiology	313	269	-14.10%	230	-26.50%
Cardiology Intervention	106	98	-8.00%	91	-14.20%
Endocrinology	86	69	-19.60%	64	-26.00%
ENT Surgery	3	3	0.60%	3	5.30%
Gastroenterology	271	258	-4.70%	257	-5.30%
General Medicine	314	323	2.80%	304	-3.10%
General Surgery	177	173	-2.50%	168	-5.10%
Gynecology	31	28	-8.80%	27	-13.50%
Hematology	44	44	0.10%	46	4.70%
Neonatology	73	67	-7.90%	63	-14.30%
Nephrology	129	119	-7.60%	106	-17.50%
Neurology	151	153	1.50%	162	7.30%
Neurosurgery	55	53	-3.50%	53	-4.50%
Normal Newborns	122	125	2.60%	123	0.90%
OB Deliveries Sections	74	63	-14.40%	58	-21.10%
OB Deliveries Vaginal	126	133	5.40%	132	4.50%
OB Other	22	21	-4.90%	20	-8.40%
Oncology Medicine	51	49	-4.00%	44	-12.80%
Oncology Surgery	20	20	-1.80%	19	-5.80%
Ophthalmic Medicine	4	4	-8.60%	4	-11.40%
Ophthalmic Surgery	1	1	-11.70%	1	-11.40%
Oral Surgery	3	3	-9.60%	3	-8.50%
Orthopedic Medicine	42	43	1.60%	44	4.40%
Orthopedic Surgery	174	183	5.10%	187	7.40%
Otolaryngology	9	8	-14.30%	7	-19.10%
Plastic Surgery	8	7	-9.30%	6	-22.10%
Psychiatry	177	194	9.50%	184	3.70%
Pulmonary	451	393	-12.90%	371	-17.70%
Rehabilitation	82	64	-22.20%	66	-19.10%
Rheumatology	16	16	-3.00%	16	-2.40%
Substance Abuse	18	18	1.60%	18	0.20%
Thoracic Surgery	29	27	-7.90%	26	-11.60%
Trauma Medical	7	7	0.00%	7	3.20%
Unspecified	2	2	14.10%	3	28.20%
Urology Medicine	8	7	-11.20%	6	-19.80%
Urology Surgery	13	12	-5.90%	11	-13.10%
Vascular Surgery	29	28	-5.20%	27	-8.20%
Womens Other	3	3	-7.90%	2	-17.60%
Grand Total	**3,279**	**3,121**	**-4.80%**	**2,996**	**-8.60%**

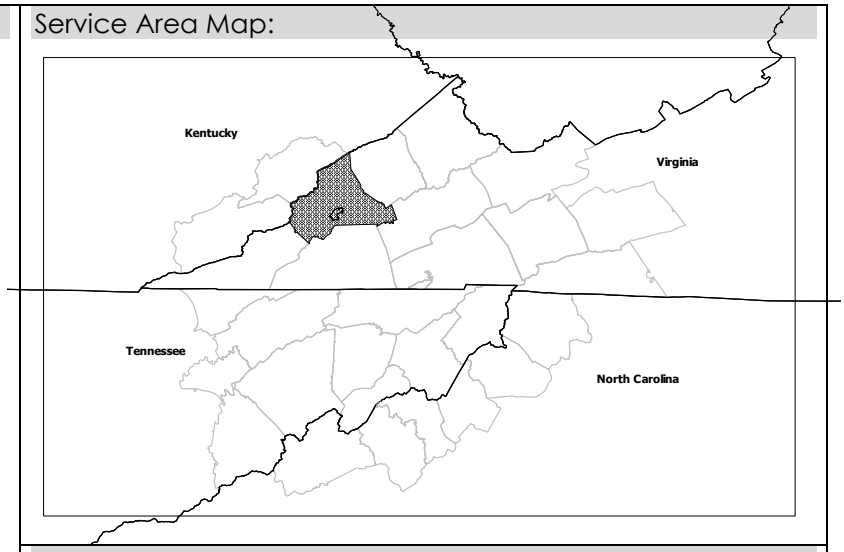
Outpatient Projections

	2014		2019			2024	
Site of Care	**Volumes**		**Volumes**	**% Change**		**Volumes**	**% Change**
ED	13,446		13,581	1.00%		13,103	-2.50%
Home	26,269		30,400	15.70%		33,094	26.00%
Hosp OP/ASC	31,502		33,773	7.20%		34,494	9.50%
Office/Clinic	190,828		203,487	6.60%		197,184	3.30%
Other	17,896		19,750	10.40%		19,841	10.90%
SNF	617		657	6.40%		681	10.40%
Urgent/Retail	160		167	5.00%		164	2.60%
Virtual			4,872			17,840	
Grand Total	**280,717**		**306,688**	**9.30%**		**316,400**	**12.70%**

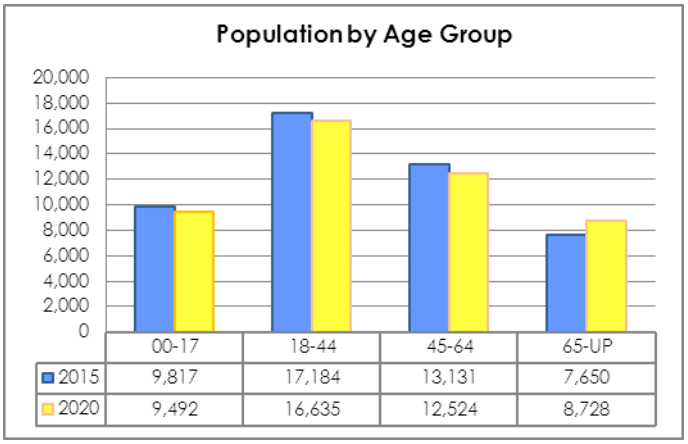
Demographic Highlights:

- Large elderly population compared to VA and US
- Declining rate of females of child-bearing age expected
- Low average household income level (21.4% of households make less than $15,000)
- Lower level of educational attainment compared to state and country (12.9% with no high school education compared to 5.9% nationally)
- Low level of diversity compared to state and national

Service Area Map:



Age Distribution and Population Projections:



Key Statistics:

	Norton & Wise	Virginia	U.S.
2015 Total Population	47,782	8,417,864	321,369,000
% Change 2015-2020	-0.8%	4.7%	4.1%
% of Population 65+ (2015)	16.0%	14.0%	14.9%
% Minority (2015)	8.1%	30.8%	38.3%

	2015	2020	% Change
Total Male Population	24,421	24,184	-1.0%
Total Female Population	23,361	23,195	-0.7%
Females, Child Bearing Age (15-44)	8,618	8,317	-3.5%

Local Health Highlights (Wise County):

STRENGTHS:

- Binge Drinking
- STDs
- Injury-related mortality
- High school graduation rate
- Violent crime

WEAKNESSES:

- High percent of Medicaid eligible and Temporary Assistance for Needy Families
- Smoking
- Pre-1950s Housing
- Prenatal Care
- Low fruit and vegetable consumption
- High rates of death due to cardiovascular, cancer, diabetes, cerebrovascular, and suicide
- Teen birth rate
- Poverty and children in poverty rates

Leading Causes of Death (Wise County):

Norton

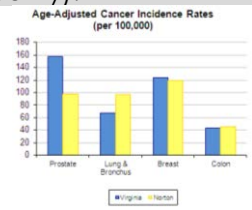
Cause of Death	Rate	Rank
Heart Disease	372.9	1
Malignant Neoplasms	298.4	2
Chronic Lower Respiratory Disease	99.5	3
Suicide	49.7	4
Hypertension & Renal Disease	49.7	4
Diabetes Mellitus	24.9	5
Unintentional Injury	24.9	5
Cerebrovascular Disease	24.9	5

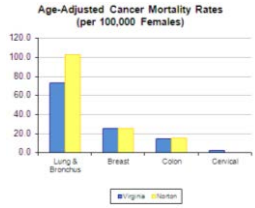
Key Indicators of Health Status (Wise County):

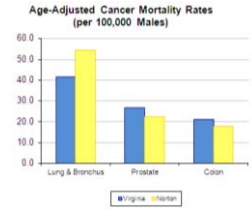
County: Wise, VA

	VA	Wise	2010	Desired
Health Outcomes				
Low Birth Weight (%)	8.3%	9.6%	8%	↓
General Health Status (% fair/poor health)	14.0%	26.0%	28%	↓
Very Low Birth Weight (%)	1.6%	0.7%	2.30%	↓
Infant Mortality (per 100,000)	8.3	6.3	4	↓
Mortality Rate (per 100,000)	735.8	1,033.2	1095	↓
Cardiovascular Deaths (per 100,000)	161.3	223.1	252.1	↓
Cancer Deaths (5-yr avg rate per 100,000)	174.8	226.8	219.4	↓
Diabetes Mellitus Deaths (Age Adjusted Rate per 100,000)	20.0	24.1	33.4	↓
Cerebrovascular Deaths (Age Adjusted Rate per 100,000)	40.8	52.9	43.7	↓
Suicide Deaths (Age Adjusted Rate per 100,000)	12.9	24.1	25.2	↓
Mortality rate for ages 0 - 4 yrs (per 100,000)	152.9	129.0	167.1	↓
Mortailty rate for ages 5 - 14 yrs (per 100,000)	13.5	0.0	0	↓
Mortality rate for ages 15 - 19 yrs (per 100,000)	44.5	36.3	0	↓
Mortality rates for ages 65+(per 1,000)	43.6	57.1	63.4	↓
Lung Cancer Deaths (5-yr avg rate per 100,000)*	49.5	74.6	74.6	↓
Female Breast Cancer Deaths (5-yr avg rate per 100,000)*	23.4	27.9	25.4	↓
Percent of Adults with Asthma*	8.0%	6.0%	12.40%	↓
Prevalence of Diabetes (% of adults)*	9.0%	10.0%	12.90%	↓
Psychosis Discharges (per 100,000)	332.7	135.8	184	↓
Health Determinants				
Health Care Resources				
No Health Insurance (%)	18.0%	20.0%	23.50%	↓
Medicaid/Tenncare Enrollees (%)	14.7%	27.0%	23.30%	↓
Medical Doctors	255.5	59.9	59.9	↑
No Biennial Mammography (%)*	28.0%	26.0%	29.20%	↓
PSA Testing Past 2 Years (%)*	56.0%	53.0%	45.20%	↑
Pap Test Past 3 Years (%)*	84.0%	82.0%	12%	↑
Sigmoidoscopy/Colonoscopy (%)*	72.0%	66.0%	51%	↑
Inadequate or No Prenatal Care (%)	13.0%	14.0%	16%	↓
First Trimester Prenatal Care (%)	81.9%	68.3%	66.20%	↑
Hospital Staffed Beds (per 1,000)	2.2	2.3	0	↑
Licensed Nursing Beds (per 1,000 65+)	3.9	6.7	49.3	↑
# of Primary Care MDs Per Capita (per 100,000)	73.7	50.5	510.1	↑
# of Psychiatric Specialists	6,827	1	1	↓
State Mental Health Facility Beds (per 100,000)*	18.7	28.7	23.7	↑
Inpatient Discharge Rate (per 1,000) - Total		188.0	219.8	↓
Could Not See Doctor Due to Cost (%)	10.0%	15.0%	12%	↓
Health Behaviors				
Cigarette Smoking (%)	18.0%	34.0%	31.50%	↓
Physical Inactivity (%)	24.0%	38.0%	21%	↓
Overweight/Obesity (% BMI > 25)	62.0%	66.0%	56%	↓
Obesity (% BMI > 30)	28.0%	35.0%	31%	↓
Low Fruit and Vegetable Consumption (% <5 a day)	80.0%	86.0%	77%	↓
Binge Drinking (%)	18.0%	14.0%	10%	↓
Teen Birth Rate (per 1,000)	18.6	28.5	32.7	↓
Sexually Transmitted Diseases (per 100,000)	385.0	215.0	259.9	↓
Violent Crime (per 100,000)	233.0	160.0	194	↓
Motor Vehicle Crash Deaths (per 100,000)	11.0	14.0	19	↓
Unmarried Mother Birth Rate (%)	35.0%	40.0%	37%	↓
Injury-related Mortality (Age Adjusted Rate per 100,000)	33.4	77.3	52.4	↓
Homicides (per 100,000)	5.0	0.0	3.3	↓

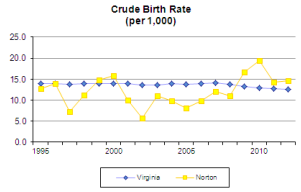
Cancer Incidence (Wise County):

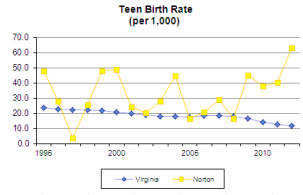






Birth Rate Trend (Wise County):





Key Indicators of Health Status (Wise County):

Socioecomonic Factors				
High School Graduation Rate (%)	88.0%	86.0%	84.90%	↑
Level of Education (%)	88.0%	74.0%	71%	↑
Unemployment (%)	6.2%	6.7%	7%	↓
Children (age 0 to 17) in poverty ratio (%)	15.5%	29.3%	27.10%	↓
Food Stamp Eligible Recipients (% of individuals)	11.6%	22.3%	21%	↓
Poverty Rate (% of all ages)	12.0%	26.0%	19.30%	↓
Temporary Assistance for Needy Families	0.8%	1.6%	2.10%	↓
High School Dropout Rate	1.4%	1.8%	1.90%	↓
Physical Environment				
Pre-1950 Housing (%)	13.2%	19.4%	21.60%	↓
Lead Poisoned Children (%)	0.2%	0.0%	0.50%	↓
Child Abuse and Neglect (rate per 1,000)	3.3	15.5	18.6	↓
Daily Fine Particulate Matter	12.5	12.7	12.3	↓
Communicable Diseases				
Hepatitis A (per 100,000)	0.6	4.4	0	↓
Campylobacter Infection (per 100,000)	9.4	13.2	11	↓
Salmonellosis (per 100,000)	14.1	17.5	17.6	↓
Shigellosis (per 100,000)	1.1	0.0	0	↓
AIDS/HIV cases (per 100,000)	305.3	98.6	107.9	↓
Early Stage Syphilis (per 100,000)	7.3	0.0	0	↓
Tuberculosis (per 100,000)	2.9	2.2	0	↓
Chlamydia (per 100,000)	432.5	335.4	242.3	↓
Gonorrhea (per 100,000)	85.1	19.7	11	↓

Local Health Highlights (Norton City):

STRENGTHS:

- Very low birth weight rate
- Binge drinking
- STDs
- Violent crime
- Lead poisoned children

WEAKNESSES:

- Reported general health status
- Very high rate of Medicaid enrollees
- High rates of death due to cardiovascular, cancer, diabetes, cerebrovascular, suicide, and injuries
- Prenatal care
- Smoking
- Increased rates of physical inactivity, overweight, and obesity
- Poverty and children in poverty
  Child abuse and neglect

Leading Causes of Death (Norton City):

Wise

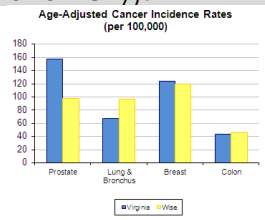
Cause of Death	Rate	Rank
Malignant Neoplasms	272	1
Heart Disease	248.0	2
Unintentional Injury	79.4	3
Chronic Lower Respiratory Diseae	65	4
Cerebrovascular Disease	53	5
Nephritis & Nephrosis	33.7	6
Alzheimer's Disease	28.9	7
Suicide	24.1	8
Diabetes Mellitus	24	9
Influenza & Pneumonia	12.0	10

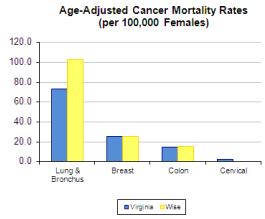
Key Indicators of Health Status (Norton City):

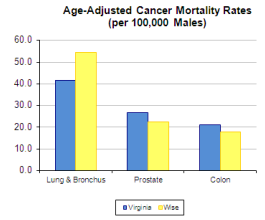
County: Norton, VA

	VA	Norton	2010	Desired
Health Outcomes				
Low Birth Weight (%)	8.3%	9.3%	10%	↓
General Health Status (% fair/poor health)	14.0%	11.0%	0%	↓
Very Low Birth Weight (%)	1.6%	2.6%	6.50%	↓
Infant Mortality (per 100,000)	8.3	7.1	1	↓
Mortality Rate (per 100,000)	735.8	884.4	854.2	↓
Cardiovascular Deaths (per 100,000)	161.3	370.0	169.4	↓
Cancer Deaths (5-yr avg rate per 100,000)	174.8	183.7	215.8	↓
Diabetes Mellitus Deaths (Age Adjusted Rate per 100,000)	20.0	24.7	22.5	↓
Cerebrovascular Deaths (Age Adjusted Rate per 100,000)	40.8	24.7	62.7	↓
Suicide Deaths (Age Adjusted Rate per 100,000)	12.9	49.3	18	↓
Mortality rate for ages 0 - 4 yrs (per 100,000)	152.9	411.5	526.3	↓
Mortality rate for ages 5 - 14 yrs (per 100,000)	13.5	0.0	0	↓
Mortality rate for ages 15 - 19 yrs (per 100,000)	44.5	0.0	0	↓
Mortality rates for ages 65+(per 1,000)	43.6	47.0	44.4	↓
Lung Cancer Deaths (5-yr avg rate per 100,000)*	49.5	74.6	74.6	↓
Female Breast Cancer Deaths (5-yr avg rate per 100,000)*	23.4	27.9	25.4	↓
Percent of Adults with Asthma*	8.0%	6.0%	12.40%	↓
Prevalence of Diabetes (% of adults)*	9.0%	7.0%	12.90%	↓
Psychosis Discharges (per 100,000)	332.7	394.7	1,262	↓
Health Determinants				
Health Care Resources				
No Health Insurance (%)	18.0%	16.0%	24.70%	↓
Medicaid/Tenncare Enrollees (%)	14.7%	35.5%	30%	↓
Medical Doctors	255.5	59.9	59.9	↑
No Biennial Mammography (%)*	28.0%	33.0%	29.20%	↓
PSA Testing Past 2 Years (%)*	56.0%	57.0%	45.20%	↑
Pap Test Past 3 Years (%)*	84.0%	77.0%	12%	↑
Sigmoidoscopy/Colonoscopy (%)*	72.0%	63.0%	51%	↑
Inadequate or No Prenatal Care (%)	13.0%	9.0%	32%	↓
First Trimester Prenatal Care (%)	81.9%	62.3%	62.90%	↑
Hospital Staffed Beds (per 1,000)	2.2	3.18	22.1	↑
Licensed Nursing Beds (per 1,000 65+)	3.9	10.9	73.7	↑
# of Primary Care MDs Per Capita (per 100,000)	73.7	426.7	510.1	↑
# of Psychiatric Specialists	6,827	1	1	↓
State Mental Health Facility Beds (per 100,000)*	18.7	28.7	23.7	↑
Inpatient Discharge Rate (per 1,000) - Total	157.2	188.0	74.6	↓
Could Not See Doctor Due to Cost (%)	10.0%	13.0%	12%	↓
Health Behaviors				
Cigarette Smoking (%)	18.0%	26.0%	31.50%	↓
Physical Inactivity (%)	24.0%	25.0%	22%	↓
Overweight/Obesity (% BMI > 25)	62.0%	61.0%	56%	↓
Obesity (% BMI > 30)	28.0%	28.0%	27%	↓
Low Fruit and Vegetable Consumption (% <5 a day)	80.0%	95.0%	76%	↓
Binge Drinking (%)	18.0%	10.0%	15%	↓
Teen Birth Rate (per 1,000)	18.6	52	16.5	↓
Sexually Transmitted Diseases (per 100,000)	385.0	278.0	259.9	↓
Violent Crime (per 100,000)	233.0	212.0	325	↓
Motor Vehicle Crash Deaths (per 100,000)	11.0	14.0	15	↓
Unmarried Mother Birth Rate (%)	35.0%	50.0%	46%	↓
Injury-related Mortality (Age Adjusted Rate per 100,000)	33.4	24.7	36.6	↓
Homicides (per 100,000)	5.0	0.0	3.3	↓

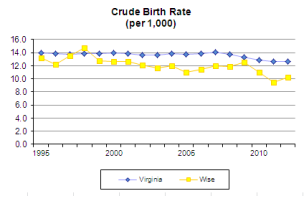
Cancer Incidence (Norton City):

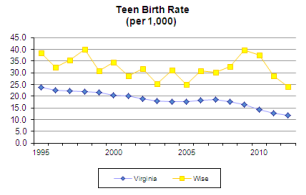






Birth Rate Trend (Norton City):





Key Indicators of Health Status (Norton City):

Socioecomonic Factors				
High School Graduation Rate (%)	88.0%	98.0%	83.10%	↑
Level of Education (%)	88.0%	81.0%	68%	↑
Unemployment (%)	6.2%	6.3%	6.60%	↓
Children (age 0 to 17) in poverty ratio (%)	15.5%	31.2%	31.40%	↓
Food Stamp Eligible Recipients (% of individuals)	11.6%	27.4%	28.60%	↓
Poverty Rate (% of all ages)	12.0%	18.0%	20.90%	↓
Temporary Assistance for Needy Families	0.8%	2.6%	3.80%	↓
High School Dropout Rate	1.4%	1.8%	2.40%	↓
Physical Environment				
Pre-1950 Housing (%)	13.2%	20.4%	26.60%	↓
Lead Poisoned Children (%)	0.2%	0.0%	0.00%	↓
Child Abuse and Neglect (rate per 1,000)	3.3	37	6.7	↓
Daily Fine Particulate Matter	12.5	12.8	11.8	↓
Communicable Diseases				
Hepatitis A (per 100,000)	0.6	4.4	0	↓
Campylobacter Infection (per 100,000)	9.4	13.2	11	↓
Salmonellosis (per 100,000)	14.1	17.5	17.6	↓
Shigellosis (per 100,000)	1.1	0.0	0	↓
AIDS/HIV cases (per 100,000)	305.3	98.7	0	↓
Early Stage Syphilis (per 100,000)	7.3	0.0	0	↓
Tuberculosis (per 100,000)	2.9	2.2	0	↓
Chlamydia (per 100,000)	432.5	335.4	242.3	↓
Gonorrhea (per 100,000)	85.1	19.7	11	↓

Inpatient Projections

	2014	2019		2024	
DRG Service Line	**Discharges**	**Discharges**	**% Change**	**Discharges**	**% Change**
Cardiac Surgery	53	53	0.20%	55	3.30%
Cardiology	927	799	-13.80%	701	-24.30%
Cardiology Intervention	224	207	-7.50%	195	-12.80%
Endocrinology	241	193	-19.70%	177	-26.70%
ENT Surgery	17	15	-9.80%	14	-15.30%
Gastroenterology	736	688	-6.60%	673	-8.50%
General Medicine	869	876	0.80%	820	-5.60%
General Surgery	465	441	-5.10%	426	-8.30%
Gynecology	81	73	-10.00%	67	-16.80%
Hematology	91	90	-1.60%	92	1.10%
Neonatology	148	135	-8.50%	125	-15.40%
Nephrology	383	354	-7.50%	314	-18.10%
Neurology	332	328	-1.30%	335	0.80%
Neurosurgery	99	94	-5.40%	91	-8.40%
Normal Newborns	336	344	2.50%	338	0.60%
OB Deliveries Sections	186	158	-15.00%	145	-22.20%
OB Deliveries Vaginal	311	326	4.80%	323	3.70%
OB Other	101	96	-4.70%	93	-7.60%
Oncology Medicine	99	94	-4.80%	85	-14.60%
Oncology Surgery	26	26	0.80%	25	-2.20%
Ophthalmic Medicine	10	9	-12.60%	8	-18.00%
Oral Surgery	7	6	-9.00%	6	-13.90%
Orthopedic Medicine	82	83	0.80%	84	2.30%
Orthopedic Surgery	366	381	4.10%	384	5.00%
Otolaryngology	35	29	-16.20%	27	-22.50%
Plastic Surgery	27	25	-6.20%	23	-14.80%
Psychiatry	325	353	8.50%	329	1.10%
Pulmonary	1,197	1,035	-13.50%	964	-19.50%
Rehabilitation	181	145	-20.00%	154	-14.90%
Rheumatology	35	34	-3.50%	35	-1.20%
Substance Abuse	37	38	3.00%	38	2.10%
Thoracic Surgery	49	45	-7.80%	44	-11.10%
Trauma Medical	32	31	-3.10%	32	-1.60%
Unspecified	5	5	0.00%	5	0.00%
Urology Medicine	27	22	-16.70%	20	-26.70%
Urology Surgery	50	45	-9.60%	41	-17.20%
Vascular Surgery	86	83	-3.50%	82	-5.10%
Womens Other	1	1	-1.00%	1	-10.10%
Grand Total	**8,277**	**7,763**	**-6.20%**	**7,370**	**-11.00%**

Outpatient Projections

	2014		2019			2024	
Site of Care	**Volumes**		**Volumes**	**% Change**		**Volumes**	**% Change**
ED	29,773		29,910	0.50%		28,603	-3.90%
Home	54,945		63,828	16.20%		69,750	26.90%
Hosp OP/ASC	83,295		89,646	7.60%		91,776	10.20%
Office/Clinic	408,336		431,832	5.80%		409,652	0.30%
Other	22,723		24,930	9.70%		25,051	10.20%
SNF	1,353		1,477	9.20%		1,554	14.90%
Urgent/Retail	337		350	3.80%		338	0.20%
Virtual			9,463			38,779	
Grand Total	**600,763**		**651,436**	**8.40%**		**665,503**	**10.80%**

Interview Highlights:

INTERVIEWEES:

- Three individuals

KEY FINDINGS:

- Average rating of health status is 3, with a range in responses of 1 to 4
- Top health issues are:
  - Diabetes
  - Obesity
  - Drug Abuse
  - Smoking
  - Lack of Specialty Care
  - Mental Health
- Ideas to improve these conditions include:
  - Additional specialty providers
  - Press releases/fliers to inform public about health programs
  - Give physicians and patients diabetes fact sheets
  - In home monitoring of chronic conditions
  - Dental assistants/hygienists to visit schools
  - Train ER physicians on minor dental procedures
  - Social/community support programs
  - Increased hospital and home health referrals to PACE and MEOC programs

Sources:

- Medstat
- County Health Rankings
- Kidscount
- VA Atlas of Community Health
- VA Dept of Health
- Kaiser Family Foundation
- VA Dept of Behavioral Health and Developmental Services
- VA Dept of Social Services
- U.S. Census
- CDC Wonder

Local Resources:

- Lenowisco Health District
- Mountain Empire Older Citizens
- Free Clinics
- Quit Line referral
- Local health departments
- Diabetes support groups
- Farmer's Market
- PACE program (Program of All Inclusive Care for the Elderly)
- Mountain Laurel Cancer Research Center
- Pharmacy connect program
- Children's Advocacy Center
- Healthy Families program

APPENDIX

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1. Sullivan, TN Detailed Demographics
2. Hawkins, TN Detailed Demographics
3. Scott, VA Detailed Demographics
4. Wise County & Norton City, VA Detailed Demographics

Mountain State Health Alliance

Sullivan County, TN

Population and Gender	Market 2015 Population	Market 2015 % of Total	Market 2020 Population	Market 2020 % of Total	Market Population % Change	National 2015 % of Total
Female Population	82,467	51.6%	83,193	51.6%	0.9%	50.8%
Male Population	77,249	48.4%	78,076	48.4%	1.1%	49.2%
Total	159,716	100.0%	161,269	100.0%	1.0%	100.0%

Age Groups	Market 2015 Population	Market 2015 % of Total	Market 2020 Population	Market 2020 % of Total	Market Population % Change	National 2015 % of Total
00-17	31,429	19.7%	30,327	18.8%	(3.5)%	23.1%
18-44	48,753	30.5%	48,225	29.9%	(1.1)%	35.9%
45-64	46,417	29.1%	45,329	28.1%	(2.3)%	26.3%
65-UP	33,117	20.7%	37,388	23.2%	12.9%	14.7%
Total	159,716	100.0%	161,269	100.0%	1.0%	100.0%

Ethnicity/Race	Market 2015 Population	Market 2015 % of Total	Market 2020 Population	Market 2020 % of Total	Market Population % Change	National 2015 % of Total
Asian & Pacific Is. Non-Hispanic	1,181	0.7%	1,426	0.9%	20.8%	5.3%
Black Non-Hispanic	3,819	2.4%	4,313	2.7%	12.9%	12.3%
Hispanic	3,015	1.9%	3,712	2.3%	23.1%	17.6%
White Non-Hispanic	149,096	93.4%	148,907	92.3%	(0.1)%	61.8%
All Others	2,605	1.6%	2,911	1.8%	11.8%	3.1%
Total	159,716	100.0%	161,269	100.0%	1.0%	100.0%

Language*	Market 2015 Population	Market 2015 % of Total	Market 2020 Population	Market 2020 % of Total	Market Population % Change	National 2015 % of Total
Germanic Lang at Home	285	0.2%	283	0.2%	(0.7)%	0.5%
Only English at Home	147,691	97.3%	149,340	97.4%	1.1%	79.0%
Other Indo-European Lang at Home	602	0.4%	601	0.4%	(0.2)%	1.8%
Other Lang at Home	202	0.1%	203	0.1%	0.5%	0.9%
Spanish at Home	2,177	1.4%	2,186	1.4%	0.4%	13.0%
All Others	764	0.5%	758	0.5%	(0.8)%	4.7%
Total	151,721	100.0%	153,371	100.0%	1.1%	100.0%

Mountain State Health Alliance

Sullivan County, TN

Household Income	Market 2015 Households	Market 2015 % of Total	Market 2020 Households	Market 2020 % of Total	Market Households % Change	National 2015 % of Total
<$15K	10,586	15.6%	9,374	13.6%	(11.5)%	12.7%
$15-25K	10,321	15.2%	9,508	13.8%	(7.9)%	10.8%
$25-50K	18,992	28.0%	19,038	27.7%	0.2%	23.9%
$50-75K	11,811	17.4%	11,702	17.0%	(0.9)%	17.8%
$75-100K	6,376	9.4%	6,984	10.2%	9.5%	12.0%
$100K-200K	7,914	11.7%	9,619	14.0%	21.5%	17.9%
>$200K	1,858	2.7%	2,505	3.6%	34.8%	5.0%
Total	67,858	100.0%	68,730	100.0%	1.3%	100.0%

Education Level**	Market 2015 Population	Market 2015 % of Total	Market 2020 Population	Market 2020 % of Total	Market Population % Change	National 2015 % of Total
Less than High School	7,645	6.6%	7,867	6.7%	2.9%	5.9%
Some High School	9,906	8.6%	10,189	8.7%	2.9%	8.0%
High School Degree	40,421	35.1%	41,336	35.2%	2.3%	28.1%
Some College/Assoc. Degree	34,264	29.7%	34,808	29.6%	1.6%	31.1%
Bachelor's Degree or Greater	23,046	20.0%	23,244	19.8%	0.9%	26.9%
Total	115,282	100.0%	117,444	100.0%	1.9%	100.0%

*Excludes population age <5, **Excludes population age <25

Mountain State Health Alliance

Hawkins County, TN

Population and Gender	Market 2015 Population	Market 2015 % of Total	Market 2020 Population	Market 2020 % of Total	Market Population % Change	National 2015 % of Total
Female Population	27,856	50.8%	28,207	50.8%	1.3%	50.8%
Male Population	27,010	49.2%	27,310	49.2%	1.1%	49.2%
Total	54,866	100.0%	55,517	100.0%	1.2%	100.0%

Age Groups	Market 2015 Population	Market 2015 % of Total	Market 2020 Population	Market 2020 % of Total	Market Population % Change	National 2015 % of Total
00-17	11,367	20.7%	10,797	19.5%	(5.0)%	23.1%
18-44	16,768	30.6%	16,580	29.9%	(1.1)%	35.9%
45-64	16,158	29.5%	15,932	28.7%	(1.4)%	26.3%
65-UP	10,573	19.3%	12,208	22.0%	15.5%	14.7%
Total	54,866	100.0%	55,517	100.0%	1.2%	100.0%

Ethnicity/Race	Market 2015 Population	Market 2015 % of Total	Market 2020 Population	Market 2020 % of Total	Market Population % Change	National 2015 % of Total
Asian & Pacific Is. Non-Hispanic	219	0.4%	212	0.4%	(3.2)%	5.3%
Black Non-Hispanic	723	1.3%	818	1.5%	13.1%	12.3%
Hispanic	853	1.6%	1,087	2.0%	27.4%	17.6%
White Non-Hispanic	52,310	95.3%	52,496	94.6%	0.4%	61.8%
All Others	761	1.4%	904	1.6%	18.8%	3.1%
Total	54,866	100.0%	55,517	100.0%	1.2%	100.0%

Language*	Market 2015 Population	Market 2015 % of Total	Market 2020 Population	Market 2020 % of Total	Market Population % Change	National 2015 % of Total
Chinese at Home	69	0.1%	68	0.1%	(1.5)%	1.0%
French at Home	34	0.1%	31	0.1%	(8.8)%	0.7%
Only English at Home	51,017	98.0%	51,681	98.0%	1.3%	79.0%
Other Lang at Home	94	0.2%	93	0.2%	(1.1)%	0.9%
Spanish at Home	759	1.5%	762	1.4%	0.4%	13.0%
All Others	112	0.2%	120	0.2%	7.1%	5.3%
Total	52,085	100.0%	52,755	100.0%	1.3%	100.0%

Mountain State Health Alliance

Hawkins County, TN

Household Income	Market 2015 Households	Market 2015 % of Total	Market 2020 Households	Market 2020 % of Total	Market Households % Change	National 2015 % of Total
<$15K	3,255	14.5%	2,901	12.7%	(10.9)%	12.7%
$15-25K	3,216	14.3%	2,764	12.1%	(14.1)%	10.8%
$25-50K	7,036	31.2%	6,868	30.1%	(2.4)%	23.9%
$50-75K	3,923	17.4%	3,943	17.3%	0.5%	17.8%
$75-100K	2,332	10.4%	2,550	11.2%	9.4%	12.0%
$100K-200K	2,445	10.9%	3,323	14.6%	35.9%	17.9%
>$200K	313	1.4%	480	2.1%	53.4%	5.0%
Total	22,520	100.0%	22,829	100.0%	1.4%	100.0%

Education Level**	Market 2015 Population	Market 2015 % of Total	Market 2020 Population	Market 2020 % of Total	Market Population % Change	National 2015 % of Total
Less than High School	3,991	10.2%	4,095	10.3%	2.6%	5.9%
Some High School	3,728	9.5%	3,828	9.6%	2.7%	8.0%
High School Degree	16,946	43.3%	17,338	43.4%	2.3%	28.1%
Some College/Assoc. Degree	10,064	25.7%	10,237	25.6%	1.7%	31.1%
Bachelor's Degree or Greater	4,411	11.3%	4,463	11.2%	1.2%	26.9%
Total	39,140	100.0%	39,961	100.0%	2.1%	100.0%

*Excludes population age <5, **Excludes population age <25

Mountain State Health Alliance

Scott County, VA

Population and Gender	Market 2015 Population	Market 2015 % of Total	Market 2020 Population	Market 2020 % of Total	Market Population % Change	National 2015 % of Total
Female Population	11,312	49.8%	11,345	49.8%	0.3%	50.8%
Male Population	11,389	50.2%	11,457	50.3%	0.6%	49.2%
Total	22,701	100.0%	22,802	100.0%	0.4%	100.0%

Age Groups	Market 2015 Population	Market 2015 % of Total	Market 2020 Population	Market 2020 % of Total	Market Population % Change	National 2015 % of Total
00-17	4,205	18.5%	4,031	17.7%	(4.1)%	23.1%
18-44	6,961	30.7%	6,849	30.0%	(1.6)%	35.9%
45-64	6,623	29.2%	6,433	28.2%	(2.9)%	26.3%
65-UP	4,912	21.6%	5,489	24.1%	11.8%	14.7%
Total	22,701	100.0%	22,802	100.0%	0.4%	100.0%

Ethnicity/Race	Market 2015 Population	Market 2015 % of Total	Market 2020 Population	Market 2020 % of Total	Market Population % Change	National 2015 % of Total
Asian & Pacific Is. Non-Hispanic	55	0.2%	78	0.3%	41.8%	5.3%
Black Non-Hispanic	187	0.8%	243	1.1%	30.0%	12.3%
Hispanic	324	1.4%	432	1.9%	33.3%	17.6%
White Non-Hispanic	21,938	96.6%	21,848	95.8%	(0.4)%	61.8%
All Others	197	0.9%	201	0.9%	2.0%	3.1%
Total	22,701	100.0%	22,802	100.0%	0.4%	100.0%

Language*	Market 2015 Population	Market 2015 % of Total	Market 2020 Population	Market 2020 % of Total	Market Population % Change	National 2015 % of Total
Only English at Home	21,319	98.6%	21,450	98.6%	0.6%	79.0%
Other Asian-Pacific Lang at Home	40	0.2%	43	0.2%	7.5%	0.9%
Other Indo-European Lang at Home	15	0.1%	14	0.1%	(6.7)%	1.8%
Spanish at Home	225	1.0%	216	1.0%	(4.0)%	13.0%
Vietnamese at Home	8	0.0%	10	0.1%	25.0%	0.5%
All Others	14	0.1%	14	0.1%	0.0%	4.8%
Total	21,621	100.0%	21,747	100.0%	0.6%	100.0%

Mountain State Health Alliance

Scott County, VA

Household Income	Market 2015 Households	Market 2015 % of Total	Market 2020 Households	Market 2020 % of Total	Market Households % Change	National 2015 % of Total
<$15K	1,753	18.2%	1,473	15.2%	(16.0)%	12.7%
$15-25K	1,408	14.6%	1,318	13.6%	(6.4)%	10.8%
$25-50K	2,722	28.3%	2,578	26.6%	(5.3)%	23.9%
$50-75K	1,404	14.6%	1,538	15.9%	9.5%	17.8%
$75-100K	1,125	11.7%	1,039	10.7%	(7.6)%	12.0%
$100K-200K	1,078	11.2%	1,538	15.9%	42.7%	17.9%
>$200K	136	1.4%	203	2.1%	49.3%	5.0%
Total	9,626	100.0%	9,687	100.0%	0.6%	100.0%

Education Level**	Market 2015 Population	Market 2015 % of Total	Market 2020 Population	Market 2020 % of Total	Market Population % Change	National 2015 % of Total
Less than High School	2,323	13.8%	2,354	13.9%	1.3%	5.9%
Some High School	1,835	10.9%	1,864	11.0%	1.6%	8.0%
High School Degree	6,538	39.0%	6,632	39.1%	1.4%	28.1%
Some College/Assoc. Degree	4,321	25.8%	4,362	25.7%	1.0%	31.1%
Bachelor's Degree or Greater	1,766	10.5%	1,764	10.4%	(0.1)%	26.9%
Total	16,783	100.0%	16,976	100.0%	1.2%	100.0%

*Excludes population age <5, **Excludes population age <25

Mountain State Health Alliance

Wise County, VA

Population and Gender	Market 2015 Population	Market 2015 % of Total	Market 2020 Population	Market 2020 % of Total	Market Population % Change	National 2015 % of Total
Female Population	23,361	48.9%	23,195	49.0%	(0.7)%	50.8%
Male Population	24,421	51.1%	24,184	51.0%	(1.0)%	49.2%
Total	47,782	100.0%	47,379	100.0%	(0.8)%	100.0%

Age Groups	Market 2015 Population	Market 2015 % of Total	Market 2020 Population	Market 2020 % of Total	Market Population % Change	National 2015 % of Total
00-17	9,817	20.6%	9,492	20.0%	(3.3)%	23.1%
18-44	17,184	36.0%	16,635	35.1%	(3.2)%	35.9%
45-64	13,131	27.5%	12,524	26.4%	(4.6)%	26.3%
65-UP	7,650	16.0%	8,728	18.4%	14.1%	14.7%
Total	47,782	100.0%	47,379	100.0%	(0.8)%	100.0%

Ethnicity/Race	Market 2015 Population	Market 2015 % of Total	Market 2020 Population	Market 2020 % of Total	Market Population % Change	National 2015 % of Total
Asian & Pacific Is. Non-Hispanic	241	0.5%	285	0.6%	18.3%	5.3%
Black Non-Hispanic	2,222	4.7%	2,095	4.4%	(5.7)%	12.3%
Hispanic	752	1.6%	944	2.0%	25.5%	17.6%
White Non-Hispanic	43,894	91.9%	43,247	91.3%	(1.5)%	61.8%
All Others	673	1.4%	808	1.7%	20.1%	3.1%
Total	47,782	100.0%	47,379	100.0%	(0.8)%	100.0%

Language*	Market 2015 Population	Market 2015 % of Total	Market 2020 Population	Market 2020 % of Total	Market Population % Change	National 2015 % of Total
French at Home	151	0.3%	152	0.3%	0.7%	0.7%
Only English at Home	44,033	97.5%	43,755	97.6%	(0.6)%	79.0%
Other Indo-European Lang at Home	38	0.1%	36	0.1%	(5.3)%	1.8%
Other Lang at Home	162	0.4%	155	0.4%	(4.3)%	0.9%
Spanish at Home	628	1.4%	614	1.4%	(2.2)%	13.0%
All Others	135	0.3%	127	0.3%	(5.9)%	4.5%
Total	45,147	100.0%	44,839	100.0%	(0.7)%	100.0%

Mountain State Health Alliance

Wise County, VA

Household Income	Market 2015 Households	Market 2015 % of Total	Market 2020 Households	Market 2020 % of Total	Market Households % Change	National 2015 % of Total
<$15K	4,027	21.4%	3,637	19.3%	(9.7)%	12.7%
$15-25K	2,810	14.9%	2,753	14.6%	(2.0)%	10.8%
$25-50K	4,749	25.2%	4,623	24.6%	(2.7)%	23.9%
$50-75K	3,236	17.2%	3,126	16.6%	(3.4)%	17.8%
$75-100K	1,868	9.9%	1,967	10.5%	5.3%	12.0%
$100K-200K	1,913	10.2%	2,367	12.6%	23.7%	17.9%
>$200K	247	1.3%	334	1.8%	35.2%	5.0%
Total	18,850	100.0%	18,807	100.0%	(0.2)%	100.0%

Education Level**	Market 2015 Population	Market 2015 % of Total	Market 2020 Population	Market 2020 % of Total	Market Population % Change	National 2015 % of Total
Less than High School	4,274	12.9%	4,318	13.0%	1.0%	5.9%
Some High School	4,631	14.0%	4,675	14.1%	1.0%	8.0%
High School Degree	10,469	31.7%	10,514	31.7%	0.4%	28.1%
Some College/Assoc. Degree	9,575	29.0%	9,606	29.0%	0.3%	31.1%
Bachelor's Degree or Greater	4,103	12.4%	4,070	12.3%	(0.8)%	26.9%
Total	33,052	100.0%	33,183	100.0%	0.4%	100.0%

*Excludes population age <5, **Excludes population age <25



2015 COMMUNITY HEALTH NEEDS ASSESSMENT

JOHNSON COUNTY COMMUNITY HOSPITAL

Published June 29, 2015

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Introduction

Mountain States Health Alliance (MSHA) is an integrated health care delivery system providing a comprehensive continuum of care to people in 29 counties in Tennessee, Virginia, Kentucky, and North Carolina. MSHA was formed after Johnson City Medical Center Hospital, Inc. acquired six Columbia/HCA hospitals in Northeast Tennessee on September 1, 1998; and was later renamed Mountain States Health Alliance in January 1999.

Today, MSHA is the largest regional health care system with 13 hospitals operating at approximately $1.0 billion in net revenues. The hospitals are:

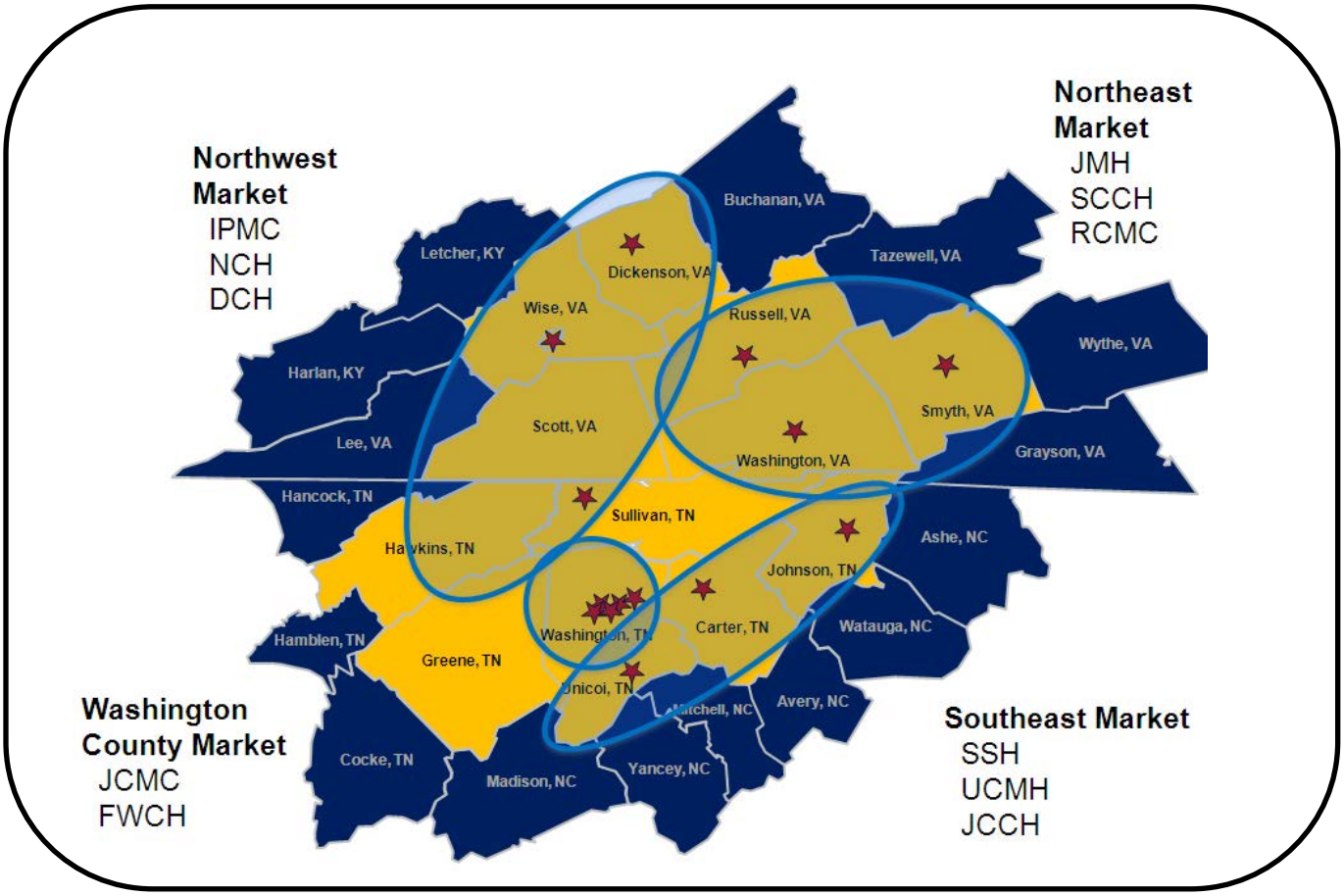
- Johnson City Medical Center
- Niswonger Children's Hospital
- Woodridge Psychiatric Hospital
- Franklin Woods Community Hospital
- Unicoi County Community Hospital
- Indian Path Medical Center
- Johnson County Community Hospital
- Sycamore Shoals Hospital
- Dickenson Community Hospital
- Johnston Memorial Hospital
- Norton Community Hospital
- Russell County Medical Center
- Smyth County Community Hospital

In addition to 13 hospitals, MSHA's integrated health care delivery system includes primary/preventive care centers and numerous outpatient care sites, including First Assist Urgent Care, MedWorks, Same Day Surgery, and Mountain States Rehabilitation.

Executive Summary

Regional and national rankings for health factors continue to be disappointing as cancer, heart disease, and diabetes rates continue to increase each year. Obesity and smoking continue to be major problems in the United States, leading to additional diseases. From a global perspective, the United States falls behind other developing nations in health outcomes. Clearly, there are many needs that exist and need attention. The interrelatedness between the health of a community, its economic status, and its educational attainment levels is becoming increasingly recognized. Mountain States Health Alliance (MSHA) exists to "*identify and respond to the health care needs of individuals and communities in our region and to assist them in attaining their highest possible level of health.*" In doing so, MSHA recognizes this is a very complex challenge that involves the engagement of many prongs of the community.

In order for MSHA to serve its region most effectively, it is essential to understand each community's individual needs. MSHA has conducted a Community Health Needs Assessment to profile the health of the residents within the local region (a map of the MSHA service area is provided on the following page). Activities associated with the development of this assessment have taken place from spring of 2014 through spring of 2015, including state, regional and county-specific secondary data collection and primary data obtained through individual surveys and focus groups with individuals from the local communities.



★ Represents county in which MSHA owns a facility. MSHA has part-ownership in other hospitals but they are not included in this assessment.

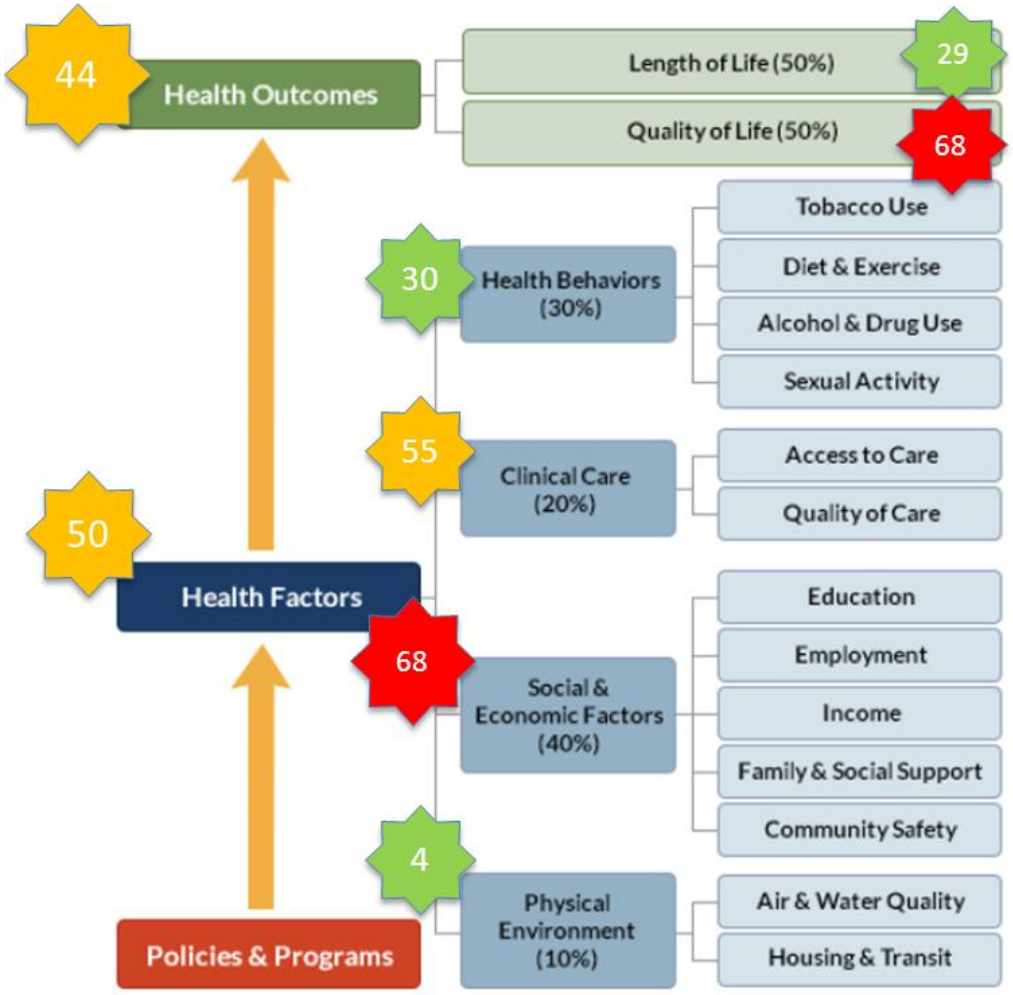
*Service Area is defined by approximately 80% of inpatient population.

Throughout the assessment, high priority was given to determining the health status and available resources within each community. Community members from each county met with MSHA to discuss current health priorities and identify potential solutions. The information gathered from a local perspective, paired with regional, state and national data, helps to communicate the region's health situation in order to begin formulating solutions for improvement.

In 2014, Tennessee ranked 45th and Virginia ranked 21st out of 50 states for overall health outcomes. Both states had high rates of adult obesity, cancer deaths, infant mortality, and diabetes. Though Virginia's overall ranking is moderately low, the health outcomes in Southwest Virginia counties, where MSHA's facilities are located, resembles those of Tennessee. After compiling the various sources of information, the top health priorities were identified for the communities that each of the MSHA hospitals serve. This effort has determined the top health priorities identified in Johnson County to include **diabetes, smoking, cancer, and obesity**. There are certainly a number of other health challenges in this community, but these rise to the top based on this assessment.

According to the 2015 County Health Rankings, Johnson County is ranked 44th in Tennessee for health outcomes and 50th for health factors out of 95 counties. The leading causes of death for ages 65 and over are heart disease, cancer, and stroke. Johnson County also ranked 30th in health behaviors. When compared to other Tennessee counties, Johnson County has high physical inactivity, low consumption of vegetables, and high overweight/obesity rates. As for social and economic factors, Johnson County ranks 68th due to low rates of college education, high rates of children in poverty, and high unemployment rates.

Johnson County Health Ranking
2015 County Health Rankings
www.countyhealthrankings.org



*Ranking is in comparison to all 95 counties in the state of Tennessee.

Community Interview Summary

Between spring 2014 and spring 2015 the MSHA Strategic Planning Department completed individual interviews and a focus group in order to connect with community members of Johnson County and determine the needs of the community that Johnson County Community Hospital serves. MSHA hospital administration teams were contacted in order to obtain names of individuals

in the community who were considered public health officials or community leaders. The 11 interviewees included representatives from the local health department, medical clinic, school nursing program, school system administration and emergency medical service. These individuals were invited to discuss and assist in determining the health priorities and resources available in their community of Johnson County.

Collecting Community Input

In order to complete the community health needs assessment for Johnson County Community Hospital, MSHA met with various individuals from Johnson County, TN. The organizations that were represented are listed in Table 1.1.

Table 1.1 – Summary Organizations Participating in JCCH's CHNA

Reported Organizations Providing Input for Assessment
Johnson County Community Hospital
Johnson County Health Department
Johnson County Rescue and Emergency Medical Services
East Tennessee State University College of Nursing at Mountain City Extended Hours
Johnson County Schools

To begin the community health needs assessment, MSHA's strategic planning staff presented data that had been collected to illustrate past and current health trends for Tennessee and Johnson County. The presentation depicted the current national health rankings, in addition to providing a snapshot of the county.

Following the presentation, each participant was given a survey to determine the individual's personal assessment of their county's health priorities. Secondly, the individuals were asked to submit ideas and suggestions as to how MSHA could use the available resources in order to improve the health priorities determined. After the surveys had been completed, each group discussed the questions and continued brainstorming ways to address obstacles and utilize resources. All of the information collected from the surveys and open discussion was evaluated and prioritized based on health needs.

In surveys obtained from the Johnson County representatives, several community health needs and resources were identified. Table 1.2 lists the survey questions given to each participant in the assessment.

Table 1.2 – Community Survey Questions

	Survey Questions
1	How would you rate the general health status of the patient population in this community on a scale of 1 to 10 (with 1 being the poorest and 10 being the best)?
2	Keeping in mind resources are not unlimited, can you identify the top 1-2 health priorities in your local community that you feel should be addressed in the following areas: a)Health Outcomes/Diseases b)Health Behaviors c)Social Environment
3	What existing resources, such as organized groups or public health initiatives have been developed and are in place to address these health priorities?
4	What ideas do you have that may serve to improve these health priorities?

Health Status Rating

Overall, the general health status of Johnson County was rated as 5.14 on a scale of 1 – 10, with 1 being the poorest and 10 being the best. Individual responses ranged from 3 to 7. The health ranking for Johnson County can be found below in Table 1.3.

Table 1.3 – Average Health Status Ranking

MSHA Facility/County	Number of Individuals	Average of Health Status Rating
Johnson County Community Hospital, Johnson County, TN	11	5.14

Top Health Priorities

From the results of the surveys, the most prevalent health priorities in Johnson County were diabetes, smoking, cancer and obesity (physical inactivity/poor diet). Table 1.4 lists the health priorities input provided by community participants.

Table 1.4 – Top Identified Health Priorities

Top Health Priorities	Responses	% of Total Responses
Health Outcomes/Diseases		
Diabetes	10	91%
Cancer	8	73%
Obesity	7	64%
Cardiovascular Disease	6	55%
Behavioral Health	4	36%
Asthma	3	27%
Health Behaviors		
Smoking and Tobacco Use	9	82%
Inactivity	7	64%
Poor diet	6	55%
Substance misuse/abuse	6	55%
Smoking and Tobacco Use	9	82%
Social Environment		
Education	2	18%
Fatalism (feeling of no control of outcomes)	2	18%
Geographic Isolation / Transportation Barrier	2	18%
Built environment	2	18%
Poverty	2	18%
Familial dynamics: disrupted families, multi-generational living	2	18%
Lack of activities/resources	2	18%

*Individuals submitted multiple answers regarding health priorities.

These priorities are consistent with the secondary data findings.

- Diabetes
  - The prevalence rate of diabetes in Johnson County well exceeds the state average (13% vs. 11%).
  - Diabetic monitoring is less than the state average (defined as the percentage of diabetic Medicare enrollees ages 65-75 that receive HbA1c monitoring; 82% vs. 86%)
- Smoking
  - Smoking during pregnancy rates in Johnson County are 2.5 times that of the state average (39% vs. 16%)
  - Approximately 28% of Johnson County adults smoke compared to 23% of TN
- Cancer
  - Both age-adjusted lung cancer and colon cancer mortality rates of women well exceed the state average; lung cancer mortality rates of men are nearly double the state average (140 vs. 80 per 100,000)
  - The three year average rate of cancer deaths per 100,000 in Johnson County well exceeds the state rate (248 vs. 214)
- Obesity
  - Self-reported physical inactivity rates among Johnson County residents exceed the state average (34% vs. 30%)

All of these issues lead to a higher percentage of self-reported age-adjusted fair or poor health rates in Johnson County compared to the state (26% vs. 19%) as well as a higher number of years of potential life lost before 75 per 100,000 (a measure of premature death) at well over 9,000 in the county vs. 8,700 in TN.

Johnson (JO)

	Johnson County	Error Margin	Top U.S. Performers*	Tennessee	Rank (of 95)
Health Outcomes					44
Length of Life					29
Premature death	9,058	7,389-10,727	5,200	8,696	
Quality of Life					68
Poor or fair health	26%	20-33%	10%	19%	
Poor physical health days	5.0	3.8-6.2	2.5	4.3	
Poor mental health days	3.0	2.0-4.0	2.3	3.4	
Low birthweight	9.9%	8.1-11.6%	5.9%	9.2%	
Health Factors					50
Health Behaviors					30
Adult smoking	28%	20-37%	14%	23%	
Adult obesity	31%	25-38%	25%	32%	
Food environment index	7.0		8.4	6.9	
Physical inactivity	34%	27-41%	20%	30%	
Access to exercise opportunities	100%		92%	70%	
Excessive drinking			10%	9%	
Alcohol-impaired driving deaths	9%		14%	28%	
Sexually transmitted infections	88		138	504	
Teen births	60	51-68	20	47	
Clinical Care					55
Uninsured	18%	16-20%	11%	16%	
Primary care physicians	2,262:1		1,045:1	1,388:1	
Dentists	3,595:1		1,377:1	1,996:1	
Mental health providers	2,568:1		386:1	786:1	
Preventable hospital stays	74	63-86	41	73	
Diabetic monitoring	82%	71-93%	90%	86%	
Mammography screening	63.0%	52.3-73.7%	70.7%	61.8%	
Social & Economic Factors					68
High school graduation	93%			87%	
Some college	35.0%	28.6-41.5%	71.0%	57.7%	
Unemployment	9.9%		4.0%	8.2%	
Children in poverty	38%	29-48%	13%	27%	
Income inequality	4.9	4.3-5.5	3.7	4.8	
Children in single-parent households	24%	15-33%	20%	36%	
Social associations	16.6		22.0	11.5	
Violent crime	476		59	621	
Injury deaths	78	61-98	50	78	
Physical Environment					4
Air pollution - particulate matter	13.0		9.5	13.8	
Drinking water violations	8%		0%	4%	
Severe housing problems	13%	9-16%	9%	15%	
Driving alone to work	80%	76-83%	71%	84%	
Long commute - driving alone	36%	29-43%	15%	32%	

* 90th percentile, i.e., only 10% are better.
Note: Blank values reflect unreliable or missing data

2015

Identifying Available Resources

MSHA realizes that there are numerous resources in all of the counties it serves that can provide care for individuals. Our goal, in order to reduce costs and provide the best care possible for patients, is to identify these resources to prevent duplication of services and efforts. The interviewees were asked to list all of the services and resources within their community. The interviewees acknowledged that many resources currently exist to help meet health needs. Table 1.5 lists the current resources within each county that offer health services to the community.

Table 1.5 – Identified Available Resources

Resources Available
Johnson County, Tennessee
After School Programs
Anti-Drug/ACTION Coalition
Cancer Support Group
Coordinated School Health
Extended Hours Clinic
Frontier Health
Intensive Outpatient Program
Johnson County Health Council
Medical Mission
Pregnancy Support Center
Telemedicine
Tennessee Department of Health Primary Prevention Initiative
UT/TSU Extension Service

*MSHA understands that there are other resources available in each county that are not listed in this table. This table represents only the resources listed by participants in community health needs assessment. MSHA will continue to identify resources.

Improving Health Priorities

The community members who were surveyed provided helpful ideas as to how to begin formulating a plan to improve the health priorities throughout the region. To enhance existing resources, the participants stressed the significance of increasing public awareness of both addressing one's health needs and the availability of health care options within each community. Additional suggestions as to how MSHA can improve the previously identified health priorities are listed in Table 1.6.

Table 1.6 – Ideas to Improve Health Priorities

	Responses
1	Better marketing of available health-related programs and resources
2	Comprehensive smoking cessation services
3	Built environment to promote access to physical activity: wellness center, fitness trails
4	Increase health education programs and opportunities
5	Behavioral health services
6	Inpatient and outpatient substance abuse treatment
7	Recruiting specialists to area
8	Enhance telehealth services
9	Community engagement
10	Use churches to disseminate information
11	After school health programs for children

However, it is also helpful to understand from a more global perspective the health status of our nation as a whole, since many issues we face in our service area are not limited to just our region. Compiled on an annual basis, the *America's Health Rankings* publication developed by the United Health Foundation, the American Public Health Association and Partnership for Prevention provides one of the most comprehensive assessments regarding the status of the nation's health. The following information in the national and regional overview is from the 2015 edition

Health is a result of our behaviors, our individual genetic predisposition to disease, the environment and the community in which we live, the clinical care we receive and the policies and practices of our health care and prevention systems. Each of us, individually, as a community, and as a society, strives to optimize these health determinants, so that all of us can have a long, disease-free, and robust life regardless of race, gender or socio-economic status.

This report looks at the four groups of health determinants that can be affected:

1. **Behaviors** include the everyday activities we do that affect our personal health. It includes habits and practices we develop as individuals and families that have an effect on our personal health and on our utilization of health resources. These behaviors are modifiable with effort by the individual supported by community, policy and clinical interventions.

2. **Community and environment** reflects the reality that the daily conditions in which we live our lives have a great effect on achieving optimal individual health.

3**. Public and health policies** are indicative of the availability of resources to encourage and maintain health and the extent that public and health programs reach into the general population.

4. **Clinical care reflect**s the quality, appropriateness and cost of the care we receive at doctors' offices, clinics and hospitals.

All health determinants are intertwined and must work together to be optimally effective. For example, an initiative that addresses tobacco cessation requires not only efforts on the part of the individual but also support from the community in the form of public and health policies that promote non-smoking and the availability of effective counseling and care at clinics. Similarly sound prenatal care requires individual effort, access to and availability of prenatal care coupled with high quality health care services. Addressing obesity, which is a health epidemic now facing this country, requires coordination among almost all sectors of the economy including food producers, distributors, restaurants, grocery and convenience stores, exercise facilities, parks, urban and transportation design, building design, educational institutions, community organizations, social groups, health care delivery and insurance to complement and augment individual actions.



America's Health Rankings® combines individual measures of each of these determinants with the resultant health outcomes into one, comprehensive view of the health of a state. Additionally, it discusses health determinants separately from health outcomes and provides related health, economic and social information to present a comprehensive profile of the overall health of each state.

America's Health Rankings® employs a unique methodology, developed and periodically reviewed by a panel of leading public health scholars, which balances the contributions of various factors, such as smoking, obesity, binge drinking, high school graduation rates, children in poverty, access to care and incidence of preventable disease, to a state's health. The report is based on data from the

U.S. Departments of Health and Human Services, Commerce, Education and Labor; U.S. Environmental Protection Agency; U.S. Census Bureau, the American Medical Association; the American Dental Association; the Dartmouth Atlas Project; and the Trust for America's Health.

Purpose

The ultimate purpose of *America's Health Rankings*® is to stimulate action by individuals, elected officials, health care professionals, employers, and communities to improve the health of the population of the United States. We do this by promoting public conversation concerning health in our states, as well as providing information to facilitate citizen, community and group participation. We encourage participation in all elements: behaviors, community and environment, clinical care, and public and health policies. Each person individually, and in their capacity as an employee, employer, voter, community volunteer, health official or elected official, can contribute to the advancement of the healthiness of their state. Proven, effective and innovative actions can improve the health of people in every state whether the state is first or 50th.

Findings

Comparison to Other Nations

When health in the United States is compared to health in other countries, the picture is disappointing. The World Health Organization, in its annual World Health Statistics 2013, compares the United States to the nations of the world on a large variety of measures. While the U.S. does exceed many countries, it is far from the best in many of the common measures used to gauge healthiness and lags behind its peers in other developed countries.

The United States ranks at or near the bottom among high-income countries on nearly all indicators of mortality, survival, and life expectancy. Life expectancy is a measure that indicates the number of years that a newborn is expected to live. Japan, San Marino, and Switzerland are the persistent leaders for developed countries in this measure, with an overall life expectancy of 83 years. At 81 years for women and 76 years of men, the United States ranks 33rd among the 193 reporting nations of the WHO. The United States male life expectancy rates are on par with Chile, Cuba, Brunei Darussalam, and Maldives, while the female life expectancy rates are on par with Columbia, Costa Rica, Czech Republic, Estonia, Poland, and Qatar. There are 32 other countries that exceed the United States in healthy life expectancy, including Australia, Italy, Spain, France, Germany, Greece and the United Kingdom.

One of the underlying causes for these differences is the gap in infant mortality rates between the United States and many other countries. The infant mortality rate for the U.S. in 2011 was 6 deaths per 1,000 live births, ranking 40th among WHO nations. The infant mortality rates in Finland, Japan, and Sweden were *one* third that of the U.S. rate. Of the 193 countries rated, 39 countries had lower infant mortality rates than the United States.

These countries also have considerably lower infant mortality rates than that of non-Hispanic whites in the United States, which is the ethnic/racial group with the lowest infant mortality rate. The racial/ethnic disparities related to infant mortality could be related to differences in risk factors among different racial/ethnic groups, including risk for low birth weight delivery, access to medical care, and socioeconomic status. However, many of the racial/ethnic differences in infant mortality remain unexplained. It should also be noted that the reporting and classification of infant mortality varies among countries, which could be reflected in the ranks.

In addition to infant mortality, youth and young adults' mortality impacts life expectancy. Unintentional injuries claim approximately 30 percent of the years lost before age 50, along with violence and suicides, among U.S. young adults and adolescents. Non-communicable (chronic)

diseases, such as cancer, heart disease, and other conditions that are not caused by infections, begin to be more of a contributing factor after the age of 30.

Differences in healthy life expectancy are also affected by the effectiveness of treating disease, especially those that are amenable to care, including bacterial infections, treatable cancers, diabetes, cardiovascular and cerebrovascular disease, some ischemic heart disease, and complications from common surgical procedures. The age-adjusted amenable mortality rate before age 75 for the United States was 95.5 deaths per 100,000 population in 2006 to 2007, which is still a slower rate of improvement than in other Organization for Economic Cooperation and Development (OECD) nations studied. The rate in the U.S. is 50 percent higher than the rate in France, Japan, Italy, and Australia.

Additionally, the study indicated that despite spending more than any other country on health care, the United States continues to slip further behind and has one of the highest inequalities in health compared to other developed countries. The U.S. ranks among the worst OECD countries for child health well-being, having an inequality higher than average. Furthermore, although the United States has the highest income per person, it continues to rank as the worst country for income inequality, which is thought to explain why it has the highest index of health and social problems compared to other developed nations.

Physical inactivity and obesity play major contributions to disease worldwide and in the United States. Physical inactivity is the fourth leading risk factor for global mortality, and is responsible for an estimated 6 to 10 percent of non-communicable diseases, such as type 2 diabetes, heart disease, colon cancer, and breast cancer. North America has 34 percent of the world's biomass due to obesity; however, it only makes up for 6 percent of the world's population. Asia, on the other hand, has 61 percent of the world's population, yet only has 13 percent of its biomass due to obesity. While the U.S. is only one of several countries that form North America, it is the only North American nation to rank among the heaviest nations globally. It is estimated that eliminating physical activity in the United States would add approximately 1 year to life expectancy and dramatically reduce the burden of chronic diseases.

The results of these studies should be a wake-up call to everyone in the United States to strive to improve all aspects of our health system, including education, safety, prevention, and clinical care. Other countries have improved their overall health, indicating that we, too, can do the same.

National Changes since 1990

In the past year, 20 health measures improved, 8 measures declined, and 1 measure remained unchanged. Table 1 shows the national changes in the last year. These improvements were offset by deterioration in several measures, including increases in the prevalence of obesity, the percentage of children in poverty and lack of health insurance.

Since 2012, the prevalence of smoking declined from 21.2 percent to 19 percent among adults. The binge drinking prevalence rate dropped from 18.3 percent to 16.8 percent of adults who binged in the last 30 days, and physical inactivity decreased from 26.2 percent to 25.3 percent. The incidence of pertussis increased sharply from 9.0 to 15.5 cases per 100,000 populations. The percentages of children in poverty, lack of health insurance, child immunization coverage, and low birth weight have also suppressed faster improvement in our nation's health.

Table 1 – National Successes and Challenges

SUCCESSES

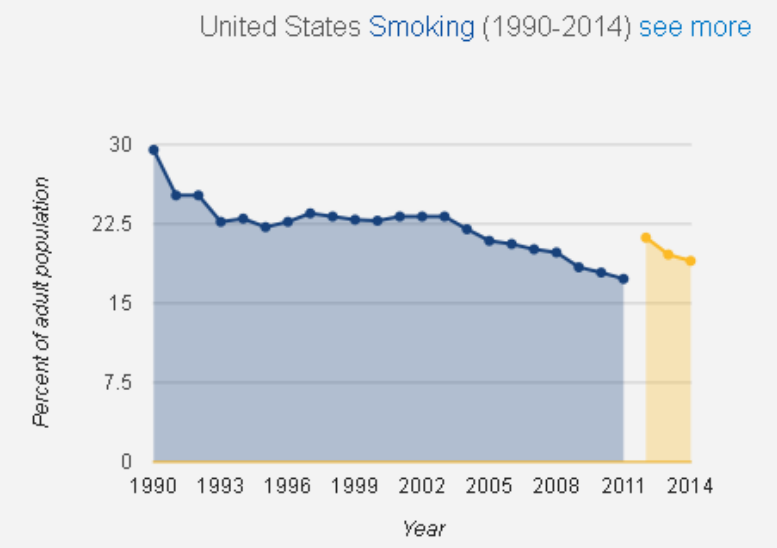
Smoking	Since 1990, smoking decreased 36% from 29.5% to 19.0% of adults who smoke regularly.
High School Graduation	At 81% of ninth graders graduating within 4 years, high school graduation is still a challenge. However, it is slowly trending upward from 71.7% in 2004.
Violent Crime	At 387 offenses per 100,000 population, violent crime is 37% lower than in 1990 and 49% lower than its peak in 1993.
Air Pollution	The average amount of fine particulates in the air continues to decline from 13.2 micrograms per cubic meter in 2003 to 9.9 micrograms per cubic meter in 2014.
Preventable Hospitalizations	Preventable hospitalizations continue to decline. In 2001, there were 82.5 discharges per 1,000 Medicare beneficiaries; in 2014, there were 62.9 discharges per 1,000 Medicare beneficiaries.
Occupational Fatalities	Occupational fatalities have declined in the last 8 years from 5.3 deaths per 100,000 workers in 2007 to 3.8 deaths per 100,000 workers. This is the second consecutive year the rate is below 4 deaths per 100,000 workers.
Infant Mortality	Since 1990, infant mortality decreased 41% from 10.2 to 6.0 deaths per 1,000 live births, although most of that decline occurred between 1990 and 1999. Even though the infant mortality rate is the lowest in US history, it is double the rate of many developed countries. In addition, large racial and geographic disparities exist within the country.
Premature Death	Since 1990, premature death declined 20% from 8,716 to 6,976 years of potential life lost before age 75. Premature death, like several other metrics, has leveled off in the last decade compared with improvements made in the 1990s.
Cancer Deaths	Cancer deaths declined 4% from 197.5 deaths in 1990 to 189.9 deaths per 100,000 population.
Cardiovascular Deaths	Since 1990, cardiovascular deaths declined 38% from 405.1 to 251.4 deaths per 100,000 population. This continues a relatively constant improvement of 2% to 3% yearly.

CHALLENGES

Obesity	Since 1990, obesity has increased 153% from 11.6% to 29.4% of adults.
Physical Inactivity	Physical inactivity remains high at 23.5% of adults and has not changed appreciably for the last decade.
Children in Poverty	At 19.9% of children, the children in poverty measure is far above the 23-year low of 15.8% in the 2002 Edition and near the 1990 level of 20.6%.
Public Health Funding	State public health funding continues its slow decline over the past 4 years. Since 2011, it decreased from $95.01 to $90.00 in expenditures per person at the state level.
Immunization Coverage — Children	Nationwide, comprehensive immunization coverage among children aged 19 to 35 months is only 70.4%. It increased marginally in the past year.
Immunization Coverage — Adolescents	Nationwide, comprehensive immunization coverage among teens aged 13 to 17 years is only 67.1%. It increased marginally in the past year.
Low Birthweight	In the last 20 years, the prevalence of low birthweight infants has increased from 7.1% to 8.0% nationwide. The good news is that it appears to have peaked in 2009 and is trending downward.
Diabetes	In the nation, 9.6% of adults report they have been told they have diabetes. There has been a steady, upward climb in the prevalence of diabetes, although data from the last 3 years shows a leveling of the prevalence.

The United States has the potential to return to the rates of improvement typical in the 1990s. However, to do so, it must address the drivers of health directly by focusing on reducing important risk factors. For example, the prevalence of smoking had been stagnant for many years and recently started to show improvement in the last two decades. However, there was an increase in rates from 2010 to 2012. In the last year, the prevalence of smoking declined in the United States from 21.2 percent to 19 percent of adults who smoke regularly; however Tennessee ranks 46th as one of the bottom five states with 24.3 percent of adults smoking and Virginia ranks 24th at 19.1 percent.

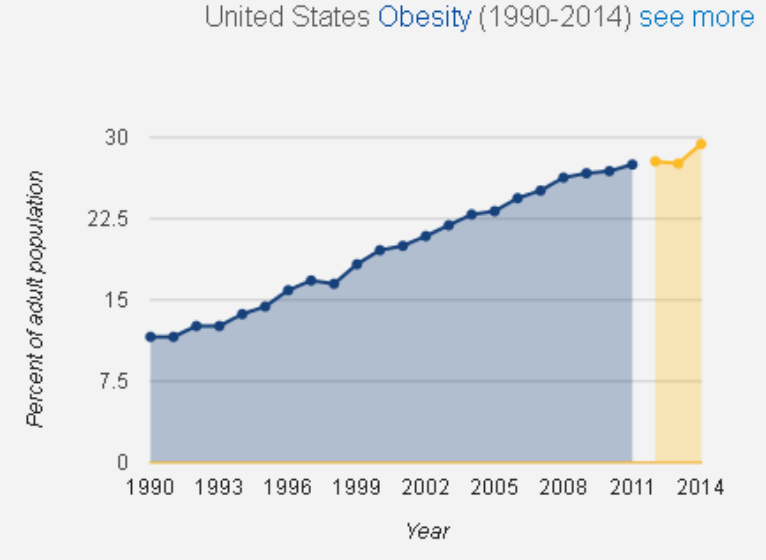
Graph 1 - Prevalence of Smoking Since 1990



Unprecedented and unchecked growth in the prevalence of obesity over the last 20 years has also dramatically affected the overall health of the United States. The prevalence of obesity, a risk factor for numerous illnesses including heart disease and diabetes, appears to be leveling off after increasing for decades. However, more than one in four people in the U.S. is considered obese - a category that the Centers for Disease Control and Prevention reserves for those who are significantly over the suggested body weight given their height. In the United States, the prevalence of obesity is 29.4 percent of adults, which has increased from 27.8 percent in 2012. Virginia's obesity score ranks 18th at 27.2 percent, while Tennessee ranks 47th at 33.7 percent of obese adults.

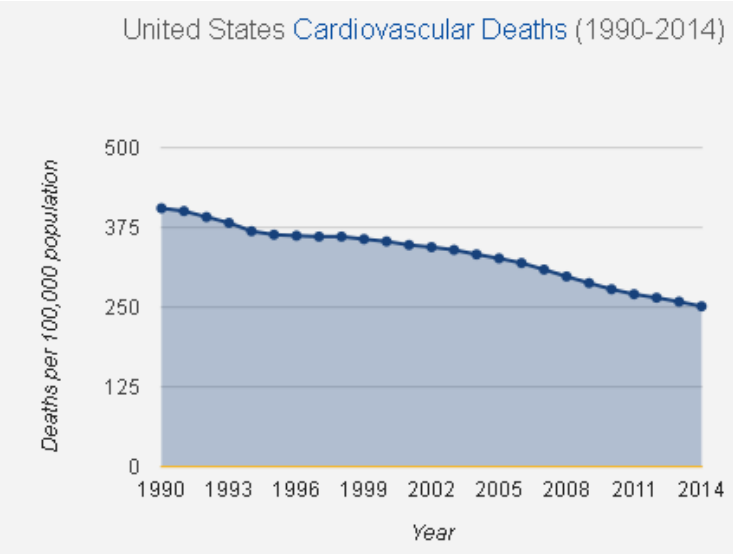
These very high obesity rates are gathered from the Behavioral Risk Factor Surveillance System, the nation's largest phone survey about health, and rely on self-reported height and weight. Actual obesity rates, as measured by health professionals, may be almost 10 percent higher, meaning that over one-third of the population is now obese.

Graph 2 - Prevalence of Obesity Since 1990



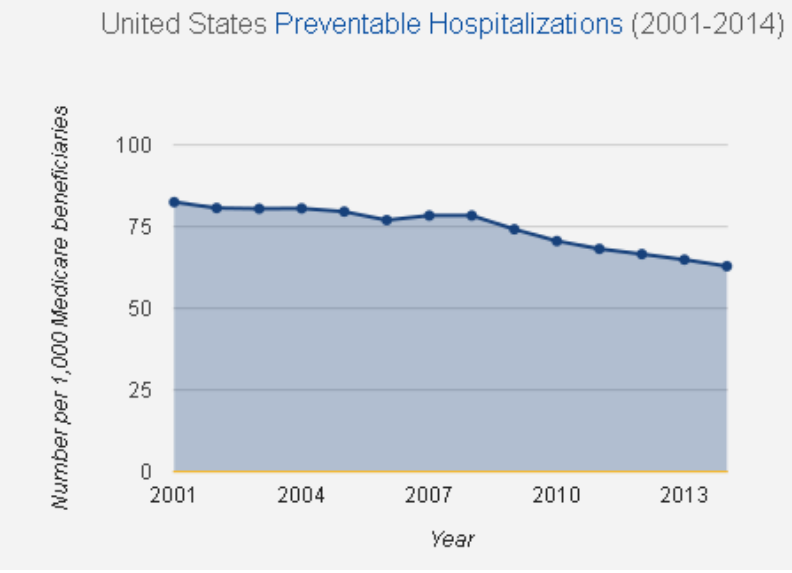
Despite increasing risk factors such as obesity, high cholesterol, and high blood pressure, deaths contributed to cardiovascular disease have consistently declined by 2 to 3 percent per year for the last decade. Cardiovascular disease accounts for 30 percent of Medicare spending, 17 percent of medical spending, and totals nearly $150 billion each year. For cardiovascular deaths, Virginia ranked 25th with a rate of 241.1 per 100,000 and Tennessee ranked 44th with the rate of 300.6.

Graph 3 – Prevalence of Cardiovascular Deaths Since 1990



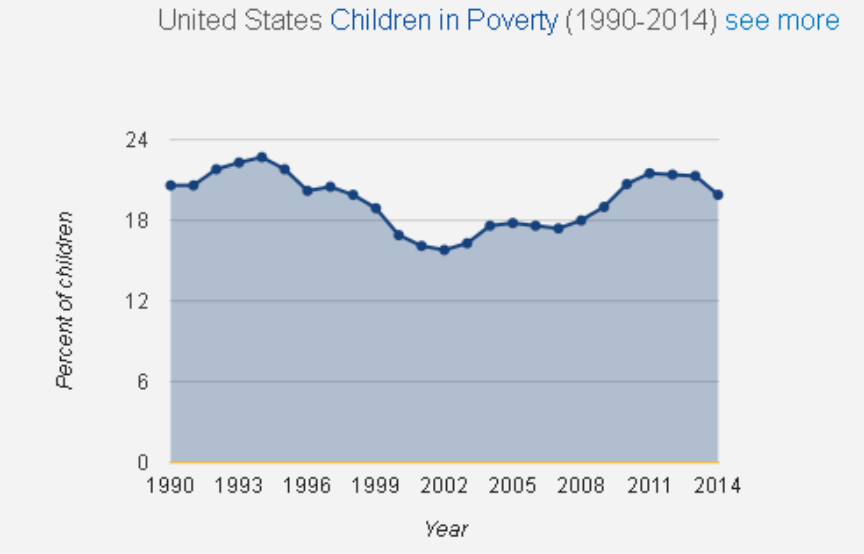
Like cardiovascular disease, potentially preventable hospitalizations have steadily decreased over the past 12 years. Preventable hospitalizations (hospitalizations that may be preventable with high quality primary and preventive care) have decreased from 82.5 to 62.9 discharges per 1,000 Medicare enrollees since 2001. Preventable hospitalizations reflect how efficiently a population uses various health care options for care and often occur as a result of a failure to detect or treat conditions early. Preventable hospitalizations could be avoided with earlier, less costly interventions. Virginia ranked 22nd in this measure with a 55.2 rate and Tennessee ranked 47th with a rate of 78.5.

Graph 4 – Preventable Hospitalizations Since 2001



The current economic climate also increases the challenge of maintaining a healthy population. Poverty is an indication of the lack of access to health care, including preventive care, for this vulnerable population. Graph 5 shows the recent increase in the percentage of children in poverty in the last few years, increasing from 16.1 percent of children in the 2011 Edition to 19.9 percent of children in the 2014 Edition. On this measure Virginia ranks 12th with a 14.5 percent of children living in poverty and Tennessee ranks 45th with 26.7 percent. In the 2002 Edition, the child poverty rate was at a historic low of 15.8 percent of persons under age 18.

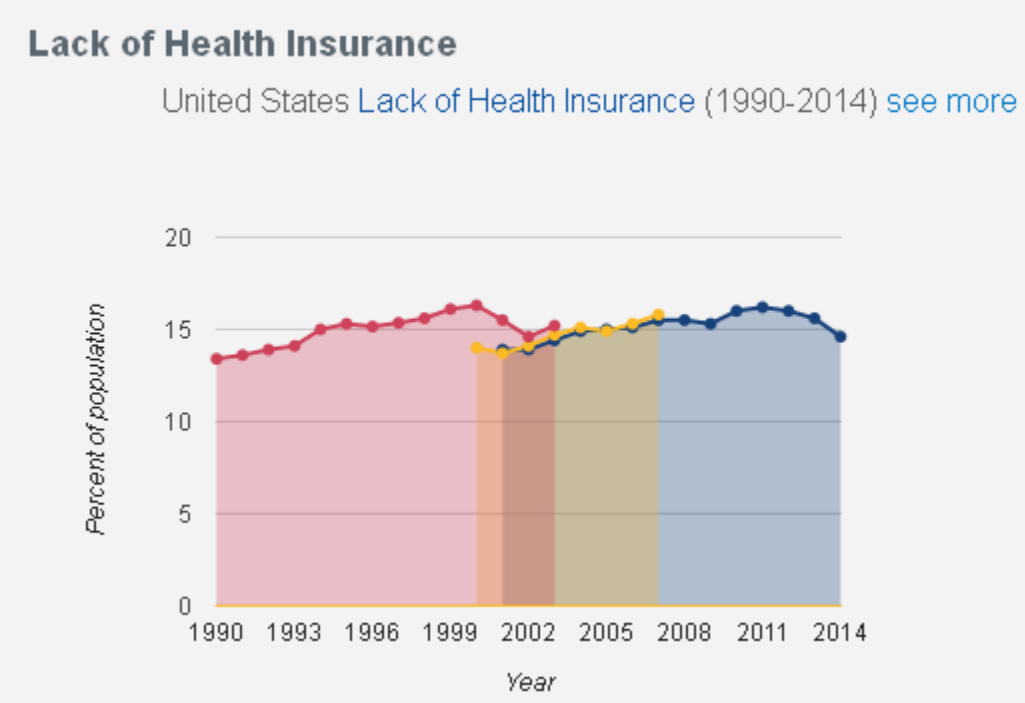
Graph 5 – Children in Poverty since 1990



Lack of health insurance coverage increased from 13.9 percent in the 2001 Edition to 14.6 percent of the population in the 2014 Edition. Lack of health insurance not only inhibits people from getting the proper care when needed but also reduces access to necessary preventive care to curtail or minimize future illnesses.

Massachusetts, with the lack of health insurance at 3.8 percent of the population, is substantially better than all other states and less than one-fourth of the national average. Texas has a rate six times that of Massachusetts. Changes in national health care laws have the potential to dramatically affect this metric over the next few years.

Graph 6 – Lack of Health Insurance Since 2001



2014 State Results

America's Health Rankings®-2014 Edition shows Hawaii at the top of the list of healthiest states again this year. The state has steadily remained within the top 5 healthiest states since 1990. Hawaii has consistently sustained its place within the top 5 healthiest states for the last 22 years, excluding 2002 when it was ranked 6th. Hawaii's strengths include its number one position for overall health rank and ranking in the top 5 states for a low rate of preventable hospitalizations, high immunization coverage among children, low prevalence of smoking and obesity, high per capita public health funding, a low rate of uninsured population, and low cancer and cardiovascular mortality rates. Hawaii's three challenges are a high prevalence of binge drinking, low high school graduate rate, and a high incidence of Salmonella infections.

Mississippi is 50th this year, the same as the last ten years, excluding in 2011 when it ranked 49th. It has been in the bottom three states since the 1990 Edition. The state ranks well for a low prevalence of binge drinking, higher immunization coverage among children, and small disparity in health status by educational attainment. In the past year, despite ranking last in the nation for immunization coverage among adolescents, coverage increased from 30.2 percent to 35.4 percent of persons aged 13 to 17 years. Mississippi also ranks last in many health outcomes, including infant mortality, low birth weight, premature death, cardiovascular death, infectious diseases, and overall health status. Mississippi's prevalence of obesity, physical inactivity, and diabetes remain among the highest in the nation with approximately 690,000 physically inactive adults, 770,000 obese adults, and 280,000 adults with diabetes. It ranks 48th in health determinants and 49th in health outcomes; therefore, its overall ranking is unlikely to change significantly in the near future

2014 Edition Ranking

2014 RANK (1–50)	STATE	SCORE
1	Hawaii	.91
2	Vermont	.85
3	Massachusetts	.74
4	Connecticut	.74
5	Utah	.73
6	Minnesota	.73
7	New Hampshire	.68
8	Colorado	.57
9	North Dakota	.55
10	Nebraska	.50
11	New Jersey	.47
12	Oregon	.41
13	Washington	.40
14	New York	.39
15	Rhode Island	.37
16	Maryland	.35
17	California	.35
18	Idaho	.34
18	South Dakota	.34
20	Maine	.30
21	Virginia	.30
22	Montana	.28
23	Wisconsin	.23
24	Iowa	.22
25	Wyoming	.21

2014 Edition Ranking

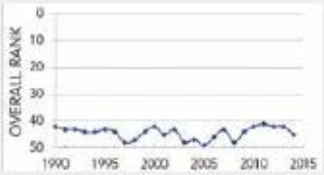
2014 RANK (1–50)	STATE	SCORE
26	Alaska	.13
27	Kansas	.08
28	Pennsylvania	.01
29	Arizona	-.04
30	Illinois	-.08
31	Texas	-.11
32	Florida	-.15
33	New Mexico	-.18
34	Michigan	-.21
35	Delaware	-.23
36	Missouri	-.28
37	North Carolina	-.29
38	Georgia	-.32
39	Nevada	-.33
40	Ohio	-.36
41	Indiana	-.38
42	South Carolina	-.64
43	Alabama	-.66
44	West Virginia	-.71
45	Tennessee	-.71
46	Oklahoma	-.74
47	Kentucky	-.75
48	Louisiana	-.80
49	Arkansas	-.93
50	Mississippi	-1.00

Tennessee



Overall Rank: 45

Change: ▼ 3
Determinants Rank: 44
Outcomes Rank: 46



Strengths:

- Low prevalence of binge drinking
- Low incidence of pertussis
- Ready availability of primary care physicians

Challenges:

- High prevalence of obesity
- High prevalence of physical inactivity
- High violent crime rate

Ranking:

Tennessee is 45th this year; it was 42nd in 2013. The ranking for senior health in Tennessee was 43rd in 2014.

Highlights:

- In the past year, physical inactivity increased by 17 percent from 28.6 percent to 33.6 percent of adults.
- In the past year, binge drinking decreased by 15 percent from 11.3 percent to 9.6 percent of adults, the lowest rate in the nation.
- In the past year, preventable hospitalizations decreased by 10 percent from 80.8 to 73.1 per 1,000 Medicare beneficiaries.
- In the last 2 years, immunization coverage among adolescents increased by 16 percent from 52.7 percent to 61.2 percent of adolescents aged 13 to 17 years.
- Since 1990, children in poverty decreased by 10 percent from 29.6 percent to 26.7 percent of children.

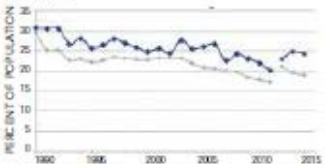
State Health Department Website:

http://health.state.tn.us

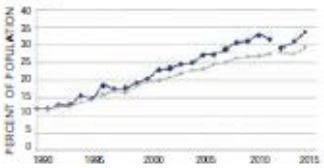
	2014 VALUE	2014 RANK	NO.1 STATE
Behaviors			
Smoking (Percent of adult population)	24.3	46	10.3
Binge Drinking (Percent of adult population)	9.6	1	9.6
Drug Deaths (Deaths per 100,000 population)	17.2	40	3.0
Obesity (Percent of adult population)	33.7	47	21.3
Physical Inactivity (Percent of adult population)	33.6	49	16.2
High School Graduation (Percent of incoming ninth graders)	83.0	20	93.0
Community & Environment			
Violent Crime (Offenses per 100,000 population)	644	50	123
Occupational Fatalities (Deaths per 100,000 workers)	5.0	32	2.2
Infectious Disease (Combined score Chlamydia, Pertussis, *Salmonella**)	0.01	29	-0.9
Chlamydia (Cases per 100,000 population)	507.9	39	233.0
Pertussis (Cases per 100,000 population)	4.8	10	1.6
Salmonella (Cases per 100,000 population)	17.2	35	6.8
Children in Poverty (Percent of children)	26.7	45	9.2
Air Pollution (Micrograms of fine particles per cubic meter)	9.5	30	4.9
Policy			
Lack of Health Insurance (Percent of population)	13.9	26	3.8
Public Health Funding (Dollars per person)	$83	20	$219
Immunization–Children (Percent aged 19 to 35 months)	68.5	33	82.1
Immunization–Adolescents (Percent aged 13 to 17 years)	61.2	36	81.3
Clinical Care			
Low Birthweight (Percent of live births)	9.2	44	5.7
Primary Care Physicians (Number per 100,000 population)	124.4	19	324.6
Dentists (Number per 100,000 population)	50.9	36	107.6
Preventable Hospitalizations (Number per 1,000 Medicare beneficiaries)	73.1	46	28.2
ALL DETERMINANTS	-0.43	44	0.71
OUTCOMES			
Diabetes (Percent of adult population)	12.2	46	6.5
Poor Mental Health Days (Days in previous 30 days)	3.7	24	2.5
Poor Physical Health Days (Days in previous 30 days)	5.0	49	2.8
Disparity in Health Status (Percent difference by education level**)	32.1	38	15.5
Infant Mortality (Deaths per 1,000 live births)	7.3	41	4.2
Cardiovascular Deaths (Deaths per 100,000 population)	300.6	44	184.7
Cancer Deaths (Deaths per 100,000 population)	213.5	44	145.7
Premature Deaths (Years lost per 100,000 population)	9,168	43	5,345
ALL OUTCOMES	-0.29	46	0.34
OVERALL	-0.71	45	0.91

*Negative score denotes less disease than US average, positive score indicates more than US average
**Difference in the percentage of adults aged 25 and older with vs without a high school education who report their health is very good or excellent

SMOKING



OBESITY



STATE ◆——◆ NATION ●——●

The 2012–2014 data in the above graphs are not directly comparable to prior years. See Methodology for additional information.

ECONOMIC ENVIRONMENT	TN	US
Annual Unemployment Rate (2013)	8.2	7.4
Annual Underemployment Rate (2013)	14.7	13.8
Median Household Income (2013)	$42,499	$51,939

MEASURE	ADULT POPULATION AFFECTED
Smoking	1,163,000
Obesity	1,595,000
Physical Inactivity	1,691,000
Diabetes	615,000

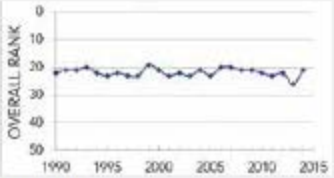
Virginia

VIRGINIA



Overall Rank: 21

Change: ▲ 5
Determinants Rank: 19
Outcomes Rank: 23



Strengths:

- Low rate of drug deaths
- Low violent crime rate
- Low percentage of children in poverty

Challenges:

- Low immunization coverage among children
- Low immunization coverage among teens
- High infant mortality rate

Ranking:

Virginia is 21st this year; it was 26th in 2013. The ranking for senior health in Virginia was 21st in 2014.

Highlights:

- In the past year, air pollution decreased by 6 percent from 9.3 to 8.7 micrograms of fine particles per cubic meter.
- In the last 2 years, drug deaths decreased by 10 percent from 9.3 to 8.4 deaths per 100,000 population.
- In the last 10 years, preventable hospitalizations decreased by 25 percent from 73.8 to 55.2 per 1,000 Medicare beneficiaries.
- Since 1990, cardiovascular deaths decreased by 42 percent from 413.2 to 241.1 deaths per 100,000 population.
- Since 1990, infant mortality decreased by 38 percent from 10.6 to 6.6 deaths per 1,000 live births.

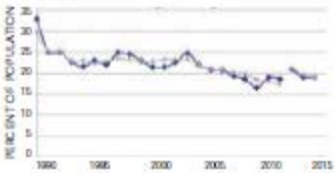
State Health Department Website:

www.vdh.state.va.us

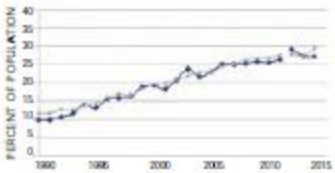
	2014 VALUE	2014 RANK	NO 1 STATE
Behaviors			
Smoking (Percent of adult population)	19.0	24	10.3
Binge Drinking (Percent of adult population)	15.9	20	9.6
Drug Deaths (Deaths per 100,000 population)	8.4	4	3.0
Obesity (Percent of adult population)	27.2	18	21.3
Physical Inactivity (Percent of adult population)	23.0	20	16.2
High School Graduation (Percent of incoming ninth graders)	84.0	16	93.0
Community & Environment			
Violent Crime (Offenses per 100,000 population)	190	4	123
Occupational Fatalities (Deaths per 100,000 workers)	4.4	25	2.2
Infectious Disease (Combined score Chlamydia, Pertussis, *Salmonella**)	-0.29	16	-0.9
Chlamydia (Cases per 100,000 population)	431.8	26	233.0
Pertussis (Cases per 100,000 population)	7.7	18	1.6
Salmonella (Cases per 100,000 population)	14.1	25	6.8
Children in Poverty (Percent of children)	14.5	12	9.2
Air Pollution (Micrograms of fine particles per cubic meter)	8.7	19	4.9
Policy			
Lack of Health Insurance (Percent of population)	12.4	20	3.8
Public Health Funding (Dollars per person)	$68	28	$219
Immunization–Children (Percent aged 19 to 35 months)	69.2	29	82.1
Immunization–Adolescents (Percent aged 13 to 17 years)	58.5	42	81.3
Clinical Care			
Low Birthweight (Percent of live births)	8.1	27	5.7
Primary Care Physicians (Number per 100,000 population)	125.8	16	324.6
Dentists (Number per 100,000 population)	61.6	19	107.6
Preventable Hospitalizations (Number per 1,000 Medicare beneficiaries)	55.2	22	28.2
ALL DETERMINANTS	0.24	19	0.71
OUTCOMES			
Diabetes (Percent of adult population)	9.8	26	6.5
Poor Mental Health Days (Days in previous 30 days)	3.3	11	2.5
Poor Physical Health Days (Days in previous 30 days)	3.6	15	2.8
Disparity in Health Status (Percent difference by education level**)	29.1	27	15.5
Infant Mortality (Deaths per 1,000 live births)	6.6	31	4.2
Cardiovascular Deaths (Deaths per 100,000 population)	241.1	25	184.7
Cancer Deaths (Deaths per 100,000 population)	189.5	23	145.7
Premature Deaths (Years lost per 100,000 population)	6,502	19	5,345
ALL OUTCOMES	0.06	23	0.34
OVERALL	0.30	21	0.91

*Negative score denotes less disease than US average, positive score indicates more than US average
**Difference in the percentage of adults aged 25 and older with vs without a high school education who report their health is very good or excellent

SMOKING



OBESITY



STATE ◆—◆ NATION ●—●

The 2012–2014 data in the above graphs are not directly comparable to prior years. See Methodology for additional information.

ECONOMIC ENVIRONMENT	VA	US
Annual Unemployment Rate (2013)	5.5	7.4
Annual Underemployment Rate (2013)	11.5	13.8
Median Household Income (2013)	$67,620	$51,939

MEASURE	ADULT POPULATION AFFECTED
Smoking	1,159,000
Obesity	1,632,000
Physical Inactivity	1,481,000
Diabetes	631,000

As Mountain States Health Alliance works to develop an implementation plan based on the findings from this assessment, key focus areas for consideration to impact the health of our community would be the 27 measures that comprise the *America's Health Rankings*. These determinants have been carefully selected by leaders in health and public policy as factors which have the greatest impact on future health of a population. For a state (or area for that matter) to improve the health of its population, efforts must focus on changing the determinants of health. A description of these determinants is outlined below.

Selection of Components

Four primary considerations drove the design of *America's Health Rankings*® and the selection of the individual measures:

1. The overall rankings had to represent a broad range of issues that affect a population's health,
2. Individual measures needed to use common health measurement criteria,
3. Data had to be available at a state level, and
4. Data had to be current and updated periodically.

While not perfect, the measures selected are believed to be the best available indicators of the various aspects of healthiness at this time and are consistent with past reports.

The measures are divided into two categories - Determinants and Outcomes. For further clarity, determinants are divided into four groups: Behaviors, Community and Environment, Public and Health Policies, and Clinical Care. These four groups of measures influence the health outcomes of the population in a state, and improving these inputs will improve outcomes over time. Most measures are actually a combination of activities in all four groups. For example, the prevalence of smoking is a behavior that is strongly influenced by the community and environment in which we live, by public policy including taxation and restrictions on smoking in public places, and by the care received to treat the chemical and behavioral addictions associated with tobacco. However, for simplicity, we placed each measure in a single category.

For *America's Health Rankings*® to continue to meet its objectives it must evolve and incorporate new information as it becomes available. The Scientific Advisory Committee provides guidance for the evolution of the rankings, balancing the need to change with the desire for longitudinal comparability. Over the last few years, change is being driven by: 1) the acknowledgment that health is more than years lived but also includes the quality of those years; 2) data about the quality and cost of health care delivery are becoming available on a comparative basis; and 3) measurement of the additional determinants of health are being initiated and/or improved. The committee also emphasizes that the real impact on health will be made by addressing the determinants, and making improvements on these items will affect the long-term health of the population. The determinants are the predictors of our future health.

Outcomes are traditionally measured using mortality measures which include premature death, infant mortality, cancer and cardiovascular mortality. While these measures overlap significantly, they do present different views of mortality outcomes of a population. Two measures of the quality of life- poor mental health days and poor physical health days - are also included and defined as the number of days in the previous 30 days when a person indicates their activities are limited due to mental or physical health difficulties.

As with all indices, the positive and negative aspects of each measure must be weighed when choosing and developing them. These aspects for consideration include: 1) the interdependence of

the different measures; 2) the possibility that the overall ranking may disguise the effects of individual measures; 3) an inability to adjust all data by age and race; 4) an over-reliance on mortality data; and 5) the use of indirect measures to estimate some effects on health. These concerns cannot be addressed directly by adjusting the methodology; however, assigning weights to the individual measures can mitigate their impact.

Each measure is assigned a weight that determines its percentage of the overall score. Determinants account for 75 percent of the overall ranking and outcomes account for 25 percent, a shift from the 50/50 balance in the original 1990 index. This reflects the importance and growing availability of determinant data.

A short description of each measure immediately follows. The data for each year is the most current data available at the time the report was compiled.

The table includes the core measures included in the current model, plus supplemental measures that can be used to further understand each state's unique situation. The supplemental measures are more fully described at http://www.americashealthrankings.org/About/Model.

Data for each state and the United States is available at Get Informed or by clicking the link above.

Core Measures

Determinants

Behaviors	Description
Smoking	Percentage of adults who are current smokers (smoked at least 100 cigarettes in their lifetime and currently smoke).
Binge Drinking	Percentage of adults who self-report having 4 or more (women) or 5 or more (men) alcoholic beverages on at least 1 occasion in the past 30 days.
Drug Deaths	Number of deaths due to drug injury of any intent (unintentional, suicide, homicide, or undetermined) per 100,000 population.
Obesity	Percentage of adults who are obese, with a body mass index (BMI) of 30.0 or higher.
Physical Inactivity	Percentage of adults who report doing no physical activity or exercise (such as running, calisthenics, golf, gardening, or walking) other than their regular job in the last 30 days.
High School Graduation	Percentage of incoming ninth graders who graduate in 4 years from a high school with a regular degree.

Community and Environment

Violent Crime	Number of murders, rapes, robberies, and aggravated assaults per 100,000 population.
Occupational Fatalities	Number of fatalities from occupational injuries per 100,000 workers.
Children in Poverty	Percentage of persons younger than 18 years who live in households at or below the poverty threshold.
Infectious Disease	Combined average z-score using the values of incident cases of chlamydia, pertussis, and *Salmonella* per 100,000 population.

Air Pollution	Average exposure of the general public to particulate matter of 2.5 microns or less in size (PM2.5).

Policy

Lack of Health Insurance	Percentage of the population that does not have health insurance privately, through their employer, or the government.
Public Health Funding	State funding dedicated to public health as well as federal funding directed to states by the Centers for Disease Control and Prevention and the Health Resources and Services Administration.
Immunization-Children	Percentage of children receiving the recommended doses of DTaP, polio, MMR, Hib, hepatitis B, varicella, and PCV vaccines by age 19–35 months.
Immunization-Adolescents	Percentage of adolescents aged 13 to 17 years who have received 1 dose of Tdap since the age of 10 years, 1 dose of meningococcal conjugate vaccine, and 3 doses of HPV vaccine (females only).

Clinical Care

Low Birth weight	Percentage of infants weighing less than 2,500 grams (5 pounds, 8 ounces) at birth.
Primary Care Physicians	Number of primary care physicians (including general practice, family practice, OB-GYN, pediatrics, and internal medicine) per 100,000 population.
Dentists	Number of dentists per 100,000 population
Preventable Hospitalizations	Discharge rate among the Medicare population for diagnoses that are amenable to non-hospital based care.

Outcomes

Diabetes	Percentage of adults who have been told by a health professional that they have diabetes (does not include pre-diabetes or diabetes during pregnancy).
Poor Mental Health Days	Number of days in the previous 30 days when a person indicates their activities were limited due to mental health difficulties.
Poor Physical Health Days	Number of days in the previous 30 days when a person indicates their activities were limited due to physical health difficulties.
Disparity in Health Status	Percent difference in adults aged 25 and older who did not graduate high school and adults with at least a high school education who self-report being in excellent or very good health.
Infant Mortality	Number of infant deaths (before age 1) per 1,000 live births.
Cardiovascular Deaths	Number of deaths due to all cardiovascular diseases, including heart disease and strokes, per 100,000 population
Cancer Deaths	Number of deaths due to all causes of cancer per 100,000 population
Premature Death	Number of years of potential life lost prior to age 75 per 100,000 population

Supplemental Measures

Behaviors

Cholesterol Check	Percentage of adults who have had their blood cholesterol checked within the last 5 years.
Dental Visit, Annual	Percentage of adults who have visited the dentist or dental clinic within the past year for any reason.
Diet, Fruit	Number of fruits consumed on an average day.
Diet, Vegetables	Number of vegetables consumed on an average day.
Teen Birth Rate	Number of births per 1,000 mothers aged 15 to 19 years.
Youth Smoking	Percentage of high school youth who smoked cigarettes on at least 1 day during the last 30 days.
Youth Obesity	Percentage of high school students who were greater or equal to the 95th percentile for body mass index, based on sex and age-specific reference data from the 2000 CDC growth charts.

Chronic Disease

Heart Disease	Percentage of adults who have been told by a health professional that they have angina or coronary heart disease.
High Cholesterol	Percentage of adults who have had their cholesterol checked and been told that it was high.
Heart Attack	Percentage of adults who have been told by a health professional that they had a heart attack (myocardial infarction).
Stroke	Percentage of adults who have been told by a health professional that they had a stroke.
Hypertension	Percentage of adults who have been told by a health professional that they have high blood pressure.

Clinical Care

Preterm Birth	Percentage of babies born before 37 weeks gestation.

Economic Environment

Personal Income	Per capita personal income in current dollars.
Median Household Income	The amount of income that divides the income distribution into 2 equal groups.
Unemployment Rate	Total unemployed as a percentage of the civilian labor force (U-3 definition).
Underemployment Rate	Total unemployed, plus all marginally attached workers, plus total employed part-time for economic reasons, as a percent of the civilian labor force (U-6 Definition).
Income Disparity (Gini coefficient)	A common measure of income inequality, where 0 represents complete equality and 1 indicates complete inequality.

Outcomes

Low Health Status	Percentage of adults who describe their general health as fair or poor.
Suicide	Number of deaths due to intentional self-harm per 100,000 population.

Overview

The County Snapshots consists of demographics, key indicators of health status, interview highlights, and local resources. The model for the key indicators of health status analysis was based on the 2015 *County Health Rankings*, a key component of the Mobilizing Action Toward Community Health (MATCH). MATCH is collaboration between the Robert Wood Johnson Foundation and the University of Wisconsin Population Health Institute. Indicators are organized into two broad categories: Health Outcomes and Health Factors. The Health Factors have multiple components, including Clinical Care, Health Behaviors, Social and Economic Factors, and Physical Environment. A number of additional key indicators of health status were included in this analysis from other sources (they are noted in blue font in the snapshot section). For each indicator, the state and county score is provided as well as a comparison of the county's performance to that of the state.

JOHNSON COUNTY COMMUNITY HOSPITAL

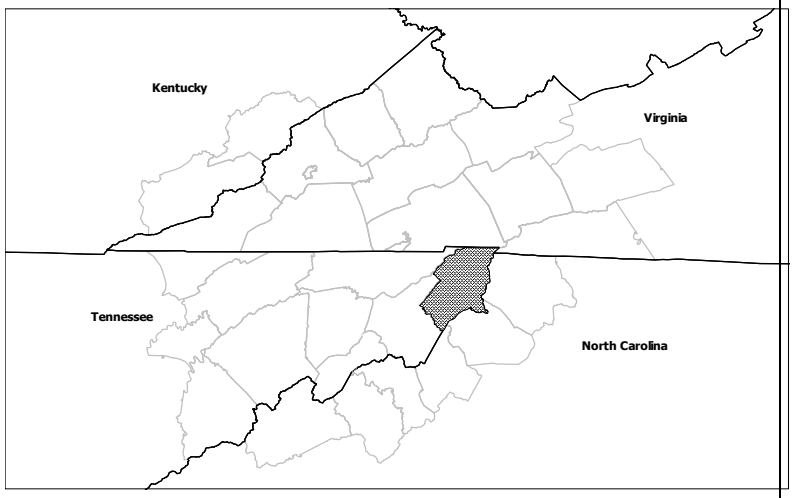
Service Area Counties:	Primary Service Area Map:
▪ Johnson, TN	
	Facility Profiles: **Johnson County Community Hospital (JCCH)**, nestled by the beautiful landscape of Mountain City, JCCH offers inpatient care coupled with a state-of-the-art 24-hour emergency department. Serving the upper northeast tip of Tennessee as well as parts of North Carolina and Southwest Virginia, JCCH offers outpatient and primary care services. JCCH is a 2-bed critical access hospital that was opened by Mountain States Health Alliance in 1998 to serve the community after the closing of the Johnson County Hospital.

A 6-page profile of each county is provided. The profile includes demographic highlights, key indicators of health status, utilization projections, and survey results specific to the county. A detailed demographic analysis by county is provided in the appendix which follows the collection of county snapshots.

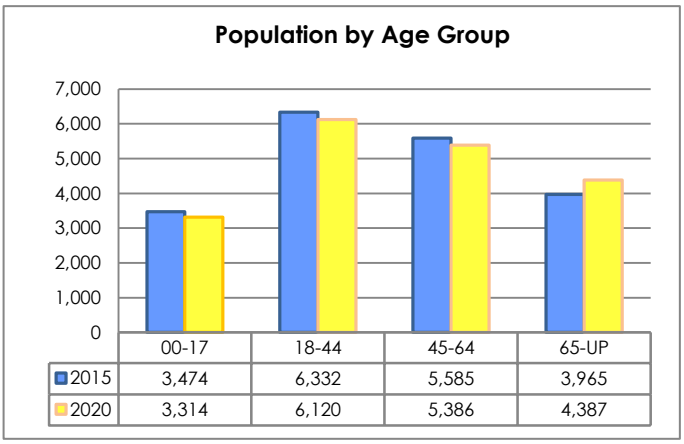
Demographic Highlights:

- Large elderly population compared to TN and US
- Large declining rate of females of child-bearing age expected
- Large disparity between genders (males account for 54% of total vs. females at 46% of total)
- Low average household income level (21.6% of households make less than $15,000)
- Lower level of educational attainment compared to state and country (11.3% with no high school education compared to 5.9% nationally)
- Low level of diversity compared to state and national

Service Area Map:



Age Distribution and Population Projections:



Key Statistics:

	Johnson County	Tennessee	U.S.
2015 Total Population	19,356	6,735,022	321,369,000
% Change 2015-2020	-0.8%	5.5%	4.1%
% of Population 65+ (2015)	20.5%	15.6%	14.9%
% Minority (2015)	5.8%	26.1%	38.3%

	2015	2020	% Change
Total Male Population	10,358	10,273	-0.8%
Total Female Population	8,998	8,934	-0.7%
Females, Child Bearing Age (15-44)	2,836	2,745	-3.2%

Local Health Highlights:

STRENGTHS:

- STD
- Crime Rate
- Low Birth Weight
- Cerebrovascular Deaths
- Binge Drinking
- High School Drop Out

WEAKNESSES:

- No Health Insurance
- Prevalence of Asthma
- Vaccinations
- Smoking during Pregnancy
- Deaths due to cardiovascular, cancer, and injuries
- No Biennial Mammogram
- Prenatal Care
- Teen Birth Rate
- Poverty
- Level of Education

Leading Causes of Death:

Ages 1 - 14 years

Cause of Death	Rate	Rank
All Causes	0	1

Ages 15 - 21 years

Cause of Death	Rate	Rank
Accidents	67.1	1
All Other Causes	0.5	*

Ages 22 - 64

Cause of Death	Rate	Rank
Cancer	144.3	1
Accidents	54.1	2
Heart Disease	45.1	3
Respiratory	27.1	4
Suicide	18	5
Homicide	18	5
All Other Causes	90.3	*

Ages 65+

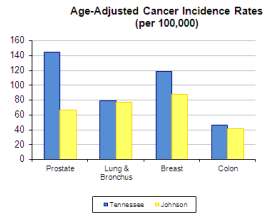
Cause of Death	Rate	Rank
Cancer	1090.1	1
Heart Disease	946.6	2
Respiratory	315.6	3
Flu/Pneumonia	229.5	4
Alzheimer's Disease	172.1	5
Diabetes Mellitus	143.4	6
Cerebrovascular	114.7	7
Parkinson's	86.1	8
Pneumonitis	86.1	8
Accidents	86.1	8
Aortic Aneurysm/ Dissection	57.4	9
Suicide	28.7	10
All Other Causes	1319.5	*

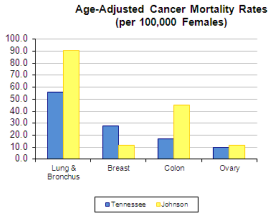
Key Indicators of Health Status:

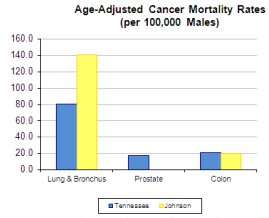
County: Johnson, TN

	TN	Johnson	2010	Desired
Health Outcomes				↓
Mortality (years of potential life lost/100,000)	8,790	9,480	11423.0	↓
Low Birth Weight (3-yr avg %)	9.0%	5.4%	10.9%	↓
General Health Status (% fair/poor health)*	19.0%	27.0%	28.5%	↓
Very Low Birth Weight (%)	1.6%	0.7%	3.0%	↓
Infant Mortality (3-yr avg rate per 1,000)	8.1	3.8	15.4	↓
Mortality Rate (3-yr avg rate per 100,000)	953.0	1,043.4	979.1	↓
Cardiovascular Deaths (per 100,000)	226.5	245.3	217.1	↓
Cancer Deaths (3-yr avg rate per 100,000)	214.4	248.3	202.9	↓
Diabetes Mellitus Deaths (per 100,000)	28.7	26.7	32.6	↓
Cerebrovascular Deaths (per 100,000)	47.0	21.3	65.1	↓
Suicide Deaths (per 100,000)	15.0	16.0	5.4	↓
Mortality rate for ages 1- 14 yrs	66.8	0.0	13.6	↓
Mortality rate for ages 15 - 21yrs	70.4	67.6	112.4	↓
Mortality rates for ages 65+	4,870.1	4,675.9	5116.4	↓
Lung Cancer Deaths (3-yr avg rate per 100,000)	68.8	87.5	79.2	↓
Female Breast Cancer Deaths (3-yr avg rate per 100,000)	14.1	14.3	18.1	↓
Prevalence of Asthma (%)	9.3%	13.2%	10.2%	↓
Prevalence of Diabetes (%)	11.0%	12.8%	12.0%	↓
Health Determinants				↓
Health Care Resources				↓
No Health Insurance (%)*	21.0%	17.0%	16.4%	↓
Medicaid/Tenncare Enrollees (%)	18.7%	21.4%	23.1%	↓
Medical Doctors Per Capita (per 100,000)	246.1	32.9	27.5	↑
Dentists Per Capita (per 100,000)	52.2	11.0	27.3	↑
Percent without Pneumococcal Vaccinations (%)*	74.2%	66.7%	72.3%	↓
Percent without Influenza Vaccinations (%)*	59.4%	50.7%	59.3%	↓
No Diabetic Eye Exams (%)	74.3%	72.2%	66.8%	↓
No Diabetic HbA1c Testing (%)	16.0%	17.0%	14.8%	↓
No Biennial Mammography (%)*	23.3%	29.3%	23.3%	↓
Inadequate or No Prenatal Care (%)	40.7%	56.0%	28.9%	↓
Month Prenatal Care Began	3.2	3.1	2.9	↓
First Trimester Prenatal Care (%)	59.3%	44.0%	71.5%	↑
Children (0-18 yrs) with Medicaid/Tenncare Coverage (%)	46.8%	57.9%	58.3%	↓
Hospital Staffed Beds (per 1,000)	3.6	0.1	0.1	↑
Licensed Nursing Beds (per 1,000 65+)	44.8	37.2	39.4	↑
# of Primary Care MDs	7,703	5	5.0	↓
# of Psychiatric Specialists	684	0	0.0	↓
Inpatient Discharge Rate (per 1,000) - Total	126.3	129.4	134.3	↓
Health Behaviors (continued)				↓
Cigarette Smoking (%)*	23.0%	24.0%	28.9%	↓
Smoking During Pregnancy (%)	16.3%	38.9%	31.9%	↓
Physical Inactivity (%)*	30.0%	32.0%	38.4%	↓
Overweight/Obesity (% BMI > 25)	67.8%	67.8%	67.9%	↓
Obesity (% BMI > 30)*	32.0%	32.0%	31.0%	↓
Low Fruit and Vegetable Consumption (% <5 a day)*	76.7%	73.0%	41.5%	↓
Binge Drinking (%)*	10.0%	3.0%	7.9%	↓
% of Children (0-4) Un/Improperly Restrained in a Crash	14.5%	7.1%	12.5%	↓
Teen Birth Rate (per 1,000)	37.3	49.5	37.5	↓
Sexually Transmitted Diseases (per 100,000)	446	104	83.0	↓
Violent Crime (per 100,000)	667.0	454.0	430.0	↓
Motor Vehicle Crash Deaths (per 100,000)	19	24	29.0	↓
Unmarried Mother Birth Rate (%)	44.1%	40.8%	44.8%	↓
Injury-related Mortality (3-yr avg rate per 100,000)	53.7	71.5	91.4	↓
Young Driver Crash Rate 15 - 24	116.9	92.1	76.2	↓
Elderly Drive Crash Rate (65+)	31.3	24.8	24.1	↓
Homicides (per 100,000)	8	10.7	5.5	↓
All accidental deaths per 100,000 population	52	53.3	65.1	↓
Average Fatality Rate in Alcohol-Related Crashes (per 100,000 population)	6.9	2.8	6.7	↓

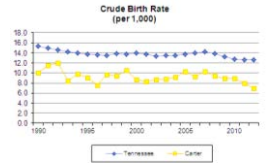
Cancer Incidence:

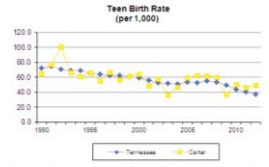






Birth Rate Trend:





Key Indicators of Health Status:

Socioecomonic Factors				↓
High School Graduation Rate (%)	86.0%	89.0%	90.3%	↑
Level of Education (%)	83.2%	70.1%	63.3%	↑
Unemployment (%)	8.8%	8.0%	9.7%	↓
Children (age 0 to 17) in poverty ratio (%)	26.5%	37.0%	32.5%	↓
Divorce Rate (per 100,000)	4.3	4.3	3.2	↓
Food Stamp Recipients (% of individuals)	21.1%	25.5%	28.2%	↓
Poverty Rate (% of all ages)	18.4%	26.1%	25.8%	↓
Temporary Assistance for Needy Families	2.6%	2.1%	2.3%	↓
High School Dropout Rate	6.9%	2.3%	6.8%	↓
Average Annual Wage	$ 36,576	$ 24,806	$ 20,785	↑
Physical Environment				↓
Air Quality Cancer Risk (per 1,000,000)	4.6	2.3	15.6	↓
Air Quality Hazard Index (per 1,000,000)	1.4	4.9	1.0	↓
Air Quality - Fine Particulate Matter in Air (3 yr avg Mg/m3)*	13.2	13.0	14.5	↓
Ozone Level (ppb)*	0.062	0.063	0.1	↓
Nitrate Levels in drinking water (mg/L Avg.)	0.70	0.51	0.78	↓
Pre-1950 Housing (%)	11.8%	15.1%	19.0%	↓
Lead Poisoned Children (%)	0.1%	n/a	0.5%	↓
Child Abuse and Neglect (rate per 1,000)	5.5	11.6	6.0	↓
Communicable Diseases				↓
Hepatitis A (per 100,000)	0.3	0.0	n/a	↓
Campylobacter Infection (per 100,000)	7.2	0.0	n/a	↓
Salmonella, Non Typhoid (per 100,000)	17.6	0.0	n/a	↓
Shigellosis (per 100,000)	3.3	0.0	n/a	↓
AIDS/HIV (per 100,000)	293	97	n/a	↓
Primary and Secondary Syphilis (per 100,000)	4.3	0.0	n/a	↓
Penicillin-Sensitive *Streptococcus pneumoniae* (per 100,000)	0.0	0.0	n/a	↓
Group B *Streptococcus* (per 100,000)	6.2	5.5	n/a	↓
Chlamydia (per 100,000)	517.3	88.9	n/a	↓
Gonorrhea (per 100,000)	144.8	0.0	n/a	↓

Inpatient Projections

	2014	2019		2024	
DRG Service Line	**Discharges**	**Discharges**	**% Change**	**Discharges**	**% Change**
Cardiac Surgery	27	27	-1.20%	27	0.90%
Cardiology	242	209	-13.40%	186	-22.90%
Cardiology Intervention	99	91	-8.40%	85	-14.00%
Endocrinology	49	39	-21.30%	35	-29.50%
ENT Surgery	6	5	-11.30%	5	-15.00%
Gastroenterology	234	219	-6.50%	213	-8.80%
General Medicine	224	224	0.00%	208	-7.00%
General Surgery	166	154	-7.40%	149	-10.30%
Gynecology	13	12	-9.10%	11	-15.10%
Hematology	28	28	-1.70%	28	1.20%
Neonatology	61	55	-9.10%	51	-16.70%
Nephrology	96	90	-6.70%	79	-17.70%
Neurology	138	135	-1.90%	138	-0.40%
Neurosurgery	46	44	-4.30%	43	-5.80%
Normal Newborns	91	92	0.60%	88	-3.10%
OB Deliveries Sections	55	46	-15.50%	42	-23.20%
OB Deliveries Vaginal	98	101	2.90%	98	-0.10%
OB Other	8	8	-5.30%	7	-9.00%
Oncology Medicine	54	51	-5.70%	46	-15.40%
Oncology Surgery	15	15	-1.80%	14	-7.60%
Ophthalmic Medicine	4	3	-15.80%	3	-24.50%
Ophthalmic Surgery	1	1	-10.50%	1	-8.80%
Oral Surgery	5	4	-10.40%	4	-11.60%
Orthopedic Medicine	22	22	-0.90%	21	-3.00%
Orthopedic Surgery	162	168	3.80%	169	4.40%
Otolaryngology	11	9	-18.70%	8	-26.70%
Plastic Surgery	7	7	2.00%	7	2.90%
Psychiatry	159	173	8.80%	162	2.10%
Pulmonary	319	273	-14.50%	257	-19.40%
Rehabilitation	29	24	-18.40%	25	-13.60%
Rheumatology	6	5	-8.60%	5	-12.90%
Substance Abuse	15	15	0.10%	14	-5.10%
Thoracic Surgery	21	20	-4.70%	20	-6.40%
Trauma Medical	7	7	-6.40%	6	-7.20%
Urology Medicine	6	5	-14.70%	5	-21.80%
Urology Surgery	16	15	-9.10%	13	-18.20%
Vascular Surgery	48	47	-2.00%	47	-3.10%
Women's Other	4	4	-10.60%	3	-21.70%
Grand Total	**2,592**	**2,445**	**-5.70%**	**2,326**	**-10.30%**

Outpatient Projections

	2014		2019			2024	
Site of Care	**Volumes**		**Volumes**	**% Change**		**Volumes**	**% Change**
ED	8,849		8,688	-1.80%		8,148	-7.90%
Home	20,858		24,071	15.40%		26,235	25.80%
Hosp OP/ASC	19,681		20,789	5.60%		20,846	5.90%
Office/Clinic	135,034		141,401	4.70%		133,637	-1.00%
Other	23,929		25,945	8.40%		25,892	8.20%
SNF	490		531	8.40%		554	13.20%
Urgent/Retail	121		125	3.50%		120	-0.20%
Virtual			3,116			12,540	
Grand Total	**208,961**		**224,666**	**7.50%**		**227,974**	**9.10%**

Interview Highlights:

INTERVIEWEES:

- Eleven individuals

KEY FINDINGS:

- Average rating of health status is 5.14, with a range of 3 to 7
- Top health issues are:
  - Diabetes
  - Cancer
  - Obesity
  - Cardiovascular Disease
  - Behavioral/Mental Health
  - Asthma
  - Smoking/Tobacco Use
  - Inactivity
  - Poor Nutrition
  - Substance Misuse/Abuse
  - Education
  - Fatalism (feeling of no control of outcomes)
  - Geographic Isolation / Transportation Barrier
  - Built Environment
  - Poverty
  - Familial Dynamics (disrupted families, multi-generational living)
  - Lack of Activities/Resources
- Ideas to improve these conditions include:
  - Better marketing of available health-related programs and resources
  - Comprehensive smoking cessation services
  - Enhance access to physical activity through built environment and physical fitness activities
  - Behavioral health services
  - Inpatient and outpatient substance abuse treatment
  - Recruiting specialists to area
  - Enhance telehealth services
  - Community engagement
  - Use churches to disseminate information
  - After school health programs for children

Sources:	Local Resources:
▪ Medstat ▪ County Health Rankings ▪ TN Advisory Commission on Intergovernmental Relations ▪ TN Dept of Health ▪ BRFSS ▪ TennCare ▪ Kidscount ▪ TN Dept of Safety and Homeland Security ▪ EPA ▪ CDC Wonder ▪ TN Dept of Environment & Conservation ▪ Childhood Lead Poisoning Prevention Program	▪ After School Programs ▪ Anti-Drug/Action Coalition ▪ Cancer Support Group ▪ Coordinated School Health ▪ Extended Hours Clinic ▪ Frontier Health ▪ Intensive Outpatient Program ▪ Johnson County Health Council ▪ Medical Mission ▪ Pregnancy Support Center ▪ Telemedicine ▪ Tennessee Department of Health – Primary Prevention Initiative ▪ Johnson County Health Department ▪ UT-TSU Extension Service

APPENDIX

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1. Johnson, TN Detailed Demographics

Mountain State Health Alliance

Johnson County, TN

Population and Gender	Market 2015 Population	Market 2015 % of Total	Market 2020 Population	Market 2020 % of Total	Market Population % Change	National 2015 % of Total
Female Population	8,998	46.5%	8,934	46.5%	(0.7)%	50.8%
Male Population	10,358	53.5%	10,273	53.5%	(0.8)%	49.2%
Total	19,356	100.0%	19,207	100.0%	(0.8)%	100.0%

Age Groups	Market 2015 Population	Market 2015 % of Total	Market 2020 Population	Market 2020 % of Total	Market Population % Change	National 2015 % of Total
00-17	3,474	18.0%	3,314	17.3%	(4.6)%	23.1%
18-44	6,332	32.7%	6,120	31.9%	(3.4)%	35.9%
45-64	5,585	28.9%	5,386	28.0%	(3.6)%	26.3%
65-UP	3,965	20.5%	4,387	22.8%	10.6%	14.7%
Total	19,356	100.0%	19,207	100.0%	(0.8)%	100.0%

Ethnicity/Race	Market 2015 Population	Market 2015 % of Total	Market 2020 Population	Market 2020 % of Total	Market Population % Change	National 2015 % of Total
Asian & Pacific Is. Non-Hispanic	58	0.3%	65	0.3%	12.1%	5.3%
Black Non-Hispanic	469	2.4%	531	2.8%	13.2%	12.3%
Hispanic	340	1.8%	401	2.1%	17.9%	17.6%
White Non-Hispanic	18,237	94.2%	17,914	93.3%	(1.8)%	61.8%
All Others	252	1.3%	296	1.5%	17.5%	3.1%
Total	19,356	100.0%	19,207	100.0%	(0.8)%	100.0%

Language*	Market 2015 Population	Market 2015 % of Total	Market 2020 Population	Market 2020 % of Total	Market Population % Change	National 2015 % of Total
French at Home	29	0.2%	30	0.2%	3.5%	0.7%
Germanic Lang at Home	11	0.1%	11	0.1%	0.0%	0.5%
Only English at Home	18,104	97.9%	17,990	97.9%	(0.6)%	79.0%
Other Indo-European Lang at Home	42	0.2%	40	0.2%	(4.8)%	1.8%
Spanish at Home	276	1.5%	272	1.5%	(1.5)%	13.0%
All Others	26	0.1%	25	0.1%	(3.9)%	4.9%
Total	18,488	100.0%	18,368	100.0%	(0.7)%	100.0%

Mountain State Health Alliance

Johnson County, TN

Household Income	Market 2015 Households	Market 2015 % of Total	Market 2020 Households	Market 2020 % of Total	Market Households % Change	National 2015 % of Total
<$15K	1,673	21.6%	1,411	18.2%	(15.7)%	12.7%
$15-25K	1,293	16.7%	1,221	15.8%	(5.6)%	10.8%
$25-50K	2,176	28.0%	2,170	28.0%	(0.3)%	23.9%
$50-75K	1,242	16.0%	1,151	14.9%	(7.3)%	17.8%
$75-100K	704	9.1%	806	10.4%	14.5%	12.0%
$100K-200K	574	7.4%	861	11.1%	50.0%	17.9%
>$200K	97	1.3%	123	1.6%	26.8%	5.0%
Total	7,759	100.0%	7,743	100.0%	(0.2)%	100.0%

Education Level**	Market 2015 Population	Market 2015 % of Total	Market 2020 Population	Market 2020 % of Total	Market Population % Change	National 2015 % of Total
Less than High School	1,614	11.3%	1,614	11.3%	0.0%	5.9%
Some High School	2,449	17.1%	2,449	17.1%	0.0%	8.0%
High School Degree	5,794	40.4%	5,770	40.4%	(0.4)%	28.1%
Some College/Assoc. Degree	3,025	21.1%	2,997	21.0%	(0.9)%	31.1%
Bachelor's Degree or Greater	1,468	10.2%	1,455	10.2%	(0.9)%	26.9%
Total	14,350	100.0%	14,285	100.0%	(0.5)%	100.0%

***Excludes population age <5, **Excludes population age <25**

MOUNTAIN STATES HEALTH ALLIANCE

2015 COMMUNITY HEALTH NEEDS ASSESSMENT

JOHNSON CITY MEDICAL CENTER

Published June 29, 2015

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Introduction

Mountain States Health Alliance (MSHA) is an integrated health care delivery system providing a comprehensive continuum of care to people in 29 counties in Tennessee, Virginia, Kentucky, and North Carolina. MSHA was formed after Johnson City Medical Center Hospital, Inc. acquired six Columbia/HCA hospitals in Northeast Tennessee on September 1, 1998; and was later renamed Mountain States Health Alliance in January 1999.

Today, MSHA is the largest regional health care system with 13 hospitals operating at approximately $1.0 billion in net revenues. The hospitals are:

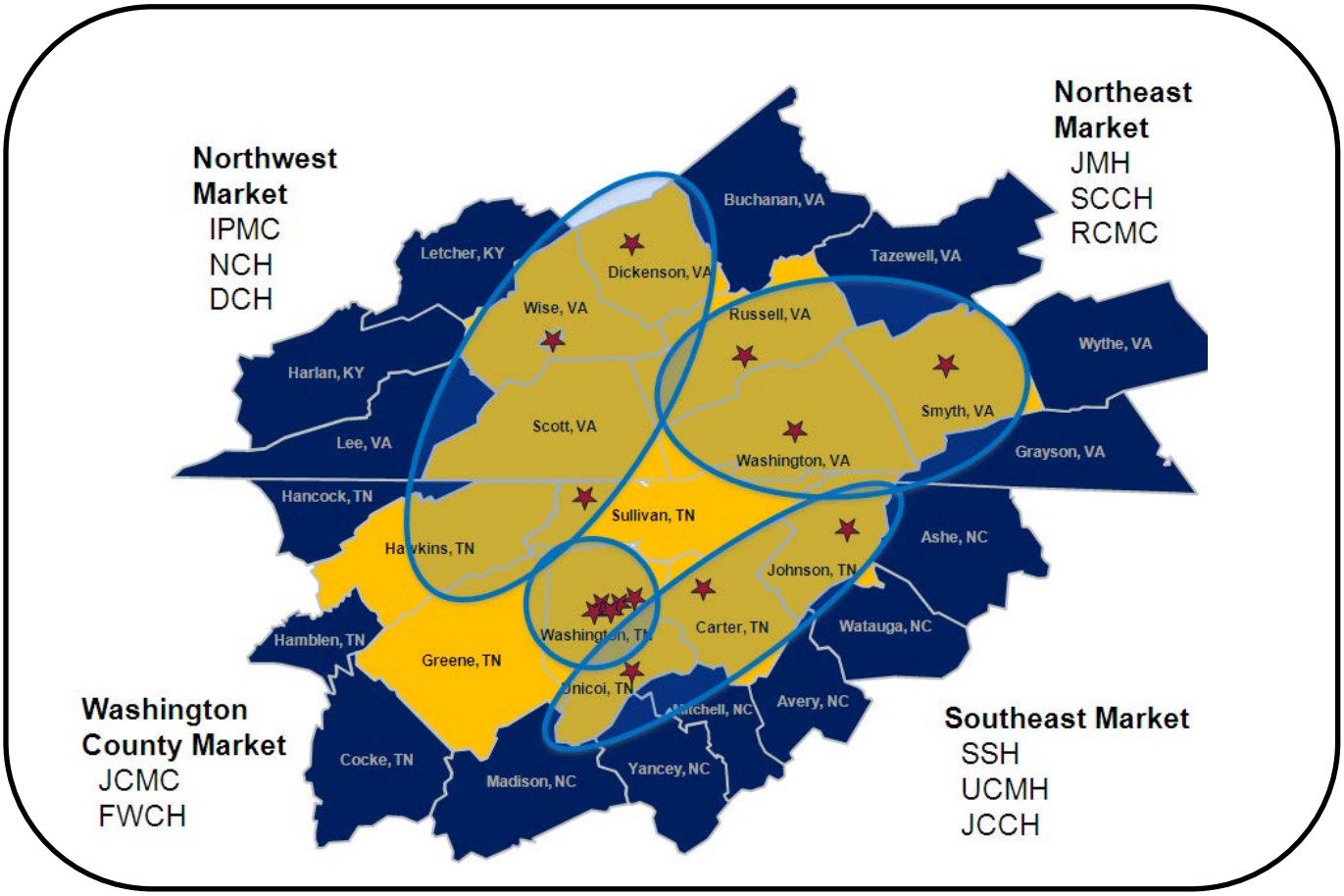
- Johnson City Medical Center
- Niswonger Children's Hospital
- Woodridge Psychiatric Hospital
- Franklin Woods Community Hospital
- Unicoi County Community Hospital
- Indian Path Medical Center
- Johnson County Community Hospital
- Sycamore Shoals Hospital
- Dickenson Community Hospital
- Johnston Memorial Hospital
- Norton Community Hospital
- Russell County Medical Center
- Smyth County Community Hospital

In addition to 13 hospitals, MSHA's integrated health care delivery system includes primary/preventive care centers and numerous outpatient care sites, including First Assist Urgent Care, MedWorks, Same Day Surgery, and Mountain States Rehabilitation.

Executive Summary

Regional and national rankings for health factors continue to be disappointing as cancer, heart disease, and diabetes rates continue to increase each year. Obesity and smoking continue to be major problems in the United States, leading to additional diseases. From a global perspective, the United States falls behind other developing nations in health outcomes. Clearly, there are many needs that exist and need attention. The interrelatedness between the health of a community, its economic status, and its educational attainment levels is becoming increasingly recognized. Mountain States Health Alliance (MSHA) exists to "*identify and respond to the health care needs of individuals and communities in our region and to assist them in attaining their highest possible level of health.*" In doing so, MSHA recognizes this is a very complex challenge that involves the engagement of many prongs of the community.

In order for MSHA to serve its region most effectively, it is essential to understand each community's individual needs. MSHA has conducted a Community Health Needs Assessment to profile the health of the residents within the local region (a map of the MSHA service area is provided on the following page). Activities associated with the development of this assessment have taken place from spring of 2014 through spring of 2015, including state, regional and county-specific secondary data collection and primary data obtained through individual surveys and focus groups with individuals from the local communities.



★ Represents county in which MSHA owns a facility. MSHA has part-ownership in other hospitals but they are not included in this assessment.

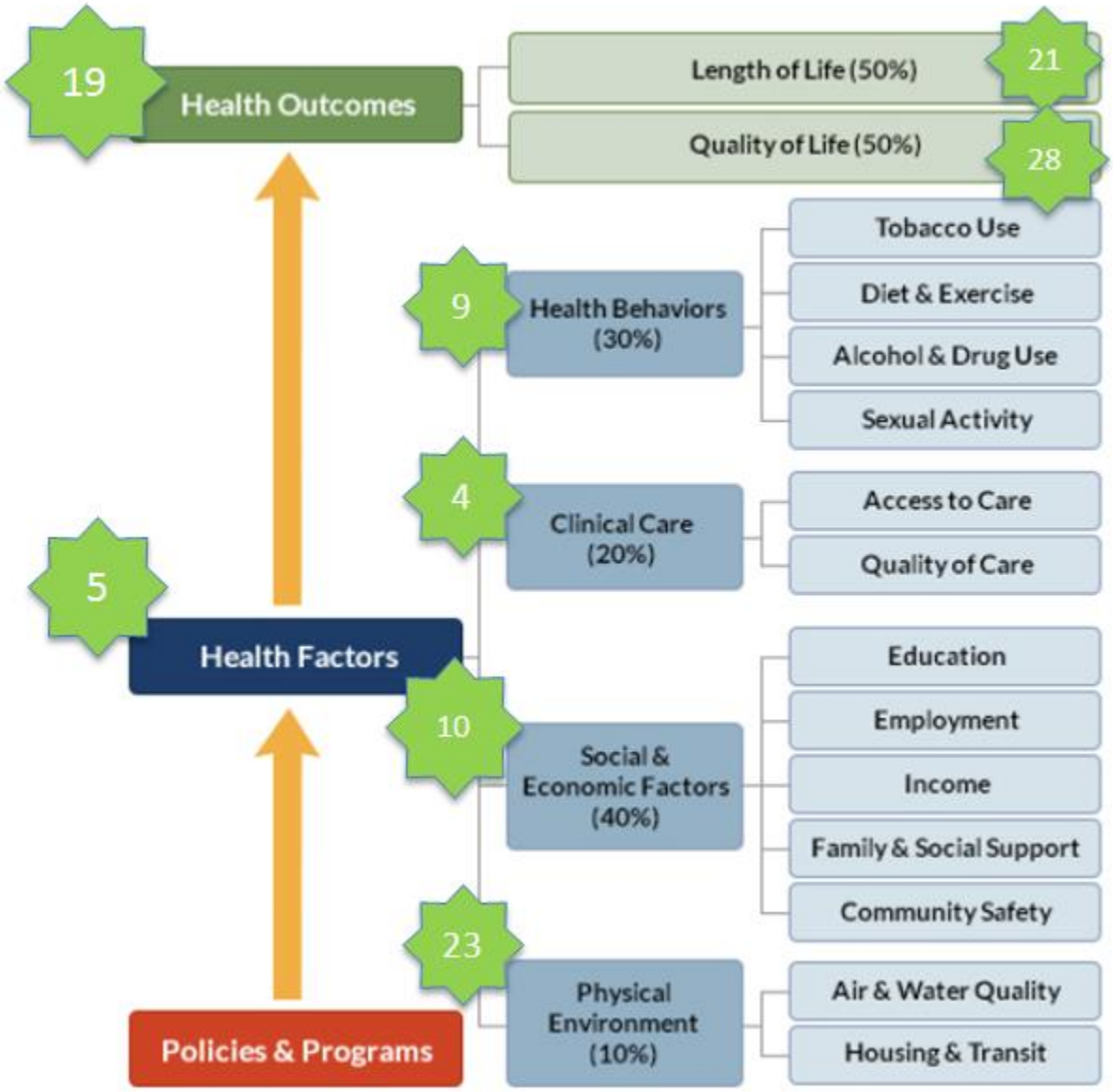
*Service Area is defined by approximately 80% of inpatient population.

Throughout the assessment, high priority was given to determining the health status and available resources within each community. Community members from each county met with MSHA to discuss current health priorities and identify potential solutions. The information gathered from a local perspective, paired with regional, state and national data, helps to communicate the region's health situation in order to begin formulating solutions for improvement.

In 2014, Tennessee ranked 45th and Virginia ranked 21st out of 50 states for overall health outcomes. Both states had high rates of adult obesity, cancer deaths, infant mortality, and diabetes. Though Virginia's overall ranking is moderately low, the health outcomes in Southwest Virginia counties, where MSHA's facilities are located, resembles those of Tennessee. After compiling the various sources of information, the top health priorities were identified for the communities that each of the MSHA hospitals serve. This effort has determined the top health priorities identified in Washington County, TN to include **substance and prescription drug abuse, smoking, obesity/diabetes/physical activity and cardiovascular disease**. There are certainly a number of other health challenges in this community, but these rise to the top based on this assessment.

According to the 2015 County Health Rankings, Washington County is ranked 19th in Tennessee for health outcomes and 5th for health factors out of 95 counties. The leading causes of death for ages 65 and over are heart disease, cancer, and stroke. Washington County, TN also ranked 9th in health behaviors and 10th in social and economic factors. While Tennessee compares favorably within the state of Tennessee, it does not compare favorably to the top performing counties in the nation. Washington County, TN has high rates of smoking, obesity, and physical inactivity. Many of these health issues are the result of lack-luster social and economic factors such as high rates of poverty, income inequality and unemployment.

Washington County, TN Health Ranking
2015 County Health Rankings
www.countyhealthrankings.org



*Ranking is in comparison to all 95 counties in the state of Tennessee.

Community Interview Summary

Between spring 2014 and spring 2015 the MSHA Strategic Planning Department completed individual interviews and a focus group in order to connect with community members of Washington County, TN and determine the needs of the community that Johnson City Medical Center serves. MSHA hospital administration teams were contacted in order to obtain names of individuals in the community who were considered public health officials or community leaders. The 18 interviewees included representatives from the county and regional health departments, community health center, East Tennessee State University, Chamber of Commerce, local government, United Way, local emergency medical service and several local non-profit community organizations. These individuals were invited to discuss and assist in determining the health priorities and resources available in their community of Washington County.

Collecting Community Input

In order to complete the community health needs assessment for Johnson City Medical Center, MSHA met with various individuals from Washington County, TN. The organizations that were represented are listed in Table 1.1.

Table 1.1 – Summary Organizations Participating in JCMC's CHNA

Reported Organizations Providing Input for Assessment
Washington County Health Department
Frontier Health
ETSU College of Nursing
ETSU Johnson City Community Health Center
ETSU College of Public Health
Washington County Commission
Northeast Tennessee Regional Health Department
Washington County/Johnson City Emergency Medical Services
United Way
Project Access
Chamber of Commerce
Families Free
City of Johnson City
Center on Aging and Health

To begin the community health needs assessment, MSHA's strategic planning staff presented data that had been collected to illustrate past and current health trends for Tennessee and Washington County. The presentation depicted the current national health rankings, in addition to providing a snapshot of the county.

Following the presentation, each participant was given a survey to determine the individual's personal assessment of their county's health priorities. Secondly, the individuals were asked to submit ideas and suggestions as to how MSHA could use the available resources in order to improve the health priorities determined. After the surveys had been completed, each group discussed the questions and continued brainstorming ways to address obstacles and utilize resources. All of the information collected from the surveys and open discussion was evaluated and prioritized based on health needs.

In surveys obtained from the Washington County representatives, several community health needs and resources were identified. Table 1.2 lists the survey questions given to each participant in the assessment.

Table 1.2 – Community Survey Questions

	Survey Questions
1	How would you rate the general health status of the patient population in this community on a scale of 1 to 10 (with 1 being the poorest and 10 being the best)?
2	Keeping in mind resources are not unlimited, can you identify the top 1-2 health priorities in your local community that you feel should be addressed in the following areas: a)Health Outcomes/Diseases b)Health Behaviors c)Social Environment
3	What existing resources, such as organized groups or public health initiatives have been developed and are in place to address these health priorities?
4	What ideas do you have that may serve to improve these health priorities?

Health Status Rating

Overall, the general health status of Washington County, TN was rated as 5.3 on a scale of 1 – 10, with 1 being the poorest and 10 being the best. Individual responses ranged from 2 to 7. The health ranking for Washington County can be found below in Table 1.3.

Table 1.3 – Average Health Status Ranking

MSHA Facility/County	Number of Individuals	Average of Health Status Rating
JOHNSON CITY MEDICAL CENTER, Washington County, TN	18	5.3

Top Health Priorities

From the results of the surveys, the most prevalent health priorities in Washington County were substance and prescription drug abuse, smoking, obesity/diabetes/physical activity and cardiovascular disease. Table 1.4 lists the health priorities input provided by community participants.

Table 1.4 – Top Identified Health Priorities

Washington County, TN		
Top Health Priorities	**Responses**	**% of Total Responses**
Health Outcomes/Diseases		
Obesity	10	62.50%
Cardiovascular Disease	8	50.00%
Diabetes	7	43.75%
Cancer	4	25.00%
Mental Health	3	18.75%
Liver Disease (Hepatitis C)	2	12.50%
Neonatal Abstinence Syndrome	2	12.50%
Health Behaviors		
Substance and Prescription Drug Abuse	12	75.00%
Smoking/Tobacco Use	11	68.75%
Physical Inactivity	10	62.50%
Poor Nutrition	6	37.50%
Risk Taking	1	6.25%
Social Environment		
Education	5	31.25%
Income inequality	3	18.75%
Literacy	3	18.75%
Poverty	2	12.50%
Aging population	2	12.50%
Transportation Barriers	2	12.50%
Stigma of substance use and mental health disorders	1	6.25%
Access to care	1	6.25%
Living wage	1	6.25%
Lack of Job Training	1	6.25%
Built Environment for Physical Activity	1	6.25%
Poor Parenting Skills	1	6.25%
Convenient Access to Fast Food	1	6.25%
Economy	1	6.25%
Adverse Childhood Experiences	1	6.25%
Domestic Violence	1	6.25%

*Individuals submitted multiple answers regarding health priorities.

These priorities are consistent with the secondary data findings.

- Substance and prescription drug abuse
    - The rate of drug poisoning deaths per 100,000 in Washington County, TN exceeds the state average (17 vs. 16).
    - While the state average for Neonatal Abstinence Syndrome is 6.7 per 1,000, it is three times that rate in Washington County, TN at 18.7 per 1,000.
    -
- Smoking
    - Maternal smoking rates in Washington County, TN exceed those of the state (26% vs. 23%)
    - Approximately 24% of Washington County adults smoke compared to 23% of TN and 18% when compared nationally.
- Obesity/Diabetes/Physical Activity
    - Close to 33% of Washington County, TN residents are obese, compared to 27% nationally.
    - Additionally, another 38% of Washington County, TN residents are considered overweight compared to state and national percentages of 36%
    - Self-reported physical inactivity rates among Washington County, TN residents exceed the national average (32% vs. 23%)
- Cardiovascular disease
    - The age-adjusted death rate for heart disease in Washington County, TN exceeds both the state (232.45 vs. 218.67 per 100,000 population) and the nation (184.55 per 100,000)

All of these issues lead to a higher percentage of self-reported age-adjusted fair or poor health rates in Washington County, TN compared nationally(19% vs. 16%) as well as a higher number of years of potential life lost before 75 per 100,000 (a measure of premature death) at 8,155 in the county vs. 6,851 nationally.

Washington (WS)

	Washington County	Error Margin	Top U.S. Performers*	Tennessee	Rank (of 95)
Health Outcomes					19
Length of Life					21
Premature death	8,403	7,831-8,974	5,200	8,696	
Quality of Life					28
Poor or fair health	19%	15-22%	10%	19%	
Poor physical health days	4.5	3.8-5.2	2.5	4.3	
Poor mental health days	3.8	3.0-4.6	2.3	3.4	
Low birthweight	8.4%	7.9-9.0%	5.9%	9.2%	
Health Factors					5
Health Behaviors					9
Adult smoking	24%	21-28%	14%	23%	
Adult obesity	31%	27-35%	25%	32%	
Food environment index	7.3		8.4	6.9	
Physical inactivity	30%	26-34%	20%	30%	
Access to exercise opportunities	72%		92%	70%	
Excessive drinking	7%	5-10%	10%	9%	
Alcohol-impaired driving deaths	31%		14%	28%	
Sexually transmitted infections	201		138	504	
Teen births	33	31-35	20	47	
Clinical Care					4
Uninsured	17%	15-18%	11%	16%	
Primary care physicians	596:1		1,045:1	1,388:1	
Dentists	1,846:1		1,377:1	1,996:1	
Mental health providers	345:1		386:1	786:1	
Preventable hospital stays	82	77-87	41	73	
Diabetic monitoring	89%	84-93%	90%	86%	
Mammography screening	63.6%	58.7-68.5%	70.7%	61.8%	
Social & Economic Factors					10
High school graduation	93%			87%	
Some college	66.0%	62.3-69.6%	71.0%	57.7%	
Unemployment	7.3%		4.0%	8.2%	
Children in poverty	24%	18-29%	13%	27%	
Income inequality	5.1	4.8-5.5	3.7	4.8	
Children in single-parent households	31%	27-36%	20%	36%	
Social associations	13.9		22.0	11.5	
Violent crime	415		59	621	
Injury deaths	71	64-77	50	78	
Physical Environment					23
Air pollution - particulate matter	13.1		9.5	13.8	
Drinking water violations	0%		0%	4%	
Severe housing problems	15%	14-17%	9%	15%	
Driving alone to work	87%	86-88%	71%	84%	
Long commute - driving alone	22%	20-23%	15%	32%	

* 90th percentile, i.e., only 10% are better.
Note: Blank values reflect unreliable or missing data

2015

Identifying Available Resources

MSHA realizes that there are numerous resources in all of the counties it serves that can provide care for individuals. Our goal, in order to reduce costs and provide the best care possible for patients, is to identify these resources to prevent duplication of services and efforts. The interviewees were asked to list all of the services and resources within their community. The interviewees acknowledged that many resources currently exist to help meet health needs. Table 1.5 lists the current resources within each county that offer health services to the community.

Table 1.5 – Identified Available Resources

Resources Available
Washington County, Tennessee
Families Free
Health Department
Washington County Anti-Drug Coalition
Tennessee Suicide Prevention Network
Tennessee Prevention Alliance
TAADAS
Tweetsie Trail
Senior Center
Food Pantries
One Acre Café
Backpack/Student food supplement program
Project Access
JCCH
Johnson City Housing Authority
United Way
Coordinated School Health
Head Start
Johnson City Parks and Recreation
Morning Mile
JCMC/FWCH
ETSU College of Medicine
ETSU College of Public Health
ETSU College of Pharmacy
ETSU College of Nursing
ETSU College of Clinical and Rehabilitative Health Sciences
Day Center
MEAL
Girls on the Run
Washington County Health Council
Washington County Wellness Committee
The Women's Fund of the East Tennessee Foundation
Appalachian Funders Network
Washington County PDAM
Local school systems
Local churches
UT-Washington County Extension Service

*MSHA understands that there are other resources available in each county that are not listed in this table. This table represents only the resources listed by participants in community health needs assessment. MSHA will continue to identify resources.

Improving Health Priorities

The community members who were surveyed provided helpful ideas as to how to begin formulating a plan to improve the health priorities throughout the region. To enhance existing resources, the

participants stressed the significance of increasing public awareness of both addressing one's health needs and the availability of health care options within each community. Additional suggestions as to how MSHA can improve the previously identified health priorities are listed in Table 1.6.

Table 1.6 – Ideas to Improve Health Priorities

	Responses
1	Organizational collaboration
2	Comprehensive community emphasis on exercise
3	Increase physical activity in schools
4	Health education on the health effects of behaviors: smoking, food choices, inactivity
5	Expansion of Project Access
6	Increase health care access with financial resources and partnerships
7	Focus on high school graduation
8	Increase number of walking trails
9	CEASE program
10	Provide/promote smoking cessation programs
11	Offer wellness initiatives
12	Work with schools on food options for students
13	Promote early screenings
14	Educate children early on the importance of exercise and healthy eating
15	Healthcare navigators/care coordinators to help community members with health education and free/reduced cost health care services
16	Offer additional activities/opportunities for families to engage in physical activity
17	Develop network of clinics, hospitals, long-term health facilities and health departments to discuss and develop health improvement initiatives.
18	Better marketing of health resources to the community
19	Promote literacy programs for educational attainment

However, it is also helpful to understand from a more global perspective the health status of our nation as a whole, since many issues we face in our service area are not limited to just our region. Compiled on an annual basis, the *America's Health Rankings* publication developed by the United Health Foundation, the American Public Health Association and Partnership for Prevention provides one of the most comprehensive assessments regarding the status of the nation's health. The following information in the national and regional overview is from the 2015 edition

Health is a result of our behaviors, our individual genetic predisposition to disease, the environment and the community in which we live, the clinical care we receive and the policies and practices of our health care and prevention systems. Each of us, individually, as a community, and as a society, strives to optimize these health determinants, so that all of us can have a long, disease-free, and robust life regardless of race, gender or socio-economic status.

This report looks at the four groups of health determinants that can be affected:

1. **Behaviors** include the everyday activities we do that affect our personal health. It includes habits and practices we develop as individuals and families that have an effect on our personal health and on our utilization of health resources. These behaviors are modifiable with effort by the individual supported by community, policy and clinical interventions.

2. **Community and environment** reflects the reality that the daily conditions in which we live our lives have a great effect on achieving optimal individual health.

3**. Public and health policies** are indicative of the availability of resources to encourage and maintain health and the extent that public and health programs reach into the general population.

4. **Clinical care reflect**s the quality, appropriateness and cost of the care we receive at doctors' offices, clinics and hospitals.

All health determinants are intertwined and must work together to be optimally effective. For example, an initiative that addresses tobacco cessation requires not only efforts on the part of the individual but also support from the community in the form of public and health policies that promote non-smoking and the availability of effective counseling and care at clinics. Similarly sound prenatal care requires individual effort, access to and availability of prenatal care coupled with high quality health care services. Addressing obesity, which is a health epidemic now facing this country, requires coordination among almost all sectors of the economy including food producers, distributors, restaurants, grocery and convenience stores, exercise facilities, parks, urban and transportation design, building design, educational institutions, community organizations, social groups, health care delivery and insurance to complement and augment individual actions.



America's Health Rankings® combines individual measures of each of these determinants with the resultant health outcomes into one, comprehensive view of the health of a state. Additionally, it discusses health determinants separately from health outcomes and provides related health, economic and social information to present a comprehensive profile of the overall health of each state.

America's Health Rankings® employs a unique methodology, developed and periodically reviewed by a panel of leading public health scholars, which balances the contributions of various factors, such as smoking, obesity, binge drinking, high school graduation rates, children in poverty, access to care and incidence of preventable disease, to a state's health. The report is based on data from the

U.S. Departments of Health and Human Services, Commerce, Education and Labor; U.S. Environmental Protection Agency; U.S. Census Bureau, the American Medical Association; the American Dental Association; the Dartmouth Atlas Project; and the Trust for America's Health.

Purpose

The ultimate purpose of *America's Health Rankings*® is to stimulate action by individuals, elected officials, health care professionals, employers, and communities to improve the health of the population of the United States. We do this by promoting public conversation concerning health in our states, as well as providing information to facilitate citizen, community and group participation. We encourage participation in all elements: behaviors, community and environment, clinical care, and public and health policies. Each person individually, and in their capacity as an employee, employer, voter, community volunteer, health official or elected official, can contribute to the advancement of the healthiness of their state. Proven, effective and innovative actions can improve the health of people in every state whether the state is first or 50th.

Findings

Comparison to Other Nations

When health in the United States is compared to health in other countries, the picture is disappointing. The World Health Organization, in its annual World Health Statistics 2013, compares the United States to the nations of the world on a large variety of measures. While the U.S. does exceed many countries, it is far from the best in many of the common measures used to gauge healthiness and lags behind its peers in other developed countries.

The United States ranks at or near the bottom among high-income countries on nearly all indicators of mortality, survival, and life expectancy. Life expectancy is a measure that indicates the number of years that a newborn is expected to live. Japan, San Marino, and Switzerland are the persistent leaders for developed countries in this measure, with an overall life expectancy of 83 years. At 81 years for women and 76 years of men, the United States ranks 33rd among the 193 reporting nations of the WHO. The United States male life expectancy rates are on par with Chile, Cuba, Brunei Darussalam, and Maldives, while the female life expectancy rates are on par with Columbia, Costa Rica, Czech Republic, Estonia, Poland, and Qatar. There are 32 other countries that exceed the United States in healthy life expectancy, including Australia, Italy, Spain, France, Germany, Greece and the United Kingdom.

One of the underlying causes for these differences is the gap in infant mortality rates between the United States and many other countries. The infant mortality rate for the U.S. in 2011 was 6 deaths per 1,000 live births, ranking 40th among WHO nations. The infant mortality rates in Finland, Japan, and Sweden were *one* third that of the U.S. rate. Of the 193 countries rated, 39 countries had lower infant mortality rates than the United States.

These countries also have considerably lower infant mortality rates than that of non-Hispanic whites in the United States, which is the ethnic/racial group with the lowest infant mortality rate. The racial/ethnic disparities related to infant mortality could be related to differences in risk factors among different racial/ethnic groups, including risk for low birth weight delivery, access to medical care, and socioeconomic status. However, many of the racial/ethnic differences in infant mortality remain unexplained. It should also be noted that the reporting and classification of infant mortality varies among countries, which could be reflected in the ranks.

In addition to infant mortality, youth and young adults' mortality impacts life expectancy. Unintentional injuries claim approximately 30 percent of the years lost before age 50, along with violence and suicides, among U.S. young adults and adolescents. Non-communicable (chronic)

diseases, such as cancer, heart disease, and other conditions that are not caused by infections, begin to be more of a contributing factor after the age of 30.

Differences in healthy life expectancy are also affected by the effectiveness of treating disease, especially those that are amenable to care, including bacterial infections, treatable cancers, diabetes, cardiovascular and cerebrovascular disease, some ischemic heart disease, and complications from common surgical procedures. The age-adjusted amenable mortality rate before age 75 for the United States was 95.5 deaths per 100,000 population in 2006 to 2007, which is still a slower rate of improvement than in other Organization for Economic Cooperation and Development (OECD) nations studied. The rate in the U.S. is 50 percent higher than the rate in France, Japan, Italy, and Australia.

Additionally, the study indicated that despite spending more than any other country on health care, the United States continues to slip further behind and has one of the highest inequalities in health compared to other developed countries. The U.S. ranks among the worst OECD countries for child health well-being, having an inequality higher than average. Furthermore, although the United States has the highest income per person, it continues to rank as the worst country for income inequality, which is thought to explain why it has the highest index of health and social problems compared to other developed nations.

Physical inactivity and obesity play major contributions to disease worldwide and in the United States. Physical inactivity is the fourth leading risk factor for global mortality, and is responsible for an estimated 6 to 10 percent of non-communicable diseases, such as type 2 diabetes, heart disease, colon cancer, and breast cancer. North America has 34 percent of the world's biomass due to obesity; however, it only makes up for 6 percent of the world's population. Asia, on the other hand, has 61 percent of the world's population, yet only has 13 percent of its biomass due to obesity. While the U.S. is only one of several countries that form North America, it is the only North American nation to rank among the heaviest nations globally. It is estimated that eliminating physical activity in the United States would add approximately 1 year to life expectancy and dramatically reduce the burden of chronic diseases.

The results of these studies should be a wake-up call to everyone in the United States to strive to improve all aspects of our health system, including education, safety, prevention, and clinical care. Other countries have improved their overall health, indicating that we, too, can do the same.

National Changes since 1990

In the past year, 20 health measures improved, 8 measures declined, and 1 measure remained unchanged. Table 1 shows the national changes in the last year. These improvements were offset by deterioration in several measures, including increases in the prevalence of obesity, the percentage of children in poverty and lack of health insurance.

Since 2012, the prevalence of smoking declined from 21.2 percent to 19 percent among adults. The binge drinking prevalence rate dropped from 18.3 percent to 16.8 percent of adults who binged in the last 30 days, and physical inactivity decreased from 26.2 percent to 25.3 percent. The incidence of pertussis increased sharply from 9.0 to 15.5 cases per 100,000 populations. The percentages of children in poverty, lack of health insurance, child immunization coverage, and low birth weight have also suppressed faster improvement in our nation's health.

Table 1 – National Successes and Challenges

SUCCESSES

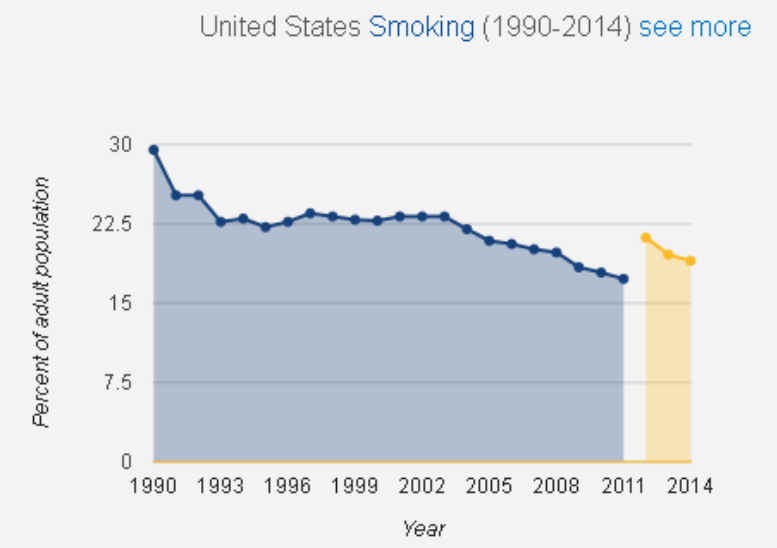
Smoking	Since 1990, smoking decreased 36% from 29.5% to 19.0% of adults who smoke regularly.
High School Graduation	At 81% of ninth graders graduating within 4 years, high school graduation is still a challenge. However, it is slowly trending upward from 71.7% in 2004.
Violent Crime	At 387 offenses per 100,000 population, violent crime is 37% lower than in 1990 and 49% lower than its peak in 1993.
Air Pollution	The average amount of fine particulates in the air continues to decline from 13.2 micrograms per cubic meter in 2003 to 9.9 micrograms per cubic meter in 2014.
Preventable Hospitalizations	Preventable hospitalizations continue to decline. In 2001, there were 82.5 discharges per 1,000 Medicare beneficiaries; in 2014, there were 62.9 discharges per 1,000 Medicare beneficiaries.
Occupational Fatalities	Occupational fatalities have declined in the last 8 years from 5.3 deaths per 100,000 workers in 2007 to 3.8 deaths per 100,000 workers. This is the second consecutive year the rate is below 4 deaths per 100,000 workers.
Infant Mortality	Since 1990, infant mortality decreased 41% from 10.2 to 6.0 deaths per 1,000 live births, although most of that decline occurred between 1990 and 1999. Even though the infant mortality rate is the lowest in US history, it is double the rate of many developed countries. In addition, large racial and geographic disparities exist within the country.
Premature Death	Since 1990, premature death declined 20% from 8,716 to 6,976 years of potential life lost before age 75. Premature death, like several other metrics, has leveled off in the last decade compared with improvements made in the 1990s.
Cancer Deaths	Cancer deaths declined 4% from 197.5 deaths in 1990 to 189.9 deaths per 100,000 population.
Cardiovascular Deaths	Since 1990, cardiovascular deaths declined 38% from 405.1 to 251.4 deaths per 100,000 population. This continues a relatively constant improvement of 2% to 3% yearly.

CHALLENGES

Obesity	Since 1990, obesity has increased 153% from 11.6% to 29.4% of adults.
Physical Inactivity	Physical inactivity remains high at 23.5% of adults and has not changed appreciably for the last decade.
Children in Poverty	At 19.9% of children, the children in poverty measure is far above the 23-year low of 15.8% in the 2002 Edition and near the 1990 level of 20.6%.
Public Health Funding	State public health funding continues its slow decline over the past 4 years. Since 2011, it decreased from $95.01 to $90.00 in expenditures per person at the state level.
Immunization Coverage — Children	Nationwide, comprehensive immunization coverage among children aged 19 to 35 months is only 70.4%. It increased marginally in the past year.
Immunization Coverage — Adolescents	Nationwide, comprehensive immunization coverage among teens aged 13 to 17 years is only 67.1%. It increased marginally in the past year.
Low Birthweight	In the last 20 years, the prevalence of low birthweight infants has increased from 7.1% to 8.0% nationwide. The good news is that it appears to have peaked in 2009 and is trending downward.
Diabetes	In the nation, 9.6% of adults report they have been told they have diabetes. There has been a steady, upward climb in the prevalence of diabetes, although data from the last 3 years shows a leveling of the prevalence.

The United States has the potential to return to the rates of improvement typical in the 1990s. However, to do so, it must address the drivers of health directly by focusing on reducing important risk factors. For example, the prevalence of smoking had been stagnant for many years and recently started to show improvement in the last two decades. However, there was an increase in rates from 2010 to 2012. In the last year, the prevalence of smoking declined in the United States from 21.2 percent to 19 percent of adults who smoke regularly; however Tennessee ranks 46th as one of the bottom five states with 24.3 percent of adults smoking and Virginia ranks 24th at 19.1 percent.

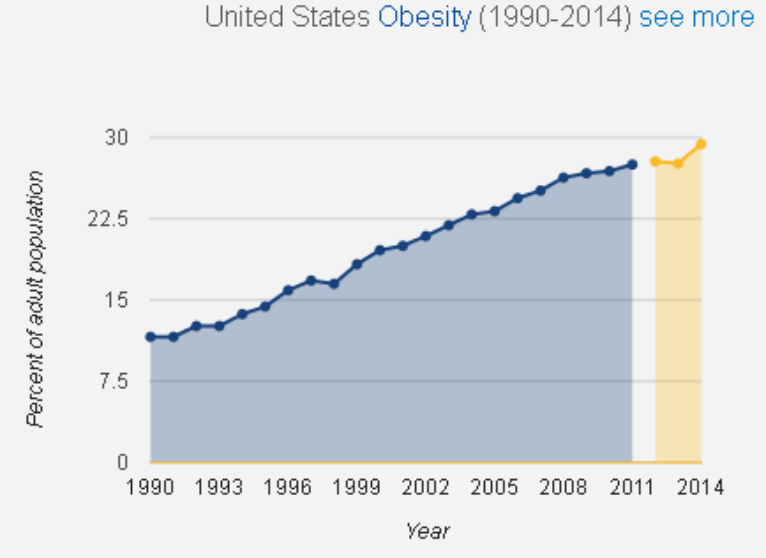
Graph 1 - Prevalence of Smoking Since 1990



Unprecedented and unchecked growth in the prevalence of obesity over the last 20 years has also dramatically affected the overall health of the United States. The prevalence of obesity, a risk factor for numerous illnesses including heart disease and diabetes, appears to be leveling off after increasing for decades. However, more than one in four people in the U.S. is considered obese - a category that the Centers for Disease Control and Prevention reserves for those who are significantly over the suggested body weight given their height. In the United States, the prevalence of obesity is 29.4 percent of adults, which has increased from 27.8 percent in 2012. Virginia's obesity score ranks 18th at 27.2 percent, while Tennessee ranks 47th at 33.7 percent of obese adults.

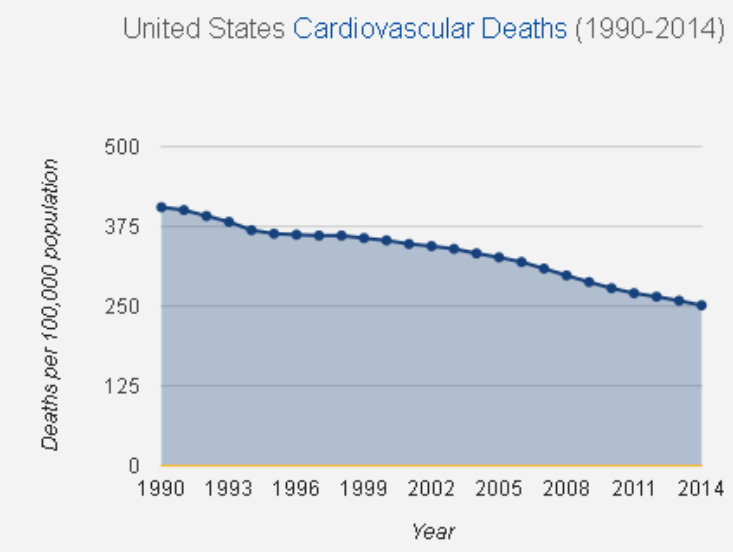
These very high obesity rates are gathered from the Behavioral Risk Factor Surveillance System, the nation's largest phone survey about health, and rely on self-reported height and weight. Actual obesity rates, as measured by health professionals, may be almost 10 percent higher, meaning that over one-third of the population is now obese.

Graph 2 - Prevalence of Obesity Since 1990



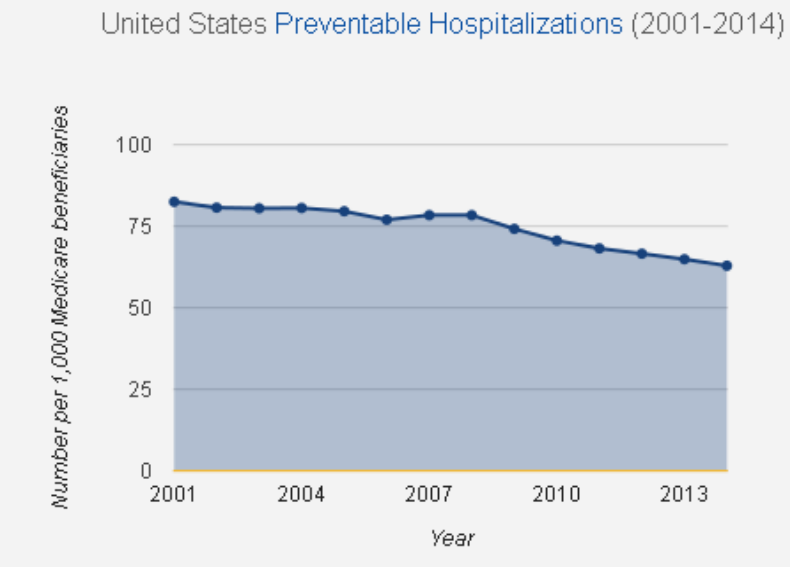
Despite increasing risk factors such as obesity, high cholesterol, and high blood pressure, deaths contributed to cardiovascular disease have consistently declined by 2 to 3 percent per year for the last decade. Cardiovascular disease accounts for 30 percent of Medicare spending, 17 percent of medical spending, and totals nearly $150 billion each year. For cardiovascular deaths, Virginia ranked 25th with a rate of 241.1 per 100,000 and Tennessee ranked 44th with the rate of 300.6.

Graph 3 – Prevalence of Cardiovascular Deaths Since 1990



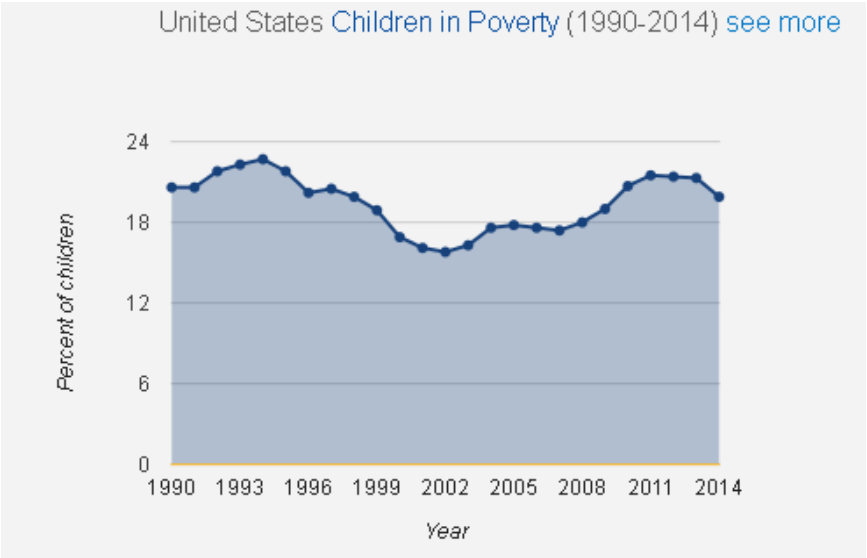
Like cardiovascular disease, potentially preventable hospitalizations have steadily decreased over the past 12 years. Preventable hospitalizations (hospitalizations that may be preventable with high quality primary and preventive care) have decreased from 82.5 to 62.9 discharges per 1,000 Medicare enrollees since 2001. Preventable hospitalizations reflect how efficiently a population uses various health care options for care and often occur as a result of a failure to detect or treat conditions early. Preventable hospitalizations could be avoided with earlier, less costly interventions. Virginia ranked 22nd in this measure with a 55.2 rate and Tennessee ranked 47th with a rate of 78.5.

Graph 4 – Preventable Hospitalizations Since 2001



The current economic climate also increases the challenge of maintaining a healthy population. Poverty is an indication of the lack of access to health care, including preventive care, for this vulnerable population. Graph 5 shows the recent increase in the percentage of children in poverty in the last few years, increasing from 16.1 percent of children in the 2011 Edition to 19.9 percent of children in the 2014 Edition. On this measure Virginia ranks 12th with a 14.5 percent of children living in poverty and Tennessee ranks 45th with 26.7 percent. In the 2002 Edition, the child poverty rate was at a historic low of 15.8 percent of persons under age 18.

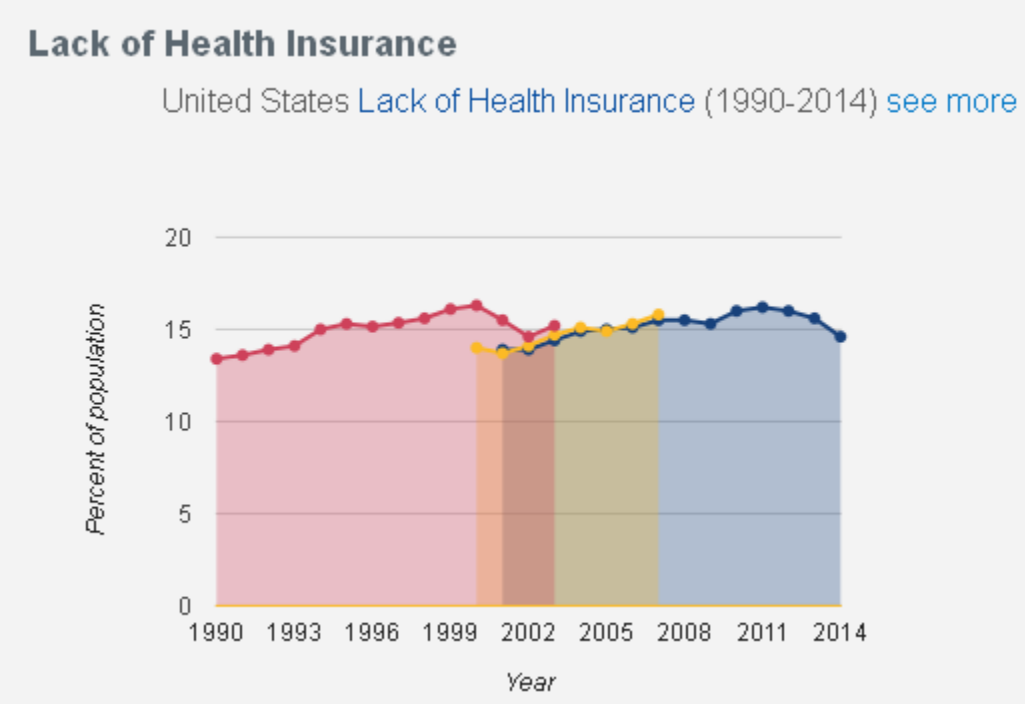
Graph 5 – Children in Poverty since 1990



Lack of health insurance coverage increased from 13.9 percent in the 2001 Edition to 14.6 percent of the population in the 2014 Edition. Lack of health insurance not only inhibits people from getting the proper care when needed but also reduces access to necessary preventive care to curtail or minimize future illnesses.

Massachusetts, with the lack of health insurance at 3.8 percent of the population, is substantially better than all other states and less than one-fourth of the national average. Texas has a rate six times that of Massachusetts. Changes in national health care laws have the potential to dramatically affect this metric over the next few years.

Graph 6 – Lack of Health Insurance Since 2001



2014 State Results

America's Health Rankings®-2014 Edition shows Hawaii at the top of the list of healthiest states again this year. The state has steadily remained within the top 5 healthiest states since 1990. Hawaii has consistently sustained its place within the top 5 healthiest states for the last 22 years, excluding 2002 when it was ranked 6th. Hawaii's strengths include its number one position for overall health rank and ranking in the top 5 states for a low rate of preventable hospitalizations, high immunization coverage among children, low prevalence of smoking and obesity, high per capita public health funding, a low rate of uninsured population, and low cancer and cardiovascular mortality rates. Hawaii's three challenges are a high prevalence of binge drinking, low high school graduate rate, and a high incidence of Salmonella infections.

Mississippi is 50th this year, the same as the last ten years, excluding in 2011 when it ranked 49th. It has been in the bottom three states since the 1990 Edition. The state ranks well for a low prevalence of binge drinking, higher immunization coverage among children, and small disparity in health status by educational attainment. In the past year, despite ranking last in the nation for immunization coverage among adolescents, coverage increased from 30.2 percent to 35.4 percent of persons aged 13 to 17 years. Mississippi also ranks last in many health outcomes, including infant mortality, low birth weight, premature death, cardiovascular death, infectious diseases, and overall health status. Mississippi's prevalence of obesity, physical inactivity, and diabetes remain among the highest in the nation with approximately 690,000 physically inactive adults, 770,000 obese adults, and 280,000 adults with diabetes. It ranks 48th in health determinants and 49th in health outcomes; therefore, its overall ranking is unlikely to change significantly in the near future

2014 Edition Ranking

2014 RANK (1–50)	STATE	SCORE
1	Hawaii	.91
2	Vermont	.85
3	Massachusetts	.74
4	Connecticut	.74
5	Utah	.73
6	Minnesota	.73
7	New Hampshire	.68
8	Colorado	.57
9	North Dakota	.55
10	Nebraska	.50
11	New Jersey	.47
12	Oregon	.41
13	Washington	.40
14	New York	.39
15	Rhode Island	.37
16	Maryland	.35
17	California	.35
18	Idaho	.34
18	South Dakota	.34
20	Maine	.30
21	Virginia	.30
22	Montana	.28
23	Wisconsin	.23
24	Iowa	.22
25	Wyoming	.21

2014 Edition Ranking

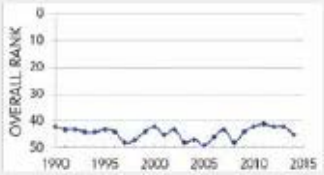
2014 RANK (1–50)	STATE	SCORE
26	Alaska	.13
27	Kansas	.08
28	Pennsylvania	.01
29	Arizona	-.04
30	Illinois	-.08
31	Texas	-.11
32	Florida	-.15
33	New Mexico	-.18
34	Michigan	-.21
35	Delaware	-.23
36	Missouri	-.28
37	North Carolina	-.29
38	Georgia	-.32
39	Nevada	-.33
40	Ohio	-.36
41	Indiana	-.38
42	South Carolina	-.64
43	Alabama	-.66
44	West Virginia	-.71
45	Tennessee	-.71
46	Oklahoma	-.74
47	Kentucky	-.75
48	Louisiana	-.80
49	Arkansas	-.93
50	Mississippi	-1.00

Tennessee



Overall Rank: 45

Change: ▼ 3
Determinants Rank: 44
Outcomes Rank: 46



Strengths:

- Low prevalence of binge drinking
- Low incidence of pertussis
- Ready availability of primary care physicians

Challenges:

- High prevalence of obesity
- High prevalence of physical inactivity
- High violent crime rate

Ranking:

Tennessee is 45th this year; it was 42nd in 2013. The ranking for senior health in Tennessee was 43rd in 2014.

Highlights:

- In the past year, physical inactivity increased by 17 percent from 28.6 percent to 33.6 percent of adults.
- In the past year, binge drinking decreased by 15 percent from 11.3 percent to 9.6 percent of adults, the lowest rate in the nation.
- In the past year, preventable hospitalizations decreased by 10 percent from 80.8 to 73.1 per 1,000 Medicare beneficiaries.
- In the last 2 years, immunization coverage among adolescents increased by 16 percent from 52.7 percent to 61.2 percent of adolescents aged 13 to 17 years.
- Since 1990, children in poverty decreased by 10 percent from 29.6 percent to 26.7 percent of children.

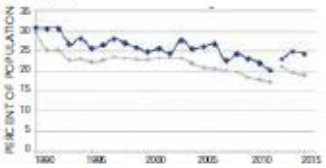
State Health Department Website:

http://health.state.tn.us

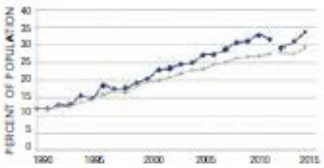
	2014 VALUE	2014 RANK	NO.1 STATE
Behaviors			
Smoking (Percent of adult population)	24.3	46	10.3
Binge Drinking (Percent of adult population)	9.6	1	9.6
Drug Deaths (Deaths per 100,000 population)	17.2	40	3.0
Obesity (Percent of adult population)	33.7	47	21.3
Physical Inactivity (Percent of adult population)	33.6	49	16.2
High School Graduation (Percent of incoming ninth graders)	83.0	20	93.0
Community & Environment			
Violent Crime (Offenses per 100,000 population)	644	50	123
Occupational Fatalities (Deaths per 100,000 workers)	5.0	32	2.2
Infectious Disease (Combined score Chlamydia, Pertussis, *Salmonella**)	0.01	29	-0.9
Chlamydia (Cases per 100,000 population)	507.9	39	233.0
Pertussis (Cases per 100,000 population)	4.8	10	1.6
Salmonella (Cases per 100,000 population)	17.2	35	6.8
Children in Poverty (Percent of children)	26.7	45	9.2
Air Pollution (Micrograms of fine particles per cubic meter)	9.5	30	4.9
Policy			
Lack of Health Insurance (Percent of population)	13.9	26	3.8
Public Health Funding (Dollars per person)	$83	20	$219
Immunization–Children (Percent aged 19 to 35 months)	68.5	33	82.1
Immunization–Adolescents (Percent aged 13 to 17 years)	61.2	36	81.3
Clinical Care			
Low Birthweight (Percent of live births)	9.2	44	5.7
Primary Care Physicians (Number per 100,000 population)	124.4	19	324.6
Dentists (Number per 100,000 population)	50.9	36	107.6
Preventable Hospitalizations (Number per 1,000 Medicare beneficiaries)	73.1	46	28.2
ALL DETERMINANTS	-0.43	44	0.71
OUTCOMES			
Diabetes (Percent of adult population)	12.2	46	6.5
Poor Mental Health Days (Days in previous 30 days)	3.7	24	2.5
Poor Physical Health Days (Days in previous 30 days)	5.0	49	2.8
Disparity in Health Status (Percent difference by education level**)	32.1	38	15.5
Infant Mortality (Deaths per 1,000 live births)	7.3	41	4.2
Cardiovascular Deaths (Deaths per 100,000 population)	300.6	44	184.7
Cancer Deaths (Deaths per 100,000 population)	213.5	44	145.7
Premature Deaths (Years lost per 100,000 population)	9,168	43	5,345
ALL OUTCOMES	-0.29	46	0.34
OVERALL	-0.71	45	0.91

*Negative score denotes less disease than US average, positive score indicates more than US average
**Difference in the percentage of adults aged 25 and older with vs without a high school education who report their health is very good or excellent

SMOKING



OBESITY



STATE ◆——◆ NATION ●——●

The 2012–2014 data in the above graphs are not directly comparable to prior years. See Methodology for additional information.

ECONOMIC ENVIRONMENT	TN	US
Annual Unemployment Rate (2013)	8.2	7.4
Annual Underemployment Rate (2013)	14.7	13.8
Median Household Income (2013)	$42,499	$51,939

MEASURE	ADULT POPULATION AFFECTED
Smoking	1,163,000
Obesity	1,595,000
Physical Inactivity	1,691,000
Diabetes	615,000

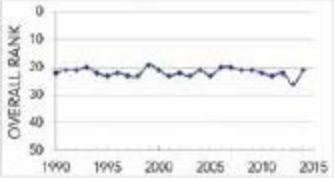
Virginia

VIRGINIA



Overall Rank: 21

Change: ▲ 5
Determinants Rank: 19
Outcomes Rank: 23



Strengths:

- Low rate of drug deaths
- Low violent crime rate
- Low percentage of children in poverty

Challenges:

- Low immunization coverage among children
- Low immunization coverage among teens
- High infant mortality rate

Ranking:

Virginia is 21st this year; it was 26th in 2013. The ranking for senior health in Virginia was 21st in 2014.

Highlights:

- In the past year, air pollution decreased by 6 percent from 9.3 to 8.7 micrograms of fine particles per cubic meter.
- In the last 2 years, drug deaths decreased by 10 percent from 9.3 to 8.4 deaths per 100,000 population.
- In the last 10 years, preventable hospitalizations decreased by 25 percent from 73.8 to 55.2 per 1,000 Medicare beneficiaries.
- Since 1990, cardiovascular deaths decreased by 42 percent from 413.2 to 241.1 deaths per 100,000 population.
- Since 1990, infant mortality decreased by 38 percent from 10.6 to 6.6 deaths per 1,000 live births.

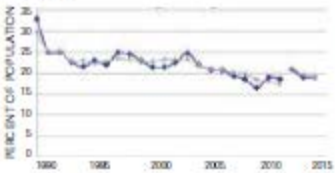
State Health Department Website:

www.vdh.state.va.us

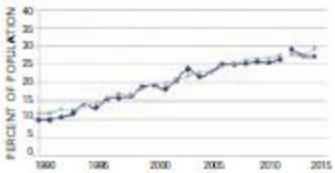
	2014 VALUE	2014 RANK	NO 1 STATE
Behaviors			
Smoking (Percent of adult population)	19.0	24	10.3
Binge Drinking (Percent of adult population)	15.9	20	9.6
Drug Deaths (Deaths per 100,000 population)	8.4	4	3.0
Obesity (Percent of adult population)	27.2	18	21.3
Physical Inactivity (Percent of adult population)	23.0	20	16.2
High School Graduation (Percent of incoming ninth graders)	84.0	16	93.0
Community & Environment			
Violent Crime (Offenses per 100,000 population)	190	4	123
Occupational Fatalities (Deaths per 100,000 workers)	4.4	25	2.2
Infectious Disease (Combined score Chlamydia, Pertussis, *Salmonella**)	-0.29	16	-0.9
Chlamydia (Cases per 100,000 population)	431.8	26	233.0
Pertussis (Cases per 100,000 population)	7.7	18	1.6
Salmonella (Cases per 100,000 population)	14.1	25	6.8
Children in Poverty (Percent of children)	14.5	12	9.2
Air Pollution (Micrograms of fine particles per cubic meter)	8.7	19	4.9
Policy			
Lack of Health Insurance (Percent of population)	12.4	20	3.8
Public Health Funding (Dollars per person)	$68	28	$219
Immunization–Children (Percent aged 19 to 35 months)	69.2	29	82.1
Immunization–Adolescents (Percent aged 13 to 17 years)	58.5	42	81.3
Clinical Care			
Low Birthweight (Percent of live births)	8.1	27	5.7
Primary Care Physicians (Number per 100,000 population)	125.8	16	324.6
Dentists (Number per 100,000 population)	61.6	19	107.6
Preventable Hospitalizations (Number per 1,000 Medicare beneficiaries)	55.2	22	28.2
ALL DETERMINANTS	0.24	19	0.71
OUTCOMES			
Diabetes (Percent of adult population)	9.8	26	6.5
Poor Mental Health Days (Days in previous 30 days)	3.3	11	2.5
Poor Physical Health Days (Days in previous 30 days)	3.6	15	2.8
Disparity in Health Status (Percent difference by education level**)	29.1	27	15.5
Infant Mortality (Deaths per 1,000 live births)	6.6	31	4.2
Cardiovascular Deaths (Deaths per 100,000 population)	241.1	25	184.7
Cancer Deaths (Deaths per 100,000 population)	189.5	23	145.7
Premature Deaths (Years lost per 100,000 population)	6,502	19	5,345
ALL OUTCOMES	0.06	23	0.34
OVERALL	0.30	21	0.91

*Negative score denotes less disease than US average, positive score indicates more than US average
**Difference in the percentage of adults aged 25 and older with vs without a high school education who report their health is very good or excellent

SMOKING



OBESITY



STATE ◆—◆ NATION ●—●

The 2012–2014 data in the above graphs are not directly comparable to prior years. See Methodology for additional information.

ECONOMIC ENVIRONMENT	VA	US
Annual Unemployment Rate (2013)	5.5	7.4
Annual Underemployment Rate (2013)	11.5	13.8
Median Household Income (2013)	$67,620	$51,939

MEASURE	ADULT POPULATION AFFECTED
Smoking	1,159,000
Obesity	1,632,000
Physical Inactivity	1,481,000
Diabetes	631,000

As Mountain States Health Alliance works to develop an implementation plan based on the findings from this assessment, key focus areas for consideration to impact the health of our community would be the 27 measures that comprise the *America's Health Rankings*. These determinants have been carefully selected by leaders in health and public policy as factors which have the greatest impact on future health of a population. For a state (or area for that matter) to improve the health of its population, efforts must focus on changing the determinants of health. A description of these determinants is outlined below.

Selection of Components

Four primary considerations drove the design of *America's Health Rankings*® and the selection of the individual measures:

1. The overall rankings had to represent a broad range of issues that affect a population's health,
2. Individual measures needed to use common health measurement criteria,
3. Data had to be available at a state level, and
4. Data had to be current and updated periodically.

While not perfect, the measures selected are believed to be the best available indicators of the various aspects of healthiness at this time and are consistent with past reports.

The measures are divided into two categories - Determinants and Outcomes. For further clarity, determinants are divided into four groups: Behaviors, Community and Environment, Public and Health Policies, and Clinical Care. These four groups of measures influence the health outcomes of the population in a state, and improving these inputs will improve outcomes over time. Most measures are actually a combination of activities in all four groups. For example, the prevalence of smoking is a behavior that is strongly influenced by the community and environment in which we live, by public policy including taxation and restrictions on smoking in public places, and by the care received to treat the chemical and behavioral addictions associated with tobacco. However, for simplicity, we placed each measure in a single category.

For *America's Health Rankings*® to continue to meet its objectives it must evolve and incorporate new information as it becomes available. The Scientific Advisory Committee provides guidance for the evolution of the rankings, balancing the need to change with the desire for longitudinal comparability. Over the last few years, change is being driven by: 1) the acknowledgment that health is more than years lived but also includes the quality of those years; 2) data about the quality and cost of health care delivery are becoming available on a comparative basis; and 3) measurement of the additional determinants of health are being initiated and/or improved. The committee also emphasizes that the real impact on health will be made by addressing the determinants, and making improvements on these items will affect the long-term health of the population. The determinants are the predictors of our future health.

Outcomes are traditionally measured using mortality measures which include premature death, infant mortality, cancer and cardiovascular mortality. While these measures overlap significantly, they do present different views of mortality outcomes of a population. Two measures of the quality of life- poor mental health days and poor physical health days - are also included and defined as the number of days in the previous 30 days when a person indicates their activities are limited due to mental or physical health difficulties.

As with all indices, the positive and negative aspects of each measure must be weighed when choosing and developing them. These aspects for consideration include: 1) the interdependence of

the different measures; 2) the possibility that the overall ranking may disguise the effects of individual measures; 3) an inability to adjust all data by age and race; 4) an over-reliance on mortality data; and 5) the use of indirect measures to estimate some effects on health. These concerns cannot be addressed directly by adjusting the methodology; however, assigning weights to the individual measures can mitigate their impact.

Each measure is assigned a weight that determines its percentage of the overall score. Determinants account for 75 percent of the overall ranking and outcomes account for 25 percent, a shift from the 50/50 balance in the original 1990 index. This reflects the importance and growing availability of determinant data.

A short description of each measure immediately follows. The data for each year is the most current data available at the time the report was compiled.

The table includes the core measures included in the current model, plus supplemental measures that can be used to further understand each state's unique situation. The supplemental measures are more fully described at http://www.americashealthrankings.org/About/Model.

Data for each state and the United States is available at Get Informed or by clicking the link above.

Core Measures

Determinants

Behaviors	Description
Smoking	Percentage of adults who are current smokers (smoked at least 100 cigarettes in their lifetime and currently smoke).
Binge Drinking	Percentage of adults who self-report having 4 or more (women) or 5 or more (men) alcoholic beverages on at least 1 occasion in the past 30 days.
Drug Deaths	Number of deaths due to drug injury of any intent (unintentional, suicide, homicide, or undetermined) per 100,000 population.
Obesity	Percentage of adults who are obese, with a body mass index (BMI) of 30.0 or higher.
Physical Inactivity	Percentage of adults who report doing no physical activity or exercise (such as running, calisthenics, golf, gardening, or walking) other than their regular job in the last 30 days.
High School Graduation	Percentage of incoming ninth graders who graduate in 4 years from a high school with a regular degree.

Community and Environment

Violent Crime	Number of murders, rapes, robberies, and aggravated assaults per 100,000 population.
Occupational Fatalities	Number of fatalities from occupational injuries per 100,000 workers.
Children in Poverty	Percentage of persons younger than 18 years who live in households at or below the poverty threshold.
Infectious Disease	Combined average z-score using the values of incident cases of chlamydia, pertussis, and *Salmonella* per 100,000 population.

Air Pollution	Average exposure of the general public to particulate matter of 2.5 microns or less in size (PM2.5).

Policy

Lack of Health Insurance	Percentage of the population that does not have health insurance privately, through their employer, or the government.
Public Health Funding	State funding dedicated to public health as well as federal funding directed to states by the Centers for Disease Control and Prevention and the Health Resources and Services Administration.
Immunization-Children	Percentage of children receiving the recommended doses of DTaP, polio, MMR, Hib, hepatitis B, varicella, and PCV vaccines by age 19–35 months.
Immunization-Adolescents	Percentage of adolescents aged 13 to 17 years who have received 1 dose of Tdap since the age of 10 years, 1 dose of meningococcal conjugate vaccine, and 3 doses of HPV vaccine (females only).

Clinical Care

Low Birth weight	Percentage of infants weighing less than 2,500 grams (5 pounds, 8 ounces) at birth.
Primary Care Physicians	Number of primary care physicians (including general practice, family practice, OB-GYN, pediatrics, and internal medicine) per 100,000 population.
Dentists	Number of dentists per 100,000 population
Preventable Hospitalizations	Discharge rate among the Medicare population for diagnoses that are amenable to non-hospital based care.

Outcomes

Diabetes	Percentage of adults who have been told by a health professional that they have diabetes (does not include pre-diabetes or diabetes during pregnancy).
Poor Mental Health Days	Number of days in the previous 30 days when a person indicates their activities were limited due to mental health difficulties.
Poor Physical Health Days	Number of days in the previous 30 days when a person indicates their activities were limited due to physical health difficulties.
Disparity in Health Status	Percent difference in adults aged 25 and older who did not graduate high school and adults with at least a high school education who self-report being in excellent or very good health.
Infant Mortality	Number of infant deaths (before age 1) per 1,000 live births.
Cardiovascular Deaths	Number of deaths due to all cardiovascular diseases, including heart disease and strokes, per 100,000 population
Cancer Deaths	Number of deaths due to all causes of cancer per 100,000 population
Premature Death	Number of years of potential life lost prior to age 75 per 100,000 population

Supplemental Measures

Behaviors

Cholesterol Check	Percentage of adults who have had their blood cholesterol checked within the last 5 years.
Dental Visit, Annual	Percentage of adults who have visited the dentist or dental clinic within the past year for any reason.
Diet, Fruit	Number of fruits consumed on an average day.
Diet, Vegetables	Number of vegetables consumed on an average day.
Teen Birth Rate	Number of births per 1,000 mothers aged 15 to 19 years.
Youth Smoking	Percentage of high school youth who smoked cigarettes on at least 1 day during the last 30 days.
Youth Obesity	Percentage of high school students who were greater or equal to the 95th percentile for body mass index, based on sex and age-specific reference data from the 2000 CDC growth charts.

Chronic Disease

Heart Disease	Percentage of adults who have been told by a health professional that they have angina or coronary heart disease.
High Cholesterol	Percentage of adults who have had their cholesterol checked and been told that it was high.
Heart Attack	Percentage of adults who have been told by a health professional that they had a heart attack (myocardial infarction).
Stroke	Percentage of adults who have been told by a health professional that they had a stroke.
Hypertension	Percentage of adults who have been told by a health professional that they have high blood pressure.

Clinical Care

Preterm Birth	Percentage of babies born before 37 weeks gestation.

Economic Environment

Personal Income	Per capita personal income in current dollars.
Median Household Income	The amount of income that divides the income distribution into 2 equal groups.
Unemployment Rate	Total unemployed as a percentage of the civilian labor force (U-3 definition).
Underemployment Rate	Total unemployed, plus all marginally attached workers, plus total employed part-time for economic reasons, as a percent of the civilian labor force (U-6 Definition).
Income Disparity (Gini coefficient)	A common measure of income inequality, where 0 represents complete equality and 1 indicates complete inequality.

Outcomes

Low Health Status	Percentage of adults who describe their general health as fair or poor.
Suicide	Number of deaths due to intentional self-harm per 100,000 population.

Overview

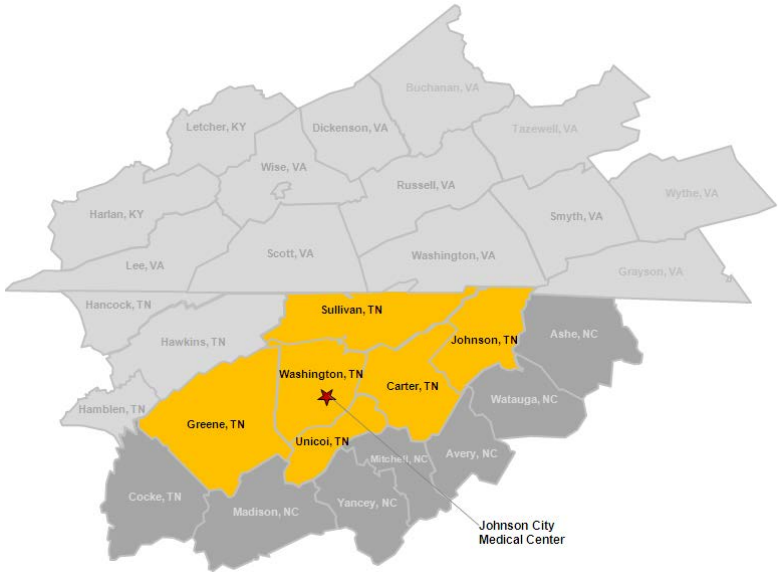
The County Snapshots consists of demographics, key indicators of health status, interview highlights, and local resources. The model for the key indicators of health status analysis was based on the 2015 *County Health Rankings*, a key component of the Mobilizing Action Toward Community Health (MATCH). MATCH is collaboration between the Robert Wood Johnson Foundation and the University of Wisconsin Population Health Institute. Indicators are organized into two broad categories: Health Outcomes and Health Factors. The Health Factors have multiple components, including Clinical Care, Health Behaviors, Social and Economic Factors, and Physical Environment. A number of additional key indicators of health status were included in this analysis from other sources (they are noted in blue font in the snapshot section). For each indicator, the state and county score is provided as well as a comparison of the county's performance to that of the state.

JOHNSON CITY MEDICAL CENTER

Service Area Counties:

- Washington, TN
- Sullivan, TN
- Unicoi, TN
- Carter, TN
- Greene, TN
- Johnson, TN

Primary Service Area Map:



Facility Profiles:

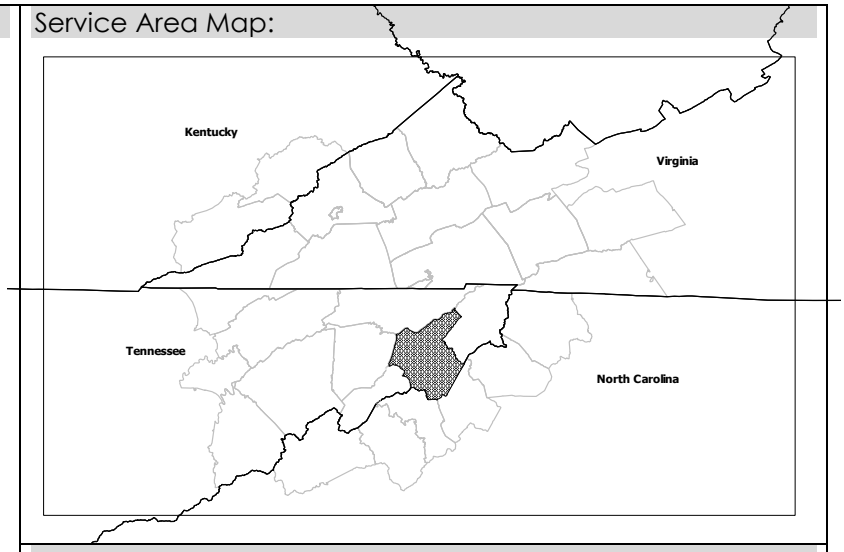
Johnson City Medical Center (JCMC), MSHA's flagship facility, is a 445-bed regional tertiary referral center for the entire service area. JCMC is one of six Level 1 Trauma Centers in the state of Tennessee. As East Tennessee's leading Heart Hospital, JCMC has been named as a Top 100 Heart Hospitals by Solucient. JCMC is also the leading Cancer Center in the region, enjoying relationships with Harvard, Duke, and Vanderbilt. JCMC is the first and one of two Nurse Magnet hospitals in the State. JCMC also includes Niswonger Children's Hospital and Woodridge Psychiatric Hospital.

A 6-page profile of each county is provided. The profile includes demographic highlights, key indicators of health status, utilization projections, and survey results specific to the county. A detailed demographic analysis by county is provided in the appendix, which follows the collection of county snapshots.

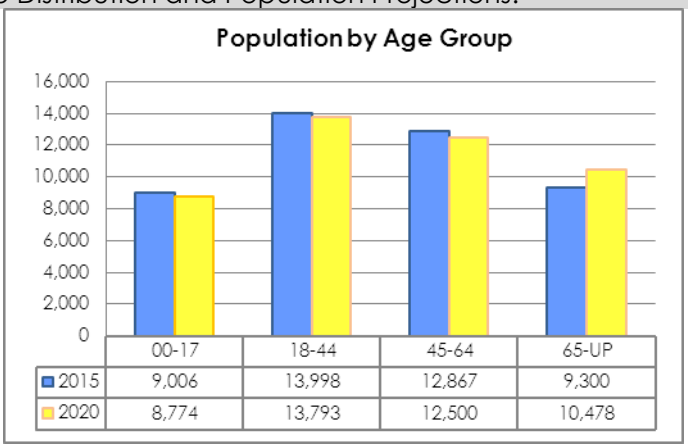
Demographic Highlights:

- Large elderly population compared to TN and US
- Declining rate of females of child-bearing age expected
- Low average household income level (20.6% of households make less than $15,000)
- Lower level of educational attainment compared to state and country (9.1% with no high school education compared to 5.9% nationally)
- Low level of diversity compared to state and national

Service Area Map:



Age Distribution and Population Projections:



Key Statistics:

	Carter County	Tennessee	U.S.
2015 Total Population	45,171	6,735,022	321,369,000
% Change 2015-2020	0.8%	5.5%	4.1%
% of Population 65+ (2015)	20.6%	15.6%	14.9%
% Minority (2015)	4.5%	26.1%	38.3%

	2015	2020	% Change
Total Male Population	22,105	22,298	0.9%
Total Female Population	23,066	23,247	0.8%
Females, Child Bearing Age (15-44)	7,730	7,608	-1.6%

Local Health Highlights:

STRENGTHS:

- Divorce Rate
- STD
- Teen Pregnancy
- Binge Drinking
- Deaths due to diabetes
- Children Un/Improperly Restrained in a Crash

WEAKNESSES:

- Pre-1950 housing
- Diabetic HbA1c testing
- Smoking During Pregnancy
- Deaths due to cardiovascular and cancer
- No Biennial Mammogram
- Air Quality Hazard Index

Leading Causes of Death:

Leading Causes of Death

Ages 1 - 14 years

Cause of Death	Rate	Rank
Accidents	22.5	1
Motor Vehicle Accident	11.1	2
Malformation/Abnormalities	7.3	3
All Other Causes	0.0	*

Ages 15 - 21 years

Cause of Death	Rate	Rank
Accidents	17.9	1
Meningitis	6	2
Suicide	5.9	3
All Other Causes	0	*

Ages 22 - 64

Cause of Death	Rate	Rank
Cancer	116.8	1
Heart Disease	85.9	2
Accidents	46.9	3
Chronic Lower Respiratory	30.6	4
Liver & Cirrhosis	21.1	5
Diabetes Mellitus	16.3	6
Influenza/Pneumonia	15.3	7
Suicide	14.4	8
Cerebrovascular Disease	11.5	9
Viral Hepatitis	8.6	10
All Other Causes	91.1	*

Ages 65+

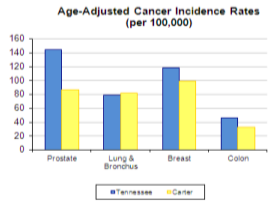
Cause of Death	Rate	Rank
Heart Disease	1153.9	1
Cancer	1041.2	2
Chronic Lower Respiratory	348.2	3
Influenza & Pneumonia	307.2	4
Alzheimer's Disease	273.1	5
Cerebrovascular Disease	218.5	6
Accidents	105.8	7
Diabetes Mellitus	102.4	8
Septicemia	75.1	9
Pneumonitis	58	10
All Other Causes	1031	*

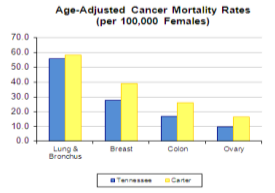
Key Indicators of Health Status:

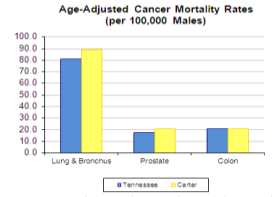
County: Carter, TN

	TN	Carter	2010	Desired
Health Outcomes				↓
Mortality (years of potential life lost/ 100,000)	8,790	9,292	9447	↓
Low Birth Weight (3-yr avg %)	9.0%	9.2%	9.30%	↓
General Health Status (% fair/poor health)*	19.0%	25.0%	26.00%	↓
Very Low Birth Weight (%)	1.6%	1.0%	3.30%	↓
Infant Mortality (3-yr avg rate per 1,000)	8.1	10.8	11.7	↓
Mortality Rate (3-yr avg rate per 100,000)	953.0	1,053.0	972.6	↓
Cardiovascular Deaths (per 100,000)	226.5	237.9	295.6	↓
Cancer Deaths (3-yr avg rate per 100,000)	214.4	237.9	220.5	↓
Diabetes Mellitus Deaths (per 100,000)	28.7	18.3	35.3	↓
Cerebrovascular Deaths (per 100,000)	47.0	45.0	48.7	↓
Suicide Deaths (per 100,000)	15.0	15.0	23.5	↓
Mortality rate for ages 1- 14 yrs	66.8	86.4	95.2	↓
Mortality rate for ages 15 - 21yrs	70.4	30.0	107.2	↓
Mortality rates for ages 65+	4,870.1	4,714.4	5472	↓
Lung Cancer Deaths (3-yr avg rate per 100,000)	68.8	77.4	71.6	↓
Female Breast Cancer Deaths (3-yr avg rate per 100,000)	14.1	17.3	20.5	↓
Prevalence of Asthma (%)	9.3	13.2	90.5	↓
Prevalence of Diabetes (%)	11.3	12.8	57.7	↓
Health Determinants				↓
Health Care Resources				↓
No Health Insurance (%)*	21.0%	22.0%	16.40%	↓
Medicaid/Tenncare Enrollees (%)	18.7%	19.6%	20.20%	↓
Medical Doctors Per Capita (per 100,000)	246.1	71.4	55.7	↑
Dentists Per Capita (per 100,000)	52.2	27.9	32	↑
Percent without Pneumococcal Vaccinations (%)*	74.2%	66.7%	72.30%	↓
Percent without Influenza Vaccinations (%)*	59.4%	50.7%	59.30%	↓
No Diabetic Eye Exams (%)	74.3%	72.2%	58.30%	↓
No Diabetic HbA1c Testing (%)	16.0%	24.0%	18.30%	↓
No Biennial Mammography (%)*	23.3%	29.3%	23.30%	↓
Inadequate or No Prenatal Care (%)	40.7%	33.6%	5.50%	↓
Month Prenatal Care Began	3.2	2.9	2.9	↓
First Trimester Prenatal Care (%)	59.3%	66.4%	72.40%	↑
Children (0-18 yrs) with Medicaid/Tenncare Coverage (%)	46.8%	52.3%	54.60%	↓
Hospital Staffed Beds (per 1,000)	3.6	2.1	2	↑
Licensed Nursing Beds (per 1,000 65+)	44.8	56.7	61	↑
# of Primary Care MDs	7,703	18	18	↓
# of Psychiatric Specialists	684	1	0	↓
Inpatient Discharge Rate (per 1,000) - Total	126.3	112.1	118.9	↓
Health Behaviors (continued)				↓
Cigarette Smoking (%)*	23.0%	28.0%	28.90%	↓
Smoking During Pregnancy (%)	16.3%	29.8%	37.30%	↓
Physical Inactivity (%)*	30.0%	33.0%	38.40%	↓
Overweight/Obesity (% BMI > 25)*	67.8%	67.8%	67.90%	↓
Obesity (% BMI > 30)*	32.0%	35.0%	34.00%	↓
Low Fruit and Vegetable Consumption (% <5 a day)*	76.7%	73.0%	76.60%	↓
Binge Drinking (%)*	10.0%	5.0%	7.90%	↓
% of Children (0-4) Un/Improperly Restrained in a Crash	14.5%	5.2%	7.40%	↓
Teen Birth Rate (per 1,000)	37.3	34.4	49	↓
Sexually Transmitted Diseases (per 100,000)	446	150	108	↓
Violent Crime (per 100,000)	667.0	219.0	240	↓
Motor Vehicle Crash Deaths (per 100,000)	19	18	19	↓
Unmarried Mother Birth Rate (%)	44.1%	42.7%	43.60%	↓
Injury-related Mortality (3-yr avg rate per 100,000)	53.7	50.1	75.6	↓
Young Driver Crash Rate 15 - 24	116.9	94.6	103.5	↓
Elderly Drive Crash Rate (65+)	31.3	24	28.8	↓
Homicides (per 100,000)	8	4.0	0	↓
All accidental deaths per 100,000 population	52	46.7	53.7	↓
Average Fatality Rate in Alchohol-Related Crashes (per 100,000 population)	6.9	3.5	11.1	↓

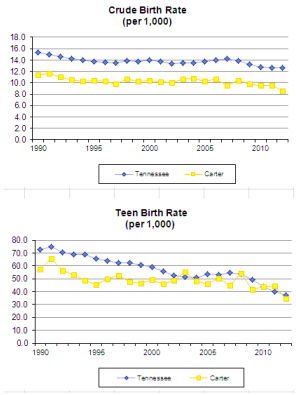
Cancer Incidence:







Birth Rate Trend:



Key Indicators of Health Status:

Socioecomonic Factors				↓
High School Graduation Rate (%)	86.0%	92.0%	88.60%	↑
Level of Education (%)	83.2%	78.6%	75.90%	↑
Unemployment (%)	8.8%	11.1%	8.10%	↓
Children (age 0 to 17) in poverty ratio (%)	26.5%	31.4%	30.30%	↓
Divorce Rate (per 100,000)	4.3	4.1	1.8	↓
Food Stamp Recipients (% of individuals)	21.1%	22.3%	17.70%	↓
Poverty Rate (% of all ages)	18.4%	20.6%	21.50%	↓
Temporary Assistance for Needy Families (% of individuals)	2.6%	1.1%	1.10%	↓
High School Dropout Rate	6.9%	6.7%	7.10%	↓
Average Annual Wage	$ 36,576	$ 27,962	$23,987	↑
Physical Environment				↓
Air Quality Cancer Risk (per 1,000,000)	4.6	3.1	24.1	↓
Air Quality Hazard Index (per 1,000,000)	1.4	9.1	2.8	↓
Air Quality - Fine Particulate Matter in Air (3 yr avg Mg/m3)*	13.2	12.7	14.5	↓
Ozone Level (ppb)*	0.062	0.063	0.082	↓
Nitrate Levels in drinking water (mg/L)	0.70	0.50	1.60	↓
Pre-1950 Housing (%)	11.8%	19.4%	23.60%	↓
Lead Poisoned Children (%)	0.1%	n/a	0.90%	↓
Child Abuse and Neglect (rate per 1,000)	5.5	4.9	5.2	↓
Communicable Diseases				↓
Hepatitis A (per 100,000)	0.3	0.0	n/a	↓
Campylobacter Infection (per 100,000)	7.2	6.8	n/a	↓
Salmonella, Non Typhoid (per 100,000)	17.6	3.4	n/a	↓
Shigellosis (per 100,000)	3.3	0.0	n/a	↓
AIDS/HIV (per 100,000)	293	82	n/a	↓
Primary and Secondary Syphilis (per 100,000)	4.3	0.0	n/a	↓
Penicillin-Sensitive *Streptococcus pneumoniae* (per 100,000)	0.0	0.0	n/a	↓
Group B *Streptococcus* (per 100,000)	6.2	0.0	n/a	↓
Chlamydia (per 100,000)	517.3	164.3	n/a	↓
Gonorrhea (per 100,000)	144.8	27.1	n/a	↓

Inpatient Projections

	2014	2019		2024	
DRG Service Line	**Discharges**	**Discharges**	**% Change**	**Discharges**	**% Change**
Cardiac Surgery	71	68	-3.50%	69	-3.20%
Cardiology	622	539	-13.30%	477	-23.20%
Cardiology Intervention	248	226	-8.90%	209	-15.70%
Endocrinology	159	126	-20.90%	113	-29.00%
ENT Surgery	11	10	-6.80%	10	-11.90%
Gastroenterology	646	611	-5.40%	599	-7.30%
General Medicine	633	635	0.30%	594	-6.20%
General Surgery	364	352	-3.20%	342	-6.20%
Gynecology	55	50	-8.40%	47	-13.90%
Hematology	96	93	-2.80%	95	-0.80%
Neonatology	199	184	-7.50%	172	-13.50%
Nephrology	330	305	-7.50%	276	-16.30%
Neurology	318	316	-0.70%	321	1.00%
Neurosurgery	125	122	-2.10%	122	-2.10%
Normal Newborns	242	249	2.90%	246	1.50%
OB Deliveries Sections	141	121	-14.50%	111	-21.20%
OB Deliveries Vaginal	275	288	4.80%	286	3.90%
OB Other	45	43	-4.50%	42	-7.30%
Oncology Medicine	121	117	-3.10%	107	-11.20%
Oncology Surgery	35	35	-0.70%	33	-5.70%
Ophthalmic Medicine	7	6	-11.50%	6	-16.80%
Ophthalmic Surgery	2	2	-11.70%	2	-11.50%
Oral Surgery	7	7	-6.60%	7	-6.10%
Orthopedic Medicine	84	84	-0.40%	84	0.40%
Orthopedic Surgery	355	373	5.10%	379	6.80%
Otolaryngology	32	28	-12.80%	27	-16.60%
Plastic Surgery	14	13	-6.70%	12	-16.70%
Psychiatry	462	513	11.00%	486	5.30%
Pulmonary	905	781	-13.60%	741	-18.10%
Rehabilitation	89	75	-16.30%	80	-9.70%
Rheumatology	29	27	-6.20%	27	-7.50%
Substance Abuse	62	64	3.30%	62	0.00%
Thoracic Surgery	52	49	-6.30%	47	-9.90%
Trauma Medical	26	24	-8.40%	24	-7.40%
Urology Medicine	25	22	-10.50%	22	-13.80%
Urology Surgery	60	56	-6.10%	53	-12.40%
Vascular Surgery	102	99	-2.60%	96	-5.70%
Womens Other	4	4	-8.90%	3	-20.80%
Grand Total	**7,053**	**6,719**	**-4.70%**	**6,428**	**-8.90%**

Outpatient Projections

	2014		2019			2024	
Site of Care	**Volumes**		**Volumes**	**% Change**		**Volumes**	**% Change**
ED	28,480		28,487	0.00%		27,274	-4.20%
Home	62,251		72,114	15.80%		78,595	26.30%
Hosp OP/ASC	70,077		74,750	6.70%		75,887	8.30%
Office/Clinic	378,290		403,160	6.60%		388,891	2.80%
Other	27,103		29,580	9.10%		30,021	10.80%
SNF	1,708		1,850	8.30%		1,945	13.90%
Urgent/Retail	666		699	5.10%		668	0.40%
Virtual			7,613			31,509	
Grand Total	**568,574**		**618,252**	**8.70%**		**634,791**	**11.60%**

Interview Highlights:

INTERVIEWEES:

- Seventeen (17) individuals

KEY FINDINGS:

- Average rating of health status is 4.7, with a range in responses of 2.5 to 7
- Top health issues are:
  - Obesity
  - Smoking/Tobacco Use
  - Diabetes
  - Substance and Prescription Drug Abuse
- Additional health issues are:
  - Physical Inactivity
  - Poor Nutrition
  - Education
  - Poverty
  - Cardiovascular Disease
  - Cancer
  - COPD
  - Asthma
  - Shift in family culture/norms
  - Transportation barriers
  - Access to dental care
  - Built environment for physical activity
  - Cultural barriers (pride, trust)
  - Fast food culture
  - High cost healthy food
  - Hypertension
  - Stroke
  - Immunizations
  - Literacy
  - Prenatal care/education
  - Teen pregnancy
  - Utilization of health screenings
- Ideas to improve these conditions include:
  - Smoking Cessation Programs
  - MSHA Mobile Health bus travel to Roan Mountain
  - Increase community health events
  - Community Paramedic Program
  - Cooking education classes
  - More public healthcare initiatives for free healthcare and screenings
  - Low cost or free exercise programs/opportunities
  - Low cost or free nutrition coaches
  - Local farmers markets
  - Support groups for grandparents raising grandchildren
  - Organizational collaboration
  - Healthcare navigators/care coordinators
  - COPD clinics
  - Urgent care clinics
  - Care transition coordination
  - Tighter legislation on tobacco products
  - Better promotion/marketing of health programs and services

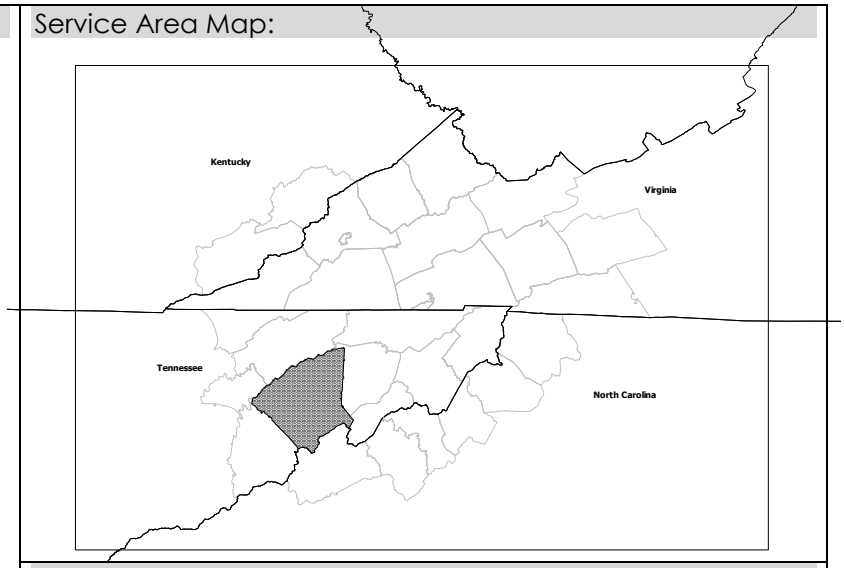
- Legislation on artificial sugar substances
- Additional mental health services
- Parenting skills classes
- Community gardens
- Repeal TN pregnancy criminalization legislation
- Project Access
- Promote health education to younger populations
- Inpatient and outpatient substance abuse treatment programs

Sources:	Local Resources:
▪ Medstat ▪ County Health Rankings ▪ TN Advisory Commission on Intergovernmental Relations ▪ TN Dept of Health ▪ BRFSS ▪ TennCare ▪ Kidscount ▪ TN Dept of Safety and Homeland Security ▪ EPA ▪ CDC Wonder ▪ TN Dept of Environment & Conservation ▪ Childhood Lead Poisoning Prevention Program	▪ Local Health Clinics ▪ Free blood sugar testing at local community events ▪ MSHA Mobile Health bus ▪ Company wellness programs ▪ Coordinated School Health ▪ Carter County Health Council ▪ Carter County Health Department ▪ Walking trails/Tweetsie Trail ▪ Healthy Tennessee / Small Starts ▪ Tennessee Education Initiative ▪ Carter County Anti-Drug Coalition ▪ TNCEP ▪ Tobacco Settlement Fund ▪ TIPS-Maternal Smoking Cessation Program ▪ ReadNPlay ▪ Mommy and Me Support Group ▪ Red Legacy ▪ Project Access ▪ MSHA Health Resources Center

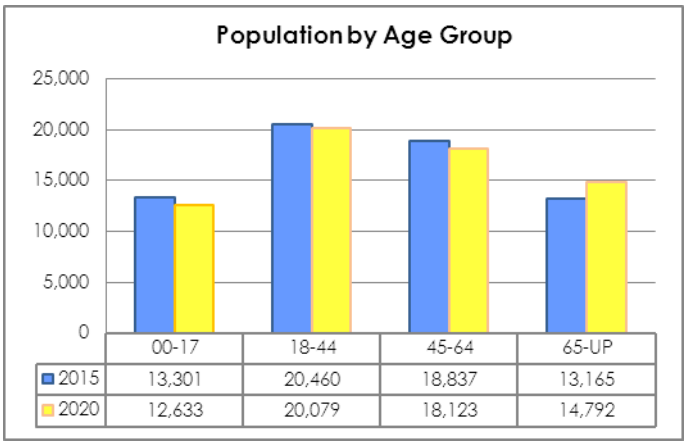
Demographic Highlights:

- Large elderly population compared to TN and US
- Declining rate of females of child-bearing age expected
- Low average household income level (19.0% of households make less than $15,000)
- Lower level of educational attainment compared to state and country (7.6% with no high school education compared to 5.9% nationally)
- Low level of diversity compared to state and national

Service Area Map:



Age Distribution and Population Projections:



Key Statistics:

	Greene County	Tennessee	U.S.
2015 Total Population	65,763	6,735,022	321,369,000
% Change 2015-2020	-0.2%	5.5%	4.1%
% of Population 65+ (2015)	20.0%	15.6%	14.9%
% Minority (2015)	7.2%	26.1%	38.3%

	2015	2020	% Change
Total Male Population	32,312	32,269	-0.1%
Total Female Population	33,451	33,358	-0.3%
Females, Child Bearing Age (15-44)	11,327	11,036	-2.6%

Local Health Highlights:

STRENGTHS:

- High School Graduation Rate
- Infant Mortality
- Binge Drinking
- STDs
- Violent Crime Rate
- Young Drive Crash Rate

WEAKNESSES:

- Poverty Rate
- Pre-1950 Housing
- Deaths due to cardiovascular, cancer, cerebrovascular, injuries, and diabetes
- No Biennial Mammogram
- Smoking During Pregnancy

Leading Causes of Death:

Ages 1 - 14 years

Cause of Death	Rate	Rank
Accidents	6.1	1
Cancer	3.1	2
Congenital Malformations	3	3
All Other Causes	3	*

Ages 15 - 21 years

Cause of Death	Rate	Rank
Accidents	26.3	1
Homicide	10.5	2
Septicemia	5.3	3
Cancer	5.3	3
Suicide	5.2	4
All Other Causes	15.7	*

Ages 22 - 64

Cause of Death	Rate	Rank
Cancer	163.8	1
Heart diseases	119.1	2
Accidents	81.4	3
Respiratory	37.7	4
Suicide	25.4	5
Liver &Cirrhosis	20.1	6
Diabetes	20	7
Cebrovascular	13.1	8
Septicemia	13	9
Flu/Pneumonia	12.3	10
All Other Causes	139.4	*

Ages 65+

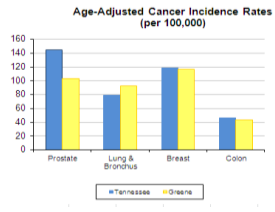
Cause of Death	Rate	Rank
Heart diseases	1375	1
Cancer	1107.5	2
Respiratory	431.5	3
Respiratory	354.25	4
Cerebrovascular	319.3	5
Flu/Pneumonia	189.9	6
Alzheimer's	158.2	7
Diabetes Mellitus	143.8	8
Accidents	141	9
Nephritis	115.1	10
All Other Causes	701.3	*

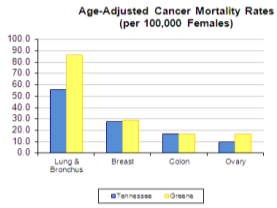
Key Indicators of Health Status:

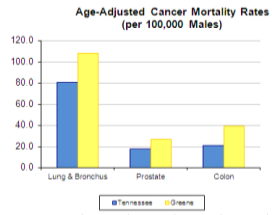
County: Greene, TN 2013 Population: 69,339

	TN	Greene	2010	Desired
Health Outcomes				↓
Mortality (years of potential life lost/100,000)	8,790	10,052	9,870	↓
Low Birth Weight (3-yr avg %)	9.0%	10.7%	8.50%	↓
General Health Status (%fair/poor health)*	19.0%	23.0%	22%	↓
Very Low Birth Weight (%)	1.6%	1.0%	1.00%	↓
Infant Mortality (3-yr avg rate per 1,000)	8.1	4.6	7.8	↓
Mortality Rate (3-yr avg rate per 100,000)	953.0	1,238.9	981.1	↓
Cardiovascular Deaths (per 100,000)	226.5	302.1	326.7	↓
Cancer Deaths (3-yr avg rate per 100,000)	214.4	282.4	237.8	↓
Diabetes Mellitus Deaths (per 100,000)	28.7	38.2	29.8	↓
Cerebrovascular Deaths (per 100,000)	47.0	54.4	58.2	↓
Suicide Deaths (per 100,000)	15.0	22.0	22.5	↓
Mortality rate for ages 1- 14 yrs	66.8	9.0	31.1	↓
Mortality rate for ages 15 - 21yrs	70.4	31.4	135.2	↓
Mortality rates for ages 65+	4,870.1	5,041.3	5300.8	↓
Lung Cancer Deaths (3-yr avg rate per 100,000)	68.8	102.3	85.1	↓
Female Breast Cancer Deaths (3-yr avg rate per 100,000)	14.1	13.8	34.8	↓
Prevalence of Asthma (%)	9.3	13.2	12.8	↓
Prevalence of Diabetes (%)	11.00%	12.00%	11.00%	↓
Health Determinants				↓
Health Care Resources				↓
No Health Insurance (%)*	21.0%	17.0%	16.40%	↓
Medicaid/Tenncare Enrollees (%)	18.7%	18.3%	20.20%	↓
Medical Doctors Per Capita (per 100,000)	246.1	119.1	137.3	↑
Dentists Per Capita (per 100,000)	52.2	29.1	46.5	↑
Percent without Pneumococcal Vaccinations (%)*	74.2%	66.7%	72.30%	↓
Percent without Influenza Vaccinations (%)*	59.4%	49.3%	59.30%	↓
No Diabetic Eye Exams (%)	74.3%	72.2%	49.90%	↓
No Diabetic HbA 1c Testing (%)	16.0%	18.0%	11.60%	↓
No Biennial Mammography (%)*	23.3%	29.3%	23.30%	↓
Inadequate or No Prenatal Care (%)	40.7%	37.0%	9.50%	↓
Month Prenatal Care Began	3.0	2.9	2.9	↓
First Trimester Prenatal Care (%)	59.3%	63.0%	67.70%	↑
Children (0-18 yrs) with Medicaid/Tenncare Coverage (%)	46.8%	44.8%	48.20%	↓
Hospital Staffed Beds (per 1,000)	3.6	3.8	2.6	↑
Licensed Nursing Beds (per 1,000 65+)	44.8	40.9	44.8	↑
# of Primary Care MDs	7,703	36	59	↓
# of Psychiatric Specialists	684	8	5	↓
Inpatient Discharge Rate (per 1,000) - Total	126.3	121.5	141.7	↓
Health Behaviors (continued)				↓
Cigarette Smoking (%)*	23.0%	29.0%	28.90%	↓
Smoking During Pregnancy (%)	16.3%	29.8%	32.90%	↓
Physical Inactivity (%)*	30.0%	34.0%	38.40%	↓
Overweight/Obesity (% BMI > 25)	67.8%	67.8%	67.90%	↓
Obesity (% BMI > 30)*	32.0%	32.0%	33.00%	↓
Low Fruit and Vegetable Consumption (% <5 a day)*	76.7%	73.0%	76.60%	↓
Binge Drinking (%)*	10.0%	4.0%	7.90%	↓
%of Children (0-4) Un/Improperly Restrained in a Crash	14.5%	10.2%	7.90%	↓
Teen Birth Rate (per 1,000)	37.3	43.2	60	↓
Sexually Transmitted Diseases (3 yr avg per 10,000)	446	190	141	↓
Violent Crime (per 100,000)	667.0	373.0	743	↓
Motor Vehicle Crash Deaths (per 100,000)	19	24	24	↓
Unmarried Mother Birth Rate (%)	44.1%	49.1%	44.20%	↓
Injury-related Mortality (3-yr avg rate per 100,000)	53.7	73.8	87.7	↓
Young Driver Crash Rate 15 - 24	116.9	108.3	132.4	↓
Elderly Drive Crash Rate (65+)	31.3	31.7	31.2	↓
Homicides (per 100,000)	8	4.0	3	↓
All accidental deaths per 100,000 population	52	72	64.1	↓
Average Fatality Rate in Alchohol-Related Crashes (per 100,000 population)	6.9	5.1	7.05	↓

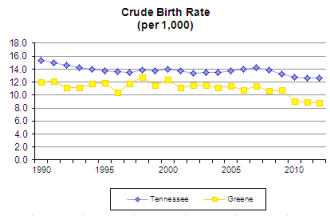
Cancer Incidence:

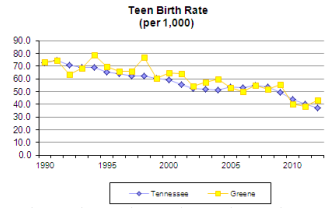






Birth Rate Trend:





Key Indicators of Health Status:

Socioecomonic Factors				
High School Graduation Rate (%)	86.0%	94.0%	93.40%	↑
Level of Education (%)	83.2%	79.2%	75.90%	↑
Unemployment (%)	8.8%	10.3%	10.90%	↓
Children (age 0 to 17) in poverty ratio (%)	26.5%	37.8%	29.50%	↓
Divorce Rate (per 100,000)	4.3	5.1	5.7	↓
Food Stamp Recipients (% of individuals)	21.1%	19.4%	19%	↓
Poverty Rate (% of all ages)	18.4%	24.4%	17.80%	↓
Temporary Assistance for Needy Families	2.6%	1.6%	1.70%	↓
High School Dropout Rate	6.9%	1.9%	1.90%	↓
Average Annual Wage	$ 36,576	$ 32,331	$ 31,490	↑
Physical Environment				↓
Air Quality Cancer Risk (per 1,000,000)	4.6	3.4	22.6	↓
Air Quality Hazard Index (per 1,000,000)	1.4	8.4	2.2	↓
Air Quality - Fine Particulate Matter in Air (3 yr avg Mg/m3)*	13.2	12.8	14.5	↓
Ozone Level (ppb)*	0.062	0.063	0.082	↓
Nitrate Levels in drinking water (mg/L)	0.70	1.30	2.80	↓
Pre-1950 Housing (%)	11.8%	16.0%	18.70%	↓
Lead Poisoned Children (%)	0.1%	n/a	0.20%	↓
Child Abuse and Neglect (rate per 1,000)	5.5	4.4	4.8	↓
Communicable Diseases				↓
Hepatitis A (per 100,000)	0.3	0.0	n/a	↓
Campylobacter Infection (per 100,000)	7.2	4.5	n/a	↓
Salmonella, Non Typhoid (per 100,000)	17.6	21.1	n/a	↓
Shigellosis (per 100,000)	3.3	0.0	n/a	↓
AIDS/HIV (per 100,000)	293	77	n/a	↓
Primary and Secondary Syphilis (per 100,000)	4.3	4.5	n/a	↓
Penicillin-Sensitive *Streptococcus pneumoniae* (per 100,000)	0.0	0.0	n/a	↓
Group B *Streptococcus* (per 100,000)	6.2	10.6	n/a	↓
Chlamydia (per 100,000)	517.3	215.7	n/a	↓
Gonorrhea (per 100,000)	144.8	21.1	n/a	↓

Inpatient Projections

	2014	2019		2024	
DRG Service Line	**Discharges**	**Discharges**	**% Change**	**Discharges**	**% Change**
Cardiac Surgery	91	94	3.10%	100	9.30%
Cardiology	760	654	-14.00%	553	-27.20%
Cardiology Intervention	259	239	-7.80%	223	-13.80%
Endocrinology	229	181	-20.80%	163	-28.70%
ENT Surgery	22	21	-2.40%	21	-2.50%
Gastroenterology	733	694	-5.30%	691	-5.70%
General Medicine	788	797	1.20%	750	-4.90%
General Surgery	550	546	-0.70%	538	-2.20%
Gynecology	52	49	-5.90%	47	-9.00%
Hematology	72	71	-1.40%	73	1.90%
Neonatology	249	231	-7.40%	216	-13.30%
Nephrology	387	362	-6.30%	324	-16.30%
Neurology	444	441	-0.60%	451	1.70%
Neurosurgery	154	148	-3.90%	147	-4.40%
Normal Newborns	389	402	3.20%	398	2.20%
OB Deliveries Sections	185	159	-13.80%	148	-20.20%
OB Deliveries Vaginal	429	453	5.60%	452	5.30%
OB Other	38	36	-4.40%	35	-7.00%
Oncology Medicine	131	125	-4.90%	112	-14.20%
Oncology Surgery	44	44	0.80%	44	-0.90%
Ophthalmic Medicine	3	3	-4.60%	3	-3.90%
Ophthalmic Surgery	2	2	-15.90%	2	-22.20%
Oral Surgery	11	10	-11.80%	9	-17.10%
Orthopedic Medicine	90	88	-2.30%	87	-2.90%
Orthopedic Surgery	565	596	5.40%	605	7.10%
Otolaryngology	45	39	-13.40%	36	-19.10%
Plastic Surgery	15	15	-1.40%	14	-6.90%
Psychiatry	468	519	10.80%	496	5.90%
Pulmonary	1,359	1,152	-15.20%	1,071	-21.20%
Rehabilitation	167	138	-17.10%	149	-11.00%
Rheumatology	38	37	-2.60%	37	-3.20%
Substance Abuse	40	42	4.60%	41	3.20%
Thoracic Surgery	34	33	-1.80%	32	-4.60%
Trauma Medical	34	33	-2.80%	34	0.20%
Urology Medicine	26	23	-12.70%	21	-19.30%
Urology Surgery	65	61	-6.00%	57	-12.40%
Vascular Surgery	137	136	-0.80%	137	0.20%
Womens Other	4	4	-6.50%	3	-17.80%
Grand Total	**9,109**	**8,678**	**-4.70%**	**8,321**	**-8.60%**

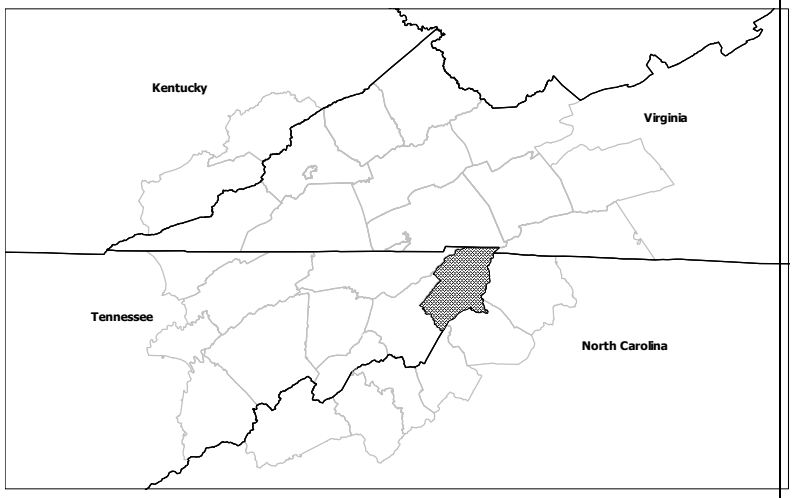
Outpatient Projections

	2014		2019			2024	
Site of Care	**Volumes**		**Volumes**	**% Change**		**Volumes**	**% Change**
ED	38,850		39,090	0.60%		37,609	-3.20%
Home	103,040		120,440	16.90%		131,920	28.00%
Hosp OP/ASC	135,865		147,630	8.70%		149,508	10.00%
Office/Clinic	561,214		598,528	6.60%		577,772	3.00%
Other	28,381		30,833	8.60%		31,028	9.30%
SNF	1,660		1,795	8.20%		1,892	14.00%
Urgent/Retail	560		589	5.10%		575	2.60%
Virtual			13,032			52,023	
Grand Total	**869,570**		**951,936**	**9.50%**		**982,326**	**13.00%**

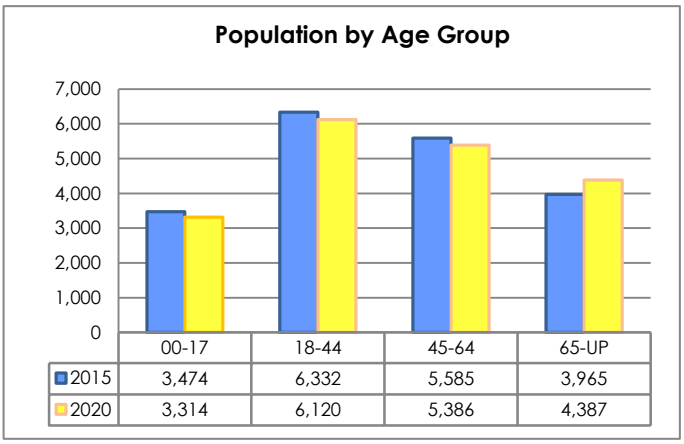
Demographic Highlights:

- Large elderly population compared to TN and US
- Large declining rate of females of child-bearing age expected
- Large disparity between genders (males account for 54% of total vs. females at 46% of total)
- Unemployment rate above national rate
- Low average household income level (21.6% of households make less than $15,000)
- Lower level of educational attainment compared to state and country (11.3% with no high school education compared to 5.9% nationally)
- Low level of diversity compared to state and national

Service Area Map:



Age Distribution and Population Projections:



Key Statistics:

	Johnson County	Tennessee	U.S.
2015 Total Population	19,356	6,735,022	321,369,000
% Change 2015-2020	-0.8%	5.5%	4.1%
% of Population 65+ (2015)	20.5%	15.6%	14.9%
% Minority (2015)	5.8%	26.1%	38.3%

	2015	2020	% Change
Total Male Population	10,358	10,273	-0.8%
Total Female Population	8,998	8,934	-0.7%
Females, Child Bearing Age (15-44)	2,836	2,745	-3.2%

Local Health Highlights:

STRENGTHS:

- STD
- Crime Rate
- Low Birth Weight
- Cerebrovascular Deaths
- Binge Drinking
- High School Drop Out

WEAKNESSES:

- No Health Insurance
- Prevalence of Asthma
- Vaccinations
- Smoking during Pregnancy
- Deaths due to cardiovascular, cancer, and injuries
- No Biennial Mammogram
- Prenatal Care
- Teen Birth Rate
- Poverty
- Level of Education

Leading Causes of Death:

Ages 1 - 14 years

Cause of Death	Rate	Rank
All Causes	0	1

Ages 15 - 21 years

Cause of Death	Rate	Rank
Accidents	67.1	1
All Other Causes	0.5	*

Ages 22 - 64

Cause of Death	Rate	Rank
Cancer	144.3	1
Accidents	54.1	2
Heart Disease	45.1	3
Respiratory	27.1	4
Suicide	18	5
Homicide	18	5
All Other Causes	90.3	*

Ages 65+

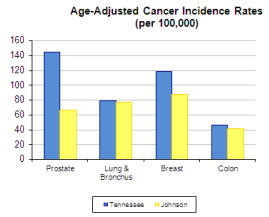
Cause of Death	Rate	Rank
Cancer	1090.1	1
Heart Disease	946.6	2
Respiratory	315.6	3
Flu/Pneumonia	229.5	4
Alzheimer's Disease	172.1	5
Diabetes Mellitus	143.4	6
Cerebrovascular	114.7	7
Parkinson's	86.1	8
Pneumonitis	86.1	8
Accidents	86.1	8
Aortic Aneurysm/ Dissection	57.4	9
Suicide	28.7	10
All Other Causes	1319.5	*

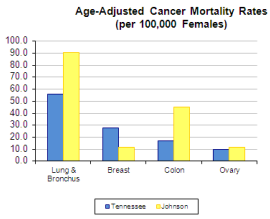
Key Indicators of Health Status:

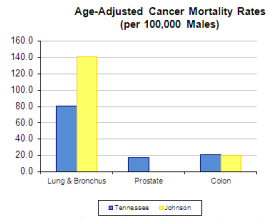
County: Johnson, TN

	TN	Johnson	2010	Desired
Health Outcomes				↓
Mortality (years of potential life lost/100,000)	8,790	9,480	11423.0	↓
Low Birth Weight (3-yr avg %)	9.0%	5.4%	10.9%	↓
General Health Status (% fair/poor health)*	19.0%	27.0%	28.5%	↓
Very Low Birth Weight (%)	1.6%	0.7%	3.0%	↓
Infant Mortality (3-yr avg rate per 1,000)	8.1	3.8	15.4	↓
Mortality Rate (3-yr avg rate per 100,000)	953.0	1,043.4	979.1	↓
Cardiovascular Deaths (per 100,000)	226.5	245.3	217.1	↓
Cancer Deaths (3-yr avg rate per 100,000)	214.4	248.3	202.9	↓
Diabetes Mellitus Deaths (per 100,000)	28.7	26.7	32.6	↓
Cerebrovascular Deaths (per 100,000)	47.0	21.3	65.1	↓
Suicide Deaths (per 100,000)	15.0	16.0	5.4	↓
Mortality rate for ages 1- 14 yrs	66.8	0.0	13.6	↓
Mortality rate for ages 15 - 21yrs	70.4	67.6	112.4	↓
Mortality rates for ages 65+	4,870.1	4,675.9	5116.4	↓
Lung Cancer Deaths (3-yr avg rate per 100,000)	68.8	87.5	79.2	↓
Female Breast Cancer Deaths (3-yr avg rate per 100,000)	14.1	14.3	18.1	↓
Prevalence of Asthma (%)	9.3%	13.2%	10.2%	↓
Prevalence of Diabetes (%)	11.0%	12.8%	12.0%	↓
Health Determinants				↓
Health Care Resources				↓
No Health Insurance (%)*	21.0%	17.0%	16.4%	↓
Medicaid/Tenncare Enrollees (%)	18.7%	21.4%	23.1%	↓
Medical Doctors Per Capita (per 100,000)	246.1	32.9	27.5	↑
Dentists Per Capita (per 100,000)	52.2	11.0	27.3	↑
Percent without Pneumococcal Vaccinations (%)*	74.2%	66.7%	72.3%	↓
Percent without Influenza Vaccinations (%)*	59.4%	50.7%	59.3%	↓
No Diabetic Eye Exams (%)	74.3%	72.2%	66.8%	↓
No Diabetic HbA1c Testing (%)	16.0%	17.0%	14.8%	↓
No Biennial Mammography (%)*	23.3%	29.3%	23.3%	↓
Inadequate or No Prenatal Care (%)	40.7%	56.0%	28.9%	↓
Month Prenatal Care Began	3.2	3.1	2.9	↓
First Trimester Prenatal Care (%)	59.3%	44.0%	71.5%	↑
Children (0-18 yrs) with Medicaid/Tenncare Coverage (%)	46.8%	57.9%	58.3%	↓
Hospital Staffed Beds (per 1,000)	3.6	0.1	0.1	↑
Licensed Nursing Beds (per 1,000 65+)	44.8	37.2	39.4	↑
# of Primary Care MDs	7,703	5	5.0	↓
# of Psychiatric Specialists	684	0	0.0	↓
Inpatient Discharge Rate (per 1,000) - Total	126.3	129.4	134.3	↓
Health Behaviors (continued)				↓
Cigarette Smoking (%)*	23.0%	24.0%	28.9%	↓
Smoking During Pregnancy (%)	16.3%	38.9%	31.9%	↓
Physical Inactivity (%)*	30.0%	32.0%	38.4%	↓
Overweight/Obesity (% BMI > 25)	67.8%	67.8%	67.9%	↓
Obesity (% BMI > 30)*	32.0%	32.0%	31.0%	↓
Low Fruit and Vegetable Consumption (% <5 a day)*	76.7%	73.0%	41.5%	↓
Binge Drinking (%)*	10.0%	3.0%	7.9%	↓
% of Children (0-4) Un/Improperly Restrained in a Crash	14.5%	7.1%	12.5%	↓
Teen Birth Rate (per 1,000)	37.3	49.5	37.5	↓
Sexually Transmitted Diseases (per 100,000)	446	104	83.0	↓
Violent Crime (per 100,000)	667.0	454.0	430.0	↓
Motor Vehicle Crash Deaths (per 100,000)	19	24	29.0	↓
Unmarried Mother Birth Rate (%)	44.1%	40.8%	44.8%	↓
Injury-related Mortality (3-yr avg rate per 100,000)	53.7	71.5	91.4	↓
Young Driver Crash Rate 15 - 24	116.9	92.1	76.2	↓
Elderly Drive Crash Rate (65+)	31.3	24.8	24.1	↓
Homicides (per 100,000)	8	10.7	5.5	↓
All accidental deaths per 100,000 population	52	53.3	65.1	↓
Average Fatality Rate in Alcohol-Related Crashes (per 100,000 population)	6.9	2.8	6.7	↓

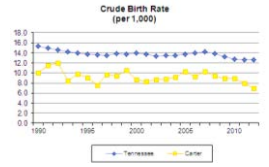
Cancer Incidence:

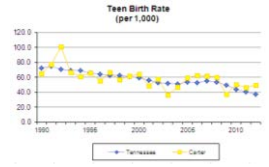






Birth Rate Trend:





Key Indicators of Health Status:

Socioecomonic Factors				
High School Graduation Rate (%)	86.0%	89.0%	90.3%	↑
Level of Education (%)	83.2%	70.1%	63.3%	↑
Unemployment (%)	8.8%	8.0%	9.7%	↓
Children (age 0 to 17) in poverty ratio (%)	26.5%	37.0%	32.5%	↓
Divorce Rate (per 100,000)	4.3	4.3	3.2	↓
Food Stamp Recipients (% of individuals)	21.1%	25.5%	28.2%	↓
Poverty Rate (% of all ages)	18.4%	26.1%	25.8%	↓
Temporary Assistance for Needy Families	2.6%	2.1%	2.3%	↓
High School Dropout Rate	6.9%	2.3%	6.8%	↓
Average Annual Wage	$ 36,576	$ 24,806	$ 20,785	↑
Physical Environment				↓
Air Quality Cancer Risk (per 1,000,000)	4.6	2.3	15.6	↓
Air Quality Hazard Index (per 1,000,000)	1.4	4.9	1.0	↓
Air Quality - Fine Particulate Matter in Air (3 yr avg Mg/m3)*	13.2	13.0	14.5	↓
Ozone Level (ppb)*	0.062	0.063	0.1	↓
Nitrate Levels in drinking water (mg/L Avg.)	0.70	0.51	0.78	↓
Pre-1950 Housing (%)	11.8%	15.1%	19.0%	↓
Lead Poisoned Children (%)	0.1%	n/a	0.5%	↓
Child Abuse and Neglect (rate per 1,000)	5.5	11.6	6.0	↓
Communicable Diseases				↓
Hepatitis A (per 100,000)	0.3	0.0	n/a	↓
Campylobacter Infection (per 100,000)	7.2	0.0	n/a	↓
Salmonella, Non Typhoid (per 100,000)	17.6	0.0	n/a	↓
Shigellosis (per 100,000)	3.3	0.0	n/a	↓
AIDS/HIV (per 100,000)	293	97	n/a	↓
Primary and Secondary Syphilis (per 100,000)	4.3	0.0	n/a	↓
Penicillin-Sensitive *Streptococcus pneumoniae* (per 100,000)	0.0	0.0	n/a	↓
Group B *Streptococcus* (per 100,000)	6.2	5.5	n/a	↓
Chlamydia (per 100,000)	517.3	88.9	n/a	↓
Gonorrhea (per 100,000)	144.8	0.0	n/a	↓

Inpatient Projections

	2014	2019		2024	
DRG Service Line	**Discharges**	**Discharges**	**% Change**	**Discharges**	**% Change**
Cardiac Surgery	27	27	-1.20%	27	0.90%
Cardiology	242	209	-13.40%	186	-22.90%
Cardiology Intervention	99	91	-8.40%	85	-14.00%
Endocrinology	49	39	-21.30%	35	-29.50%
ENT Surgery	6	5	-11.30%	5	-15.00%
Gastroenterology	234	219	-6.50%	213	-8.80%
General Medicine	224	224	0.00%	208	-7.00%
General Surgery	166	154	-7.40%	149	-10.30%
Gynecology	13	12	-9.10%	11	-15.10%
Hematology	28	28	-1.70%	28	1.20%
Neonatology	61	55	-9.10%	51	-16.70%
Nephrology	96	90	-6.70%	79	-17.70%
Neurology	138	135	-1.90%	138	-0.40%
Neurosurgery	46	44	-4.30%	43	-5.80%
Normal Newborns	91	92	0.60%	88	-3.10%
OB Deliveries Sections	55	46	-15.50%	42	-23.20%
OB Deliveries Vaginal	98	101	2.90%	98	-0.10%
OB Other	8	8	-5.30%	7	-9.00%
Oncology Medicine	54	51	-5.70%	46	-15.40%
Oncology Surgery	15	15	-1.80%	14	-7.60%
Ophthalmic Medicine	4	3	-15.80%	3	-24.50%
Ophthalmic Surgery	1	1	-10.50%	1	-8.80%
Oral Surgery	5	4	-10.40%	4	-11.60%
Orthopedic Medicine	22	22	-0.90%	21	-3.00%
Orthopedic Surgery	162	168	3.80%	169	4.40%
Otolaryngology	11	9	-18.70%	8	-26.70%
Plastic Surgery	7	7	2.00%	7	2.90%
Psychiatry	159	173	8.80%	162	2.10%
Pulmonary	319	273	-14.50%	257	-19.40%
Rehabilitation	29	24	-18.40%	25	-13.60%
Rheumatology	6	5	-8.60%	5	-12.90%
Substance Abuse	15	15	0.10%	14	-5.10%
Thoracic Surgery	21	20	-4.70%	20	-6.40%
Trauma Medical	7	7	-6.40%	6	-7.20%
Urology Medicine	6	5	-14.70%	5	-21.80%
Urology Surgery	16	15	-9.10%	13	-18.20%
Vascular Surgery	48	47	-2.00%	47	-3.10%
Womens Other	4	4	-10.60%	3	-21.70%
Grand Total	**2,592**	**2,445**	**-5.70%**	**2,326**	**-10.30%**

Outpatient Projections

	2014		2019			2024	
Site of Care	**Volumes**		**Volumes**	**% Change**		**Volumes**	**% Change**
ED	8,849		8,688	-1.80%		8,148	-7.90%
Home	20,858		24,071	15.40%		26,235	25.80%
Hosp OP/ASC	19,681		20,789	5.60%		20,846	5.90%
Office/Clinic	135,034		141,401	4.70%		133,637	-1.00%
Other	23,929		25,945	8.40%		25,892	8.20%
SNF	490		531	8.40%		554	13.20%
Urgent/Retail	121		125	3.50%		120	-0.20%
Virtual			3,116			12,540	
Grand Total	**208,961**		**224,666**	**7.50%**		**227,974**	**9.10%**

Interview Highlights:

INTERVIEWEES:

- Eleven individuals

KEY FINDINGS:

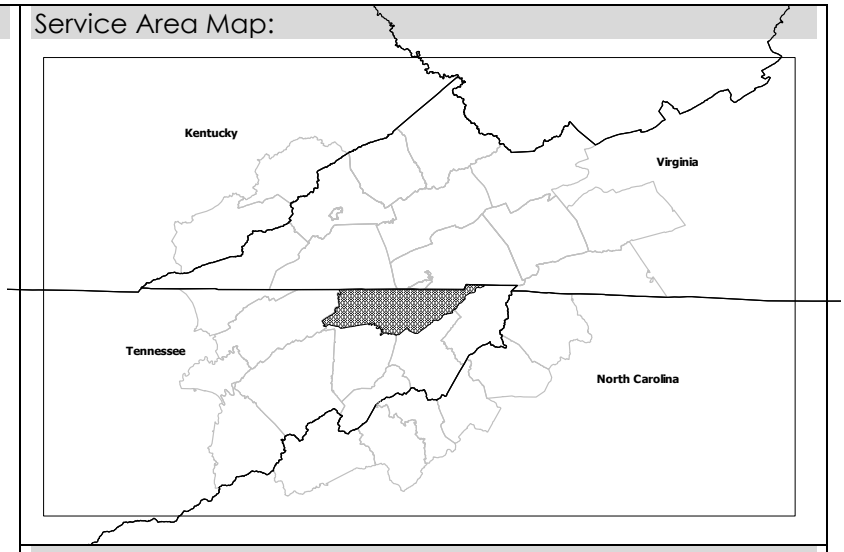
- Average rating of health status is 5.14, with a range of 3 to 7
- Top health issues are:
  - Diabetes
  - Cancer
  - Obesity
  - Cardiovascular Disease
  - Behavioral/Mental Health
  - Asthma
  - Smoking/Tobacco Use
  - Inactivity
  - Poor Nutrition
  - Substance Misuse/Abuse
  - Education
  - Fatalism (feeling of no control of outcomes)
  - Geographic Isolation / Transportation Barrier
  - Built Environment
  - Poverty
  - Familial Dynamics (disrupted families, multi-generational living)
  - Lack of Activities/Resources
- Ideas to improve these conditions include:
  - Better marketing of available health-related programs and resources
  - Comprehensive smoking cessation services
  - Enhance access to physical activity through built environment and physical fitness activities
  - Behavioral health services
  - Inpatient and outpatient substance abuse treatment
  - Recruiting specialists to area
  - Enhance telehealth services
  - Community engagement
  - Use churches to disseminate information
  - After school health programs for children

Sources:	Local Resources:
▪ Medstat ▪ County Health Rankings ▪ TN Advisory Commission on Intergovernmental Relations ▪ TN Dept of Health ▪ BRFSS ▪ TennCare ▪ Kidscount ▪ TN Dept of Safety and Homeland Security ▪ EPA ▪ CDC Wonder ▪ TN Dept of Environment & Conservation ▪ Childhood Lead Poisoning Prevention Program	▪ After School Programs ▪ Anti-Drug/Action Coalition ▪ Cancer Support Group ▪ Coordinated School Health ▪ Extended Hours Clinic ▪ Frontier Health ▪ Intensive Outpatient Program ▪ Johnson County Health Council ▪ Medical Mission ▪ Pregnancy Support Center ▪ Telemedicine ▪ Tennessee Department of Health – Primary Prevention Initiative ▪ Johnson County Health Department ▪ UT-TSU Extension Service

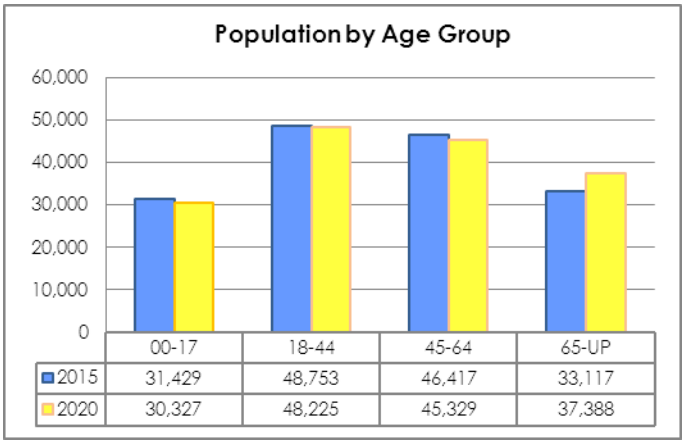
Demographic Highlights:

- Large elderly population compared to TN and US
- Declining rate of females of child-bearing age expected
- Low average household income level (15.6% of households make less than $15,000)
- Low level of educational attainment compared to state and country (6.6% with no high school education compared to 5.9% nationally)
- Low level of diversity compared to state and national

Service Area Map:



Age Distribution and Population Projections:



Key Statistics:

	Sullivan County	Tennessee	U.S.
2015 Total Population	159,716	6,735,022	321,369,000
% Change 2015-2020	1.0%	5.5%	4.1%
% of Population 65+ (2015)	20.7%	15.6%	14.9%
% Minority (2015)	6.6%	26.1%	38.3%

	2015	2020	% Change
Total Male Population	77,249	78,076	1.1%
Total Female Population	82,467	83,193	0.9%
Females, Child Bearing Age (15-44)	27,268	26,913	-1.3%

Local Health Highlights:

STRENGTHS:

- Unemployment Rate
- Medical Doctors
- Decreased percentage of individuals with no health insurance
- Percentage of Children Un/Improperly Restrained in a Crash
- STDs

WEAKNESSES:

- Prevalence of asthma and diabetes
- Vaccinations
- Smoking during pregnancy
- Pre-1950 Housing
- Deaths due to cardiovascular, diabetes, cerebrovascular, cancer, suicide, and injuries

Leading Causes of Death:

Ages 1 - 14 years

Cause of Death	Rate	Rank
Heart Disease	4.12	1
Cancer	4.12	2
Anemia	4.12	3
All Other Causes	4.12	*

Ages 15 - 21 years

Cause of Death	Rate	Rank
Accidents	53.6	1
Suicide	23	2
All Other Causes	53.5	*

Ages 22 - 64

Cause of Death	Rate	Rank
Cancer	144.7	1
Heart Disease	141.2	2
Accidents	45.2	3
Suicide	22	4
Respiratory	22	5
Cerebrovascular	15.1	6
Liver/Cirrhosis	13.9	7
Diabetes Mellitus	12.7	8
Septicemia	8.1	9
Viral Hepatits	7	10
All Other Causes	119.1	*

Ages 65+

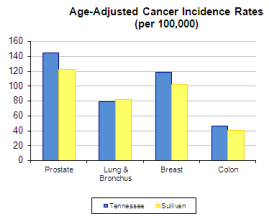
Cause of Death	Rate	Rank
Heart disease	1238.4	1
Cancer	1127.7	2
Respiratory	449.7	3
Alzheimer's Disease	280.2	4
Cerebrovascular	256	5
Flu/Pneumonia	176.4	6
Diabetes Mellitus	148.7	7
Hypertension	131.5	8
Septicemia	100.3	9
Accidents	76.1	10
All Other Causes	1307.5	*

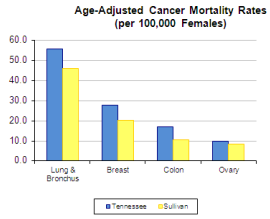
Key Indicators of Health Status:

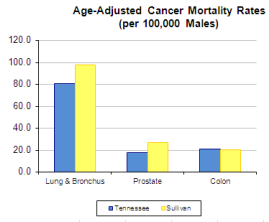
County: Sullivan, TN

	TN	Sullivan	2010	Desired
Health Outcomes				↓
Mortality (years of potential life lost/100,000)	8,790	9,005	9,860	↓
Low Birth Weight (3-yr avg %)	9.0%	8.1%	8.7%	↓
General Health Status (%fair/poor health)*	19.0%	21.0%	19.0%	↓
Very Low Birth Weight (%)	1.6%	1.0%	1.4%	↓
Infant Mortality (3-yr avg rate per 1,000)	8.1	9.2	9.1	↓
Mortality Rate (3-yr avg rate per 100,000)	953.0	1,281.3	945.5	↓
Cardiovascular Deaths (per 100,000)	226.5	402.6	280.9	↓
Cancer Deaths (3-yr avg rate per 100,000)	214.4	291.7	206.3	↓
Diabetes Mellitus Deaths (per 100,000)	28.7	35.0	31.2	↓
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Suicide Deaths (per 100,000)	15.0	19.5	15.6	↓
Mortality rate for ages 1- 14 yrs	66.8	16.5	24.5	↓
Mortality rate for ages 15 - 21 yrs	70.4	130.1	98.8	↓
Mortality rates for ages 65+	4,870.1	5,292.5	5,202.00	↓
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Month Prenatal Care Began	3.2	3.2	2.9	↓
First Trimester Prenatal Care (%)	59.3%	61.9%	67.6%	↑
Children (0-18yrs) with Medicaid/Tenncare Coverage (%)	46.8%	46.0%	44.9%	↓
Hospital Staffed Beds (per 1,000)	3.6	6.7	4.7	↑
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Smoking During Pregnancy (%)	16.3%	27.9%	29.8%	↓
Physical Inactivity (%)*	30.0%	31.0%	34.4%	↓
Overweight/Obesity (% BMI > 25)	67.8%	67.8%	67.9%	↓
Obesity (% BMI > 30)*	32.0%	35.0%	30.0%	↓
Low Fruit and Vegetable Consumption (% <5 a day)*	73.7%	73.0%	76.6%	↓
Binge Drinking (%)*	10.0%	9.0%	8.5%	↓
% of Children (0-4) Un/Improperly Restrained in a Crash	14.5%	5.3%	13.5%	↓
Teen Birth Rate (per 1,000)	37.3	42	60	↓
Sexually Transmitted Diseases	446	188	194	↓
Violent Crime (per 100,000)	667.0	512.0	538	↓
Motor Vehicle Crash Deaths (per 100,000)	19	16	22	↓
Unmarried Mother Birth Rate (%)	44.1%	42.7%	39.8%	↓
Injury-related Mortality (3-yr avg rate per 100,000)	53.7	88.2	81.9	↓
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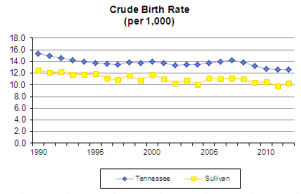
Cancer Incidence:

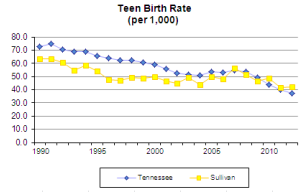






Birth Rate Trend:





Key Indicators of Health Status:

Socioecomonic Factors				
High School Graduation Rate (%)	86.0%	90.0%	81.7%	↑
Level of Education (%)	83.2%	82.7%	80.4%	↑
Unemployment (%)	8.8%	8.4%	5.8%	↓
Children (age 0 to 17) in poverty ratio (%)	26.5%	26.9%	22.4%	↓
Divorce Rate (per 1,000)	4.3	5.1	4.8	↓
Food Stamp Recipients (% of individuals)	21.1%	18.8%	16.2%	↓
Poverty Rate (% of all ages)	18.4%	18.2%	14.1%	↓
Temporary Assistance for Needy Families	2.6%	1.7%	1.9%	↓
High School Dropout Rate	6.9%	3.6%	7.1%	↓
Average Annual Wage	$ 36,576	$ 35,000	$ 32,141	↑
Physical Environment				↓
Air Quality Cancer Risk (per 1,000,000)	4.6	4.7	40.4	↓
Air Quality Hazard Index (per 1,000,000)	1.4	4.7	3.7	↓
Air Quality - Fine Particulate Matter in Air (3 yr avg Mg/m3)*	13.2	13.0	14.5	↓
Ozone Level (ppb)*	0.062	0.063	0.082	↓
Nitrate Levels in drinking water (mg/L Average)	0.7	0.4	0.6	↓
Pre-1950 Housing (%)	11.8%	15.8%	19.4%	↓
Lead Poisoned Children (%)	0.1%	n/a	0.7%	↓
Child Abuse and Neglect (rate per 1,000)	5.5	7.8	11.6	↓
Communicable Diseases				↓
Hepatitis A (per 100,000)	0.3	0.0	n/a	↓
Campylobacter Infection (per 100,000)	7.2	12.7	n/a	↓
Salmonella, Non Typhoid (per 100,000)	17.6	5.7	n/a	↓
Shigellosis (per 100,000)	3.3	0.0	n/a	↓
AIDS/HIV (per 100,000)	293	91	n/a	↓
Primary and Secondary Syphilis (per 100,000)	4.3	0.6	n/a	↓
Penicillin-Sensitive *Streptococcus pneumoniae* (per 100,000)	0.0	0.0	n/a	↓
Group B *Streptococcus* (per 100,000)	6.2	6.4	n/a	↓
Chlamydia (per 100,000)	517.3	259.8	n/a	↓
Gonorrhea (per 100,000)	144.8	36.8	n/a	↓

Inpatient Projections

	2014	2019		2024	
DRG Service Line	**Discharges**	**Discharges**	**% Change**	**Discharges**	**% Change**
Cardiac Surgery	237	240	1.30%	250	5.50%
Cardiology	1,851	1,601	-13.50%	1,382	-25.40%
Cardiology Intervention	594	552	-7.10%	519	-12.70%
Endocrinology	508	402	-21.00%	362	-28.80%
ENT Surgery	34	33	-1.80%	33	-2.10%
Gastroenterology	1,693	1,606	-5.10%	1,592	-5.90%
General Medicine	1,716	1,738	1.30%	1,645	-4.10%
General Surgery	1,204	1,161	-3.60%	1,141	-5.20%
Gynecology	156	145	-7.00%	139	-10.60%
Hematology	220	217	-1.50%	223	1.20%
Neonatology	676	629	-7.00%	592	-12.50%
Nephrology	920	855	-7.00%	762	-17.20%
Neurology	986	979	-0.70%	1,010	2.50%
Neurosurgery	428	416	-2.90%	414	-3.20%
Normal Newborns	969	1,005	3.70%	1,000	3.20%
OB Deliveries Sections	567	490	-13.50%	456	-19.60%
OB Deliveries Vaginal	991	1,053	6.30%	1,055	6.50%
OB Other	130	125	-4.00%	122	-6.10%
Oncology Medicine	251	241	-4.00%	218	-13.20%
Oncology Surgery	109	111	1.50%	108	-1.00%
Ophthalmic Medicine	12	11	-12.20%	10	-18.30%
Ophthalmic Surgery	1	1	-9.40%	1	-6.70%
Oral Surgery	18	17	-7.60%	17	-6.90%
Orthopedic Medicine	227	227	0.00%	231	1.80%
Orthopedic Surgery	1,487	1,576	6.00%	1,610	8.20%
Otolaryngology	88	77	-12.90%	74	-15.80%
Plastic Surgery	37	34	-8.20%	31	-16.10%
Psychiatry	1,440	1,580	9.70%	1,502	4.30%
Pulmonary	2,500	2,159	-13.60%	2,046	-18.20%
Rehabilitation	433	338	-22.00%	351	-18.90%
Rheumatology	73	71	-3.30%	70	-3.50%
Substance Abuse	172	178	3.30%	173	0.50%
Thoracic Surgery	153	145	-5.50%	141	-7.50%
Trauma Medical	71	68	-4.30%	69	-2.70%
Unspecified	4	4	2.30%	4	4.50%
Urology Medicine	66	58	-12.70%	53	-19.70%
Urology Surgery	148	140	-5.10%	130	-12.00%
Vascular Surgery	246	245	-0.60%	246	0.00%
Womens Other	13	12	-4.90%	11	-12.20%
Grand Total	**21,429**	**20,537**	**-4.20%**	**19,794**	**-7.60%**

Outpatient Projections

	2014		2019			2024	
Site of Care	**Volumes**		**Volumes**	**% Change**		**Volumes**	**% Change**
ED	93,692		94,233	0.60%		90,513	-3.40%
Home	211,861		245,806	16.00%		267,901	26.50%
Hosp OP/ASC	255,993		275,109	7.50%		281,172	9.80%
Office/Clinic	1,497,314		1,605,147	7.20%		1,556,518	4.00%
Other	72,130		78,500	8.80%		78,786	9.20%
SNF	4,604		4,958	7.70%		5,181	12.50%
Urgent/Retail	4,389		4,798	9.30%		4,586	4.50%
Virtual			31,971			128,757	
Grand Total	**2,139,982**		**2,340,523**	**9.40%**		**2,413,414**	**12.80%**

Interview Highlights:

INTERVIEWEES:

- 10 individuals

KEY FINDINGS:

- Average rating of health status is 3.6 with a range in responses of 1.5 to 8.
- Top health issues are:
  - Obesity
  - Cancer
  - Diabetes
  - Cardiovascular Disease
  - Substance Abuse/NAS
- Additional health issues include:
  - Smoking and Tobacco Use
  - Oral Health
  - Physical Inactivity
  - Behavioral Health
  - Education
  - Food Insecurity
  - Lack of Free Medical Center
- Ideas to improve these conditions include:
  - Mobile dental clinic linked to dental providers
  - Collaboration across various health systems/programs to provide united approach/solutions
  - Engage business leaders
  - Consolidate efforts among stakeholders to maximize scarce resources
  - More city and corporate support
  - Community forum/Health Summit similar to 1999 Economic Summit
  - Education through public media campaign
  - Target kids
  - Invest more resources and leadership time and commitment to Healthy Kingsport
  - Collaborative Impact Model

Sources:

- Medstat
- County Health Rankings
- TN Advisory Commission on Intergovernmental Relations
- TN Dept of Health
- BRFSS
- TennCare
- Kidscount
- TN Dept of Safety and Homeland Security
- EPA
- CDC Wonder
- TN Dept of Environment & Conservation
- Childhood Lead Poisoning Prevention Program

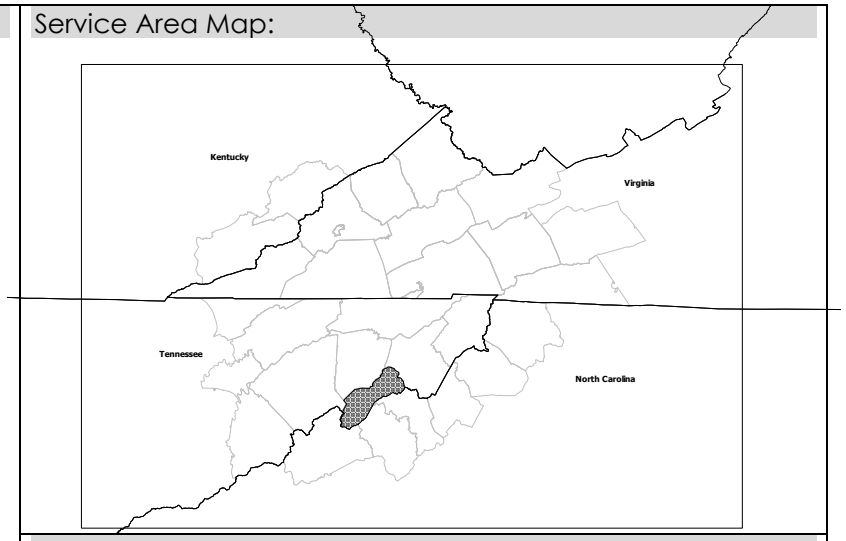
Local Resources:

- Coordinated School Health
- East Tennessee State University, School of Public Health
- Friends in Need
- Health Resources Center
- Healthy Kingsport
- Parish Nurse Program
- PEAK (young professional organization)
- Providence Medical Clinic
- School System
- Sullivan County Health Council
- Sullivan County Health Department
- United Way of Greater Kingsport, Health Safety & Stability Vision Council
- YMCA

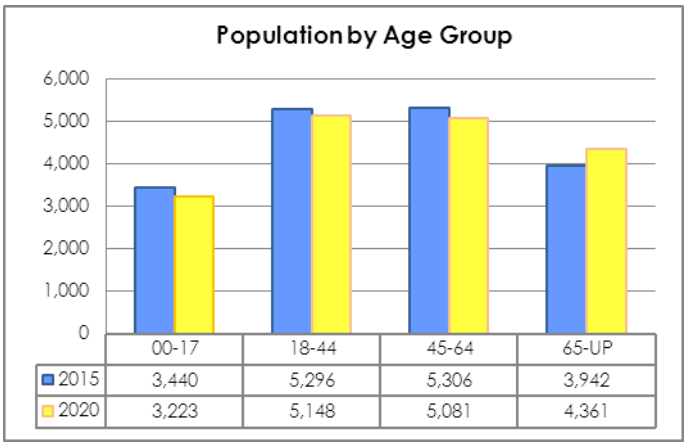
Demographic Highlights:

- Large elderly population compared to TN and US
- Declining rate of females of child-bearing age expected
- Low average household income level (19.1% of households make less than $15,000)
- Lower level of educational attainment compared to state and country (10.6% with no high school education compared to 5.9% nationally)
- Low level of diversity compared to state and national

Service Area Map:



Age Distribution and Population Projections:



Key Statistics:

	Unicoi County	Tennessee	U.S.
2015 Total Population	17,984	6,735,022	321,369,000
% Change 2015-2020	-1.0%	5.5%	4.1%
% of Population 65+ (2015)	21.9%	15.6%	14.9%
% Minority (2015)	6.8%	26.1%	38.3%

	2015	2020	% Change
Total Male Population	8,824	8,741	-0.9%
Total Female Population	9,160	9,072	-1.0%
Females, Child Bearing Age (15-44)	2,962	2,855	-3.6%

Local Health Highlights:

STRENGTHS:

- STD
- High school graduation rate
- Health Insurance
- Percent of Children Un/Improperly Restrained in a Crash

WEAKNESSES:

- Low birth weight
- Pre-1950 Housing
- Teen birth rate
- Smoking During Pregnancy
- Deaths due to cardiovascular, cancer, diabetes, cerebrovascular, injuries and suicide

Leading Causes of Death:

Ages 1 - 14 years

Cause of Death	Rate	Rank
All Causes	0	1

Ages 15 - 21 years

Cause of Death	Rate	Rank
All Causes	0	1

Ages 22 - 64

Cause of Death	Rate	Rank
Cancer	160.1	1
Heart Disease	110.1	2
Accidents	50.1	3
Diabetes Mellitus	30	4
Suicide	30	4
Liver/Cirrhosis	20	5
Flu/pneumonia	10	6
Respiratory	10	6
Malformations/ Deformations	10	6
All Other Causes	70.2	*

Ages 65+

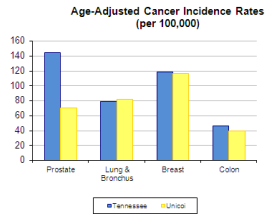
Cause of Death	Rate	Rank
Heart diseases	1299.4	1
Cancer	1045.2	2
Cerebrovascular	452	3
Respiratory	395.5	4
Alzheimer's	254.2	5
Diabetes Mellitus	169.5	6
Flu/Pneumonia	113	7
Parkinson's	56.5	8
Aortic Aneurysm and Dissection	56.5	9
Hypertension	56.5	10
All Other Causes	1242.9	*

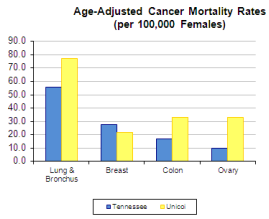
Key Indicators of Health Status:

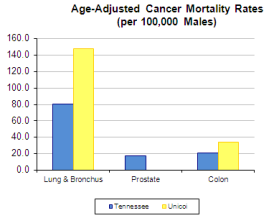
County: Unicoi, TN

	TN	Uni Co	2010	Desired
Health Outcomes				
Mortality (years of potential life lost/100,000)	8,790	9,655	10,961	↓
Low Birth Weight (3-yr avg %)	9.0%	12.3%	7.7%	↓
General Health Status (% fair/poor health)*	19.0%	22.0%	22.0%	↑
Very Low Birth Weight (%)	1.6%	1.3%	3.0%	↓
Infant Mortality (3-yr avg rate per 1,000)	8.1	7.6	7	↓
Mortality Rate (3-yr avg rate per 100,000)	953.0	1,373.3	1,046.80	↓
Cardiovascular Deaths (3-yr avg rate per 100,000)	226.5	446.0	368.2	↓
Cancer Deaths (3-yr avg rate per 100,000)	214.4	300.4	218.9	↓
Diabetes Mellitus Deaths (3-yr avg rate per 100,000)	28.7	35.6	36.8	↓
Cerebrovascular Deaths (3-yr avg rate per 100,000)	47.0	67.2	43.7	↓
Suicide Deaths (per 100,000)	15.0	22.4	11.3	↓
Mortality rate for ages 1- 14 yrs	66.8	0.0	24.9	↓
Mortality rate for ages 15 - 21yrs	70.4	0.0	161.6	↓
Mortality rates for ages 65+	4,870.1	5,141.2	5,897.40	↓
Lung Cancer Deaths (3-yr avg rate per 100,000)	68.8	119.4	63.7	↓
Female Breast Cancer Deaths (3-yr avg rate per 100,000)	14.1	13.1	27.9	↓
Prevalence of Asthma (%)	9.3%	13.2%	12.4%	↓
Prevalence of Diabetes (%)	11.0%	12.0%	14.0%	↓
Health Determinants				
Health Care Resources				
No Health Insurance (%)*	21.0%	16.0%	14.0%	↓
Medicaid/Tenncare Enrollees (%)	18.7%	19.1%	20.2%	↓
Medical Doctors Per Capita (per 100,000)	246.1	49.1	537.9	↑
Dentists Per Capita (per 100,000)	52.2	27.3	60.7	↑
Percent without Pneumococcal Vaccinations (%)*	74.2%	66.7%	67.7%	↑
Percent without Influenza Vaccinations (%)*	59.4%	50.7%	55.3%	↑
No Diabetic Eye Exams (%)	74.3%	72.2%	64.0%	↓
No Diabetic HbA1c Testing (%)	16.0%	17.0%	12.5%	↑
No Biennial Mammography (%)*	23.3%	29.3%	25.1%	↑
Inadequate or No Prenatal Care (%)	40.7%	32.5%	6.4%	↓
Month Prenatal Care Began	3.2	3.0	2.9	↓
First Trimester Prenatal Care (%)	59.3%	67.5%	85-94%	↓
Children (0-18 yrs) with Medicaid/Tenncare Coverage (%)	46.8%	50.7%	46.1%	↑
Hospital Staffed Beds (per 1,000)	3.6	2.6	1.5	↓
Licensed Nursing Beds (per 1,000 65+)	44.8	83.0	87.5	↓
# of Primary Care MDs	7,703	5	5	↑
# of Psychiatric Specialists	684	1	0	↓
Inpatient Discharge Rate (per 1,000) - Total	126.3	158.9	174.5	↓
Health Behaviors (continued)				
Cigarette Smoking (%)*	23.0%	21.0%	25.4%	↓
Smoking During Pregnancy (%)	16.3%	29.4%	37.3%	↓
Physical Inactivity (%)*	30.0%	32.0%	31.2%	↓
Overweight/Obesity (% BMI > 25)	67.8%	67.8%	63.8%	↓
Obesity (% BMI > 30)*	32.0%	33.0%	30.0%	↓
Low Fruit and Vegetable Consumption (% <5 a day)*	76.7%	73.0%	37.1%	↓
Binge Drinking (%)*	10.0%	6.0%	7.5%	↓
% of Children (0-4) Un/Improperly Restrained in a Crash	14.5%	5.3%	19.0%	↓
Teen Birth Rate (per 1,000)	37.3	45.4	59	↓
Sexually Transmitted Diseases (100,000)	446	98	73	↓
Violent Crime (per 100,000)	667.0	139.0	207	↓
Motor Vehicle Crash Deaths (per 100,000)	19	21	32	↓
Unmarried Mother Birth Rate (%)	44.1%	38.0%	33.8%	↓
Injury-related Mortality (3-yr avg rate per 100,000)	53.7	87.7	124.8	↓
Young Driver Crash Rate 15 - 24	116.9	62.3	79.3	↓
Elderly Drive Crash Rate (65+)	31.3	19.4	14.2	↓
Homicides (per 100,000)	8	0.0	11.3	↓
All accidental deaths per 100,000 population	52	33.6	39.5	↓
Average Fatality Rate in Alchohol-Related Crashes (per 100,000 population)	6.9	4.6	5.3	↓

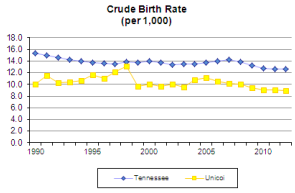
Cancer Incidence:

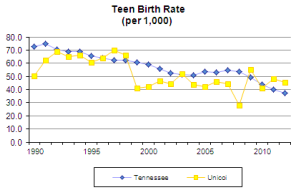






Birth Rate Trend:





Key Indicators of Health Status:

Socioecomonic Factors				
High School Graduation Rate (%)	86.0%	94.0%	77.0%	↓
Level of Education (%)	83.2%	75.3%	63.3%	↓
Unemployment (%)	8.8%	8.1%	7.9%	↓
Children (age 0 to 17) in poverty ratio (%)	26.5%	29.0%	30.3%	↓
Divorce Rate (per 100,000)	4.3	3.4	4	↓
Food Stamp Recipients (% of individuals)	21.1%	22.1%	10.6%	↓
Poverty Rate (% of all ages)	18.4%	20.4%	14.9%	↓
Temporary Assistance for Needy Families	2.6%	1.4%	2.1%	↓
High School Dropout Rate	6.9%	1.9%	6.0%	↓
Average Annual Wage	$ 36,576	$ 30,910	$30,235	↓
Physical Environment				
Air Quality Cancer Risk (per 1,000,000)	4.6	2.8	21.6	↓
Air Quality Hazard Index (per 1,000,000)	1.4	7	2.2	↓
Air Quality - Fine Particulate Matter in Air (3 yr avg Mg/m3)*	13.2	13.1	14.7	↓
Ozone Level (ppb)*	0.062	0.063	0.082	↓
Nitrate Levels in drinking water (mg/L Avg.)	0.70	1.34	1.08	↓
Pre-1950 Housing (%)	11.8%	21.6%	9.4%	↓
Lead Poisoned Children (%)	0.1%	n/a	0.0%	↓
Child Abuse and Neglect (rate per 1,000)	5.5	6.0	5	↓
Communicable Diseases				
Hepatitis A (per 100,000)	0.3	0.0	n/a	↓
Campylobacter Infection (per 100,000)	7.2	11.3	n/a	↓
Salmonella, Non Typhoid (per 100,000)	17.7	5.6	n/a	↓
Shigellosis (per 100,000)	3.3	0.0	n/a	↓
AIDS/HIV (per 100,000)	293	58	n/a	↓
Primary and Secondary Syphilis (per 100,000)	4.3	0.0	n/a	↓
Penicillin-Sensitive *Streptococcus pneumoniae* (per 100,000)	0.0	0.0	n/a	↓
Group B *Streptococcus* (per 100,000)	6.2	0.0	n/a	↓
Chlamydia (per 100,000)	517.3	146.6	n/a	↓
Gonorrhea (per 100,000)	144.8	22.5	n/a	↓

Inpatient Projections

	2014	2019		2024	
DRG Service Line	**Discharges**	**Discharges**	**% Change**	**Discharges**	**% Change**
Cardiac Surgery	27	27	1.80%	29	5.90%
Cardiology	284	247	-13.00%	220	-22.60%
Cardiology Intervention	126	116	-7.70%	110	-12.80%
Endocrinology	72	56	-21.60%	52	-28.10%
ENT Surgery	6	6	-1.90%	6	-2.70%
Gastroenterology	294	277	-5.70%	274	-6.70%
General Medicine	219	221	1.00%	206	-5.80%
General Surgery	184	175	-4.70%	169	-7.90%
Gynecology	24	22	-8.60%	21	-13.50%
Hematology	53	52	-2.30%	53	-0.10%
Neonatology	64	60	-7.00%	56	-12.40%
Nephrology	172	160	-6.90%	140	-18.80%
Neurology	141	141	-0.30%	142	1.00%
Neurosurgery	41	38	-7.90%	37	-10.40%
Normal Newborns	91	94	3.50%	94	2.80%
OB Deliveries Sections	52	45	-13.50%	42	-19.50%
OB Deliveries Vaginal	105	111	5.70%	111	5.40%
OB Other	15	14	-4.00%	14	-6.10%
Oncology Medicine	69	66	-4.20%	60	-13.30%
Oncology Surgery	20	20	-2.20%	19	-5.10%
Ophthalmic Medicine	2	2	-15.70%	1	-26.30%
Oral Surgery	8	7	-12.30%	7	-16.60%
Orthopedic Medicine	58	56	-3.10%	56	-3.80%
Orthopedic Surgery	150	153	1.90%	152	1.20%
Otolaryngology	13	12	-6.50%	12	-4.50%
Plastic Surgery	4	4	-3.80%	4	-12.10%
Psychiatry	148	163	10.20%	156	5.50%
Pulmonary	406	339	-16.50%	309	-23.90%
Rehabilitation	35	28	-19.70%	29	-16.90%
Rheumatology	9	8	-9.60%	8	-13.90%
Substance Abuse	9	9	3.90%	9	1.40%
Thoracic Surgery	14	14	-2.10%	13	-3.80%
Trauma Medical	12	11	-8.00%	11	-7.40%
Unspecified	1	1	8.70%	1	17.40%
Urology Medicine	12	10	-13.80%	9	-21.30%
Urology Surgery	27	26	-5.50%	25	-9.10%
Vascular Surgery	43	41	-3.50%	40	-6.00%
Womens Other	1	1	-15.10%	1	-33.10%
Grand Total	**3,011**	**2,834**	**-5.90%**	**2,697**	**-10.40%**

Outpatient Projections

	2014		2019		2024	
Site of Care	**Volumes**		**Volumes**	**% Change**	**Volumes**	**% Change**
ED	9,919		9,938	0.20%	9,518	-4.00%
Home	18,118		20,713	14.30%	22,390	23.60%
Hosp OP/ASC	29,338		31,605	7.70%	32,399	10.40%
Office/Clinic	148,825		157,392	5.80%	151,068	1.50%
Other	8,047		8,593	6.80%	8,372	4.00%
SNF	562		596	5.90%	624	11.00%
Urgent/Retail	304		329	8.20%	324	6.60%
Virtual			3,315		12,682	
Grand Total	**215,112**		**232,480**	**8.10%**	**237,377**	**10.40%**

Interview Highlights:

INTERVIEWEES:

- Eight individuals

KEY FINDINGS:

- Average rating of health status is 4.9, with a range in responses of 3 to 6
- Top health issues are:
  - Obesity
  - Diabetes
  - Cancer
  - Substance/Prescription Drug Abuse
- Additional identified health priorities:
  - Addiction
  - Neonatal Abstinence Syndrome
  - Mental Health
  - COPD/ Respiratory Needs
  - Cardiovascular disease
  - Physical inactivity
  - Utilization of wellness screenings
  - Parenting education
  - Smoking/Tobacco and vapor cigarette use
  - Second-Hand Smoke
  - Medical non-compliance
  - Access to urgent care clinics
  - Access to primary care clinics
  - Access to physical activity
  - Access to long-term care
  - Unemployment
  - Access to health education
  - Fast food prevalence
  - Transportation barriers
  - Cultural barriers
- Ideas to improve these conditions include:
  - Better marketing of available health-related programs and resources
  - Community gardens
  - Fitness center programs
  - Increase health education programs and opportunities
  - Community health events
  - School-based fitness programs
  - Nutrition education
  - Wellness screenings
  - More urgent care clinics
  - More primary care clinics
  - Legislative regulations on prescription drugs/prescribing practices
  - Legislation on smoking/vapor cigarettes
  - Diabetes education
  - Family support services
  - Elderly support services
  - Offering SNAO benefits at farmers market
  - Substance abuse/mental health facilities and programs

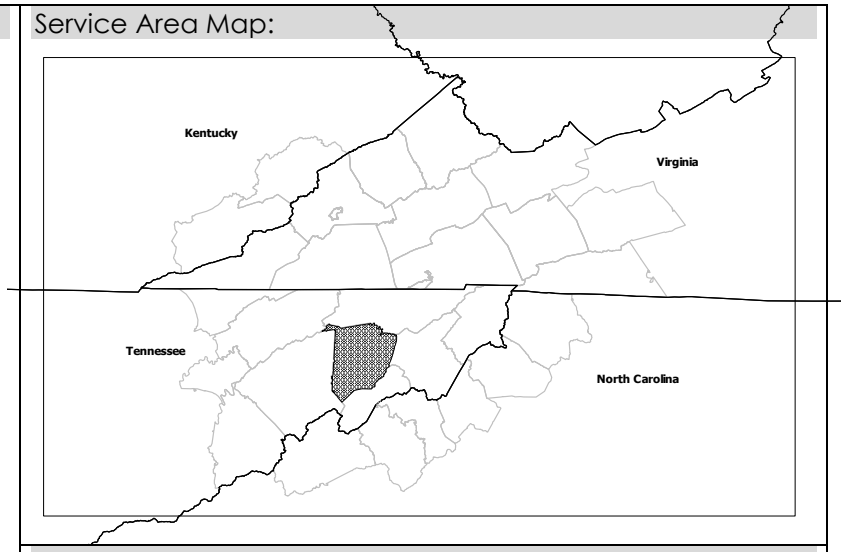
Sources:	Local Resources:

▪ Medstat ▪ County Health Rankings ▪ TN Advisory Commission on Intergovernmental Relations ▪ TN Dept of Health ▪ BRFSS ▪ TennCare ▪ Kidscount ▪ TN Dept of Safety and Homeland Security ▪ EPA ▪ CDC Wonder ▪ TN Dept of Environment & Conservation ▪ Childhood Lead Poisoning Prevention Program	▪ Telamon Migrant Head Start ▪ Unicoi County Health Department ▪ Unicoi County Chamber of Commerce ▪ Unicoi County Memorial Hospital ▪ Unicoi County Family YMCA ▪ Senior Center ▪ Walking trails ▪ Alzheimers Support Group ▪ Farmers Market ▪ Tobacco Settlement Funds ▪ SNAP ▪ Community health events

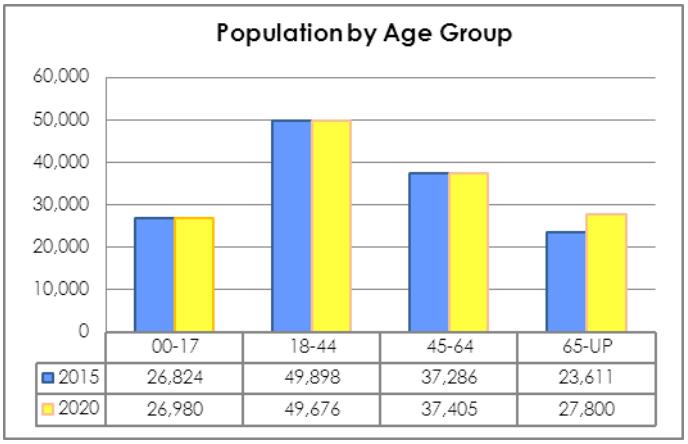
Demographic Highlights:

- Slightly larger elderly population compared to TN and US
- Slight inclining rate of females of child-bearing age expected
- Low average household income level (16.2% of households make less than $15,000)
- Level of educational attainment close to national average (5.2% with no high school education compared to 5.9% nationally)
- Low level of diversity compared to state and national

Service Area Map:



Age Distribution and Population Projections:



Key Statistics:

	Washington County	Tennessee	U.S.
2015 Total Population	137,619	6,735,022	321,369,000
% Change 2015-2020	3.1%	5.5%	4.1%
% of Population 65+ (2015)	17.2%	15.6%	14.9%
% Minority (2015)	10.4%	26.1%	38.3%

	2015	2020	% Change
Total Male Population	67,293	69,376	3.1%
Total Female Population	70,326	72,485	3.1%
Females, Child Bearing Age (15-44)	27,500	27,551	0.2%

Local Health Highlights:

STRENGTHS:

- No health insurance
- Violent crime
- High school graduation STDs

WEAKNESSES:

- Unemployment rate
- Smoking during pregnancy
- Deaths due to cardiovascular, cancer, cerebrovascular, suicide, and injuries

Leading Causes of Death:

Ages 1 - 14 years

Cause of Death	Rate	Rank
Congenital Malformations, Deformations and Chromosomal Abnormalities	5.24	1
All Other Causes	0	*

Ages 15 - 21 years

Cause of Death	Rate	Rank
Accidents	17.6	1
Suicide	8.8	2
Homicide	8.8	3
Nephritis/ Nephrosis	8.8	4
All Other Causes	8.64	*

Ages 22 - 64

Cause of Death	Rate	Rank
Heart Disease	142.6	1
Cancer	133.9	2
Accidents	42.2	3
Liver & Cirrhosis	30.6	4
Suicide	29.1	5
Respiratory	24.7	6
Septicemia	10.2	7
Diabetes Mellitus	8.7	8
Cerebrovascular	8.7	9
Nephritis	8.7	10
All Other Causes	87.5	*

Ages 65+

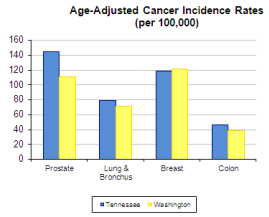
Cause of Death	Rate	Rank
Heart Disease	1350.9	1
Cancer	1026.5	2
Respiratory	308.5	3
Alzheimer's Disease	297.8	4
Cerebrovascular	292.5	5
Flu/ Pneumonia	202.1	6
Accidents	148.9	7
Nephritis/ Nephrosis	95.7	8
Hypertension	95.7	9
Parkinson's	74.5	10
All Other Causes	1207.4	*

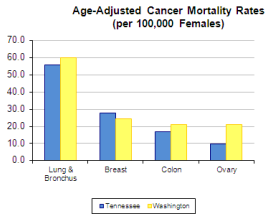
Key Indicators of Health Status:

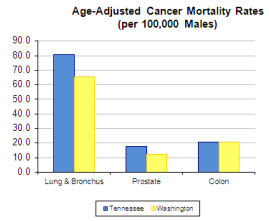
County: Washington, TN

	TN	Wash Co	2010	Desired
Health Outcomes				↓
Mortality (years of potential life lost/100,000)	8,790	8,155	9672	↓
Low Birth Weight (3-yr avg %)	9.0%	7.5%	8.9%	↓
General Health Status (% fair/poor health)*	19.0%	19.0%	21.0%	↓
Very Low Birth Weight (%)	1.6%	1.7%	2.5%	↓
Infant Mortality (3-yr avg rate per 1,000)	8.1	9.9	9.4	↓
Mortality Rate (3-yr avg rate per 100,000)	953.0	1,085.5	928.2	↓
Cardiovascular Deaths (per 100,000)	226.5	368.6	264.2	↓
Cancer Deaths (3-yr avg rate per 100,000)	214.4	237.7	200.5	↓
Diabetes Mellitus Deaths (per 100,000)	28.7	14.2	16.2	↓
Cerebrovascular Deaths (per 100,000)	47.0	51.1	53.9	↓
Suicide Deaths (per 100,000)	15.0	21.8	9.4	↓
Mortality rate for ages 1- 14 yrs	66.8	5.2	23.5	↓
Mortality rate for ages 15 - 21yrs	70.4	52.6	110.3	↓
Mortality rates for ages 65+	4,870.1	5,100.5	5231.9	↓
Lung Cancer Deaths (3-yr avg rate per 100,000)	68.8	72.2	63.6	↓
Female Breast Cancer Deaths (3-yr avg rate per 100,000)	14.1	13.8	24	↓
Prevalence of Asthma (%)	9.3%	13.2%	12.4%	↓
Prevalence of Diabetes (%)	11.0%	11.0%	12.8%	↓
Health Determinants				↓
Health Care Resources				↓
No Health Insurance (%)*	21.0%	15.0%	17.9%	↓
Medicaid/Tenncare Enrollees (%)	18.7%	15.4%	16.3%	↓
Medical Doctors Per Capita (per 100,000)	246.1	348.8	329.6	↑
Dentists Per Capita (per 100,000)	52.2	50.4	72.4	↑
Percent without Pneumococcal Vaccinations (%)*	74.2%	66.7%	72.3%	↓
Percent without Influenza Vaccinations (%)*	59.4%	50.7%	59.3%	↓
No Diabetic Eye Exams (%)	74.3%	72.2%	53.1%	↓
No Diabetic HbA1c Testing (%)	16.0%	15.0%	15.1%	↓
No Biennial Mammography (%)*	23.3%	29.3%	23.3%	↓
Inadequate or No Prenatal Care (%)	40.7%	34.6%	5.6%	↓
Month Prenatal Care Began	3.2	3.0	2.9	↓
First Trimester Prenatal Care (%)	59.3%	65.4%	74.6%	↑
Children (0-18 yrs) with Medicaid/Tenncare Coverage (%)	46.8%	40.3%	39.10%	↓
Hospital Staffed Beds (per 1,000)	3.6	4.8	4.9	↑
Licensed Nursing Beds (per 1,000 65+)	44.8	47.1	51.1	↑
# of Primary Care MDs	7,703	68	68	↓
# of Psychiatric Specialists	684	22	22	↓
Inpatient Discharge Rate (per 1,000) - Total	126.3	134.1	149.5	↓
Health Behaviors (continued)				↓
Cigarette Smoking (%)*	23.0%	26.0%	28.9%	↓
Smoking During Pregnancy (%)	16.3%	19.5%	25.4%	↓
Physical Inactivity (%)*	30.0%	29.0%	38.4%	↓
Overweight/Obesity (% BMI > 25)	67.8%	67.8%	67.9%	↓
Obesity (% BMI > 30)*	32.0%	29.0%	29.0%	↓
Low Fruit and Vegetable Consumption (% <5 a day)*	76.7%	73.0%	41.5%	↓
Binge Drinking (%)*	10.0%	7.0%	7.9%	↓
% of Children (0-4) Un/Improperly Restrained in a Crash	14.5%	5.2%	9.4%	↓
Teen Birth Rate (per 1,000)	37.3	32	46	↓
Sexually Transmitted Diseases (100,000)	446	186	214	↓
Violent Crime (per 100,000)	667.0	451.0	493	↓
Motor Vehicle Crash Deaths (per 100,000)	19	18	18	↓
Unmarried Mother Birth Rate (%)	44.1%	35.8%	36.6%	↓
Injury-related Mortality (3-yr avg rate per 100,000)	53.7	76.2	79.3	↓
Young Driver Crash Rate 15 - 24	116.9	135.2	117.1	↓
Elderly Drive Crash Rate (60+)	31.3	37	43.8	↓
Homicides (per 100,000)	8	1.7	3.5	↓
All accidental deaths per 100,000 population	52	50.3	45.3	↓
Average Fatality Rate in Alchohol-Related Crashes (per 100,000 population)	6.9	3.4	6.28	↓

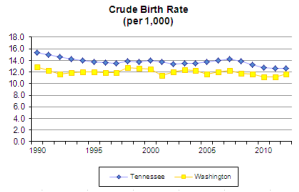
Cancer Incidence:

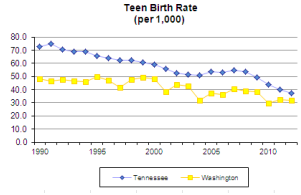






Birth Rate Trend:





Key Indicators of Health Status:

Socioecomonic Factors				↓
High School Graduation Rate (%)	86.0%	90.0%	84.9%	↑
Level of Education (%)	83.2%	85.1%	82.8%	↑
Unemployment (%)	8.8%	9.6%	6.1%	↓
Children (age 0 to 17) in poverty ratio (%)	26.5%	23.5%	20.8%	↓
Divorce Rate (per 1,000)	4.3	5.3	4.6	↓
Food Stamp Recipients (% of individuals)	21.1%	16.6%	15.3%	↓
Poverty Rate (% of all ages)	18.4%	18.3%	14.0%	↓
Temporary Assistance for Needy Families	2.6%	1.2%	1.4%	↓
High School Dropout Rate	6.9%	2.3%	3.2%	↓
Average Annual Wage	$ 36,576	$ 35,215	$ 30,516	↑
Physical Environment				↓
Air Quality Cancer Risk (per 1,000,000)	4.6	4.0	33.6	↓
Air Quality Hazard Index (per 1,000,000)	1.4	1.2	4.1	↓
Air Quality - Fine Particulate Matter in Air (3 yr avg Mg/m3)*	13.2	12.8	14.5	↓
Ozone Level (ppb)*	0.062	0.063	0.082	↓
Nitrate Levels in drinking water (mg/L Avg.)	0.70	0.27	0.38	↓
Pre-1950 Housing (%)	11.8%	13.4%	16.6%	↓
Lead Poisoned Children (%)	0.1%	n/a	0.8%	↓
Child Abuse and Neglect (rate per 1,000)	5.5	5.5	3.1	↓
Communicable Diseases				↓
Hepatitis A (per 100,000)	0.3	0.0	n/a	↓
Campylobacter Infection (per 100,000)	7.2	9.6	n/a	↓
Salmonella, Non Typhoid (per 100,000)	17.6	5.6	n/a	↓
Shigellosis (per 100,000)	3.3	1.6	n/a	↓
AIDS/HIV (per 100,000)	293	165	n/a	↓
Primary and Secondary Syphilis (per 100,000)	4.3	0.8	n/a	↓
Penicillin-Sensitive *Streptococcus pneumoniae* (per 100,000)	0.0	0.0	n/a	↓
Group B *Streptococcus* (per 100,000)	6.2	8.0	n/a	↓
Chlamydia (per 100,000)	517.3	202.6	n/a	↓
Gonorrhea (per 100,000)	144.8	41.0	n/a	↓

Inpatient Projections

	2014	2019		2024	
DRG Service Line	**Discharges**	**Discharges**	**% Change**	**Discharges**	**% Change**
Cardiac Surgery	164	170	3.80%	182	10.90%
Cardiology	1,524	1,381	-9.40%	1,272	-16.50%
Cardiology Intervention	670	636	-5.10%	615	-8.20%
Endocrinology	456	377	-17.30%	354	-22.40%
ENT Surgery	19	19	-2.00%	18	-3.00%
Gastroenterology	1,454	1,414	-2.80%	1,436	-1.20%
General Medicine	1,476	1,518	2.80%	1,462	-0.90%
General Surgery	1,026	1,026	0.00%	1,031	0.50%
Gynecology	105	99	-5.30%	97	-7.20%
Hematology	220	226	2.50%	239	8.50%
Neonatology	660	628	-4.80%	604	-8.50%
Nephrology	747	719	-3.70%	662	-11.30%
Neurology	788	803	1.90%	851	8.10%
Neurosurgery	320	323	1.00%	338	5.50%
Normal Newborns	760	804	5.80%	816	7.30%
OB Deliveries Sections	465	409	-12.10%	388	-16.60%
OB Deliveries Vaginal	895	971	8.40%	993	10.90%
OB Other	110	108	-1.80%	108	-2.00%
Oncology Medicine	262	262	0.10%	246	-6.00%
Oncology Surgery	97	103	6.40%	105	8.40%
Ophthalmic Medicine	11	10	-7.90%	10	-10.20%
Ophthalmic Surgery	8	8	-0.80%	8	6.00%
Oral Surgery	31	29	-7.40%	29	-6.30%
Orthopedic Medicine	218	225	3.10%	233	6.80%
Orthopedic Surgery	954	1,043	9.30%	1,097	15.00%
Otolaryngology	83	75	-10.20%	74	-10.30%
Plastic Surgery	24	24	-1.70%	22	-7.20%
Psychiatry	1,335	1,502	12.50%	1,451	8.70%
Pulmonary	1,988	1,752	-11.90%	1,686	-15.20%
Rehabilitation	325	282	-13.10%	315	-3.20%
Rheumatology	76	75	-1.70%	76	-0.40%
Substance Abuse	181	190	5.00%	189	4.50%
Thoracic Surgery	89	85	-4.50%	84	-5.60%
Trauma Medical	71	70	-2.00%	73	3.20%
Unspecified	2	2	0.90%	2	1.70%
Urology Medicine	73	66	-9.80%	61	-16.30%
Urology Surgery	130	128	-1.40%	125	-4.20%
Vascular Surgery	254	257	1.10%	261	2.80%
Womens Other	12	11	-8.70%	10	-19.30%
Grand Total	**18,083**	**17,828**	**-1.40%**	**17,624**	**-2.50%**

Outpatient Projections

	2014		2019			2024	
Site of Care	**Volumes**		**Volumes**	**% Change**		**Volumes**	**% Change**
ED	69,931		72,043	3.00%		70,998	1.50%
Home	153,277		185,700	21.20%		209,747	36.80%
Hosp OP/ASC	190,142		210,092	10.50%		220,008	15.70%
Office/Clinic	1,208,462		1,334,727	10.40%		1,333,601	10.40%
Other	53,254		59,778	12.20%		62,306	17.00%
SNF	3,178		3,587	12.90%		3,887	22.30%
Urgent/Retail	1,932		2,148	11.10%		2,158	11.70%
Virtual			25,381			104,289	
Grand Total	**1,680,177**		**1,893,457**	**12.70%**		**2,006,995**	**19.50%**

Interview Highlights:

INTERVIEWEES:

- 18 individuals

KEY FINDINGS:

- Average rating of health status is 5.3, with a range in responses of two (2) through seven (7)
- Top health issues are:
  - Substance and prescription drug abuse
  - Smoking/tobacco use
  - Obesity
  - Cardiovascular disease
- Additional health issues are:
  - Physical inactivity
  - Diabetes
  - Poor nutrition
  - Education
  - Cancer
  - Mental health
  - Income inequality
  - Literacy
  - Liver disease (Hepatitis C)
  - Neonatal Abstinence Syndrome (NAS)
  - Poverty
  - Aging population
  - Transportation barriers
  - Risk taking
  - Stigma of mental health disorders and substance abuse
  - Access to care
  - Living wage
  - Lack of job training
  - Built environment to promote physical activity
  - Parenting skills
  - Access to fast food
  - Economy
  - Adverse Childhood Experiences (ACEs)
  - Domestic violence
- Ideas to improve these conditions include:
  - Organizational collaboration
  - Emphasis on exercise
  - Increase physical activity in schools
  - Health education on health effects of behaviors: smoking, eating, inactivity
  - Expansion of Project Access
  - Increase health care access with financial resources and partnerships
  - Focus on high school graduation
  - Increase number of walking trails
  - Promote CEASE program
  - Provide/promote smoking cessation programs
  - Offer wellness initiatives
  - Work with schools on food options
  - Promote early screenings
  - Educate children early on the importance of exercise and healthy eating

- Healthcare navigators to help community members with health education and free/reduced cost health care services
- Offering additional activities for families to promote physical activity
- Develop network of clinics, hospitals, long-term care facilities, and health departments to discuss and develop health improvement initiatives.
- Better marketing of health resources to the community
- Promote literacy programs for educational attainment

Sources:	Local Resources:
▪ Medstat ▪ County Health Rankings ▪ TN Advisory Commission on Intergovernmental Relations ▪ TN Dept of Health ▪ BRFSS ▪ TennCare ▪ Kidscount ▪ TN Dept of Safety and Homeland Security ▪ EPA ▪ CDC Wonder ▪ TN Dept of Environment & Conservation ▪ Childhood Lead Poisoning Prevention Program	• Families Free • Health Department • Washington County Anti-Drug Coalition • Tennessee Suicide Prevention Network • Tennessee Prevention Alliance • TAADAS • Tweetsie Trail • Senior Center • Food Pantries • One Acre Café • Backpack/Student food supplement program • Project Access • JCCH • Johnson City Housing Authority • United Way • Coordinated School Health • Head Start • Johnson City Parks and Recreation • Morning Mile • JCMC/FWCH • ETSU College of Medicine • ETSU College of Public Health • ETSU College of Pharmacy • ETSU College of Nursing • ETSU College of Clinical and Rehabilitative Health Sciences • Day Center • MEAL • Girls on the Run • Washington County Health Council • Washington County Wellness Committee • The Women's Fund of the East Tennessee Foundation • Appalachian Funders Network • Washington County PDAM • Local school systems • Local churches • UT-Washington County Extension

APPENDIX

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1. Carter, TN Detailed Demographics
2. Greene, TN Detailed Demographics
3. Johnson, TN Detailed Demographics
4. Sullivan, TN Detailed Demographics
5. Unicoi, TN Detailed Demographics
6. Washington, TN Detailed Demographics

Mountain State Health Alliance

Carter County, TN

Population and Gender	Market 2015 Population	Market 2015 % of Total	Market 2020 Population	Market 2020 % of Total	Market Population % Change	National 2015 % of Total
Female Population	23,066	51.1%	23,247	51.0%	0.8%	50.8%
Male Population	22,105	48.9%	22,298	49.0%	0.9%	49.2%
Total	45,171	100.0%	45,545	100.0%	0.8%	100.0%

Age Groups	Market 2015 Population	Market 2015 % of Total	Market 2020 Population	Market 2020 % of Total	Market Population % Change	National 2015 % of Total
00-17	9,006	19.9%	8,774	19.3%	(2.6)%	23.1%
18-44	13,998	31.0%	13,793	30.3%	(1.5)%	35.9%
45-64	12,867	28.5%	12,500	27.5%	(2.9)%	26.3%
65-UP	9,300	20.6%	10,478	23.0%	12.7%	14.7%
Total	45,171	100.0%	45,545	100.0%	0.8%	100.0%

Ethnicity/Race	Market 2015 Population	Market 2015 % of Total	Market 2020 Population	Market 2020 % of Total	Market Population % Change	National 2015 % of Total
Asian & Pacific Is. Non-Hispanic	129	0.3%	123	0.3%	(4.7)%	5.3%
Black Non-Hispanic	570	1.3%	611	1.3%	7.2%	12.3%
Hispanic	777	1.7%	940	2.1%	21.0%	17.6%
White Non-Hispanic	43,145	95.5%	43,286	95.0%	0.3%	61.8%
All Others	550	1.2%	585	1.3%	6.4%	3.1%
Total	45,171	100.0%	45,545	100.0%	0.8%	100.0%

Language*	Market 2015 Population	Market 2015 % of Total	Market 2020 Population	Market 2020 % of Total	Market Population % Change	National 2015 % of Total
French at Home	63	0.2%	64	0.2%	1.6%	0.7%
Only English at Home	41,998	98.1%	42,400	98.1%	1.0%	79.0%
Other Indo-European Lang at Home	79	0.2%	77	0.2%	(2.5)%	1.8%
Spanish at Home	412	1.0%	413	1.0%	0.2%	13.0%
Tagalog at Home	125	0.3%	125	0.3%	0.0%	0.6%
All Others	158	0.4%	158	0.4%	0.0%	4.9%
Total	42,835	100.0%	43,237	100.0%	0.9%	100.0%

Mountain State Health Alliance

Carter County, TN

Household Income	Market 2015 Households	Market 2015 % of Total	Market 2020 Households	Market 2020 % of Total	Market Households % Change	National 2015 % of Total
<$15K	3,924	20.6%	3,550	18.4%	(9.5)%	12.7%
$15-25K	2,963	15.6%	2,734	14.2%	(7.7)%	10.8%
$25-50K	5,691	29.9%	5,757	29.9%	1.2%	23.9%
$50-75K	3,341	17.6%	3,257	16.9%	(2.5)%	17.8%
$75-100K	1,667	8.8%	1,930	10.0%	15.8%	12.0%
$100K-200K	1,268	6.7%	1,808	9.4%	42.6%	17.9%
>$200K	172	0.9%	245	1.3%	42.4%	5.0%
Total	19,026	100.0%	19,281	100.0%	1.3%	100.0%

Education Level**	Market 2015 Population	Market 2015 % of Total	Market 2020 Population	Market 2020 % of Total	Market Population % Change	National 2015 % of Total
Less than High School	2,964	9.1%	3,038	9.2%	2.5%	5.9%
Some High School	3,909	12.0%	4,002	12.1%	2.4%	8.0%
High School Degree	12,544	38.6%	12,793	38.7%	2.0%	28.1%
Some College/Assoc. Degree	8,678	26.7%	8,784	26.6%	1.2%	31.1%
Bachelor's Degree or Greater	4,428	13.6%	4,447	13.5%	0.4%	26.9%
Total	32,523	100.0%	33,064	100.0%	1.7%	100.0%

*Excludes population age <5, **Excludes population age <25

Mountain State Health Alliance

Greene County, TN

Population and Gender	Market 2015 Population	Market 2015 % of Total	Market 2020 Population	Market 2020 % of Total	Market Population % Change	National 2015 % of Total
Female Population	33,451	50.9%	33,358	50.8%	(0.3)%	50.8%
Male Population	32,312	49.1%	32,269	49.2%	(0.1)%	49.2%
Total	65,763	100.0%	65,627	100.0%	(0.2)%	100.0%

Age Groups	Market 2015 Population	Market 2015 % of Total	Market 2020 Population	Market 2020 % of Total	Market Population % Change	National 2015 % of Total
00-17	13,301	20.2%	12,633	19.3%	(5.0)%	23.1%
18-44	20,460	31.1%	20,079	30.6%	(1.9)%	35.9%
45-64	18,837	28.6%	18,123	27.6%	(3.8)%	26.3%
65-UP	13,165	20.0%	14,792	22.5%	12.4%	14.7%
Total	65,763	100.0%	65,627	100.0%	(0.2)%	100.0%

Ethnicity/Race	Market 2015 Population	Market 2015 % of Total	Market 2020 Population	Market 2020 % of Total	Market Population % Change	National 2015 % of Total
Asian & Pacific Is. Non-Hispanic	357	0.5%	464	0.7%	30.0%	5.3%
Black Non-Hispanic	1,466	2.2%	1,624	2.5%	10.8%	12.3%
Hispanic	1,972	3.0%	2,346	3.6%	19.0%	17.6%
White Non-Hispanic	61,056	92.8%	60,233	91.8%	(1.4)%	61.8%
All Others	912	1.4%	960	1.5%	5.3%	3.1%
Total	65,763	100.0%	65,627	100.0%	(0.2)%	100.0%

Language*	Market 2015 Population	Market 2015 % of Total	Market 2020 Population	Market 2020 % of Total	Market Population % Change	National 2015 % of Total
French at Home	148	0.2%	142	0.2%	(4.1)%	0.7%
Germanic Lang at Home	129	0.2%	128	0.2%	(0.8)%	0.5%
Only English at Home	60,044	96.2%	60,016	96.2%	(0.1)%	79.0%
Other Asian-Pacific Lang at Home	74	0.1%	70	0.1%	(5.4)%	0.9%
Spanish at Home	1,719	2.8%	1,702	2.7%	(1.0)%	13.0%
All Others	311	0.5%	311	0.5%	0.0%	5.9%
Total	62,425	100.0%	62,369	100.0%	(0.1)%	100.0%

Mountain State Health Alliance

Greene County, TN

Household Income	Market 2015 Households	Market 2015 % of Total	Market 2020 Households	Market 2020 % of Total	Market Households % Change	National 2015 % of Total
<$15K	5,081	19.0%	4,637	17.4%	(8.7)%	12.7%
$15-25K	4,255	15.9%	3,968	14.9%	(6.8)%	10.8%
$25-50K	8,445	31.6%	8,384	31.4%	(0.7)%	23.9%
$50-75K	4,258	15.9%	4,295	16.1%	0.9%	17.8%
$75-100K	2,499	9.3%	2,545	9.5%	1.8%	12.0%
$100K-200K	1,823	6.8%	2,343	8.8%	28.5%	17.9%
>$200K	398	1.5%	493	1.9%	23.9%	5.0%
Total	26,759	100.0%	26,665	100.0%	(0.4)%	100.0%

Education Level**	Market 2015 Population	Market 2015 % of Total	Market 2020 Population	Market 2020 % of Total	Market Population % Change	National 2015 % of Total
Less than High School	3,557	7.6%	3,590	7.6%	0.9%	5.9%
Some High School	5,984	12.8%	6,070	12.9%	1.4%	8.0%
High School Degree	18,659	39.9%	18,843	40.0%	1.0%	28.1%
Some College/Assoc. Degree	11,382	24.4%	11,443	24.3%	0.5%	31.1%
Bachelor's Degree or Greater	7,152	15.3%	7,137	15.2%	(0.2)%	26.9%
Total	46,734	100.0%	47,083	100.0%	0.8%	100.0%

*Excludes population age <5, **Excludes population age <25

Mountain State Health Alliance

Johnson County, TN

Population and Gender	Market 2015 Population	Market 2015 % of Total	Market 2020 Population	Market 2020 % of Total	Market Population % Change	National 2015 % of Total
Female Population	8,998	46.5%	8,934	46.5%	(0.7)%	50.8%
Male Population	10,358	53.5%	10,273	53.5%	(0.8)%	49.2%
Total	19,356	100.0%	19,207	100.0%	(0.8)%	100.0%

Age Groups	Market 2015 Population	Market 2015 % of Total	Market 2020 Population	Market 2020 % of Total	Market Population % Change	National 2015 % of Total
00-17	3,474	18.0%	3,314	17.3%	(4.6)%	23.1%
18-44	6,332	32.7%	6,120	31.9%	(3.4)%	35.9%
45-64	5,585	28.9%	5,386	28.0%	(3.6)%	26.3%
65-UP	3,965	20.5%	4,387	22.8%	10.6%	14.7%
Total	19,356	100.0%	19,207	100.0%	(0.8)%	100.0%

Ethnicity/Race	Market 2015 Population	Market 2015 % of Total	Market 2020 Population	Market 2020 % of Total	Market Population % Change	National 2015 % of Total
Asian & Pacific Is. Non-Hispanic	58	0.3%	65	0.3%	12.1%	5.3%
Black Non-Hispanic	469	2.4%	531	2.8%	13.2%	12.3%
Hispanic	340	1.8%	401	2.1%	17.9%	17.6%
White Non-Hispanic	18,237	94.2%	17,914	93.3%	(1.8)%	61.8%
All Others	252	1.3%	296	1.5%	17.5%	3.1%
Total	19,356	100.0%	19,207	100.0%	(0.8)%	100.0%

Language*	Market 2015 Population	Market 2015 % of Total	Market 2020 Population	Market 2020 % of Total	Market Population % Change	National 2015 % of Total
French at Home	29	0.2%	30	0.2%	3.5%	0.7%
Germanic Lang at Home	11	0.1%	11	0.1%	0.0%	0.5%
Only English at Home	18,104	97.9%	17,990	97.9%	(0.6)%	79.0%
Other Indo-European Lang at Home	42	0.2%	40	0.2%	(4.8)%	1.8%
Spanish at Home	276	1.5%	272	1.5%	(1.5)%	13.0%
All Others	26	0.1%	25	0.1%	(3.9)%	4.9%
Total	18,488	100.0%	18,368	100.0%	(0.7)%	100.0%

Mountain State Health Alliance

Johnson County, TN

Household Income	Market 2015 Households	Market 2015 % of Total	Market 2020 Households	Market 2020 % of Total	Market Households % Change	National 2015 % of Total
<$15K	1,673	21.6%	1,411	18.2%	(15.7)%	12.7%
$15-25K	1,293	16.7%	1,221	15.8%	(5.6)%	10.8%
$25-50K	2,176	28.0%	2,170	28.0%	(0.3)%	23.9%
$50-75K	1,242	16.0%	1,151	14.9%	(7.3)%	17.8%
$75-100K	704	9.1%	806	10.4%	14.5%	12.0%
$100K-200K	574	7.4%	861	11.1%	50.0%	17.9%
>$200K	97	1.3%	123	1.6%	26.8%	5.0%
Total	7,759	100.0%	7,743	100.0%	(0.2)%	100.0%

Education Level**	Market 2015 Population	Market 2015 % of Total	Market 2020 Population	Market 2020 % of Total	Market Population % Change	National 2015 % of Total
Less than High School	1,614	11.3%	1,614	11.3%	0.0%	5.9%
Some High School	2,449	17.1%	2,449	17.1%	0.0%	8.0%
High School Degree	5,794	40.4%	5,770	40.4%	(0.4)%	28.1%
Some College/Assoc. Degree	3,025	21.1%	2,997	21.0%	(0.9)%	31.1%
Bachelor's Degree or Greater	1,468	10.2%	1,455	10.2%	(0.9)%	26.9%
Total	14,350	100.0%	14,285	100.0%	(0.5)%	100.0%

*Excludes population age <5, **Excludes population age <25

Mountain State Health Alliance

Sullivan County, TN

Population and Gender	Market 2015 Population	Market 2015 % of Total	Market 2020 Population	Market 2020 % of Total	Market Population % Change	National 2015 % of Total
Female Population	82,467	51.6%	83,193	51.6%	0.9%	50.8%
Male Population	77,249	48.4%	78,076	48.4%	1.1%	49.2%
Total	159,716	100.0%	161,269	100.0%	1.0%	100.0%

Age Groups	Market 2015 Population	Market 2015 % of Total	Market 2020 Population	Market 2020 % of Total	Market Population % Change	National 2015 % of Total
00-17	31,429	19.7%	30,327	18.8%	(3.5)%	23.1%
18-44	48,753	30.5%	48,225	29.9%	(1.1)%	35.9%
45-64	46,417	29.1%	45,329	28.1%	(2.3)%	26.3%
65-UP	33,117	20.7%	37,388	23.2%	12.9%	14.7%
Total	159,716	100.0%	161,269	100.0%	1.0%	100.0%

Ethnicity/Race	Market 2015 Population	Market 2015 % of Total	Market 2020 Population	Market 2020 % of Total	Market Population % Change	National 2015 % of Total
Asian & Pacific Is. Non-Hispanic	1,181	0.7%	1,426	0.9%	20.8%	5.3%
Black Non-Hispanic	3,819	2.4%	4,313	2.7%	12.9%	12.3%
Hispanic	3,015	1.9%	3,712	2.3%	23.1%	17.6%
White Non-Hispanic	149,096	93.4%	148,907	92.3%	(0.1)%	61.8%
All Others	2,605	1.6%	2,911	1.8%	11.8%	3.1%
Total	159,716	100.0%	161,269	100.0%	1.0%	100.0%

Language*	Market 2015 Population	Market 2015 % of Total	Market 2020 Population	Market 2020 % of Total	Market Population % Change	National 2015 % of Total
Germanic Lang at Home	285	0.2%	283	0.2%	(0.7)%	0.5%
Only English at Home	147,691	97.3%	149,340	97.4%	1.1%	79.0%
Other Indo-European Lang at Home	602	0.4%	601	0.4%	(0.2)%	1.8%
Other Lang at Home	202	0.1%	203	0.1%	0.5%	0.9%
Spanish at Home	2,177	1.4%	2,186	1.4%	0.4%	13.0%
All Others	764	0.5%	758	0.5%	(0.8)%	4.7%
Total	151,721	100.0%	153,371	100.0%	1.1%	100.0%

Mountain State Health Alliance

Sullivan County, TN

Household Income	Market 2015 Households	Market 2015 % of Total	Market 2020 Households	Market 2020 % of Total	Market Households % Change	National 2015 % of Total
<$15K	10,586	15.6%	9,374	13.6%	(11.5)%	12.7%
$15-25K	10,321	15.2%	9,508	13.8%	(7.9)%	10.8%
$25-50K	18,992	28.0%	19,038	27.7%	0.2%	23.9%
$50-75K	11,811	17.4%	11,702	17.0%	(0.9)%	17.8%
$75-100K	6,376	9.4%	6,984	10.2%	9.5%	12.0%
$100K-200K	7,914	11.7%	9,619	14.0%	21.5%	17.9%
>$200K	1,858	2.7%	2,505	3.6%	34.8%	5.0%
Total	67,858	100.0%	68,730	100.0%	1.3%	100.0%

Education Level**	Market 2015 Population	Market 2015 % of Total	Market 2020 Population	Market 2020 % of Total	Market Population % Change	National 2015 % of Total
Less than High School	7,645	6.6%	7,867	6.7%	2.9%	5.9%
Some High School	9,906	8.6%	10,189	8.7%	2.9%	8.0%
High School Degree	40,421	35.1%	41,336	35.2%	2.3%	28.1%
Some College/Assoc. Degree	34,264	29.7%	34,808	29.6%	1.6%	31.1%
Bachelor's Degree or Greater	23,046	20.0%	23,244	19.8%	0.9%	26.9%
Total	115,282	100.0%	117,444	100.0%	1.9%	100.0%

*Excludes population age <5, **Excludes population age <25

Mountain State Health Alliance

Unicoi County, TN

Population and Gender	Market 2015 Population	Market 2015 % of Total	Market 2020 Population	Market 2020 % of Total	Market Population % Change	National 2015 % of Total
Female Population	9,160	50.9%	9,072	50.9%	(1.0)%	50.8%
Male Population	8,824	49.1%	8,741	49.1%	(0.9)%	49.2%
Total	17,984	100.0%	17,813	100.0%	(1.0)%	100.0%

Age Groups	Market 2015 Population	Market 2015 % of Total	Market 2020 Population	Market 2020 % of Total	Market Population % Change	National 2015 % of Total
00-17	3,440	19.1%	3,223	18.1%	(6.3)%	23.1%
18-44	5,296	29.5%	5,148	28.9%	(2.8)%	35.9%
45-64	5,306	29.5%	5,081	28.5%	(4.2)%	26.3%
65-UP	3,942	21.9%	4,361	24.5%	10.6%	14.7%
Total	17,984	100.0%	17,813	100.0%	(1.0)%	100.0%

Ethnicity/Race	Market 2015 Population	Market 2015 % of Total	Market 2020 Population	Market 2020 % of Total	Market Population % Change	National 2015 % of Total
Asian & Pacific Is. Non-Hispanic	51	0.3%	72	0.4%	41.2%	5.3%
Black Non-Hispanic	88	0.5%	143	0.8%	62.5%	12.3%
Hispanic	842	4.7%	1,012	5.7%	20.2%	17.6%
White Non-Hispanic	16,759	93.2%	16,299	91.5%	(2.7)%	61.8%
All Others	244	1.4%	287	1.6%	17.6%	3.1%
Total	17,984	100.0%	17,813	100.0%	(1.0)%	100.0%

Language*	Market 2015 Population	Market 2015 % of Total	Market 2020 Population	Market 2020 % of Total	Market Population % Change	National 2015 % of Total
French at Home	40	0.2%	42	0.3%	5.0%	0.7%
Germanic Lang at Home	57	0.3%	57	0.3%	0.0%	0.5%
Only English at Home	16,318	95.2%	16,188	95.2%	(0.8)%	79.0%
Other Asian-Pacific Lang at Home	13	0.1%	9	0.1%	(30.8)%	0.9%
Spanish at Home	716	4.2%	704	4.1%	(1.7)%	13.0%
All Others	5	0.0%	5	0.0%	0.0%	5.9%
Total	17,149	100.0%	17,005	100.0%	(0.8)%	100.0%

Mountain State Health Alliance

Unicoi County, TN

Household Income	Market 2015 Households	Market 2015 % of Total	Market 2020 Households	Market 2020 % of Total	Market Households % Change	National 2015 % of Total
<$15K	1,447	19.1%	1,329	17.7%	(8.2)%	12.7%
$15-25K	1,296	17.1%	1,189	15.9%	(8.3)%	10.8%
$25-50K	2,058	27.2%	2,023	27.0%	(1.7)%	23.9%
$50-75K	1,154	15.2%	1,171	15.6%	1.5%	17.8%
$75-100K	699	9.2%	700	9.3%	0.1%	12.0%
$100K-200K	810	10.7%	940	12.5%	16.1%	17.9%
>$200K	113	1.5%	149	2.0%	31.9%	5.0%
Total	7,577	100.0%	7,501	100.0%	(1.0)%	100.0%

Education Level**	Market 2015 Population	Market 2015 % of Total	Market 2020 Population	Market 2020 % of Total	Market Population % Change	National 2015 % of Total
Less than High School	1,402	10.6%	1,411	10.7%	0.6%	5.9%
Some High School	1,762	13.3%	1,767	13.4%	0.3%	8.0%
High School Degree	5,358	40.6%	5,353	40.6%	(0.1)%	28.1%
Some College/Assoc. Degree	3,271	24.8%	3,248	24.7%	(0.7)%	31.1%
Bachelor's Degree or Greater	1,421	10.8%	1,396	10.6%	(1.8)%	26.9%
Total	13,214	100.0%	13,175	100.0%	(0.3)%	100.0%

*Excludes population age <5, **Excludes population age <25

Mountain State Health Alliance

Washington County, TN

Population and Gender	Market 2015 Population	Market 2015 % of Total	Market 2020 Population	Market 2020 % of Total	Market Population % Change	National 2015 % of Total
Female Population	70,326	51.1%	72,485	51.1%	3.1%	50.8%
Male Population	67,293	48.9%	69,376	48.9%	3.1%	49.2%
Total	137,619	100.0%	141,861	100.0%	3.1%	100.0%

Age Groups	Market 2015 Population	Market 2015 % of Total	Market 2020 Population	Market 2020 % of Total	Market Population % Change	National 2015 % of Total
00-17	26,824	19.5%	26,980	19.0%	0.6%	23.1%
18-44	49,898	36.3%	49,676	35.0%	(0.4)%	35.9%
45-64	37,286	27.1%	37,405	26.4%	0.3%	26.3%
65-UP	23,611	17.2%	27,800	19.6%	17.7%	14.7%
Total	137,619	100.0%	141,861	100.0%	3.1%	100.0%

Ethnicity/Race	Market 2015 Population	Market 2015 % of Total	Market 2020 Population	Market 2020 % of Total	Market Population % Change	National 2015 % of Total
Asian & Pacific Is. Non-Hispanic	1,723	1.3%	1,938	1.4%	12.5%	5.3%
Black Non-Hispanic	5,448	4.0%	5,992	4.2%	10.0%	12.3%
Hispanic	4,490	3.3%	5,150	3.6%	14.7%	17.6%
White Non-Hispanic	123,331	89.6%	125,943	88.8%	2.1%	61.8%
All Others	2,627	1.9%	2,838	2.0%	8.0%	3.1%
Total	137,619	100.0%	141,861	100.0%	3.1%	100.0%

Language*	Market 2015 Population	Market 2015 % of Total	Market 2020 Population	Market 2020 % of Total	Market Population % Change	National 2015 % of Total
Chinese at Home	400	0.3%	403	0.3%	0.8%	1.0%
Germanic Lang at Home	497	0.4%	514	0.4%	3.4%	0.5%
Only English at Home	124,597	95.5%	128,679	95.5%	3.3%	79.0%
Other Indo-European Lang at Home	572	0.4%	586	0.4%	2.5%	1.8%
Spanish at Home	3,399	2.6%	3,479	2.6%	2.4%	13.0%
All Others	1,064	0.8%	1,082	0.8%	1.7%	4.7%
Total	130,529	100.0%	134,743	100.0%	3.2%	100.0%

Mountain State Health Alliance

Washington County, TN

Household Income	Market 2015 Households	Market 2015 % of Total	Market 2020 Households	Market 2020 % of Total	Market Households % Change	National 2015 % of Total
<$15K	9,365	16.2%	8,993	15.0%	(4.0)%	12.7%
$15-25K	7,745	13.4%	7,785	13.0%	0.5%	10.8%
$25-50K	16,023	27.7%	15,901	26.5%	(0.8)%	23.9%
$50-75K	10,659	18.4%	11,228	18.7%	5.3%	17.8%
$75-100K	5,615	9.7%	6,034	10.1%	7.5%	12.0%
$100K-200K	6,531	11.3%	7,728	12.9%	18.3%	17.9%
>$200K	2,015	3.5%	2,359	3.9%	17.1%	5.0%
Total	57,953	100.0%	60,028	100.0%	3.6%	100.0%

Education Level**	Market 2015 Population	Market 2015 % of Total	Market 2020 Population	Market 2020 % of Total	Market Population % Change	National 2015 % of Total
Less than High School	4,979	5.2%	5,295	5.2%	6.4%	5.9%
Some High School	8,727	9.0%	9,208	9.1%	5.5%	8.0%
High School Degree	29,518	30.6%	31,134	30.7%	5.5%	28.1%
Some College/Assoc. Degree	28,123	29.1%	29,508	29.1%	4.9%	31.1%
Bachelor's Degree or Greater	25,224	26.1%	26,306	25.9%	4.3%	26.9%
Total	96,571	100.0%	101,451	100.0%	5.1%	100.0%

*Excludes population age <5, **Excludes population age <25



2015 COMMUNITY HEALTH NEEDS ASSESSMENT

JOHNSTON MEMORIAL HOSPITAL

Published June 29, 2015

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Introduction

Mountain States Health Alliance (MSHA) is an integrated health care delivery system providing a comprehensive continuum of care to people in 29 counties in Tennessee, Virginia, Kentucky, and North Carolina. MSHA was formed after Johnson City Medical Center Hospital, Inc. acquired six Columbia/HCA hospitals in Northeast Tennessee on September 1, 1998; and was later renamed Mountain States Health Alliance in January 1999.

Today, MSHA is the largest regional health care system with 13 hospitals operating at approximately $1.0 billion in net revenues. The hospitals are:

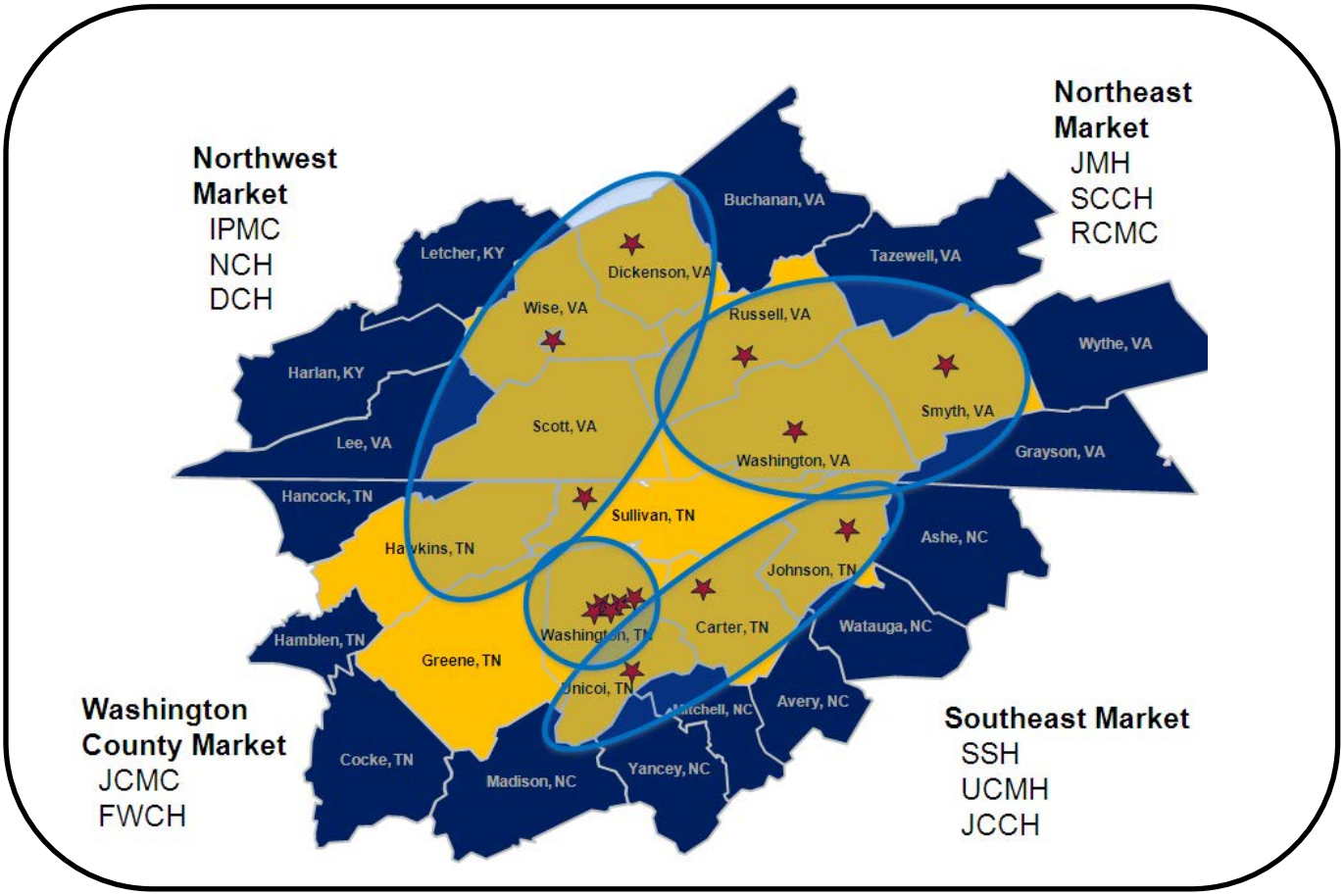
- Johnson City Medical Center
- Niswonger Children's Hospital
- Woodridge Psychiatric Hospital
- Franklin Woods Community Hospital
- Unicoi County Community Hospital
- Indian Path Medical Center
- Johnson County Community Hospital
- Sycamore Shoals Hospital
- Dickenson Community Hospital
- Johnston Memorial Hospital
- Norton Community Hospital
- Russell County Medical Center
- Smyth County Community Hospital

In addition to 13 hospitals, MSHA's integrated health care delivery system includes primary/preventive care centers and numerous outpatient care sites, including First Assist Urgent Care, MedWorks, Same Day Surgery, and Mountain States Rehabilitation.

Executive Summary

Regional and national rankings for health factors continue to be disappointing as cancer, heart disease, and diabetes rates continue to increase each year. Obesity and smoking continue to be major problems in the United States, leading to additional diseases. From a global perspective, the United States falls behind other developing nations in health outcomes. Clearly, there are many needs that exist and need attention. The interrelatedness between the health of a community, its economic status, and its educational attainment levels is becoming increasingly recognized. Mountain States Health Alliance (MSHA) exists to "*identify and respond to the health care needs of individuals and communities in our region and to assist them in attaining their highest possible level of health.*" In doing so, MSHA recognizes this is a very complex challenge that involves the engagement of many prongs of the community.

In order for MSHA to serve its region most effectively, it is essential to understand each community's individual needs. MSHA has conducted a Community Health Needs Assessment to profile the health of the residents within the local region (a map of the MSHA service area is provided on the following page). Activities associated with the development of this assessment have taken place from spring of 2014 through spring of 2015, including state, regional and county-specific secondary data collection and primary data obtained through individual surveys and focus groups with individuals from the local communities.



★ Represents county in which MSHA owns a facility. MSHA has part-ownership in other hospitals but they are not included in this assessment.

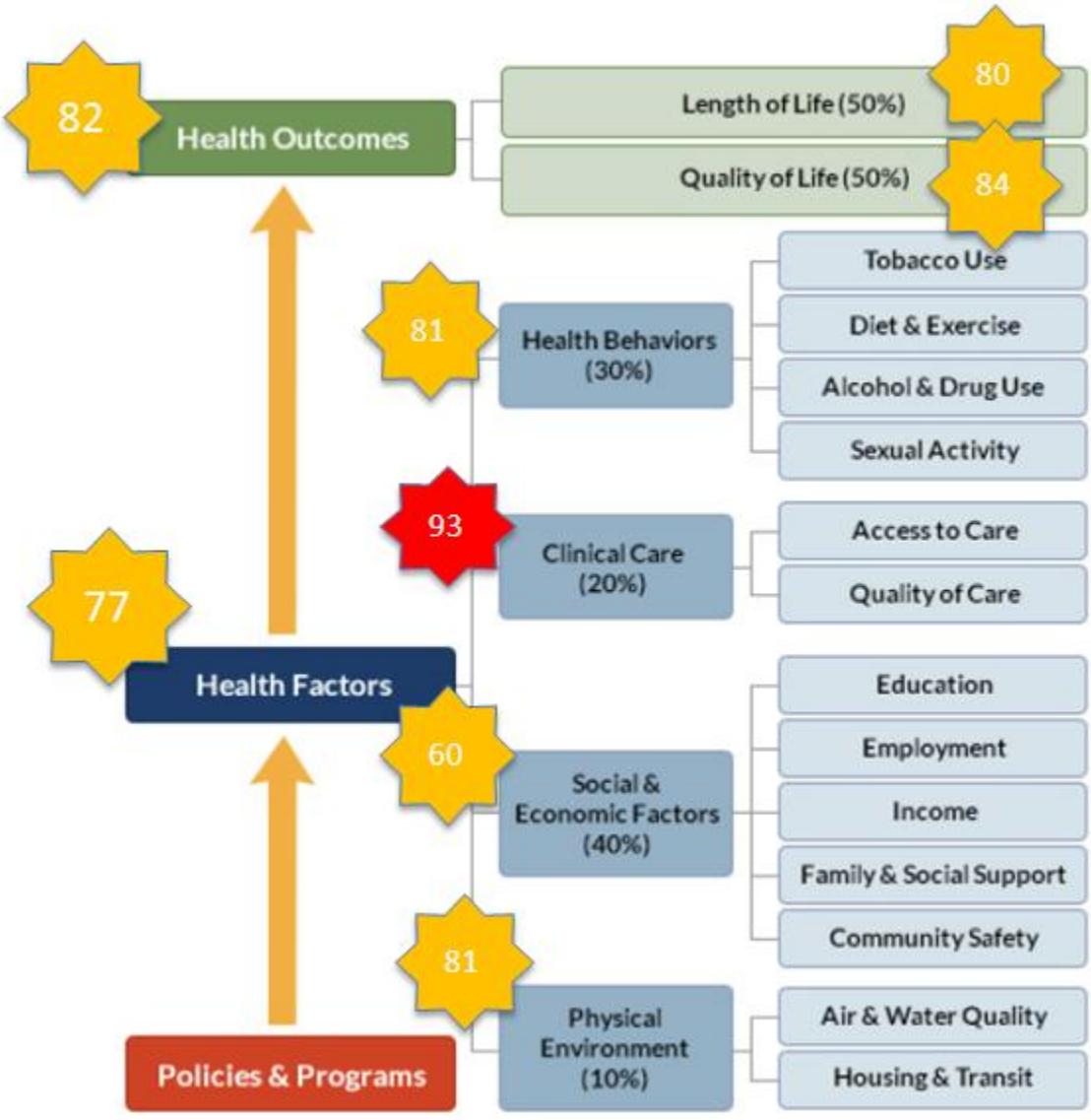
*Service Area is defined by approximately 80% of inpatient population.

Throughout the assessment, high priority was given to determining the health status and available resources within each community. Community members from each county met with MSHA to discuss current health priorities and identify potential solutions. The information gathered from a local perspective, paired with regional, state and national data, helps to communicate the region's health situation in order to begin formulating solutions for improvement.

In 2014, Tennessee ranked 45th and Virginia ranked 21st out of 50 states for overall health outcomes. Both states had high rates of adult obesity, cancer deaths, infant mortality, and diabetes. Though Virginia's overall ranking is moderately low, the health outcomes in Southwest Virginia counties, where MSHA's facilities are located, resembles those of Tennessee. After compiling the various sources of information, the top health priorities were identified for the communities that each of the MSHA hospitals serve. This effort has determined the top health priorities identified in Washington County, VA to include **diabetes, cardiovascular disease, cancer, obesity, and mental health**. There are certainly a number of other health challenges in this community, but these rise to the top based on this assessment.

According to the 2015 County Health Rankings, Washington County is ranked 82nd in Virginia for health outcomes and 77th for health factors out of 133 counties. The leading causes of death for ages 65 and over are heart disease, cancer, and stroke. Washington County, VA also ranked 81st in health behaviors. When compared to other Virginia counties, Washington County has high physical inactivity, high smoking rates, and high overweight/obesity rates. As for social and economic factors, Washington County, VA ranks 60th due to low rates of college education, high rates of children in poverty, and high unemployment rates.

Washington County, VA Health Ranking
2015 County Health Rankings
www.countyhealthrankings.org



*Ranking is in comparison to all 133 counties in the state of Virginia.

Community Interview Summary

Between spring 2014 and spring 2015 the MSHA Strategic Planning Department completed individual interviews to connect with community members of Washington County, VA and determine the needs of the community that Johnston Memorial Hospital serves. MSHA hospital administration teams were contacted in order to obtain names of individuals in the community who were considered public health officials or community leaders. The seven interviewees included representatives from the local school nursing program, United Way, Chamber of Commerce, community college and several other community-based non-profit organizations. These individuals were invited to discuss and assist in determining the health priorities and resources available in their community of Washington County, VA.

Collecting Community Input

In order to complete the community health needs assessment for Johnston Memorial Hospital, MSHA met with various individuals from Washington County, VA. The organizations that were represented are listed in Table 1.1.

Table 1.1 – Summary Organizations Participating in JMH's CHNA

Reported Organizations Providing Input for Assessment
Highlands Community Services
Ecumenical Faith in Action
Washington County, VA Chamber of Commerce
Higher Education Center
Children's Advocacy Center
Washington County Comprehensive Plan

Each participant was given a survey to determine the individual's personal assessment of their county's health priorities. Secondly, the individuals were asked to submit ideas and suggestions as to how MSHA could use the available resources in order to improve the health priorities determined. After the surveys had been completed, each group discussed the questions and continued brainstorming ways to address obstacles and utilize resources. All of the information collected from the surveys and open discussion was evaluated and prioritized based on health needs.

In surveys obtained from the Washington County, VA representatives, several community health needs and resources were identified. Table 1.2 lists the survey questions given to each participant in the assessment.

Table 1.2 – Community Survey Questions

	Survey Questions
1	How would you rate the general health status of the patient population in this community on a scale of 1 to 10 (with 1 being the poorest and 10 being the best)?
2	Keeping in mind resources are not unlimited, can you identify the top health priorities in your local community that you feel should be addressed?
3	What existing resources, such as organized groups or public health initiatives have been developed and are in place to address these health priorities?
4	What ideas do you have that may serve to improve these health priorities?

Health Status Rating

Overall, the general health status of Washington County, VA was rated as 4.14 on a scale of 1 – 10, with 1 being the poorest and 10 being the best. Individual responses ranged from 3 to 6. The health ranking for Washington County can be found below in Table 1.3.

Table 1.3 – Average Health Status Ranking

MSHA Facility/County	Number of Individuals	Average of Health Status Rating
JOHNSTON MEMORIAL HOSPITAL, Washington County, VA	7	4.14

Top Health Priorities

From the results of the surveys, the most prevalent health priorities in Washington County, VA were obesity, diabetes, cardiovascular disease, cancer, and mental health. Table 1.4 lists the health priorities input provided by community participants.

Table 1.4 – Top Identified Health Priorities

Top Health Issues		
Health Outcomes/Diseases	**Health Behaviors**	**Socio-Economic Factors**
Obesity (1) Diabetes (2) Heart Disease (3) Cancer (4) Mental Health (9)	Under-utilization of clinics (5) Substance Abuse (6) Physical Inactivity (8)	Poor Nutrition (7)

*Individuals submitted multiple answers regarding health priorities.

These priorities are consistent with the secondary data findings.

- Obesity
  - Self-reported obesity rates in Washington County, VA exceed that of the state: 302% vs. 28%; and rates of overweight adults also exceeds the state: 37% vs. 35%
  - Physical inactivity rates among Washington County, VA residents exceed the state average (30% vs. 22%)
- Diabetes
  - The age adjusted rate of diagnosed diabetes in Washington County, VA exceeds the state average (11% vs. 9%).
  - The age adjusted rate of diabetes deaths in Washington County, VA exceeds that of the state: 21.7 vs. 19.9 (per 100,000 population).
- Cardiovascular Disease
  - The percentage of adults with cardiovascular disease in Washington County, VA well exceeds that of the state: 13% vs. 4%
  - The age-adjusted death rate due to cardiovascular disease in Washington County, VA is greater than that of the state: 224.15 vs. 173.71.
- Cancer
  - The age-adjusted cancer mortality rates exceed that of the state: 183.71 vs. 176.36.
  - The cancer screening percentages for pap tests and sigmoidoscopy or colonoscopy are well below the state: 69.7% vs. 81.7% (pap test); and 56% vs. 67%(colonoscopy/sigmoidoscopy.
- Mental Health
  - The number of reported poor mental health days for Washington County, VA exceeds that of the state (3.8 vs. 3.1)

All of these issues lead to a higher percentage of self-reported age-adjusted fair or poor health rates in Washington County, VA compared to the state (19% vs. 14%), as well as a higher number of years of potential life lost before 75 per 100,000 (a measure of premature death) at 8,223 in the county vs. 6,192 in VA.

Washington (WS)

	Washington County	Error Margin	Top U.S. Performers*	Virginia	Rank (of 133)
Health Outcomes					82
Length of Life					80
Premature death	8,223	7,301-9,144	5,200	6,192	
Quality of Life					84
Poor or fair health	19%	14-24%	10%	14%	
Poor physical health days	3.9	2.8-5.0	2.5	3.2	
Poor mental health days	3.8	2.4-5.3	2.3	3.1	
Low birthweight	8.7%	7.8-9.5%	5.9%	8.3%	
Health Factors					77
Health Behaviors					81
Adult smoking	24%	18-31%	14%	18%	
Adult obesity	32%	26-38%	25%	28%	
Food environment index	8.5		8.4	8.3	
Physical inactivity	30%	24-35%	20%	22%	
Access to exercise opportunities	69%		92%	81%	
Excessive drinking			10%	16%	
Alcohol-impaired driving deaths	31%		14%	31%	
Sexually transmitted infections	141		138	427	
Teen births	45	42-49	20	29	
Clinical Care					93
Uninsured	16%	14-18%	11%	14%	
Primary care physicians	1,577:1		1,045:1	1,344:1	
Dentists	1,893:1		1,377:1	1,611:1	
Mental health providers	872:1		386:1	724:1	
Preventable hospital stays	90	83-98	41	55	
Diabetic monitoring	87%	80-93%	90%	87%	
Mammography screening	63.9%	57.3-70.5%	70.7%	63.4%	
Social & Economic Factors					60
High school graduation	86%			83%	
Some college	59.2%	54.3-64.0%	71.0%	68.2%	
Unemployment	6.9%		4.0%	5.5%	
Children in poverty	21%	16-27%	13%	16%	
Income inequality	4.1	3.8-4.5	3.7	4.8	
Children in single-parent households	29%	24-35%	20%	30%	
Social associations	12.3		22.0	11.3	
Violent crime	104		59	200	
Injury deaths	73	63-83	50	52	
Physical Environment					81
Air pollution - particulate matter	13.0		9.5	12.7	
Drinking water violations	0%		0%	2%	
Severe housing problems	11%	9-13%	9%	15%	
Driving alone to work	85%	83-87%	71%	77%	
Long commute - driving alone	29%	26-32%	15%	38%	

* 90th percentile, i.e., only 10% are better.
Note: Blank values reflect unreliable or missing data

2015

Identifying Available Resources

MSHA realizes that there are numerous resources in all of the counties it serves that can provide care for individuals. Our goal, in order to reduce costs and provide the best care possible for patients, is to identify these resources to prevent duplication of services and efforts. The interviewees were asked to list all of the services and resources within their community. The interviewees acknowledged that many resources currently exist to help meet health needs. Table 1.5 lists the current resources within each county that offer health services to the community.

Table 1.5 – Identified Available Resources

Resources Available
Washington County, Virginia
Mount Rogers Health Department
United Way
Faith in Action
Free clinics
Appalachian Sustainable Development
Farmer's markets
Weight Watchers / Zumba classes at local churches
Washington County Adult Boot Camp
Virginia Extension Agency
Health fairs
Nutritional Advisory Group
One Care
Walking and Playing through the Ages
Sight for Students
Lion's Club
School nurses
Children's Advocacy Center

*MSHA understands that there are other resources available in each county that are not listed in this table. This table represents only the resources listed by participants in community health needs assessment. MSHA will continue to identify resources.

Improving Health Priorities

The community members who were surveyed provided helpful ideas as to how to begin formulating a plan to improve the health priorities throughout the region. To enhance existing resources, the participants stressed the significance of increasing public awareness of both addressing one's health needs and the availability of health care options within each community. Additional suggestions as to how MSHA can improve the previously identified health priorities are listed in Table 1.6.

Table 1.6 – Ideas to Improve Health Priorities

	Responses
1	Analyze outcomes of existing community programs
2	Health education (preventative care, free clinics, nutrition, physical activity)
3	Integrate gardening programs into other community outreach projects
4	Partner with schools and churches to disseminate information
5	Raise awareness of donating healthy foods to food pantries
6	Community budget/finance classes
7	Programs geared towards teaching children about healthy eating
8	Diabetic support groups
9	Diabetic education programs for parents and students
10	Education on recognizing signs of child abuse

However, it is also helpful to understand from a more global perspective the health status of our nation as a whole, since many issues we face in our service area are not limited to just our region. Compiled on an annual basis, the *America's Health Rankings* publication developed by the United Health Foundation, the American Public Health Association and Partnership for Prevention provides one of the most comprehensive assessments regarding the status of the nation's health. The following information in the national and regional overview is from the 2015 edition

Health is a result of our behaviors, our individual genetic predisposition to disease, the environment and the community in which we live, the clinical care we receive and the policies and practices of our health care and prevention systems. Each of us, individually, as a community, and as a society, strives to optimize these health determinants, so that all of us can have a long, disease-free, and robust life regardless of race, gender or socio-economic status.

This report looks at the four groups of health determinants that can be affected:

1. **Behaviors** include the everyday activities we do that affect our personal health. It includes habits and practices we develop as individuals and families that have an effect on our personal health and on our utilization of health resources. These behaviors are modifiable with effort by the individual supported by community, policy and clinical interventions.

2. **Community and environment** reflects the reality that the daily conditions in which we live our lives have a great effect on achieving optimal individual health.

3**. Public and health policies** are indicative of the availability of resources to encourage and maintain health and the extent that public and health programs reach into the general population.

4. **Clinical care reflect**s the quality, appropriateness and cost of the care we receive at doctors' offices, clinics and hospitals.

All health determinants are intertwined and must work together to be optimally effective. For example, an initiative that addresses tobacco cessation requires not only efforts on the part of the individual but also support from the community in the form of public and health policies that promote non-smoking and the availability of effective counseling and care at clinics. Similarly sound prenatal care requires individual effort, access to and availability of prenatal care coupled with high quality health care services. Addressing obesity, which is a health epidemic now facing this country, requires coordination among almost all sectors of the economy including food producers, distributors, restaurants, grocery and convenience stores, exercise facilities, parks, urban and transportation design, building design, educational institutions, community organizations, social groups, health care delivery and insurance to complement and augment individual actions.



America's Health Rankings® combines individual measures of each of these determinants with the resultant health outcomes into one, comprehensive view of the health of a state. Additionally, it discusses health determinants separately from health outcomes and provides related health, economic and social information to present a comprehensive profile of the overall health of each state.

America's Health Rankings® employs a unique methodology, developed and periodically reviewed by a panel of leading public health scholars, which balances the contributions of various factors, such as smoking, obesity, binge drinking, high school graduation rates, children in poverty, access to care and incidence of preventable disease, to a state's health. The report is based on data from the

U.S. Departments of Health and Human Services, Commerce, Education and Labor; U.S. Environmental Protection Agency; U.S. Census Bureau, the American Medical Association; the American Dental Association; the Dartmouth Atlas Project; and the Trust for America's Health.

Purpose

The ultimate purpose of *America's Health Rankings*® is to stimulate action by individuals, elected officials, health care professionals, employers, and communities to improve the health of the population of the United States. We do this by promoting public conversation concerning health in our states, as well as providing information to facilitate citizen, community and group participation. We encourage participation in all elements: behaviors, community and environment, clinical care, and public and health policies. Each person individually, and in their capacity as an employee, employer, voter, community volunteer, health official or elected official, can contribute to the advancement of the healthiness of their state. Proven, effective and innovative actions can improve the health of people in every state whether the state is first or 50th.

Findings

Comparison to Other Nations

When health in the United States is compared to health in other countries, the picture is disappointing. The World Health Organization, in its annual World Health Statistics 2013, compares the United States to the nations of the world on a large variety of measures. While the U.S. does exceed many countries, it is far from the best in many of the common measures used to gauge healthiness and lags behind its peers in other developed countries.

The United States ranks at or near the bottom among high-income countries on nearly all indicators of mortality, survival, and life expectancy. Life expectancy is a measure that indicates the number of years that a newborn is expected to live. Japan, San Marino, and Switzerland are the persistent leaders for developed countries in this measure, with an overall life expectancy of 83 years. At 81 years for women and 76 years of men, the United States ranks 33rd among the 193 reporting nations of the WHO. The United States male life expectancy rates are on par with Chile, Cuba, Brunei Darussalam, and Maldives, while the female life expectancy rates are on par with Columbia, Costa Rica, Czech Republic, Estonia, Poland, and Qatar. There are 32 other countries that exceed the United States in healthy life expectancy, including Australia, Italy, Spain, France, Germany, Greece and the United Kingdom.

One of the underlying causes for these differences is the gap in infant mortality rates between the United States and many other countries. The infant mortality rate for the U.S. in 2011 was 6 deaths per 1,000 live births, ranking 40th among WHO nations. The infant mortality rates in Finland, Japan, and Sweden were *one* third that of the U.S. rate. Of the 193 countries rated, 39 countries had lower infant mortality rates than the United States.

These countries also have considerably lower infant mortality rates than that of non-Hispanic whites in the United States, which is the ethnic/racial group with the lowest infant mortality rate. The racial/ethnic disparities related to infant mortality could be related to differences in risk factors among different racial/ethnic groups, including risk for low birth weight delivery, access to medical care, and socioeconomic status. However, many of the racial/ethnic differences in infant mortality remain unexplained. It should also be noted that the reporting and classification of infant mortality varies among countries, which could be reflected in the ranks.

In addition to infant mortality, youth and young adults' mortality impacts life expectancy. Unintentional injuries claim approximately 30 percent of the years lost before age 50, along with violence and suicides, among U.S. young adults and adolescents. Non-communicable (chronic)

diseases, such as cancer, heart disease, and other conditions that are not caused by infections, begin to be more of a contributing factor after the age of 30.

Differences in healthy life expectancy are also affected by the effectiveness of treating disease, especially those that are amenable to care, including bacterial infections, treatable cancers, diabetes, cardiovascular and cerebrovascular disease, some ischemic heart disease, and complications from common surgical procedures. The age-adjusted amenable mortality rate before age 75 for the United States was 95.5 deaths per 100,000 population in 2006 to 2007, which is still a slower rate of improvement than in other Organization for Economic Cooperation and Development (OECD) nations studied. The rate in the U.S. is 50 percent higher than the rate in France, Japan, Italy, and Australia.

Additionally, the study indicated that despite spending more than any other country on health care, the United States continues to slip further behind and has one of the highest inequalities in health compared to other developed countries. The U.S. ranks among the worst OECD countries for child health well-being, having an inequality higher than average. Furthermore, although the United States has the highest income per person, it continues to rank as the worst country for income inequality, which is thought to explain why it has the highest index of health and social problems compared to other developed nations.

Physical inactivity and obesity play major contributions to disease worldwide and in the United States. Physical inactivity is the fourth leading risk factor for global mortality, and is responsible for an estimated 6 to 10 percent of non-communicable diseases, such as type 2 diabetes, heart disease, colon cancer, and breast cancer. North America has 34 percent of the world's biomass due to obesity; however, it only makes up for 6 percent of the world's population. Asia, on the other hand, has 61 percent of the world's population, yet only has 13 percent of its biomass due to obesity. While the U.S. is only one of several countries that form North America, it is the only North American nation to rank among the heaviest nations globally. It is estimated that eliminating physical activity in the United States would add approximately 1 year to life expectancy and dramatically reduce the burden of chronic diseases.

The results of these studies should be a wake-up call to everyone in the United States to strive to improve all aspects of our health system, including education, safety, prevention, and clinical care. Other countries have improved their overall health, indicating that we, too, can do the same.

National Changes since 1990

In the past year, 20 health measures improved, 8 measures declined, and 1 measure remained unchanged. Table 1 shows the national changes in the last year. These improvements were offset by deterioration in several measures, including increases in the prevalence of obesity, the percentage of children in poverty and lack of health insurance.

Since 2012, the prevalence of smoking declined from 21.2 percent to 19 percent among adults. The binge drinking prevalence rate dropped from 18.3 percent to 16.8 percent of adults who binged in the last 30 days, and physical inactivity decreased from 26.2 percent to 25.3 percent. The incidence of pertussis increased sharply from 9.0 to 15.5 cases per 100,000 populations. The percentages of children in poverty, lack of health insurance, child immunization coverage, and low birth weight have also suppressed faster improvement in our nation's health.

Table 1 – National Successes and Challenges

SUCCESSES

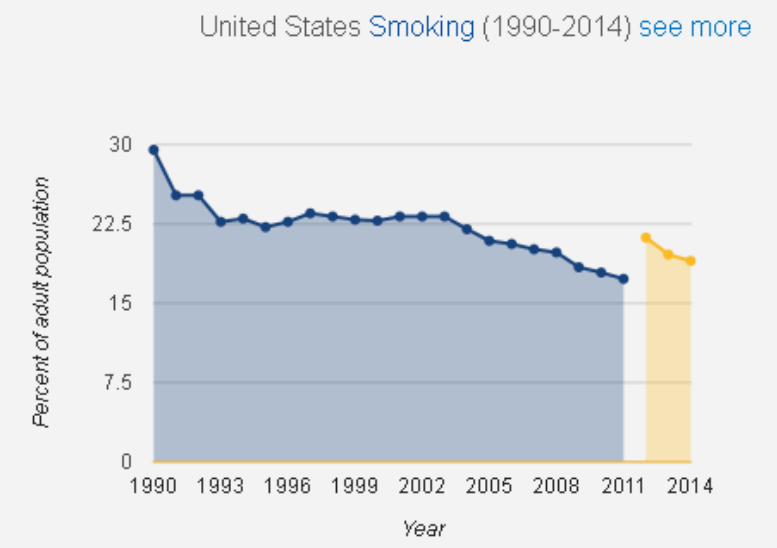
Smoking	Since 1990, smoking decreased 36% from 29.5% to 19.0% of adults who smoke regularly.
High School Graduation	At 81% of ninth graders graduating within 4 years, high school graduation is still a challenge. However, it is slowly trending upward from 71.7% in 2004.
Violent Crime	At 387 offenses per 100,000 population, violent crime is 37% lower than in 1990 and 49% lower than its peak in 1993.
Air Pollution	The average amount of fine particulates in the air continues to decline from 13.2 micrograms per cubic meter in 2003 to 9.9 micrograms per cubic meter in 2014.
Preventable Hospitalizations	Preventable hospitalizations continue to decline. In 2001, there were 82.5 discharges per 1,000 Medicare beneficiaries; in 2014, there were 62.9 discharges per 1,000 Medicare beneficiaries.
Occupational Fatalities	Occupational fatalities have declined in the last 8 years from 5.3 deaths per 100,000 workers in 2007 to 3.8 deaths per 100,000 workers. This is the second consecutive year the rate is below 4 deaths per 100,000 workers.
Infant Mortality	Since 1990, infant mortality decreased 41% from 10.2 to 6.0 deaths per 1,000 live births, although most of that decline occurred between 1990 and 1999. Even though the infant mortality rate is the lowest in US history, it is double the rate of many developed countries. In addition, large racial and geographic disparities exist within the country.
Premature Death	Since 1990, premature death declined 20% from 8,716 to 6,976 years of potential life lost before age 75. Premature death, like several other metrics, has leveled off in the last decade compared with improvements made in the 1990s.
Cancer Deaths	Cancer deaths declined 4% from 197.5 deaths in 1990 to 189.9 deaths per 100,000 population.
Cardiovascular Deaths	Since 1990, cardiovascular deaths declined 38% from 405.1 to 251.4 deaths per 100,000 population. This continues a relatively constant improvement of 2% to 3% yearly.

CHALLENGES

Obesity	Since 1990, obesity has increased 153% from 11.6% to 29.4% of adults.
Physical Inactivity	Physical inactivity remains high at 23.5% of adults and has not changed appreciably for the last decade.
Children in Poverty	At 19.9% of children, the children in poverty measure is far above the 23-year low of 15.8% in the 2002 Edition and near the 1990 level of 20.6%.
Public Health Funding	State public health funding continues its slow decline over the past 4 years. Since 2011, it decreased from $95.01 to $90.00 in expenditures per person at the state level.
Immunization Coverage — Children	Nationwide, comprehensive immunization coverage among children aged 19 to 35 months is only 70.4%. It increased marginally in the past year.
Immunization Coverage — Adolescents	Nationwide, comprehensive immunization coverage among teens aged 13 to 17 years is only 67.1%. It increased marginally in the past year.
Low Birthweight	In the last 20 years, the prevalence of low birthweight infants has increased from 7.1% to 8.0% nationwide. The good news is that it appears to have peaked in 2009 and is trending downward.
Diabetes	In the nation, 9.6% of adults report they have been told they have diabetes. There has been a steady, upward climb in the prevalence of diabetes, although data from the last 3 years shows a leveling of the prevalence.

The United States has the potential to return to the rates of improvement typical in the 1990s. However, to do so, it must address the drivers of health directly by focusing on reducing important risk factors. For example, the prevalence of smoking had been stagnant for many years and recently started to show improvement in the last two decades. However, there was an increase in rates from 2010 to 2012. In the last year, the prevalence of smoking declined in the United States from 21.2 percent to 19 percent of adults who smoke regularly; however Tennessee ranks 46th as one of the bottom five states with 24.3 percent of adults smoking and Virginia ranks 24th at 19.1 percent.

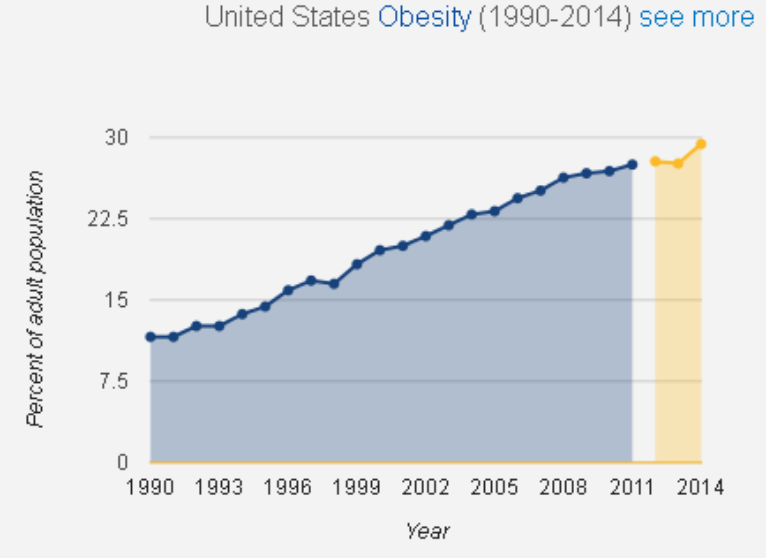
Graph 1 - Prevalence of Smoking Since 1990



Unprecedented and unchecked growth in the prevalence of obesity over the last 20 years has also dramatically affected the overall health of the United States. The prevalence of obesity, a risk factor for numerous illnesses including heart disease and diabetes, appears to be leveling off after increasing for decades. However, more than one in four people in the U.S. is considered obese - a category that the Centers for Disease Control and Prevention reserves for those who are significantly over the suggested body weight given their height. In the United States, the prevalence of obesity is 29.4 percent of adults, which has increased from 27.8 percent in 2012. Virginia's obesity score ranks 18th at 27.2 percent, while Tennessee ranks 47th at 33.7 percent of obese adults.

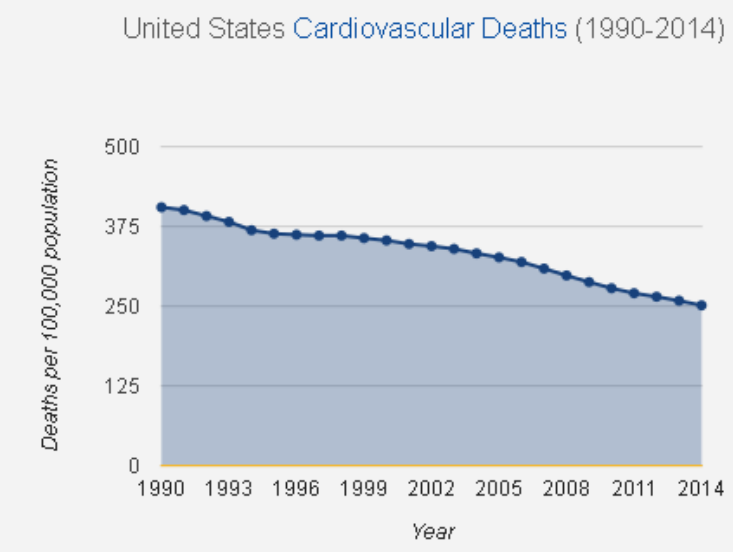
These very high obesity rates are gathered from the Behavioral Risk Factor Surveillance System, the nation's largest phone survey about health, and rely on self-reported height and weight. Actual obesity rates, as measured by health professionals, may be almost 10 percent higher, meaning that over one-third of the population is now obese.

Graph 2 - Prevalence of Obesity Since 1990



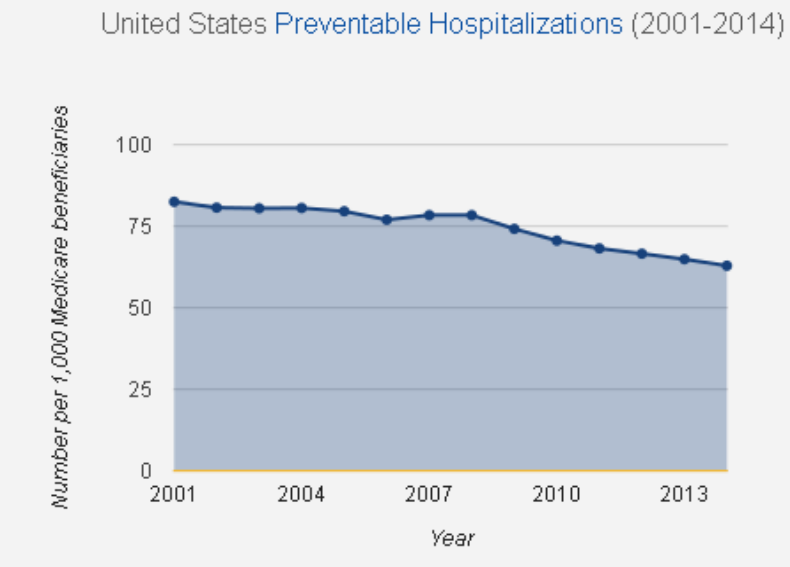
Despite increasing risk factors such as obesity, high cholesterol, and high blood pressure, deaths contributed to cardiovascular disease have consistently declined by 2 to 3 percent per year for the last decade. Cardiovascular disease accounts for 30 percent of Medicare spending, 17 percent of medical spending, and totals nearly $150 billion each year. For cardiovascular deaths, Virginia ranked 25th with a rate of 241.1 per 100,000 and Tennessee ranked 44th with the rate of 300.6.

Graph 3 – Prevalence of Cardiovascular Deaths Since 1990



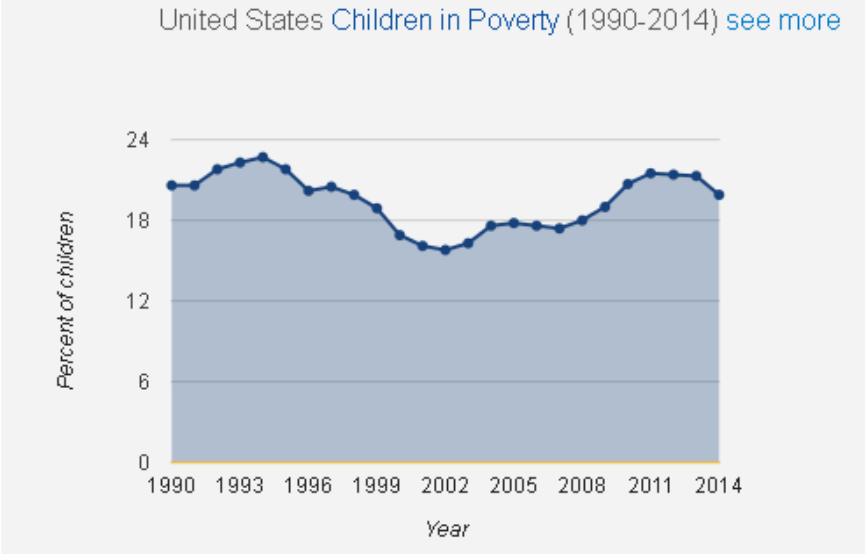
Like cardiovascular disease, potentially preventable hospitalizations have steadily decreased over the past 12 years. Preventable hospitalizations (hospitalizations that may be preventable with high quality primary and preventive care) have decreased from 82.5 to 62.9 discharges per 1,000 Medicare enrollees since 2001. Preventable hospitalizations reflect how efficiently a population uses various health care options for care and often occur as a result of a failure to detect or treat conditions early. Preventable hospitalizations could be avoided with earlier, less costly interventions. Virginia ranked 22nd in this measure with a 55.2 rate and Tennessee ranked 47th with a rate of 78.5.

Graph 4 – Preventable Hospitalizations Since 2001



The current economic climate also increases the challenge of maintaining a healthy population. Poverty is an indication of the lack of access to health care, including preventive care, for this vulnerable population. Graph 5 shows the recent increase in the percentage of children in poverty in the last few years, increasing from 16.1 percent of children in the 2011 Edition to 19.9 percent of children in the 2014 Edition. On this measure Virginia ranks 12th with a 14.5 percent of children living in poverty and Tennessee ranks 45th with 26.7 percent. In the 2002 Edition, the child poverty rate was at a historic low of 15.8 percent of persons under age 18.

Graph 5 – Children in Poverty since 1990

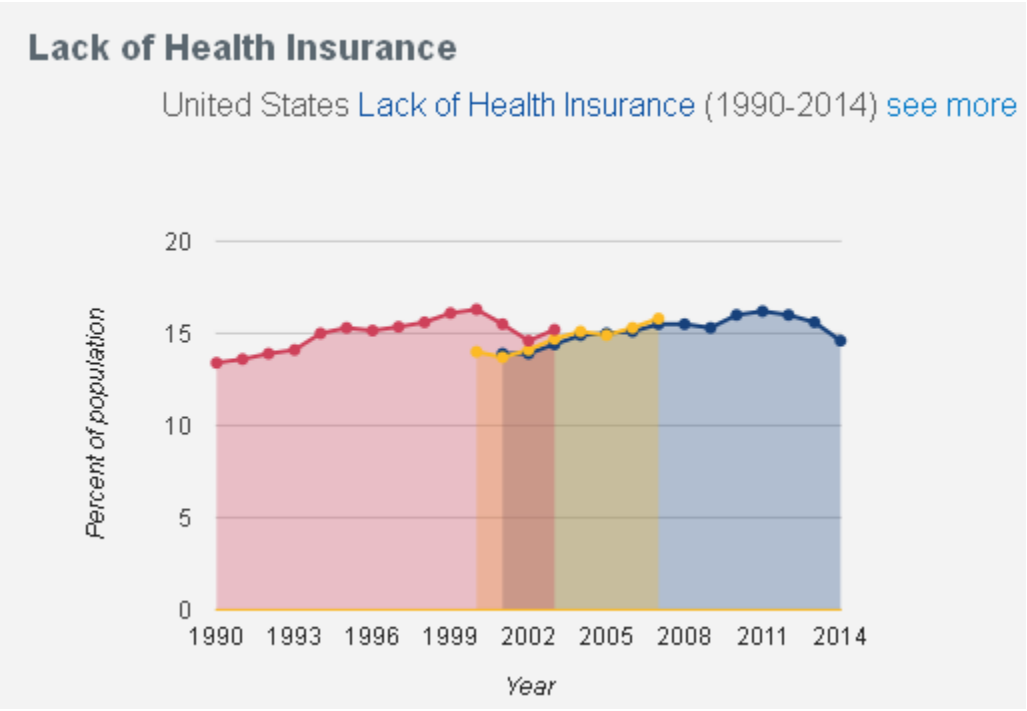


Lack of health insurance coverage increased from 13.9 percent in the 2001 Edition to 14.6 percent of the population in the 2014 Edition. Lack of health insurance not only inhibits people from getting the proper care when needed but also reduces access to necessary preventive care to curtail or minimize future illnesses.

Massachusetts, with the lack of health insurance at 3.8 percent of the population, is substantially better than all other states and less than one-fourth of the national average. Texas has a rate six

times that of Massachusetts. Changes in national health care laws have the potential to dramatically affect this metric over the next few years.

Graph 6 – Lack of Health Insurance Since 2001



2014 State Results

America's Health Rankings®-2014 Edition shows Hawaii at the top of the list of healthiest states again this year. The state has steadily remained within the top 5 healthiest states since 1990. Hawaii has consistently sustained its place within the top 5 healthiest states for the last 22 years, excluding 2002 when it was ranked 6th. Hawaii's strengths include its number one position for overall health rank and ranking in the top 5 states for a low rate of preventable hospitalizations, high immunization coverage among children, low prevalence of smoking and obesity, high per capita public health funding, a low rate of uninsured population, and low cancer and cardiovascular mortality rates. Hawaii's three challenges are a high prevalence of binge drinking, low high school graduate rate, and a high incidence of Salmonella infections.

Mississippi is 50th this year, the same as the last ten years, excluding in 2011 when it ranked 49th. It has been in the bottom three states since the 1990 Edition. The state ranks well for a low prevalence of binge drinking, higher immunization coverage among children, and small disparity in health status by educational attainment. In the past year, despite ranking last in the nation for immunization coverage among adolescents, coverage increased from 30.2 percent to 35.4 percent of persons aged 13 to 17 years. Mississippi also ranks last in many health outcomes, including infant mortality, low birth weight, premature death, cardiovascular death, infectious diseases, and overall health status. Mississippi's prevalence of obesity, physical inactivity, and diabetes remain among the highest in the nation with approximately 690,000 physically inactive adults, 770,000 obese adults, and 280,000 adults with diabetes. It ranks 48th in health determinants and 49th in health outcomes; therefore, its overall ranking is unlikely to change significantly in the near future

2014 Edition Ranking

2014 RANK (1–50)	STATE	SCORE
1	Hawaii	.91
2	Vermont	.85
3	Massachusetts	.74
4	Connecticut	.74
5	Utah	.73
6	Minnesota	.73
7	New Hampshire	.68
8	Colorado	.57
9	North Dakota	.55
10	Nebraska	.50
11	New Jersey	.47
12	Oregon	.41
13	Washington	.40
14	New York	.39
15	Rhode Island	.37
16	Maryland	.35
17	California	.35
18	Idaho	.34
18	South Dakota	.34
20	Maine	.30
21	Virginia	.30
22	Montana	.28
23	Wisconsin	.23
24	Iowa	.22
25	Wyoming	.21

2014 Edition Ranking

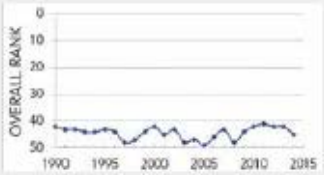
2014 RANK (1–50)	STATE	SCORE
26	Alaska	.13
27	Kansas	.08
28	Pennsylvania	.01
29	Arizona	-.04
30	Illinois	-.08
31	Texas	-.11
32	Florida	-.15
33	New Mexico	-.18
34	Michigan	-.21
35	Delaware	-.23
36	Missouri	-.28
37	North Carolina	-.29
38	Georgia	-.32
39	Nevada	-.33
40	Ohio	-.36
41	Indiana	-.38
42	South Carolina	-.64
43	Alabama	-.66
44	West Virginia	-.71
45	Tennessee	-.71
46	Oklahoma	-.74
47	Kentucky	-.75
48	Louisiana	-.80
49	Arkansas	-.93
50	Mississippi	-1.00

Tennessee



Overall Rank: 45

Change: ▼ 3
Determinants Rank: 44
Outcomes Rank: 46



Strengths:

- Low prevalence of binge drinking
- Low incidence of pertussis
- Ready availability of primary care physicians

Challenges:

- High prevalence of obesity
- High prevalence of physical inactivity
- High violent crime rate

Ranking:

Tennessee is 45th this year; it was 42nd in 2013. The ranking for senior health in Tennessee was 43rd in 2014.

Highlights:

- In the past year, physical inactivity increased by 17 percent from 28.6 percent to 33.6 percent of adults.
- In the past year, binge drinking decreased by 15 percent from 11.3 percent to 9.6 percent of adults, the lowest rate in the nation.
- In the past year, preventable hospitalizations decreased by 10 percent from 80.8 to 73.1 per 1,000 Medicare beneficiaries.
- In the last 2 years, immunization coverage among adolescents increased by 16 percent from 52.7 percent to 61.2 percent of adolescents aged 13 to 17 years.
- Since 1990, children in poverty decreased by 10 percent from 29.6 percent to 26.7 percent of children.

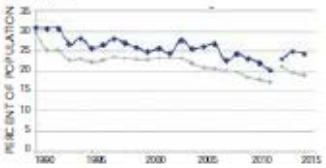
State Health Department Website:

http://health.state.tn.us

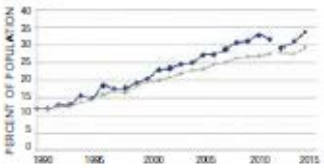
	2014 VALUE	2014 RANK	NO.1 STATE
Behaviors			
Smoking (Percent of adult population)	24.3	46	10.3
Binge Drinking (Percent of adult population)	9.6	1	9.6
Drug Deaths (Deaths per 100,000 population)	17.2	40	3.0
Obesity (Percent of adult population)	33.7	47	21.3
Physical Inactivity (Percent of adult population)	33.6	49	16.2
High School Graduation (Percent of incoming ninth graders)	83.0	20	93.0
Community & Environment			
Violent Crime (Offenses per 100,000 population)	644	50	123
Occupational Fatalities (Deaths per 100,000 workers)	5.0	32	2.2
Infectious Disease (Combined score Chlamydia, Pertussis, *Salmonella**)	0.01	29	-0.9
Chlamydia (Cases per 100,000 population)	507.9	39	233.0
Pertussis (Cases per 100,000 population)	4.8	10	1.6
Salmonella (Cases per 100,000 population)	17.2	35	6.8
Children in Poverty (Percent of children)	26.7	45	9.2
Air Pollution (Micrograms of fine particles per cubic meter)	9.5	30	4.9
Policy			
Lack of Health Insurance (Percent of population)	13.9	26	3.8
Public Health Funding (Dollars per person)	$83	20	$219
Immunization–Children (Percent aged 19 to 35 months)	68.5	33	82.1
Immunization–Adolescents (Percent aged 13 to 17 years)	61.2	36	81.3
Clinical Care			
Low Birthweight (Percent of live births)	9.2	44	5.7
Primary Care Physicians (Number per 100,000 population)	124.4	19	324.6
Dentists (Number per 100,000 population)	50.9	36	107.6
Preventable Hospitalizations (Number per 1,000 Medicare beneficiaries)	73.1	46	28.2
ALL DETERMINANTS	-0.43	44	0.71
OUTCOMES			
Diabetes (Percent of adult population)	12.2	46	6.5
Poor Mental Health Days (Days in previous 30 days)	3.7	24	2.5
Poor Physical Health Days (Days in previous 30 days)	5.0	49	2.8
Disparity in Health Status (Percent difference by education level**)	32.1	38	15.5
Infant Mortality (Deaths per 1,000 live births)	7.3	41	4.2
Cardiovascular Deaths (Deaths per 100,000 population)	300.6	44	184.7
Cancer Deaths (Deaths per 100,000 population)	213.5	44	145.7
Premature Deaths (Years lost per 100,000 population)	9,168	43	5,345
ALL OUTCOMES	-0.29	46	0.34
OVERALL	-0.71	45	0.91

*Negative score denotes less disease than US average, positive score indicates more than US average
**Difference in the percentage of adults aged 25 and older with vs without a high school education who report their health is very good or excellent

SMOKING



OBESITY



STATE ◆——◆ NATION ●——●

The 2012–2014 data in the above graphs are not directly comparable to prior years. See Methodology for additional information.

ECONOMIC ENVIRONMENT	TN	US
Annual Unemployment Rate (2013)	8.2	7.4
Annual Underemployment Rate (2013)	14.7	13.8
Median Household Income (2013)	$42,499	$51,939

MEASURE	ADULT POPULATION AFFECTED
Smoking	1,163,000
Obesity	1,595,000
Physical Inactivity	1,691,000
Diabetes	615,000

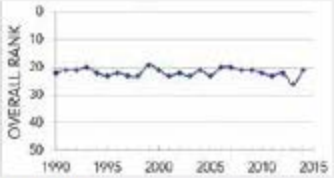
Virginia

VIRGINIA



Overall Rank: 21

Change: ▲ 5
Determinants Rank: 19
Outcomes Rank: 23



Strengths:

- Low rate of drug deaths
- Low violent crime rate
- Low percentage of children in poverty

Challenges:

- Low immunization coverage among children
- Low immunization coverage among teens
- High infant mortality rate

Ranking:

Virginia is 21st this year; it was 26th in 2013. The ranking for senior health in Virginia was 21st in 2014.

Highlights:

- In the past year, air pollution decreased by 6 percent from 9.3 to 8.7 micrograms of fine particles per cubic meter.
- In the last 2 years, drug deaths decreased by 10 percent from 9.3 to 8.4 deaths per 100,000 population.
- In the last 10 years, preventable hospitalizations decreased by 25 percent from 73.8 to 55.2 per 1,000 Medicare beneficiaries.
- Since 1990, cardiovascular deaths decreased by 42 percent from 413.2 to 241.1 deaths per 100,000 population.
- Since 1990, infant mortality decreased by 38 percent from 10.6 to 6.6 deaths per 1,000 live births.

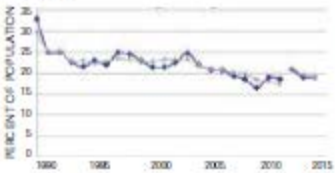
State Health Department Website:

www.vdh.state.va.us

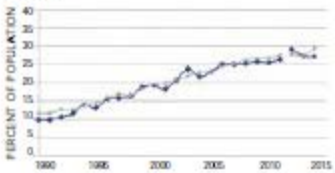
	2014 VALUE	2014 RANK	NO 1 STATE
Behaviors			
Smoking (Percent of adult population)	19.0	24	10.3
Binge Drinking (Percent of adult population)	15.9	20	9.6
Drug Deaths (Deaths per 100,000 population)	8.4	4	3.0
Obesity (Percent of adult population)	27.2	18	21.3
Physical Inactivity (Percent of adult population)	23.0	20	16.2
High School Graduation (Percent of incoming ninth graders)	84.0	16	93.0
Community & Environment			
Violent Crime (Offenses per 100,000 population)	190	4	123
Occupational Fatalities (Deaths per 100,000 workers)	4.4	25	2.2
Infectious Disease (Combined score Chlamydia, Pertussis, *Salmonella**)	-0.29	16	-0.9
Chlamydia (Cases per 100,000 population)	431.8	26	233.0
Pertussis (Cases per 100,000 population)	7.7	18	1.6
Salmonella (Cases per 100,000 population)	14.1	25	6.8
Children in Poverty (Percent of children)	14.5	12	9.2
Air Pollution (Micrograms of fine particles per cubic meter)	8.7	19	4.9
Policy			
Lack of Health Insurance (Percent of population)	12.4	20	3.8
Public Health Funding (Dollars per person)	$68	28	$219
Immunization–Children (Percent aged 19 to 35 months)	69.2	29	82.1
Immunization–Adolescents (Percent aged 13 to 17 years)	58.5	42	81.3
Clinical Care			
Low Birthweight (Percent of live births)	8.1	27	5.7
Primary Care Physicians (Number per 100,000 population)	125.8	16	324.6
Dentists (Number per 100,000 population)	61.6	19	107.6
Preventable Hospitalizations (Number per 1,000 Medicare beneficiaries)	55.2	22	28.2
ALL DETERMINANTS	0.24	19	0.71
OUTCOMES			
Diabetes (Percent of adult population)	9.8	26	6.5
Poor Mental Health Days (Days in previous 30 days)	3.3	11	2.5
Poor Physical Health Days (Days in previous 30 days)	3.6	15	2.8
Disparity in Health Status (Percent difference by education level**)	29.1	27	15.5
Infant Mortality (Deaths per 1,000 live births)	6.6	31	4.2
Cardiovascular Deaths (Deaths per 100,000 population)	241.1	25	184.7
Cancer Deaths (Deaths per 100,000 population)	189.5	23	145.7
Premature Deaths (Years lost per 100,000 population)	6,502	19	5,345
ALL OUTCOMES	0.06	23	0.34
OVERALL	0.30	21	0.91

*Negative score denotes less disease than US average, positive score indicates more than US average
**Difference in the percentage of adults aged 25 and older with vs without a high school education who report their health is very good or excellent

SMOKING



OBESITY



STATE ◆—◆ NATION ●—●

The 2012–2014 data in the above graphs are not directly comparable to prior years. See Methodology for additional information.

ECONOMIC ENVIRONMENT	VA	US
Annual Unemployment Rate (2013)	5.5	7.4
Annual Underemployment Rate (2013)	11.5	13.8
Median Household Income (2013)	$67,620	$51,939

MEASURE	ADULT POPULATION AFFECTED
Smoking	1,159,000
Obesity	1,632,000
Physical Inactivity	1,481,000
Diabetes	631,000

As Mountain States Health Alliance works to develop an implementation plan based on the findings from this assessment, key focus areas for consideration to impact the health of our community would be the 27 measures that comprise the *America's Health Rankings*. These determinants have been carefully selected by leaders in health and public policy as factors which have the greatest impact on future health of a population. For a state (or area for that matter) to improve the health of its population, efforts must focus on changing the determinants of health. A description of these determinants is outlined below.

Selection of Components

Four primary considerations drove the design of *America's Health Rankings*® and the selection of the individual measures:

1. The overall rankings had to represent a broad range of issues that affect a population's health,
2. Individual measures needed to use common health measurement criteria,
3. Data had to be available at a state level, and
4. Data had to be current and updated periodically.

While not perfect, the measures selected are believed to be the best available indicators of the various aspects of healthiness at this time and are consistent with past reports.

The measures are divided into two categories - Determinants and Outcomes. For further clarity, determinants are divided into four groups: Behaviors, Community and Environment, Public and Health Policies, and Clinical Care. These four groups of measures influence the health outcomes of the population in a state, and improving these inputs will improve outcomes over time. Most measures are actually a combination of activities in all four groups. For example, the prevalence of smoking is a behavior that is strongly influenced by the community and environment in which we live, by public policy including taxation and restrictions on smoking in public places, and by the care received to treat the chemical and behavioral addictions associated with tobacco. However, for simplicity, we placed each measure in a single category.

For *America's Health Rankings*® to continue to meet its objectives it must evolve and incorporate new information as it becomes available. The Scientific Advisory Committee provides guidance for the evolution of the rankings, balancing the need to change with the desire for longitudinal comparability. Over the last few years, change is being driven by: 1) the acknowledgment that health is more than years lived but also includes the quality of those years; 2) data about the quality and cost of health care delivery are becoming available on a comparative basis; and 3) measurement of the additional determinants of health are being initiated and/or improved. The committee also emphasizes that the real impact on health will be made by addressing the determinants, and making improvements on these items will affect the long-term health of the population. The determinants are the predictors of our future health.

Outcomes are traditionally measured using mortality measures which include premature death, infant mortality, cancer and cardiovascular mortality. While these measures overlap significantly, they do present different views of mortality outcomes of a population. Two measures of the quality of life- poor mental health days and poor physical health days - are also included and defined as the number of days in the previous 30 days when a person indicates their activities are limited due to mental or physical health difficulties.

As with all indices, the positive and negative aspects of each measure must be weighed when choosing and developing them. These aspects for consideration include: 1) the interdependence of

the different measures; 2) the possibility that the overall ranking may disguise the effects of individual measures; 3) an inability to adjust all data by age and race; 4) an over-reliance on mortality data; and 5) the use of indirect measures to estimate some effects on health. These concerns cannot be addressed directly by adjusting the methodology; however, assigning weights to the individual measures can mitigate their impact.

Each measure is assigned a weight that determines its percentage of the overall score. Determinants account for 75 percent of the overall ranking and outcomes account for 25 percent, a shift from the 50/50 balance in the original 1990 index. This reflects the importance and growing availability of determinant data.

A short description of each measure immediately follows. The data for each year is the most current data available at the time the report was compiled.

The table includes the core measures included in the current model, plus supplemental measures that can be used to further understand each state's unique situation. The supplemental measures are more fully described at http://www.americashealthrankings.org/About/Model.

Data for each state and the United States is available at Get Informed or by clicking the link above.

Core Measures

Determinants

Behaviors	Description
Smoking	Percentage of adults who are current smokers (smoked at least 100 cigarettes in their lifetime and currently smoke).
Binge Drinking	Percentage of adults who self-report having 4 or more (women) or 5 or more (men) alcoholic beverages on at least 1 occasion in the past 30 days.
Drug Deaths	Number of deaths due to drug injury of any intent (unintentional, suicide, homicide, or undetermined) per 100,000 population.
Obesity	Percentage of adults who are obese, with a body mass index (BMI) of 30.0 or higher.
Physical Inactivity	Percentage of adults who report doing no physical activity or exercise (such as running, calisthenics, golf, gardening, or walking) other than their regular job in the last 30 days.
High School Graduation	Percentage of incoming ninth graders who graduate in 4 years from a high school with a regular degree.

Community and Environment

Violent Crime	Number of murders, rapes, robberies, and aggravated assaults per 100,000 population.
Occupational Fatalities	Number of fatalities from occupational injuries per 100,000 workers.
Children in Poverty	Percentage of persons younger than 18 years who live in households at or below the poverty threshold.
Infectious Disease	Combined average z-score using the values of incident cases of chlamydia, pertussis, and *Salmonella* per 100,000 population.

Air Pollution	Average exposure of the general public to particulate matter of 2.5 microns or less in size (PM2.5).

Policy

Lack of Health Insurance	Percentage of the population that does not have health insurance privately, through their employer, or the government.
Public Health Funding	State funding dedicated to public health as well as federal funding directed to states by the Centers for Disease Control and Prevention and the Health Resources and Services Administration.
Immunization-Children	Percentage of children receiving the recommended doses of DTaP, polio, MMR, Hib, hepatitis B, varicella, and PCV vaccines by age 19–35 months.
Immunization-Adolescents	Percentage of adolescents aged 13 to 17 years who have received 1 dose of Tdap since the age of 10 years, 1 dose of meningococcal conjugate vaccine, and 3 doses of HPV vaccine (females only).

Clinical Care

Low Birth weight	Percentage of infants weighing less than 2,500 grams (5 pounds, 8 ounces) at birth.
Primary Care Physicians	Number of primary care physicians (including general practice, family practice, OB-GYN, pediatrics, and internal medicine) per 100,000 population.
Dentists	Number of dentists per 100,000 population
Preventable Hospitalizations	Discharge rate among the Medicare population for diagnoses that are amenable to non-hospital based care.

Outcomes

Diabetes	Percentage of adults who have been told by a health professional that they have diabetes (does not include pre-diabetes or diabetes during pregnancy).
Poor Mental Health Days	Number of days in the previous 30 days when a person indicates their activities were limited due to mental health difficulties.
Poor Physical Health Days	Number of days in the previous 30 days when a person indicates their activities were limited due to physical health difficulties.
Disparity in Health Status	Percent difference in adults aged 25 and older who did not graduate high school and adults with at least a high school education who self-report being in excellent or very good health.
Infant Mortality	Number of infant deaths (before age 1) per 1,000 live births.
Cardiovascular Deaths	Number of deaths due to all cardiovascular diseases, including heart disease and strokes, per 100,000 population
Cancer Deaths	Number of deaths due to all causes of cancer per 100,000 population
Premature Death	Number of years of potential life lost prior to age 75 per 100,000 population

Supplemental Measures

Behaviors

Cholesterol Check	Percentage of adults who have had their blood cholesterol checked within the last 5 years.
Dental Visit, Annual	Percentage of adults who have visited the dentist or dental clinic within the past year for any reason.
Diet, Fruit	Number of fruits consumed on an average day.
Diet, Vegetables	Number of vegetables consumed on an average day.
Teen Birth Rate	Number of births per 1,000 mothers aged 15 to 19 years.
Youth Smoking	Percentage of high school youth who smoked cigarettes on at least 1 day during the last 30 days.
Youth Obesity	Percentage of high school students who were greater or equal to the 95th percentile for body mass index, based on sex and age-specific reference data from the 2000 CDC growth charts.

Chronic Disease

Heart Disease	Percentage of adults who have been told by a health professional that they have angina or coronary heart disease.
High Cholesterol	Percentage of adults who have had their cholesterol checked and been told that it was high.
Heart Attack	Percentage of adults who have been told by a health professional that they had a heart attack (myocardial infarction).
Stroke	Percentage of adults who have been told by a health professional that they had a stroke.
Hypertension	Percentage of adults who have been told by a health professional that they have high blood pressure.

Clinical Care

Preterm Birth	Percentage of babies born before 37 weeks gestation.

Economic Environment

Personal Income	Per capita personal income in current dollars.
Median Household Income	The amount of income that divides the income distribution into 2 equal groups.
Unemployment Rate	Total unemployed as a percentage of the civilian labor force (U-3 definition).
Underemployment Rate	Total unemployed, plus all marginally attached workers, plus total employed part-time for economic reasons, as a percent of the civilian labor force (U-6 Definition).
Income Disparity (Gini coefficient)	A common measure of income inequality, where 0 represents complete equality and 1 indicates complete inequality.

Outcomes

Low Health Status	Percentage of adults who describe their general health as fair or poor.
Suicide	Number of deaths due to intentional self-harm per 100,000 population.

Overview

The County Snapshots consists of demographics, key indicators of health status, interview highlights, and local resources. The model for the key indicators of health status analysis was based on the 2015 *County Health Rankings*, a key component of the Mobilizing Action Toward Community Health (MATCH). MATCH is collaboration between the Robert Wood Johnson Foundation and the University of Wisconsin Population Health Institute. Indicators are organized into two broad categories: Health Outcomes and Health Factors. The Health Factors have multiple components, including Clinical Care, Health Behaviors, Social and Economic Factors, and Physical Environment. A number of additional key indicators of health status were included in this analysis from other sources (they are noted in blue font in the snapshot section). For each indicator, the state and county score is provided as well as a comparison of the county's performance to that of the state.

JOHNSTON MEMORIAL HOSPITAL

Service Area Counties:

- Russell, VA
- Smyth, VA
- Washington, VA

Primary Service Area Map:



Facility Profiles:

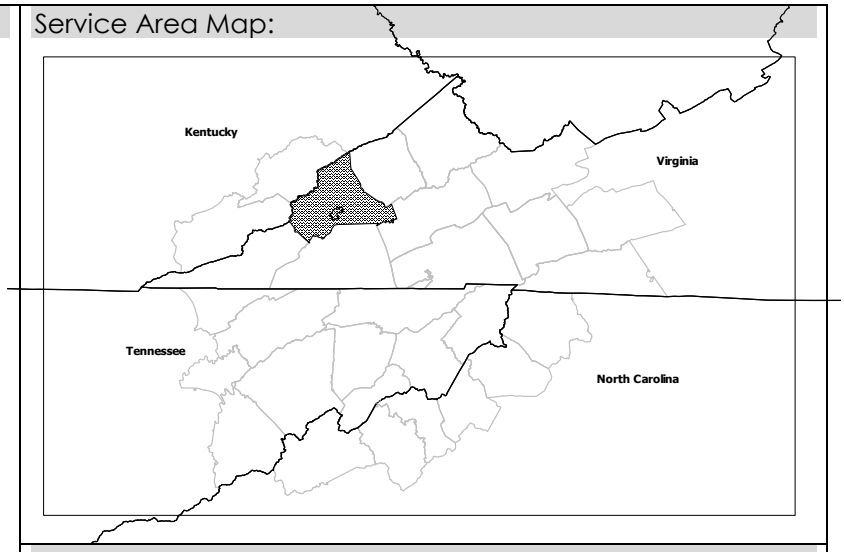
Johnston Memorial Hospital (JMH), located in Abingdon, Virginia, is a not-for-profit, 116-bed hospital dedicated to delivering the highest quality healthcare in its community and surrounding region. JMH is the first "green" hospital in Southwest Virginia, offering a full array of medical services. JMH is a Joint Commission Accredited hospital offering short-term acute care and specialty services, such as Cardiac Rehab, Chemotherapy and Radiation Therapy. JMH became a part of Mountain States Health Alliance in 2009.

A 6-page profile of each county is provided. The profile includes demographic highlights, key indicators of health status, utilization projections, and survey results specific to the county. A detailed demographic analysis by county is provided in the appendix which follows the collection of county snapshots.

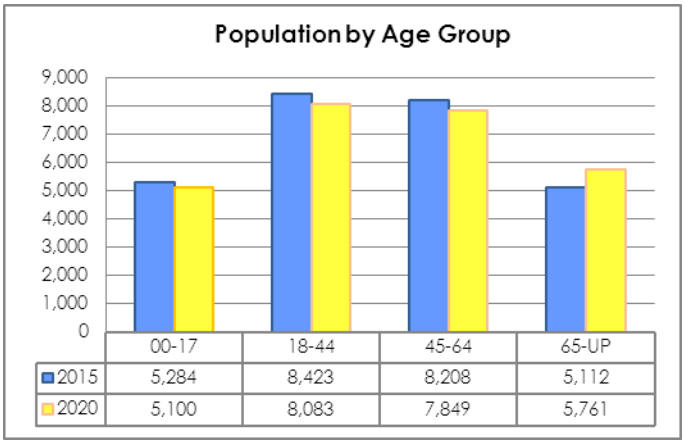
Demographic Highlights:

- Large elderly population compared to VA and US
- Declining rate of females of child-bearing age expected
- Low average household income level (20.8% of households make less than $15,000)
- Lower level of educational attainment compared to state and country (15.0% with no high school education compared to 5.9% nationally)
- Low level of diversity compared to state and national

Service Area Map:



Age Distribution and Population Projections:



Key Statistics:

	Russell County	Virginia	U.S.
2015 Total Population	27,027	8,417,864	321,369,000
% Change 2015-2020	-0.9%	4.7%	4.1%
% of Population 65+ (2015)	18.9%	14.0%	14.9%
% Minority (2015)	3.2%	30.8%	38.3%

	2015	2020	% Change
Total Male Population	13,215	13,126	-0.7%
Total Female Population	13,812	13,667	-1.1%
Females, Child Bearing Age (15-44)	4,604	4,422	-4.0%

Local Health Highlights:

STRENGTHS:

- Very Low Birth Rate
- Infant Mortality
- Binge Drinking
- STDs
- Violent Crime Homicides

WEAKNESSES:

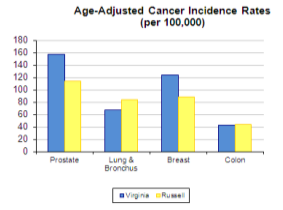
- Very high rate reporting fair/poor general health status
- High rates of death due to cardiovascular, cancer, injuries, and suicide
- Prenatal Care
- Smoking
- Physical Inactivity
- Low Fruit and Vegetable Consumption
- Poverty rate and children in poverty
- Child Abuse and Neglect

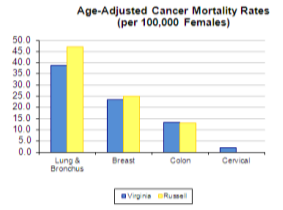
Key Indicators of Health Status:

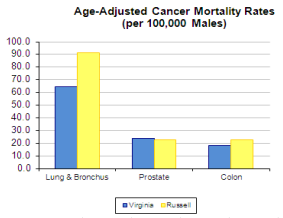
County: Russell, VA

	VA	Russell	2010	Desired
Health Outcomes				
Low Birth Weight (%)	8.3%	8.1%	8.90%	↓
General Health Status (% fair/poor health)	14.0%	28.0%	24%	↓
Very Low Birth Weight (%)	1.6%	0.4%	7.30%	↓
Infant Mortality (per 100,000)	8.3	3.5	2	↓
Mortality Rate (per 100,000)	735.8	945.4	1012.1	↓
Cardiovascular Deaths (per 100,000)	161.3	251.7	333.6	↓
Cancer Deaths (5-yr avg rate per 100,000)	174.8	200.9	201.6	↓
Diabetes Mellitus Deaths (per 100,000)	20.0	13.9	18.7	↓
Cerebrovascular Deaths (per 100,000)	40.8	34.7	41.4	↓
Suicide Deaths (per 100,000)	12.9	17.3	26.7	↓
Mortality rate for ages 0 - 4 yrs (per 100,000)	152.9	67.0	41.7	↓
Mortality rate for ages 5 - 14 yrs (per 100,000)	13.5	31.2	34.1	↓
Mortality rate for ages 15 - 19 yrs (per 100,000)	44.5	59.6	117.5	↓
Mortality rates for ages 65+ (per 1,000)	43.6	44.5	54.4	↓
Lung Cancer Deaths (5-yr avg rate per 100,000)*	49.5	66.1	66.6	↓
Female Breast Cancer Deaths (5-yr avg rate per 100,000)*	23.4	24.9	26	↓
Percent of Adults with Asthma*	8.0%	4.0%	10.80%	↓
Prevalence of Diabetes (% of adults)*	9.0%	9.0%	12.40%	↓
Psychosis Discharges (per 100,000)	332.7	394.7	625	↓
Health Determinants				
Health Care Resources				
No Health Insurance (%)	18.0%	21.0%	24.70%	↓
Medicaid/Tenncare Enrollees (%)	14.7%	25.5%	24.90%	↓
Medical Doctors Per Capita (per 100,000)	255.5	11.4	84.2	↑
No Biennial Mammography (%)*	28.0%	31.0%	35.30%	↓
PSA Testing Past 2 Years (%)*	56.0%	53.0%	47.40%	↑
Pap Test Past 3 Years (%)*	84.0%	79.0%	24.90%	↑
Sigmoidoscopy/Colonoscopy (%)*	72.0%	66.0%	50.50%	↑
Inadequate or No Prenatal Care (%)	13.0%	11.0%	15%	↓
First Trimester Prenatal Care (%)	81.9%	70.5%	63.40%	↑
Hospital Staffed Beds (per 1,000)	2.2	2.7	2.7	↑
Licensed Nursing Beds (per 1,000 65+)	3.9	2.1	13.8	↑
# of Primary Care MDs Per Capita (per 100,000)	122.3	41.1	45.6	↑
# of Psychiatric Specialists	6,827	2	2	↓
State Mental Health Facility Beds (per 100,000)*	18.7	28.7	25.2	↑
Inpatient Discharge Rate (per 1,000) - Total	157.2	167.2	174.7	↓
Could Not See Doctor Due to Cost (%)	10.0%	13.0%	12%	↓
Health Behaviors (continued)				
Cigarette Smoking (%)	18.0%	25.0%	24.90%	↓
Physical Inactivity (%)	24.0%	35.0%	21%	↓
Overweight/Obesity (% BMI >25)	62.0%	67.0%	57%	↓
Obesity (% BMI > 30)	28.0%	30.0%	27%	↓
Low Fruit and Vegetable Consumption (% <5 a day)	80.0%	88.0%	77%	↓
Binge Drinking (%)	18.0%	11.0%	16%	↓
Teen Birth Rate (per 1,000)	18.6	19.7	28.7	↓
Sexually Transmitted Diseases (per 100,000)	385.0	93.0	31.2	↓
Violent Crime (per 100,000)	233.0	104.0	150	↓
Motor Vehicle Crash Deaths (per 100,000)	11.0	24.0	31	↓
Unmarried Mother Birth Rate (%)	35.0%	35.0%	29%	↓
Injury-related Mortality (Age Adjusted Rate per 100,000)	33.4	79.8	60.5	↓
Homicides (per 100,000)	5.0	0.0	5.3	↓

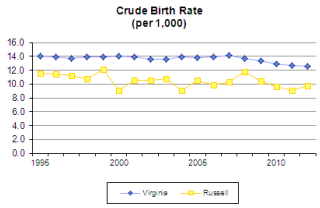
Cancer Incidence:

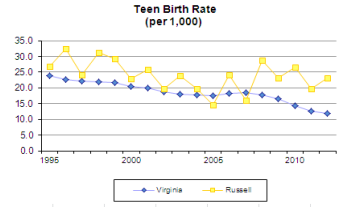






Birth Rate Trend:





Key Indicators of Health Status:

Socioecomonic Factors				
High School Graduation Rate (%)	88.0%	87.0%	83.30%	↑
Level of Education (%)	88.0%	74.0%	74%	↑
Unemployment (%)	6.2%	9.3%	10.80%	↓
Children (age 0 to 17) in poverty ratio (%)	15.5%	23.9%	25.60%	↓
Food Stamp Eligible Recipients (% of individuals)	11.6%	21.4%	20.20%	↓
Poverty Rate (% of all ages)	12.0%	18.0%	19.10%	↓
Temporary Assistance for Needy Families	0.8%	1.6%	1.70%	↓
High School Dropout Rate	1.4%	1.4%	1.20%	↓
Physical Environment				
Pre-1950 Housing (%)	13.2%	17.4%	18.50%	↓
Lead Poisoned Children (%)	0.2%	0.0%	0%	↓
Child Abuse and Neglect (rate per 1,000)	3.3	11.4	7.8	↓
Daily Fine Particulate Matter	12.5	12.8	12.25	↓
Communicable Diseases				
Hepatitis A (per 100,000)	0.6	0.0	3.5	↓
Campylobacter Infection (per 100,000)	9.4	20.9	3.5	↓
Salmonellosis (per 100,000)	14.1	7.0	17.3	↓
Shigellosis (per 100,000)	1.1	0.0	3.5	↓
AIDS/HIV cases (per 100,000)	305.3	27.8	0	↓
Early Stage Syphilis (per 100,000)	7.3	0.0	0	↓
Tuberculosis (per 100,000)	2.9	0.0	0	↓
Chlamydia (per 100,000)	432.5	149.6	27.7	↓
Gonorrhea (per 100,000)	85.1	13.9	3.5	↓

Inpatient Projections

	2014	2019		2024	
DRG Service Line	**Discharges**	**Discharges**	**% Change**	**Discharges**	**% Change**
Cardiac Surgery	39	39	1.00%	41	6.10%
Cardiology	427	363	-15.10%	310	-27.40%
Cardiology Intervention	105	93	-11.30%	85	-19.30%
Endocrinology	131	103	-21.70%	94	-28.50%
ENT Surgery	9	8	-11.30%	8	-14.70%
Gastroenterology	425	396	-6.80%	386	-9.10%
General Medicine	352	345	-2.10%	323	-8.20%
General Surgery	224	215	-4.00%	210	-6.30%
Gynecology	35	32	-8.40%	30	-13.20%
Hematology	42	41	-1.40%	43	1.50%
Neonatology	97	89	-8.60%	82	-15.80%
Nephrology	234	217	-7.40%	189	-19.10%
Neurology	203	200	-1.30%	204	0.30%
Neurosurgery	66	64	-2.50%	64	-2.40%
Normal Newborns	174	177	1.50%	172	-1.20%
OB Deliveries Sections	96	81	-15.20%	74	-22.70%
OB Deliveries Vaginal	199	207	3.90%	203	1.80%
OB Other	26	24	-6.20%	23	-10.80%
Oncology Medicine	63	60	-4.30%	54	-13.70%
Oncology Surgery	17	17	-0.30%	16	-4.20%
Ophthalmic Medicine	2	2	-9.70%	2	-13.60%
Ophthalmic Surgery	1	1	-12.10%	1	-12.20%
Oral Surgery	3	3	-9.80%	3	-9.60%
Orthopedic Medicine	65	65	0.40%	66	1.00%
Orthopedic Surgery	208	218	4.70%	221	6.30%
Otolaryngology	23	22	-5.50%	22	-4.30%
Plastic Surgery	10	9	-9.30%	8	-22.20%
Psychiatry	259	281	8.40%	262	1.30%
Pulmonary	886	755	-14.80%	696	-21.40%
Rehabilitation	35	28	-19.00%	30	-13.80%
Rheumatology	16	16	0.90%	17	4.20%
Substance Abuse	21	22	4.10%	22	3.30%
Thoracic Surgery	20	19	-7.00%	18	-11.20%
Trauma Medical	15	15	-1.70%	15	0.60%
Urology Medicine	32	28	-12.00%	26	-19.30%
Urology Surgery	22	20	-8.80%	18	-16.50%
Vascular Surgery	32	32	0.50%	32	1.20%
Womens Other	1	1	-15.50%	1	-33.80%
Grand Total	**4,615**	**4,308**	**-6.70%**	**4,071**	**-11.80%**

Outpatient Projections

	2014		2019			2024	
Site of Care	**Volumes**		**Volumes**	**% Change**		**Volumes**	**% Change**
ED	16,175		16,163	-0.10%		15,415	-4.70%
Home	35,191		41,018	16.60%		44,914	27.60%
Hosp OP/ASC	41,541		44,599	7.40%		45,538	9.60%
Office/Clinic	238,906		253,712	6.20%		240,939	0.90%
Other	19,637		21,611	10.10%		21,458	9.30%
SNF	404		440	8.90%		460	13.80%
Urgent/Retail	185		192	4.10%		186	0.90%
Virtual			5,895			24,013	
Grand Total	**352,038**		**383,630**	**9.00%**		**392,924**	**11.60%**

Interview Highlights:

INTERVIEWEES:

- Five individuals

KEY FINDINGS:

- Average rating of health status is 5.0, with a range in responses of 2 to 7.5
- Top health issues are:
  - Obesity
  - Cancer
  - Substance Abuse
  - Heart Disease
- Additional health issues are:
  - Smoking
  - Poor Nutrition
  - Lack of Access to Care (Pediatric & Specialty)
  - Aging Population
  - Lack of Physical Activity
- Ideas to improve these conditions include:
  - Focus on prevention
  - Improve patient navigation to clinics
  - Improve agency/organization collaboration
  - Chronic disease management
  - Programs for children on nutrition and physical activity
  - Improve Farmer's Market by offering more local produce
  - Increase number of health fairs
  - Increase health education
  - Increase pediatric and specialty care

Sources:

- Medstat
- County Health Rankings
- Kidscount
- VA Atlas of Community Health
- VA Dept of Health
- Kaiser Family Foundation
- VA Dept of Behavioral Health and Developmental Services
- VA Dept of Social Services
- U.S. Census
- CDC Wonder

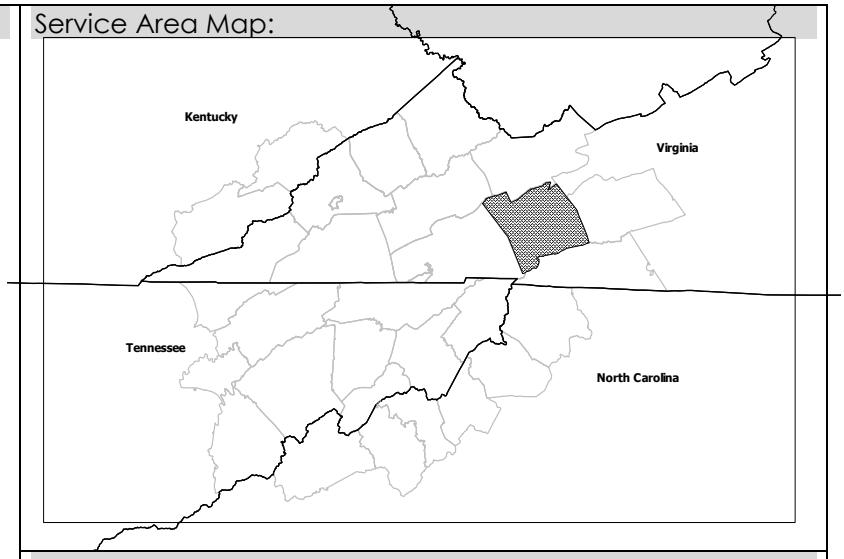
Local Resources:

- Cumberland Plateau Health District
- Regional Area Medical – RAM (outreach fair to provide free medical, dental & and vision care)
- Russell County Health Advisory Committee
- Celebrate Recovery
- Russell County Health Department
- People, Inc.
- One Care
- HEAL Appalachia
- SATIRA
- YMCA
- Diabetes Collation
- Lebanon Physical Therapy
- Local blood drives
- Local church groups

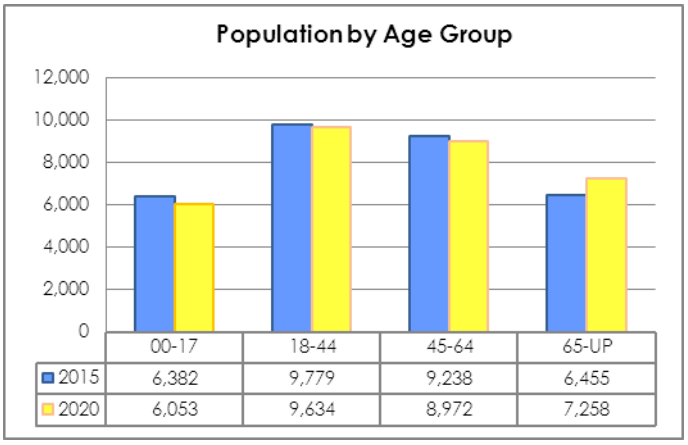
Demographic Highlights:

- Large elderly population compared to VA and US
- Declining rate of females of child-bearing age
- Low average household income level (18.5% of households make less than $15,000)
- Lower level of educational attainment compared to state and country (11.1% with no high school education compared to 5.9% nationally)
- Low level of diversity compared to state and national

Service Area Map:



Age Distribution and Population Projections:



Key Statistics:

	Smyth County	Virginia	U.S.
2015 Total Population	31,854	8,417,864	321,369,000
% Change 2015-2020	0.2%	4.7%	4.1%
% of Population 65+ (2015)	20.3%	14.0%	14.9%
% Minority (2015)	5.8%	30.8%	38.3%

	2015	2020	% Change
Total Male Population	15,529	15,574	0.3%
Total Female Population	16,325	16,343	0.1%
Females, Child Bearing Age (15-44)	5,525	5,381	-2.6%

Local Health Highlights:

STRENGTHS:

- Increased rates of early prenatal care
- Bing drinking
- STD
- Violent crime
- Prevalence of diabetes and asthma

WEAKNESSES:

- Medicaid enrollees
- Smoking
- High rate of reported difficulty accessing a physician due to cost
- Teen birth rate
- Food Stamps Eligible Recipients
- Child abuse and neglect
- High rates of poverty and children in poverty
- High rates of death due to cardiovascular, cancer, diabetes, cerebrovascular, and injuries

Leading Causes of Death (all ages):

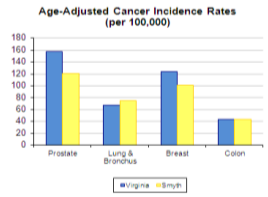
Cause of Death	Rate	Rank
Heart Disease	302.1	1
Malignant Neoplasms	264.7	2
Chronic Lower Respiratory Dis	152.6	3
Unintentional Injury	65.4	4
Alzheimer's Disease	59.2	5
Cerebrovascular Disease	56.1	6
Diabetes Mellitus	43.6	7
Influenza & Pneumonia	40.5	8
Chronic Liver Disease	21.8	9
Nephritis & Nephrosis	18.7	10

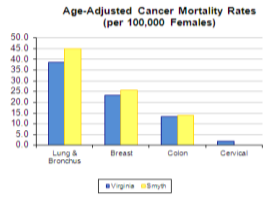
Key Indicators of Health Status:

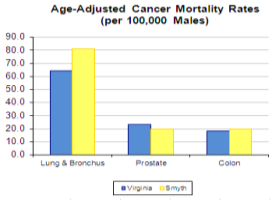
County: Smyth, VA

	VA	Smyth	2010	Desired
Health Outcomes				
Low Birth Weight (%)	8.3%	9.3%	12%	↓
General Health Status (% fair/poor health)	14.0%	22.0%	23%	↓
Very Low Birth Weight (%)	1.6%	1.9%	3.10%	↓
Infant Mortality (per 100,000)	8.4	9.3	3	↓
Mortality Rate (per 100,000)	735.8	988.7	942.9	↓
Cardiovascular Deaths (per 100,000)	161.3	220.4	278.1	↓
Cancer Deaths (5-yr avg rate per 100,000)	174.8	203.0	204.1	↓
Diabetes Mellitus Deaths (per 100,000)	20.0	43.6	27	↓
Cerebrovascular Deaths (per 100,000)	40.8	56.1	48.6	↓
Suicide Deaths (per 100,000)	12.9	12.5	20.8	↓
Mortality rate for ages 0 - 4 yrs (per 100,000)	152.9	242.0	75.3	↓
Mortality rate for ages 5 - 14 yrs (per 100,000)	13.5	27.1	53.8	↓
Mortality rate for ages 15 - 19 yrs (per 100,000)	44.5	51.9	144.6	↓
Mortality rates for ages 65+ (per 1,000)	43.6	54.6	53.9	↓
Lung Cancer Deaths (5-yr avg rate per 100,000)*	49.5	60.5	64.4	↓
Female Breast Cancer Deaths (5-yr avg rate per 100,000)*	23.4	25.6	26.9	↓
Percent of Adults with Asthma*	8.0%	6.0%	9.00%	↓
Prevalence of Diabetes (% of adults)*	9.0%	8.0%	11.20%	↓
Psychosis Discharges (per 100,000)	332.7	168.1	222	↓
Health Determinants				
Health Care Resources				
No Health Insurance (%)	18.0%	20.0%	23.10%	↓
Medicaid/Tenncare Enrollees (%)	14.0%	24.7%	25.30%	↓
Medical Doctors Per Capita (per 100,000)	255.5	25.3	171.1	↑
No Biennial Mammography (%)*	28.0%	28.0%	27.80%	↓
PSA Testing Past 2 Years (%)*	56.0%	58.0%	36.80%	↑
Pap Test Past 3 Years (%)*	84.0%	80.0%	21.10%	↑
Sigmoidoscopy/Colonoscopy, Lifetime (%)*	72.0%	65.0%	43.40%	↑
Inadequate or No Prenatal Care (%)	13.0%	9.0%	13.00%	↓
First Trimester Prenatal Care (%)	81.9%	82.6%	82.90%	↑
Hospital Staffed Beds (per 1,000)	2.2	1.4	2.1	↑
Licensed Nursing Beds (per 1,000 65+)	4.1	9.0	51.9	↑
# of Primary Care MDs Per Capita (per 100,000)	122.3	65.3	61.4	↑
# of Psychiatric Specialists	6,827	8	8	↓
State Mental Health Facility Beds (per 100,000)*	18.7	28.7	25.2	↑
Inpatient Discharge Rate (per 1,000) - Total	157.2	149.3	138.1	↓
Could Not See Doctor Due to Cost (%)	10.0%	14.0%	11.00%	↓
Health Behaviors				
Cigarette Smoking (%)	19.0%	34.0%	29.50%	↓
Physical Inactivity (%)	48.0%	51.0%	22.00%	↓
Overweight/Obesity (% BMI > 25)	62.0%	66.0%	57.00%	↓
Obesity (% BMI > 30)	28.0%	32.0%	27%	↓
Low Fruit and Vegetable Consumption (% <5 a day)	80.0%	81.0%	76.00%	↓
Binge Drinking (%)	18.0%	13.0%	15.00%	↓
Teen Birth Rate (per 1,000)	12.7	34.9	35.4	↓
Sexually Transmitted Diseases (per 100,000)	385.0	202.0	188.1	↓
Violent Crime (per 100,000)	233.0	199.0	261	↓
Motor Vehicle Crash Deaths (per 100,000)	11	16	16	↓
Unmarried Mother Birth Rate (%)	35.0%	48.0%	42.00%	↓
Injury-related Mortality (Age Adjusted Rate per 100,000)	33.4	65.4	47.4	↓
Homicides (per 100,000)	5.0	4.0	4.7	↓

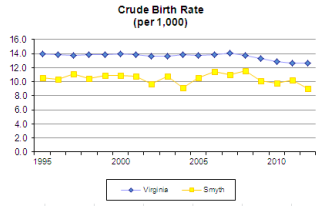
Cancer Incidence:

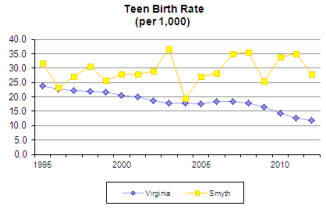






Birth Rate Trend:





Key Indicators of Health Status:

Socioecomonic Factors				
High School Graduation Rate (%)	88.0%	88.0%	88.10%	↑
Level of Education (%)	88.0%	78.0%	77.00%	↑
Unemployment (%)	6.2%	9.7%	11.40%	↓
Children (age 0 to 17) in poverty ratio (%)	15.5%	28.0%	24.70%	↓
Food Stamp Eligible Recipients (% of individuals)	11.4%	20.7%	20.80%	↓
Poverty Rate (% of all ages)	12.0%	19.0%	17.80%	↓
Temporary Assistance for Needy Families	7.7%	14.0%	22.00%	↓
High School Dropout Rate	1.4%	0.6%	1.00%	↓
Physical Environment				
Pre-1950 Housing (%)	13.2%	19.2%	22.70%	↓
Lead Poisoned Children (%)	0.2%	0.3%	0.00%	↓
Child Abuse and Neglect (rate per 1,000)	3.3	10.1	5.8	↓
Daily Fine Particulate Matter	12.6	12.7	12.2	↓
Communicable Diseases				
Hepatitis A (per 100,000)	0.6	9.4	0	↓
Campylobacter Infection (per 100,000)	9.4	31.2	3.1	↓
Salmonellosis (per 100,000)	14.1	21.9	3.1	↓
Shigellosis (per 100,000)	1.1	0.0	0	↓
AIDS/HIV cases (per 100,000)	305.3	124.9	106.6	↓
Early Stage Syphilis (per 100,000)	7.3	0.0	0	↓
Tuberculosis (per 100,000)	2.9	3.1	3.1	↓
Chlamydia (per 100,000)	432.5	181.1	165.4	↓
Gonorrhea (per 100,000)	85.1	18.7	18.7	↓

Inpatient Projections

	2014	2019		2024	
DRG Service Line	**Discharges**	**Discharges**	**% Change**	**Discharges**	**% Change**
Cardiac Surgery	43	42	-1.50%	43	0.30%
Cardiology	414	351	-15.30%	295	-28.70%
Cardiology Intervention	145	133	-8.10%	125	-14.00%
Endocrinology	122	96	-21.30%	87	-28.50%
ENT Surgery	7	7	-2.60%	7	-2.60%
Gastroenterology	394	370	-6.20%	364	-7.70%
General Medicine	405	406	0.20%	380	-6.20%
General Surgery	254	239	-5.90%	231	-9.00%
Gynecology	59	53	-9.50%	49	-16.40%
Hematology	43	42	-2.00%	44	1.20%
Neonatology	135	123	-8.70%	114	-15.70%
Nephrology	226	210	-7.20%	186	-17.60%
Neurology	232	226	-2.70%	229	-1.40%
Neurosurgery	90	88	-2.50%	88	-2.10%
Normal Newborns	172	175	1.70%	171	-0.80%
OB Deliveries Sections	107	91	-15.20%	83	-22.70%
OB Deliveries Vaginal	213	222	4.40%	218	2.50%
OB Other	21	20	-5.70%	19	-9.40%
Oncology Medicine	96	92	-3.80%	84	-12.80%
Oncology Surgery	22	22	1.80%	21	-2.80%
Ophthalmic Medicine	1	1	-14.50%	1	-22.10%
Oral Surgery	2	2	-9.60%	2	-15.80%
Orthopedic Medicine	66	66	0.20%	67	1.20%
Orthopedic Surgery	275	288	4.60%	290	5.60%
Otolaryngology	26	25	-5.60%	25	-5.30%
Plastic Surgery	18	17	-3.80%	16	-12.10%
Psychiatry	259	277	6.80%	259	0.10%
Pulmonary	664	573	-13.70%	543	-18.20%
Rehabilitation	216	181	-16.10%	196	-9.20%
Rheumatology	14	14	-2.90%	13	-5.40%
Substance Abuse	41	41	0.60%	40	-3.50%
Thoracic Surgery	30	29	-3.20%	28	-6.70%
Trauma Medical	12	11	-8.10%	11	-10.00%
Urology Medicine	13	11	-14.80%	10	-22.70%
Urology Surgery	35	33	-5.40%	32	-9.30%
Vascular Surgery	72	70	-2.70%	69	-4.50%
Grand Total	**4,944**	**4,647**	**-6.00%**	**4,437**	**-10.20%**

Outpatient Projections

	2014		2019			2024	
Site of Care	**Volumes**		**Volumes**	**% Change**		**Volumes**	**% Change**
ED	18,705		18,730	0.10%		17,913	-4.20%
Home	33,656		38,506	14.40%		41,600	23.60%
Hosp OP/ASC	53,768		57,931	7.70%		59,248	10.20%
Office/Clinic	262,633		277,457	5.60%		263,718	0.40%
Other	25,883		28,245	9.10%		27,818	7.50%
SNF	612		657	7.30%		688	12.50%
Urgent/Retail	262		276	5.40%		264	0.70%
Virtual			6,795			26,819	
Grand Total	**395,520**		**428,599**	**8.40%**		**438,067**	**10.80%**

Interview Highlights:

INTERVIEWEES:

- Eleven individuals

KEY FINDINGS:

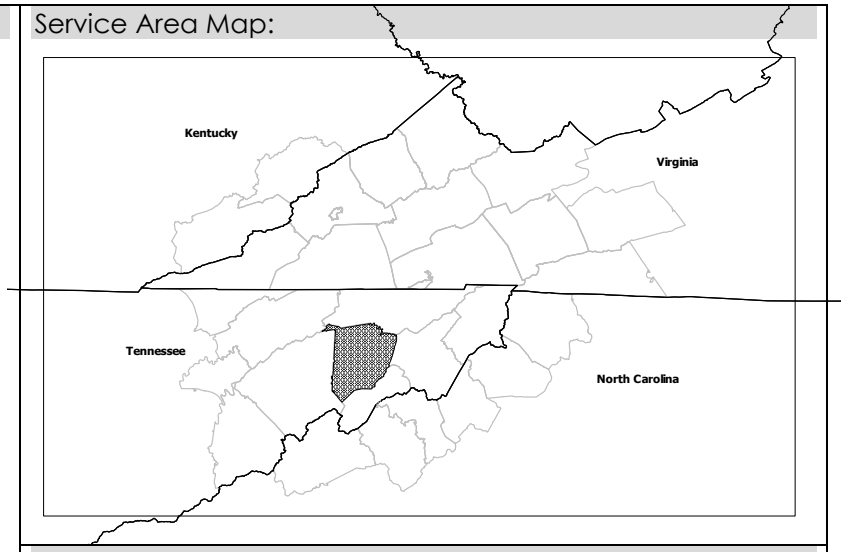
- Average rating of health status is 5, with a range in responses of 3-6.5
- Top health issues are:
  - Smoking
  - Obesity
  - Substance and Prescription Drug Abuse
  - Cardiovascular Disease
- Additional health issues are:
  - Diabetes
  - Mental health
  - Physical Inactivity
  - Unemployment
  - Uninsured/Underinsured
  - Low birth weight infants
  - Asthma
  - Cancer
  - Poor Nutrition
  - Teen Pregnancy
  - Poverty
  - Economic Development
  - COPD
  - Poor utilization of preventive health services
  - Minimum wage
  - Access to mental health services
  - Mental and physical abuse
  - Family cultural issues
  - Poor parenting skills
- Ideas to improve these conditions include:
  - Work with churches on offering nutrition/ cooking classes
  - Parenting classes including financial management
  - Community seminars on nutrition and healthy lifestyles
  - Educate parents on healthy lifestyles
  - School-based health lifestyle education
  - Healthy food supplementation for low-include students to include fresh fruits and vegetables; summer meal programs
  - More counselors at free clinics
  - Health fairs
  - Increased community events with free screenings
  - Disseminate information about dietician services
  - Diabetic educator and education classes
  - Teach preventive care to children
  - Improvement to mental health access
  - Find ways to get more people engaged in health improvement / increase participation in existing health programming
  - Economic improvement initiatives
  - Economic opportunities for job creation
  - Medicaid expansion
  - Agency/organization collaboration

Sources:	Local Resources:
▪ Medstat ▪ County Health Rankings ▪ Kidscount ▪ VA Atlas of Community Health ▪ VA Dept of Health ▪ Kaiser Family Foundation ▪ VA Dept of Behavioral Health and Developmental Services ▪ VA Dept of Social Services ▪ U.S. Census ▪ CDC Wonder	▪ Community Service Board ▪ Free clinics with longer clinic hours ▪ Dental services at free clinics ▪ Smyth County Healthy Community Action Team ▪ Farmer's Market ▪ SCCH Health Trust Committee ▪ Mount Rogers Wellness Team ▪ Baby Care Program ▪ Resource Mothers Program ▪ Department of Social Services ▪ Loaves & Fishes food panty ▪ School Nurses ▪ Nutrition Action Network ▪ Diabetic education at SCCH ▪ Sports physicals provided on volunteer basis with SCCH resources ▪ Public school system ▪ AES Demonstration Project ▪ Health Department ▪ Remote Area Medical (RAM) ▪ School-based health activities ▪ Collaboration between schools and health department to provide immunizations for students ▪ Women, Infant and Children (WIC) ▪ Moms Club (March of Dimes) ▪ Family planning clinics ▪ Wellness Center

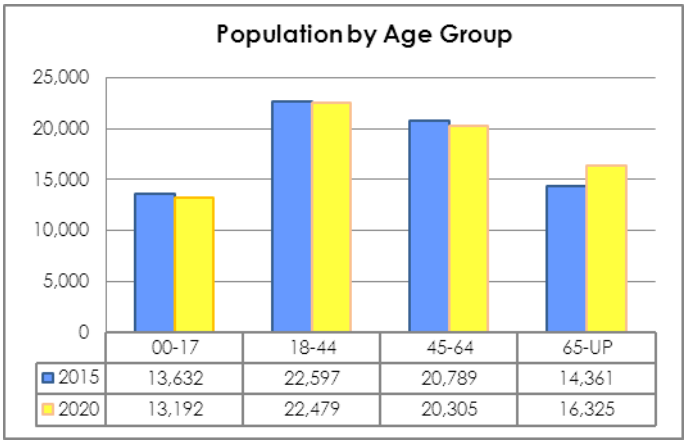
Demographic Highlights:

- Large elderly population compared to VA and US
- Declining rate of females of child-bearing age
- Low average household income level (14.2% of households make less than $15,000)
- Lower level of educational attainment compared to state and country (7.9% with no high school education compared to 5.9% nationally)
- Low level of diversity compared to state and national

Service Area Map:



Age Distribution and Population Projections:



Key Statistics:

	Washington County	Virginia	U.S.
2015 Total Population	71,379	8,417,864	321,369,000
% Change 2015-2020	1.3%	4.7%	4.1%
% of Population 65+ (2015)	20.1%	14.0%	14.9%
% Minority (2015)	6.2%	30.8%	38.3%

	2015	2020	% Change
Total Male Population	34,754	35,212	1.3%
Total Female Population	36,625	37,089	1.3%
Females, Child Bearing Age (15-44)	12,354	12,266	-0.7%

Local Health Highlights (Bristol City):

STRENGTHS:

- Very low birth weight rates have decreased
- Binge drinking
- STDs
- Low rate of lead poisoned children
- Homicides

WEAKNESSES:

- High rates of death due to cardiovascular, cancer, diabetes, cerebrovascular, suicide, and injuries
- Prenatal care
- Violent crime rate
- High rate of Medicaid enrollees
- Unmarried mother birth rate
- Poverty and children in poverty
- Child abuse and neglect

Leading Causes of Death (all ages; Bristol City):

Bristol City

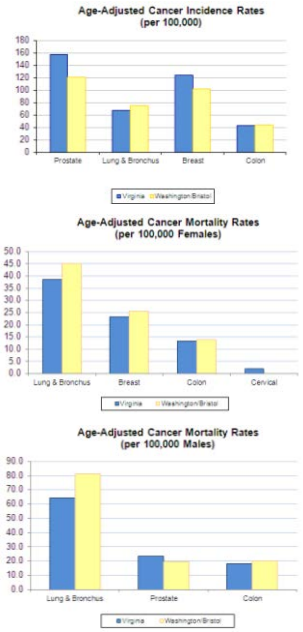
Cause of Death	Rate	Rank
Heart Disease	247.5	1
Malignant Neoplasms	222.3	2
Chronic Lower Respiratory Disease	123.0	3
Unintentional Injury	89.5	4
Cerebrovascular Disease	61.5	5
Diabetes Mellitus	55.9	6
Alzheimer's Disease	44.7	7
Septicemia	39.1	8
Influenza & Pneumonia	39.1	8
Nephritis & Nephrosis Disease	28.0	9
Chronic Liver Disease	22.4	10

Key Indicators of Health Status (Bristol City):

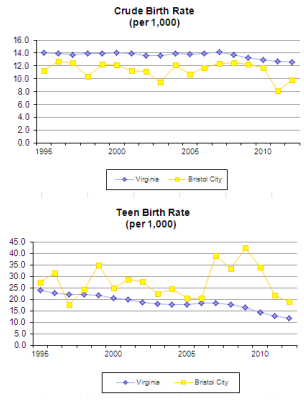
County: Bristol, VA

	VA	Bristol	2010	Desired
Health Outcomes				
Low Birth Weight (%)	8.3%	9.1%	23%	↓
General Health Status (% fair/poor health)	16.0%	14.0%	10%	↓
Very Low Birth Weight (%)	1.6%	0.5%	1.80%	↓
Infant Mortality (per 100,000)	8.4	11.2	11.3	↓
Mortality Rate (per 100,000)	749.3	1,504.0	1486.7	↓
Cardiovascular Deaths (per 100,000)	161.3	247.5	187.1	↓
Cancer Deaths (5-yr avg rate per 100,000)	174.8	198.0	180.3	↓
Diabetes Mellitus Deaths (Age Adjusted Rate per 100,000)	20.0	55.9	54.9	↓
Cerebrovascular Deaths (Age Adjusted Rate per 100,000)	40.7	61.5	53.6	↓
Suicide Deaths (Age Adjusted Rate per 100,000)	12.9	22.3	0	↓
Mortality rate for ages 0 - 4 yrs (per 100,000)	152.9	305.5	104.5	↓
Mortality rate for ages 5 - 14 yrs (per 100,000)	13.5	0.0	0	↓
Mortality rate for ages 15 - 19 yrs (per 100,000)	44.5	0.0	0	↓
Mortality rates for ages 65+ (per 1,000)	43.3	57.5	39.3	↓
Lung Cancer Deaths (5-yr avg rate per 100,000)*	49.5	60.5	64.4	↓
Female Breast Cancer Deaths (5-yr avg rate per 100,000)*	23.4	25.6	26.9	↓
Percent of Adults with Asthma*	8.0%	6.0%	9.00%	↓
Prevalence of Diabetes (% of adults)*	9.0%	8.0%	11.20%	↓
Psychosis Discharges (per 100,000)	332.7	40.7	41	↓
Health Determinants				
Health Care Resources				
No Health Insurance (%)	18.0%	20.0%	23.90%	↓
Medicaid/Tenncare Enrollees (%)	14.5%	32.2%	25.10%	↓
Medical Doctors	255.5	69.9	68.7	↑
No Biennial Mammography (%)*	28.0%	26.0%	27.80%	↓
PSA Testing Past 2 Years (%)*	56.0%	59.0%	36.8	↑
Pap Test Past 3 Years (%)*	84.0%	75.0%	21.10%	↑
Sigmoidoscopy/Colonoscopy (%)*	72.0%	63.0%	43.40%	↑
Inadequate or No Prenatal Care (%)	13.0%	13.0%	18%	↓
First Trimester Prenatal Care (%)	81.9%	31.3%	20.20%	↑
Hospital Staffed Beds (per 1,000)	2.2	2.1	0	↑
Licensed Nursing Beds (per 1,000 65+)	3.9	8.5	62.3	↑
# of Primary Care MDs Per Capita (per 100,000)	122.3	28.2	43.7	↑
# of Psychiatric Specialists, Population per Professional	6,827	0	0	↓
State Mental Health Facility Beds (per 100,000)*	18.7	28.7	25.2	↑
Inpatient Discharge Rate (per 1,000) - Total	157.2	197.2	135.7	↓
Could Not See Doctor Due to Cost (%)	10.0%	13.0%	11%	↓
Health Behaviors (continued)				
Cigarette Smoking (%)	19.0%	14.0%	29.50%	↓
Physical Inactivity (%)	48.0%	49.0%	23%	↓
Overweight/Obesity (% BMI > 25)	62.0%	64.0%	56%	↓
Obesity (% BMI > 30)	28.0%	27.0%	26%	↓
Low Fruit and Vegetable Consumption (% <5 a day)	80.0%	89.0%	76%	↓
Binge Drinking (%)	18.0%	12.0%	14%	↓
Teen Birth Rate (per 1,000)	11.8	18.8	33.3	↓
Sexually Transmitted Diseases (per 100,000)	398.0	201.0	229.6	↓
Violent Crime (per 100,000)	233.0	352.0	498	↓
Motor Vehicle Crash Deaths (per 100,000)	11.0	10.0	15	↓
Unmarried Mother Birth Rate (%)	35.0%	55.0%	47%	↓
Injury-related Mortality (Age Adjusted Rate per 100,000)	33.4	89.4	34	↓
Homicides (per 100,000)	5.0	0.0	4.7	↓

Cancer Incidence (Bristol City):



Birth Rate Trend (Bristol City):



Key Indicators of Health Status (Bristol City):

Socioecomonic Factors				
High School Graduation Rate (%)	87.0%	80.0%	80.70%	↑
Level of Education (%)	88.0%	81.0%	74%	↑
Unemployment (%)	6.9%	9.5%	10%	↓
Children (age 0 to 17) in poverty ratio (%)	16.0%	35.0%	33.10%	↓
Food Stamp Eligible Recipients (% of individuals)	11.5%	26.9%	26.50%	↓
Poverty Rate (% of all ages)	11.1%	22.4%	20.20%	↓
Temporary Assistance for Needy Families	0.8%	2.9%	3.50%	↓
High School Dropout Rate	1.4%	2.5%	1.40%	↓
Physical Environment				
Pre-1950 Housing (%)	13.2%	24.0%	29.90%	↓
Lead Poisoned Children (%)	25.0%	0.0%	1.60%	↓
Child Abuse and Neglect (rate per 1,000)	3.3	10.0	7.8	↓
Daily Fine Particulate Matter	12.5	13	12.25	↓
Communicable Diseases				
Hepatitis A (per 100,000)	0.6	0.0	0	↓
Campylobacter Infection (per 100,000)	9.4	11.3	0	↓
Salmonellosis (per 100,000)	14.1	5.6	5.7	↓
Shigellosis (per 100,000)	1.1	0.0	0	↓
AIDS/HIV cases (per 100,000)	305.3	208.5	189.4	↓
Early Stage Syphilis (per 100,000)	7.3	0.0	0	↓
Tuberculosis (per 100,000)	2.9	0.0	0	↓
Chlamydia (per 100,000)	432.5	309.9	164.8	↓
Gonorrhea (per 100,000)	85.1	101.5	62.5	↓

Local Health Highlights (Washington County):

STRENGTHS:

- Low rate of lead-poisoned children
- Binge drinking
- STDs
- Violent crime
- High school graduation rate
- High school drop out rate

WEAKNESSES:

- High rates of death due to cardiovascular, cancer, diabetes, cerebrovascular, suicide, and injuries
- Prenatal care
- High rate of population reporting fair/poor health
- Teen birth rate

Leading Causes of Death (all ages; Washington County):

Washington County

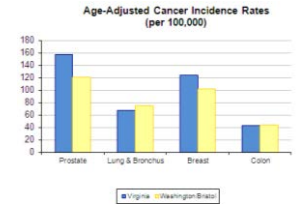
Cause of Death	Rate	Rank
Heart Disease	217.3	1
Malignant Neoplasms	176.6	2
Chronic Lower Respiratory Disease	58.3	3
Unintentional Injury	50.0	4
Cerebrovascular Disease	45.3	5
Influenza & Pneumonia	30.8	6
Nephritis & Nephrosis Disease	27.2	7
Alzheimer's Disease	27.2	7
Diabetes Mellitus	21.7	8
Chronic Liver Disease	16.3	9
Septicemia	10.9	10

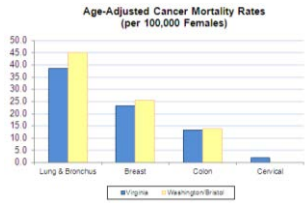
Key Indicators of Health Status (Washington County):

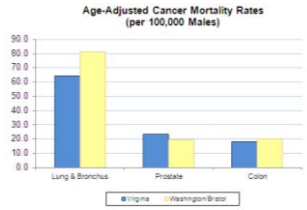
County: Washington, VA

	VA	Wash Co	2010	Desired
Health Outcomes				
Low Birth Weight (%)	8.3%	8.0%	17%	↓
General Health Status (% fair/poor health)	14.0%	22.0%	19%	↓
Very Low Birth Weight (%)	1.6%	1.9%	7%	↓
Infant Mortality (per 100,000)	8.3	9.0	4	↓
Mortality Rate (Age Adujusted Rate per 100,000)	735.8	853.1	918.7	↓
Cardiovascular Deaths (per 100,000)	161.3	217.3	248.1	↓
Cancer Deaths (5-yr avg rate per 100,000)	174.8	182.9	180.5	↓
Diabetes Mellitus Deaths (Age Adjusted Rate per 100,000)	19.9	21.7	36.3	↓
Cerebrovascular Deaths (Age Adjusted Rate per 100,000)	40.7	45.2	27	↓
Suicide Deaths (Age Adjusted Rate per 100,000)	12.9	19.9	18.2	↓
Mortality rate for ages 0 - 4 yrs (per 100,000)	152.9	226.3	186.7	↓
Mortality rate for ages 5 - 14 yrs (per 100,000)	13.5	16.5	18	↓
Mortality rate for ages 15 - 19 yrs (per 100,000)	44.5	61.9	62.7	↓
Mortality rates for ages 65+(per 1,000)	43.3	45.5	49.8	↓
Lung Cancer Deaths (5-yr avg rate per 100,000)*	49.5	60.5	64.4	↓
Female Breast Cancer Deaths (5-yr avg rate per 100,000)*	23.4	25.6	26.9	↓
Percent of Adults with Asthma*	8.0%	5.0%	9.00%	↓
Prevalence of Diabetes (% of adults)*	9.0%	8.0%	11.20%	↓
Psychosis Discharges (per 100,000)	332.7	121.9	166	↓
Health Determinants				
Health Care Resources				
No Health Insurance (%)	18.0%	20.0%	22.10%	↓
Medicaid/Tenncare Enrollees (%)	14.5%	18.7%	23.40%	↓
Medical Doctors	255.5	69.9	68.7	↑
No Biennial Mammography (%)*	28.0%	30.0%	27.80%	↓
PSA Testing Past 2 Years (%)*	56.0%	55.0%	36.80%	↑
Pap Test Past 3 Years (%)*	84.0%	80.0%	21.10%	↑
Sigmoidoscopy/Colonoscopy (%)*	72.0%	69.0%	43.40%	↑
Inadequate or No Prenatal Care (%)	13.0%	9.0%	12%	↓
First Trimester Prenatal Care (%)	81.9%	59.0%	59%	↑
Hospital Staffed Beds (per 1,000)	2.2	2.1	1.6	↑
Licensed Nursing Beds (per 1,000 65+)	3.9	2.2	14.1	↑
# of Primary Care MDs	122.3	67.3	44.8	↑
# of Psychiatric Specialists	6,827	7	7	↓
State Mental Health Facility Beds (per 100,000)*	18.7	28.7	25.2	↑
Inpatient Discharge Rate (per 1,000) - Total	157.2	197.3	178.9	↓
Could Not See Doctor Due to Cost (%)	10.0%	13.0%	19%	↓
Health Behaviors (continued)				
Cigarette Smoking (%)	19.0%	25.0%	29.50%	↓
Physical Inactivity (%)	48.0%	49.0%	21%	↓
Overweight/Obesity (% BMI > 25)	62.0%	66.0%	57%	↓
Obesity (% BMI > 30)	28.0%	27.0%	25%	↓
Low Fruit and Vegetable Consumption (% <5 a day)	80.0%	82.0%	76%	↓
Binge Drinking (%)	18.0%	14.0%	15%	↓
Teen Birth Rate (per 1,000)	11.8	17.3	22.5	↓
Sexually Transmitted Diseases (per 100,000)	398.0	117.0	1142.8	↓
Violent Crime (per 100,000)	252.0	155.0	192	↓
Motor Vehicle Crash Deaths (per 100,000)	13.0	21.0	23	↓
Unmarried Mother Birth Rate (%)	35.3%	36.3%	33.00%	↓
Injury-related Mortality (Age Adjusted Rate per 100,000)	33.4	58.0	53.8	↓
Homicides (per 100,000)	5.0	3.0	4.7	↓

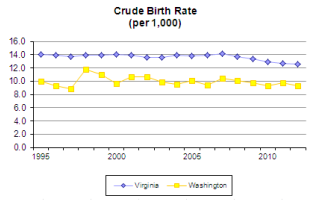
Cancer Incidence (Washington County):

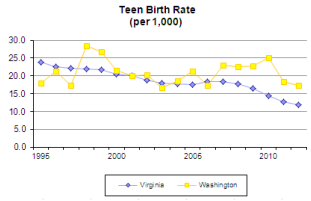






Birth Rate Trend (Washington County):





Key Indicators of Health Status (Washington County):

Socioecomonic Factors				
High School Graduation Rate (%)	88.0%	90.7%	86.10%	↑
Level of Education (%)	88.0%	81.0%	81%	↑
Unemployment (%)	6.2%	7.9%	8.50%	↓
Children (age 0 to 17) in poverty ratio (%)	15.5%	19.5%	19.60%	↓
Food Stamp Eligible Recipients (% of individuals)	11.5%	14.8%	13.90%	↓
Poverty Rate (% of all ages)	12.0%	14.0%	13.90%	↓
Temporary Assistance for Needy Families	0.8%	0.6%	0.70%	↓
High School Dropout Rate	1.4%	0.4%	1.30%	↓
Physical Environment				
Pre-1950 Housing (%)	13.2%	13.3%	17.40%	↓
Lead Poisoned Children (%)	0.2%	0.0%	0.00%	↓
Child Abuse and Neglect (rate per 1,000)	3.3	5.3	3.6	↓
Daily Fine Particulate Matter	12.5	13	12.25	↓
Communicable Diseases				
Hepatitis A (per 100,000)	0.6	0.0	0	↓
Campylobacter Infection (per 100,000)	9.4	34.7	9.5	↓
Salmonellosis (per 100,000)	14.1	12.8	7.6	↓
Shigellosis (per 100,000)	1.1	0.0	0	↓
AIDS/HIV cases (per 100,000)	305.3	74.8	35.8	↓
Early Stage Syphilis (per 100,000)	7.3	1.8	0	↓
Tuberculosis (per 100,000)	2.9	0.0	0	↓
Chlamydia (per 100,000)	432.5	142.3	96.7	↓
Gonorrhea (per 100,000)	85.1	20.1	13.3	↓

Inpatient Projections

	2014	2019		2024	
DRG Service Line	**Discharges**	**Discharges**	**% Change**	**Discharges**	**% Change**
Cardiac Surgery	147	149	1.10%	156	6.30%
Cardiology	1,038	896	-13.60%	783	-24.60%
Cardiology Intervention	321	296	-7.80%	278	-13.50%
Endocrinology	241	191	-20.60%	175	-27.40%
ENT Surgery	7	7	-0.10%	7	-2.30%
Gastroenterology	907	864	-4.70%	863	-4.80%
General Medicine	783	799	2.10%	763	-2.50%
General Surgery	497	481	-3.30%	475	-4.50%
Gynecology	97	91	-5.90%	88	-9.40%
Hematology	115	116	0.70%	121	5.20%
Neonatology	282	265	-6.00%	252	-10.60%
Nephrology	560	527	-5.90%	467	-16.60%
Neurology	507	509	0.40%	533	5.10%
Neurosurgery	158	156	-1.00%	158	-0.30%
Normal Newborns	355	372	4.90%	375	5.50%
OB Deliveries Sections	219	192	-12.20%	181	-17.30%
OB Deliveries Vaginal	440	474	7.60%	481	9.30%
OB Other	49	48	-2.40%	48	-2.90%
Oncology Medicine	127	124	-2.10%	115	-9.60%
Oncology Surgery	51	51	0.00%	49	-3.00%
Ophthalmic Medicine	11	10	-11.70%	9	-16.70%
Ophthalmic Surgery	1	1	12.60%	1	22.00%
Oral Surgery	10	9	-6.50%	9	-7.00%
Orthopedic Medicine	138	139	1.00%	143	3.30%
Orthopedic Surgery	621	666	7.20%	690	11.10%
Otolaryngology	55	51	-8.10%	50	-9.90%
Plastic Surgery	18	17	-3.30%	16	-8.90%
Psychiatry	734	802	9.20%	767	4.60%
Pulmonary	1,452	1,251	-13.80%	1,176	-19.00%
Rehabilitation	51	41	-20.30%	43	-16.30%
Rheumatology	34	33	-3.40%	33	-3.20%
Substance Abuse	69	72	4.50%	71	3.60%
Thoracic Surgery	46	44	-3.40%	44	-5.30%
Trauma Medical	39	38	-2.50%	40	3.10%
Urology Medicine	31	28	-9.30%	26	-14.90%
Urology Surgery	64	61	-4.10%	57	-11.00%
Vascular Surgery	113	111	-1.40%	110	-2.70%
Womens Other	2	2	-5.10%	2	-11.40%
Grand Total	**10,390**	**9,986**	**-3.90%**	**9,655**	**-7.10%**

Outpatient Projections

	2014		2019			2024	
Site of Care	**Volumes**		**Volumes**	**% Change**		**Volumes**	**% Change**
ED	39,421		40,259	2.10%		39,257	-0.40%
Home	110,884		129,646	16.90%		142,774	28.80%
Hosp OP/ASC	117,428		128,474	9.40%		133,109	13.40%
Office/Clinic	657,568		715,661	8.80%		698,876	6.30%
Other	35,716		39,466	10.50%		39,748	11.30%
SNF	1,293		1,409	8.90%		1,481	14.50%
Urgent/Retail	1,254		1,339	6.80%		1,309	4.50%
Virtual			15,077			63,583	
Grand Total	**963,564**		**1,071,331**	**11.20%**		**1,120,138**	**16.20%**

Interview Highlights:

INTERVIEWEES:

- Seven individuals

KEY FINDINGS:

- Average rating of health status is 4.1, with a range in responses of 3 to 6
- Top health issues are:
  - Obesity
  - Diabetes
  - Heart Disease
  - Cancer
- Additional health issues are:
  - Underutilization of clinics
  - Substance Abuse
  - Poor Nutrition
  - Physical Inactivity
  - Mental Health
- Ideas to improve these conditions include:
  - Analyze outcomes of existing community programs
  - Education (preventative care, free clinics, nutrition, physical activity)
  - Integrate garden boxes program into other community outreach projects
  - Partner with schools and churches to disseminate information
  - Raise awareness of donating healthy foods to food pantries
  - Community budget/finance classes
  - Programs geared towards teaching children about eating healthy
  - Diabetic support groups
  - Diabetic education programs for parents and students
  - Train health care workers on recognizing child abuse

Sources:

- Medstat
- County Health Rankings
- Kidscount
- VA Atlas of Community Health
- VA Dept of Health
- Kaiser Family Foundation
- VA Dept of Behavioral Health and Developmental Services
- VA Dept of Social Services
- U.S. Census
- CDC Wonder

Local Resources:

- Mount Rogers Health Department
- United Way
- Faith in Action
- Free Clinics
- Appalachian Sustainable Development
- Farmer's Markets
- Weight Watchers/ Zumba classes at local churches
- Washington county adult boot camp
- Virginia Extension Agency
- Health fairs
- Nutritional Advisory group
- One Care
- Walking and Playing through the Ages
- Sight for Students
- Lion's Club
- School nurses
- Children's Advocacy Center

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1. Russell, VA Detailed Demographics
2. Smyth, VA Detailed Demographics
3. Washington County & Bristol City, VA Detailed Demographics

Mountain State Health Alliance

Russell County, VA

Population and Gender	Market 2015 Population	Market 2015 % of Total	Market 2020 Population	Market 2020 % of Total	Market Population % Change	National 2015 % of Total
Female Population	13,812	51.1%	13,667	51.0%	(1.1)%	50.8%
Male Population	13,215	48.9%	13,126	49.0%	(0.7)%	49.2%
Total	27,027	100.0%	26,793	100.0%	(0.9)%	100.0%

Age Groups	Market 2015 Population	Market 2015 % of Total	Market 2020 Population	Market 2020 % of Total	Market Population % Change	National 2015 % of Total
00-17	5,284	19.6%	5,100	19.0%	(3.5)%	23.1%
18-44	8,423	31.2%	8,083	30.2%	(4.0)%	35.9%
45-64	8,208	30.4%	7,849	29.3%	(4.4)%	26.3%
65-UP	5,112	18.9%	5,761	21.5%	12.7%	14.7%
Total	27,027	100.0%	26,793	100.0%	(0.9)%	100.0%

Ethnicity/Race	Market 2015 Population	Market 2015 % of Total	Market 2020 Population	Market 2020 % of Total	Market Population % Change	National 2015 % of Total
Asian & Pacific Is. Non-Hispanic	53	0.2%	51	0.2%	(3.8)%	5.3%
Black Non-Hispanic	296	1.1%	374	1.4%	26.4%	12.3%
Hispanic	285	1.1%	305	1.1%	7.0%	17.6%
White Non-Hispanic	26,164	96.8%	25,795	96.3%	(1.4)%	61.8%
All Others	229	0.9%	268	1.0%	17.0%	3.1%
Total	27,027	100.0%	26,793	100.0%	(0.9)%	100.0%

Language*	Market 2015 Population	Market 2015 % of Total	Market 2020 Population	Market 2020 % of Total	Market Population % Change	National 2015 % of Total
French at Home	30	0.1%	24	0.1%	(20.0)%	0.7%
Germanic Lang at Home	36	0.1%	34	0.1%	(5.6)%	0.5%
Only English at Home	25,298	98.7%	25,127	98.8%	(0.7)%	79.0%
Other Indo-European Lang at Home	116	0.5%	111	0.4%	(4.3)%	1.8%
Spanish at Home	122	0.5%	119	0.5%	(2.5)%	13.0%
All Others	26	0.1%	30	0.1%	15.4%	4.9%
Total	25,628	100.0%	25,445	100.0%	(0.7)%	100.0%

Mountain State Health Alliance

Russell County, VA

Household Income	Market 2015 Households	Market 2015 % of Total	Market 2020 Households	Market 2020 % of Total	Market Households % Change	National 2015 % of Total
<$15K	2,351	20.8%	1,999	17.8%	(15.0)%	12.7%
$15-25K	1,766	15.7%	1,691	15.0%	(4.3)%	10.8%
$25-50K	3,045	27.0%	2,962	26.3%	(2.7)%	23.9%
$50-75K	1,808	16.0%	1,803	16.0%	(0.3)%	17.8%
$75-100K	1,028	9.1%	1,079	9.6%	5.0%	12.0%
$100K-200K	1,145	10.2%	1,463	13.0%	27.8%	17.9%
>$200K	139	1.2%	250	2.2%	79.9%	5.0%
Total	11,282	100.0%	11,247	100.0%	(0.3)%	100.0%

Education Level**	Market 2015 Population	Market 2015 % of Total	Market 2020 Population	Market 2020 % of Total	Market Population % Change	National 2015 % of Total
Less than High School	2,930	15.0%	2,962	15.1%	1.1%	5.9%
Some High School	2,112	10.8%	2,120	10.8%	0.4%	8.0%
High School Degree	7,388	37.7%	7,400	37.7%	0.2%	28.1%
Some College/Assoc. Degree	5,218	26.6%	5,213	26.6%	(0.1)%	31.1%
Bachelor's Degree or Greater	1,946	9.9%	1,918	9.8%	(1.4)%	26.9%
Total	19,594	100.0%	19,613	100.0%	0.1%	100.0%

*Excludes population age <5, **Excludes population age <25

Mountain State Health Alliance

Smyth County, VA

Population and Gender	Market 2015 Population	Market 2015 % of Total	Market 2020 Population	Market 2020 % of Total	Market Population % Change	National 2015 % of Total
Female Population	16,325	51.3%	16,343	51.2%	0.1%	50.8%
Male Population	15,529	48.8%	15,574	48.8%	0.3%	49.2%
Total	31,854	100.0%	31,917	100.0%	0.2%	100.0%

Age Groups	Market 2015 Population	Market 2015 % of Total	Market 2020 Population	Market 2020 % of Total	Market Population % Change	National 2015 % of Total
00-17	6,382	20.0%	6,053	19.0%	(5.2)%	23.1%
18-44	9,779	30.7%	9,634	30.2%	(1.5)%	35.9%
45-64	9,238	29.0%	8,972	28.1%	(2.9)%	26.3%
65-UP	6,455	20.3%	7,258	22.7%	12.4%	14.7%
Total	31,854	100.0%	31,917	100.0%	0.2%	100.0%

Ethnicity/Race	Market 2015 Population	Market 2015 % of Total	Market 2020 Population	Market 2020 % of Total	Market Population % Change	National 2015 % of Total
Asian & Pacific Is. Non-Hispanic	133	0.4%	189	0.6%	42.1%	5.3%
Black Non-Hispanic	662	2.1%	703	2.2%	6.2%	12.3%
Hispanic	656	2.1%	799	2.5%	21.8%	17.6%
White Non-Hispanic	29,992	94.2%	29,715	93.1%	(0.9)%	61.8%
All Others	411	1.3%	511	1.6%	24.3%	3.1%
Total	31,854	100.0%	31,917	100.0%	0.2%	100.0%

Language*	Market 2015 Population	Market 2015 % of Total	Market 2020 Population	Market 2020 % of Total	Market Population % Change	National 2015 % of Total
Germanic Lang at Home	46	0.2%	45	0.2%	(2.2)%	0.5%
Only English at Home	29,659	98.0%	29,779	98.0%	0.4%	79.0%
Other Indo-European Lang at Home	31	0.1%	31	0.1%	0.0%	1.8%
Other Lang at Home	27	0.1%	25	0.1%	(7.4)%	0.9%
Spanish at Home	469	1.6%	458	1.5%	(2.4)%	13.0%
All Others	40	0.1%	40	0.1%	0.0%	4.7%
Total	30,272	100.0%	30,378	100.0%	0.4%	100.0%

Mountain State Health Alliance

Smyth County, VA

Household Income	Market 2015 Households	Market 2015 % of Total	Market 2020 Households	Market 2020 % of Total	Market Households % Change	National 2015 % of Total
<$15K	2,434	18.5%	2,115	16.0%	(13.1)%	12.7%
$15-25K	2,030	15.4%	1,955	14.8%	(3.7)%	10.8%
$25-50K	3,848	29.2%	3,728	28.2%	(3.1)%	23.9%
$50-75K	2,309	17.5%	2,300	17.4%	(0.4)%	17.8%
$75-100K	1,235	9.4%	1,374	10.4%	11.3%	12.0%
$100K-200K	1,127	8.6%	1,487	11.2%	31.9%	17.9%
>$200K	200	1.5%	270	2.0%	35.0%	5.0%
Total	13,183	100.0%	13,229	100.0%	0.4%	100.0%

Education Level**	Market 2015 Population	Market 2015 % of Total	Market 2020 Population	Market 2020 % of Total	Market Population % Change	National 2015 % of Total
Less than High School	2,541	11.1%	2,599	11.2%	2.3%	5.9%
Some High School	2,545	11.1%	2,595	11.2%	2.0%	8.0%
High School Degree	8,935	39.1%	9,076	39.1%	1.6%	28.1%
Some College/Assoc. Degree	5,993	26.2%	6,057	26.1%	1.1%	31.1%
Bachelor's Degree or Greater	2,858	12.5%	2,860	12.3%	0.1%	26.9%
Total	22,872	100.0%	23,187	100.0%	1.4%	100.0%

*Excludes population age <5, **Excludes population age <25

Mountain State Health Alliance

Washington County, VA

Population and Gender	Market 2015 Population	Market 2015 % of Total	Market 2020 Population	Market 2020 % of Total	Market Population % Change	National 2015 % of Total
Female Population	36,625	51.3%	37,089	51.3%	1.3%	50.8%
Male Population	34,754	48.7%	35,212	48.7%	1.3%	49.2%
Total	71,379	100.0%	72,301	100.0%	1.3%	100.0%

Age Groups	Market 2015 Population	Market 2015 % of Total	Market 2020 Population	Market 2020 % of Total	Market Population % Change	National 2015 % of Total
00-17	13,632	19.1%	13,192	18.3%	(3.2)%	23.1%
18-44	22,597	31.7%	22,479	31.1%	(0.5)%	35.9%
45-64	20,789	29.1%	20,305	28.1%	(2.3)%	26.3%
65-UP	14,361	20.1%	16,325	22.6%	13.7%	14.7%
Total	71,379	100.0%	72,301	100.0%	1.3%	100.0%

Ethnicity/Race	Market 2015 Population	Market 2015 % of Total	Market 2020 Population	Market 2020 % of Total	Market Population % Change	National 2015 % of Total
Asian & Pacific Is. Non-Hispanic	485	0.7%	657	0.9%	35.5%	5.3%
Black Non-Hispanic	1,770	2.5%	1,903	2.6%	7.5%	12.3%
Hispanic	1,178	1.7%	1,446	2.0%	22.8%	17.6%
White Non-Hispanic	66,952	93.8%	67,123	92.8%	0.3%	61.8%
All Others	994	1.4%	1,172	1.6%	17.9%	3.1%
Total	71,379	100.0%	72,301	100.0%	1.3%	100.0%

Language*	Market 2015 Population	Market 2015 % of Total	Market 2020 Population	Market 2020 % of Total	Market Population % Change	National 2015 % of Total
Chinese at Home	173	0.3%	177	0.3%	2.3%	1.0%
French at Home	170	0.3%	173	0.3%	1.8%	0.7%
Germanic Lang at Home	236	0.4%	237	0.3%	0.4%	0.5%
Only English at Home	66,298	97.6%	67,251	97.6%	1.4%	79.0%
Spanish at Home	770	1.1%	753	1.1%	(2.2)%	13.0%
All Others	295	0.4%	292	0.4%	(1.0)%	5.7%
Total	67,942	100.0%	68,883	100.0%	1.4%	100.0%

Mountain State Health Alliance

Washington County, VA

Household Income	Market 2015 Households	Market 2015 % of Total	Market 2020 Households	Market 2020 % of Total	Market Households % Change	National 2015 % of Total
<$15K	4,305	14.2%	3,911	12.7%	(9.2)%	12.7%
$15-25K	4,090	13.5%	3,733	12.1%	(8.7)%	10.8%
$25-50K	9,167	30.3%	8,936	29.1%	(2.5)%	23.9%
$50-75K	5,537	18.3%	5,470	17.8%	(1.2)%	17.8%
$75-100K	3,126	10.3%	3,369	11.0%	7.8%	12.0%
$100K-200K	3,329	11.0%	4,260	13.9%	28.0%	17.9%
>$200K	755	2.5%	1,064	3.5%	40.9%	5.0%
Total	30,309	100.0%	30,743	100.0%	1.4%	100.0%

Education Level**	Market 2015 Population	Market 2015 % of Total	Market 2020 Population	Market 2020 % of Total	Market Population % Change	National 2015 % of Total
Less than High School	4,053	7.9%	4,168	7.9%	2.8%	5.9%
Some High School	5,067	9.8%	5,207	9.9%	2.8%	8.0%
High School Degree	16,713	32.4%	17,156	32.6%	2.7%	28.1%
Some College/Assoc. Degree	15,550	30.2%	15,894	30.2%	2.2%	31.1%
Bachelor's Degree or Greater	10,154	19.7%	10,280	19.5%	1.2%	26.9%
Total	51,537	100.0%	52,705	100.0%	2.3%	100.0%

*Excludes population age <5, **Excludes population age <25

MOUNTAIN STATES HEALTH ALLIANCE

2015 COMMUNITY HEALTH NEEDS ASSESSMENT

NORTON COMMUNITY HOSPITAL

Published June 29, 2015

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a. NCH Area Snapshot

Introduction

Mountain States Health Alliance (MSHA) is an integrated health care delivery system providing a comprehensive continuum of care to people in 29 counties in Tennessee, Virginia, Kentucky, and North Carolina. MSHA was formed after Johnson City Medical Center Hospital, Inc. acquired six Columbia/HCA hospitals in Northeast Tennessee on September 1, 1998; and was later renamed Mountain States Health Alliance in January 1999.

Today, MSHA is the largest regional health care system with 13 hospitals operating at approximately $1.0 billion in net revenues. The hospitals are:

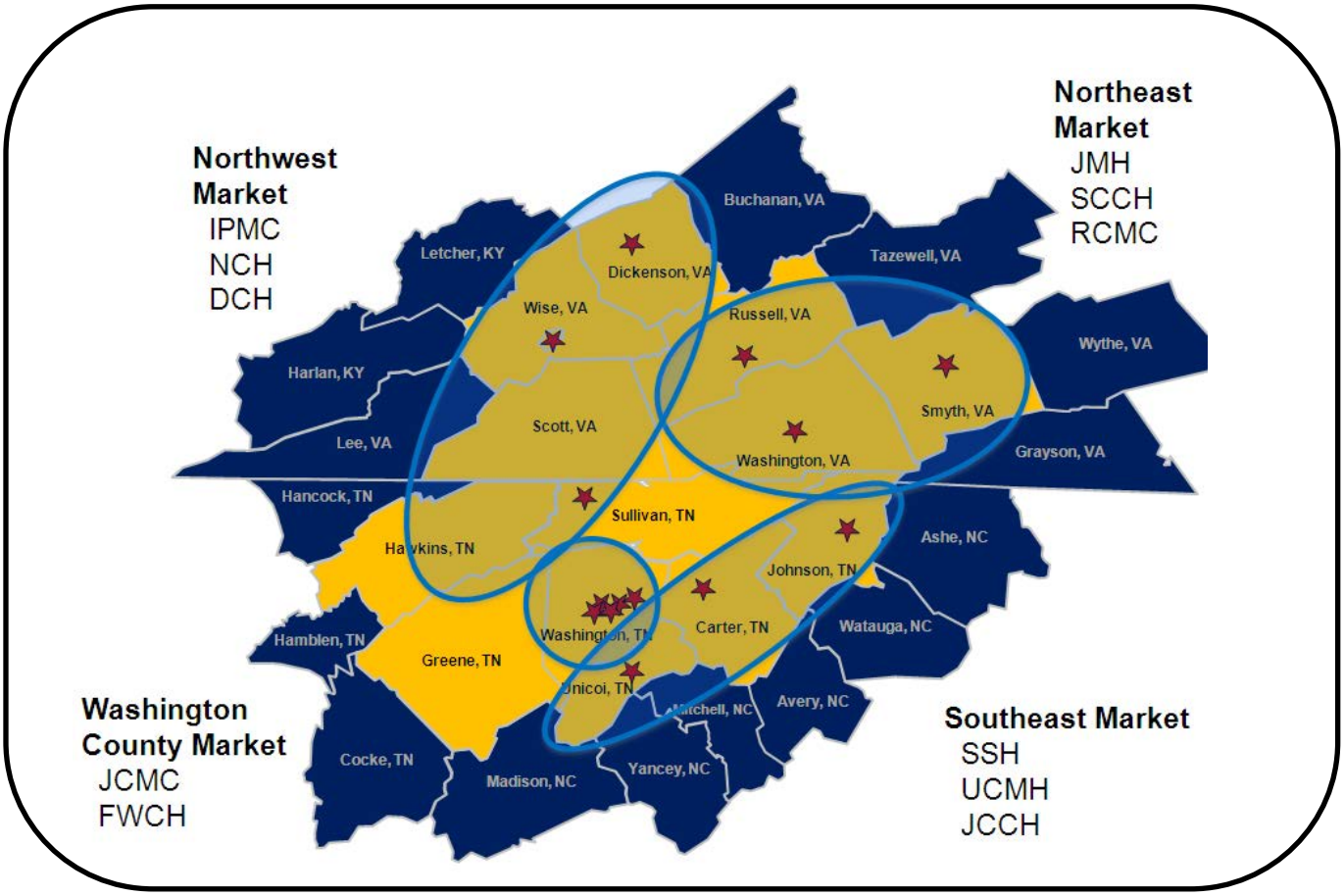
- Johnson City Medical Center
- Niswonger Children's Hospital
- Woodridge Psychiatric Hospital
- Franklin Woods Community Hospital
- Unicoi County Community Hospital
- Indian Path Medical Center
- Johnson County Community Hospital
- Sycamore Shoals Hospital
- Dickenson Community Hospital
- Johnston Memorial Hospital
- Norton Community Hospital
- Russell County Medical Center
- Smyth County Community Hospital

In addition to 13 hospitals, MSHA's integrated health care delivery system includes primary/preventive care centers and numerous outpatient care sites, including First Assist Urgent Care, MedWorks, Same Day Surgery, and Mountain States Rehabilitation.

Executive Summary

Regional and national rankings for health factors continue to be disappointing as cancer, heart disease, and diabetes rates continue to increase each year. Obesity and smoking continue to be major problems in the United States, leading to additional diseases. From a global perspective, the United States falls behind other developing nations in health outcomes. Clearly, there are many needs that exist and need attention. The interrelatedness between the health of a community, its economic status, and its educational attainment levels is becoming increasingly recognized. Mountain States Health Alliance (MSHA) exists to "*identify and respond to the health care needs of individuals and communities in our region and to assist them in attaining their highest possible level of health.*" In doing so, MSHA recognizes this is a very complex challenge that involves the engagement of many prongs of the community.

In order for MSHA to serve its region most effectively, it is essential to understand each community's individual needs. MSHA has conducted a Community Health Needs Assessment to profile the health of the residents within the local region (a map of the MSHA service area is provided on the following page). Activities associated with the development of this assessment have taken place from spring of 2014 through spring of 2015, including state, regional and county-specific secondary data collection and primary data obtained through individual surveys and focus groups with individuals from the local communities.



★ Represents county in which MSHA owns a facility. MSHA has part-ownership in other hospitals but they are not included in this assessment.

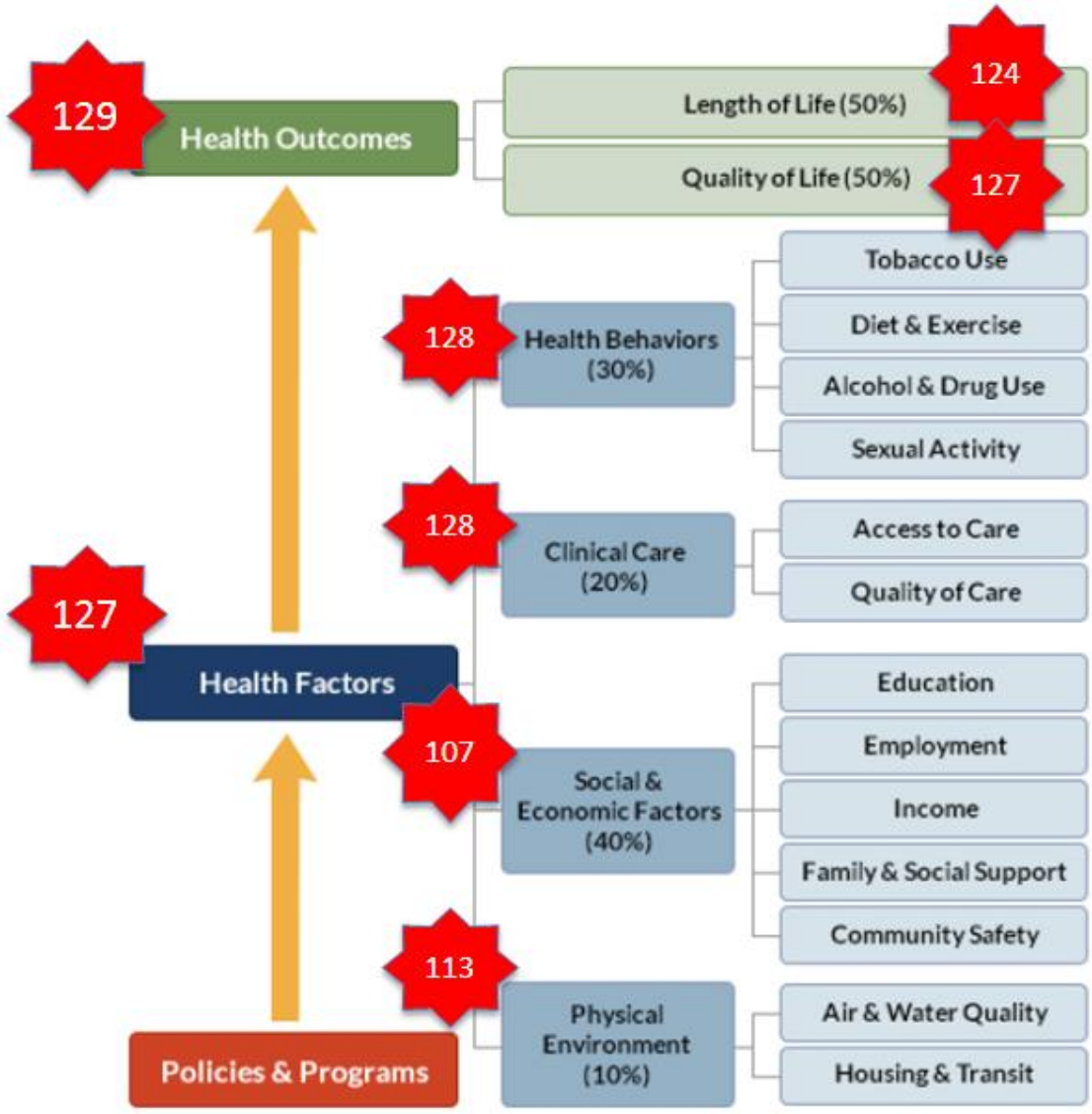
*Service Area is defined by approximately 80% of inpatient population.

Throughout the assessment, high priority was given to determining the health status and available resources within each community. Community members from each county met with MSHA to discuss current health priorities and identify potential solutions. The information gathered from a local perspective, paired with regional, state and national data, helps to communicate the region's health situation in order to begin formulating solutions for improvement.

In 2014, Tennessee ranked 45th and Virginia ranked 21st out of 50 states for overall health outcomes. Both states had high rates of adult obesity, cancer deaths, infant mortality, and diabetes. Though Virginia's overall ranking is moderately low, the health outcomes in Southwest Virginia counties, where MSHA's facilities are located, resembles those of Tennessee. After compiling the various sources of information, the top health priorities were identified for the communities that each of the MSHA hospitals serve. This effort has determined the top health priorities identified in Wise County and the city of Norton to include **substance abuse, cancer, diabetes and obesity**. There are certainly a number of other health challenges in this community, but these rise to the top based on this assessment.

According to the 2015 County Health Rankings, Wise County is ranked 129th Virginia for health outcomes and 127th for health factors out of 133 counties. The leading causes of death for ages 65 and over are heart disease, cancer, and stroke. Wise County also ranked 128th in health behaviors. When compared to other Virginia counties, Wise County has high smoking rates, high physical inactivity, high teen birth rates, and high overweight/obesity rates. As for social and economic factors, Wise County ranks 107th due to low rates of college education, high rates of children in poverty, and high unemployment rates.

Wise County Health Ranking
2015 County Health Rankings
www.countyhealthrankings.org



*Ranking is in comparison to all 133 localities in the state of Virginia.

Community Interview Summary

In spring 2014 the MSHA Strategic Planning Department completed individual interviews to connect with community members of Wise County and determine the needs of the community that Norton Community Hospital serves. MSHA hospital administration teams were contacted in order to obtain names of individuals in the community who were considered public health officials or community leaders. The five interviewees included representatives from the health department, hospital, United Way, retired community members and the local board of schools. These individuals were invited to discuss and assist in determining the health priorities and resources available in their community of Wise County.

Collecting Community Input

In order to complete the community health needs assessment for Norton Community Hospital, MSHA met with various individuals from Wise County, VA. The organizations that were represented are listed in Table 1.1.

Table 1.1 – Summary Organizations Participating in NCH's CHNA

Reported Organizations Providing Input for Assessment
Virginia Department of Health Health Wagon SCCH Southwest Virginia United Way NIDA

To begin the community health needs assessment, MSHA's strategic planning staff presented data that had been collected to illustrate past and current health trends for Virginia and Wise County. The presentation depicted the current national health rankings, in addition to providing a snapshot of the county.

Following the presentation, each participant was given a survey to determine the individual's personal assessment of their county's health priorities. Secondly, the individuals were asked to submit ideas and suggestions as to how MSHA could use the available resources in order to improve the health priorities determined. After the surveys had been completed, each group discussed the questions and continued brainstorming ways to address obstacles and utilize resources. All of the information collected from the surveys and open discussion was evaluated and prioritized based on health needs.

In surveys obtained from the Wise County representatives, several community health needs and resources were identified. Table 1.2 lists the survey questions given to each participant in the assessment.

Table 1.2 – Community Survey Questions

	Survey Questions
1	How would you rate the general health status of the patient population in this community on a scale of 1 to 10 (with 1 being the poorest and 10 being the best)?
2	Keeping in mind resources are not unlimited, can you identify the top 1-2 health priorities in your local community that you feel should be addressed in the following areas: a)Health Outcomes/Diseases b)Health Behaviors c)Social Environment
3	What existing resources, such as organized groups or public health initiatives have been developed and are in place to address these health priorities?
4	What ideas do you have that may serve to improve these health priorities?

Health Status Rating

Overall, the general health status of Wise County was rated as 3.6 on a scale of 1 – 10, with 1 being the poorest and 10 being the best. Individual responses ranged from 1-5. The health ranking for Wise County can be found below in Table 1.3.

Table 1.3 – Average Health Status Ranking

MSHA Facility/County	Number of Individuals	Average of Health Status Rating
NORTON COMMUNITY HOSPITAL, Wise County, VA	11	3.6

Top Health Priorities

From the results of the surveys, the most prevalent health priorities in Wise County were substance abuse, cancer, diabetes and obesity (physical inactivity/poor diet). Table 1.4 lists the health priorities input provided by community participants.

Table 1.4 – Top Identified Health Issues

Wise County, VA		
Top Health Priorities	**Responses**	**% of Total Responses**
Health Outcomes/Diseases		
Cancer	6	37.50%
Diabetes	6	37.50%
Obesity	4	25.00%
Dementia/Alzheimer's	3	18.75%
Cardiovascular Disease	2	12.50%
Health Behaviors		
Substance and prescription drug abuse	7	43.75%
Smoking/Tobacco use	3	18.75%
Physical inactivity	3	18.75%
Poor nutrition	2	12.50%
Hygiene	1	6.25%
Social & Economic Factors		
Lack of long-term care facilities	1	6.25%
Lack of physicians	1	6.25%
Income inequality	1	6.25%
Additional preschool access	1	6.25%
Parenting education	1	6.25%
Child Safety	1	6.25%
Poverty	1	6.25%
Education	1	6.25%
Unemployment	1	6.25%

*Individuals submitted multiple answers regarding health priorities.

These priorities are consistent with the secondary data findings.

- Cancer
  - The annual incidence of lung cancer rates in Wise County were well above that of the state of VA: 90 vs. 64.4 (per 100,000 population)
  - The age-adjusted death rate due to cancer also exceeded that of the state: 226.52 vs. 176.36 (per 100,000 population)
- Diabetes
  - The prevalence rate of diabetes in Wise County well exceeds the state average (13% vs. 9%).
  - Diabetic monitoring is slightly lower than the state average (defined as the percentage of diabetic Medicare enrollees ages 65-75 that receive HbA1c monitoring; 86% vs. 87%) but exceeds the national average of 84.57%
- Substance and prescription drug abuse
  - The rate of drug poisoning deaths per 100,000 in Wise County is four times the state average (38 vs 9)
- Obesity
  - More than 33% of Wise County residents report a Body Mass Index (BMI) greater than 30 (obese), compared to 27% of Virginians.
  - Self-reported physical inactivity rates among Wise County residents exceed the state average (37% vs. 30%)

All of these issues lead to a higher percentage of self-reported age-adjusted fair or poor health rates in Wise County compared to the state (24% vs. 14%) as well as a higher number of years of potential life lost before 75 per 100,000 (a measure of premature death) at 11,198 in the county vs. 6,192 in VA.

Wise (WI)

	Wise County	Error Margin	Top U.S. Performers*	Virginia	Rank (of 133)
Health Outcomes					129
Length of Life					124
Premature death	11,198	10,069-12,326	5,200	6,192	
Quality of Life					127
Poor or fair health	24%	20-29%	10%	14%	
Poor physical health days	6.0	4.8-7.2	2.5	3.2	
Poor mental health days	6.6	5.2-8.1	2.3	3.1	
Low birthweight	9.1%	8.1-10.0%	5.9%	8.3%	
Health Factors					127
Health Behaviors					128
Adult smoking	33%	27-40%	14%	18%	
Adult obesity	32%	27-38%	25%	28%	
Food environment index	7.5		8.4	8.3	
Physical inactivity	38%	33-43%	20%	22%	
Access to exercise opportunities	75%		92%	81%	
Excessive drinking	10%	7-15%	10%	16%	
Alcohol-impaired driving deaths	28%		14%	31%	
Sexually transmitted infections	340		138	427	
Teen births	58	53-63	20	29	
Clinical Care					128
Uninsured	16%	15-18%	11%	14%	
Primary care physicians	2,154:1		1,045:1	1,344:1	
Dentists	4,059:1		1,377:1	1,611:1	
Mental health providers	1,194:1		386:1	724:1	
Preventable hospital stays	126	116-137	41	55	
Diabetic monitoring	86%	79-93%	90%	87%	
Mammography screening	58.8%	50.5-67.1%	70.7%	63.4%	
Social & Economic Factors					107
High school graduation	83%			83%	
Some college	47.9%	42.7-53.1%	71.0%	68.2%	
Unemployment	8.8%		4.0%	5.5%	
Children in poverty	28%	21-35%	13%	16%	
Income inequality	5.3	4.8-5.9	3.7	4.8	
Children in single-parent households	31%	25-37%	20%	30%	
Social associations	10.3		22.0	11.3	
Violent crime	158		59	200	
Injury deaths	91	78-104	50	52	
Physical Environment					113
Air pollution - particulate matter	13.0		9.5	12.7	
Drinking water violations	11%		0%	2%	
Severe housing problems	13%	11-15%	9%	15%	
Driving alone to work	84%	82-86%	71%	77%	
Long commute - driving alone	29%	25-32%	15%	38%	

* 90th percentile, i.e., only 10% are better.
Note: Blank values reflect unreliable or missing data

2015

Identifying Available Resources

MSHA realizes that there are numerous resources in all of the counties it serves that can provide care for individuals. Our goal, in order to reduce costs and provide the best care possible for patients, is to identify these resources to prevent duplication of services and efforts. The interviewees were asked to list all of the services and resources within their community. The interviewees acknowledged that many resources currently exist to help meet health needs. Table 1.5 lists the current resources within each county that offer health services to the community.

Table 1.5 – Identified Available Resources

Resources Available
Wise County, Virginia
Smoke-free schools
Cumberland Plateau Health District
Health Department
Health Wagon
Drug Court
School nurses
Remote Area Medical (RAM)
Free clinics (Stone Mountain Health Clinic)
Quit Line referrals
Lion's Club
Behavioral health services at DCH
Head Start – Kids Central
Obesity prevention program in middle schools
Farmer's markets
Frontier Health
Junction Center
Appalachian College of Pharmacy

*MSHA understands that there are other resources available in each county that are not listed in this table. This table represents only the resources listed by participants in community health needs assessment. MSHA will continue to identify resources.

Improving Health Priorities

The community members who were surveyed provided helpful ideas as to how to begin formulating a plan to improve the health priorities throughout the region. To enhance existing resources, the participants stressed the significance of increasing public awareness of both addressing one's health needs and the availability of health care options within each community. Additional suggestions as to how MSHA can improve the previously identified health priorities are listed in Table 1.6.

Table 1.6 – Ideas to Improve Health Priorities

	Responses
1	Recruit specialty providers
2	Press releases/fliers to inform public about health programs
3	Give physicians and patients diabetes fact sheets
4	In-home monitoring of chronic conditions
5	Dental assistants/hygienists to visit schools
6	Train ER physicians on minor dental procedures
7	Social/community support programs
8	Increased hospital and home health referrals to PACE and MEOC programs
9	Incentives for health maintenance
10	Health promotion focus
11	Mobile units to provide services to rural areas
12	Coordinate education within the school system
13	More health education classes that are convenient for various populations
14	HOSA

However, it is also helpful to understand from a more global perspective the health status of our nation as a whole, since many issues we face in our service area are not limited to just our region. Compiled on an annual basis, the *America's Health Rankings* publication developed by the United Health Foundation, the American Public Health Association and Partnership for Prevention provides one of the most comprehensive assessments regarding the status of the nation's health. The following information in the national and regional overview is from the 2015 edition

Health is a result of our behaviors, our individual genetic predisposition to disease, the environment and the community in which we live, the clinical care we receive and the policies and practices of our health care and prevention systems. Each of us, individually, as a community, and as a society, strives to optimize these health determinants, so that all of us can have a long, disease-free, and robust life regardless of race, gender or socio-economic status.

This report looks at the four groups of health determinants that can be affected:

1. **Behaviors** include the everyday activities we do that affect our personal health. It includes habits and practices we develop as individuals and families that have an effect on our personal health and on our utilization of health resources. These behaviors are modifiable with effort by the individual supported by community, policy and clinical interventions.

2. **Community and environment** reflects the reality that the daily conditions in which we live our lives have a great effect on achieving optimal individual health.

3**. Public and health policies** are indicative of the availability of resources to encourage and maintain health and the extent that public and health programs reach into the general population.

4. **Clinical care reflect**s the quality, appropriateness and cost of the care we receive at doctors' offices, clinics and hospitals.

All health determinants are intertwined and must work together to be optimally effective. For example, an initiative that addresses tobacco cessation requires not only efforts on the part of the individual but also support from the community in the form of public and health policies that promote non-smoking and the availability of effective counseling and care at clinics. Similarly sound prenatal care requires individual effort, access to and availability of prenatal care coupled with high quality health care services. Addressing obesity, which is a health epidemic now facing this country, requires coordination among almost all sectors of the economy including food producers, distributors, restaurants, grocery and convenience stores, exercise facilities, parks, urban and transportation design, building design, educational institutions, community organizations, social groups, health care delivery and insurance to complement and augment individual actions.



America's Health Rankings® combines individual measures of each of these determinants with the resultant health outcomes into one, comprehensive view of the health of a state. Additionally, it discusses health determinants separately from health outcomes and provides related health, economic and social information to present a comprehensive profile of the overall health of each state.

America's Health Rankings® employs a unique methodology, developed and periodically reviewed by a panel of leading public health scholars, which balances the contributions of various factors, such as smoking, obesity, binge drinking, high school graduation rates, children in poverty, access to care and incidence of preventable disease, to a state's health. The report is based on data from the

U.S. Departments of Health and Human Services, Commerce, Education and Labor; U.S. Environmental Protection Agency; U.S. Census Bureau, the American Medical Association; the American Dental Association; the Dartmouth Atlas Project; and the Trust for America's Health.

Purpose

The ultimate purpose of *America's Health Rankings*® is to stimulate action by individuals, elected officials, health care professionals, employers, and communities to improve the health of the population of the United States. We do this by promoting public conversation concerning health in our states, as well as providing information to facilitate citizen, community and group participation. We encourage participation in all elements: behaviors, community and environment, clinical care, and public and health policies. Each person individually, and in their capacity as an employee, employer, voter, community volunteer, health official or elected official, can contribute to the advancement of the healthiness of their state. Proven, effective and innovative actions can improve the health of people in every state whether the state is first or 50th.

Findings

Comparison to Other Nations

When health in the United States is compared to health in other countries, the picture is disappointing. The World Health Organization, in its annual World Health Statistics 2013, compares the United States to the nations of the world on a large variety of measures. While the U.S. does exceed many countries, it is far from the best in many of the common measures used to gauge healthiness and lags behind its peers in other developed countries.

The United States ranks at or near the bottom among high-income countries on nearly all indicators of mortality, survival, and life expectancy. Life expectancy is a measure that indicates the number of years that a newborn is expected to live. Japan, San Marino, and Switzerland are the persistent leaders for developed countries in this measure, with an overall life expectancy of 83 years. At 81 years for women and 76 years of men, the United States ranks 33rd among the 193 reporting nations of the WHO. The United States male life expectancy rates are on par with Chile, Cuba, Brunei Darussalam, and Maldives, while the female life expectancy rates are on par with Columbia, Costa Rica, Czech Republic, Estonia, Poland, and Qatar. There are 32 other countries that exceed the United States in healthy life expectancy, including Australia, Italy, Spain, France, Germany, Greece and the United Kingdom.

One of the underlying causes for these differences is the gap in infant mortality rates between the United States and many other countries. The infant mortality rate for the U.S. in 2011 was 6 deaths per 1,000 live births, ranking 40th among WHO nations. The infant mortality rates in Finland, Japan, and Sweden were *one* third that of the U.S. rate. Of the 193 countries rated, 39 countries had lower infant mortality rates than the United States.

These countries also have considerably lower infant mortality rates than that of non-Hispanic whites in the United States, which is the ethnic/racial group with the lowest infant mortality rate. The racial/ethnic disparities related to infant mortality could be related to differences in risk factors among different racial/ethnic groups, including risk for low birth weight delivery, access to medical care, and socioeconomic status. However, many of the racial/ethnic differences in infant mortality remain unexplained. It should also be noted that the reporting and classification of infant mortality varies among countries, which could be reflected in the ranks.

In addition to infant mortality, youth and young adults' mortality impacts life expectancy. Unintentional injuries claim approximately 30 percent of the years lost before age 50, along with violence and suicides, among U.S. young adults and adolescents. Non-communicable (chronic)

diseases, such as cancer, heart disease, and other conditions that are not caused by infections, begin to be more of a contributing factor after the age of 30.

Differences in healthy life expectancy are also affected by the effectiveness of treating disease, especially those that are amenable to care, including bacterial infections, treatable cancers, diabetes, cardiovascular and cerebrovascular disease, some ischemic heart disease, and complications from common surgical procedures. The age-adjusted amenable mortality rate before age 75 for the United States was 95.5 deaths per 100,000 population in 2006 to 2007, which is still a slower rate of improvement than in other Organization for Economic Cooperation and Development (OECD) nations studied. The rate in the U.S. is 50 percent higher than the rate in France, Japan, Italy, and Australia.

Additionally, the study indicated that despite spending more than any other country on health care, the United States continues to slip further behind and has one of the highest inequalities in health compared to other developed countries. The U.S. ranks among the worst OECD countries for child health well-being, having an inequality higher than average. Furthermore, although the United States has the highest income per person, it continues to rank as the worst country for income inequality, which is thought to explain why it has the highest index of health and social problems compared to other developed nations.

Physical inactivity and obesity play major contributions to disease worldwide and in the United States. Physical inactivity is the fourth leading risk factor for global mortality, and is responsible for an estimated 6 to 10 percent of non-communicable diseases, such as type 2 diabetes, heart disease, colon cancer, and breast cancer. North America has 34 percent of the world's biomass due to obesity; however, it only makes up for 6 percent of the world's population. Asia, on the other hand, has 61 percent of the world's population, yet only has 13 percent of its biomass due to obesity. While the U.S. is only one of several countries that form North America, it is the only North American nation to rank among the heaviest nations globally. It is estimated that eliminating physical activity in the United States would add approximately 1 year to life expectancy and dramatically reduce the burden of chronic diseases.

The results of these studies should be a wake-up call to everyone in the United States to strive to improve all aspects of our health system, including education, safety, prevention, and clinical care. Other countries have improved their overall health, indicating that we, too, can do the same.

National Changes since 1990

In the past year, 20 health measures improved, 8 measures declined, and 1 measure remained unchanged. Table 1 shows the national changes in the last year. These improvements were offset by deterioration in several measures, including increases in the prevalence of obesity, the percentage of children in poverty and lack of health insurance.

Since 2012, the prevalence of smoking declined from 21.2 percent to 19 percent among adults. The binge drinking prevalence rate dropped from 18.3 percent to 16.8 percent of adults who binged in the last 30 days, and physical inactivity decreased from 26.2 percent to 25.3 percent. The incidence of pertussis increased sharply from 9.0 to 15.5 cases per 100,000 populations. The percentages of children in poverty, lack of health insurance, child immunization coverage, and low birth weight have also suppressed faster improvement in our nation's health.

Table 1 – National Successes and Challenges

SUCCESSES

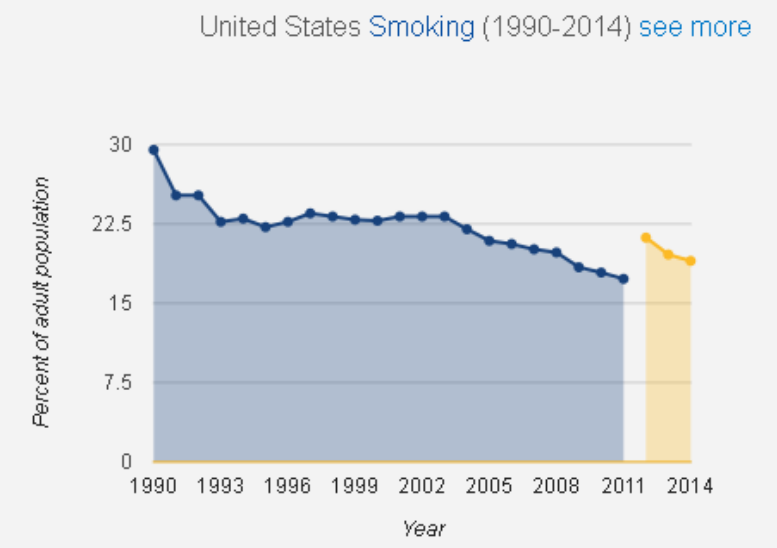
Smoking	Since 1990, smoking decreased 36% from 29.5% to 19.0% of adults who smoke regularly.
High School Graduation	At 81% of ninth graders graduating within 4 years, high school graduation is still a challenge. However, it is slowly trending upward from 71.7% in 2004.
Violent Crime	At 387 offenses per 100,000 population, violent crime is 37% lower than in 1990 and 49% lower than its peak in 1993.
Air Pollution	The average amount of fine particulates in the air continues to decline from 13.2 micrograms per cubic meter in 2003 to 9.9 micrograms per cubic meter in 2014.
Preventable Hospitalizations	Preventable hospitalizations continue to decline. In 2001, there were 82.5 discharges per 1,000 Medicare beneficiaries; in 2014, there were 62.9 discharges per 1,000 Medicare beneficiaries.
Occupational Fatalities	Occupational fatalities have declined in the last 8 years from 5.3 deaths per 100,000 workers in 2007 to 3.8 deaths per 100,000 workers. This is the second consecutive year the rate is below 4 deaths per 100,000 workers.
Infant Mortality	Since 1990, infant mortality decreased 41% from 10.2 to 6.0 deaths per 1,000 live births, although most of that decline occurred between 1990 and 1999. Even though the infant mortality rate is the lowest in US history, it is double the rate of many developed countries. In addition, large racial and geographic disparities exist within the country.
Premature Death	Since 1990, premature death declined 20% from 8,716 to 6,976 years of potential life lost before age 75. Premature death, like several other metrics, has leveled off in the last decade compared with improvements made in the 1990s.
Cancer Deaths	Cancer deaths declined 4% from 197.5 deaths in 1990 to 189.9 deaths per 100,000 population.
Cardiovascular Deaths	Since 1990, cardiovascular deaths declined 38% from 405.1 to 251.4 deaths per 100,000 population. This continues a relatively constant improvement of 2% to 3% yearly.

CHALLENGES

Obesity	Since 1990, obesity has increased 153% from 11.6% to 29.4% of adults.
Physical Inactivity	Physical inactivity remains high at 23.5% of adults and has not changed appreciably for the last decade.
Children in Poverty	At 19.9% of children, the children in poverty measure is far above the 23-year low of 15.8% in the 2002 Edition and near the 1990 level of 20.6%.
Public Health Funding	State public health funding continues its slow decline over the past 4 years. Since 2011, it decreased from $95.01 to $90.00 in expenditures per person at the state level.
Immunization Coverage — Children	Nationwide, comprehensive immunization coverage among children aged 19 to 35 months is only 70.4%. It increased marginally in the past year.
Immunization Coverage — Adolescents	Nationwide, comprehensive immunization coverage among teens aged 13 to 17 years is only 67.1%. It increased marginally in the past year.
Low Birthweight	In the last 20 years, the prevalence of low birthweight infants has increased from 7.1% to 8.0% nationwide. The good news is that it appears to have peaked in 2009 and is trending downward.
Diabetes	In the nation, 9.6% of adults report they have been told they have diabetes. There has been a steady, upward climb in the prevalence of diabetes, although data from the last 3 years shows a leveling of the prevalence.

The United States has the potential to return to the rates of improvement typical in the 1990s. However, to do so, it must address the drivers of health directly by focusing on reducing important risk factors. For example, the prevalence of smoking had been stagnant for many years and recently started to show improvement in the last two decades. However, there was an increase in rates from 2010 to 2012. In the last year, the prevalence of smoking declined in the United States from 21.2 percent to 19 percent of adults who smoke regularly; however Tennessee ranks 46th as one of the bottom five states with 24.3 percent of adults smoking and Virginia ranks 24th at 19.1 percent.

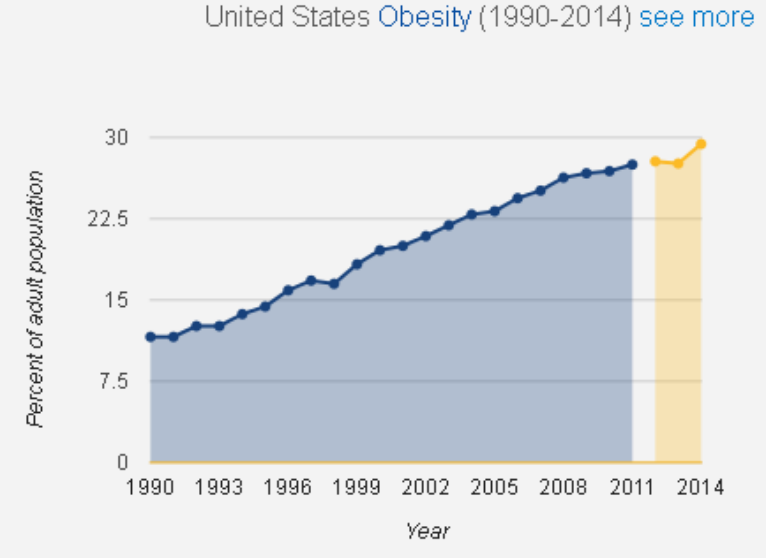
Graph 1 - Prevalence of Smoking Since 1990



Unprecedented and unchecked growth in the prevalence of obesity over the last 20 years has also dramatically affected the overall health of the United States. The prevalence of obesity, a risk factor for numerous illnesses including heart disease and diabetes, appears to be leveling off after increasing for decades. However, more than one in four people in the U.S. is considered obese - a category that the Centers for Disease Control and Prevention reserves for those who are significantly over the suggested body weight given their height. In the United States, the prevalence of obesity is 29.4 percent of adults, which has increased from 27.8 percent in 2012. Virginia's obesity score ranks 18th at 27.2 percent, while Tennessee ranks 47th at 33.7 percent of obese adults.

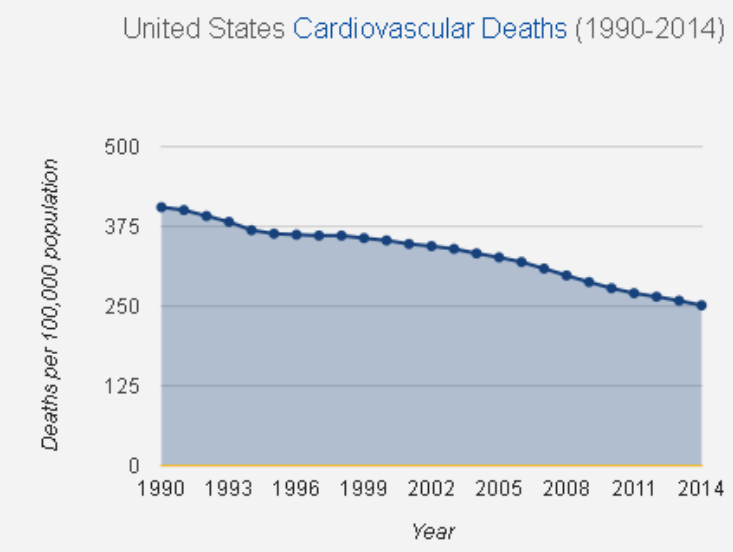
These very high obesity rates are gathered from the Behavioral Risk Factor Surveillance System, the nation's largest phone survey about health, and rely on self-reported height and weight. Actual obesity rates, as measured by health professionals, may be almost 10 percent higher, meaning that over one-third of the population is now obese.

Graph 2 - Prevalence of Obesity Since 1990



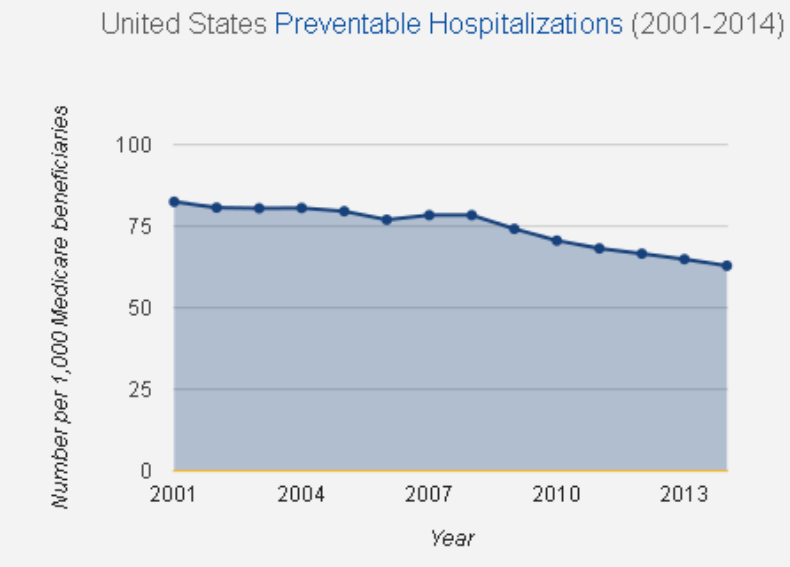
Despite increasing risk factors such as obesity, high cholesterol, and high blood pressure, deaths contributed to cardiovascular disease have consistently declined by 2 to 3 percent per year for the last decade. Cardiovascular disease accounts for 30 percent of Medicare spending, 17 percent of medical spending, and totals nearly $150 billion each year. For cardiovascular deaths, Virginia ranked 25th with a rate of 241.1 per 100,000 and Tennessee ranked 44th with the rate of 300.6.

Graph 3 – Prevalence of Cardiovascular Deaths Since 1990



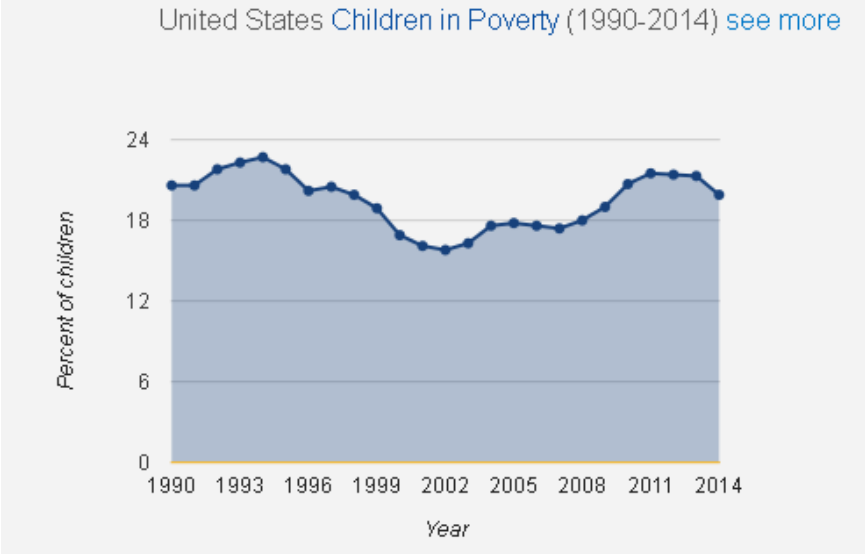
Like cardiovascular disease, potentially preventable hospitalizations have steadily decreased over the past 12 years. Preventable hospitalizations (hospitalizations that may be preventable with high quality primary and preventive care) have decreased from 82.5 to 62.9 discharges per 1,000 Medicare enrollees since 2001. Preventable hospitalizations reflect how efficiently a population uses various health care options for care and often occur as a result of a failure to detect or treat conditions early. Preventable hospitalizations could be avoided with earlier, less costly interventions. Virginia ranked 22nd in this measure with a 55.2 rate and Tennessee ranked 47th with a rate of 78.5.

Graph 4 – Preventable Hospitalizations Since 2001



The current economic climate also increases the challenge of maintaining a healthy population. Poverty is an indication of the lack of access to health care, including preventive care, for this vulnerable population. Graph 5 shows the recent increase in the percentage of children in poverty in the last few years, increasing from 16.1 percent of children in the 2011 Edition to 19.9 percent of children in the 2014 Edition. On this measure Virginia ranks 12th with a 14.5 percent of children living in poverty and Tennessee ranks 45th with 26.7 percent. In the 2002 Edition, the child poverty rate was at a historic low of 15.8 percent of persons under age 18.

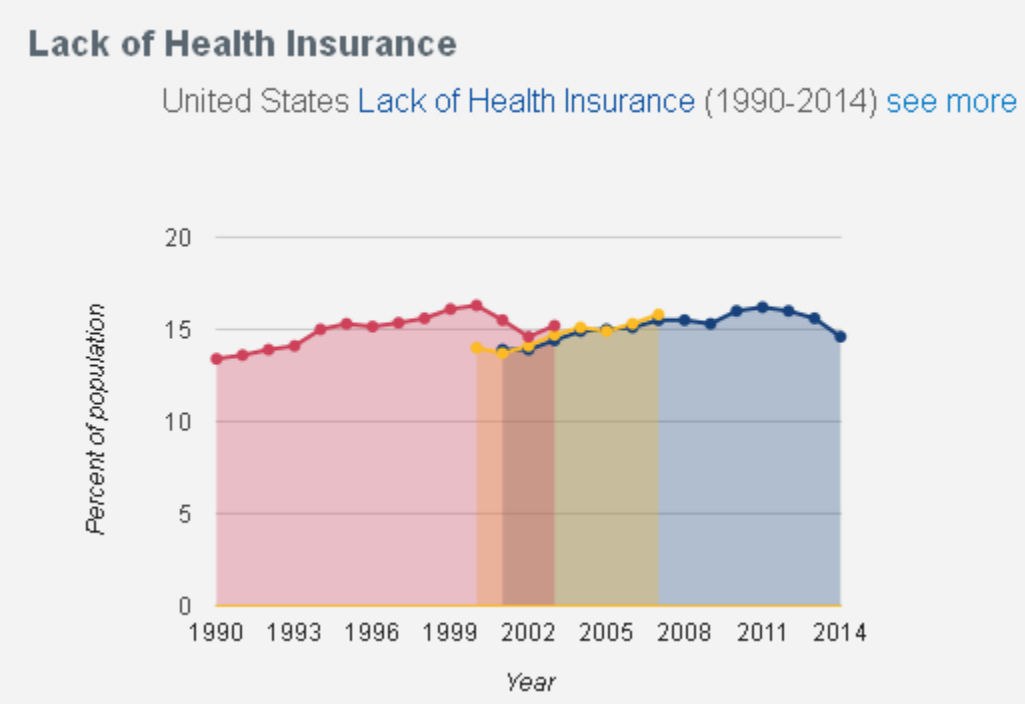
Graph 5 – Children in Poverty since 1990



Lack of health insurance coverage increased from 13.9 percent in the 2001 Edition to 14.6 percent of the population in the 2014 Edition. Lack of health insurance not only inhibits people from getting the proper care when needed but also reduces access to necessary preventive care to curtail or minimize future illnesses.

Massachusetts, with the lack of health insurance at 3.8 percent of the population, is substantially better than all other states and less than one-fourth of the national average. Texas has a rate six times that of Massachusetts. Changes in national health care laws have the potential to dramatically affect this metric over the next few years.

Graph 6 – Lack of Health Insurance Since 2001



2014 State Results

America's Health Rankings®-2014 Edition shows Hawaii at the top of the list of healthiest states again this year. The state has steadily remained within the top 5 healthiest states since 1990. Hawaii has consistently sustained its place within the top 5 healthiest states for the last 22 years, excluding 2002 when it was ranked 6th. Hawaii's strengths include its number one position for overall health rank and ranking in the top 5 states for a low rate of preventable hospitalizations, high immunization coverage among children, low prevalence of smoking and obesity, high per capita public health funding, a low rate of uninsured population, and low cancer and cardiovascular mortality rates. Hawaii's three challenges are a high prevalence of binge drinking, low high school graduate rate, and a high incidence of Salmonella infections.

Mississippi is 50th this year, the same as the last ten years, excluding in 2011 when it ranked 49th. It has been in the bottom three states since the 1990 Edition. The state ranks well for a low prevalence of binge drinking, higher immunization coverage among children, and small disparity in health status by educational attainment. In the past year, despite ranking last in the nation for immunization coverage among adolescents, coverage increased from 30.2 percent to 35.4 percent of persons aged 13 to 17 years. Mississippi also ranks last in many health outcomes, including infant mortality, low birth weight, premature death, cardiovascular death, infectious diseases, and overall health status. Mississippi's prevalence of obesity, physical inactivity, and diabetes remain among the highest in the nation with approximately 690,000 physically inactive adults, 770,000 obese adults, and 280,000 adults with diabetes. It ranks 48th in health determinants and 49th in health outcomes; therefore, its overall ranking is unlikely to change significantly in the near future

2014 Edition Ranking

2014 RANK (1–50)	STATE	SCORE
1	Hawaii	.91
2	Vermont	.85
3	Massachusetts	.74
4	Connecticut	.74
5	Utah	.73
6	Minnesota	.73
7	New Hampshire	.68
8	Colorado	.57
9	North Dakota	.55
10	Nebraska	.50
11	New Jersey	.47
12	Oregon	.41
13	Washington	.40
14	New York	.39
15	Rhode Island	.37
16	Maryland	.35
17	California	.35
18	Idaho	.34
18	South Dakota	.34
20	Maine	.30
21	Virginia	.30
22	Montana	.28
23	Wisconsin	.23
24	Iowa	.22
25	Wyoming	.21

2014 Edition Ranking

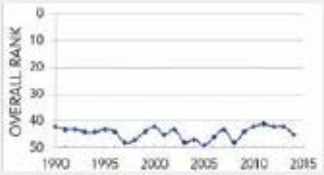
2014 RANK (1–50)	STATE	SCORE
26	Alaska	.13
27	Kansas	.08
28	Pennsylvania	.01
29	Arizona	-.04
30	Illinois	-.08
31	Texas	-.11
32	Florida	-.15
33	New Mexico	-.18
34	Michigan	-.21
35	Delaware	-.23
36	Missouri	-.28
37	North Carolina	-.29
38	Georgia	-.32
39	Nevada	-.33
40	Ohio	-.36
41	Indiana	-.38
42	South Carolina	-.64
43	Alabama	-.66
44	West Virginia	-.71
45	Tennessee	-.71
46	Oklahoma	-.74
47	Kentucky	-.75
48	Louisiana	-.80
49	Arkansas	-.93
50	Mississippi	-1.00

Tennessee



Overall Rank: 45

Change: ▼ 3
Determinants Rank: 44
Outcomes Rank: 46



Strengths:

- Low prevalence of binge drinking
- Low incidence of pertussis
- Ready availability of primary care physicians

Challenges:

- High prevalence of obesity
- High prevalence of physical inactivity
- High violent crime rate

Ranking:

Tennessee is 45th this year; it was 42nd in 2013. The ranking for senior health in Tennessee was 43rd in 2014.

Highlights:

- In the past year, physical inactivity increased by 17 percent from 28.6 percent to 33.6 percent of adults.
- In the past year, binge drinking decreased by 15 percent from 11.3 percent to 9.6 percent of adults, the lowest rate in the nation.
- In the past year, preventable hospitalizations decreased by 10 percent from 80.8 to 73.1 per 1,000 Medicare beneficiaries.
- In the last 2 years, immunization coverage among adolescents increased by 16 percent from 52.7 percent to 61.2 percent of adolescents aged 13 to 17 years.
- Since 1990, children in poverty decreased by 10 percent from 29.6 percent to 26.7 percent of children.

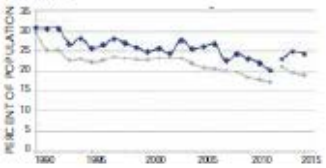
State Health Department Website:

http://health.state.tn.us

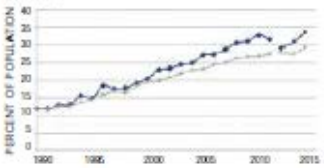
	2014 VALUE	2014 RANK	NO.1 STATE
Behaviors			
Smoking (Percent of adult population)	24.3	46	10.3
Binge Drinking (Percent of adult population)	9.6	1	9.6
Drug Deaths (Deaths per 100,000 population)	17.2	40	3.0
Obesity (Percent of adult population)	33.7	47	21.3
Physical Inactivity (Percent of adult population)	33.6	49	16.2
High School Graduation (Percent of incoming ninth graders)	83.0	20	93.0
Community & Environment			
Violent Crime (Offenses per 100,000 population)	644	50	123
Occupational Fatalities (Deaths per 100,000 workers)	5.0	32	2.2
Infectious Disease (Combined score Chlamydia, Pertussis, *Salmonella**)	0.01	29	-0.9
Chlamydia (Cases per 100,000 population)	507.9	39	233.0
Pertussis (Cases per 100,000 population)	4.8	10	1.6
Salmonella (Cases per 100,000 population)	17.2	35	6.8
Children in Poverty (Percent of children)	26.7	45	9.2
Air Pollution (Micrograms of fine particles per cubic meter)	9.5	30	4.9
Policy			
Lack of Health Insurance (Percent of population)	13.9	26	3.8
Public Health Funding (Dollars per person)	$83	20	$219
Immunization–Children (Percent aged 19 to 35 months)	68.5	33	82.1
Immunization–Adolescents (Percent aged 13 to 17 years)	61.2	36	81.3
Clinical Care			
Low Birthweight (Percent of live births)	9.2	44	5.7
Primary Care Physicians (Number per 100,000 population)	124.4	19	324.6
Dentists (Number per 100,000 population)	50.9	36	107.6
Preventable Hospitalizations (Number per 1,000 Medicare beneficiaries)	73.1	46	28.2
ALL DETERMINANTS	-0.43	44	0.71
OUTCOMES			
Diabetes (Percent of adult population)	12.2	46	6.5
Poor Mental Health Days (Days in previous 30 days)	3.7	24	2.5
Poor Physical Health Days (Days in previous 30 days)	5.0	49	2.8
Disparity in Health Status (Percent difference by education level**)	32.1	38	15.5
Infant Mortality (Deaths per 1,000 live births)	7.3	41	4.2
Cardiovascular Deaths (Deaths per 100,000 population)	300.6	44	184.7
Cancer Deaths (Deaths per 100,000 population)	213.5	44	145.7
Premature Deaths (Years lost per 100,000 population)	9,168	43	5,345
ALL OUTCOMES	-0.29	46	0.34
OVERALL	-0.71	45	0.91

*Negative score denotes less disease than US average, positive score indicates more than US average
**Difference in the percentage of adults aged 25 and older with vs without a high school education who report their health is very good or excellent

SMOKING



OBESITY



STATE ◆——◆ NATION ●——●

The 2012–2014 data in the above graphs are not directly comparable to prior years. See Methodology for additional information.

ECONOMIC ENVIRONMENT	TN	US
Annual Unemployment Rate (2013)	8.2	7.4
Annual Underemployment Rate (2013)	14.7	13.8
Median Household Income (2013)	$42,499	$51,939

MEASURE	ADULT POPULATION AFFECTED
Smoking	1,163,000
Obesity	1,595,000
Physical Inactivity	1,691,000
Diabetes	615,000

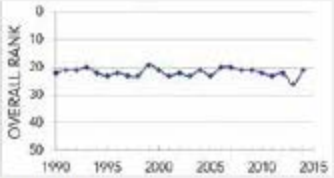
Virginia

VIRGINIA



Overall Rank: 21

Change: ▲ 5
Determinants Rank: 19
Outcomes Rank: 23



Strengths:

- Low rate of drug deaths
- Low violent crime rate
- Low percentage of children in poverty

Challenges:

- Low immunization coverage among children
- Low immunization coverage among teens
- High infant mortality rate

Ranking:

Virginia is 21st this year; it was 26th in 2013. The ranking for senior health in Virginia was 21st in 2014.

Highlights:

- In the past year, air pollution decreased by 6 percent from 9.3 to 8.7 micrograms of fine particles per cubic meter.
- In the last 2 years, drug deaths decreased by 10 percent from 9.3 to 8.4 deaths per 100,000 population.
- In the last 10 years, preventable hospitalizations decreased by 25 percent from 73.8 to 55.2 per 1,000 Medicare beneficiaries.
- Since 1990, cardiovascular deaths decreased by 42 percent from 413.2 to 241.1 deaths per 100,000 population.
- Since 1990, infant mortality decreased by 38 percent from 10.6 to 6.6 deaths per 1,000 live births.

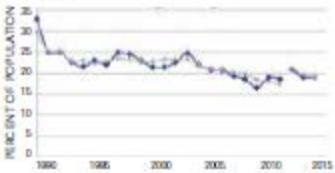
State Health Department Website:

www.vdh.state.va.us

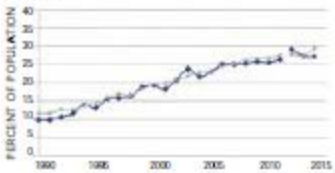
	2014 VALUE	2014 RANK	NO 1 STATE
Behaviors			
Smoking (Percent of adult population)	19.0	24	10.3
Binge Drinking (Percent of adult population)	15.9	20	9.6
Drug Deaths (Deaths per 100,000 population)	8.4	4	3.0
Obesity (Percent of adult population)	27.2	18	21.3
Physical Inactivity (Percent of adult population)	23.0	20	16.2
High School Graduation (Percent of incoming ninth graders)	84.0	16	93.0
Community & Environment			
Violent Crime (Offenses per 100,000 population)	190	4	123
Occupational Fatalities (Deaths per 100,000 workers)	4.4	25	2.2
Infectious Disease (Combined score Chlamydia, Pertussis, *Salmonella**)	-0.29	16	-0.9
Chlamydia (Cases per 100,000 population)	431.8	26	233.0
Pertussis (Cases per 100,000 population)	7.7	18	1.6
Salmonella (Cases per 100,000 population)	14.1	25	6.8
Children in Poverty (Percent of children)	14.5	12	9.2
Air Pollution (Micrograms of fine particles per cubic meter)	8.7	19	4.9
Policy			
Lack of Health Insurance (Percent of population)	12.4	20	3.8
Public Health Funding (Dollars per person)	$68	28	$219
Immunization–Children (Percent aged 19 to 35 months)	69.2	29	82.1
Immunization–Adolescents (Percent aged 13 to 17 years)	58.5	42	81.3
Clinical Care			
Low Birthweight (Percent of live births)	8.1	27	5.7
Primary Care Physicians (Number per 100,000 population)	125.8	16	324.6
Dentists (Number per 100,000 population)	61.6	19	107.6
Preventable Hospitalizations (Number per 1,000 Medicare beneficiaries)	55.2	22	28.2
ALL DETERMINANTS	0.24	19	0.71
OUTCOMES			
Diabetes (Percent of adult population)	9.8	26	6.5
Poor Mental Health Days (Days in previous 30 days)	3.3	11	2.5
Poor Physical Health Days (Days in previous 30 days)	3.6	15	2.8
Disparity in Health Status (Percent difference by education level**)	29.1	27	15.5
Infant Mortality (Deaths per 1,000 live births)	6.6	31	4.2
Cardiovascular Deaths (Deaths per 100,000 population)	241.1	25	184.7
Cancer Deaths (Deaths per 100,000 population)	189.5	23	145.7
Premature Deaths (Years lost per 100,000 population)	6,502	19	5,345
ALL OUTCOMES	0.06	23	0.34
OVERALL	0.30	21	0.91

*Negative score denotes less disease than US average, positive score indicates more than US average
**Difference in the percentage of adults aged 25 and older with vs without a high school education who report their health is very good or excellent

SMOKING



OBESITY



STATE ◆—◆ NATION ●—●

The 2012–2014 data in the above graphs are not directly comparable to prior years. See Methodology for additional information.

ECONOMIC ENVIRONMENT	VA	US
Annual Unemployment Rate (2013)	5.5	7.4
Annual Underemployment Rate (2013)	11.5	13.8
Median Household Income (2013)	$67,620	$51,939

MEASURE	ADULT POPULATION AFFECTED
Smoking	1,159,000
Obesity	1,632,000
Physical Inactivity	1,481,000
Diabetes	631,000

As Mountain States Health Alliance works to develop an implementation plan based on the findings from this assessment, key focus areas for consideration to impact the health of our community would be the 27 measures that comprise the *America's Health Rankings*. These determinants have been carefully selected by leaders in health and public policy as factors which have the greatest impact on future health of a population. For a state (or area for that matter) to improve the health of its population, efforts must focus on changing the determinants of health. A description of these determinants is outlined below.

Selection of Components

Four primary considerations drove the design of *America's Health Rankings*® and the selection of the individual measures:

1. The overall rankings had to represent a broad range of issues that affect a population's health,
2. Individual measures needed to use common health measurement criteria,
3. Data had to be available at a state level, and
4. Data had to be current and updated periodically.

While not perfect, the measures selected are believed to be the best available indicators of the various aspects of healthiness at this time and are consistent with past reports.

The measures are divided into two categories - Determinants and Outcomes. For further clarity, determinants are divided into four groups: Behaviors, Community and Environment, Public and Health Policies, and Clinical Care. These four groups of measures influence the health outcomes of the population in a state, and improving these inputs will improve outcomes over time. Most measures are actually a combination of activities in all four groups. For example, the prevalence of smoking is a behavior that is strongly influenced by the community and environment in which we live, by public policy including taxation and restrictions on smoking in public places, and by the care received to treat the chemical and behavioral addictions associated with tobacco. However, for simplicity, we placed each measure in a single category.

For *America's Health Rankings*® to continue to meet its objectives it must evolve and incorporate new information as it becomes available. The Scientific Advisory Committee provides guidance for the evolution of the rankings, balancing the need to change with the desire for longitudinal comparability. Over the last few years, change is being driven by: 1) the acknowledgment that health is more than years lived but also includes the quality of those years; 2) data about the quality and cost of health care delivery are becoming available on a comparative basis; and 3) measurement of the additional determinants of health are being initiated and/or improved. The committee also emphasizes that the real impact on health will be made by addressing the determinants, and making improvements on these items will affect the long-term health of the population. The determinants are the predictors of our future health.

Outcomes are traditionally measured using mortality measures which include premature death, infant mortality, cancer and cardiovascular mortality. While these measures overlap significantly, they do present different views of mortality outcomes of a population. Two measures of the quality of life- poor mental health days and poor physical health days - are also included and defined as the number of days in the previous 30 days when a person indicates their activities are limited due to mental or physical health difficulties.

As with all indices, the positive and negative aspects of each measure must be weighed when choosing and developing them. These aspects for consideration include: 1) the interdependence of

the different measures; 2) the possibility that the overall ranking may disguise the effects of individual measures; 3) an inability to adjust all data by age and race; 4) an over-reliance on mortality data; and 5) the use of indirect measures to estimate some effects on health. These concerns cannot be addressed directly by adjusting the methodology; however, assigning weights to the individual measures can mitigate their impact.

Each measure is assigned a weight that determines its percentage of the overall score. Determinants account for 75 percent of the overall ranking and outcomes account for 25 percent, a shift from the 50/50 balance in the original 1990 index. This reflects the importance and growing availability of determinant data.

A short description of each measure immediately follows. The data for each year is the most current data available at the time the report was compiled.

The table includes the core measures included in the current model, plus supplemental measures that can be used to further understand each state's unique situation. The supplemental measures are more fully described at http://www.americashealthrankings.org/About/Model.

Data for each state and the United States is available at Get Informed or by clicking the link above.

Core Measures

Determinants

Behaviors	Description
Smoking	Percentage of adults who are current smokers (smoked at least 100 cigarettes in their lifetime and currently smoke).
Binge Drinking	Percentage of adults who self-report having 4 or more (women) or 5 or more (men) alcoholic beverages on at least 1 occasion in the past 30 days.
Drug Deaths	Number of deaths due to drug injury of any intent (unintentional, suicide, homicide, or undetermined) per 100,000 population.
Obesity	Percentage of adults who are obese, with a body mass index (BMI) of 30.0 or higher.
Physical Inactivity	Percentage of adults who report doing no physical activity or exercise (such as running, calisthenics, golf, gardening, or walking) other than their regular job in the last 30 days.
High School Graduation	Percentage of incoming ninth graders who graduate in 4 years from a high school with a regular degree.

Community and Environment

Violent Crime	Number of murders, rapes, robberies, and aggravated assaults per 100,000 population.
Occupational Fatalities	Number of fatalities from occupational injuries per 100,000 workers.
Children in Poverty	Percentage of persons younger than 18 years who live in households at or below the poverty threshold.
Infectious Disease	Combined average z-score using the values of incident cases of chlamydia, pertussis, and *Salmonella* per 100,000 population.

Air Pollution	Average exposure of the general public to particulate matter of 2.5 microns or less in size (PM2.5).

Policy

Lack of Health Insurance	Percentage of the population that does not have health insurance privately, through their employer, or the government.
Public Health Funding	State funding dedicated to public health as well as federal funding directed to states by the Centers for Disease Control and Prevention and the Health Resources and Services Administration.
Immunization-Children	Percentage of children receiving the recommended doses of DTaP, polio, MMR, Hib, hepatitis B, varicella, and PCV vaccines by age 19–35 months.
Immunization-Adolescents	Percentage of adolescents aged 13 to 17 years who have received 1 dose of Tdap since the age of 10 years, 1 dose of meningococcal conjugate vaccine, and 3 doses of HPV vaccine (females only).

Clinical Care

Low Birth weight	Percentage of infants weighing less than 2,500 grams (5 pounds, 8 ounces) at birth.
Primary Care Physicians	Number of primary care physicians (including general practice, family practice, OB-GYN, pediatrics, and internal medicine) per 100,000 population.
Dentists	Number of dentists per 100,000 population
Preventable Hospitalizations	Discharge rate among the Medicare population for diagnoses that are amenable to non-hospital based care.

Outcomes

Diabetes	Percentage of adults who have been told by a health professional that they have diabetes (does not include pre-diabetes or diabetes during pregnancy).
Poor Mental Health Days	Number of days in the previous 30 days when a person indicates their activities were limited due to mental health difficulties.
Poor Physical Health Days	Number of days in the previous 30 days when a person indicates their activities were limited due to physical health difficulties.
Disparity in Health Status	Percent difference in adults aged 25 and older who did not graduate high school and adults with at least a high school education who self-report being in excellent or very good health.
Infant Mortality	Number of infant deaths (before age 1) per 1,000 live births.
Cardiovascular Deaths	Number of deaths due to all cardiovascular diseases, including heart disease and strokes, per 100,000 population
Cancer Deaths	Number of deaths due to all causes of cancer per 100,000 population
Premature Death	Number of years of potential life lost prior to age 75 per 100,000 population

Supplemental Measures

Behaviors

Cholesterol Check	Percentage of adults who have had their blood cholesterol checked within the last 5 years.
Dental Visit, Annual	Percentage of adults who have visited the dentist or dental clinic within the past year for any reason.
Diet, Fruit	Number of fruits consumed on an average day.
Diet, Vegetables	Number of vegetables consumed on an average day.
Teen Birth Rate	Number of births per 1,000 mothers aged 15 to 19 years.
Youth Smoking	Percentage of high school youth who smoked cigarettes on at least 1 day during the last 30 days.
Youth Obesity	Percentage of high school students who were greater or equal to the 95th percentile for body mass index, based on sex and age-specific reference data from the 2000 CDC growth charts.

Chronic Disease

Heart Disease	Percentage of adults who have been told by a health professional that they have angina or coronary heart disease.
High Cholesterol	Percentage of adults who have had their cholesterol checked and been told that it was high.
Heart Attack	Percentage of adults who have been told by a health professional that they had a heart attack (myocardial infarction).
Stroke	Percentage of adults who have been told by a health professional that they had a stroke.
Hypertension	Percentage of adults who have been told by a health professional that they have high blood pressure.

Clinical Care

Preterm Birth	Percentage of babies born before 37 weeks gestation.

Economic Environment

Personal Income	Per capita personal income in current dollars.
Median Household Income	The amount of income that divides the income distribution into 2 equal groups.
Unemployment Rate	Total unemployed as a percentage of the civilian labor force (U-3 definition).
Underemployment Rate	Total unemployed, plus all marginally attached workers, plus total employed part-time for economic reasons, as a percent of the civilian labor force (U-6 Definition).
Income Disparity (Gini coefficient)	A common measure of income inequality, where 0 represents complete equality and 1 indicates complete inequality.

Outcomes

Low Health Status	Percentage of adults who describe their general health as fair or poor.
Suicide	Number of deaths due to intentional self-harm per 100,000 population.

Overview

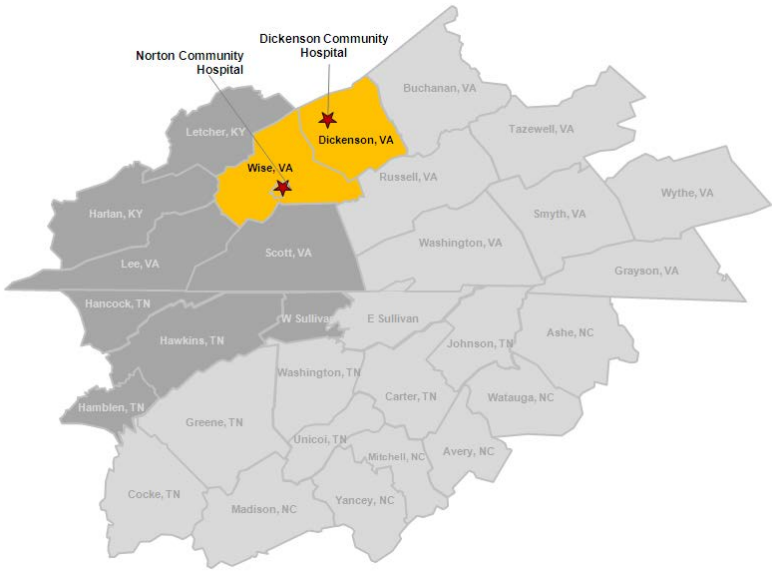
The County Snapshots consists of demographics, key indicators of health status, interview highlights, and local resources. The model for the key indicators of health status analysis was based on the 2015 *County Health Rankings*, a key component of the Mobilizing Action Toward Community Health (MATCH). MATCH is collaboration between the Robert Wood Johnson Foundation and the University of Wisconsin Population Health Institute. Indicators are organized into two broad categories: Health Outcomes and Health Factors. The Health Factors have multiple components, including Clinical Care, Health Behaviors, Social and Economic Factors, and Physical Environment. A number of additional key indicators of health status were included in this analysis from other sources (they are noted in blue font in the snapshot section). For each indicator, the state and county score is provided as well as a comparison of the county's performance to that of the state.

NORTON COMMUNITY HOSPITAL

Service Area Counties:

- Dickenson, VA
- Wise, VA

Primary Service Area Map:



Facility Profiles:

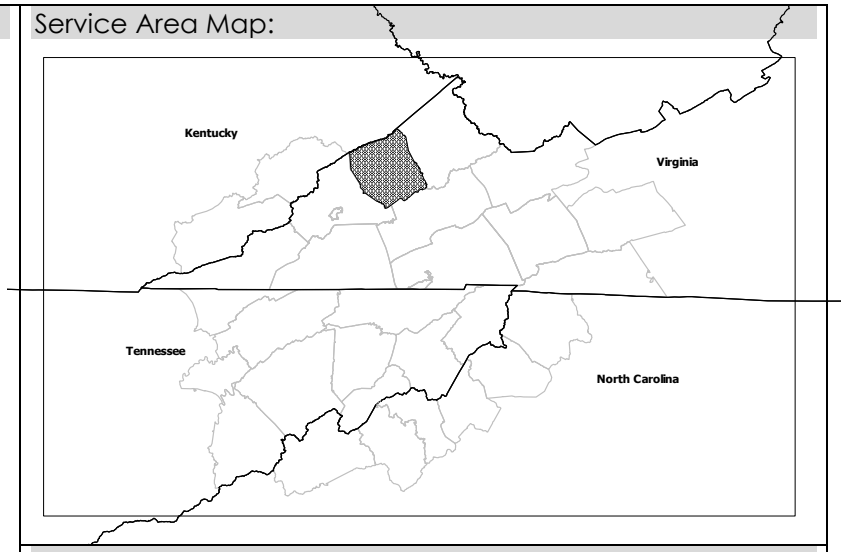
Norton Community Hospital (NCH), located in Norton, Virginia, in the heart of Southwest Virginia and the Appalachian Mountains, is a not-for-profit, 129-bed, acute-care facility that has been serving Southwest Virginia and Southeastern Kentucky since 1949. It is the largest healthcare facility in the coalfield region. NCH was the first AOA (American Osteopathic Association) accredited teaching facility in the state of Virginia, and hosts residents in Internal Medicine. The hospital operates several primary care clinics throughout the region.

A 6-page profile of each county is provided. The profile includes demographic highlights, key indicators of health status, utilization projections, and survey results specific to the county. A detailed demographic analysis by county is provided in the appendix which follows the collection of county snapshots.

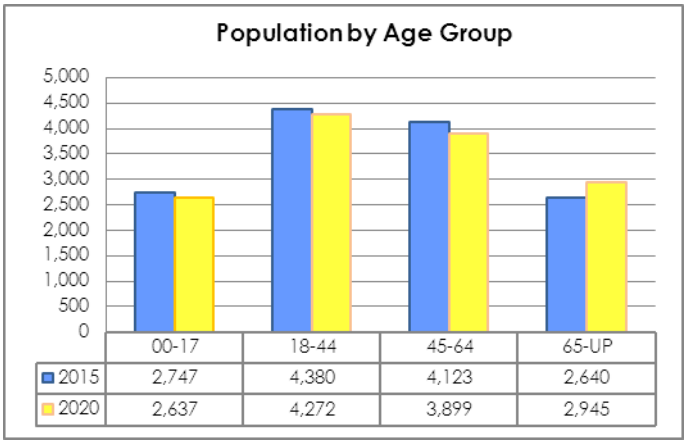
Demographic Highlights:

- Large elderly population compared to VA and US
- Declining rate of females of child-bearing age expected
- Low average household income level (17.7% of households make less than $15,000)
- Lower level of educational attainment compared to state and country (15.2% with no high school education compared to 5.9% nationally)
- Low level of diversity compared to state and national

Service Area Map:



Age Distribution and Population Projections:



Key Statistics:

	Dickenson County	Virginia	U.S.
2015 Total Population	13,890	8,417,864	321,369,000
% Change 2015-2020	-1.0%	4.7%	4.1%
% of Population 65+ (2015)	19.0%	14.0%	14.9%
% Minority (2015)	2.0%	30.8%	38.3%

	2015	2020	% Change
Total Male Population	7,031	6,986	-0.6%
Total Female Population	6,859	6,767	-1.3%
Females, Child Bearing Age (15-44)	2,323	2,265	-2.5%

Local Health Highlights:

STRENGTHS:

- Cerebrovascular mortality
- Increased enrollment in Medicaid
- Binge Drinking
- STDs
- Violent Crime

WEAKNESSES:

- High rate reporting fair/poor general health status
- Cardiovascular, cancer, suicide, and diabetes mortality
- Individuals unable to see a doctor due to cost
- Increased rates of smoking, physical inactivity, and obesity
- Child Abuse and Neglect
- Injury-related Mortality
- Poverty Rate

Leading Causes of Death (all ages):

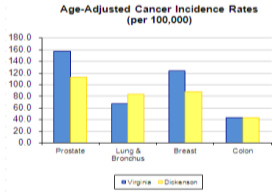
Cause of Death	Rate	Rank
Malignant Neoplasms	308.4	1
Heart Disease	220.3	2
Chronic Lower Respiratory Disease	138.5	3
Unintentional Injury	113.3	4
Influenza & Pneumonia	56.6	5
Diabetes Mellitus	37.8	6
Suicide	37.8	6
Nephritis & Nephrosis	25.2	7
Hypertension & Renal Disease	18.9	8
Cerebrovascular Disease	12.6	9
Alzheimer's Disease	12.6	9
Chronic Liver Disease	6.3	10

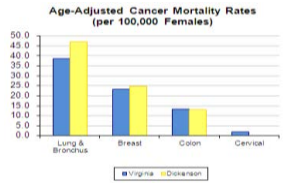
Key Indicators of Health Status:

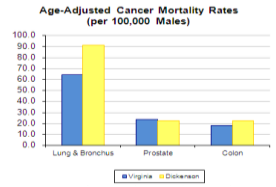
County: Dickenson, VA

	VA	Dickenson	2010	Desired
Health Outcomes				
Low Birth Weight (%)	8.3%	7.4%	11%	↓
General Health Status (% fair/poor health)	14.0%	31.0%	34%	↓
Very Low Birth Weight (%)	1.6%	2.4%	3.20%	↓
Infant Mortality (per 100,000)	8.3	9.1	2	↓
Mortality Rate (per 100,000)	735.8	1,014.5	774.4	↓
Cardiovascular Deaths (per 100,000)	161.3	173.9	174.5	↓
Cancer Deaths (5-yr avg rate per 100,000)	174.8	188.2	198.7	↓
Diabetes Mellitus Deaths (Age Adjusted Rate per 100,000)	20.0	37.8	31.3	↓
Cerebrovascular Deaths (Age Adjusted Rate per 100,000)	40.8	12.6	17.9	↓
Suicide Deaths (Age Adjusted Rate per 100,000)	12.9	37.7	15.4	↓
Mortality rate for ages 0 - 4 yrs (per 100,000)	152.9	239.2	229.6	↓
Mortality rate for ages 5 - 14 yrs (per 100,000)	18.5	53.8	0	↓
Mortality rate for ages 15 - 19 yrs (per 100,000)	44.5	0.0	103.4	↓
Mortality rates for ages 65+ (per 1,000)	43.6	46.5	37.6	↓
Lung Cancer Deaths (5-yr avg rate per 100,000)*	49.5	66.1	66.6	↓
Female Breast Cancer Deaths (5-yr avg rate per 100,000)*	23.4	24.9	66.6	↓
Percent of Adults with Asthma*	8.0%	6.0%	10.80%	↓
Prevalence of Diabetes (% of adults)*	9.0%	8.0%	12.40%	↓
Psychosis Discharges (per 100,000)	332.7	132.2	523	↓
Health Determinants				
Health Care Resources				
No Health Insurance (%)	18.0%	19.0%	26.60%	↓
Medicaid/Tenncare Enrollees (%)	14.7%	28.9%	27.60%	↓
Medical Doctors	255.5	3.0	65.5	↑
No Biennial Mammography (%)*	28.0%	25.0%	35.30%	↓
PSA Testing Past 2 Years (%)*	56.0%	54.0%	47.40%	↑
Pap Test Past 3 Years (%)*	84.0%	85.0%	24.90%	↑
Sigmoidoscopy/Colonoscopy (%)*	72.0%	62.0%	50.50%	↑
Inadequate or No Prenatal Care (%)	13.0%	11.0%	18%	↓
First Trimester Prenatal Care (%)	81.9%	72.9%	67.10%	↑
Hospital Staffed Beds (per 1,000)	2.2	1.6	0.1	↑
Licensed Nursing Beds (per 1,000 65+)	3.9	6.3	38.7	↑
# of Primary Care MDs	122.3	3.0	25.1	↑
# of Psychiatric Specialists	6,827	0	0	↓
State Mental Health Facility Beds (per 100,000)*	18.7	28.7	13.9	↑
Inpatient Discharge Rate (per 1,000) - Total	157.2	146.2	143.3	↓
Could Not See Doctor Due to Cost (%)	10.0%	17.0%	11%	↓
Health Behaviors				
Cigarette Smoking (%)	18.0%	35.0%	24.90%	↓
Physical Inactivity (%)	24.0%	30.0%	21%	↓
Overweight/Obesity (% BMI > 25)	62.0%	68.0%	57%	↓
Obesity (% BMI > 30)	28.0%	31.0%	29%	↓
Low Fruit and Vegetable Consumption (% <5 a day)	80.0%	82.0%	77%	↓
Binge Drinking (%)	18.0%	12.0%	16%	↓
Teen Birth Rate (per 1,000)	18.6	19.7	25	↓
Sexually Transmitted Diseases (per 100,000)	385.0	82.0	115.8	↓
Violent Crime (per 100,000)	233.0	144.0	161	↓
Motor Vehicle Crash Deaths (per 100,000)	11.0	20.0	30	↓
Unmarried Mother Birth Rate (%)	35.0%	36.0%	28%	↓
Injury-related Mortality (Age Adjusted Rate per 100,000)	33.4	113.3	129.4	↓
Homicides (per 100,000)	5.0	0.0	5.3	↓

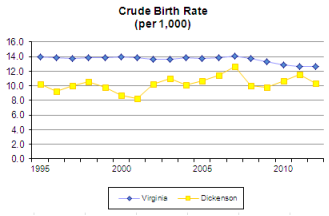
Cancer Incidence:

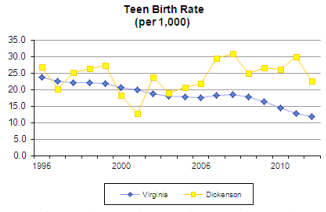






Birth Rate Trend:





Key Indicators of Health Status:

Socioecomonic Factors				
High School Graduation Rate (%)	88.0%	88.0%	86.60%	↑
Level of Education (%)	88.0%	71.0%	61%	↑
Unemployment (%)	6.2%	8.1%	9%	↓
Children (age 0 to 17) in poverty ratio (%)	15.5%	26.9%	27%	↓
Food Stamp Eligible Recipients (% of individuals)	11.6%	21.3%	19.50%	↓
Poverty Rate (% of all ages)	12.0%	21.0%	20.50%	↓
Temporary Assistance for Needy Families	0.8%	0.1%	1.00%	↓
High School Dropout Rate	1.4%	1.2%	1.90%	↓
Physical Environment				
Pre-1950 Housing (%)	13.2%	17.2%	19.70%	↓
Lead Poisoned Children (%)	0.2%	0.0%	0%	↓
Child Abuse and Neglect (rate per 1,000)	3.3	7.8	6.3	↓
Daily Fine Particulate Matter	12.5	12.6	12.2	↓
Communicable Diseases				
Hepatitis A (per 100,000)	0.6	0.0	0	↓
Campylobacter Infection (per 100,000)	9.4	6.4	6.2	↓
Salmonellosis (per 100,000)	14.1	6.4	0	↓
Shigellosis (per 100,000)	1.1	0.0	12.4	↓
AIDS/HIV cases (per 100,000)	305.3	25.4	0	↓
Early Stage Syphilis (per 100,000)	7.3	0.0	0	↓
Tuberculosis (per 100,000)	2.9	0.0	0	↓
Chlamydia (per 100,000)	432.5	298.6	111.3	↓
Gonorrhea (per 100,000)	85.1	12.7	0	↓

Inpatient Projections

	2014	2019		2024	
DRG Service Line	**Discharges**	**Discharges**	**% Change**	**Discharges**	**% Change**
Cardiac Surgery	22	21	-2.50%	22	-0.50%
Cardiology	173	151	-12.50%	135	-22.10%
Cardiology Intervention	68	62	-8.70%	58	-14.80%
Endocrinology	68	54	-21.20%	48	-29.10%
ENT Surgery	1	1	12.30%	1	18.60%
Gastroenterology	146	137	-6.30%	133	-8.80%
General Medicine	211	210	-0.30%	196	-7.00%
General Surgery	110	103	-6.60%	99	-10.00%
Gynecology	23	21	-8.30%	20	-14.20%
Hematology	24	23	-2.20%	24	0.00%
Neonatology	33	30	-8.30%	28	-14.50%
Nephrology	97	89	-8.60%	77	-20.30%
Neurology	97	97	-0.50%	98	1.30%
Neurosurgery	34	33	-3.00%	33	-4.30%
Normal Newborns	69	71	3.30%	71	2.40%
OB Deliveries Sections	38	33	-13.70%	30	-19.90%
OB Deliveries Vaginal	72	76	6.10%	76	6.00%
OB Other	19	18	-3.50%	18	-5.40%
Oncology Medicine	28	26	-5.50%	24	-15.60%
Oncology Surgery	16	16	-0.60%	15	-3.20%
Ophthalmic Medicine	1	1	-12.90%	1	-19.00%
Ophthalmic Surgery	1	1	-2.70%	1	-10.10%
Oral Surgery	1	1	7.20%	1	19.90%
Orthopedic Medicine	22	22	0.80%	22	1.20%
Orthopedic Surgery	93	96	2.90%	95	2.10%
Otolaryngology	10	9	-13.80%	8	-20.30%
Plastic Surgery	5	5	-3.70%	5	-9.00%
Psychiatry	75	80	6.70%	75	-0.60%
Pulmonary	383	328	-14.50%	302	-21.20%
Rehabilitation	37	30	-20.00%	31	-15.10%
Rheumatology	5	5	-1.30%	5	-0.90%
Substance Abuse	5	5	0.60%	5	-1.20%
Thoracic Surgery	15	13	-13.10%	12	-20.00%
Trauma Medical	6	6	-8.10%	5	-10.80%
Urology Medicine	7	6	-14.60%	5	-22.20%
Urology Surgery	16	14	-12.60%	12	-21.90%
Vascular Surgery	30	29	-4.20%	28	-7.50%
Womens Other	1	1	-1.10%	1	-10.30%
Grand Total	**2,062**	**1,923**	**-6.70%**	**1,821**	**-11.70%**

Outpatient Projections

	2014		2019			2024	
Site of Care	**Volumes**		**Volumes**	**% Change**		**Volumes**	**% Change**
ED	6,942		6,853	-1.30%		6,471	-6.80%
Home	14,949		17,005	13.80%		18,301	22.40%
Hosp OP/ASC	19,607		20,735	5.80%		20,927	6.70%
Office/Clinic	122,786		129,639	5.60%		122,202	-0.50%
Other	28,231		30,791	9.10%		30,787	9.10%
SNF	283		306	8.20%		318	12.30%
Urgent/Retail	88		91	3.50%		87	-0.30%
Virtual			3,220			13,399	
Grand Total	**192,886**		**208,638**	**8.20%**		**212,493**	**10.20%**

Interview Highlights:

INTERVIEWEES:

- Eight (8) individuals

KEY FINDINGS:

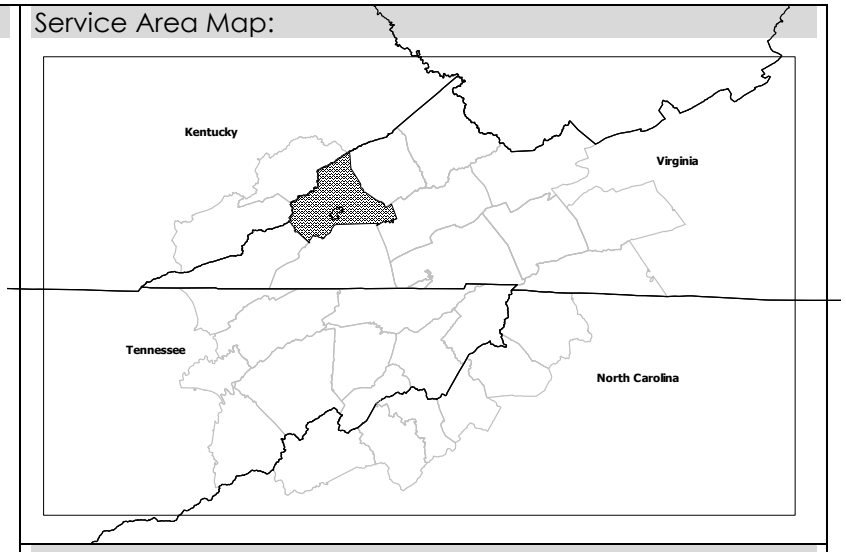
- Average rating of health status is 3.8, with a range in responses of 2.5 to 6
- Top health issues are:
  - Diabetes
  - Mental Health
  - Substance abuse
  - Obesity
- Additional health issues are:
  - Cancer
  - Smoking/Tobacco use
  - Poor nutrition
  - Cardiovascular disease
  - Physical inactivity
  - Teen pregnancy
  - Domestic violence / abuse / bullying
  - COPD
  - Diabetes compliance/monitoring
  - Poverty
  - Unemployment
  - Built environment for recreation
  - Lack of access to care
  - Immunizations
  - Prenatal care
  - Dental care
- Ideas to improve these conditions include:
  - Press releases/ fliers to inform public about health programs
  - Disseminate diabetes fact sheets
  - In home monitoring of health conditions
  - Dental assistants/ hygienists to visit schools
  - ER physicians to be trained on minor dental procedures
  - Child and youth health education / health promotion
  - Job creation
  - Substance abuse education
  - Collaboration among community organizations and members
  - More community activities for children and families
  - More community involvement
  - After school programming for children

Sources:	Local Resources:
▪ Medstat ▪ County Health Rankings ▪ Kidscount ▪ VA Atlas of Community Health ▪ VA Dept of Health ▪ Kaiser Family Foundation ▪ VA Dept of Behavioral Health and Developmental Services ▪ VA Dept of Social Services ▪ U.S. Census ▪ CDC Wonder	▪ Smoke-free schools ▪ Cumberland Plateau Health District ▪ Health Department ▪ Health Wagon ▪ Drug Court ▪ School nurses ▪ Remote Area Medical (RAM) ▪ Free clinics (Stone Mountain Health Clinic) ▪ Quit Line referrals ▪ Lion's Club ▪ Behavioral health services at DCH ▪ Head Start – Kids Central ▪ Obesity prevention program in middle schools ▪ Farmer's markets ▪ Frontier Health ▪ Junction Center ▪ Appalachian College of Pharmacy

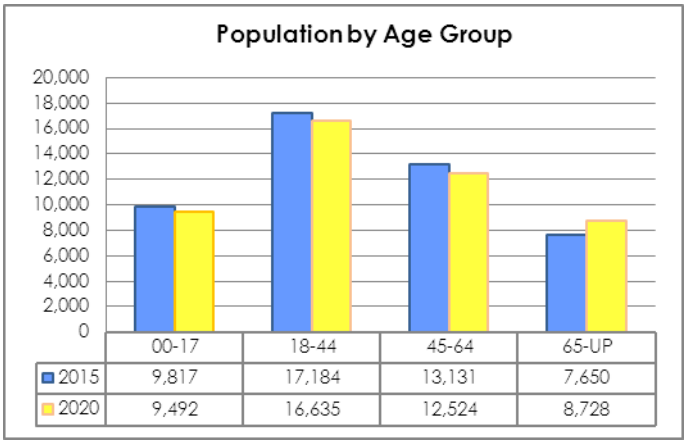
Demographic Highlights:

- Large elderly population compared to VA and US
- Declining rate of females of child-bearing age expected
- Low average household income level (21.4% of households make less than $15,000)
- Lower level of educational attainment compared to state and country (12.9% with no high school education compared to 5.9% nationally)
- Low level of diversity compared to state and national

Service Area Map:



Age Distribution and Population Projections:



Key Statistics:

	Norton & Wise	Virginia	U.S.
2015 Total Population	47,782	8,417,864	321,369,000
% Change 2015-2020	-0.8%	4.7%	4.1%
% of Population 65+ (2015)	16.0%	14.0%	14.9%
% Minority (2015)	8.1%	30.8%	38.3%

	2015	2020	% Change
Total Male Population	24,421	24,184	-1.0%
Total Female Population	23,361	23,195	-0.7%
Females, Child Bearing Age (15-44)	8,618	8,317	-3.5%

Local Health Highlights (Wise County):

STRENGTHS:

- Binge Drinking
- STDs
- Injury-related mortality
- High school graduation rate
- Violent crime

WEAKNESSES:

- High percent of Medicaid eligible and Temporary Assistance for Needy Families
- Smoking
- Pre-1950s Housing
- Prenatal Care
- Low fruit and vegetable consumption
- High rates of death due to cardiovascular, cancer, diabetes, cerebrovascular, and suicide
- Teen birth rate
- Poverty and children in poverty rates

Leading Causes of Death (Wise County):

Norton

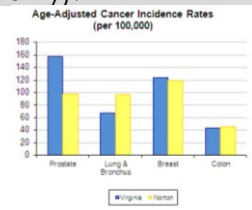
Cause of Death	Rate	Rank
Heart Disease	372.9	1
Malignant Neoplasms	298.4	2
Chronic Lower Respiratory Disease	99.5	3
Suicide	49.7	4
Hypertension & Renal Disease	49.7	4
Diabetes Mellitus	24.9	5
Unintentional Injury	24.9	5
Cerebrovascular Disease	24.9	5

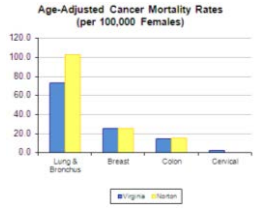
Key Indicators of Health Status (Wise County):

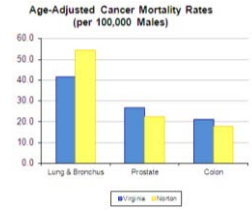
County: Wise, VA

	VA	Wise	2010	Desired
Health Outcomes				
Low Birth Weight (%)	8.3%	9.6%	8%	↓
General Health Status (% fair/poor health)	14.0%	26.0%	28%	↓
Very Low Birth Weight (%)	1.6%	0.7%	2.30%	↓
Infant Mortality (per 100,000)	8.3	6.3	4	↓
Mortality Rate (per 100,000)	735.8	1,033.2	1095	↓
Cardiovascular Deaths (per 100,000)	161.3	223.1	252.1	↓
Cancer Deaths (5-yr avg rate per 100,000)	174.8	226.8	219.4	↓
Diabetes Mellitus Deaths (Age Adjusted Rate per 100,000)	20.0	24.1	33.4	↓
Cerebrovascular Deaths (Age Adjusted Rate per 100,000)	40.8	52.9	43.7	↓
Suicide Deaths (Age Adjusted Rate per 100,000)	12.9	24.1	25.2	↓
Mortality rate for ages 0 - 4 yrs (per 100,000)	152.9	129.0	167.1	↓
Mortailty rate for ages 5 - 14 yrs (per 100,000)	13.5	0.0	0	↓
Mortality rate for ages 15 - 19 yrs (per 100,000)	44.5	36.3	0	↓
Mortality rates for ages 65+(per 1,000)	43.6	57.1	63.4	↓
Lung Cancer Deaths (5-yr avg rate per 100,000)*	49.5	74.6	74.6	↓
Female Breast Cancer Deaths (5-yr avg rate per 100,000)*	23.4	27.9	25.4	↓
Percent of Adults with Asthma*	8.0%	6.0%	12.40%	↓
Prevalence of Diabetes (% of adults)*	9.0%	10.0%	12.90%	↓
Psychosis Discharges (per 100,000)	332.7	135.8	184	↓
Health Determinants				
Health Care Resources				
No Health Insurance (%)	18.0%	20.0%	23.50%	↓
Medicaid/Tenncare Enrollees (%)	14.7%	27.0%	23.30%	↓
Medical Doctors	255.5	59.9	59.9	↑
No Biennial Mammography (%)*	28.0%	26.0%	29.20%	↓
PSA Testing Past 2 Years (%)*	56.0%	53.0%	45.20%	↑
Pap Test Past 3 Years (%)*	84.0%	82.0%	12%	↑
Sigmoidoscopy/Colonoscopy (%)*	72.0%	66.0%	51%	↑
Inadequate or No Prenatal Care (%)	13.0%	14.0%	16%	↓
First Trimester Prenatal Care (%)	81.9%	68.3%	66.20%	↑
Hospital Staffed Beds (per 1,000)	2.2	2.3	0	↑
Licensed Nursing Beds (per 1,000 65+)	3.9	6.7	49.3	↑
# of Primary Care MDs Per Capita (per 100,000)	73.7	50.5	510.1	↑
# of Psychiatric Specialists	6,827	1	1	↓
State Mental Health Facility Beds (per 100,000)*	18.7	28.7	23.7	↑
Inpatient Discharge Rate (per 1,000) - Total		188.0	219.8	↓
Could Not See Doctor Due to Cost (%)	10.0%	15.0%	12%	↓
Health Behaviors				
Cigarette Smoking (%)	18.0%	34.0%	31.50%	↓
Physical Inactivity (%)	24.0%	38.0%	21%	↓
Overweight/Obesity (% BMI > 25)	62.0%	66.0%	56%	↓
Obesity (% BMI > 30)	28.0%	35.0%	31%	↓
Low Fruit and Vegetable Consumption (% <5 a day)	80.0%	86.0%	77%	↓
Binge Drinking (%)	18.0%	14.0%	10%	↓
Teen Birth Rate (per 1,000)	18.6	28.5	32.7	↓
Sexually Transmitted Diseases (per 100,000)	385.0	215.0	259.9	↓
Violent Crime (per 100,000)	233.0	160.0	194	↓
Motor Vehicle Crash Deaths (per 100,000)	11.0	14.0	19	↓
Unmarried Mother Birth Rate (%)	35.0%	40.0%	37%	↓
Injury-related Mortality (Age Adjusted Rate per 100,000)	33.4	77.3	52.4	↓
Homicides (per 100,000)	5.0	0.0	3.3	↓

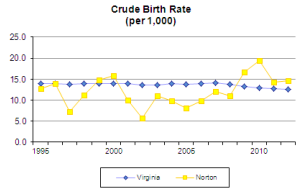
Cancer Incidence (Wise County):

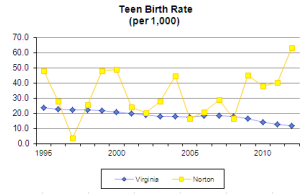






Birth Rate Trend (Wise County):





Key Indicators of Health Status (Wise County):

Socioecomonic Factors				
High School Graduation Rate (%)	88.0%	86.0%	84.90%	↑
Level of Education (%)	88.0%	74.0%	71%	↑
Unemployment (%)	6.2%	6.7%	7%	↓
Children (age 0 to 17) in poverty ratio (%)	15.5%	29.3%	27.10%	↓
Food Stamp Eligible Recipients (% of individuals)	11.6%	22.3%	21%	↓
Poverty Rate (% of all ages)	12.0%	26.0%	19.30%	↓
Temporary Assistance for Needy Families	0.8%	1.6%	2.10%	↓
High School Dropout Rate	1.4%	1.8%	1.90%	↓
Physical Environment				
Pre-1950 Housing (%)	13.2%	19.4%	21.60%	↓
Lead Poisoned Children (%)	0.2%	0.0%	0.50%	↓
Child Abuse and Neglect (rate per 1,000)	3.3	15.5	18.6	↓
Daily Fine Particulate Matter	12.5	12.7	12.3	↓
Communicable Diseases				
Hepatitis A (per 100,000)	0.6	4.4	0	↓
Campylobacter Infection (per 100,000)	9.4	13.2	11	↓
Salmonellosis (per 100,000)	14.1	17.5	17.6	↓
Shigellosis (per 100,000)	1.1	0.0	0	↓
AIDS/HIV cases (per 100,000)	305.3	98.6	107.9	↓
Early Stage Syphilis (per 100,000)	7.3	0.0	0	↓
Tuberculosis (per 100,000)	2.9	2.2	0	↓
Chlamydia (per 100,000)	432.5	335.4	242.3	↓
Gonorrhea (per 100,000)	85.1	19.7	11	↓

Local Health Highlights (Norton City):

STRENGTHS:

- Very low birth weight rate
- Binge drinking
- STDs
- Violent crime
- Lead poisoned children

WEAKNESSES:

- Reported general health status
- Very high rate of Medicaid enrollees
- High rates of death due to cardiovascular, cancer, diabetes, cerebrovascular, suicide, and injuries
- Prenatal care
- Smoking
- Increased rates of physical inactivity, overweight, and obesity
- Poverty and children in poverty
  Child abuse and neglect

Leading Causes of Death (Norton City):

Wise

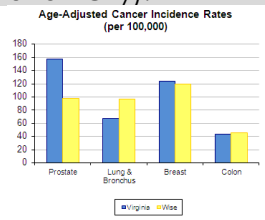
Cause of Death	Rate	Rank
Malignant Neoplasms	272	1
Heart Disease	248.0	2
Unintentional Injury	79.4	3
Chronic Lower Respiratory Diseae	65	4
Cerebrovascular Disease	53	5
Nephritis & Nephrosis	33.7	6
Alzheimer's Disease	28.9	7
Suicide	24.1	8
Diabetes Mellitus	24	9
Influenza & Pneumonia	12.0	10

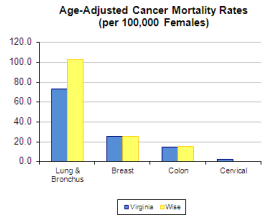
Key Indicators of Health Status (Norton City):

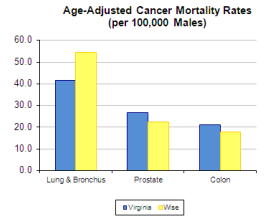
County: Norton, VA

	VA	Norton	2010	Desired
Health Outcomes				
Low Birth Weight (%)	8.3%	9.3%	10%	↓
General Health Status (% fair/poor health)	14.0%	11.0%	0%	↓
Very Low Birth Weight (%)	1.6%	2.6%	6.50%	↓
Infant Mortality (per 100,000)	8.3	7.1	1	↓
Mortality Rate (per 100,000)	735.8	884.4	854.2	↓
Cardiovascular Deaths (per 100,000)	161.3	370.0	169.4	↓
Cancer Deaths (5-yr avg rate per 100,000)	174.8	183.7	215.8	↓
Diabetes Mellitus Deaths (Age Adjusted Rate per 100,000)	20.0	24.7	22.5	↓
Cerebrovascular Deaths (Age Adjusted Rate per 100,000)	40.8	24.7	62.7	↓
Suicide Deaths (Age Adjusted Rate per 100,000)	12.9	49.3	18	↓
Mortality rate for ages 0 - 4 yrs (per 100,000)	152.9	411.5	526.3	↓
Mortality rate for ages 5 - 14 yrs (per 100,000)	13.5	0.0	0	↓
Mortality rate for ages 15 - 19 yrs (per 100,000)	44.5	0.0	0	↓
Mortality rates for ages 65+(per 1,000)	43.6	47.0	44.4	↓
Lung Cancer Deaths (5-yr avg rate per 100,000)*	49.5	74.6	74.6	↓
Female Breast Cancer Deaths (5-yr avg rate per 100,000)*	23.4	27.9	25.4	↓
Percent of Adults with Asthma*	8.0%	6.0%	12.40%	↓
Prevalence of Diabetes (% of adults)*	9.0%	7.0%	12.90%	↓
Psychosis Discharges (per 100,000)	332.7	394.7	1,262	↓
Health Determinants				
Health Care Resources				
No Health Insurance (%)	18.0%	16.0%	24.70%	↓
Medicaid/Tenncare Enrollees (%)	14.7%	35.5%	30%	↓
Medical Doctors	255.5	59.9	59.9	↑
No Biennial Mammography (%)*	28.0%	33.0%	29.20%	↓
PSA Testing Past 2 Years (%)*	56.0%	57.0%	45.20%	↑
Pap Test Past 3 Years (%)*	84.0%	77.0%	12%	↑
Sigmoidoscopy/Colonoscopy (%)*	72.0%	63.0%	51%	↑
Inadequate or No Prenatal Care (%)	13.0%	9.0%	32%	↓
First Trimester Prenatal Care (%)	81.9%	62.3%	62.90%	↑
Hospital Staffed Beds (per 1,000)	2.2	3.8	22.1	↑
Licensed Nursing Beds (per 1,000 65+)	3.9	10.9	73.7	↑
# of Primary Care MDs Per Capita (per 100,000)	73.7	426.7	510.1	↑
# of Psychiatric Specialists	6,827	1	1	↓
State Mental Health Facility Beds (per 100,000)*	18.7	28.7	23.7	↑
Inpatient Discharge Rate (per 1,000) - Total	157.2	188.0	74.6	↓
Could Not See Doctor Due to Cost (%)	10.0%	13.0%	12%	↓
Health Behaviors				
Cigarette Smoking (%)	18.0%	26.0%	31.50%	↓
Physical Inactivity (%)	24.0%	25.0%	22%	↓
Overweight/Obesity (% BMI > 25)	62.0%	61.0%	56%	↓
Obesity (% BMI > 30)	28.0%	28.0%	27%	↓
Low Fruit and Vegetable Consumption (% <5 a day)	80.0%	95.0%	76%	↓
Binge Drinking (%)	18.0%	10.0%	15%	↓
Teen Birth Rate (per 1,000)	18.6	52	16.5	↓
Sexually Transmitted Diseases (per 100,000)	385.0	278.0	259.9	↓
Violent Crime (per 100,000)	233.0	212.0	325	↓
Motor Vehicle Crash Deaths (per 100,000)	11.0	14.0	15	↓
Unmarried Mother Birth Rate (%)	35.0%	50.0%	46%	↓
Injury-related Mortality (Age Adjusted Rate per 100,000)	33.4	24.7	36.6	↓
Homicides (per 100,000)	5.0	0.0	3.3	↓

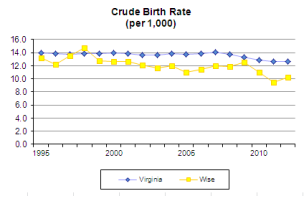
Cancer Incidence (Norton City):

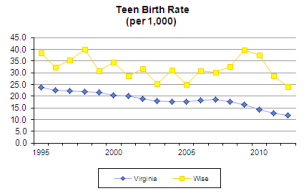






Birth Rate Trend (Norton City):





Key Indicators of Health Status (Norton City):

Socioecomonic Factors				
High School Graduation Rate (%)	88.0%	98.0%	83.10%	↑
Level of Education (%)	88.0%	81.0%	68%	↑
Unemployment (%)	6.2%	6.3%	6.60%	↓
Children (age 0 to 17) in poverty ratio (%)	15.5%	31.2%	31.40%	↓
Food Stamp Eligible Recipients (% of individuals)	11.6%	27.4%	28.60%	↓
Poverty Rate (% of all ages)	12.0%	18.0%	20.90%	↓
Temporary Assistance for Needy Families	0.8%	2.6%	3.80%	↓
High School Dropout Rate	1.4%	1.8%	2.40%	↓
Physical Environment				
Pre-1950 Housing (%)	13.2%	20.4%	26.60%	↓
Lead Poisoned Children (%)	0.2%	0.0%	0.00%	↓
Child Abuse and Neglect (rate per 1,000)	3.3	37	6.7	↓
Daily Fine Particulate Matter	12.5	12.8	11.8	↓
Communicable Diseases				
Hepatitis A (per 100,000)	0.6	4.4	0	↓
Campylobacter Infection (per 100,000)	9.4	13.2	11	↓
Salmonellosis (per 100,000)	14.1	17.5	17.6	↓
Shigellosis (per 100,000)	1.1	0.0	0	↓
AIDS/HIV cases (per 100,000)	305.3	98.7	0	↓
Early Stage Syphilis (per 100,000)	7.3	0.0	0	↓
Tuberculosis (per 100,000)	2.9	2.2	0	↓
Chlamydia (per 100,000)	432.5	335.4	242.3	↓
Gonorrhea (per 100,000)	85.1	19.7	11	↓

Inpatient Projections

	2014	2019		2024	
DRG Service Line	**Discharges**	**Discharges**	**% Change**	**Discharges**	**% Change**
Cardiac Surgery	53	53	0.20%	55	3.30%
Cardiology	927	799	-13.80%	701	-24.30%
Cardiology Intervention	224	207	-7.50%	195	-12.80%
Endocrinology	241	193	-19.70%	177	-26.70%
ENT Surgery	17	15	-9.80%	14	-15.30%
Gastroenterology	736	688	-6.60%	673	-8.50%
General Medicine	869	876	0.80%	820	-5.60%
General Surgery	465	441	-5.10%	426	-8.30%
Gynecology	81	73	-10.00%	67	-16.80%
Hematology	91	90	-1.60%	92	1.10%
Neonatology	148	135	-8.50%	125	-15.40%
Nephrology	383	354	-7.50%	314	-18.10%
Neurology	332	328	-1.30%	335	0.80%
Neurosurgery	99	94	-5.40%	91	-8.40%
Normal Newborns	336	344	2.50%	338	0.60%
OB Deliveries Sections	186	158	-15.00%	145	-22.20%
OB Deliveries Vaginal	311	326	4.80%	323	3.70%
OB Other	101	96	-4.70%	93	-7.60%
Oncology Medicine	99	94	-4.80%	85	-14.60%
Oncology Surgery	26	26	0.80%	25	-2.20%
Ophthalmic Medicine	10	9	-12.60%	8	-18.00%
Oral Surgery	7	6	-9.00%	6	-13.90%
Orthopedic Medicine	82	83	0.80%	84	2.30%
Orthopedic Surgery	366	381	4.10%	384	5.00%
Otolaryngology	35	29	-16.20%	27	-22.50%
Plastic Surgery	27	25	-6.20%	23	-14.80%
Psychiatry	325	353	8.50%	329	1.10%
Pulmonary	1,197	1,035	-13.50%	964	-19.50%
Rehabilitation	181	145	-20.00%	154	-14.90%
Rheumatology	35	34	-3.50%	35	-1.20%
Substance Abuse	37	38	3.00%	38	2.10%
Thoracic Surgery	49	45	-7.80%	44	-11.10%
Trauma Medical	32	31	-3.10%	32	-1.60%
Unspecified	5	5	0.00%	5	0.00%
Urology Medicine	27	22	-16.70%	20	-26.70%
Urology Surgery	50	45	-9.60%	41	-17.20%
Vascular Surgery	86	83	-3.50%	82	-5.10%
Womens Other	1	1	-1.00%	1	-10.10%
Grand Total	**8,277**	**7,763**	**-6.20%**	**7,370**	**-11.00%**

Outpatient Projections

	2014		2019			2024	
Site of Care	**Volumes**		**Volumes**	**% Change**		**Volumes**	**% Change**
ED	29,773		29,910	0.50%		28,603	-3.90%
Home	54,945		63,828	16.20%		69,750	26.90%
Hosp OP/ASC	83,295		89,646	7.60%		91,776	10.20%
Office/Clinic	408,336		431,832	5.80%		409,652	0.30%
Other	22,723		24,930	9.70%		25,051	10.20%
SNF	1,353		1,477	9.20%		1,554	14.90%
Urgent/Retail	337		350	3.80%		338	0.20%
Virtual			9,463			38,779	
Grand Total	**600,763**		**651,436**	**8.40%**		**665,503**	**10.80%**

Interview Highlights:

INTERVIEWEES:

- Eleven (11) individuals

KEY FINDINGS:

- Average rating of health status is 3.6, with a range in responses of 1 to 5
- Top health issues are:
  - Substance and prescription drug abuse
  - Cancer
  - Diabetes
  - Obesity
- Additional health issues are:
  - Dementia/Alzheimer's
  - Smoking/Tobacco use
  - Physical inactivity
  - Cardiovascular disease
  - Poor nutrition
  - Mental Health
  - Hygiene
  - Lack of long-term facilities
  - Lack of physicians
  - Income inequality
  - Education
  - Parenting education
  - Child safety
  - Poverty
  - Education
  - Unemployment
- Ideas to improve these conditions include:
  - Additional specialty providers
  - Press releases/fliers to inform public about health programs
  - Give physicians and patients diabetes fact sheets
  - In home monitoring of chronic conditions
  - Dental assistants/hygienists to visit schools
  - Train ER physicians on minor dental procedures
  - Social/community support programs
  - Increased hospital and home health referrals to PACE and MEOC programs
  - Incentives for health maintenance
  - Health promotion focus
  - Mobile units to provide services to rural areas
  - Coordinate education within the school system
  - More health education classes that are convenient for various populations
  - HOSA

Sources:	Local Resources:
▪ Medstat ▪ County Health Rankings ▪ Kidscount ▪ VA Atlas of Community Health ▪ VA Dept of Health ▪ Kaiser Family Foundation ▪ VA Dept of Behavioral Health and Developmental Services ▪ VA Dept of Social Services ▪ U.S. Census ▪ CDC Wonder	▪ Lenowisco Health District ▪ Mountain Empire Older Citizens ▪ Free Clinics ▪ Quit Line referral ▪ Local health departments ▪ Diabetes support groups ▪ Farmer's Market ▪ PACE program (**Program of All Inclusive Care for the Elderly)** ▪ Mountain Laurel Cancer Research Center ▪ Pharmacy connect program ▪ Children's Advocacy Center ▪ Healthy Families program ▪ Remote Area Medical (RAM) ▪ Health Wagon ▪ HEAL Appalachia ▪ UVA/Wise Coalition ▪ Food pantry ▪ Clothes closets ▪ SCCH ▪ School nurses ▪ PACE ▪ Children's Advocacy Center ▪ Lion's Club ▪ Primary care providers

APPENDIX

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1. Dickenson, VA Detailed Demographics
2. Wise, VA (including Norton City) Detailed Demographics

Mountain State Health Alliance

Dickenson County, VA

Population and Gender	Market 2015 Population	Market 2015 % of Total	Market 2020 Population	Market 2020 % of Total	Market Population % Change	National 2015 % of Total
Female Population	6,859	49.4%	6,767	49.2%	(1.3)%	50.8%
Male Population	7,031	50.6%	6,986	50.8%	(0.6)%	49.2%
Total	13,890	100.0%	13,753	100.0%	(1.0)%	100.0%

Age Groups	Market 2015 Population	Market 2015 % of Total	Market 2020 Population	Market 2020 % of Total	Market Population % Change	National 2015 % of Total
00-17	2,747	19.8%	2,637	19.2%	(4.0)%	23.1%
18-44	4,380	31.5%	4,272	31.1%	(2.5)%	35.9%
45-64	4,123	29.7%	3,899	28.4%	(5.4)%	26.3%
65-UP	2,640	19.0%	2,945	21.4%	11.6%	14.7%
Total	13,890	100.0%	13,753	100.0%	(1.0)%	100.0%

Ethnicity/Race	Market 2015 Population	Market 2015 % of Total	Market 2020 Population	Market 2020 % of Total	Market Population % Change	National 2015 % of Total
Asian & Pacific Is. Non-Hispanic	21	0.2%	27	0.2%	28.6%	5.3%
Black Non-Hispanic	62	0.5%	74	0.5%	19.4%	12.3%
Hispanic	94	0.7%	124	0.9%	31.9%	17.6%
White Non-Hispanic	13,609	98.0%	13,409	97.5%	(1.5)%	61.8%
All Others	104	0.8%	119	0.9%	14.4%	3.1%
Total	13,890	100.0%	13,753	100.0%	(1.0)%	100.0%

Language*	Market 2015 Population	Market 2015 % of Total	Market 2020 Population	Market 2020 % of Total	Market Population % Change	National 2015 % of Total
Korean at Home	9	0.1%	10	0.1%	11.1%	0.4%
Only English at Home	12,957	98.3%	12,837	98.3%	(0.9)%	79.0%
Other Indo-European Lang at Home	78	0.6%	76	0.6%	(2.6)%	1.8%
Other Lang at Home	14	0.1%	14	0.1%	0.0%	0.9%
Spanish at Home	115	0.9%	110	0.8%	(4.4)%	13.0%
All Others	9	0.1%	8	0.1%	(11.1)%	4.9%
Total	13,182	100.0%	13,055	100.0%	(1.0)%	100.0%

Mountain State Health Alliance

Dickenson County, VA

Household Income	Market 2015 Households	Market 2015 % of Total	Market 2020 Households	Market 2020 % of Total	Market Households % Change	National 2015 % of Total
<$15K	1,021	17.7%	878	15.3%	(14.0)%	12.7%
$15-25K	942	16.3%	848	14.8%	(10.0)%	10.8%
$25-50K	1,802	31.2%	1,786	31.1%	(0.9)%	23.9%
$50-75K	927	16.1%	872	15.2%	(5.9)%	17.8%
$75-100K	535	9.3%	588	10.2%	9.9%	12.0%
$100K-200K	496	8.6%	690	12.0%	39.1%	17.9%
>$200K	48	0.8%	78	1.4%	62.5%	5.0%
Total	5,771	100.0%	5,740	100.0%	(0.5)%	100.0%

Education Level**	Market 2015 Population	Market 2015 % of Total	Market 2020 Population	Market 2020 % of Total	Market Population % Change	National 2015 % of Total
Less than High School	1,534	15.2%	1,534	15.3%	0.0%	5.9%
Some High School	1,549	15.4%	1,546	15.4%	(0.2)%	8.0%
High School Degree	3,514	34.9%	3,496	34.9%	(0.5)%	28.1%
Some College/Assoc. Degree	2,569	25.5%	2,549	25.5%	(0.8)%	31.1%
Bachelor's Degree or Greater	909	9.0%	886	8.9%	(2.5)%	26.9%
Total	10,075	100.0%	10,011	100.0%	(0.6)%	100.0%

*Excludes population age <5, **Excludes population age <25

Mountain State Health Alliance

Wise County, VA

Population and Gender	Market 2015 Population	Market 2015 % of Total	Market 2020 Population	Market 2020 % of Total	Market Population % Change	National 2015 % of Total
Female Population	23,361	48.9%	23,195	49.0%	(0.7)%	50.8%
Male Population	24,421	51.1%	24,184	51.0%	(1.0)%	49.2%
Total	47,782	100.0%	47,379	100.0%	(0.8)%	100.0%

Age Groups	Market 2015 Population	Market 2015 % of Total	Market 2020 Population	Market 2020 % of Total	Market Population % Change	National 2015 % of Total
00-17	9,817	20.6%	9,492	20.0%	(3.3)%	23.1%
18-44	17,184	36.0%	16,635	35.1%	(3.2)%	35.9%
45-64	13,131	27.5%	12,524	26.4%	(4.6)%	26.3%
65-UP	7,650	16.0%	8,728	18.4%	14.1%	14.7%
Total	47,782	100.0%	47,379	100.0%	(0.8)%	100.0%

Ethnicity/Race	Market 2015 Population	Market 2015 % of Total	Market 2020 Population	Market 2020 % of Total	Market Population % Change	National 2015 % of Total
Asian & Pacific Is. Non-Hispanic	241	0.5%	285	0.6%	18.3%	5.3%
Black Non-Hispanic	2,222	4.7%	2,095	4.4%	(5.7)%	12.3%
Hispanic	752	1.6%	944	2.0%	25.5%	17.6%
White Non-Hispanic	43,894	91.9%	43,247	91.3%	(1.5)%	61.8%
All Others	673	1.4%	808	1.7%	20.1%	3.1%
Total	47,782	100.0%	47,379	100.0%	(0.8)%	100.0%

Language*	Market 2015 Population	Market 2015 % of Total	Market 2020 Population	Market 2020 % of Total	Market Population % Change	National 2015 % of Total
French at Home	151	0.3%	152	0.3%	0.7%	0.7%
Only English at Home	44,033	97.5%	43,755	97.6%	(0.6)%	79.0%
Other Indo-European Lang at Home	38	0.1%	36	0.1%	(5.3)%	1.8%
Other Lang at Home	162	0.4%	155	0.4%	(4.3)%	0.9%
Spanish at Home	628	1.4%	614	1.4%	(2.2)%	13.0%
All Others	135	0.3%	127	0.3%	(5.9)%	4.5%
Total	45,147	100.0%	44,839	100.0%	(0.7)%	100.0%

Mountain State Health Alliance

Wise County, VA

Household Income	Market 2015 Households	Market 2015 % of Total	Market 2020 Households	Market 2020 % of Total	Market Households % Change	National 2015 % of Total
<$15K	4,027	21.4%	3,637	19.3%	(9.7)%	12.7%
$15-25K	2,810	14.9%	2,753	14.6%	(2.0)%	10.8%
$25-50K	4,749	25.2%	4,623	24.6%	(2.7)%	23.9%
$50-75K	3,236	17.2%	3,126	16.6%	(3.4)%	17.8%
$75-100K	1,868	9.9%	1,967	10.5%	5.3%	12.0%
$100K-200K	1,913	10.2%	2,367	12.6%	23.7%	17.9%
>$200K	247	1.3%	334	1.8%	35.2%	5.0%
Total	18,850	100.0%	18,807	100.0%	(0.2)%	100.0%

Education Level**	Market 2015 Population	Market 2015 % of Total	Market 2020 Population	Market 2020 % of Total	Market Population % Change	National 2015 % of Total
Less than High School	4,274	12.9%	4,318	13.0%	1.0%	5.9%
Some High School	4,631	14.0%	4,675	14.1%	1.0%	8.0%
High School Degree	10,469	31.7%	10,514	31.7%	0.4%	28.1%
Some College/Assoc. Degree	9,575	29.0%	9,606	29.0%	0.3%	31.1%
Bachelor's Degree or Greater	4,103	12.4%	4,070	12.3%	(0.8)%	26.9%
Total	33,052	100.0%	33,183	100.0%	0.4%	100.0%

*Excludes population age <5, **Excludes population age <25



2015 COMMUNITY HEALTH NEEDS ASSESSMENT

RUSSELL COUNTY MEDICAL CENTER

Published June 29, 2015

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a. RCMC Area Snapshot

Introduction

Mountain States Health Alliance (MSHA) is an integrated health care delivery system providing a comprehensive continuum of care to people in 29 counties in Tennessee, Virginia, Kentucky, and North Carolina. MSHA was formed after Johnson City Medical Center Hospital, Inc. acquired six Columbia/HCA hospitals in Northeast Tennessee on September 1, 1998; and was later renamed Mountain States Health Alliance in January 1999.

Today, MSHA is the largest regional health care system with 13 hospitals operating at approximately $1.0 billion in net revenues. The hospitals are:

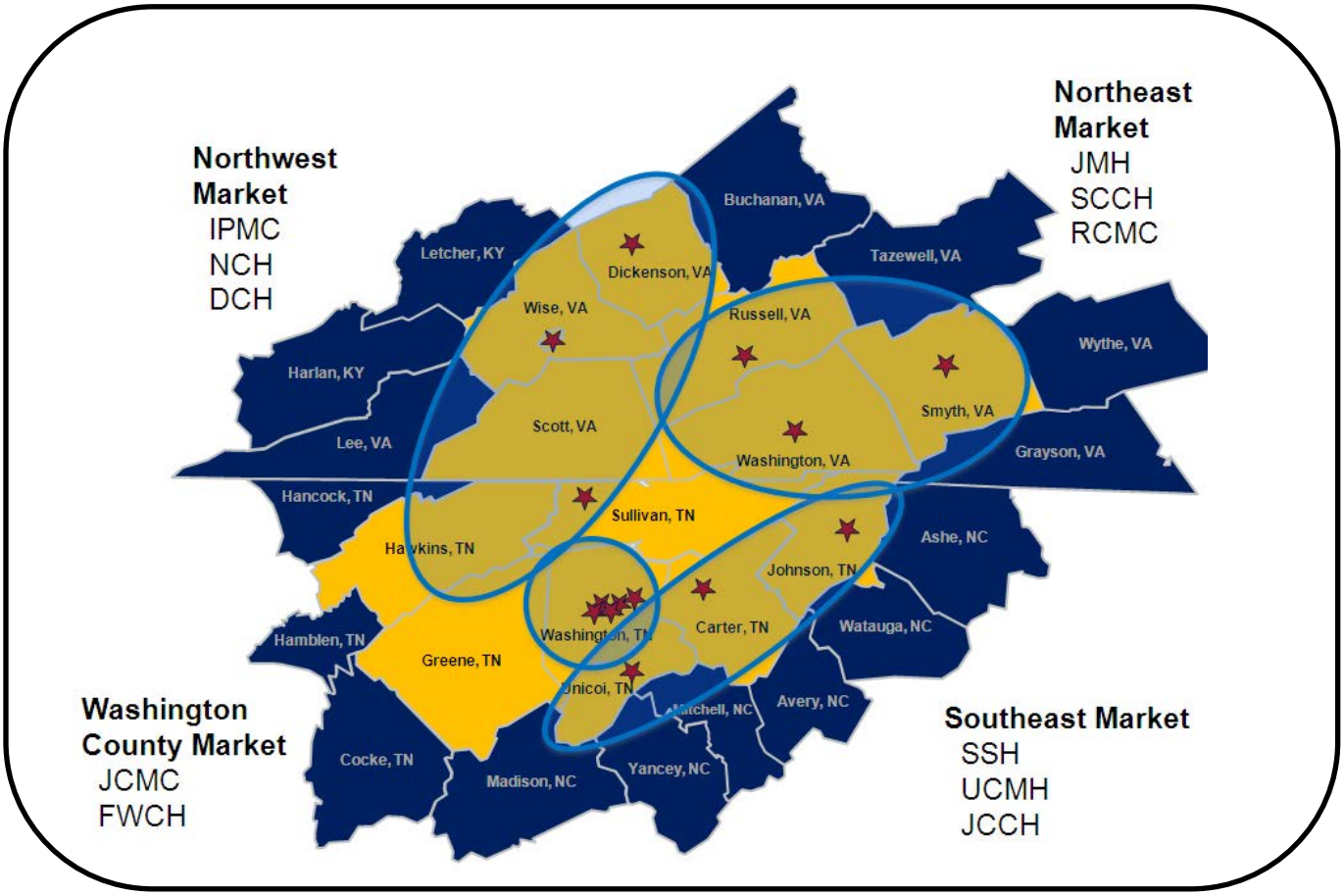
- Johnson City Medical Center
- Niswonger Children's Hospital
- Woodridge Psychiatric Hospital
- Franklin Woods Community Hospital
- Unicoi County Community Hospital
- Indian Path Medical Center
- Johnson County Community Hospital
- Sycamore Shoals Hospital
- Dickenson Community Hospital
- Johnston Memorial Hospital
- Norton Community Hospital
- Russell County Medical Center
- Smyth County Community Hospital

In addition to 13 hospitals, MSHA's integrated health care delivery system includes primary/preventive care centers and numerous outpatient care sites, including First Assist Urgent Care, MedWorks, Same Day Surgery, and Mountain States Rehabilitation.

Executive Summary

Regional and national rankings for health factors continue to be disappointing as cancer, heart disease, and diabetes rates continue to increase each year. Obesity and smoking continue to be major problems in the United States, leading to additional diseases. From a global perspective, the United States falls behind other developing nations in health outcomes. Clearly, there are many needs that exist and need attention. The interrelatedness between the health of a community, its economic status, and its educational attainment levels is becoming increasingly recognized. Mountain States Health Alliance (MSHA) exists to "*identify and respond to the health care needs of individuals and communities in our region and to assist them in attaining their highest possible level of health.*" In doing so, MSHA recognizes this is a very complex challenge that involves the engagement of many prongs of the community.

In order for MSHA to serve its region most effectively, it is essential to understand each community's individual needs. MSHA has conducted a Community Health Needs Assessment to profile the health of the residents within the local region (a map of the MSHA service area is provided on the following page). Activities associated with the development of this assessment have taken place from spring of 2014 through spring of 2015, including state, regional and county-specific secondary data collection and primary data obtained through individual surveys and focus groups with individuals from the local communities.



★ Represents county in which MSHA owns a facility. MSHA has part-ownership in other hospitals but they are not included in this assessment.

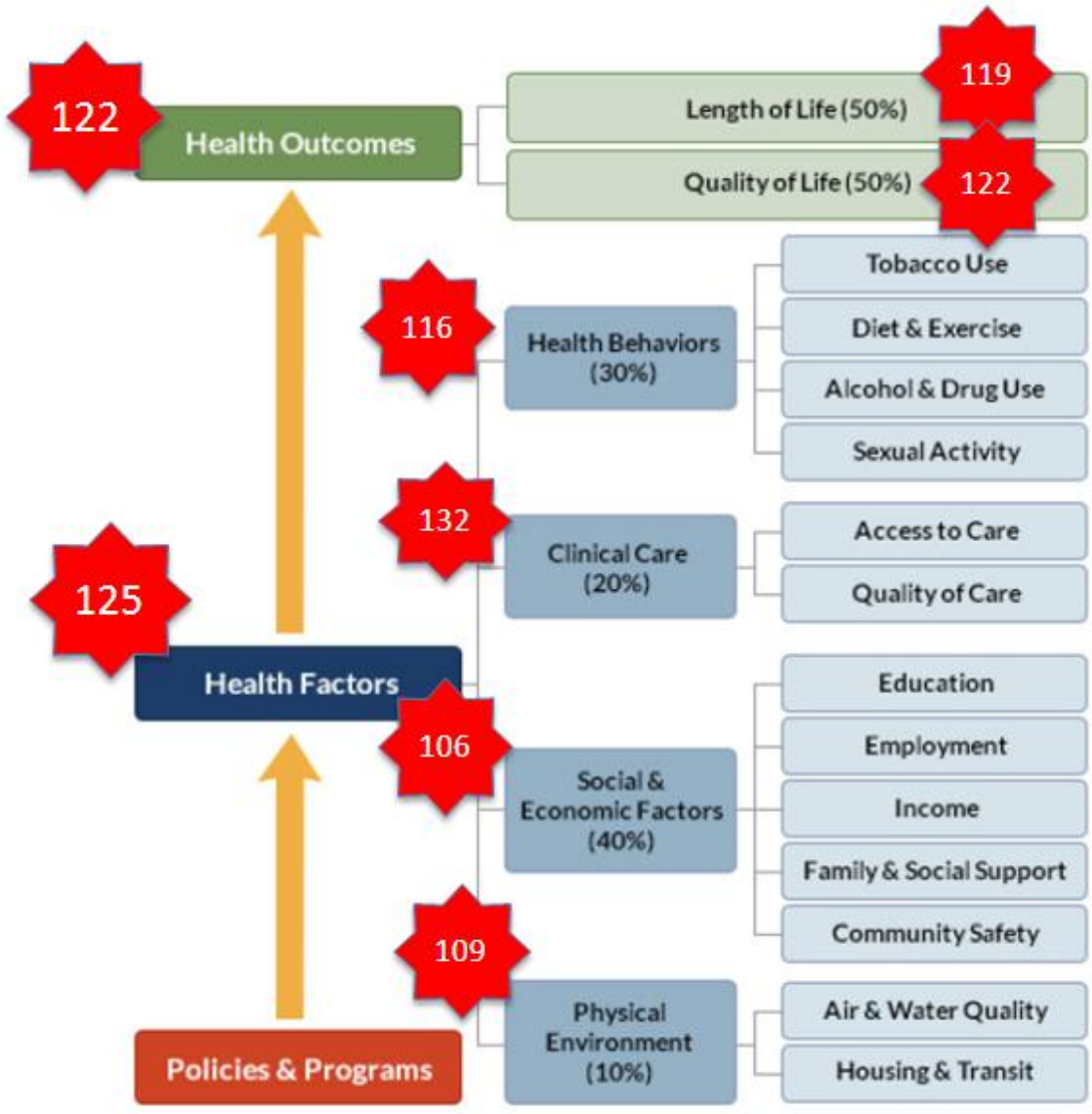
*Service Area is defined by approximately 80% of inpatient population.

Throughout the assessment, high priority was given to determining the health status and available resources within each community. Community members from each county met with MSHA to discuss current health priorities and identify potential solutions. The information gathered from a local perspective, paired with regional, state and national data, helps to communicate the region's health situation in order to begin formulating solutions for improvement.

In 2014, Tennessee ranked 45th and Virginia ranked 21st out of 50 states for overall health outcomes. Both states had high rates of adult obesity, cancer deaths, infant mortality, and diabetes. Though Virginia's overall ranking is moderately low, the health outcomes in Southwest Virginia counties, where MSHA's facilities are located, resembles those of Tennessee. After compiling the various sources of information, the top health priorities were identified for the communities that each of the MSHA hospitals serve. This effort has determined the top health priorities identified in Russell County to include **obesity, cancer, substance abuse and cardiovascular disease**. There are certainly a number of other health challenges in this community, but these rise to the top based on this assessment.

According to the 2015 County Health Rankings, Russell County is ranked 122nd Virginia for health outcomes and 125th for health factors out of 133 counties. The leading causes of death for ages 65 and over are heart disease, cancer, and stroke. Russell County also ranked 116th in health behaviors. When compared to other Virginia counties, Russell County has high physical inactivity, high teen birth rates, and high overweight/obesity rates. As for social and economic factors, Russell County ranks 106th due to low rates of college education, high rates of children in poverty, and high unemployment rates.

Russell County Health Ranking
2015 County Health Rankings
www.countyhealthrankings.org



*Ranking is in comparison to all 133 localities in the state of Virginia.

Community Interview Summary

In spring 2014 the MSHA Strategic Planning Department completed individual interviews to connect with community members of Russell County and determine the needs of the community that Russell County Medical Center serves. MSHA hospital administration teams were contacted in order to obtain names of individuals in the community who were considered public health officials or community leaders. The five interviewees included representatives from the local health department, department of social services, local emergency medical services, the local YMCA and the Town of Lebanon. These individuals were invited to discuss and assist in determining the health priorities and resources available in their community of Russell County.

Collecting Community Input

In order to complete the community health needs assessment for Russell County Medical Center, MSHA met with various individuals from Russell County, VA. The organizations that were represented are listed in Table 1.1.

Table 1.1 – Summary Organizations Participating in RCMC's CHNA

Reported Organizations Providing Input for Assessment
Cumberland Plateau Health District, Virginia Department of Health
Dante Emergency Medical Services
Town of Lebanon
Russell County Department of Social Services
Russell County YMCA

To begin the community health needs assessment, MSHA's strategic planning staff presented data that had been collected to illustrate past and current health trends for Virginia and Russell County. The presentation depicted the current national health rankings, in addition to providing a snapshot of the county.

Following the presentation, each participant was given a survey to determine the individual's personal assessment of their county's health priorities. Secondly, the individuals were asked to submit ideas and suggestions as to how MSHA could use the available resources in order to improve the health priorities determined. After the surveys had been completed, each group discussed the questions and continued brainstorming ways to address obstacles and utilize resources. All of the information collected from the surveys and open discussion was evaluated and prioritized based on health needs.

In surveys obtained from the Russell County representatives, several community health needs and resources were identified. Table 1.2 lists the survey questions given to each participant in the assessment.

Table 1.2 – Community Survey Questions

	Survey Questions
1	How would you rate the general health status of the patient population in this community on a scale of 1 to 10 (with 1 being the poorest and 10 being the best)?
2	Keeping in mind resources are not unlimited, can you identify the top 1-2 health priorities in your local community that you feel should be addressed in the following areas: a)Health Outcomes/Diseases b)Health Behaviors c)Social Environment
3	What existing resources, such as organized groups or public health initiatives have been developed and are in place to address these health priorities?
4	What ideas do you have that may serve to improve these health priorities?

Health Status Rating

Overall, the general health status of Russell County was rated as 5 on a scale of 1 – 10, with 1 being the poorest and 10 being the best. Individual responses ranged from 2 to 7.5. The health ranking for Russell County can be found below in Table 1.3.

Table 1.3 – Average Health Status Ranking

MSHA Facility/County	Number of Individuals	Average of Health Status Rating
RUSSELL COUNTY MEDICAL CENTER, Russell County, VA	5	5

Top Health Priorities

From the results of the surveys, the most prevalent health priorities in Russell County were diabetes, smoking, cancer and obesity (physical inactivity/poor diet). Table 1.4 lists the health priorities input provided by community participants.

Table 1.4 – Top Identified Health Issues

Top Health Issues		
Health Outcomes/Diseases	**Health Behaviors**	**Socio-Economic Factors**
Obesity (1) Cancer (2) Heart Disease (4)	Substance Abuse (3) Smoking (5) Poor Nutrition (6) Lack of Physical Activity (9)	Lack of Access (Peds, Specialists) (7) Aging Population (8)

*Individuals submitted multiple answers regarding health priorities. Rank order of responses is provided in parenthesis.

These priorities are consistent with the secondary data findings.

- Obesity
  - Self-reported physical inactivity rates among Russell County residents exceed the state average (36% vs. 22%)
- Cancer
  - The annual incidence of lung cancer rates were well above that of the state of VA: 78 vs. 64.4 (per 100,000 population)
  - The age-adjusted death rate due to cancer also exceeded that of the state: 205.89 vs. 176.36 (per 100,000 population)
- Substance Abuse
  - The number of drug poisoning deaths in Russell County is nearly 4 times that of the state at 32 vs 9 (per 100,000 population)
- Cardiovascular Disease
  - The percentage of adults with heart disease in Russell County exceeds that of the state of Virginia: 53.4% vs. 4.16%
  - The age-adjusted death rate due to heart disease is well above that of the state of Virginia: 280.53 vs. 173.71 (per 100,000 population)

All of these issues lead to a higher percentage of self-reported age-adjusted fair or poor health rates in Russell County compared to the state (29% vs. 14%) as well as a higher number of years of potential life lost before 75 per 100,000 (a measure of premature death) at 10,663 in the county vs. 6,192 in VA.

Russell (RU)

	Russell County	Error Margin	Top U.S. Performers*	Virginia	Rank (of 133)
Health Outcomes					122
Length of Life					119
Premature death	10,663	9,339-11,987	5,200	6,192	
Quality of Life					122
Poor or fair health	29%	24-35%	10%	14%	
Poor physical health days	7.1	5.4-8.8	2.5	3.2	
Poor mental health days	5.0	3.7-6.4	2.3	3.1	
Low birthweight	7.7%	6.6-8.9%	5.9%	8.3%	
Health Factors					125
Health Behaviors					116
Adult smoking	25%	18-33%	14%	18%	
Adult obesity	35%	29-42%	25%	28%	
Food environment index	8.0		8.4	8.3	
Physical inactivity	36%	30-43%	20%	22%	
Access to exercise opportunities	43%		92%	81%	
Excessive drinking			10%	16%	
Alcohol-impaired driving deaths	23%		14%	31%	
Sexually transmitted infections	151		138	427	
Teen births	46	41-52	20	29	
Clinical Care					132
Uninsured	17%	16-19%	11%	14%	
Primary care physicians	2,032:1		1,045:1	1,344:1	
Dentists	9,421:1		1,377:1	1,611:1	
Mental health providers	1,229:1		386:1	724:1	
Preventable hospital stays	160	146-174	41	55	
Diabetic monitoring	87%	79-95%	90%	87%	
Mammography screening	53.5%	45.0-62.0%	70.7%	63.4%	
Social & Economic Factors					106
High school graduation	81%			83%	
Some college	47.8%	40.7-54.9%	71.0%	68.2%	
Unemployment	8.7%		4.0%	5.5%	
Children in poverty	26%	19-33%	13%	16%	
Income inequality	5.1	4.3-5.9	3.7	4.8	
Children in single-parent households	28%	20-35%	20%	30%	
Social associations	8.8		22.0	11.3	
Violent crime	130		59	200	
Injury deaths	94	79-110	50	52	
Physical Environment					109
Air pollution - particulate matter	13.0		9.5	12.7	
Drinking water violations	0%		0%	2%	
Severe housing problems	12%	10-15%	9%	15%	
Driving alone to work	86%	83-89%	71%	77%	
Long commute - driving alone	45%	38-51%	15%	38%	

* 90th percentile, i.e., only 10% are better.
Note: Blank values reflect unreliable or missing data

2015

Identifying Available Resources

MSHA realizes that there are numerous resources in all of the counties it serves that can provide care for individuals. Our goal, in order to reduce costs and provide the best care possible for patients, is to identify these resources to prevent duplication of services and efforts. The interviewees were asked to list all of the services and resources within their community. The interviewees acknowledged that many resources currently exist to help meet health needs. Table 1.5 lists the current resources within each county that offer health services to the community.

Table 1.5 – Identified Available Resources

Resources Available
Russell County, Virginia
Celebrate Recovery
Cumberland Plateau Health District
Diabetes Coalition
HEAL Appalachia
Lebanon Physical Therapy
Local blood drives
Local church groups
One Care
People, Inc.
Regional Area Medical (RAM)
Russell County Health Advisory Committee
Russell County Health Department
SATIRA
YMCA

*MSHA understands that there are other resources available in each county that are not listed in this table. This table represents only the resources listed by participants in community health needs assessment. MSHA will continue to identify resources.

Improving Health Priorities

The community members who were surveyed provided helpful ideas as to how to begin formulating a plan to improve the health priorities throughout the region. To enhance existing resources, the participants stressed the significance of increasing public awareness of both addressing one's health needs and the availability of health care options within each community. Additional suggestions as to how MSHA can improve the previously identified health priorities are listed in Table 1.6.

Table 1.6 – Ideas to Improve Health Priorities

	Responses
1	Focus on prevention
2	Improve patient navigation to clinics
3	Improve agency/organization collaboration
4	Chronic disease management
5	Programs for children on nutrition and physical activity
6	Improve farmer's market by offering more local produce
7	Increase number of health fairs
8	Increase health education
9	Increase pediatric and specialty care

However, it is also helpful to understand from a more global perspective the health status of our nation as a whole, since many issues we face in our service area are not limited to just our region. Compiled on an annual basis, the *America's Health Rankings* publication developed by the United Health Foundation, the American Public Health Association and Partnership for Prevention provides one of the most comprehensive assessments regarding the status of the nation's health. The following information in the national and regional overview is from the 2015 edition

Health is a result of our behaviors, our individual genetic predisposition to disease, the environment and the community in which we live, the clinical care we receive and the policies and practices of our health care and prevention systems. Each of us, individually, as a community, and as a society, strives to optimize these health determinants, so that all of us can have a long, disease-free, and robust life regardless of race, gender or socio-economic status.

This report looks at the four groups of health determinants that can be affected:

1. **Behaviors** include the everyday activities we do that affect our personal health. It includes habits and practices we develop as individuals and families that have an effect on our personal health and on our utilization of health resources. These behaviors are modifiable with effort by the individual supported by community, policy and clinical interventions.

2. **Community and environment** reflects the reality that the daily conditions in which we live our lives have a great effect on achieving optimal individual health.

3**. Public and health policies** are indicative of the availability of resources to encourage and maintain health and the extent that public and health programs reach into the general population.

4. **Clinical care reflect**s the quality, appropriateness and cost of the care we receive at doctors' offices, clinics and hospitals.

All health determinants are intertwined and must work together to be optimally effective. For example, an initiative that addresses tobacco cessation requires not only efforts on the part of the individual but also support from the community in the form of public and health policies that promote non-smoking and the availability of effective counseling and care at clinics. Similarly sound prenatal care requires individual effort, access to and availability of prenatal care coupled with high quality health care services. Addressing obesity, which is a health epidemic now facing this country, requires coordination among almost all sectors of the economy including food producers, distributors, restaurants, grocery and convenience stores, exercise facilities, parks, urban and transportation design, building design, educational institutions, community organizations, social groups, health care delivery and insurance to complement and augment individual actions.



America's Health Rankings® combines individual measures of each of these determinants with the resultant health outcomes into one, comprehensive view of the health of a state. Additionally, it discusses health determinants separately from health outcomes and provides related health, economic and social information to present a comprehensive profile of the overall health of each state.

America's Health Rankings® employs a unique methodology, developed and periodically reviewed by a panel of leading public health scholars, which balances the contributions of various factors, such as smoking, obesity, binge drinking, high school graduation rates, children in poverty, access to care and incidence of preventable disease, to a state's health. The report is based on data from the

U.S. Departments of Health and Human Services, Commerce, Education and Labor; U.S. Environmental Protection Agency; U.S. Census Bureau, the American Medical Association; the American Dental Association; the Dartmouth Atlas Project; and the Trust for America's Health.

Purpose

The ultimate purpose of *America's Health Rankings*® is to stimulate action by individuals, elected officials, health care professionals, employers, and communities to improve the health of the population of the United States. We do this by promoting public conversation concerning health in our states, as well as providing information to facilitate citizen, community and group participation. We encourage participation in all elements: behaviors, community and environment, clinical care, and public and health policies. Each person individually, and in their capacity as an employee, employer, voter, community volunteer, health official or elected official, can contribute to the advancement of the healthiness of their state. Proven, effective and innovative actions can improve the health of people in every state whether the state is first or 50th.

Findings

Comparison to Other Nations

When health in the United States is compared to health in other countries, the picture is disappointing. The World Health Organization, in its annual World Health Statistics 2013, compares the United States to the nations of the world on a large variety of measures. While the U.S. does exceed many countries, it is far from the best in many of the common measures used to gauge healthiness and lags behind its peers in other developed countries.

The United States ranks at or near the bottom among high-income countries on nearly all indicators of mortality, survival, and life expectancy. Life expectancy is a measure that indicates the number of years that a newborn is expected to live. Japan, San Marino, and Switzerland are the persistent leaders for developed countries in this measure, with an overall life expectancy of 83 years. At 81 years for women and 76 years of men, the United States ranks 33rd among the 193 reporting nations of the WHO. The United States male life expectancy rates are on par with Chile, Cuba, Brunei Darussalam, and Maldives, while the female life expectancy rates are on par with Columbia, Costa Rica, Czech Republic, Estonia, Poland, and Qatar. There are 32 other countries that exceed the United States in healthy life expectancy, including Australia, Italy, Spain, France, Germany, Greece and the United Kingdom.

One of the underlying causes for these differences is the gap in infant mortality rates between the United States and many other countries. The infant mortality rate for the U.S. in 2011 was 6 deaths per 1,000 live births, ranking 40th among WHO nations. The infant mortality rates in Finland, Japan, and Sweden were *one* third that of the U.S. rate. Of the 193 countries rated, 39 countries had lower infant mortality rates than the United States.

These countries also have considerably lower infant mortality rates than that of non-Hispanic whites in the United States, which is the ethnic/racial group with the lowest infant mortality rate. The racial/ethnic disparities related to infant mortality could be related to differences in risk factors among different racial/ethnic groups, including risk for low birth weight delivery, access to medical care, and socioeconomic status. However, many of the racial/ethnic differences in infant mortality remain unexplained. It should also be noted that the reporting and classification of infant mortality varies among countries, which could be reflected in the ranks.

In addition to infant mortality, youth and young adults' mortality impacts life expectancy. Unintentional injuries claim approximately 30 percent of the years lost before age 50, along with violence and suicides, among U.S. young adults and adolescents. Non-communicable (chronic)

diseases, such as cancer, heart disease, and other conditions that are not caused by infections, begin to be more of a contributing factor after the age of 30.

Differences in healthy life expectancy are also affected by the effectiveness of treating disease, especially those that are amenable to care, including bacterial infections, treatable cancers, diabetes, cardiovascular and cerebrovascular disease, some ischemic heart disease, and complications from common surgical procedures. The age-adjusted amenable mortality rate before age 75 for the United States was 95.5 deaths per 100,000 population in 2006 to 2007, which is still a slower rate of improvement than in other Organization for Economic Cooperation and Development (OECD) nations studied. The rate in the U.S. is 50 percent higher than the rate in France, Japan, Italy, and Australia.

Additionally, the study indicated that despite spending more than any other country on health care, the United States continues to slip further behind and has one of the highest inequalities in health compared to other developed countries. The U.S. ranks among the worst OECD countries for child health well-being, having an inequality higher than average. Furthermore, although the United States has the highest income per person, it continues to rank as the worst country for income inequality, which is thought to explain why it has the highest index of health and social problems compared to other developed nations.

Physical inactivity and obesity play major contributions to disease worldwide and in the United States. Physical inactivity is the fourth leading risk factor for global mortality, and is responsible for an estimated 6 to 10 percent of non-communicable diseases, such as type 2 diabetes, heart disease, colon cancer, and breast cancer. North America has 34 percent of the world's biomass due to obesity; however, it only makes up for 6 percent of the world's population. Asia, on the other hand, has 61 percent of the world's population, yet only has 13 percent of its biomass due to obesity. While the U.S. is only one of several countries that form North America, it is the only North American nation to rank among the heaviest nations globally. It is estimated that eliminating physical activity in the United States would add approximately 1 year to life expectancy and dramatically reduce the burden of chronic diseases.

The results of these studies should be a wake-up call to everyone in the United States to strive to improve all aspects of our health system, including education, safety, prevention, and clinical care. Other countries have improved their overall health, indicating that we, too, can do the same.

National Changes since 1990

In the past year, 20 health measures improved, 8 measures declined, and 1 measure remained unchanged. Table 1 shows the national changes in the last year. These improvements were offset by deterioration in several measures, including increases in the prevalence of obesity, the percentage of children in poverty and lack of health insurance.

Since 2012, the prevalence of smoking declined from 21.2 percent to 19 percent among adults. The binge drinking prevalence rate dropped from 18.3 percent to 16.8 percent of adults who binged in the last 30 days, and physical inactivity decreased from 26.2 percent to 25.3 percent. The incidence of pertussis increased sharply from 9.0 to 15.5 cases per 100,000 populations. The percentages of children in poverty, lack of health insurance, child immunization coverage, and low birth weight have also suppressed faster improvement in our nation's health.

Table 1 – National Successes and Challenges

SUCCESSES

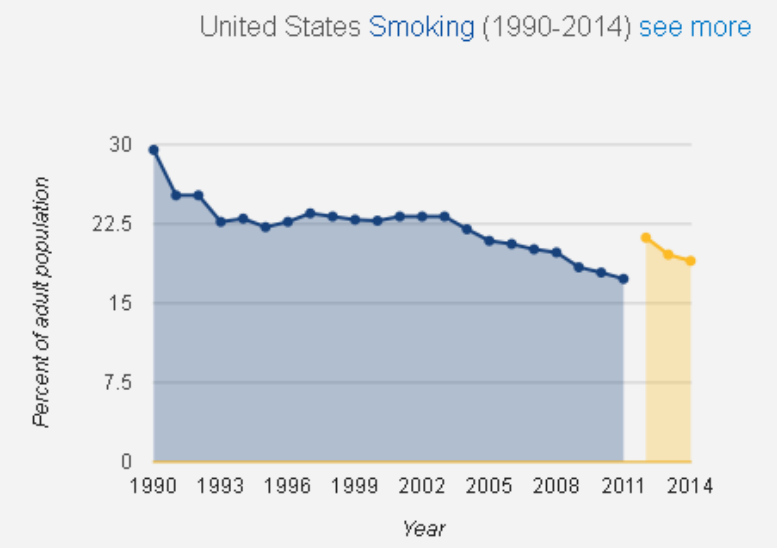
Smoking	Since 1990, smoking decreased 36% from 29.5% to 19.0% of adults who smoke regularly.
High School Graduation	At 81% of ninth graders graduating within 4 years, high school graduation is still a challenge. However, it is slowly trending upward from 71.7% in 2004.
Violent Crime	At 387 offenses per 100,000 population, violent crime is 37% lower than in 1990 and 49% lower than its peak in 1993.
Air Pollution	The average amount of fine particulates in the air continues to decline from 13.2 micrograms per cubic meter in 2003 to 9.9 micrograms per cubic meter in 2014.
Preventable Hospitalizations	Preventable hospitalizations continue to decline. In 2001, there were 82.5 discharges per 1,000 Medicare beneficiaries; in 2014, there were 62.9 discharges per 1,000 Medicare beneficiaries.
Occupational Fatalities	Occupational fatalities have declined in the last 8 years from 5.3 deaths per 100,000 workers in 2007 to 3.8 deaths per 100,000 workers. This is the second consecutive year the rate is below 4 deaths per 100,000 workers.
Infant Mortality	Since 1990, infant mortality decreased 41% from 10.2 to 6.0 deaths per 1,000 live births, although most of that decline occurred between 1990 and 1999. Even though the infant mortality rate is the lowest in US history, it is double the rate of many developed countries. In addition, large racial and geographic disparities exist within the country.
Premature Death	Since 1990, premature death declined 20% from 8,716 to 6,976 years of potential life lost before age 75. Premature death, like several other metrics, has leveled off in the last decade compared with improvements made in the 1990s.
Cancer Deaths	Cancer deaths declined 4% from 197.5 deaths in 1990 to 189.9 deaths per 100,000 population.
Cardiovascular Deaths	Since 1990, cardiovascular deaths declined 38% from 405.1 to 251.4 deaths per 100,000 population. This continues a relatively constant improvement of 2% to 3% yearly.

CHALLENGES

Obesity	Since 1990, obesity has increased 153% from 11.6% to 29.4% of adults.
Physical Inactivity	Physical inactivity remains high at 23.5% of adults and has not changed appreciably for the last decade.
Children in Poverty	At 19.9% of children, the children in poverty measure is far above the 23-year low of 15.8% in the 2002 Edition and near the 1990 level of 20.6%.
Public Health Funding	State public health funding continues its slow decline over the past 4 years. Since 2011, it decreased from $95.01 to $90.00 in expenditures per person at the state level.
Immunization Coverage — Children	Nationwide, comprehensive immunization coverage among children aged 19 to 35 months is only 70.4%. It increased marginally in the past year.
Immunization Coverage — Adolescents	Nationwide, comprehensive immunization coverage among teens aged 13 to 17 years is only 67.1%. It increased marginally in the past year.
Low Birthweight	In the last 20 years, the prevalence of low birthweight infants has increased from 7.1% to 8.0% nationwide. The good news is that it appears to have peaked in 2009 and is trending downward.
Diabetes	In the nation, 9.6% of adults report they have been told they have diabetes. There has been a steady, upward climb in the prevalence of diabetes, although data from the last 3 years shows a leveling of the prevalence.

The United States has the potential to return to the rates of improvement typical in the 1990s. However, to do so, it must address the drivers of health directly by focusing on reducing important risk factors. For example, the prevalence of smoking had been stagnant for many years and recently started to show improvement in the last two decades. However, there was an increase in rates from 2010 to 2012. In the last year, the prevalence of smoking declined in the United States from 21.2 percent to 19 percent of adults who smoke regularly; however Tennessee ranks 46th as one of the bottom five states with 24.3 percent of adults smoking and Virginia ranks 24th at 19.1 percent.

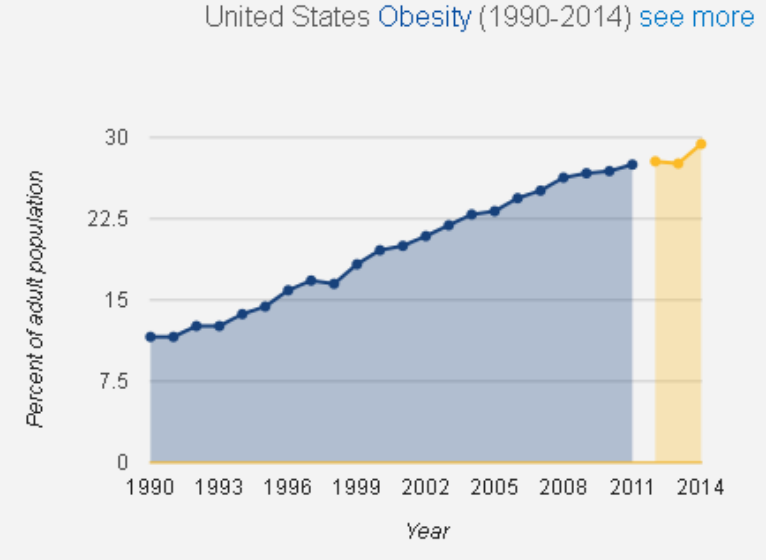
Graph 1 - Prevalence of Smoking Since 1990



Unprecedented and unchecked growth in the prevalence of obesity over the last 20 years has also dramatically affected the overall health of the United States. The prevalence of obesity, a risk factor for numerous illnesses including heart disease and diabetes, appears to be leveling off after increasing for decades. However, more than one in four people in the U.S. is considered obese - a category that the Centers for Disease Control and Prevention reserves for those who are significantly over the suggested body weight given their height. In the United States, the prevalence of obesity is 29.4 percent of adults, which has increased from 27.8 percent in 2012. Virginia's obesity score ranks 18th at 27.2 percent, while Tennessee ranks 47th at 33.7 percent of obese adults.

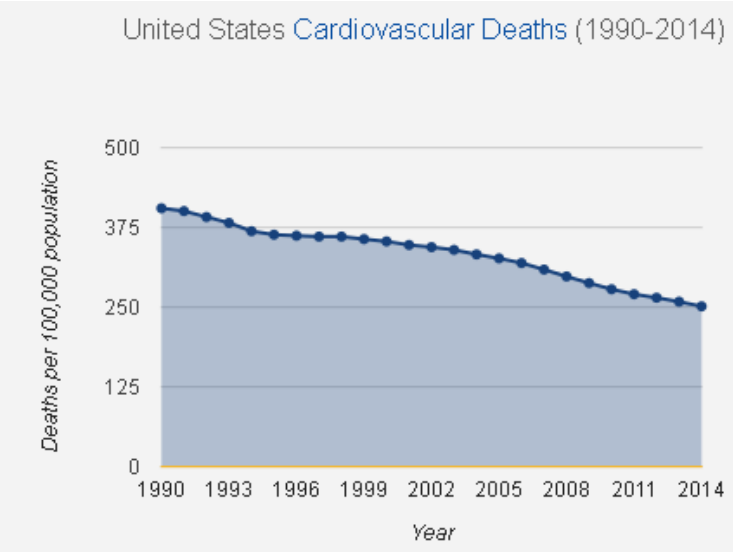
These very high obesity rates are gathered from the Behavioral Risk Factor Surveillance System, the nation's largest phone survey about health, and rely on self-reported height and weight. Actual obesity rates, as measured by health professionals, may be almost 10 percent higher, meaning that over one-third of the population is now obese.

Graph 2 - Prevalence of Obesity Since 1990



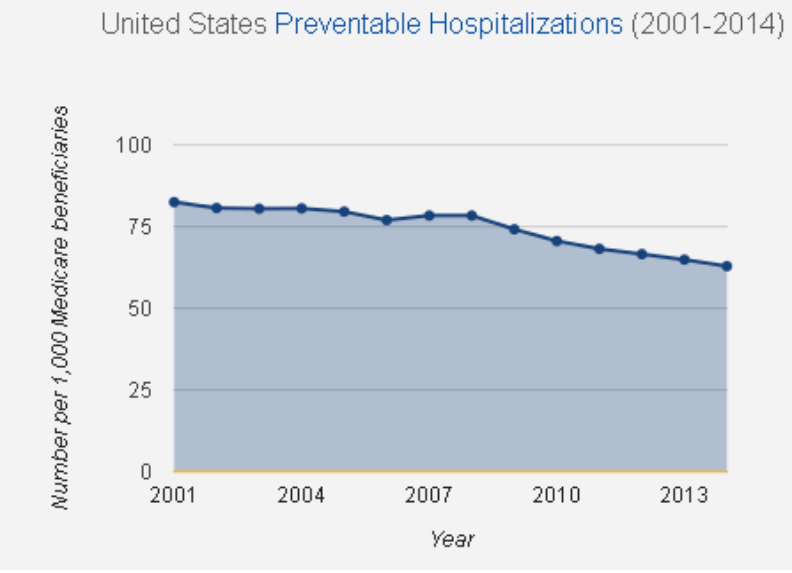
Despite increasing risk factors such as obesity, high cholesterol, and high blood pressure, deaths contributed to cardiovascular disease have consistently declined by 2 to 3 percent per year for the last decade. Cardiovascular disease accounts for 30 percent of Medicare spending, 17 percent of medical spending, and totals nearly $150 billion each year. For cardiovascular deaths, Virginia ranked 25th with a rate of 241.1 per 100,000 and Tennessee ranked 44th with the rate of 300.6.

Graph 3 – Prevalence of Cardiovascular Deaths Since 1990



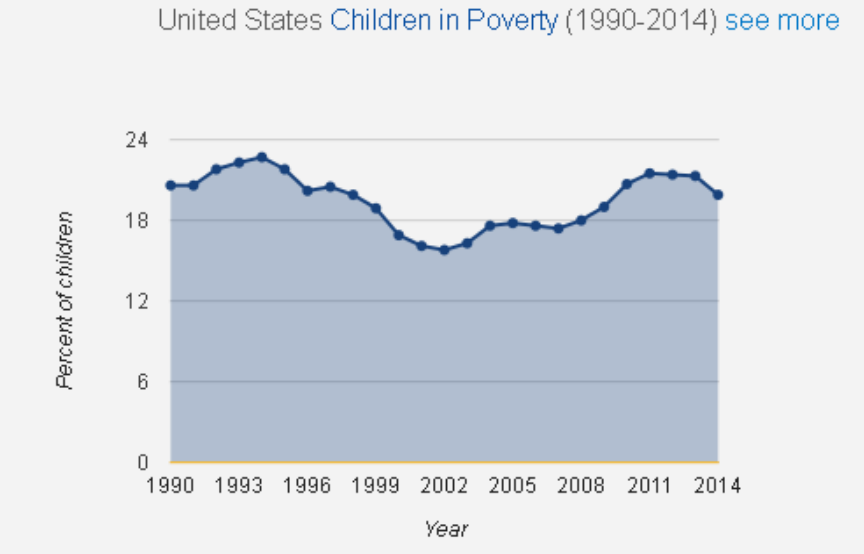
Like cardiovascular disease, potentially preventable hospitalizations have steadily decreased over the past 12 years. Preventable hospitalizations (hospitalizations that may be preventable with high quality primary and preventive care) have decreased from 82.5 to 62.9 discharges per 1,000 Medicare enrollees since 2001. Preventable hospitalizations reflect how efficiently a population uses various health care options for care and often occur as a result of a failure to detect or treat conditions early. Preventable hospitalizations could be avoided with earlier, less costly interventions. Virginia ranked 22nd in this measure with a 55.2 rate and Tennessee ranked 47th with a rate of 78.5.

Graph 4 – Preventable Hospitalizations Since 2001



The current economic climate also increases the challenge of maintaining a healthy population. Poverty is an indication of the lack of access to health care, including preventive care, for this vulnerable population. Graph 5 shows the recent increase in the percentage of children in poverty in the last few years, increasing from 16.1 percent of children in the 2011 Edition to 19.9 percent of children in the 2014 Edition. On this measure Virginia ranks 12th with a 14.5 percent of children living in poverty and Tennessee ranks 45th with 26.7 percent. In the 2002 Edition, the child poverty rate was at a historic low of 15.8 percent of persons under age 18.

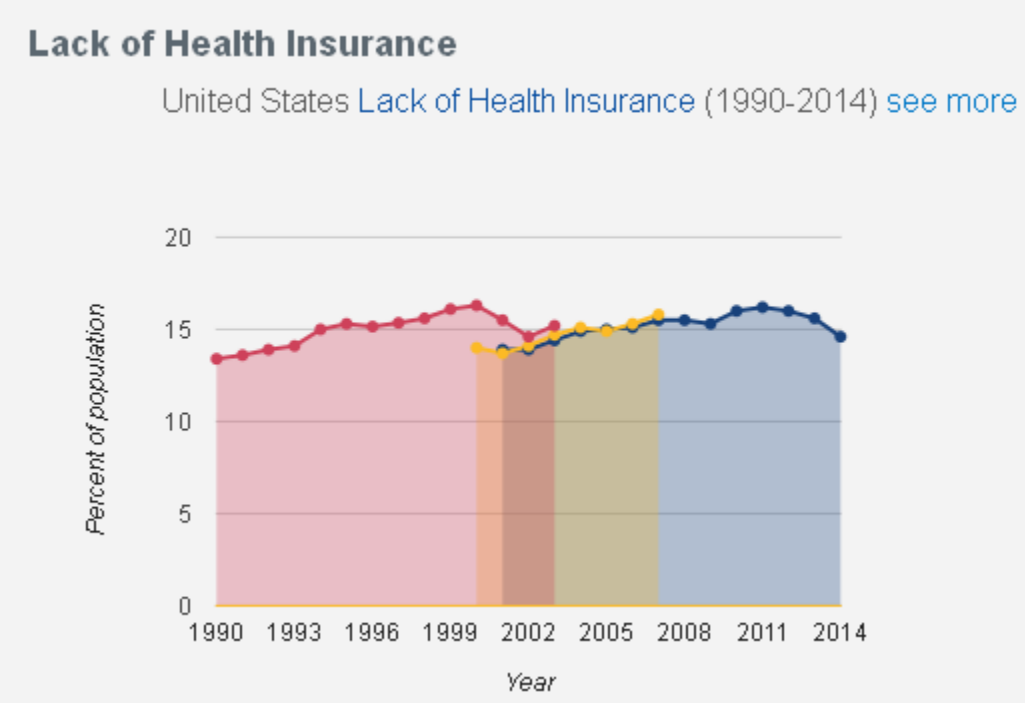
Graph 5 – Children in Poverty since 1990



Lack of health insurance coverage increased from 13.9 percent in the 2001 Edition to 14.6 percent of the population in the 2014 Edition. Lack of health insurance not only inhibits people from getting the proper care when needed but also reduces access to necessary preventive care to curtail or minimize future illnesses.

Massachusetts, with the lack of health insurance at 3.8 percent of the population, is substantially better than all other states and less than one-fourth of the national average. Texas has a rate six times that of Massachusetts. Changes in national health care laws have the potential to dramatically affect this metric over the next few years.

Graph 6 – Lack of Health Insurance Since 2001



2014 State Results

America's Health Rankings®-2014 Edition shows Hawaii at the top of the list of healthiest states again this year. The state has steadily remained within the top 5 healthiest states since 1990. Hawaii has consistently sustained its place within the top 5 healthiest states for the last 22 years, excluding 2002 when it was ranked 6th. Hawaii's strengths include its number one position for overall health rank and ranking in the top 5 states for a low rate of preventable hospitalizations, high immunization coverage among children, low prevalence of smoking and obesity, high per capita public health funding, a low rate of uninsured population, and low cancer and cardiovascular mortality rates. Hawaii's three challenges are a high prevalence of binge drinking, low high school graduate rate, and a high incidence of Salmonella infections.

Mississippi is 50th this year, the same as the last ten years, excluding in 2011 when it ranked 49th. It has been in the bottom three states since the 1990 Edition. The state ranks well for a low prevalence of binge drinking, higher immunization coverage among children, and small disparity in health status by educational attainment. In the past year, despite ranking last in the nation for immunization coverage among adolescents, coverage increased from 30.2 percent to 35.4 percent of persons aged 13 to 17 years. Mississippi also ranks last in many health outcomes, including infant mortality, low birth weight, premature death, cardiovascular death, infectious diseases, and overall health status. Mississippi's prevalence of obesity, physical inactivity, and diabetes remain among the highest in the nation with approximately 690,000 physically inactive adults, 770,000 obese adults, and 280,000 adults with diabetes. It ranks 48th in health determinants and 49th in health outcomes; therefore, its overall ranking is unlikely to change significantly in the near future

2014 Edition Ranking

2014 RANK (1–50)	STATE	SCORE
1	Hawaii	.91
2	Vermont	.85
3	Massachusetts	.74
4	Connecticut	.74
5	Utah	.73
6	Minnesota	.73
7	New Hampshire	.68
8	Colorado	.57
9	North Dakota	.55
10	Nebraska	.50
11	New Jersey	.47
12	Oregon	.41
13	Washington	.40
14	New York	.39
15	Rhode Island	.37
16	Maryland	.35
17	California	.35
18	Idaho	.34
18	South Dakota	.34
20	Maine	.30
21	Virginia	.30
22	Montana	.28
23	Wisconsin	.23
24	Iowa	.22
25	Wyoming	.21

2014 Edition Ranking

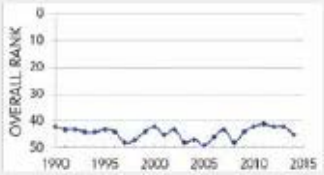
2014 RANK (1–50)	STATE	SCORE
26	Alaska	.13
27	Kansas	.08
28	Pennsylvania	.01
29	Arizona	-.04
30	Illinois	-.08
31	Texas	-.11
32	Florida	-.15
33	New Mexico	-.18
34	Michigan	-.21
35	Delaware	-.23
36	Missouri	-.28
37	North Carolina	-.29
38	Georgia	-.32
39	Nevada	-.33
40	Ohio	-.36
41	Indiana	-.38
42	South Carolina	-.64
43	Alabama	-.66
44	West Virginia	-.71
45	Tennessee	-.71
46	Oklahoma	-.74
47	Kentucky	-.75
48	Louisiana	-.80
49	Arkansas	-.93
50	Mississippi	-1.00

Tennessee



Overall Rank: 45

Change: ▼ 3
Determinants Rank: 44
Outcomes Rank: 46



Strengths:

- Low prevalence of binge drinking
- Low incidence of pertussis
- Ready availability of primary care physicians

Challenges:

- High prevalence of obesity
- High prevalence of physical inactivity
- High violent crime rate

Ranking:

Tennessee is 45th this year; it was 42nd in 2013. The ranking for senior health in Tennessee was 43rd in 2014.

Highlights:

- In the past year, physical inactivity increased by 17 percent from 28.6 percent to 33.6 percent of adults.
- In the past year, binge drinking decreased by 15 percent from 11.3 percent to 9.6 percent of adults, the lowest rate in the nation.
- In the past year, preventable hospitalizations decreased by 10 percent from 80.8 to 73.1 per 1,000 Medicare beneficiaries.
- In the last 2 years, immunization coverage among adolescents increased by 16 percent from 52.7 percent to 61.2 percent of adolescents aged 13 to 17 years.
- Since 1990, children in poverty decreased by 10 percent from 29.6 percent to 26.7 percent of children.

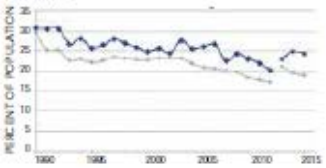
State Health Department Website:

http://health.state.tn.us

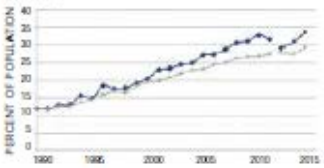
	2014 VALUE	2014 RANK	NO.1 STATE
Behaviors			
Smoking (Percent of adult population)	24.3	46	10.3
Binge Drinking (Percent of adult population)	9.6	1	9.6
Drug Deaths (Deaths per 100,000 population)	17.2	40	3.0
Obesity (Percent of adult population)	33.7	47	21.3
Physical Inactivity (Percent of adult population)	33.6	49	16.2
High School Graduation (Percent of incoming ninth graders)	83.0	20	93.0
Community & Environment			
Violent Crime (Offenses per 100,000 population)	644	50	123
Occupational Fatalities (Deaths per 100,000 workers)	5.0	32	2.2
Infectious Disease (Combined score Chlamydia, Pertussis, *Salmonella**)	0.01	29	-0.9
Chlamydia (Cases per 100,000 population)	507.9	39	233.0
Pertussis (Cases per 100,000 population)	4.8	10	1.6
Salmonella (Cases per 100,000 population)	17.2	35	6.8
Children in Poverty (Percent of children)	26.7	45	9.2
Air Pollution (Micrograms of fine particles per cubic meter)	9.5	30	4.9
Policy			
Lack of Health Insurance (Percent of population)	13.9	26	3.8
Public Health Funding (Dollars per person)	$83	20	$219
Immunization–Children (Percent aged 19 to 35 months)	68.5	33	82.1
Immunization–Adolescents (Percent aged 13 to 17 years)	61.2	36	81.3
Clinical Care			
Low Birthweight (Percent of live births)	9.2	44	5.7
Primary Care Physicians (Number per 100,000 population)	124.4	19	324.6
Dentists (Number per 100,000 population)	50.9	36	107.6
Preventable Hospitalizations (Number per 1,000 Medicare beneficiaries)	73.1	46	28.2
ALL DETERMINANTS	-0.43	44	0.71
OUTCOMES			
Diabetes (Percent of adult population)	12.2	46	6.5
Poor Mental Health Days (Days in previous 30 days)	3.7	24	2.5
Poor Physical Health Days (Days in previous 30 days)	5.0	49	2.8
Disparity in Health Status (Percent difference by education level**)	32.1	38	15.5
Infant Mortality (Deaths per 1,000 live births)	7.3	41	4.2
Cardiovascular Deaths (Deaths per 100,000 population)	300.6	44	184.7
Cancer Deaths (Deaths per 100,000 population)	213.5	44	145.7
Premature Deaths (Years lost per 100,000 population)	9,168	43	5,345
ALL OUTCOMES	-0.29	46	0.34
OVERALL	-0.71	45	0.91

*Negative score denotes less disease than US average, positive score indicates more than US average
**Difference in the percentage of adults aged 25 and older with vs without a high school education who report their health is very good or excellent

SMOKING



OBESITY



STATE ◆——◆ NATION ●——●

The 2012–2014 data in the above graphs are not directly comparable to prior years. See Methodology for additional information.

ECONOMIC ENVIRONMENT	TN	US
Annual Unemployment Rate (2013)	8.2	7.4
Annual Underemployment Rate (2013)	14.7	13.8
Median Household Income (2013)	$42,499	$51,939

MEASURE	ADULT POPULATION AFFECTED
Smoking	1,163,000
Obesity	1,595,000
Physical Inactivity	1,691,000
Diabetes	615,000

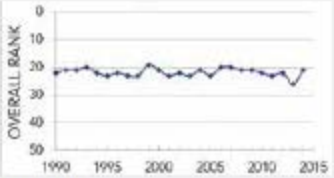
Virginia

VIRGINIA



Overall Rank: 21

Change: ▲ 5
Determinants Rank: 19
Outcomes Rank: 23



Strengths:

- Low rate of drug deaths
- Low violent crime rate
- Low percentage of children in poverty

Challenges:

- Low immunization coverage among children
- Low immunization coverage among teens
- High infant mortality rate

Ranking:

Virginia is 21st this year; it was 26th in 2013. The ranking for senior health in Virginia was 21st in 2014.

Highlights:

- In the past year, air pollution decreased by 6 percent from 9.3 to 8.7 micrograms of fine particles per cubic meter.
- In the last 2 years, drug deaths decreased by 10 percent from 9.3 to 8.4 deaths per 100,000 population.
- In the last 10 years, preventable hospitalizations decreased by 25 percent from 73.8 to 55.2 per 1,000 Medicare beneficiaries.
- Since 1990, cardiovascular deaths decreased by 42 percent from 413.2 to 241.1 deaths per 100,000 population.
- Since 1990, infant mortality decreased by 38 percent from 10.6 to 6.6 deaths per 1,000 live births.

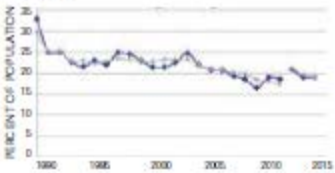
State Health Department Website:

www.vdh.state.va.us

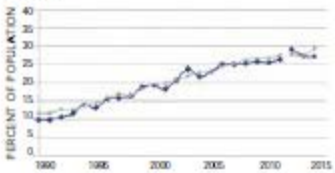
	2014 VALUE	2014 RANK	NO 1 STATE
Behaviors			
Smoking (Percent of adult population)	19.0	24	10.3
Binge Drinking (Percent of adult population)	15.9	20	9.6
Drug Deaths (Deaths per 100,000 population)	8.4	4	3.0
Obesity (Percent of adult population)	27.2	18	21.3
Physical Inactivity (Percent of adult population)	23.0	20	16.2
High School Graduation (Percent of incoming ninth graders)	84.0	16	93.0
Community & Environment			
Violent Crime (Offenses per 100,000 population)	190	4	123
Occupational Fatalities (Deaths per 100,000 workers)	4.4	25	2.2
Infectious Disease (Combined score Chlamydia, Pertussis, *Salmonella**)	-0.29	16	-0.9
Chlamydia (Cases per 100,000 population)	431.8	26	233.0
Pertussis (Cases per 100,000 population)	7.7	18	1.6
Salmonella (Cases per 100,000 population)	14.1	25	6.8
Children in Poverty (Percent of children)	14.5	12	9.2
Air Pollution (Micrograms of fine particles per cubic meter)	8.7	19	4.9
Policy			
Lack of Health Insurance (Percent of population)	12.4	20	3.8
Public Health Funding (Dollars per person)	$68	28	$219
Immunization–Children (Percent aged 19 to 35 months)	69.2	29	82.1
Immunization–Adolescents (Percent aged 13 to 17 years)	58.5	42	81.3
Clinical Care			
Low Birthweight (Percent of live births)	8.1	27	5.7
Primary Care Physicians (Number per 100,000 population)	125.8	16	324.6
Dentists (Number per 100,000 population)	61.6	19	107.6
Preventable Hospitalizations (Number per 1,000 Medicare beneficiaries)	55.2	22	28.2
ALL DETERMINANTS	0.24	19	0.71
OUTCOMES			
Diabetes (Percent of adult population)	9.8	26	6.5
Poor Mental Health Days (Days in previous 30 days)	3.3	11	2.5
Poor Physical Health Days (Days in previous 30 days)	3.6	15	2.8
Disparity in Health Status (Percent difference by education level**)	29.1	27	15.5
Infant Mortality (Deaths per 1,000 live births)	6.6	31	4.2
Cardiovascular Deaths (Deaths per 100,000 population)	241.1	25	184.7
Cancer Deaths (Deaths per 100,000 population)	189.5	23	145.7
Premature Deaths (Years lost per 100,000 population)	6,502	19	5,345
ALL OUTCOMES	0.06	23	0.34
OVERALL	0.30	21	0.91

*Negative score denotes less disease than US average, positive score indicates more than US average
**Difference in the percentage of adults aged 25 and older with vs without a high school education who report their health is very good or excellent

SMOKING



OBESITY



STATE ◆—◆ NATION ●—●

The 2012–2014 data in the above graphs are not directly comparable to prior years. See Methodology for additional information.

ECONOMIC ENVIRONMENT	VA	US
Annual Unemployment Rate (2013)	5.5	7.4
Annual Underemployment Rate (2013)	11.5	13.8
Median Household Income (2013)	$67,620	$51,939

MEASURE	ADULT POPULATION AFFECTED
Smoking	1,159,000
Obesity	1,632,000
Physical Inactivity	1,481,000
Diabetes	631,000

As Mountain States Health Alliance works to develop an implementation plan based on the findings from this assessment, key focus areas for consideration to impact the health of our community would be the 27 measures that comprise the *America's Health Rankings*. These determinants have been carefully selected by leaders in health and public policy as factors which have the greatest impact on future health of a population. For a state (or area for that matter) to improve the health of its population, efforts must focus on changing the determinants of health. A description of these determinants is outlined below.

Selection of Components

Four primary considerations drove the design of *America's Health Rankings*® and the selection of the individual measures:

1. The overall rankings had to represent a broad range of issues that affect a population's health,
2. Individual measures needed to use common health measurement criteria,
3. Data had to be available at a state level, and
4. Data had to be current and updated periodically.

While not perfect, the measures selected are believed to be the best available indicators of the various aspects of healthiness at this time and are consistent with past reports.

The measures are divided into two categories - Determinants and Outcomes. For further clarity, determinants are divided into four groups: Behaviors, Community and Environment, Public and Health Policies, and Clinical Care. These four groups of measures influence the health outcomes of the population in a state, and improving these inputs will improve outcomes over time. Most measures are actually a combination of activities in all four groups. For example, the prevalence of smoking is a behavior that is strongly influenced by the community and environment in which we live, by public policy including taxation and restrictions on smoking in public places, and by the care received to treat the chemical and behavioral addictions associated with tobacco. However, for simplicity, we placed each measure in a single category.

For *America's Health Rankings*® to continue to meet its objectives it must evolve and incorporate new information as it becomes available. The Scientific Advisory Committee provides guidance for the evolution of the rankings, balancing the need to change with the desire for longitudinal comparability. Over the last few years, change is being driven by: 1) the acknowledgment that health is more than years lived but also includes the quality of those years; 2) data about the quality and cost of health care delivery are becoming available on a comparative basis; and 3) measurement of the additional determinants of health are being initiated and/or improved. The committee also emphasizes that the real impact on health will be made by addressing the determinants, and making improvements on these items will affect the long-term health of the population. The determinants are the predictors of our future health.

Outcomes are traditionally measured using mortality measures which include premature death, infant mortality, cancer and cardiovascular mortality. While these measures overlap significantly, they do present different views of mortality outcomes of a population. Two measures of the quality of life- poor mental health days and poor physical health days - are also included and defined as the number of days in the previous 30 days when a person indicates their activities are limited due to mental or physical health difficulties.

As with all indices, the positive and negative aspects of each measure must be weighed when choosing and developing them. These aspects for consideration include: 1) the interdependence of

the different measures; 2) the possibility that the overall ranking may disguise the effects of individual measures; 3) an inability to adjust all data by age and race; 4) an over-reliance on mortality data; and 5) the use of indirect measures to estimate some effects on health. These concerns cannot be addressed directly by adjusting the methodology; however, assigning weights to the individual measures can mitigate their impact.

Each measure is assigned a weight that determines its percentage of the overall score. Determinants account for 75 percent of the overall ranking and outcomes account for 25 percent, a shift from the 50/50 balance in the original 1990 index. This reflects the importance and growing availability of determinant data.

A short description of each measure immediately follows. The data for each year is the most current data available at the time the report was compiled.

The table includes the core measures included in the current model, plus supplemental measures that can be used to further understand each state's unique situation. The supplemental measures are more fully described at http://www.americashealthrankings.org/About/Model.

Data for each state and the United States is available at Get Informed or by clicking the link above.

Core Measures

Determinants

Behaviors	Description
Smoking	Percentage of adults who are current smokers (smoked at least 100 cigarettes in their lifetime and currently smoke).
Binge Drinking	Percentage of adults who self-report having 4 or more (women) or 5 or more (men) alcoholic beverages on at least 1 occasion in the past 30 days.
Drug Deaths	Number of deaths due to drug injury of any intent (unintentional, suicide, homicide, or undetermined) per 100,000 population.
Obesity	Percentage of adults who are obese, with a body mass index (BMI) of 30.0 or higher.
Physical Inactivity	Percentage of adults who report doing no physical activity or exercise (such as running, calisthenics, golf, gardening, or walking) other than their regular job in the last 30 days.
High School Graduation	Percentage of incoming ninth graders who graduate in 4 years from a high school with a regular degree.

Community and Environment

Violent Crime	Number of murders, rapes, robberies, and aggravated assaults per 100,000 population.
Occupational Fatalities	Number of fatalities from occupational injuries per 100,000 workers.
Children in Poverty	Percentage of persons younger than 18 years who live in households at or below the poverty threshold.
Infectious Disease	Combined average z-score using the values of incident cases of chlamydia, pertussis, and *Salmonella* per 100,000 population.

Air Pollution	Average exposure of the general public to particulate matter of 2.5 microns or less in size (PM2.5).

Policy

Lack of Health Insurance	Percentage of the population that does not have health insurance privately, through their employer, or the government.
Public Health Funding	State funding dedicated to public health as well as federal funding directed to states by the Centers for Disease Control and Prevention and the Health Resources and Services Administration.
Immunization-Children	Percentage of children receiving the recommended doses of DTaP, polio, MMR, Hib, hepatitis B, varicella, and PCV vaccines by age 19–35 months.
Immunization-Adolescents	Percentage of adolescents aged 13 to 17 years who have received 1 dose of Tdap since the age of 10 years, 1 dose of meningococcal conjugate vaccine, and 3 doses of HPV vaccine (females only).

Clinical Care

Low Birth weight	Percentage of infants weighing less than 2,500 grams (5 pounds, 8 ounces) at birth.
Primary Care Physicians	Number of primary care physicians (including general practice, family practice, OB-GYN, pediatrics, and internal medicine) per 100,000 population.
Dentists	Number of dentists per 100,000 population
Preventable Hospitalizations	Discharge rate among the Medicare population for diagnoses that are amenable to non-hospital based care.

Outcomes

Diabetes	Percentage of adults who have been told by a health professional that they have diabetes (does not include pre-diabetes or diabetes during pregnancy).
Poor Mental Health Days	Number of days in the previous 30 days when a person indicates their activities were limited due to mental health difficulties.
Poor Physical Health Days	Number of days in the previous 30 days when a person indicates their activities were limited due to physical health difficulties.
Disparity in Health Status	Percent difference in adults aged 25 and older who did not graduate high school and adults with at least a high school education who self-report being in excellent or very good health.
Infant Mortality	Number of infant deaths (before age 1) per 1,000 live births.
Cardiovascular Deaths	Number of deaths due to all cardiovascular diseases, including heart disease and strokes, per 100,000 population
Cancer Deaths	Number of deaths due to all causes of cancer per 100,000 population
Premature Death	Number of years of potential life lost prior to age 75 per 100,000 population

Supplemental Measures

Behaviors

Cholesterol Check	Percentage of adults who have had their blood cholesterol checked within the last 5 years.
Dental Visit, Annual	Percentage of adults who have visited the dentist or dental clinic within the past year for any reason.
Diet, Fruit	Number of fruits consumed on an average day.
Diet, Vegetables	Number of vegetables consumed on an average day.
Teen Birth Rate	Number of births per 1,000 mothers aged 15 to 19 years.
Youth Smoking	Percentage of high school youth who smoked cigarettes on at least 1 day during the last 30 days.
Youth Obesity	Percentage of high school students who were greater or equal to the 95th percentile for body mass index, based on sex and age-specific reference data from the 2000 CDC growth charts.

Chronic Disease

Heart Disease	Percentage of adults who have been told by a health professional that they have angina or coronary heart disease.
High Cholesterol	Percentage of adults who have had their cholesterol checked and been told that it was high.
Heart Attack	Percentage of adults who have been told by a health professional that they had a heart attack (myocardial infarction).
Stroke	Percentage of adults who have been told by a health professional that they had a stroke.
Hypertension	Percentage of adults who have been told by a health professional that they have high blood pressure.

Clinical Care

Preterm Birth	Percentage of babies born before 37 weeks gestation.

Economic Environment

Personal Income	Per capita personal income in current dollars.
Median Household Income	The amount of income that divides the income distribution into 2 equal groups.
Unemployment Rate	Total unemployed as a percentage of the civilian labor force (U-3 definition).
Underemployment Rate	Total unemployed, plus all marginally attached workers, plus total employed part-time for economic reasons, as a percent of the civilian labor force (U-6 Definition).
Income Disparity (Gini coefficient)	A common measure of income inequality, where 0 represents complete equality and 1 indicates complete inequality.

Outcomes

Low Health Status	Percentage of adults who describe their general health as fair or poor.
Suicide	Number of deaths due to intentional self-harm per 100,000 population.

Overview

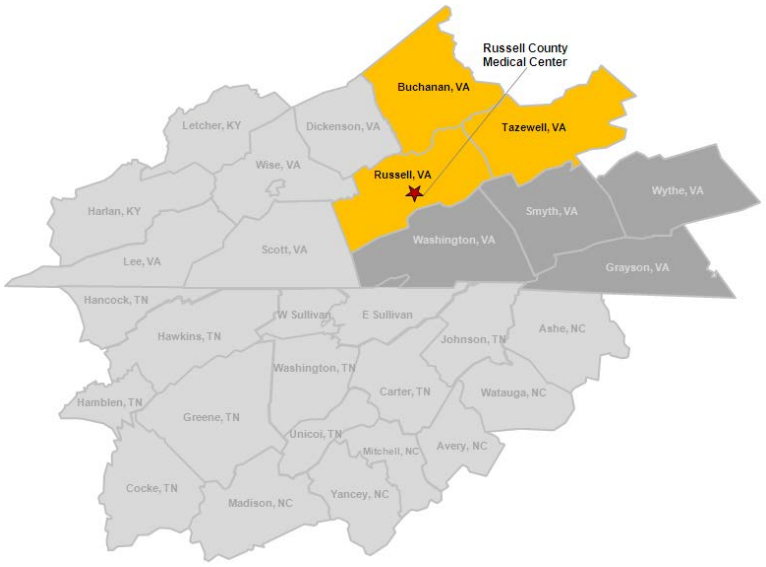
The County Snapshots consists of demographics, key indicators of health status, interview highlights, and local resources. The model for the key indicators of health status analysis was based on the 2015 *County Health Rankings*, a key component of the Mobilizing Action Toward Community Health (MATCH). MATCH is collaboration between the Robert Wood Johnson Foundation and the University of Wisconsin Population Health Institute. Indicators are organized into two broad categories: Health Outcomes and Health Factors. The Health Factors have multiple components, including Clinical Care, Health Behaviors, Social and Economic Factors, and Physical Environment. A number of additional key indicators of health status were included in this analysis from other sources (they are noted in blue font in the snapshot section). For each indicator, the state and county score is provided as well as a comparison of the county's performance to that of the state.

RUSSELL COUNTY MEDICAL CENTER

Service Area Counties:

- Buchanan, VA
- Russell, VA
- Tazewell, VA

Primary Service Area Map:



Facility Profiles:

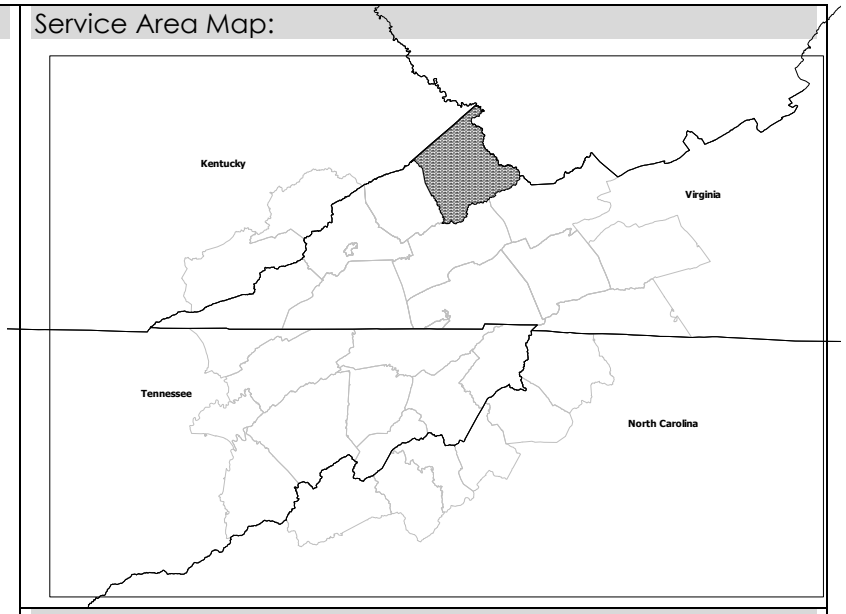
Russell County Medical Center (RCMC), located in Lebanon, Virginia, is a not-for-profit, 78-bed hospital dedicated to bringing quality healthcare home to Southwest Virginia. It is a community hospital offering a full array of primary care and some specialty services, including behavioral health. RCMC became a part of Mountain States Health Alliance in 2008. RCMC is certified as one of the American Heart Association's Get with the Guidelines™ facilities.

A 6-page profile of each county is provided. The profile includes demographic highlights, key indicators of health status, utilization projections, and survey results specific to the county. A detailed demographic analysis by county is provided in the appendix which follows the collection of county snapshots.

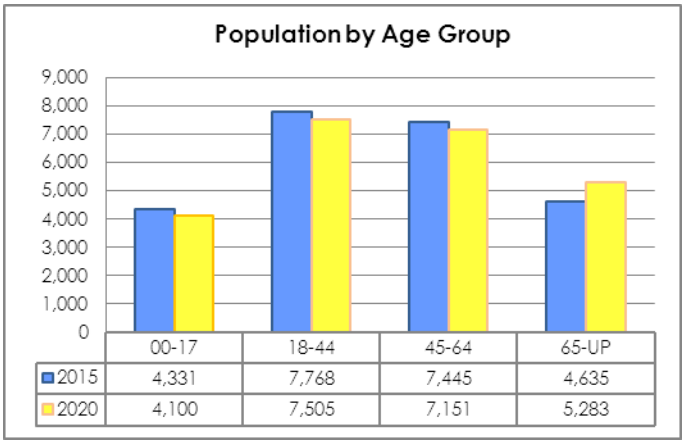
Demographic Highlights:

- Large elderly population compared to VA and US
- Large declining rate of females of child-bearing age
- Low average household income level (20.0% of households make less than $15,000)
- Lower level of educational attainment compared to state and country (17.4% with no high school education compared to 5.9% nationally)
- Low level of diversity compared to state and national

Service Area Map:



Age Distribution and Population Projections:



Key Statistics:

	Buchanan	Virginia	U.S.
2015 Total Population	24,179	8,417,864	321,369,000
% Change 2015-2020	-0.6%	4.7%	4.1%
% of Population 65+ (2015)	19.2%	14.0%	14.9%
% Minority (2015)	4.6%	30.8%	38.3%

	2015	2020	% Change
Total Male Population	12,388	12,339	-0.4%
Total Female Population	11,791	11,700	-0.8%
Females, Child Bearing Age (15-44)	3,867	3,711	-4.0%

Local Health Highlights:

STRENGTHS:

- Very low birth weight rate
- Suicide mortality
- Increased rate of Pap test
- STDs
- High school dropout rate
- Binge drinking

WEAKNESSES:

- Poor general health status
- Very high uninsured rates
- High rates of death due to cardiovascular, cancer, diabetes, cerebrovascular, and injuries
- Low fruit and vegetable consumption
- Poverty and children in poverty

Leading Causes of Death (all ages):

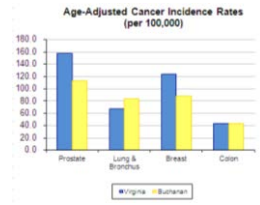
Cause of Death	Rate	Rank
Heart Disease	327.5	1
Malignant Neoplasms	197.3	2
Unintentional Injury	105.0	3
Chronic Lower Respiratory Disease	96.6	4
Cerebrovascular Disease	37.8	5
Diabetes Mellitus	33.6	6
Alzheimer's Disease	30	7
Influenza & Pneumonia	25.2	8
Nephritis & Nephrosis Disease	25.2	8
Chronic Liver Disease	21	9
Septicemia	12.6	10
Hypertension & Renal Disease	12.6	10

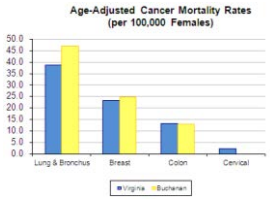
Key Indicators of Health Status:

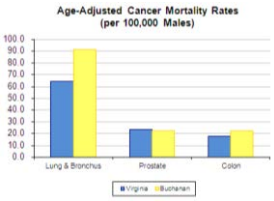
County: Buchanan, VA

	VA	Buchanan	2010	Desired
Health Outcomes				
Low Birth Weight (%)	8.3%	8.8%	10.00%	↓
General Health Status (% fair/poor health)	14.0%	29.0%	34%	↓
Very Low Birth Weight (%)	1.6%	0.5%	3.20%	↓
Infant Mortality (per 100,000)	8.4	8.4	2	↓
Mortality Rate (per 100,000)	735.8	982.4	774.4	↓
Cardiovascular Deaths (per 100,000)	161.3	273.3	174.5	↓
Cancer Deaths (5-yr avg rate per 100,000)	174.8	184.5	198.7	↓
Diabetes Mellitus Deaths (Age Adjusted Rate per 100,000)	20.0	33.6	31.3	↓
Cerebrovascular Deaths (Age Adjusted Rate per 100,000)	40.8	37.8	17.9	↓
Suicide Deaths (Age Adjusted Rate per 100,000)	12.5	8.4	15.4	↓
Mortality rate for ages 0 - 4 yrs (per 100,000)	152.9	191.4	74.9	↓
Mortality rate for ages 5 - 14 yrs (per 100,000)	13.5	82.0	31.2	↓
Mortality rate for ages 15 - 19 yrs (per 100,000)	44.5	75.9	103.4	↓
Mortality rates for ages 65+ (per 1,000)	43.6	44.5	37.6	↓
Lung Cancer Deaths (5-yr avg rate per 100,000)*	49.5	66.1	66.6	↓
Female Breast Cancer Deaths (5-yr avg rate per 100,000)*	23.4	24.9	66.6	↓
Percent of Adults with Asthma*	8.0%	6.0%	10.80%	↓
Prevalence of Diabetes (% of adults)*	9.0%	13.0%	12.40%	↓
Psychosis Discharges (per 100,000)	332.7	121.8	523	↓
Health Determinants				
Health Care Resources				
No Health Insurance (%)	18.0%	19.0%	26.60%	↓
Medicaid/Tenncare Enrollees (%)	14.7%	31.2%	27.60%	↓
Medical Doctors	255.5	9.8	88.1	↑
No Biennial Mammography (%)*	28.0%	24.0%	35.30%	↓
PSA Testing Past 2 Years (%)*	56.0%	55.0%	47.40%	↑
Pap Test Past 3 Years (%)*	84.0%	78.0%	24.90%	↑
Sigmoidoscopy/Colonoscopy (%)*	72.0%	63.0%	50.50%	↑
Inadequate or No Prenatal Care (%)	13.0%	13.0%	18%	↓
First Trimester Prenatal Care (%)	81.9%	77.1%	67.10%	↑
Hospital Staffed Beds (per 1,000)	2.2	7.6	5.9	↑
Licensed Nursing Beds (per 1,000 65+)	3.9	5.1	5	↑
# of Primary Care MDs Per Capita (per 100,000)	122.3	38.2	48.6	↑
# of Psychiatric Specialists, Population per Professional	6,827	0	0	↓
State Mental Health Facility Beds (per 100,000)*	18.7	28.7	13.9	↑
Inpatient Discharge Rate (per 1,000) - Total	157.2	155.6	188.8	↓
Could Not See Doctor Due to Cost (%)	10.0%	17.0%	11%	↓
Health Behaviors				
Cigarette Smoking (%)	19.0%	25.0%	24.90%	↓
Physical Inactivity (%)	48.0%	51.0%	21%	↓
Overweight/Obesity (% BMI > 25)	62.0%	66.0%	57%	↓
Obesity (% BMI > 30)	28.0%	34.0%	32%	↓
Low Fruit and Vegetable Consumption (% <5 a day)	80.0%	89.0%	77%	↓
Binge Drinking (%)	18.0%	13.0%	16%	↓
Teen Birth Rate (per 1,000)	11.8	21.5	25	↓
Sexually Transmitted Diseases (per 100,000)	385.0	108.0	115.8	↓
Violent Crime (per 100,000)	233.0	175.0	161	↓
Motor Vehicle Crash Deaths (per 100,000)	11.0	39.0	30	↓
Unmarried Mother Birth Rate (%)	35.0%	33.0%	28%	↓
Injury-related Mortality (Age Adjusted Rate per 100,000)	33.4	104.9	129.4	↓
Homicides (per 100,000)	5.0	9.0	5.3	↓

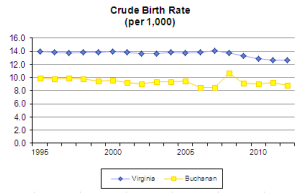
Cancer Incidence:

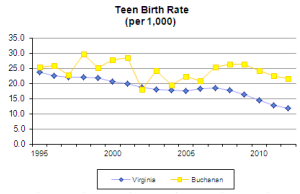






Birth Rate Trend:





Key Indicators of Health Status:

Socioecomonic Factors				
High School Graduation Rate (%)	88.0%	87.0%	86.60%	↑
Level of Education (%)	88.0%	68.0%	61%	↑
Unemployment (%)	6.2%	7.3%	9.00%	↓
Children (age 0 to 17) in poverty ratio (%)	15.5%	29.1%	27%	↓
Food Stamp Eligible Recipients (% of individuals)	11.5%	20.8%	19.50%	↓
Poverty Rate (% of all ages)	12.0%	23.0%	20.50%	↓
Temporary Assistance for Needy Families	0.8%	0.2%	1%	↓
High School Dropout Rate	1.4%	0.9%	1.90%	↓
Physical Environment				
Pre-1950 Housing (%)	13.2%	14.6%	19.70%	↓
Lead Poisoned Children (%)	0.2%	1.3%	0.00%	↓
Child Abuse and Neglect (rate per 1,000)	3.3	6.0	6.3	↓
Daily Fine Particulate Matter	12.5	12.5	12.22	↓
Communicable Diseases				
Hepatitis A (per 100,000)	0.6	0.0	0	↓
Campylobacter Infection (per 100,000)	9.4	0.0	6.2	↓
Salmonellosis (per 100,000)	14.1	8.5	0	↓
Shigellosis (per 100,000)	1.1	0.0	12.4	↓
AIDS/HIV cases (per 100,000)	305.3	50.9	0	↓
Early Stage Syphilis (per 100,000)	7.3	0.0	0	↓
Tuberculosis (per 100,000)	2.9	4.2	0	↓
Chlamydia (per 100,000)	432.5	63.6	111.3	↓
Gonorrhea (per 100,000)	85.1	0.0	0	↓

Inpatient Projections

	2014	2019		2024	
DRG Service Line	**Discharges**	**Discharges**	**% Change**	**Discharges**	**% Change**
Cardiac Surgery	27	27	-0.90%	28	2.00%
Cardiology	281	239	-14.80%	201	-28.30%
Cardiology Intervention	66	61	-7.40%	58	-12.80%
Endocrinology	96	77	-20.20%	70	-27.40%
ENT Surgery	5	5	-1.30%	5	0.00%
Gastroenterology	261	239	-8.30%	236	-9.60%
General Medicine	192	191	-0.60%	179	-6.90%
General Surgery	196	183	-6.40%	178	-9.00%
Gynecology	34	31	-9.70%	28	-16.60%
Hematology	51	51	0.60%	54	5.70%
Neonatology	40	36	-8.90%	34	-16.00%
Nephrology	187	171	-8.40%	153	-18.40%
Neurology	120	122	1.40%	126	4.60%
Neurosurgery	70	67	-3.70%	67	-3.70%
Normal Newborns	115	117	1.60%	114	-1.10%
OB Deliveries Sections	44	37	-15.50%	34	-22.90%
OB Deliveries Vaginal	124	129	4.00%	126	1.90%
OB Other	17	16	-5.50%	15	-9.10%
Oncology Medicine	71	67	-5.20%	60	-15.00%
Oncology Surgery	17	18	4.80%	18	4.00%
Oral Surgery	9	8	-11.20%	8	-15.90%
Orthopedic Medicine	53	53	-0.10%	54	1.20%
Orthopedic Surgery	147	155	5.60%	159	8.20%
Otolaryngology	22	19	-14.70%	18	-18.60%
Plastic Surgery	6	6	-3.60%	5	-8.70%
Psychiatry	93	102	9.20%	97	4.10%
Pulmonary	795	684	-14.00%	623	-21.70%
Rehabilitation	41	33	-18.50%	36	-12.30%
Rheumatology	16	17	3.80%	17	5.40%
Substance Abuse	10	10	0.40%	10	-4.10%
Thoracic Surgery	12	12	0.30%	12	1.50%
Trauma Medical	5	5	-5.30%	5	-3.90%
Unspecified	2	2	6.80%	2	13.60%
Urology Medicine	11	10	-8.10%	9	-15.30%
Urology Surgery	28	26	-7.80%	24	-14.90%
Vascular Surgery	35	34	-4.20%	33	-5.70%
Grand Total	**3,299**	**3,060**	**-7.30%**	**2,894**	**-12.30%**

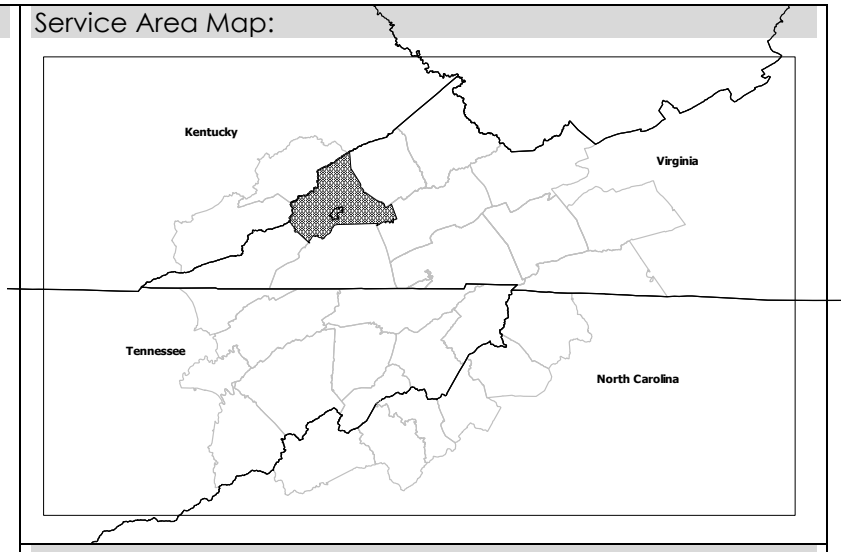
Outpatient Projections

	2014		2019			2024	
Site of Care	**Volumes**		**Volumes**	**% Change**		**Volumes**	**% Change**
ED	13,430		13,331	-0.70%		12,666	-5.70%
Home	26,758		30,919	15.60%		33,445	25.00%
Hosp OP/ASC	39,146		42,252	7.90%		43,261	10.50%
Office/Clinic	214,590		228,941	6.70%		220,536	2.80%
Other	19,510		20,953	7.40%		20,363	4.40%
SNF	420		459	9.30%		486	15.70%
Urgent/Retail	147		152	3.80%		147	0.40%
Virtual			5,087			20,369	
Grand Total	**314,000**		**342,095**	**8.90%**		**351,274**	**11.90%**

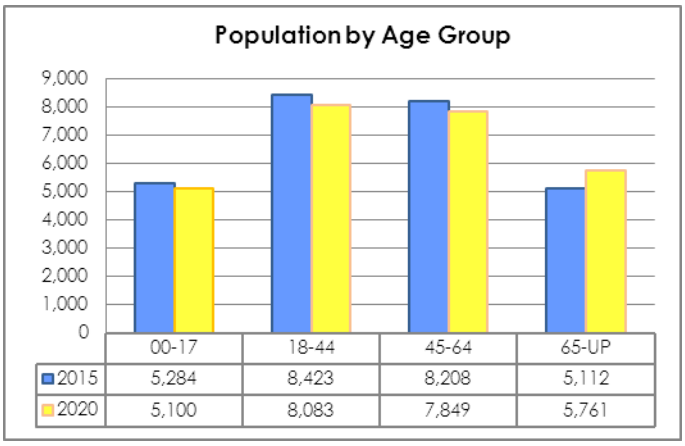
Demographic Highlights:

- Large elderly population compared to VA and US
- Declining rate of females of child-bearing age expected
- Low average household income level (20.8% of households make less than $15,000)
- Lower level of educational attainment compared to state and country (15.0% with no high school education compared to 5.9% nationally)
- Low level of diversity compared to state and national

Service Area Map:



Age Distribution and Population Projections:



Key Statistics:

	Russell County	Virginia	U.S.
2015 Total Population	27,027	8,417,864	321,369,000
% Change 2015-2020	-0.9%	4.7%	4.1%
% of Population 65+ (2015)	18.9%	14.0%	14.9%
% Minority (2015)	3.2%	30.8%	38.3%

	2015	2020	% Change
Total Male Population	13,215	13,126	-0.7%
Total Female Population	13,812	13,667	-1.1%
Females, Child Bearing Age (15-44)	4,604	4,422	-4.0%

Local Health Highlights:

STRENGTHS:

- Very Low Birth Rate
- Infant Mortality
- Binge Drinking
- STDs
- Violent Crime Homicides

WEAKNESSES:

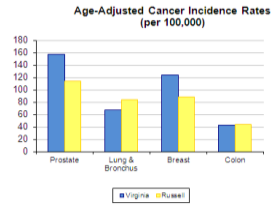
- Very high rate reporting fair/poor general health status
- High rates of death due to cardiovascular, cancer, injuries, and suicide
- Prenatal Care
- Smoking
- Physical Inactivity
- Low Fruit and Vegetable Consumption
- Poverty rate and children in poverty
- Child Abuse and Neglect

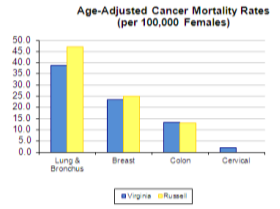
Key Indicators of Health Status:

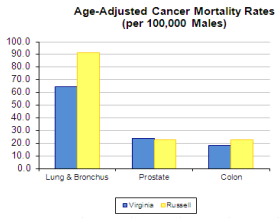
County: Russell, VA

	VA	Russell	2010	Desired
Health Outcomes				
Low Birth Weight (%)	8.3%	8.1%	8.90%	↓
General Health Status (% fair/poor health)	14.0%	28.0%	24%	↓
Very Low Birth Weight (%)	1.6%	0.4%	7.30%	↓
Infant Mortality (per 100,000)	8.3	3.5	2	↓
Mortality Rate (per 100,000)	735.8	945.4	1012.1	↓
Cardiovascular Deaths (per 100,000)	161.3	251.7	333.6	↓
Cancer Deaths (5-yr avg rate per 100,000)	174.8	200.9	201.6	↓
Diabetes Mellitus Deaths (per 100,000)	20.0	13.9	18.7	↓
Cerebrovascular Deaths (per 100,000)	40.8	34.7	41.4	↓
Suicide Deaths (per 100,000)	12.9	17.3	26.7	↓
Mortality rate for ages 0 - 4 yrs (per 100,000)	152.9	67.0	41.7	↓
Mortality rate for ages 5 - 14 yrs (per 100,000)	13.5	31.2	34.1	↓
Mortality rate for ages 15 - 19 yrs (per 100,000)	44.5	59.6	117.5	↓
Mortality rates for ages 65+ (per 1,000)	43.6	44.5	54.4	↓
Lung Cancer Deaths (5-yr avg rate per 100,000)*	49.5	66.1	66.6	↓
Female Breast Cancer Deaths (5-yr avg rate per 100,000)*	23.4	24.9	26	↓
Percent of Adults with Asthma*	8.0%	4.0%	10.80%	↓
Prevalence of Diabetes (% of adults)*	9.0%	9.0%	12.40%	↓
Psychosis Discharges (per 100,000)	332.7	394.7	625	↓
Health Determinants				
Health Care Resources				
No Health Insurance (%)	18.0%	21.0%	24.70%	↓
Medicaid/Tenncare Enrollees (%)	14.7%	25.5%	24.90%	↓
Medical Doctors Per Capita (per 100,000)	255.5	11.4	84.2	↑
No Biennial Mammography (%)*	28.0%	31.0%	35.30%	↓
PSA Testing Past 2 Years (%)*	56.0%	53.0%	47.40%	↑
Pap Test Past 3 Years (%)*	84.0%	79.0%	24.90%	↑
Sigmoidoscopy/Colonoscopy (%)*	72.0%	66.0%	50.50%	↑
Inadequate or No Prenatal Care (%)	13.0%	11.0%	15%	↓
First Trimester Prenatal Care (%)	81.9%	70.5%	63.40%	↑
Hospital Staffed Beds (per 1,000)	2.2	2.7	2.7	↑
Licensed Nursing Beds (per 1,000 65+)	3.9	2.1	13.8	↑
# of Primary Care MDs Per Capita (per 100,000)	122.3	41.1	45.6	↑
# of Psychiatric Specialists	6,827	2	2	↓
State Mental Health Facility Beds (per 100,000)*	18.7	28.7	25.2	↑
Inpatient Discharge Rate (per 1,000) - Total	157.2	167.2	174.7	↓
Could Not See Doctor Due to Cost (%)	10.0%	13.0%	12%	↓
Health Behaviors (continued)				
Cigarette Smoking (%)	18.0%	25.0%	24.90%	↓
Physical Inactivity (%)	24.0%	35.0%	21%	↓
Overweight/Obesity (% BMI >25)	62.0%	67.0%	57%	↓
Obesity (% BMI > 30)	28.0%	30.0%	27%	↓
Low Fruit and Vegetable Consumption (% <5 a day)	80.0%	88.0%	77%	↓
Binge Drinking (%)	18.0%	11.0%	16%	↓
Teen Birth Rate (per 1,000)	18.6	19.7	28.7	↓
Sexually Transmitted Diseases (per 100,000)	385.0	93.0	31.2	↓
Violent Crime (per 100,000)	233.0	104.0	150	↓
Motor Vehicle Crash Deaths (per 100,000)	11.0	24.0	31	↓
Unmarried Mother Birth Rate (%)	35.0%	35.0%	29%	↓
Injury-related Mortality (Age Adjusted Rate per 100,000)	33.4	79.8	60.5	↓
Homicides (per 100,000)	5.0	0.0	5.3	↓

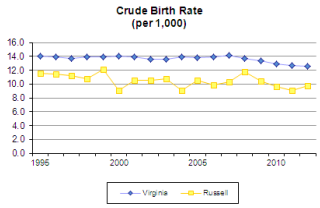
Cancer Incidence:

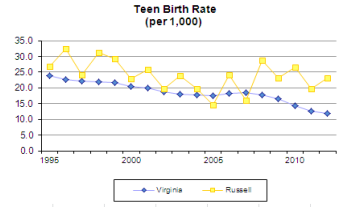






Birth Rate Trend:





Key Indicators of Health Status:

Socioecomonic Factors				
High School Graduation Rate (%)	88.0%	87.0%	83.30%	↑
Level of Education (%)	88.0%	74.0%	74%	↑
Unemployment (%)	6.2%	9.3%	10.80%	↓
Children (age 0 to 17) in poverty ratio (%)	15.5%	23.9%	25.60%	↓
Food Stamp Eligible Recipients (% of individuals)	11.6%	21.4%	20.20%	↓
Poverty Rate (% of all ages)	12.0%	18.0%	19.10%	↓
Temporary Assistance for Needy Families	0.8%	1.6%	1.70%	↓
High School Dropout Rate	1.4%	1.4%	1.20%	↓
Physical Environment				
Pre-1950 Housing (%)	13.2%	17.4%	18.50%	↓
Lead Poisoned Children (%)	0.2%	0.0%	0%	↓
Child Abuse and Neglect (rate per 1,000)	3.3	11.4	7.8	↓
Daily Fine Particulate Matter	12.5	12.8	12.25	↓
Communicable Diseases				
Hepatitis A (per 100,000)	0.6	0.0	3.5	↓
Campylobacter Infection (per 100,000)	9.4	20.9	3.5	↓
Salmonellosis (per 100,000)	14.1	7.0	17.3	↓
Shigellosis (per 100,000)	1.1	0.0	3.5	↓
AIDS/HIV cases (per 100,000)	305.3	27.8	0	↓
Early Stage Syphilis (per 100,000)	7.3	0.0	0	↓
Tuberculosis (per 100,000)	2.9	0.0	0	↓
Chlamydia (per 100,000)	432.5	149.6	27.7	↓
Gonorrhea (per 100,000)	85.1	13.9	3.5	↓

Inpatient Projections

	2014	2019		2024	
DRG Service Line	**Discharges**	**Discharges**	**% Change**	**Discharges**	**% Change**
Cardiac Surgery	39	39	1.00%	41	6.10%
Cardiology	427	363	-15.10%	310	-27.40%
Cardiology Intervention	105	93	-11.30%	85	-19.30%
Endocrinology	131	103	-21.70%	94	-28.50%
ENT Surgery	9	8	-11.30%	8	-14.70%
Gastroenterology	425	396	-6.80%	386	-9.10%
General Medicine	352	345	-2.10%	323	-8.20%
General Surgery	224	215	-4.00%	210	-6.30%
Gynecology	35	32	-8.40%	30	-13.20%
Hematology	42	41	-1.40%	43	1.50%
Neonatology	97	89	-8.60%	82	-15.80%
Nephrology	234	217	-7.40%	189	-19.10%
Neurology	203	200	-1.30%	204	0.30%
Neurosurgery	66	64	-2.50%	64	-2.40%
Normal Newborns	174	177	1.50%	172	-1.20%
OB Deliveries Sections	96	81	-15.20%	74	-22.70%
OB Deliveries Vaginal	199	207	3.90%	203	1.80%
OB Other	26	24	-6.20%	23	-10.80%
Oncology Medicine	63	60	-4.30%	54	-13.70%
Oncology Surgery	17	17	-0.30%	16	-4.20%
Ophthalmic Medicine	2	2	-9.70%	2	-13.60%
Ophthalmic Surgery	1	1	-12.10%	1	-12.20%
Oral Surgery	3	3	-9.80%	3	-9.60%
Orthopedic Medicine	65	65	0.40%	66	1.00%
Orthopedic Surgery	208	218	4.70%	221	6.30%
Otolaryngology	23	22	-5.50%	22	-4.30%
Plastic Surgery	10	9	-9.30%	8	-22.20%
Psychiatry	259	281	8.40%	262	1.30%
Pulmonary	886	755	-14.80%	696	-21.40%
Rehabilitation	35	28	-19.00%	30	-13.80%
Rheumatology	16	16	0.90%	17	4.20%
Substance Abuse	21	22	4.10%	22	3.30%
Thoracic Surgery	20	19	-7.00%	18	-11.20%
Trauma Medical	15	15	-1.70%	15	0.60%
Urology Medicine	32	28	-12.00%	26	-19.30%
Urology Surgery	22	20	-8.80%	18	-16.50%
Vascular Surgery	32	32	0.50%	32	1.20%
Womens Other	1	1	-15.50%	1	-33.80%
Grand Total	**4,615**	**4,308**	**-6.70%**	**4,071**	**-11.80%**

Outpatient Projections

	2014		2019			2024	
Site of Care	**Volumes**		**Volumes**	**% Change**		**Volumes**	**% Change**
ED	16,175		16,163	-0.10%		15,415	-4.70%
Home	35,191		41,018	16.60%		44,914	27.60%
Hosp OP/ASC	41,541		44,599	7.40%		45,538	9.60%
Office/Clinic	238,906		253,712	6.20%		240,939	0.90%
Other	19,637		21,611	10.10%		21,458	9.30%
SNF	404		440	8.90%		460	13.80%
Urgent/Retail	185		192	4.10%		186	0.90%
Virtual			5,895			24,013	
Grand Total	**352,038**		**383,630**	**9.00%**		**392,924**	**11.60%**

Interview Highlights:

INTERVIEWEES:

- Five individuals

KEY FINDINGS:

- Average rating of health status is 5.0, with a range in responses of 2 to 7.5
- Top health issues are:
  - Obesity
  - Cancer
  - Substance Abuse
  - Heart Disease
  - Smoking
  - Poor Nutrition
  - Lack of Access to Care (Pediatric & Specialty)
  - Aging Population
  - Lack of Physical Activity
- Ideas to improve these conditions include:
  - Focus on prevention
  - Improve patient navigation to clinics
  - Improve agency/organization collaboration
  - Chronic disease management
  - Programs for children on nutrition and physical activity
  - Improve Farmer's Market by offering more local produce
  - Increase number of health fairs
  - Increase health education
  - Increase pediatric and specialty care

Sources:

- Medstat
- County Health Rankings
- Kidscount
- VA Atlas of Community Health
- VA Dept of Health
- Kaiser Family Foundation
- VA Dept of Behavioral Health and Developmental Services
- VA Dept of Social Services
- U.S. Census
- CDC Wonder

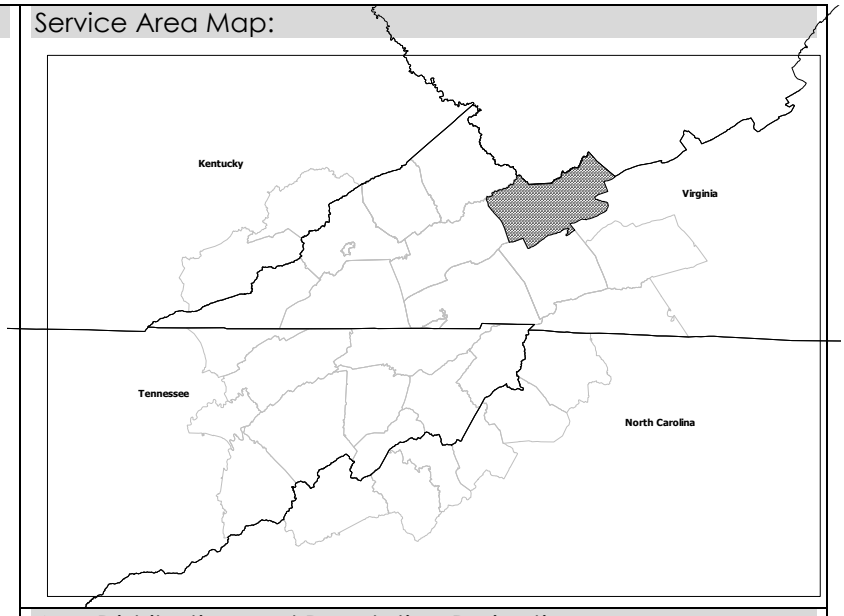
Local Resources:

- Cumberland Plateau Health District
- Regional Area Medical – RAM (outreach fair to provide free medical, dental & and vision care)
- Russell County Health Advisory Committee
- Celebrate Recovery
- Russell County Health Department
- People, Inc.
- One Care
- HEAL Appalachia
- SATIRA
- YMCA
- Diabetes Collation
- Lebanon Physical Therapy
- Local blood drives
- Local church groups

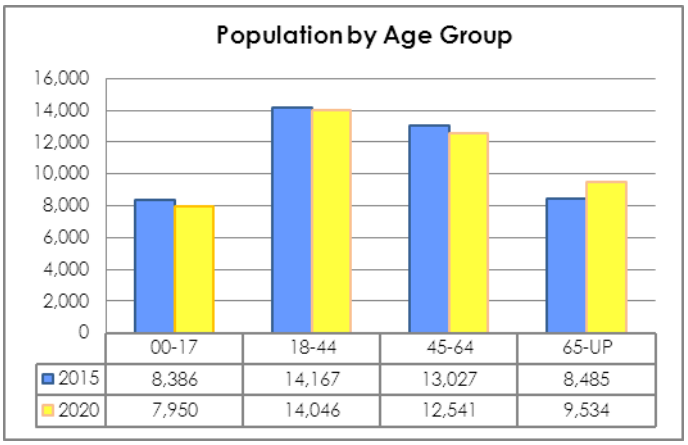
Demographic Highlights:

- Large elderly population compared to VA and US
- Declining rate of females of child-bearing age
- Low average household income level (18.1% of households make less than $15,000)
- Lower level of educational attainment compared to state and country (10.8% with no high school education compared to 5.9% nationally)
- Low level of diversity compared to state and national

Service Area Map:



Age Distribution and Population Projections:



Key Statistics:

	Tazewell	Virginia	U.S.
2015 Total Population	44,065	8,417,864	321,369,000
% Change 2015-2020	0.0%	4.7%	4.1%
% of Population 65+ (2015)	19.3%	14.0%	14.9%
% Minority (2015)	6.3%	30.8%	38.3%

	2015	2020	% Change
Total Male Population	21,969	22,033	0.3%
Total Female Population	22,096	22,038	-0.3%
Females, Child Bearing Age (15-44)	7,321	7,193	-1.7%

Local Health Highlights:

STRENGTHS:

- Low mortality rate 1 - 14 years of age
- Low number of days of poor air quality
- Low reported number of low fruit and vegetable consumption

WEAKNESSES:

- High rate of preventable hospital stays
- High rates of death for cardiovascular, lung cancer, and diabetes
- Low rate of high school graduates

Leading Causes of Death (all ages):

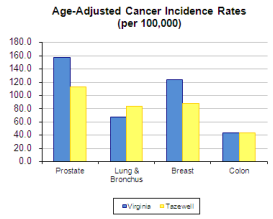
Cause of Death	Rate	Rank
Heart Disease	306.1	1
Malignant Neoplasms	212.5	2
Unintentional Injury	81.0	3
Chronic Lower Respiratory Disease	78.8	4
Cerebrovascular Disease	59.7	5
Diabetes Mellitus	49.7	6
Alzheimer's Disease	48.7	7
Influenza & Pneumonia	35.4	8
Nephritis & Nephrosis	31	9
Suicide	15.4	10
Chronic Liver Disease	15.6	10

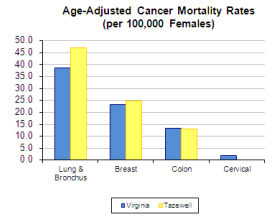
Key Indicators of Health Status:

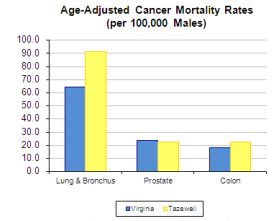
County: Tazewell, VA

	VA	Tazewell	2010	Desired
Health Outcomes				
Low Birth Weight (%)	8.3%	10.5%	12.00%	↓
General Health Status (% fair/poor health)	14.0%	29.0%	34%	↓
Very Low Birth Weight (%)	1.6%	1.6%	3.20%	↓
Infant Mortality (per 100,000)	8.3	8.9	2	↓
Mortality Rate (per 100,000)	735.8	1,122.4	774.4	↓
Cardiovascular Deaths (per 100,000)	161.3	306.1	174.5	↓
Cancer Deaths (5-yr avg rate per 100,000)	174.8	210.7	198.7	↓
Diabetes Mellitus Deaths (Age Adjusted Rate per 100,000)	20.0	47.9	31.3	↓
Cerebrovascular Deaths (Age Adjusted Rate per 100,000)	40.8	59.7	17.9	↓
Suicide Deaths (Age Adjusted Rate per 100,000)	12.9	15.5	15.4	↓
Mortality rate for ages 0 - 4 yrs (per 100,000)	152.9	268.0	74.9	↓
Mortality rate for ages 5 - 14 yrs (per 100,000)	13.5	0.0	38.7	↓
Mortality rate for ages 15 - 19 yrs (per 100,000)	44.5	118.6	103.4	↓
Mortality rates for ages 65+(per 1,000)	43.6	58.8	37.6	↓
Lung Cancer Deaths (5-yr avg rate per 100,000)*	49.5	66.1	66.6	↓
Female Breast Cancer Deaths (5-yr avg rate per 100,000)*	23.4	24.9	66.6	↓
Percent of Adults with Asthma*	8.0%	6.0%	10.80%	↓
Prevalence of Diabetes (% of adults)*	9.0%	8.0%	12.40%	↓
Psychosis Discharges (per 100,000)	332.7	168.2	532	↓
Health Determinants				
Health Care Resources				
No Health Insurance (%)	18.0%	20.0%	26.60%	↓
Medicaid/Tenncare Enrollees (%)	14.7%	24.7%	27.60%	↓
Medical Doctors Per Capita (per 100,000)	255.5	40.6	154.8	↑
No Biennial Mammography (%)*	28.0%	28.0%	35.30%	↓
PSA Testing Past 2 Years (%)*	56.0%	56.0%	47.40%	↑
Pap Test Past 3 Years (%)*	84.0%	82.0%	24.90%	↑
Sigmoidoscopy/Colonoscopy (%)*	72.0%	64.0%	50.50%	↑
Inadequate or No Prenatal Care (%)	13.0%	7.0%	18%	↓
First Trimester Prenatal Care (%)	81.9%	75.5%	67.10%	↑
Hospital Staffed Beds (per 1,000)	2.2	1.3	4.5	↑
Licensed Nursing Beds (per 1,000 65+)	3.9	5.5	0	↑
# of Primary Care MDs Per Capita (per 100,000)	122.3	93.3	62	↑
# of Psychiatric Specialists	6,827	0	0	↓
State Mental Health Facility Beds (per 100,000)*	18.7	28.7	13	↑
Inpatient Discharge Rate (per 1,000) - Total	157.2	131.1	122.3	↓
Could Not See Doctor Due to Cost (%)	10.0%	14.0%	11%	↓
Health Behaviors				
Cigarette Smoking (%)	18.0%	21.0%	24.90%	↓
Physical Inactivity (%)	24.0%	38.0%	21.00%	↓
Overweight/Obesity (% BMI > 25)	62.0%	66.0%	57.00%	↓
Obesity (% BMI > 30)	28.0%	33.0%	30%	↓
Low Fruit and Vegetable Consumption (% <5 a day)	80.0%	82.0%	77%	↓
Binge Drinking (%)	18.0%	12.0%	16%	↓
Teen Birth Rate (per 1,000)	18.6	20.8	25	↓
Sexually Transmitted Diseases (per 100,000)	385.0	151.0	115.8	↓
Violent Crime (per 100,000)	233.0	161.0	161	↓
Motor Vehicle Crash Deaths (per 100,000)	11.0	25.0	30	↓
Unmarried Mother Birth Rate (%)	35.0%	36.0%	28%	↓
Injury-related Mortality (Age Adjusted Rate per 100,000)	33.4	81.0	129.4	↓
Homicides (per 100,000)	5.0	7.0	5.3	↓

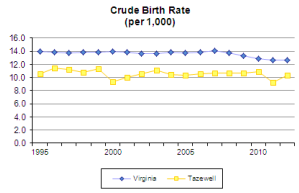
Cancer Incidence:

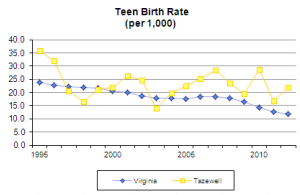






Birth Rate Trend:





Key Indicators of Health Status:

Socioecomonic Factors				
High School Graduation Rate (%)	88.0%	78.0%	86.60%	↑
Level of Education (%)	88.0%	79.0%	6.1%	↑
Unemployment (%)	6.2%	6.5%	9%	↓
Children (age 0 to 17) in poverty ratio (%)	15.5%	26.1%	27%	↓
Food Stamp Eligible Recipients (% of individuals)	11.6%	19.3%	19.50%	↓
Poverty Rate (% of all ages)	12.0%	21.0%	20.50%	↓
Temporary Assistance for Needy Families	0.8%	1.1%	1.00%	↓
High School Dropout Rate	1.4%	1.8%	1.90%	↓
Physical Environment				
Pre-1950 Housing (%)	13.2%	22.5%	19.70%	↓
Lead Poisoned Children (%)	0.2%	0.0%	0.00%	↓
Child Abuse and Neglect (rate per 1,000)	3.3	4.4	6.3	↓
Daily Fine Particulate Matter	12.5	12.6	12.2	↓
Communicable Diseases				
Hepatitis A (per 100,000)	0.6	0.0	0	↓
Campylobacter Infection (per 100,000)	9.4	17.9	6.2	↓
Salmonellosis (per 100,000)	14.1	13.4	0	↓
Shigellosis (per 100,000)	1.1	0.0	12.4	↓
AIDS/HIV cases (per 100,000)	305.3	85.0	0	↓
Early Stage Syphilis (per 100,000)	7.3	0.0	0	↓
Tuberculosis (per 100,000)	2.9	0.0	0	↓
Chlamydia (per 100,000)	432.5	154.3	111.3	↓
Gonorrhea (per 100,000)	85.1	35.8	0	↓

Inpatient Projections

	2014	2019		2024	
DRG Service Line	**Discharges**	**Discharges**	**% Change**	**Discharges**	**% Change**
Cardiac Surgery	69	69	0.50%	72	4.80%
Cardiology	571	484	-15.20%	402	-29.60%
Cardiology Intervention	182	163	-10.40%	150	-17.40%
Endocrinology	145	112	-23.00%	99	-31.80%
ENT Surgery	9	8	-6.60%	8	-10.10%
Gastroenterology	515	474	-7.90%	460	-10.60%
General Medicine	400	402	0.50%	374	-6.50%
General Surgery	335	316	-5.80%	304	-9.30%
Gynecology	59	54	-8.30%	51	-13.60%
Hematology	84	82	-2.00%	85	0.80%
Neonatology	72	66	-8.80%	61	-15.90%
Nephrology	287	263	-8.40%	231	-19.60%
Neurology	216	212	-1.70%	215	-0.30%
Neurosurgery	104	100	-3.50%	99	-5.20%
Normal Newborns	182	185	1.70%	180	-0.90%
OB Deliveries Sections	78	67	-14.70%	61	-22.10%
OB Deliveries Vaginal	178	185	4.10%	182	2.10%
OB Other	23	22	-4.80%	21	-8.00%
Oncology Medicine	111	108	-2.90%	99	-11.10%
Oncology Surgery	36	36	-1.10%	34	-4.40%
Ophthalmic Medicine	1	1	-18.80%	1	-29.60%
Oral Surgery	9	8	-10.90%	8	-13.60%
Orthopedic Medicine	86	87	0.60%	87	1.20%
Orthopedic Surgery	247	256	3.80%	260	5.20%
Otolaryngology	22	19	-13.60%	18	-17.60%
Plastic Surgery	9	9	-5.50%	7	-19.10%
Psychiatry	159	170	6.70%	158	-0.60%
Pulmonary	949	802	-15.50%	733	-22.70%
Rehabilitation	82	66	-19.80%	69	-15.70%
Rheumatology	15	15	-1.70%	14	-4.40%
Substance Abuse	15	15	-2.60%	14	-6.30%
Thoracic Surgery	33	31	-6.50%	30	-9.20%
Trauma Medical	19	18	-5.40%	18	-5.10%
Urology Medicine	30	27	-9.70%	26	-14.80%
Urology Surgery	36	34	-6.40%	31	-12.50%
Vascular Surgery	96	92	-4.50%	89	-7.50%
Womens Other	3	3	-9.90%	2	-22.40%
Grand Total	**5,467**	**5,058**	**-7.50%**	**4,753**	**-13.10%**

Outpatient Projections

	2014		2019			2024	
Site of Care	**Volumes**		**Volumes**	**% Change**		**Volumes**	**% Change**
ED	24,875		24,788	-0.30%		23,547	-5.30%
Home	52,872		59,985	13.50%		64,030	21.10%
Hosp OP/ASC	70,085		74,472	6.30%		75,084	7.10%
Office/Clinic	366,708		386,426	5.40%		368,161	0.40%
Other	33,810		36,283	7.30%		34,834	3.00%
SNF	955		1,019	6.70%		1,056	10.60%
Urgent/Retail	309		319	3.40%		307	-0.50%
Virtual			8,454			33,606	
Grand Total	**549,613**		**591,747**	**7.70%**		**600,625**	**9.30%**

APPENDIX

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1. Buchanan, VA Detailed Demographics
2. Russell, VA Detailed Demographics
3. Tazewell, VA Detailed Demographics

Mountain State Health Alliance

Buchanan County, VA

Population and Gender	Market 2015 Population	Market 2015 % of Total	Market 2020 Population	Market 2020 % of Total	Market Population % Change	National 2015 % of Total
Female Population	11,791	48.8%	11,700	48.7%	(0.8)%	50.8%
Male Population	12,388	51.2%	12,339	51.3%	(0.4)%	49.2%
Total	24,179	100.0%	24,039	100.0%	(0.6)%	100.0%

Age Groups	Market 2015 Population	Market 2015 % of Total	Market 2020 Population	Market 2020 % of Total	Market Population % Change	National 2015 % of Total
00-17	4,331	17.9%	4,100	17.1%	(5.3)%	23.1%
18-44	7,768	32.1%	7,505	31.2%	(3.4)%	35.9%
45-64	7,445	30.8%	7,151	29.8%	(4.0)%	26.3%
65-UP	4,635	19.2%	5,283	22.0%	14.0%	14.7%
Total	24,179	100.0%	24,039	100.0%	(0.6)%	100.0%

Ethnicity/Race	Market 2015 Population	Market 2015 % of Total	Market 2020 Population	Market 2020 % of Total	Market Population % Change	National 2015 % of Total
Asian & Pacific Is. Non-Hispanic	88	0.4%	101	0.4%	14.8%	5.3%
Black Non-Hispanic	696	2.9%	793	3.3%	13.9%	12.3%
Hispanic	145	0.6%	187	0.8%	29.0%	17.6%
White Non-Hispanic	23,066	95.4%	22,723	94.5%	(1.5)%	61.8%
All Others	184	0.8%	235	1.0%	27.7%	3.1%
Total	24,179	100.0%	24,039	100.0%	(0.6)%	100.0%

Language*	Market 2015 Population	Market 2015 % of Total	Market 2020 Population	Market 2020 % of Total	Market Population % Change	National 2015 % of Total
French at Home	71	0.3%	71	0.3%	0.0%	0.7%
Only English at Home	22,655	98.0%	22,575	98.0%	(0.4)%	79.0%
Other Indo-European Lang at Home	203	0.9%	198	0.9%	(2.5)%	1.8%
Spanish at Home	108	0.5%	106	0.5%	(1.9)%	13.0%
Tagalog at Home	44	0.2%	44	0.2%	0.0%	0.6%
All Others	35	0.2%	35	0.2%	0.0%	4.9%
Total	23,116	100.0%	23,029	100.0%	(0.4)%	100.0%

Mountain State Health Alliance

Buchanan County, VA

Household Income	Market 2015 Households	Market 2015 % of Total	Market 2020 Households	Market 2020 % of Total	Market Households % Change	National 2015 % of Total
<$15K	2,032	20.0%	1,721	16.8%	(15.3)%	12.7%
$15-25K	1,884	18.5%	1,692	16.6%	(10.2)%	10.8%
$25-50K	2,682	26.4%	2,664	26.1%	(0.7)%	23.9%
$50-75K	1,547	15.2%	1,514	14.8%	(2.1)%	17.8%
$75-100K	1,019	10.0%	1,108	10.8%	8.7%	12.0%
$100K-200K	892	8.8%	1,314	12.9%	47.3%	17.9%
>$200K	105	1.0%	207	2.0%	97.1%	5.0%
Total	10,161	100.0%	10,220	100.0%	0.6%	100.0%

Education Level**	Market 2015 Population	Market 2015 % of Total	Market 2020 Population	Market 2020 % of Total	Market Population % Change	National 2015 % of Total
Less than High School	3,126	17.4%	3,170	17.5%	1.4%	5.9%
Some High School	2,610	14.5%	2,657	14.7%	1.8%	8.0%
High School Degree	5,978	33.3%	6,039	33.3%	1.0%	28.1%
Some College/Assoc. Degree	4,880	27.2%	4,894	27.0%	0.3%	31.1%
Bachelor's Degree or Greater	1,360	7.6%	1,353	7.5%	(0.5)%	26.9%
Total	17,954	100.0%	18,113	100.0%	0.9%	100.0%

*Excludes population age <5, **Excludes population age <25

Mountain State Health Alliance

Russell County, VA

Population and Gender	Market 2015 Population	Market 2015 % of Total	Market 2020 Population	Market 2020 % of Total	Market Population % Change	National 2015 % of Total
Female Population	13,812	51.1%	13,667	51.0%	(1.1)%	50.8%
Male Population	13,215	48.9%	13,126	49.0%	(0.7)%	49.2%
Total	27,027	100.0%	26,793	100.0%	(0.9)%	100.0%

Age Groups	Market 2015 Population	Market 2015 % of Total	Market 2020 Population	Market 2020 % of Total	Market Population % Change	National 2015 % of Total
00-17	5,284	19.6%	5,100	19.0%	(3.5)%	23.1%
18-44	8,423	31.2%	8,083	30.2%	(4.0)%	35.9%
45-64	8,208	30.4%	7,849	29.3%	(4.4)%	26.3%
65-UP	5,112	18.9%	5,761	21.5%	12.7%	14.7%
Total	27,027	100.0%	26,793	100.0%	(0.9)%	100.0%

Ethnicity/Race	Market 2015 Population	Market 2015 % of Total	Market 2020 Population	Market 2020 % of Total	Market Population % Change	National 2015 % of Total
Asian & Pacific Is. Non-Hispanic	53	0.2%	51	0.2%	(3.8)%	5.3%
Black Non-Hispanic	296	1.1%	374	1.4%	26.4%	12.3%
Hispanic	285	1.1%	305	1.1%	7.0%	17.6%
White Non-Hispanic	26,164	96.8%	25,795	96.3%	(1.4)%	61.8%
All Others	229	0.9%	268	1.0%	17.0%	3.1%
Total	27,027	100.0%	26,793	100.0%	(0.9)%	100.0%

Language*	Market 2015 Population	Market 2015 % of Total	Market 2020 Population	Market 2020 % of Total	Market Population % Change	National 2015 % of Total
French at Home	30	0.1%	24	0.1%	(20.0)%	0.7%
Germanic Lang at Home	36	0.1%	34	0.1%	(5.6)%	0.5%
Only English at Home	25,298	98.7%	25,127	98.8%	(0.7)%	79.0%
Other Indo-European Lang at Home	116	0.5%	111	0.4%	(4.3)%	1.8%
Spanish at Home	122	0.5%	119	0.5%	(2.5)%	13.0%
All Others	26	0.1%	30	0.1%	15.4%	4.9%
Total	25,628	100.0%	25,445	100.0%	(0.7)%	100.0%

Mountain State Health Alliance

Russell County, VA

Household Income	Market 2015 Households	Market 2015 % of Total	Market 2020 Households	Market 2020 % of Total	Market Households % Change	National 2015 % of Total
<$15K	2,351	20.8%	1,999	17.8%	(15.0)%	12.7%
$15-25K	1,766	15.7%	1,691	15.0%	(4.3)%	10.8%
$25-50K	3,045	27.0%	2,962	26.3%	(2.7)%	23.9%
$50-75K	1,808	16.0%	1,803	16.0%	(0.3)%	17.8%
$75-100K	1,028	9.1%	1,079	9.6%	5.0%	12.0%
$100K-200K	1,145	10.2%	1,463	13.0%	27.8%	17.9%
>$200K	139	1.2%	250	2.2%	79.9%	5.0%
Total	11,282	100.0%	11,247	100.0%	(0.3)%	100.0%

Education Level**	Market 2015 Population	Market 2015 % of Total	Market 2020 Population	Market 2020 % of Total	Market Population % Change	National 2015 % of Total
Less than High School	2,930	15.0%	2,962	15.1%	1.1%	5.9%
Some High School	2,112	10.8%	2,120	10.8%	0.4%	8.0%
High School Degree	7,388	37.7%	7,400	37.7%	0.2%	28.1%
Some College/Assoc. Degree	5,218	26.6%	5,213	26.6%	(0.1)%	31.1%
Bachelor's Degree or Greater	1,946	9.9%	1,918	9.8%	(1.4)%	26.9%
Total	19,594	100.0%	19,613	100.0%	0.1%	100.0%

*Excludes population age <5, **Excludes population age <25

Mountain State Health Alliance

Tazewell County, VA

Population and Gender	Market 2015 Population	Market 2015 % of Total	Market 2020 Population	Market 2020 % of Total	Market Population % Change	National 2015 % of Total
Female Population	22,096	50.1%	22,038	50.0%	(0.3)%	50.8%
Male Population	21,969	49.9%	22,033	50.0%	0.3%	49.2%
Total	44,065	100.0%	44,071	100.0%	0.0%	100.0%

Age Groups	Market 2015 Population	Market 2015 % of Total	Market 2020 Population	Market 2020 % of Total	Market Population % Change	National 2015 % of Total
00-17	8,386	19.0%	7,950	18.0%	(5.2)%	23.1%
18-44	14,167	32.2%	14,046	31.9%	(0.9)%	35.9%
45-64	13,027	29.6%	12,541	28.5%	(3.7)%	26.3%
65-UP	8,485	19.3%	9,534	21.6%	12.4%	14.7%
Total	44,065	100.0%	44,071	100.0%	0.0%	100.0%

Ethnicity/Race	Market 2015 Population	Market 2015 % of Total	Market 2020 Population	Market 2020 % of Total	Market Population % Change	National 2015 % of Total
Asian & Pacific Is. Non-Hispanic	308	0.7%	358	0.8%	16.2%	5.3%
Black Non-Hispanic	1,598	3.6%	1,884	4.3%	17.9%	12.3%
Hispanic	407	0.9%	519	1.2%	27.5%	17.6%
White Non-Hispanic	41,268	93.7%	40,797	92.6%	(1.1)%	61.8%
All Others	484	1.1%	513	1.2%	6.0%	3.1%
Total	44,065	100.0%	44,071	100.0%	0.0%	100.0%

Language*	Market 2015 Population	Market 2015 % of Total	Market 2020 Population	Market 2020 % of Total	Market Population % Change	National 2015 % of Total
Germanic Lang at Home	64	0.2%	62	0.2%	(3.1)%	0.5%
Only English at Home	41,335	98.5%	41,383	98.5%	0.1%	79.0%
Other Indo-European Lang at Home	197	0.5%	193	0.5%	(2.0)%	1.8%
Other Lang at Home	59	0.1%	55	0.1%	(6.8)%	0.9%
Spanish at Home	240	0.6%	238	0.6%	(0.8)%	13.0%
All Others	74	0.2%	70	0.2%	(5.4)%	4.7%
Total	41,969	100.0%	42,001	100.0%	0.1%	100.0%

Mountain State Health Alliance

Tazewell County, VA

Household Income	Market 2015 Households	Market 2015 % of Total	Market 2020 Households	Market 2020 % of Total	Market Households % Change	National 2015 % of Total
<$15K	3,257	18.1%	2,929	16.3%	(10.1)%	12.7%
$15-25K	2,970	16.5%	2,796	15.5%	(5.9)%	10.8%
$25-50K	5,190	28.8%	5,062	28.1%	(2.5)%	23.9%
$50-75K	3,054	17.0%	3,137	17.4%	2.7%	17.8%
$75-100K	1,714	9.5%	1,779	9.9%	3.8%	12.0%
$100K-200K	1,589	8.8%	1,984	11.0%	24.9%	17.9%
>$200K	245	1.4%	319	1.8%	30.2%	5.0%
Total	18,019	100.0%	18,006	100.0%	(0.1)%	100.0%

Education Level**	Market 2015 Population	Market 2015 % of Total	Market 2020 Population	Market 2020 % of Total	Market Population % Change	National 2015 % of Total
Less than High School	3,451	10.8%	3,510	10.9%	1.7%	5.9%
Some High School	3,623	11.3%	3,674	11.4%	1.4%	8.0%
High School Degree	11,169	34.9%	11,302	35.0%	1.2%	28.1%
Some College/Assoc. Degree	10,025	31.3%	10,096	31.3%	0.7%	31.1%
Bachelor's Degree or Greater	3,729	11.7%	3,707	11.5%	(0.6)%	26.9%
Total	31,997	100.0%	32,289	100.0%	0.9%	100.0%

*Excludes population age <5, **Excludes population age <25



2015 COMMUNITY HEALTH NEEDS ASSESSMENT

SMYTH COUNTY COMMUNITY HOSPITAL

Published June 29, 2015

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Introduction

Mountain States Health Alliance (MSHA) is an integrated health care delivery system providing a comprehensive continuum of care to people in 29 counties in Tennessee, Virginia, Kentucky, and North Carolina. MSHA was formed after Johnson City Medical Center Hospital, Inc. acquired six Columbia/HCA hospitals in Northeast Tennessee on September 1, 1998; and was later renamed Mountain States Health Alliance in January 1999.

Today, MSHA is the largest regional health care system with 13 hospitals operating at approximately $1.0 billion in net revenues. The hospitals are:

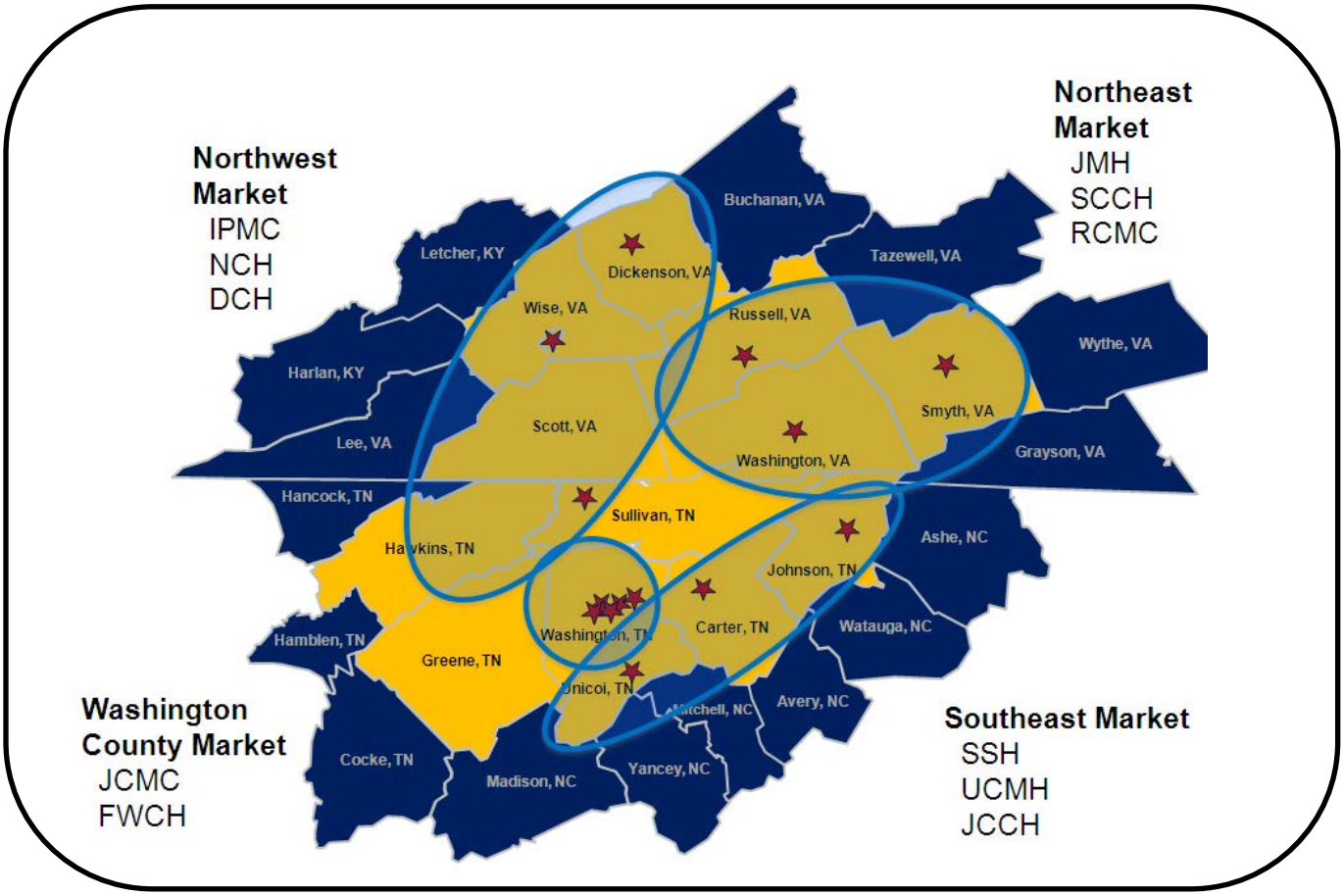
- Johnson City Medical Center
- Niswonger Children's Hospital
- Woodridge Psychiatric Hospital
- Franklin Woods Community Hospital
- Unicoi County Community Hospital
- Indian Path Medical Center
- Johnson County Community Hospital
- Sycamore Shoals Hospital
- Dickenson Community Hospital
- Johnston Memorial Hospital
- Norton Community Hospital
- Russell County Medical Center
- Smyth County Community Hospital

In addition to 13 hospitals, MSHA's integrated health care delivery system includes primary/preventive care centers and numerous outpatient care sites, including First Assist Urgent Care, MedWorks, Same Day Surgery, and Mountain States Rehabilitation.

Executive Summary

Regional and national rankings for health factors continue to be disappointing as cancer, heart disease, and diabetes rates continue to increase each year. Obesity and smoking continue to be major problems in the United States, leading to additional diseases. From a global perspective, the United States falls behind other developing nations in health outcomes. Clearly, there are many needs that exist and need attention. The interrelatedness between the health of a community, its economic status, and its educational attainment levels is becoming increasingly recognized. Mountain States Health Alliance (MSHA) exists to "*identify and respond to the health care needs of individuals and communities in our region and to assist them in attaining their highest possible level of health.*" In doing so, MSHA recognizes this is a very complex challenge that involves the engagement of many prongs of the community.

In order for MSHA to serve its region most effectively, it is essential to understand each community's individual needs. MSHA has conducted a Community Health Needs Assessment to profile the health of the residents within the local region (a map of the MSHA service area is provided on the following page). Activities associated with the development of this assessment have taken place from spring of 2014 through spring of 2015, including state, regional and county-specific secondary data collection and primary data obtained through individual surveys and focus groups with individuals from the local communities.



★ Represents county in which MSHA owns a facility. MSHA has part-ownership in other hospitals but they are not included in this assessment.

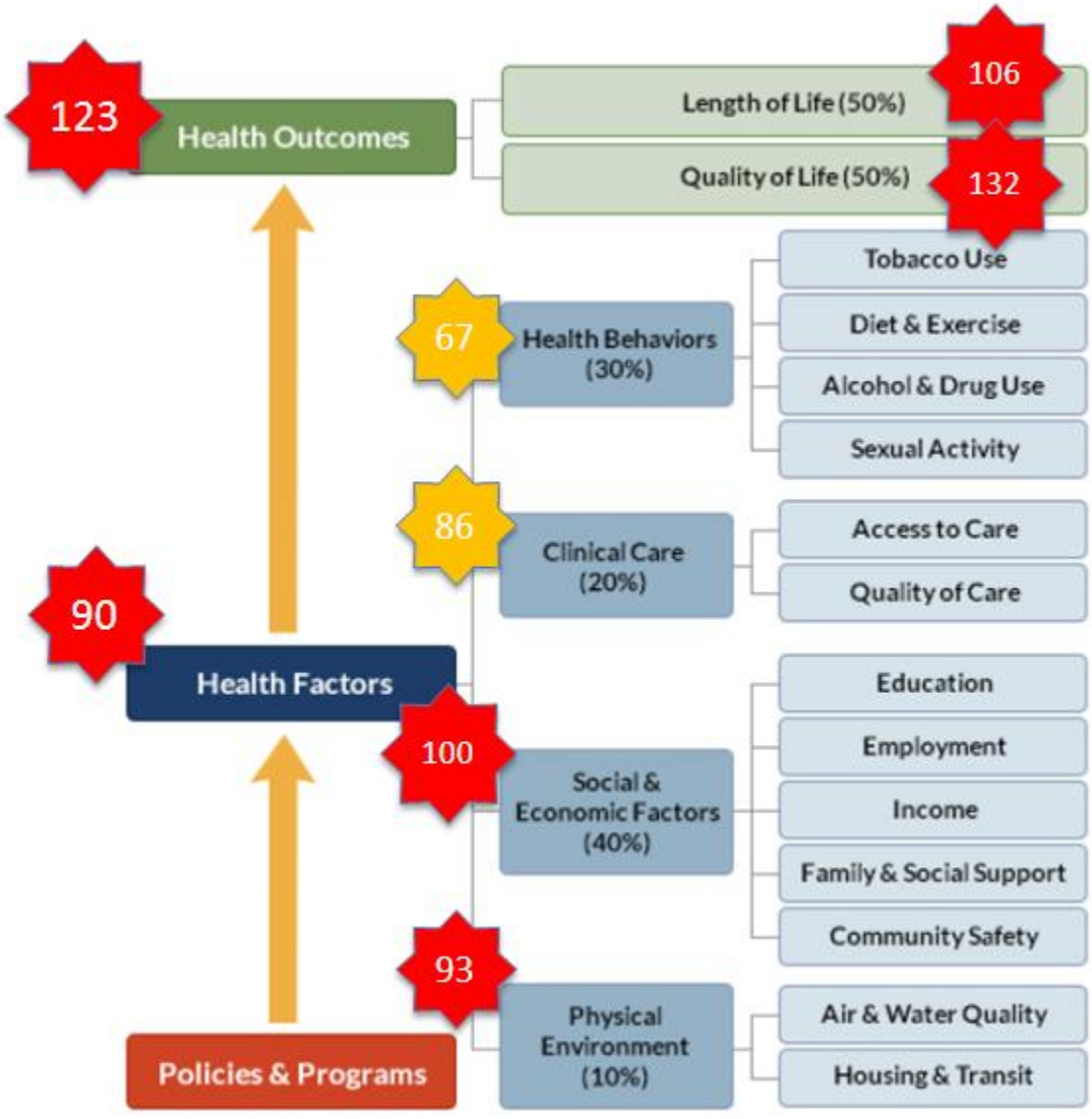
*Service Area is defined by approximately 80% of inpatient population.

Throughout the assessment, high priority was given to determining the health status and available resources within each community. Community members from each county met with MSHA to discuss current health priorities and identify potential solutions. The information gathered from a local perspective, paired with regional, state and national data, helps to communicate the region's health situation in order to begin formulating solutions for improvement.

In 2014, Tennessee ranked 45th and Virginia ranked 21st out of 50 states for overall health outcomes. Both states had high rates of adult obesity, cancer deaths, infant mortality, and diabetes. Though Virginia's overall ranking is moderately low, the health outcomes in Southwest Virginia counties, where MSHA's facilities are located, resembles those of Tennessee. After compiling the various sources of information, the top health priorities were identified for the communities that each of the MSHA hospitals serve. This effort has determined the top health priorities identified in Smyth County to include **smoking, substance abuse, obesity, cardiovascular disease, and mental health**. There are certainly a number of other health challenges in this community, but these rise to the top based on this assessment.

According to the 2015 County Health Rankings, Smyth County is ranked 123rd in Virginia for health outcomes and 90th for health factors out of 133 counties. The leading causes of death for ages 65 and over are heart disease, cancer, and stroke. Smyth County also ranked 67th in health behaviors. When compared to other Virginia counties, Smyth County has high physical inactivity, high smoking rates, high overweight/obesity rates and high rates of teen births. As for social and economic factors, Smyth County ranks 68th due to low rates of college education, high rates of children in poverty, and high unemployment rates.

Smyth County, VA Health Ranking
2015 County Health Rankings
www.countyhealthrankings.org



*Ranking is in comparison to all 133 counties in the state of Virginia.

Community Interview Summary

Between spring 2014 and spring 2015 the MSHA Strategic Planning Department completed individual interviews and a focus group in order to connect with community members of Smyth County and determine the needs of the community that Smyth County Community Hospital serves. MSHA hospital administration teams were contacted in order to obtain names of individuals in the community who were considered public health officials or community leaders. The 11 interviewees included representatives from the local government, school nursing program, school system administration and hospital. These individuals were invited to discuss and assist in determining the health priorities and resources available in their community of Smyth County.

Collecting Community Input

In order to complete the community health needs assessment for Smyth County Community Hospital, MSHA met with various individuals from Smyth County. The organizations that were represented are listed in Table 1.1.

Table 1.1 – Summary Organizations Participating in SCCH's CHNA

Reported Organizations Providing Input for Assessment
Smyth County School Board
Mount Rogers Health Department
Smyth County Public Schools
Smyth County Community Hospital
Town of Chilhowie

To begin the community health needs assessment, MSHA's strategic planning staff presented data that had been collected to illustrate past and current health trends for Virginia and Smyth County. The presentation depicted the current national health rankings, in addition to providing a snapshot of the county.

Following the presentation, each participant was given a survey to determine the individual's personal assessment of their county's health priorities. Secondly, the individuals were asked to submit ideas and suggestions as to how MSHA could use the available resources in order to improve the health priorities determined. After the surveys had been completed, each group discussed the questions and continued brainstorming ways to address obstacles and utilize resources. All of the information collected from the surveys and open discussion was evaluated and prioritized based on health needs.

In surveys obtained from the Smyth County representatives, several community health needs and resources were identified. Table 1.2 lists the survey questions given to each participant in the assessment.

Table 1.2 – Community Survey Questions

	Survey Questions
1	How would you rate the general health status of the patient population in this community on a scale of 1 to 10 (with 1 being the poorest and 10 being the best)?
2	Keeping in mind resources are not unlimited, can you identify the top 1-2 health priorities in your local community that you feel should be addressed in the following areas: a)Health Outcomes/Diseases b)Health Behaviors c)Social Environment
3	What existing resources, such as organized groups or public health initiatives have been developed and are in place to address these health priorities?
4	What ideas do you have that may serve to improve these health priorities?

Health Status Rating

Overall, the general health status of Smyth County was rated as 5 on a scale of 1 – 10, with 1 being the poorest and 10 being the best. Individual responses ranged from 3 to 6.5. The health ranking for Smyth County can be found below in Table 1.3.

Table 1.3 – Average Health Status Ranking

MSHA Facility/County	Number of Individuals	Average of Health Status Rating
SMYTH COUNTY COMMUNITY HOSPITAL, Smyth County, VA	11	5

Top Health Priorities

From the results of the surveys, the most prevalent health priorities in Smyth County were smoking, substance abuse, obesity (physical inactivity/poor diet), cardiovascular disease, and mental health. Table 1.4 lists the health priorities input provided by community participants.

Table 1.4 – Top Identified Health Priorities

Smyth County

Top Health Priorities	Responses	% of Total Responses
Health Outcomes/Diseases		
Obesity	5	71.43%
Diabetes	3	42.86%
Mental Health	3	42.86%
Cardiovascular Disease	3	42.86%
Low birth weight infants	2	28.57%
Asthma	2	28.57%
Cancer	2	28.57%
COPD	1	14.29%
Health Behaviors		
Smoking	6	85.71%
Substance and Prescription Drug Abuse	5	71.43%
Physical Inactivity	3	42.86%
Poor Nutrition	2	28.57%
Poor utilization of preventive health	1	14.29%
Social Environment		
Unemployment	3	42.86%
Underinsured/Uninsured/Medicaid Expansion	3	42.86%
Teen Pregnancy	2	28.57%
Poverty	2	28.57%
Economic development	2	28.57%
Minimum Wage	1	14.29%
Access to mental health	1	14.29%
Mental and physical abuse	1	14.29%
Family cultures	1	14.29%
Poor parenting skills	1	14.29%

*Individuals submitted multiple answers regarding health priorities.

These priorities are consistent with the secondary data findings.

- Smoking
  - Tobacco usage rates in Smyth County exceed that of the state average (23.5% vs. 18%)
- Substance Abuse
  - The rate of drug poisoning deaths in Smyth County well exceeds the state average (15 vs. 9 per 100,000)
- Obesity
  - The percentage of adults who are obese in Smyth County is 27%, which is in line with that of the state (27%)
  - Self-reported physical inactivity rates among Smyth County residents exceed the state average (26% vs. 22%)
- Cardiovascular Disease
  - The number of adults diagnosed with heart disease in Smyth County is significantly higher than that of the state (9% vs. 4%)
  - The age adjusted death rate due to heart disease in Smyth County is 257.05 (per population 100,000), which is higher than the state rate of 173.71.
- Mental Health
  - The number of poor mental health days in Smyth County greatly exceeds the state average (5.6 vs. 3.1)

All of these issues lead to a higher percentage of self-reported age-adjusted fair or poor health rates in Smyth County compared to the state (29% vs. 14%) as well as a higher number of years of potential life lost before 75 per 100,000 (a measure of premature death) at 9,688 in the county vs. 6,192 in VA.

Smyth (SM)

	Smyth County	Error Margin	Top U.S. Performers*	Virginia	Rank (of 133)
Health Outcomes					123
Length of Life					106
Premature death	9,688	8,465-10,910	5,200	6,192	
Quality of Life					132
Poor or fair health	29%	20-39%	10%	14%	
Poor physical health days	6.9	4.7-9.2	2.5	3.2	
Poor mental health days	5.6	3.1-8.0	2.3	3.1	
Low birthweight	10.1%	8.9-11.4%	5.9%	8.3%	
Health Factors					90
Health Behaviors					67
Adult smoking	22%	15-32%	14%	18%	
Adult obesity	31%	24-38%	25%	28%	
Food environment index	7.8		8.4	8.3	
Physical inactivity	23%	17-30%	20%	22%	
Access to exercise opportunities	77%		92%	81%	
Excessive drinking			10%	16%	
Alcohol-impaired driving deaths	28%		14%	31%	
Sexually transmitted infections	183		138	427	
Teen births	59	53-64	20	29	
Clinical Care					86
Uninsured	16%	15-18%	11%	14%	
Primary care physicians	1,586:1		1,045:1	1,344:1	
Dentists	1,862:1		1,377:1	1,611:1	
Mental health providers	989:1		386:1	724:1	
Preventable hospital stays	77	69-85	41	55	
Diabetic monitoring	88%	81-96%	90%	87%	
Mammography screening	62.0%	53.9-70.0%	70.7%	63.4%	
Social & Economic Factors					100
High school graduation	84%			83%	
Some college	50.0%	44.2-55.8%	71.0%	68.2%	
Unemployment	8.4%		4.0%	5.5%	
Children in poverty	26%	19-33%	13%	16%	
Income inequality	4.4	3.8-5.0	3.7	4.8	
Children in single-parent households	36%	29-44%	20%	30%	
Social associations	11.0		22.0	11.3	
Violent crime	193		59	200	
Injury deaths	74	61-87	50	52	
Physical Environment					93
Air pollution - particulate matter	13.0		9.5	12.7	
Drinking water violations	3%		0%	2%	
Severe housing problems	11%	9-14%	9%	15%	
Driving alone to work	87%	84-90%	71%	77%	
Long commute - driving alone	26%	22-29%	15%	38%	

* 90th percentile, i.e., only 10% are better.
Note: Blank values reflect unreliable or missing data

2015

Identifying Available Resources

MSHA realizes that there are numerous resources in all of the counties it serves that can provide care for individuals. Our goal, in order to reduce costs and provide the best care possible for patients, is to identify these resources to prevent duplication of services and efforts. The interviewees were asked to list all of the services and resources within their community. The interviewees acknowledged that many resources currently exist to help meet health needs. Table 1.5 lists the current resources within each county that offer health services to the community.

Table 1.5 – Identified Available Resources

Resources Available
Smyth County, Virginia Community Service Board Free clinics with longer clinic hours Dental services at free clinics Smyth County Healthy Community Action Team Farmer's Market SCCH Health Trust Committee Mount Rogers Wellness Team Baby Care Program Resource Mothers Program Department of Social Services Loaves & Fishes food panty School Nurses Nutrition Action Network Diabetic education at SCCH Sports physicals provided on volunteer basis with SCCH resources Public school system AES Demonstration Project Health Department Remote Area Medical (RAM) School-based health activities Collaboration between schools and health department to provide immunizations for students Women, Infant and Children (WIC) Moms Club (March of Dimes) Family planning clinics Wellness Center

*MSHA understands that there are other resources available in each county that are not listed in this table. This table represents only the resources listed by participants in community health needs assessment. MSHA will continue to identify resources.

Improving Health Priorities

The community members who were surveyed provided helpful ideas as to how to begin formulating a plan to improve the health priorities throughout the region. To enhance existing resources, the participants stressed the significance of increasing public awareness of both addressing one's health needs and the availability of health care options within each community. Additional suggestions as to how MSHA can improve the previously identified health priorities are listed in Table 1.6.

Table 1.6 – Ideas to Improve Health Priorities

Responses	
1	Work with churches on offering nutrition/ cooking classes
2	Parenting classes including financial management
3	Community seminars on nutrition and healthy lifestyles
4	Educate parents on healthy lifestyles
5	School-based health lifestyle education
6	Healthy food supplementation for low-include students to include fresh fruits and vegetables; summer meal programs
7	More counselors at free clinics
8	Health fairs
9	Increased community events with free screenings
10	Disseminate information about dietician services
11	Diabetic educator and education classes
12	Teach preventive care to children
13	Improvement to mental health access
14	Find ways to get more people engaged in health improvement / increase participation in existing health programming
15	Economic improvement initiatives
16	Economic opportunities for job creation
17	Medicaid expansion
18	Agency/organization collaboration

However, it is also helpful to understand from a more global perspective the health status of our nation as a whole, since many issues we face in our service area are not limited to just our region. Compiled on an annual basis, the *America's Health Rankings* publication developed by the United Health Foundation, the American Public Health Association and Partnership for Prevention provides one of the most comprehensive assessments regarding the status of the nation's health. The following information in the national and regional overview is from the 2015 edition

Health is a result of our behaviors, our individual genetic predisposition to disease, the environment and the community in which we live, the clinical care we receive and the policies and practices of our health care and prevention systems. Each of us, individually, as a community, and as a society, strives to optimize these health determinants, so that all of us can have a long, disease-free, and robust life regardless of race, gender or socio-economic status.

This report looks at the four groups of health determinants that can be affected:

1. **Behaviors** include the everyday activities we do that affect our personal health. It includes habits and practices we develop as individuals and families that have an effect on our personal health and on our utilization of health resources. These behaviors are modifiable with effort by the individual supported by community, policy and clinical interventions.

2. **Community and environment** reflects the reality that the daily conditions in which we live our lives have a great effect on achieving optimal individual health.

3**. Public and health policies** are indicative of the availability of resources to encourage and maintain health and the extent that public and health programs reach into the general population.

4. **Clinical care reflect**s the quality, appropriateness and cost of the care we receive at doctors' offices, clinics and hospitals.

All health determinants are intertwined and must work together to be optimally effective. For example, an initiative that addresses tobacco cessation requires not only efforts on the part of the individual but also support from the community in the form of public and health policies that promote non-smoking and the availability of effective counseling and care at clinics. Similarly sound prenatal care requires individual effort, access to and availability of prenatal care coupled with high quality health care services. Addressing obesity, which is a health epidemic now facing this country, requires coordination among almost all sectors of the economy including food producers, distributors, restaurants, grocery and convenience stores, exercise facilities, parks, urban and transportation design, building design, educational institutions, community organizations, social groups, health care delivery and insurance to complement and augment individual actions.



America's Health Rankings® combines individual measures of each of these determinants with the resultant health outcomes into one, comprehensive view of the health of a state. Additionally, it discusses health determinants separately from health outcomes and provides related health, economic and social information to present a comprehensive profile of the overall health of each state.

America's Health Rankings® employs a unique methodology, developed and periodically reviewed by a panel of leading public health scholars, which balances the contributions of various factors, such as smoking, obesity, binge drinking, high school graduation rates, children in poverty, access to care and incidence of preventable disease, to a state's health. The report is based on data from the

U.S. Departments of Health and Human Services, Commerce, Education and Labor; U.S. Environmental Protection Agency; U.S. Census Bureau, the American Medical Association; the American Dental Association; the Dartmouth Atlas Project; and the Trust for America's Health.

Purpose

The ultimate purpose of *America's Health Rankings*® is to stimulate action by individuals, elected officials, health care professionals, employers, and communities to improve the health of the population of the United States. We do this by promoting public conversation concerning health in our states, as well as providing information to facilitate citizen, community and group participation. We encourage participation in all elements: behaviors, community and environment, clinical care, and public and health policies. Each person individually, and in their capacity as an employee, employer, voter, community volunteer, health official or elected official, can contribute to the advancement of the healthiness of their state. Proven, effective and innovative actions can improve the health of people in every state whether the state is first or 50th.

Findings

Comparison to Other Nations

When health in the United States is compared to health in other countries, the picture is disappointing. The World Health Organization, in its annual World Health Statistics 2013, compares the United States to the nations of the world on a large variety of measures. While the U.S. does exceed many countries, it is far from the best in many of the common measures used to gauge healthiness and lags behind its peers in other developed countries.

The United States ranks at or near the bottom among high-income countries on nearly all indicators of mortality, survival, and life expectancy. Life expectancy is a measure that indicates the number of years that a newborn is expected to live. Japan, San Marino, and Switzerland are the persistent leaders for developed countries in this measure, with an overall life expectancy of 83 years. At 81 years for women and 76 years of men, the United States ranks 33rd among the 193 reporting nations of the WHO. The United States male life expectancy rates are on par with Chile, Cuba, Brunei Darussalam, and Maldives, while the female life expectancy rates are on par with Columbia, Costa Rica, Czech Republic, Estonia, Poland, and Qatar. There are 32 other countries that exceed the United States in healthy life expectancy, including Australia, Italy, Spain, France, Germany, Greece and the United Kingdom.

One of the underlying causes for these differences is the gap in infant mortality rates between the United States and many other countries. The infant mortality rate for the U.S. in 2011 was 6 deaths per 1,000 live births, ranking 40th among WHO nations. The infant mortality rates in Finland, Japan, and Sweden were *one* third that of the U.S. rate. Of the 193 countries rated, 39 countries had lower infant mortality rates than the United States.

These countries also have considerably lower infant mortality rates than that of non-Hispanic whites in the United States, which is the ethnic/racial group with the lowest infant mortality rate. The racial/ethnic disparities related to infant mortality could be related to differences in risk factors among different racial/ethnic groups, including risk for low birth weight delivery, access to medical care, and socioeconomic status. However, many of the racial/ethnic differences in infant mortality remain unexplained. It should also be noted that the reporting and classification of infant mortality varies among countries, which could be reflected in the ranks.

In addition to infant mortality, youth and young adults' mortality impacts life expectancy. Unintentional injuries claim approximately 30 percent of the years lost before age 50, along with violence and suicides, among U.S. young adults and adolescents. Non-communicable (chronic)

diseases, such as cancer, heart disease, and other conditions that are not caused by infections, begin to be more of a contributing factor after the age of 30.

Differences in healthy life expectancy are also affected by the effectiveness of treating disease, especially those that are amenable to care, including bacterial infections, treatable cancers, diabetes, cardiovascular and cerebrovascular disease, some ischemic heart disease, and complications from common surgical procedures. The age-adjusted amenable mortality rate before age 75 for the United States was 95.5 deaths per 100,000 population in 2006 to 2007, which is still a slower rate of improvement than in other Organization for Economic Cooperation and Development (OECD) nations studied. The rate in the U.S. is 50 percent higher than the rate in France, Japan, Italy, and Australia.

Additionally, the study indicated that despite spending more than any other country on health care, the United States continues to slip further behind and has one of the highest inequalities in health compared to other developed countries. The U.S. ranks among the worst OECD countries for child health well-being, having an inequality higher than average. Furthermore, although the United States has the highest income per person, it continues to rank as the worst country for income inequality, which is thought to explain why it has the highest index of health and social problems compared to other developed nations.

Physical inactivity and obesity play major contributions to disease worldwide and in the United States. Physical inactivity is the fourth leading risk factor for global mortality, and is responsible for an estimated 6 to 10 percent of non-communicable diseases, such as type 2 diabetes, heart disease, colon cancer, and breast cancer. North America has 34 percent of the world's biomass due to obesity; however, it only makes up for 6 percent of the world's population. Asia, on the other hand, has 61 percent of the world's population, yet only has 13 percent of its biomass due to obesity. While the U.S. is only one of several countries that form North America, it is the only North American nation to rank among the heaviest nations globally. It is estimated that eliminating physical activity in the United States would add approximately 1 year to life expectancy and dramatically reduce the burden of chronic diseases.

The results of these studies should be a wake-up call to everyone in the United States to strive to improve all aspects of our health system, including education, safety, prevention, and clinical care. Other countries have improved their overall health, indicating that we, too, can do the same.

National Changes since 1990

In the past year, 20 health measures improved, 8 measures declined, and 1 measure remained unchanged. Table 1 shows the national changes in the last year. These improvements were offset by deterioration in several measures, including increases in the prevalence of obesity, the percentage of children in poverty and lack of health insurance.

Since 2012, the prevalence of smoking declined from 21.2 percent to 19 percent among adults. The binge drinking prevalence rate dropped from 18.3 percent to 16.8 percent of adults who binged in the last 30 days, and physical inactivity decreased from 26.2 percent to 25.3 percent. The incidence of pertussis increased sharply from 9.0 to 15.5 cases per 100,000 populations. The percentages of children in poverty, lack of health insurance, child immunization coverage, and low birth weight have also suppressed faster improvement in our nation's health.

Table 1 – National Successes and Challenges

SUCCESSES

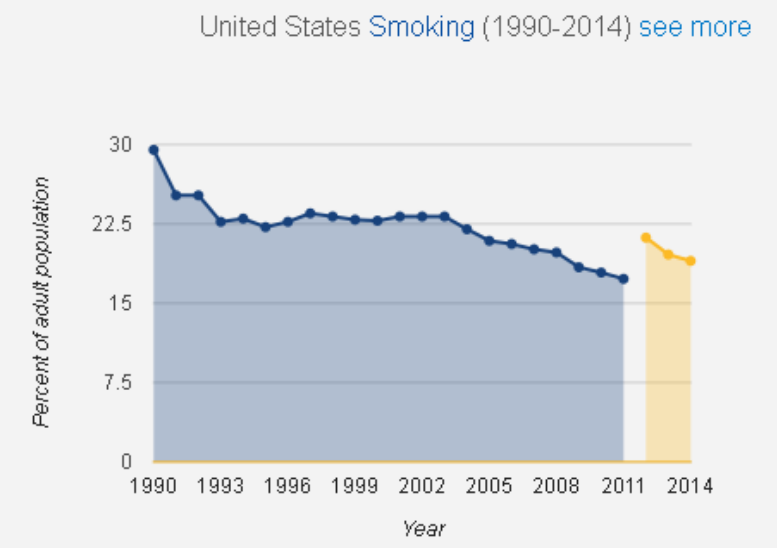
Smoking	Since 1990, smoking decreased 36% from 29.5% to 19.0% of adults who smoke regularly.
High School Graduation	At 81% of ninth graders graduating within 4 years, high school graduation is still a challenge. However, it is slowly trending upward from 71.7% in 2004.
Violent Crime	At 387 offenses per 100,000 population, violent crime is 37% lower than in 1990 and 49% lower than its peak in 1993.
Air Pollution	The average amount of fine particulates in the air continues to decline from 13.2 micrograms per cubic meter in 2003 to 9.9 micrograms per cubic meter in 2014.
Preventable Hospitalizations	Preventable hospitalizations continue to decline. In 2001, there were 82.5 discharges per 1,000 Medicare beneficiaries; in 2014, there were 62.9 discharges per 1,000 Medicare beneficiaries.
Occupational Fatalities	Occupational fatalities have declined in the last 8 years from 5.3 deaths per 100,000 workers in 2007 to 3.8 deaths per 100,000 workers. This is the second consecutive year the rate is below 4 deaths per 100,000 workers.
Infant Mortality	Since 1990, infant mortality decreased 41% from 10.2 to 6.0 deaths per 1,000 live births, although most of that decline occurred between 1990 and 1999. Even though the infant mortality rate is the lowest in US history, it is double the rate of many developed countries. In addition, large racial and geographic disparities exist within the country.
Premature Death	Since 1990, premature death declined 20% from 8,716 to 6,976 years of potential life lost before age 75. Premature death, like several other metrics, has leveled off in the last decade compared with improvements made in the 1990s.
Cancer Deaths	Cancer deaths declined 4% from 197.5 deaths in 1990 to 189.9 deaths per 100,000 population.
Cardiovascular Deaths	Since 1990, cardiovascular deaths declined 38% from 405.1 to 251.4 deaths per 100,000 population. This continues a relatively constant improvement of 2% to 3% yearly.

CHALLENGES

Obesity	Since 1990, obesity has increased 153% from 11.6% to 29.4% of adults.
Physical Inactivity	Physical inactivity remains high at 23.5% of adults and has not changed appreciably for the last decade.
Children in Poverty	At 19.9% of children, the children in poverty measure is far above the 23-year low of 15.8% in the 2002 Edition and near the 1990 level of 20.6%.
Public Health Funding	State public health funding continues its slow decline over the past 4 years. Since 2011, it decreased from $95.01 to $90.00 in expenditures per person at the state level.
Immunization Coverage — Children	Nationwide, comprehensive immunization coverage among children aged 19 to 35 months is only 70.4%. It increased marginally in the past year.
Immunization Coverage — Adolescents	Nationwide, comprehensive immunization coverage among teens aged 13 to 17 years is only 67.1%. It increased marginally in the past year.
Low Birthweight	In the last 20 years, the prevalence of low birthweight infants has increased from 7.1% to 8.0% nationwide. The good news is that it appears to have peaked in 2009 and is trending downward.
Diabetes	In the nation, 9.6% of adults report they have been told they have diabetes. There has been a steady, upward climb in the prevalence of diabetes, although data from the last 3 years shows a leveling of the prevalence.

The United States has the potential to return to the rates of improvement typical in the 1990s. However, to do so, it must address the drivers of health directly by focusing on reducing important risk factors. For example, the prevalence of smoking had been stagnant for many years and recently started to show improvement in the last two decades. However, there was an increase in rates from 2010 to 2012. In the last year, the prevalence of smoking declined in the United States from 21.2 percent to 19 percent of adults who smoke regularly; however Tennessee ranks 46th as one of the bottom five states with 24.3 percent of adults smoking and Virginia ranks 24th at 19.1 percent.

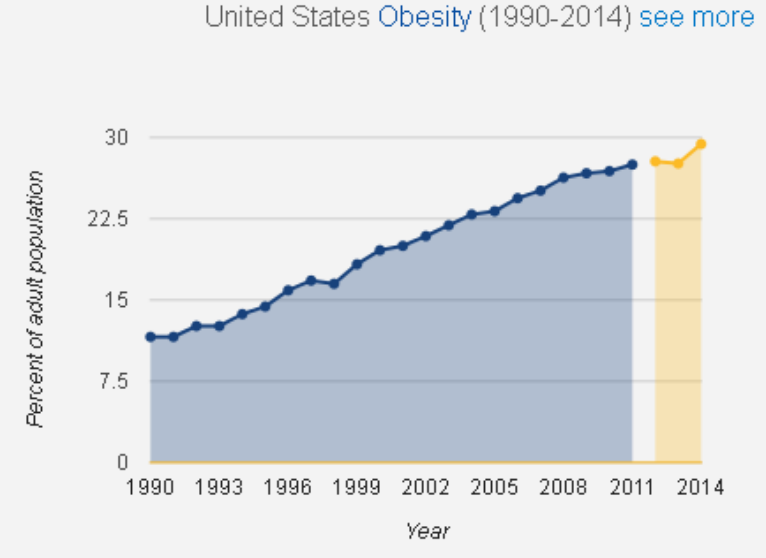
Graph 1 - Prevalence of Smoking Since 1990



Unprecedented and unchecked growth in the prevalence of obesity over the last 20 years has also dramatically affected the overall health of the United States. The prevalence of obesity, a risk factor for numerous illnesses including heart disease and diabetes, appears to be leveling off after increasing for decades. However, more than one in four people in the U.S. is considered obese - a category that the Centers for Disease Control and Prevention reserves for those who are significantly over the suggested body weight given their height. In the United States, the prevalence of obesity is 29.4 percent of adults, which has increased from 27.8 percent in 2012. Virginia's obesity score ranks 18th at 27.2 percent, while Tennessee ranks 47th at 33.7 percent of obese adults.

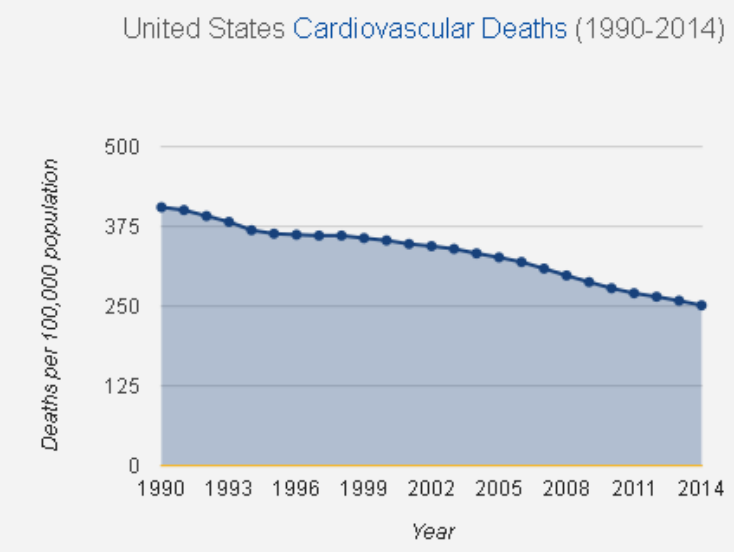
These very high obesity rates are gathered from the Behavioral Risk Factor Surveillance System, the nation's largest phone survey about health, and rely on self-reported height and weight. Actual obesity rates, as measured by health professionals, may be almost 10 percent higher, meaning that over one-third of the population is now obese.

Graph 2 - Prevalence of Obesity Since 1990



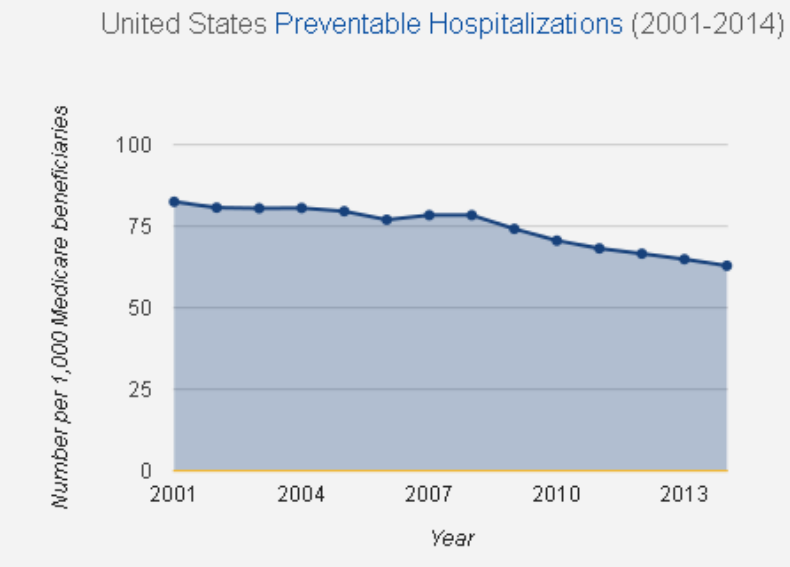
Despite increasing risk factors such as obesity, high cholesterol, and high blood pressure, deaths contributed to cardiovascular disease have consistently declined by 2 to 3 percent per year for the last decade. Cardiovascular disease accounts for 30 percent of Medicare spending, 17 percent of medical spending, and totals nearly $150 billion each year. For cardiovascular deaths, Virginia ranked 25th with a rate of 241.1 per 100,000 and Tennessee ranked 44th with the rate of 300.6.

Graph 3 – Prevalence of Cardiovascular Deaths Since 1990



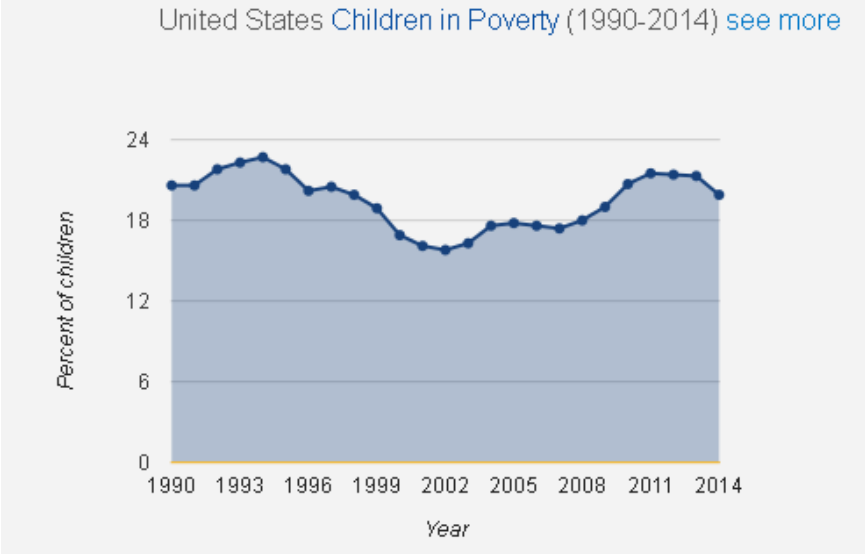
Like cardiovascular disease, potentially preventable hospitalizations have steadily decreased over the past 12 years. Preventable hospitalizations (hospitalizations that may be preventable with high quality primary and preventive care) have decreased from 82.5 to 62.9 discharges per 1,000 Medicare enrollees since 2001. Preventable hospitalizations reflect how efficiently a population uses various health care options for care and often occur as a result of a failure to detect or treat conditions early. Preventable hospitalizations could be avoided with earlier, less costly interventions. Virginia ranked 22nd in this measure with a 55.2 rate and Tennessee ranked 47th with a rate of 78.5.

Graph 4 – Preventable Hospitalizations Since 2001



The current economic climate also increases the challenge of maintaining a healthy population. Poverty is an indication of the lack of access to health care, including preventive care, for this vulnerable population. Graph 5 shows the recent increase in the percentage of children in poverty in the last few years, increasing from 16.1 percent of children in the 2011 Edition to 19.9 percent of children in the 2014 Edition. On this measure Virginia ranks 12th with a 14.5 percent of children living in poverty and Tennessee ranks 45th with 26.7 percent. In the 2002 Edition, the child poverty rate was at a historic low of 15.8 percent of persons under age 18.

Graph 5 – Children in Poverty since 1990

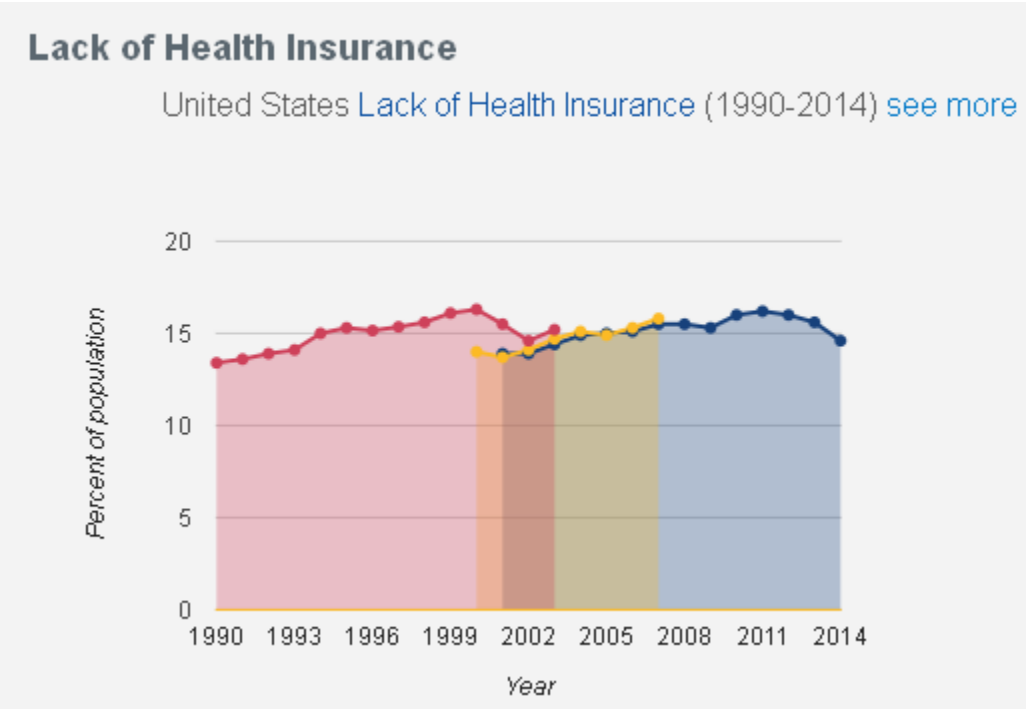


Lack of health insurance coverage increased from 13.9 percent in the 2001 Edition to 14.6 percent of the population in the 2014 Edition. Lack of health insurance not only inhibits people from getting the proper care when needed but also reduces access to necessary preventive care to curtail or minimize future illnesses.

Massachusetts, with the lack of health insurance at 3.8 percent of the population, is substantially better than all other states and less than one-fourth of the national average. Texas has a rate six

times that of Massachusetts. Changes in national health care laws have the potential to dramatically affect this metric over the next few years.

Graph 6 – Lack of Health Insurance Since 2001



2014 State Results

America's Health Rankings®-2014 Edition shows Hawaii at the top of the list of healthiest states again this year. The state has steadily remained within the top 5 healthiest states since 1990. Hawaii has consistently sustained its place within the top 5 healthiest states for the last 22 years, excluding 2002 when it was ranked 6th. Hawaii's strengths include its number one position for overall health rank and ranking in the top 5 states for a low rate of preventable hospitalizations, high immunization coverage among children, low prevalence of smoking and obesity, high per capita public health funding, a low rate of uninsured population, and low cancer and cardiovascular mortality rates. Hawaii's three challenges are a high prevalence of binge drinking, low high school graduate rate, and a high incidence of Salmonella infections.

Mississippi is 50th this year, the same as the last ten years, excluding in 2011 when it ranked 49th. It has been in the bottom three states since the 1990 Edition. The state ranks well for a low prevalence of binge drinking, higher immunization coverage among children, and small disparity in health status by educational attainment. In the past year, despite ranking last in the nation for immunization coverage among adolescents, coverage increased from 30.2 percent to 35.4 percent of persons aged 13 to 17 years. Mississippi also ranks last in many health outcomes, including infant mortality, low birth weight, premature death, cardiovascular death, infectious diseases, and overall health status. Mississippi's prevalence of obesity, physical inactivity, and diabetes remain among the highest in the nation with approximately 690,000 physically inactive adults, 770,000 obese adults, and 280,000 adults with diabetes. It ranks 48th in health determinants and 49th in health outcomes; therefore, its overall ranking is unlikely to change significantly in the near future

2014 Edition Ranking

2014 RANK (1–50)	STATE	SCORE
1	Hawaii	.91
2	Vermont	.85
3	Massachusetts	.74
4	Connecticut	.74
5	Utah	.73
6	Minnesota	.73
7	New Hampshire	.68
8	Colorado	.57
9	North Dakota	.55
10	Nebraska	.50
11	New Jersey	.47
12	Oregon	.41
13	Washington	.40
14	New York	.39
15	Rhode Island	.37
16	Maryland	.35
17	California	.35
18	Idaho	.34
18	South Dakota	.34
20	Maine	.30
21	Virginia	.30
22	Montana	.28
23	Wisconsin	.23
24	Iowa	.22
25	Wyoming	.21

2014 Edition Ranking

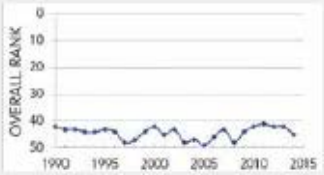
2014 RANK (1–50)	STATE	SCORE
26	Alaska	.13
27	Kansas	.08
28	Pennsylvania	.01
29	Arizona	-.04
30	Illinois	-.08
31	Texas	-.11
32	Florida	-.15
33	New Mexico	-.18
34	Michigan	-.21
35	Delaware	-.23
36	Missouri	-.28
37	North Carolina	-.29
38	Georgia	-.32
39	Nevada	-.33
40	Ohio	-.36
41	Indiana	-.38
42	South Carolina	-.64
43	Alabama	-.66
44	West Virginia	-.71
45	Tennessee	-.71
46	Oklahoma	-.74
47	Kentucky	-.75
48	Louisiana	-.80
49	Arkansas	-.93
50	Mississippi	-1.00

Tennessee



Overall Rank: 45

Change: ▼ 3
Determinants Rank: 44
Outcomes Rank: 46



Strengths:

- Low prevalence of binge drinking
- Low incidence of pertussis
- Ready availability of primary care physicians

Challenges:

- High prevalence of obesity
- High prevalence of physical inactivity
- High violent crime rate

Ranking:

Tennessee is 45th this year; it was 42nd in 2013. The ranking for senior health in Tennessee was 43rd in 2014.

Highlights:

- In the past year, physical inactivity increased by 17 percent from 28.6 percent to 33.6 percent of adults.
- In the past year, binge drinking decreased by 15 percent from 11.3 percent to 9.6 percent of adults, the lowest rate in the nation.
- In the past year, preventable hospitalizations decreased by 10 percent from 80.8 to 73.1 per 1,000 Medicare beneficiaries.
- In the last 2 years, immunization coverage among adolescents increased by 16 percent from 52.7 percent to 61.2 percent of adolescents aged 13 to 17 years.
- Since 1990, children in poverty decreased by 10 percent from 29.6 percent to 26.7 percent of children.

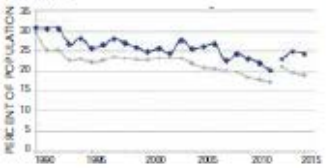
State Health Department Website:

http://health.state.tn.us

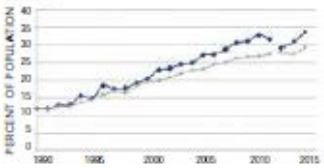
	2014 VALUE	2014 RANK	NO.1 STATE
Behaviors			
Smoking (Percent of adult population)	24.3	46	10.3
Binge Drinking (Percent of adult population)	9.6	1	9.6
Drug Deaths (Deaths per 100,000 population)	17.2	40	3.0
Obesity (Percent of adult population)	33.7	47	21.3
Physical Inactivity (Percent of adult population)	33.6	49	16.2
High School Graduation (Percent of incoming ninth graders)	83.0	20	93.0
Community & Environment			
Violent Crime (Offenses per 100,000 population)	644	50	123
Occupational Fatalities (Deaths per 100,000 workers)	5.0	32	2.2
Infectious Disease (Combined score Chlamydia, Pertussis, *Salmonella**)	0.01	29	-0.9
Chlamydia (Cases per 100,000 population)	507.9	39	233.0
Pertussis (Cases per 100,000 population)	4.8	10	1.6
Salmonella (Cases per 100,000 population)	17.2	35	6.8
Children in Poverty (Percent of children)	26.7	45	9.2
Air Pollution (Micrograms of fine particles per cubic meter)	9.5	30	4.9
Policy			
Lack of Health Insurance (Percent of population)	13.9	26	3.8
Public Health Funding (Dollars per person)	$83	20	$219
Immunization–Children (Percent aged 19 to 35 months)	68.5	33	82.1
Immunization–Adolescents (Percent aged 13 to 17 years)	61.2	36	81.3
Clinical Care			
Low Birthweight (Percent of live births)	9.2	44	5.7
Primary Care Physicians (Number per 100,000 population)	124.4	19	324.6
Dentists (Number per 100,000 population)	50.9	36	107.6
Preventable Hospitalizations (Number per 1,000 Medicare beneficiaries)	73.1	46	28.2
ALL DETERMINANTS	-0.43	44	0.71
OUTCOMES			
Diabetes (Percent of adult population)	12.2	46	6.5
Poor Mental Health Days (Days in previous 30 days)	3.7	24	2.5
Poor Physical Health Days (Days in previous 30 days)	5.0	49	2.8
Disparity in Health Status (Percent difference by education level**)	32.1	38	15.5
Infant Mortality (Deaths per 1,000 live births)	7.3	41	4.2
Cardiovascular Deaths (Deaths per 100,000 population)	300.6	44	184.7
Cancer Deaths (Deaths per 100,000 population)	213.5	44	145.7
Premature Deaths (Years lost per 100,000 population)	9,168	43	5,345
ALL OUTCOMES	-0.29	46	0.34
OVERALL	-0.71	45	0.91

*Negative score denotes less disease than US average, positive score indicates more than US average
**Difference in the percentage of adults aged 25 and older with vs without a high school education who report their health is very good or excellent

SMOKING



OBESITY



STATE ◆——◆ NATION ●——●

The 2012–2014 data in the above graphs are not directly comparable to prior years. See Methodology for additional information.

ECONOMIC ENVIRONMENT	TN	US
Annual Unemployment Rate (2013)	8.2	7.4
Annual Underemployment Rate (2013)	14.7	13.8
Median Household Income (2013)	$42,499	$51,939

MEASURE	ADULT POPULATION AFFECTED
Smoking	1,163,000
Obesity	1,595,000
Physical Inactivity	1,691,000
Diabetes	615,000

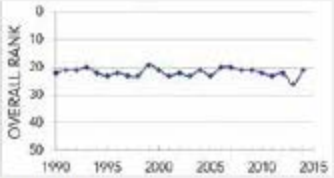
Virginia

VIRGINIA



Overall Rank: 21

Change: ▲ 5
Determinants Rank: 19
Outcomes Rank: 23



Strengths:

- Low rate of drug deaths
- Low violent crime rate
- Low percentage of children in poverty

Challenges:

- Low immunization coverage among children
- Low immunization coverage among teens
- High infant mortality rate

Ranking:

Virginia is 21st this year; it was 26th in 2013. The ranking for senior health in Virginia was 21st in 2014.

Highlights:

- In the past year, air pollution decreased by 6 percent from 9.3 to 8.7 micrograms of fine particles per cubic meter.
- In the last 2 years, drug deaths decreased by 10 percent from 9.3 to 8.4 deaths per 100,000 population.
- In the last 10 years, preventable hospitalizations decreased by 25 percent from 73.8 to 55.2 per 1,000 Medicare beneficiaries.
- Since 1990, cardiovascular deaths decreased by 42 percent from 413.2 to 241.1 deaths per 100,000 population.
- Since 1990, infant mortality decreased by 38 percent from 10.6 to 6.6 deaths per 1,000 live births.

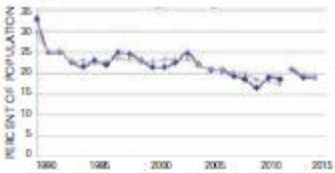
State Health Department Website:

www.vdh.state.va.us

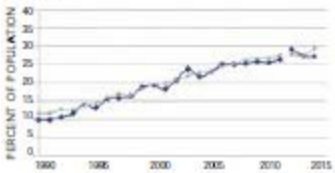
	2014 VALUE	2014 RANK	NO 1 STATE
Behaviors			
Smoking (Percent of adult population)	19.0	24	10.3
Binge Drinking (Percent of adult population)	15.9	20	9.6
Drug Deaths (Deaths per 100,000 population)	8.4	4	3.0
Obesity (Percent of adult population)	27.2	18	21.3
Physical Inactivity (Percent of adult population)	23.0	20	16.2
High School Graduation (Percent of incoming ninth graders)	84.0	16	93.0
Community & Environment			
Violent Crime (Offenses per 100,000 population)	190	4	123
Occupational Fatalities (Deaths per 100,000 workers)	4.4	25	2.2
Infectious Disease (Combined score Chlamydia, Pertussis, *Salmonella**)	-0.29	16	-0.9
Chlamydia (Cases per 100,000 population)	431.8	26	233.0
Pertussis (Cases per 100,000 population)	7.7	18	1.6
Salmonella (Cases per 100,000 population)	14.1	25	6.8
Children in Poverty (Percent of children)	14.5	12	9.2
Air Pollution (Micrograms of fine particles per cubic meter)	8.7	19	4.9
Policy			
Lack of Health Insurance (Percent of population)	12.4	20	3.8
Public Health Funding (Dollars per person)	$68	28	$219
Immunization–Children (Percent aged 19 to 35 months)	69.2	29	82.1
Immunization–Adolescents (Percent aged 13 to 17 years)	58.5	42	81.3
Clinical Care			
Low Birthweight (Percent of live births)	8.1	27	5.7
Primary Care Physicians (Number per 100,000 population)	125.8	16	324.6
Dentists (Number per 100,000 population)	61.6	19	107.6
Preventable Hospitalizations (Number per 1,000 Medicare beneficiaries)	55.2	22	28.2
ALL DETERMINANTS	0.24	19	0.71
OUTCOMES			
Diabetes (Percent of adult population)	9.8	26	6.5
Poor Mental Health Days (Days in previous 30 days)	3.3	11	2.5
Poor Physical Health Days (Days in previous 30 days)	3.6	15	2.8
Disparity in Health Status (Percent difference by education level**)	29.1	27	15.5
Infant Mortality (Deaths per 1,000 live births)	6.6	31	4.2
Cardiovascular Deaths (Deaths per 100,000 population)	241.1	25	184.7
Cancer Deaths (Deaths per 100,000 population)	189.5	23	145.7
Premature Deaths (Years lost per 100,000 population)	6,502	19	5,345
ALL OUTCOMES	0.06	23	0.34
OVERALL	0.30	21	0.91

*Negative score denotes less disease than US average, positive score indicates more than US average
**Difference in the percentage of adults aged 25 and older with vs without a high school education who report their health is very good or excellent

SMOKING



OBESITY



STATE ◆—◆ NATION ●—●

The 2012–2014 data in the above graphs are not directly comparable to prior years. See Methodology for additional information.

ECONOMIC ENVIRONMENT	VA	US
Annual Unemployment Rate (2013)	5.5	7.4
Annual Underemployment Rate (2013)	11.5	13.8
Median Household Income (2013)	$67,620	$51,939

MEASURE	ADULT POPULATION AFFECTED
Smoking	1,159,000
Obesity	1,632,000
Physical Inactivity	1,481,000
Diabetes	631,000

As Mountain States Health Alliance works to develop an implementation plan based on the findings from this assessment, key focus areas for consideration to impact the health of our community would be the 27 measures that comprise the *America's Health Rankings*. These determinants have been carefully selected by leaders in health and public policy as factors which have the greatest impact on future health of a population. For a state (or area for that matter) to improve the health of its population, efforts must focus on changing the determinants of health. A description of these determinants is outlined below.

Selection of Components

Four primary considerations drove the design of *America's Health Rankings*® and the selection of the individual measures:

1. The overall rankings had to represent a broad range of issues that affect a population's health,
2. Individual measures needed to use common health measurement criteria,
3. Data had to be available at a state level, and
4. Data had to be current and updated periodically.

While not perfect, the measures selected are believed to be the best available indicators of the various aspects of healthiness at this time and are consistent with past reports.

The measures are divided into two categories - Determinants and Outcomes. For further clarity, determinants are divided into four groups: Behaviors, Community and Environment, Public and Health Policies, and Clinical Care. These four groups of measures influence the health outcomes of the population in a state, and improving these inputs will improve outcomes over time. Most measures are actually a combination of activities in all four groups. For example, the prevalence of smoking is a behavior that is strongly influenced by the community and environment in which we live, by public policy including taxation and restrictions on smoking in public places, and by the care received to treat the chemical and behavioral addictions associated with tobacco. However, for simplicity, we placed each measure in a single category.

For *America's Health Rankings*® to continue to meet its objectives it must evolve and incorporate new information as it becomes available. The Scientific Advisory Committee provides guidance for the evolution of the rankings, balancing the need to change with the desire for longitudinal comparability. Over the last few years, change is being driven by: 1) the acknowledgment that health is more than years lived but also includes the quality of those years; 2) data about the quality and cost of health care delivery are becoming available on a comparative basis; and 3) measurement of the additional determinants of health are being initiated and/or improved. The committee also emphasizes that the real impact on health will be made by addressing the determinants, and making improvements on these items will affect the long-term health of the population. The determinants are the predictors of our future health.

Outcomes are traditionally measured using mortality measures which include premature death, infant mortality, cancer and cardiovascular mortality. While these measures overlap significantly, they do present different views of mortality outcomes of a population. Two measures of the quality of life- poor mental health days and poor physical health days - are also included and defined as the number of days in the previous 30 days when a person indicates their activities are limited due to mental or physical health difficulties.

As with all indices, the positive and negative aspects of each measure must be weighed when choosing and developing them. These aspects for consideration include: 1) the interdependence of

the different measures; 2) the possibility that the overall ranking may disguise the effects of individual measures; 3) an inability to adjust all data by age and race; 4) an over-reliance on mortality data; and 5) the use of indirect measures to estimate some effects on health. These concerns cannot be addressed directly by adjusting the methodology; however, assigning weights to the individual measures can mitigate their impact.

Each measure is assigned a weight that determines its percentage of the overall score. Determinants account for 75 percent of the overall ranking and outcomes account for 25 percent, a shift from the 50/50 balance in the original 1990 index. This reflects the importance and growing availability of determinant data.

A short description of each measure immediately follows. The data for each year is the most current data available at the time the report was compiled.

The table includes the core measures included in the current model, plus supplemental measures that can be used to further understand each state's unique situation. The supplemental measures are more fully described at http://www.americashealthrankings.org/About/Model.

Data for each state and the United States is available at Get Informed or by clicking the link above.

Core Measures

Determinants

Behaviors	Description
Smoking	Percentage of adults who are current smokers (smoked at least 100 cigarettes in their lifetime and currently smoke).
Binge Drinking	Percentage of adults who self-report having 4 or more (women) or 5 or more (men) alcoholic beverages on at least 1 occasion in the past 30 days.
Drug Deaths	Number of deaths due to drug injury of any intent (unintentional, suicide, homicide, or undetermined) per 100,000 population.
Obesity	Percentage of adults who are obese, with a body mass index (BMI) of 30.0 or higher.
Physical Inactivity	Percentage of adults who report doing no physical activity or exercise (such as running, calisthenics, golf, gardening, or walking) other than their regular job in the last 30 days.
High School Graduation	Percentage of incoming ninth graders who graduate in 4 years from a high school with a regular degree.

Community and Environment

Violent Crime	Number of murders, rapes, robberies, and aggravated assaults per 100,000 population.
Occupational Fatalities	Number of fatalities from occupational injuries per 100,000 workers.
Children in Poverty	Percentage of persons younger than 18 years who live in households at or below the poverty threshold.
Infectious Disease	Combined average z-score using the values of incident cases of chlamydia, pertussis, and *Salmonella* per 100,000 population.

Air Pollution	Average exposure of the general public to particulate matter of 2.5 microns or less in size (PM2.5).

Policy

Lack of Health Insurance	Percentage of the population that does not have health insurance privately, through their employer, or the government.
Public Health Funding	State funding dedicated to public health as well as federal funding directed to states by the Centers for Disease Control and Prevention and the Health Resources and Services Administration.
Immunization-Children	Percentage of children receiving the recommended doses of DTaP, polio, MMR, Hib, hepatitis B, varicella, and PCV vaccines by age 19–35 months.
Immunization-Adolescents	Percentage of adolescents aged 13 to 17 years who have received 1 dose of Tdap since the age of 10 years, 1 dose of meningococcal conjugate vaccine, and 3 doses of HPV vaccine (females only).

Clinical Care

Low Birth weight	Percentage of infants weighing less than 2,500 grams (5 pounds, 8 ounces) at birth.
Primary Care Physicians	Number of primary care physicians (including general practice, family practice, OB-GYN, pediatrics, and internal medicine) per 100,000 population.
Dentists	Number of dentists per 100,000 population
Preventable Hospitalizations	Discharge rate among the Medicare population for diagnoses that are amenable to non-hospital based care.

Outcomes

Diabetes	Percentage of adults who have been told by a health professional that they have diabetes (does not include pre-diabetes or diabetes during pregnancy).
Poor Mental Health Days	Number of days in the previous 30 days when a person indicates their activities were limited due to mental health difficulties.
Poor Physical Health Days	Number of days in the previous 30 days when a person indicates their activities were limited due to physical health difficulties.
Disparity in Health Status	Percent difference in adults aged 25 and older who did not graduate high school and adults with at least a high school education who self-report being in excellent or very good health.
Infant Mortality	Number of infant deaths (before age 1) per 1,000 live births.
Cardiovascular Deaths	Number of deaths due to all cardiovascular diseases, including heart disease and strokes, per 100,000 population
Cancer Deaths	Number of deaths due to all causes of cancer per 100,000 population
Premature Death	Number of years of potential life lost prior to age 75 per 100,000 population

Supplemental Measures

Behaviors

Cholesterol Check	Percentage of adults who have had their blood cholesterol checked within the last 5 years.
Dental Visit, Annual	Percentage of adults who have visited the dentist or dental clinic within the past year for any reason.
Diet, Fruit	Number of fruits consumed on an average day.
Diet, Vegetables	Number of vegetables consumed on an average day.
Teen Birth Rate	Number of births per 1,000 mothers aged 15 to 19 years.
Youth Smoking	Percentage of high school youth who smoked cigarettes on at least 1 day during the last 30 days.
Youth Obesity	Percentage of high school students who were greater or equal to the 95th percentile for body mass index, based on sex and age-specific reference data from the 2000 CDC growth charts.

Chronic Disease

Heart Disease	Percentage of adults who have been told by a health professional that they have angina or coronary heart disease.
High Cholesterol	Percentage of adults who have had their cholesterol checked and been told that it was high.
Heart Attack	Percentage of adults who have been told by a health professional that they had a heart attack (myocardial infarction).
Stroke	Percentage of adults who have been told by a health professional that they had a stroke.
Hypertension	Percentage of adults who have been told by a health professional that they have high blood pressure.

Clinical Care

Preterm Birth	Percentage of babies born before 37 weeks gestation.

Economic Environment

Personal Income	Per capita personal income in current dollars.
Median Household Income	The amount of income that divides the income distribution into 2 equal groups.
Unemployment Rate	Total unemployed as a percentage of the civilian labor force (U-3 definition).
Underemployment Rate	Total unemployed, plus all marginally attached workers, plus total employed part-time for economic reasons, as a percent of the civilian labor force (U-6 Definition).
Income Disparity (Gini coefficient)	A common measure of income inequality, where 0 represents complete equality and 1 indicates complete inequality.

Outcomes

Low Health Status	Percentage of adults who describe their general health as fair or poor.
Suicide	Number of deaths due to intentional self-harm per 100,000 population.

Overview

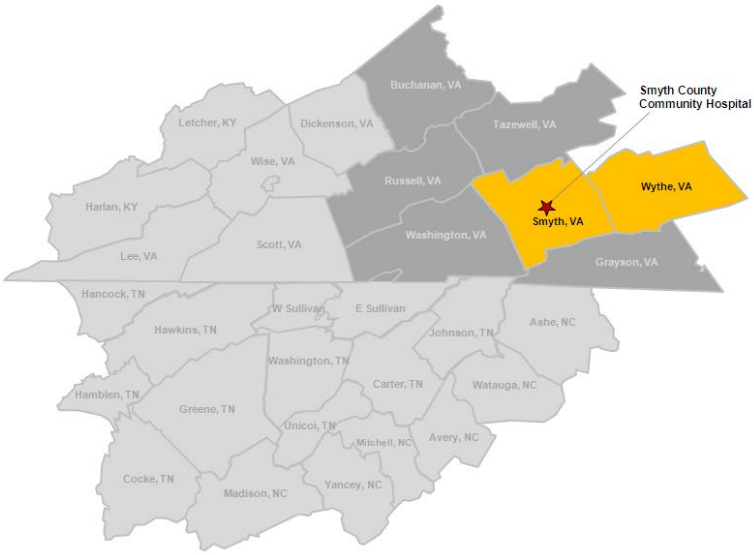
The County Snapshots consists of demographics, key indicators of health status, interview highlights, and local resources. The model for the key indicators of health status analysis was based on the 2015 *County Health Rankings*, a key component of the Mobilizing Action Toward Community Health (MATCH). MATCH is collaboration between the Robert Wood Johnson Foundation and the University of Wisconsin Population Health Institute. Indicators are organized into two broad categories: Health Outcomes and Health Factors. The Health Factors have multiple components, including Clinical Care, Health Behaviors, Social and Economic Factors, and Physical Environment. A number of additional key indicators of health status were included in this analysis from other sources (they are noted in blue font in the snapshot section). For each indicator, the state and county score is provided as well as a comparison of the county's performance to that of the state.

SMYTH COUNTY COMMUNITY HOSPITAL

Service Area Counties:

- Smyth, VA
- Wythe, VA

Primary Service Area Map:



Facility Profiles:

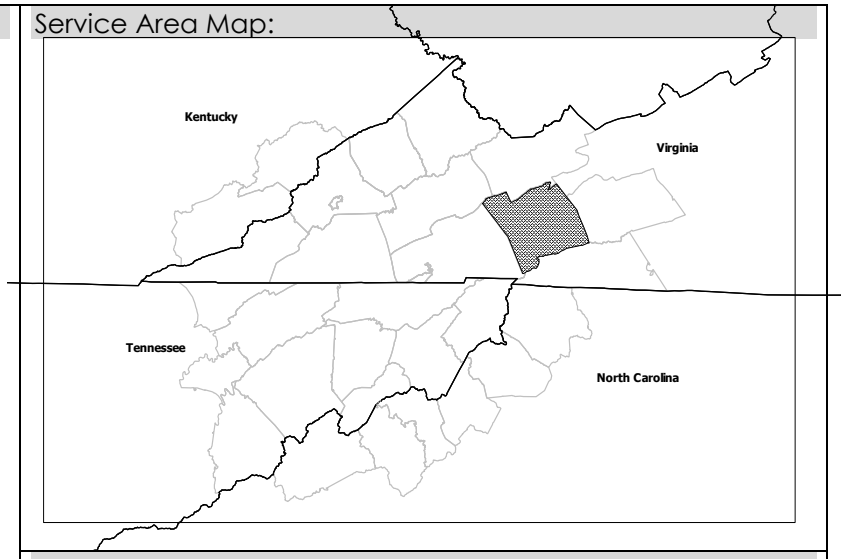
Smyth County Community Hospital (SCCH), located in Marion, Virginia, includes a 170-bed acute care, community-based hospital, a 109-bed nursing care facility (Francis Marion Manor), and a variety of outreach programs. SCCH has served the region for over 45 years with over 45 physicians serving on its active medical staff and offers women's services, emergency services, cardiopulmonary services, and home and long-term care. Other services include the SleepZone Diagnostic Center, the Outreach Community Pharmacy and cardiac rehabilitation.

A 6-page profile of each county is provided. The profile includes demographic highlights, key indicators of health status, utilization projections, and survey results specific to the county. A detailed demographic analysis by county is provided in the appendix which follows the collection of county snapshots.

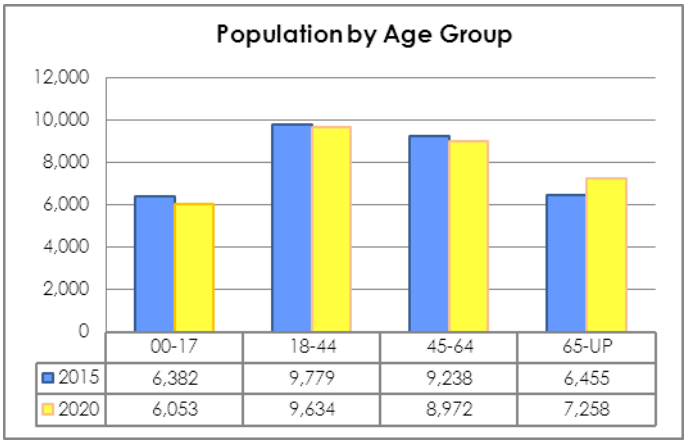
Demographic Highlights:

- Large elderly population compared to VA and US
- Declining rate of females of child-bearing age
- Low average household income level (18.5% of households make less than $15,000)
- Lower level of educational attainment compared to state and country (11.1% with no high school education compared to 5.9% nationally)
- Low level of diversity compared to state and national

Service Area Map:



Age Distribution and Population Projections:



Key Statistics:

	Smyth County	Virginia	U.S.
2015 Total Population	31,854	8,417,864	321,369,000
% Change 2015-2020	0.2%	4.7%	4.1%
% of Population 65+ (2015)	20.3%	14.0%	14.9%
% Minority (2015)	5.8%	30.8%	38.3%

	2015	2020	% Change
Total Male Population	15,529	15,574	0.3%
Total Female Population	16,325	16,343	0.1%
Females, Child Bearing Age (15-44)	5,525	5,381	-2.6%

Local Health Highlights:

STRENGTHS:

- Increased rates of early prenatal care
- Bing drinking
- STD
- Violent crime
- Prevalence of diabetes and asthma

WEAKNESSES:

- Medicaid enrollees
- Smoking
- High rate of reported difficulty accessing a physician due to cost
- Teen birth rate
- Food Stamps Eligible Recipients
- Child abuse and neglect
- High rates of poverty and children in poverty
- High rates of death due to cardiovascular, cancer, diabetes, cerebrovascular, and injuries

Leading Causes of Death (all ages):

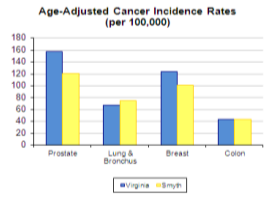
Cause of Death	Rate	Rank
Heart Disease	302.1	1
Malignant Neoplasms	264.7	2
Chronic Lower Respiratory Dis	152.6	3
Unintentional Injury	65.4	4
Alzheimer's Disease	59.2	5
Cerebrovascular Disease	56.1	6
Diabetes Mellitus	43.6	7
Influenza & Pneumonia	40.5	8
Chronic Liver Disease	21.8	9
Nephritis & Nephrosis	18.7	10

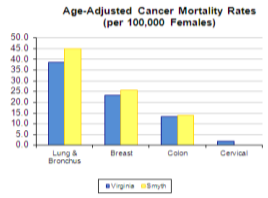
Key Indicators of Health Status:

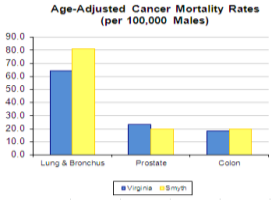
County: Smyth, VA

	VA	Smyth	2010	Desired
Health Outcomes				
Low Birth Weight (%)	8.3%	9.3%	12%	↓
General Health Status (% fair/poor health)	14.0%	22.0%	23%	↓
Very Low Birth Weight (%)	1.6%	1.9%	3.10%	↓
Infant Mortality (per 100,000)	8.4	9.3	3	↓
Mortality Rate (per 100,000)	735.8	988.7	942.9	↓
Cardiovascular Deaths (per 100,000)	161.3	220.4	278.1	↓
Cancer Deaths (5-yr avg rate per 100,000)	174.8	203.0	204.1	↓
Diabetes Mellitus Deaths (per 100,000)	20.0	43.6	27	↓
Cerebrovascular Deaths (per 100,000)	40.8	56.1	48.6	↓
Suicide Deaths (per 100,000)	12.9	12.5	20.8	↓
Mortality rate for ages 0 - 4 yrs (per 100,000)	152.9	242.0	75.3	↓
Mortality rate for ages 5 - 14 yrs (per 100,000)	13.5	27.1	53.8	↓
Mortality rate for ages 15 - 19 yrs (per 100,000)	44.5	51.9	144.6	↓
Mortality rates for ages 65+ (per 1,000)	43.6	54.6	53.9	↓
Lung Cancer Deaths (5-yr avg rate per 100,000)*	49.5	60.5	64.4	↓
Female Breast Cancer Deaths (5-yr avg rate per 100,000)*	23.4	25.6	26.9	↓
Percent of Adults with Asthma*	8.0%	6.0%	9.00%	↓
Prevalence of Diabetes (% of adults)*	9.0%	8.0%	11.20%	↓
Psychosis Discharges (per 100,000)	332.7	168.1	222	↓
Health Determinants				
Health Care Resources				
No Health Insurance (%)	18.0%	20.0%	23.10%	↓
Medicaid/Tenncare Enrollees (%)	14.0%	24.7%	25.30%	↓
Medical Doctors Per Capita (per 100,000)	255.5	25.3	171.1	↑
No Biennial Mammography (%)*	28.0%	28.0%	27.80%	↓
PSA Testing Past 2 Years (%)*	56.0%	58.0%	36.80%	↑
Pap Test Past 3 Years (%)*	84.0%	80.0%	21.10%	↑
Sigmoidoscopy/Colonoscopy, Lifetime (%)*	72.0%	65.0%	43.40%	↑
Inadequate or No Prenatal Care (%)	13.0%	9.0%	13.00%	↓
First Trimester Prenatal Care (%)	81.9%	82.6%	82.90%	↑
Hospital Staffed Beds (per 1,000)	2.2	1.4	2.1	↑
Licensed Nursing Beds (per 1,000 65+)	4.1	9.0	51.9	↑
# of Primary Care MDs Per Capita (per 100,000)	122.3	65.3	61.4	↑
# of Psychiatric Specialists	6,827	8	8	↓
State Mental Health Facility Beds (per 100,000)*	18.7	28.7	25.2	↑
Inpatient Discharge Rate (per 1,000) - Total	157.2	149.3	138.1	↓
Could Not See Doctor Due to Cost (%)	10.0%	14.0%	11.00%	↓
Health Behaviors				
Cigarette Smoking (%)	19.0%	34.0%	29.50%	↓
Physical Inactivity (%)	48.0%	51.0%	22.00%	↓
Overweight/Obesity (% BMI > 25)	62.0%	66.0%	57.00%	↓
Obesity (% BMI > 30)	28.0%	32.0%	27%	↓
Low Fruit and Vegetable Consumption (% <5 a day)	80.0%	81.0%	76.00%	↓
Binge Drinking (%)	18.0%	13.0%	15.00%	↓
Teen Birth Rate (per 1,000)	12.7	34.9	35.4	↓
Sexually Transmitted Diseases (per 100,000)	385.0	202.0	188.1	↓
Violent Crime (per 100,000)	233.0	199.0	261	↓
Motor Vehicle Crash Deaths (per 100,000)	11	16	16	↓
Unmarried Mother Birth Rate (%)	35.0%	48.0%	42.00%	↓
Injury-related Mortality (Age Adjusted Rate per 100,000)	33.4	65.4	47.4	↓
Homicides (per 100,000)	5.0	4.0	4.7	↓

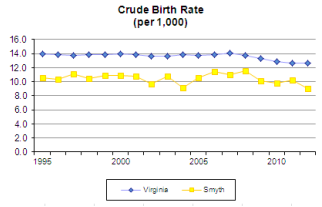
Cancer Incidence:

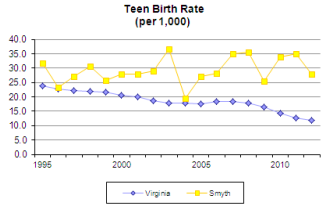






Birth Rate Trend:





Key Indicators of Health Status:

Socioecomonic Factors				
High School Graduation Rate (%)	88.0%	88.0%	88.10%	↑
Level of Education (%)	88.0%	78.0%	77.00%	↑
Unemployment (%)	6.2%	9.7%	11.40%	↓
Children (age 0 to 17) in poverty ratio (%)	15.5%	28.0%	24.70%	↓
Food Stamp Eligible Recipients (% of individuals)	11.4%	20.7%	20.80%	↓
Poverty Rate (% of all ages)	12.0%	19.0%	17.80%	↓
Temporary Assistance for Needy Families	7.7%	14.0%	22.00%	↓
High School Dropout Rate	1.4%	0.6%	1.00%	↓
Physical Environment				
Pre-1950 Housing (%)	13.2%	19.2%	22.70%	↓
Lead Poisoned Children (%)	0.2%	0.3%	0.00%	↓
Child Abuse and Neglect (rate per 1,000)	3.3	10.1	5.8	↓
Daily Fine Particulate Matter	12.6	12.7	12.2	↓
Communicable Diseases				
Hepatitis A (per 100,000)	0.6	9.4	0	↓
Campylobacter Infection (per 100,000)	9.4	31.2	3.1	↓
Salmonellosis (per 100,000)	14.1	21.9	3.1	↓
Shigellosis (per 100,000)	1.1	0.0	0	↓
AIDS/HIV cases (per 100,000)	305.3	124.9	106.6	↓
Early Stage Syphilis (per 100,000)	7.3	0.0	0	↓
Tuberculosis (per 100,000)	2.9	3.1	3.1	↓
Chlamydia (per 100,000)	432.5	181.1	165.4	↓
Gonorrhea (per 100,000)	85.1	18.7	18.7	↓

Inpatient Projections

	2014	2019		2024	
DRG Service Line	**Discharges**	**Discharges**	**% Change**	**Discharges**	**% Change**
Cardiac Surgery	43	42	-1.50%	43	0.30%
Cardiology	414	351	-15.30%	295	-28.70%
Cardiology Intervention	145	133	-8.10%	125	-14.00%
Endocrinology	122	96	-21.30%	87	-28.50%
ENT Surgery	7	7	-2.60%	7	-2.60%
Gastroenterology	394	370	-6.20%	364	-7.70%
General Medicine	405	406	0.20%	380	-6.20%
General Surgery	254	239	-5.90%	231	-9.00%
Gynecology	59	53	-9.50%	49	-16.40%
Hematology	43	42	-2.00%	44	1.20%
Neonatology	135	123	-8.70%	114	-15.70%
Nephrology	226	210	-7.20%	186	-17.60%
Neurology	232	226	-2.70%	229	-1.40%
Neurosurgery	90	88	-2.50%	88	-2.10%
Normal Newborns	172	175	1.70%	171	-0.80%
OB Deliveries Sections	107	91	-15.20%	83	-22.70%
OB Deliveries Vaginal	213	222	4.40%	218	2.50%
OB Other	21	20	-5.70%	19	-9.40%
Oncology Medicine	96	92	-3.80%	84	-12.80%
Oncology Surgery	22	22	1.80%	21	-2.80%
Ophthalmic Medicine	1	1	-14.50%	1	-22.10%
Oral Surgery	2	2	-9.60%	2	-15.80%
Orthopedic Medicine	66	66	0.20%	67	1.20%
Orthopedic Surgery	275	288	4.60%	290	5.60%
Otolaryngology	26	25	-5.60%	25	-5.30%
Plastic Surgery	18	17	-3.80%	16	-12.10%
Psychiatry	259	277	6.80%	259	0.10%
Pulmonary	664	573	-13.70%	543	-18.20%
Rehabilitation	216	181	-16.10%	196	-9.20%
Rheumatology	14	14	-2.90%	13	-5.40%
Substance Abuse	41	41	0.60%	40	-3.50%
Thoracic Surgery	30	29	-3.20%	28	-6.70%
Trauma Medical	12	11	-8.10%	11	-10.00%
Urology Medicine	13	11	-14.80%	10	-22.70%
Urology Surgery	35	33	-5.40%	32	-9.30%
Vascular Surgery	72	70	-2.70%	69	-4.50%
Grand Total	**4,944**	**4,647**	**-6.00%**	**4,437**	**-10.20%**

Outpatient Projections

	2014		2019			2024	
Site of Care	**Volumes**		**Volumes**	**% Change**		**Volumes**	**% Change**
ED	18,705		18,730	0.10%		17,913	-4.20%
Home	33,656		38,506	14.40%		41,600	23.60%
Hosp OP/ASC	53,768		57,931	7.70%		59,248	10.20%
Office/Clinic	262,633		277,457	5.60%		263,718	0.40%
Other	25,883		28,245	9.10%		27,818	7.50%
SNF	612		657	7.30%		688	12.50%
Urgent/Retail	262		276	5.40%		264	0.70%
Virtual			6,795			26,819	
Grand Total	**395,520**		**428,599**	**8.40%**		**438,067**	**10.80%**

Interview Highlights:

INTERVIEWEES:

- Eleven (11) individuals

KEY FINDINGS:

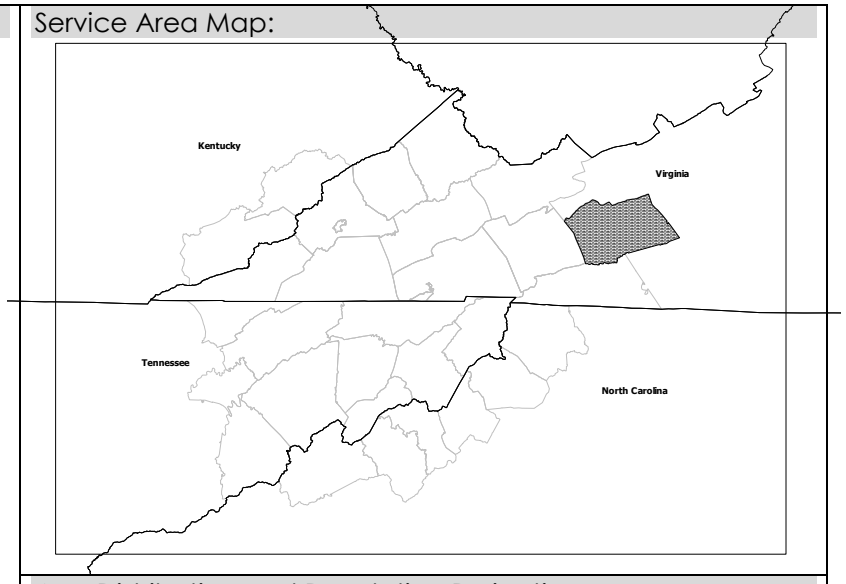
- Average rating of health status is 5, with a range in responses of 3-6.5
- Top health issues are:
  - Smoking
  - Obesity
  - Substance and Prescription Drug Abuse
  - Cardiovascular Disease
- Additional health issues are:
  - Diabetes
  - Mental health
  - Physical Inactivity
  - Unemployment
  - Uninsured/Underinsured
  - Low birth weight infants
  - Asthma
  - Cancer
  - Poor Nutrition
  - Teen Pregnancy
  - Poverty
  - Economic Development
  - COPD
  - Poor utilization of preventive health services
  - Minimum wage
  - Access to mental health services
  - Mental and physical abuse
  - Family cultural issues
  - Poor parenting skills
- Ideas to improve these conditions include:
  - Work with churches on offering nutrition/ cooking classes
  - Parenting classes including financial management
  - Community seminars on nutrition and healthy lifestyles
  - Educate parents on healthy lifestyles
  - School-based health lifestyle education
  - Healthy food supplementation for low-include students to include fresh fruits and vegetables; summer meal programs
  - More counselors at free clinics
  - Health fairs
  - Increased community events with free screenings
  - Disseminate information about dietician services
  - Diabetic educator and education classes
  - Teach preventive care to children
  - Improvement to mental health access
  - Find ways to get more people engaged in health improvement / increase participation in existing health programming
  - Economic improvement initiatives
  - Economic opportunities for job creation
  - Medicaid expansion
  - Agency/organization collaboration

Sources:	Local Resources:
▪ Medstat ▪ County Health Rankings ▪ Kidscount ▪ VA Atlas of Community Health ▪ VA Dept of Health ▪ Kaiser Family Foundation ▪ VA Dept of Behavioral Health and Developmental Services ▪ VA Dept of Social Services ▪ U.S. Census ▪ CDC Wonder	▪ Community Service Board ▪ Free clinics with longer clinic hours ▪ Dental services at free clinics ▪ Smyth County Healthy Community Action Team ▪ Farmer's Market ▪ SCCH Health Trust Committee ▪ Mount Rogers Wellness Team ▪ Baby Care Program ▪ Resource Mothers Program ▪ Department of Social Services ▪ Loaves & Fishes food panty ▪ School Nurses ▪ Nutrition Action Network ▪ Diabetic education at SCCH ▪ Sports physicals provided on volunteer basis with SCCH resources ▪ Public school system ▪ AES Demonstration Project ▪ Health Department ▪ Remote Area Medical (RAM) ▪ School-based health activities ▪ Collaboration between schools and health department to provide immunizations for students ▪ Women, Infant and Children (WIC) ▪ Moms Club (March of Dimes) ▪ Family planning clinics ▪ Wellness Center

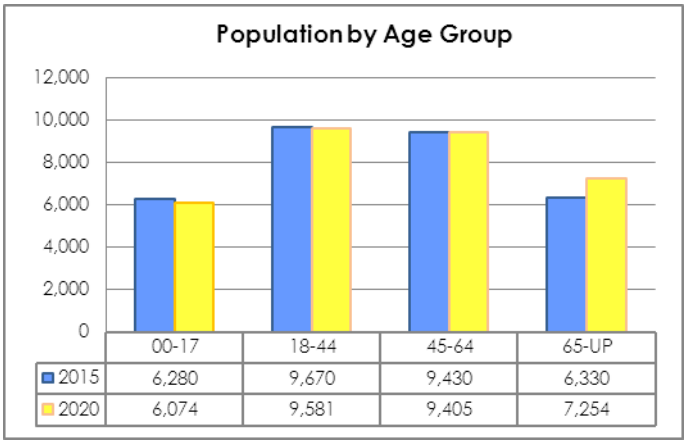
Demographic Highlights:

- Large elderly population compared to VA and US
- Declining rate of females of child-bearing age expected
- Low average household income level (16.1% of households make less than $15,000)
- Lower level of educational attainment compared to state and country (7.2% with no high school education compared to 5.9% nationally)
- Low level of diversity compared to state and national

Service Area Map:



Age Distribution and Population Projections:



Key Statistics:

	Wythe	Virginia	U.S.
2015 Total Population	31,710	8,417,864	321,369,000
% Change 2015-2020	1.9%	4.7%	4.1%
% of Population 65+ (2015)	20.0%	14.0%	14.9%
% Minority (2015)	6.1%	30.8%	38.3%

	2015	2020	% Change
Total Male Population	15,507	15,809	2.0%
Total Female Population	16,203	16,505	1.9%
Females, Child Bearing Age (15-44)	5,340	5,310	-0.6%

Local Health Highlights:

STRENGTHS:

- Low number of days of poor air quality
- Low infant mortality
- Low rates of diabetes

WEAKNESSES:

- High rates of poor general health status
- High rates death due to cardiovascular, cerebrovascular, suicide, and lung cancer
- High rates of uninsured

Leading Causes of Death (all ages):

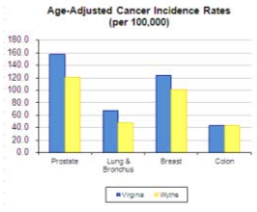
Cause of Death	Rate	Rank
Heart Disease	183.7	1
Malignant Neoplasms	164.4	2
Chronic Lower Respiratory Disease	85.4	3
Cerebrovascular Disease	44.3	4
Unintentional Injury	40.9	5
Alzheimer's Disease	34.1	6
Septicemia	30.7	7
Nephritis & Nephrosis	27.2	8
Suicide	23.8	9
Hypertension & Renal Disease	13.6	10

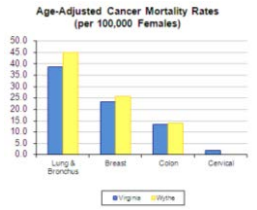
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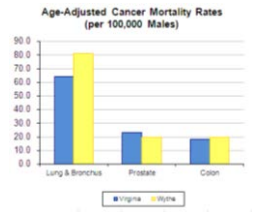
County: Wythe, VA

	VA	Wythe	2010	Desired
Health Outcomes				
Low Birth Weight (%)	8.3%	9.4%	9.00%	↓
General Health Status (% fair/poor health)	14.0%	25.0%	34%	↓
Very Low Birth Weight (%)	1.6%	2.5%	3.20%	↓
Infant Mortality (per 100,000)	8.3	10.2	7.4	↓
Mortality Rate (per 100,000)	735.8	818.3	774.4	↓
Cardiovascular Deaths (per 100,000)	161.3	183.7	174.5	↓
Cancer Deaths (5-yr avg rate per 100,000)	174.8	181.7	198.7	↓
Diabetes Mellitus Deaths (Age Adjusted Rate per 100,000)	20.0	0.0	31.3	↓
Cerebrovascular Deaths (Age Adjusted Rate per 100,000)	40.8	44.3	17.9	↓
Suicide Deaths (Age Adjusted Rate per 100,000)	12.9	23.8	15.4	↓
Mortality rate for ages 0 - 4 yrs (per 100,000)	152.9	202.7	125.7	↓
Mortality rate for ages 5 - 14 yrs (per 100,000)	13.5	0.0	0	↓
Mortality rate for ages 15 - 19 yrs (per 100,000)	44.5	0.0	57.4	↓
Mortality rates for ages 65+(per 1,000)	43.6	46.5	37.6	↓
Lung Cancer Deaths (5-yr avg rate per 100,000)*	49.5	60.5	66.6	↓
Female Breast Cancer Deaths (5-yr avg rate per 100,000)*	23.4	25.6	66.6	↓
Percent of Adults with Asthma*	8.0%	5.0%	10.80%	↓
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Sigmoidoscopy/Colonoscopy (%)*	72.0%	70.0%	50.50%	↑
Inadequate or No Prenatal Care (%)	13.0%	13.0%	18%	↓
First Trimester Prenatal Care (%)	81.9%	81.9%	67.10%	↑
Hospital Staffed Beds (per 1,000)	2.2	3.4	3.2	↑
Licensed Nursing Beds (per 1,000 65+)	3.9	6.7	38.7	↑
# of Primary Care MDs Per Capita (per 100,000)	122.3	65.1	60	↑
# of Psychiatric Specialists	6,827	6	6	↓
State Mental Health Facility Beds (per 100,000)*	18.7	28.7	13.9	↑
Inpatient Discharge Rate (per 1,000) - Total	157.2	147.2	131.8	↓
Could Not See Doctor Due to Cost (%)	10.0%	11.0%	11%	↓
Health Behaviors				
Cigarette Smoking (%)	18.0%	28.0%	24.90%	↓
Physical Inactivity (%)	24.0%	26.0%	21.00%	↓
Overweight/Obesity (% BMI > 25)	62.0%	66.0%	57.00%	↓
Obesity (% BMI > 30)	28.0%	29.0%	27%	↓
Low Fruit and Vegetable Consumption (% <5 a day)	80.0%	84.0%	77%	↓
Binge Drinking (%)	18.0%	14.0%	16%	↓
Teen Birth Rate (per 1,000)	18.6	29.6	25	↓
Sexually Transmitted Diseases (per 100,000)	385.0	178.0	115.8	↓
Violent Crime (per 100,000)	233.0	119.0	161	↓
Motor Vehicle Crash Deaths (per 100,000)	11.0	19.0	30	↓
Unmarried Mother Birth Rate (%)	35.0%	41.0%	28%	↓
Injury-related Mortality (Age Adjusted Rate per 100,000)	33.4	40.9	129.4	↓
Homicides (per 100,000)	5.0	0.0	5.3	↓

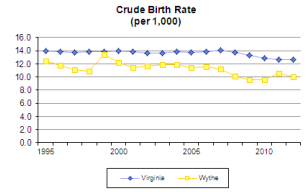
Cancer Incidence:

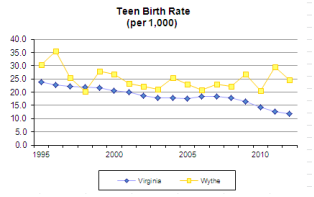






Birth Rate Trend:





Key Indicators of Health Status:

Socioecomonic Factors				
High School Graduation Rate (%)	88.0%	87.0%	86.60%	↑
Level of Education (%)	88.0%	80.0%	61%	↑
Unemployment (%)	6.2%	7.8%	9%	↓
Children (age 0 to 17) in poverty ratio (%)	15.5%	23.4%	27.00%	↓
Food Stamp Eligible Recipients (% of individuals)	11.6%	15.6%	19.50%	↓
Poverty Rate (% of all ages)	12.0%	17.0%	20.50%	↓
Temporary Assistance for Needy Families	0.8%	0.7%	1.00%	↓
High School Dropout Rate	1.4%	1.7%	1.90%	↓
Physical Environment				
Pre-1950 Housing (%)	13.2%	24.8%	19.70%	↓
Lead Poisoned Children (%)	0.2%	0.0%	0.00%	↓
Child Abuse and Neglect (rate per 1,000)	3.3	10.5	6.3	↓
Daily Fine Particulate Matter	12.5	13	12.4	↓
Communicable Diseases				
Hepatitis A (per 100,000)	0.6	0.0	0	↓
Campylobacter Infection (per 100,000)	9.4	17.1	6.2	↓
Salmonellosis (per 100,000)	14.1	17.1	0	↓
Shigellosis (per 100,000)	1.1	0.0	12.4	↓
AIDS/HIV cases (per 100,000)	305.3	119.8	114.3	↓
Early Stage Syphilis (per 100,000)	7.3	0.0	0	↓
Tuberculosis (per 100,000)	2.9	0.0	0	↓
Chlamydia (per 100,000)	432.5	215.7	111.3	↓
Gonorrhea (per 100,000)	85.1	17.1	0	↓

Inpatient Projections

	2014	2019		2024	
DRG Service Line	**Discharges**	**Discharges**	**% Change**	**Discharges**	**% Change**
Cardiac Surgery	37	38	2.10%	39	6.10%
Cardiology	388	351	-9.50%	313	-19.30%
Cardiology Intervention	138	129	-6.70%	122	-11.80%
Endocrinology	109	88	-19.20%	82	-25.20%
ENT Surgery	8	8	-3.20%	8	-4.50%
Gastroenterology	327	322	-1.50%	328	0.40%
General Medicine	391	406	3.90%	389	-0.40%
General Surgery	237	234	-1.40%	233	-1.50%
Gynecology	61	56	-8.60%	53	-13.50%
Hematology	41	41	-1.00%	42	1.60%
Neonatology	85	78	-8.30%	73	-14.40%
Nephrology	178	170	-4.70%	157	-11.80%
Neurology	221	229	3.60%	243	10.00%
Neurosurgery	86	83	-3.80%	83	-3.90%
Normal Newborns	196	204	4.00%	203	3.70%
OB Deliveries Sections	107	93	-13.40%	86	-19.30%
OB Deliveries Vaginal	161	171	6.50%	172	6.90%
OB Other	19	18	-3.90%	18	-6.10%
Oncology Medicine	44	43	-1.20%	41	-7.90%
Oncology Surgery	15	16	3.80%	16	5.50%
Ophthalmic Medicine	2	2	-10.20%	2	-14.10%
Oral Surgery	1	1	6.90%	1	20.40%
Orthopedic Medicine	56	59	4.90%	61	9.80%
Orthopedic Surgery	263	282	7.30%	291	10.80%
Otolaryngology	10	9	-10.00%	9	-12.60%
Plastic Surgery	7	7	-2.70%	6	-8.60%
Psychiatry	312	339	8.60%	319	2.40%
Pulmonary	454	401	-11.70%	385	-15.10%
Rehabilitation	183	157	-14.00%	174	-5.00%
Rheumatology	12	11	-4.90%	11	-9.20%
Substance Abuse	45	47	3.50%	46	1.80%
Thoracic Surgery	16	16	0.10%	16	0.80%
Trauma Medical	16	15	-7.10%	15	-7.30%
Urology Medicine	10	9	-11.60%	8	-17.70%
Urology Surgery	31	30	-4.50%	28	-8.20%
Vascular Surgery	67	68	1.20%	68	1.80%
Womens Other	1	1	-8.90%	1	-18.50%
Grand Total	**4,335**	**4,229**	**-2.50%**	**4,143**	**-4.40%**

Outpatient Projections

	2014		2019			2024	
Site of Care	**Volumes**		**Volumes**	**% Change**		**Volumes**	**% Change**
ED	18,276		18,810	2.90%		18,468	1.00%
Home	47,368		56,037	18.30%		62,249	31.40%
Hosp OP/ASC	55,987		61,762	10.30%		64,440	15.10%
Office/Clinic	311,030		339,118	9.00%		334,689	7.60%
Other	17,710		20,047	13.20%		21,122	19.30%
SNF	1,104		1,214	10.00%		1,303	18.00%
Urgent/Retail	319		347	9.00%		345	8.20%
Virtual			7,053			28,189	
Grand Total	**451,792**		**504,388**	**11.60%**		**530,803**	**17.50%**

APPENDIX

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1. Smyth, VA Detailed Demographics
2. Wythe, VA Detailed Demographics

Mountain State Health Alliance

Smyth County, VA

Population and Gender	Market 2015 Population	Market 2015 % of Total	Market 2020 Population	Market 2020 % of Total	Market Population % Change	National 2015 % of Total
Female Population	16,325	51.3%	16,343	51.2%	0.1%	50.8%
Male Population	15,529	48.8%	15,574	48.8%	0.3%	49.2%
Total	31,854	100.0%	31,917	100.0%	0.2%	100.0%

Age Groups	Market 2015 Population	Market 2015 % of Total	Market 2020 Population	Market 2020 % of Total	Market Population % Change	National 2015 % of Total
00-17	6,382	20.0%	6,053	19.0%	(5.2)%	23.1%
18-44	9,779	30.7%	9,634	30.2%	(1.5)%	35.9%
45-64	9,238	29.0%	8,972	28.1%	(2.9)%	26.3%
65-UP	6,455	20.3%	7,258	22.7%	12.4%	14.7%
Total	31,854	100.0%	31,917	100.0%	0.2%	100.0%

Ethnicity/Race	Market 2015 Population	Market 2015 % of Total	Market 2020 Population	Market 2020 % of Total	Market Population % Change	National 2015 % of Total
Asian & Pacific Is. Non-Hispanic	133	0.4%	189	0.6%	42.1%	5.3%
Black Non-Hispanic	662	2.1%	703	2.2%	6.2%	12.3%
Hispanic	656	2.1%	799	2.5%	21.8%	17.6%
White Non-Hispanic	29,992	94.2%	29,715	93.1%	(0.9)%	61.8%
All Others	411	1.3%	511	1.6%	24.3%	3.1%
Total	31,854	100.0%	31,917	100.0%	0.2%	100.0%

Language*	Market 2015 Population	Market 2015 % of Total	Market 2020 Population	Market 2020 % of Total	Market Population % Change	National 2015 % of Total
Germanic Lang at Home	46	0.2%	45	0.2%	(2.2)%	0.5%
Only English at Home	29,659	98.0%	29,779	98.0%	0.4%	79.0%
Other Indo-European Lang at Home	31	0.1%	31	0.1%	0.0%	1.8%
Other Lang at Home	27	0.1%	25	0.1%	(7.4)%	0.9%
Spanish at Home	469	1.6%	458	1.5%	(2.4)%	13.0%
All Others	40	0.1%	40	0.1%	0.0%	4.7%
Total	30,272	100.0%	30,378	100.0%	0.4%	100.0%

Mountain State Health Alliance

Smyth County, VA

Household Income	Market 2015 Households	Market 2015 % of Total	Market 2020 Households	Market 2020 % of Total	Market Households % Change	National 2015 % of Total
<$15K	2,434	18.5%	2,115	16.0%	(13.1)%	12.7%
$15-25K	2,030	15.4%	1,955	14.8%	(3.7)%	10.8%
$25-50K	3,848	29.2%	3,728	28.2%	(3.1)%	23.9%
$50-75K	2,309	17.5%	2,300	17.4%	(0.4)%	17.8%
$75-100K	1,235	9.4%	1,374	10.4%	11.3%	12.0%
$100K-200K	1,127	8.6%	1,487	11.2%	31.9%	17.9%
>$200K	200	1.5%	270	2.0%	35.0%	5.0%
Total	13,183	100.0%	13,229	100.0%	0.4%	100.0%

Education Level**	Market 2015 Population	Market 2015 % of Total	Market 2020 Population	Market 2020 % of Total	Market Population % Change	National 2015 % of Total
Less than High School	2,541	11.1%	2,599	11.2%	2.3%	5.9%
Some High School	2,545	11.1%	2,595	11.2%	2.0%	8.0%
High School Degree	8,935	39.1%	9,076	39.1%	1.6%	28.1%
Some College/Assoc. Degree	5,993	26.2%	6,057	26.1%	1.1%	31.1%
Bachelor's Degree or Greater	2,858	12.5%	2,860	12.3%	0.1%	26.9%
Total	22,872	100.0%	23,187	100.0%	1.4%	100.0%

*Excludes population age <5, **Excludes population age <25

Mountain State Health Alliance

Wythe County, VA

Population and Gender	Market 2015 Population	Market 2015 % of Total	Market 2020 Population	Market 2020 % of Total	Market Population % Change	National 2015 % of Total
Female Population	16,203	51.1%	16,505	51.1%	1.9%	50.8%
Male Population	15,507	48.9%	15,809	48.9%	2.0%	49.2%
Total	31,710	100.0%	32,314	100.0%	1.9%	100.0%

Age Groups	Market 2015 Population	Market 2015 % of Total	Market 2020 Population	Market 2020 % of Total	Market Population % Change	National 2015 % of Total
00-17	6,280	19.8%	6,074	18.8%	(3.3)%	23.1%
18-44	9,670	30.5%	9,581	29.7%	(0.9)%	35.9%
45-64	9,430	29.7%	9,405	29.1%	(0.3)%	26.3%
65-UP	6,330	20.0%	7,254	22.5%	14.6%	14.7%
Total	31,710	100.0%	32,314	100.0%	1.9%	100.0%

Ethnicity/Race	Market 2015 Population	Market 2015 % of Total	Market 2020 Population	Market 2020 % of Total	Market Population % Change	National 2015 % of Total
Asian & Pacific Is. Non-Hispanic	173	0.6%	224	0.7%	29.5%	5.3%
Black Non-Hispanic	925	2.9%	1,046	3.2%	13.1%	12.3%
Hispanic	394	1.2%	474	1.5%	20.3%	17.6%
White Non-Hispanic	29,785	93.9%	30,076	93.1%	1.0%	61.8%
All Others	433	1.4%	494	1.5%	14.1%	3.1%
Total	31,710	100.0%	32,314	100.0%	1.9%	100.0%

Language*	Market 2015 Population	Market 2015 % of Total	Market 2020 Population	Market 2020 % of Total	Market Population % Change	National 2015 % of Total
Germanic Lang at Home	97	0.3%	97	0.3%	0.0%	0.5%
Only English at Home	29,602	98.1%	30,216	98.2%	2.1%	79.0%
Other Indo-European Lang at Home	112	0.4%	112	0.4%	0.0%	1.8%
Other Lang at Home	40	0.1%	39	0.1%	(2.5)%	0.9%
Spanish at Home	262	0.9%	266	0.9%	1.5%	13.0%
All Others	51	0.2%	48	0.2%	(5.9)%	4.7%
Total	30,164	100.0%	30,778	100.0%	2.0%	100.0%

Mountain State Health Alliance

Wythe County, VA

Household Income	Market 2015 Households	Market 2015 % of Total	Market 2020 Households	Market 2020 % of Total	Market Households % Change	National 2015 % of Total
<$15K	2,187	16.1%	2,012	14.5%	(8.0)%	12.7%
$15-25K	2,017	14.8%	1,815	13.0%	(10.0)%	10.8%
$25-50K	4,005	29.5%	3,963	28.5%	(1.1)%	23.9%
$50-75K	2,229	16.4%	2,339	16.8%	4.9%	17.8%
$75-100K	1,530	11.3%	1,608	11.6%	5.1%	12.0%
$100K-200K	1,276	9.4%	1,762	12.7%	38.1%	17.9%
>$200K	356	2.6%	417	3.0%	17.1%	5.0%
Total	13,600	100.0%	13,916	100.0%	2.3%	100.0%

Education Level**	Market 2015 Population	Market 2015 % of Total	Market 2020 Population	Market 2020 % of Total	Market Population % Change	National 2015 % of Total
Less than High School	1,656	7.2%	1,710	7.2%	3.3%	5.9%
Some High School	2,657	11.6%	2,741	11.6%	3.2%	8.0%
High School Degree	8,153	35.5%	8,405	35.6%	3.1%	28.1%
Some College/Assoc. Degree	7,582	33.0%	7,769	32.9%	2.5%	31.1%
Bachelor's Degree or Greater	2,953	12.8%	3,008	12.7%	1.9%	26.9%
Total	23,001	100.0%	23,633	100.0%	2.8%	100.0%

*Excludes population age <5, **Excludes population age <25



2015 COMMUNITY HEALTH NEEDS ASSESSMENT

SYCAMORE SHOALS HOSPITAL

Published June 29, 2015

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a. SSH Area Snapshot

Introduction

Mountain States Health Alliance (MSHA) is an integrated health care delivery system providing a comprehensive continuum of care to people in 29 counties in Tennessee, Virginia, Kentucky, and North Carolina. MSHA was formed after Johnson City Medical Center Hospital, Inc. acquired six Columbia/HCA hospitals in Northeast Tennessee on September 1, 1998; and was later renamed Mountain States Health Alliance in January 1999.

Today, MSHA is the largest regional health care system with 13 hospitals operating at approximately $1.0 billion in net revenues. The hospitals are:

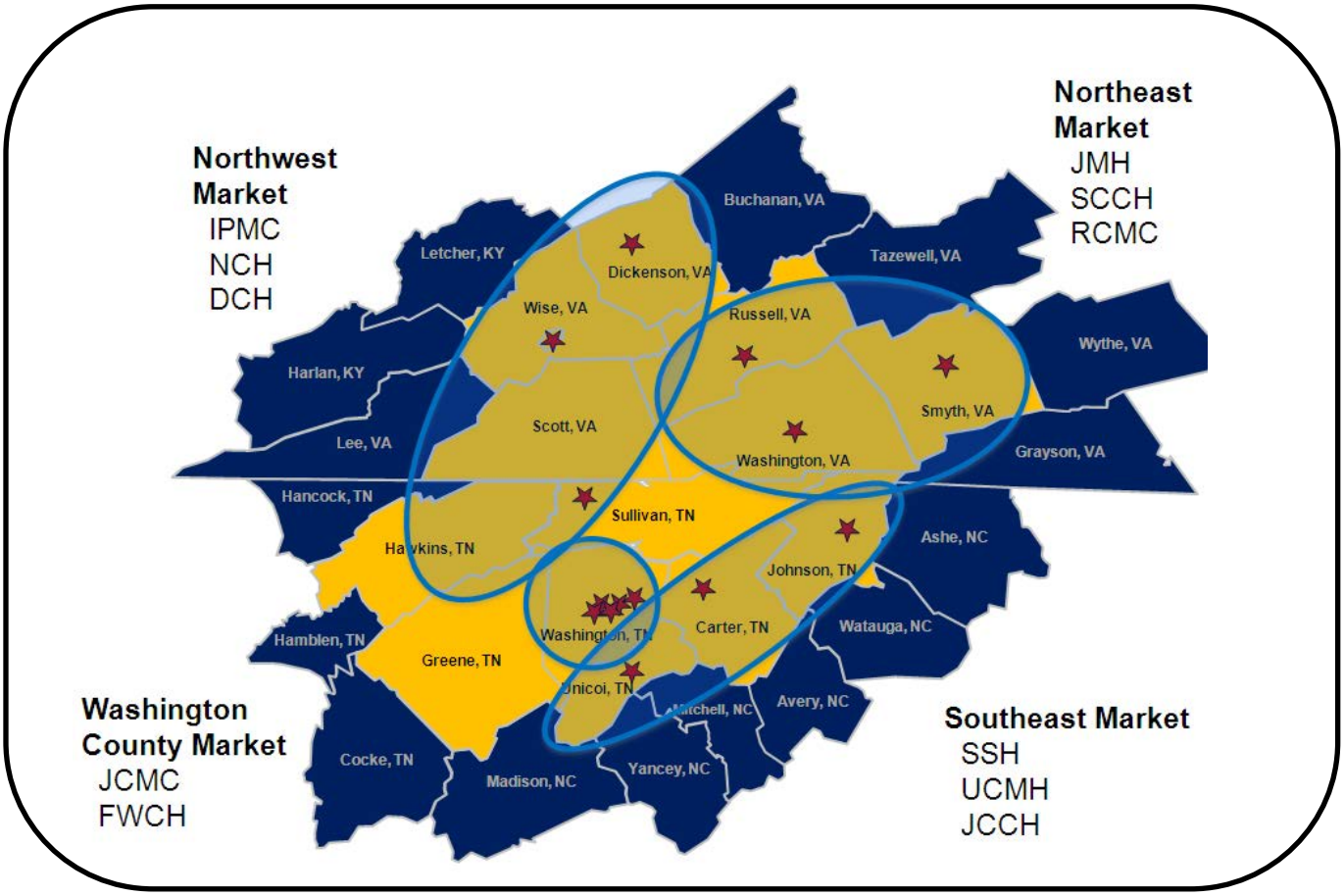
- Johnson City Medical Center
- Niswonger Children's Hospital
- Woodridge Psychiatric Hospital
- Franklin Woods Community Hospital
- Unicoi County Community Hospital
- Indian Path Medical Center
- Johnson County Community Hospital
- Sycamore Shoals Hospital
- Dickenson Community Hospital
- Johnston Memorial Hospital
- Norton Community Hospital
- Russell County Medical Center
- Smyth County Community Hospital

In addition to 13 hospitals, MSHA's integrated health care delivery system includes primary/preventive care centers and numerous outpatient care sites, including First Assist Urgent Care, MedWorks, Same Day Surgery, and Mountain States Rehabilitation.

Executive Summary

Regional and national rankings for health factors continue to be disappointing as cancer, heart disease, and diabetes rates continue to increase each year. Obesity and smoking continue to be major problems in the United States, leading to additional diseases. From a global perspective, the United States falls behind other developing nations in health outcomes. Clearly, there are many needs that exist and need attention. The interrelatedness between the health of a community, its economic status, and its educational attainment levels is becoming increasingly recognized. Mountain States Health Alliance (MSHA) exists to "*identify and respond to the health care needs of individuals and communities in our region and to assist them in attaining their highest possible level of health.*" In doing so, MSHA recognizes this is a very complex challenge that involves the engagement of many prongs of the community.

In order for MSHA to serve its region most effectively, it is essential to understand each community's individual needs. MSHA has conducted a Community Health Needs Assessment to profile the health of the residents within the local region (a map of the MSHA service area is provided on the following page). Activities associated with the development of this assessment have taken place from spring of 2014 through spring of 2015, including state, regional and county-specific secondary data collection and primary data obtained through individual surveys and focus groups with individuals from the local communities.



★ Represents county in which MSHA owns a facility. MSHA has part-ownership in other hospitals but they are not included in this assessment.

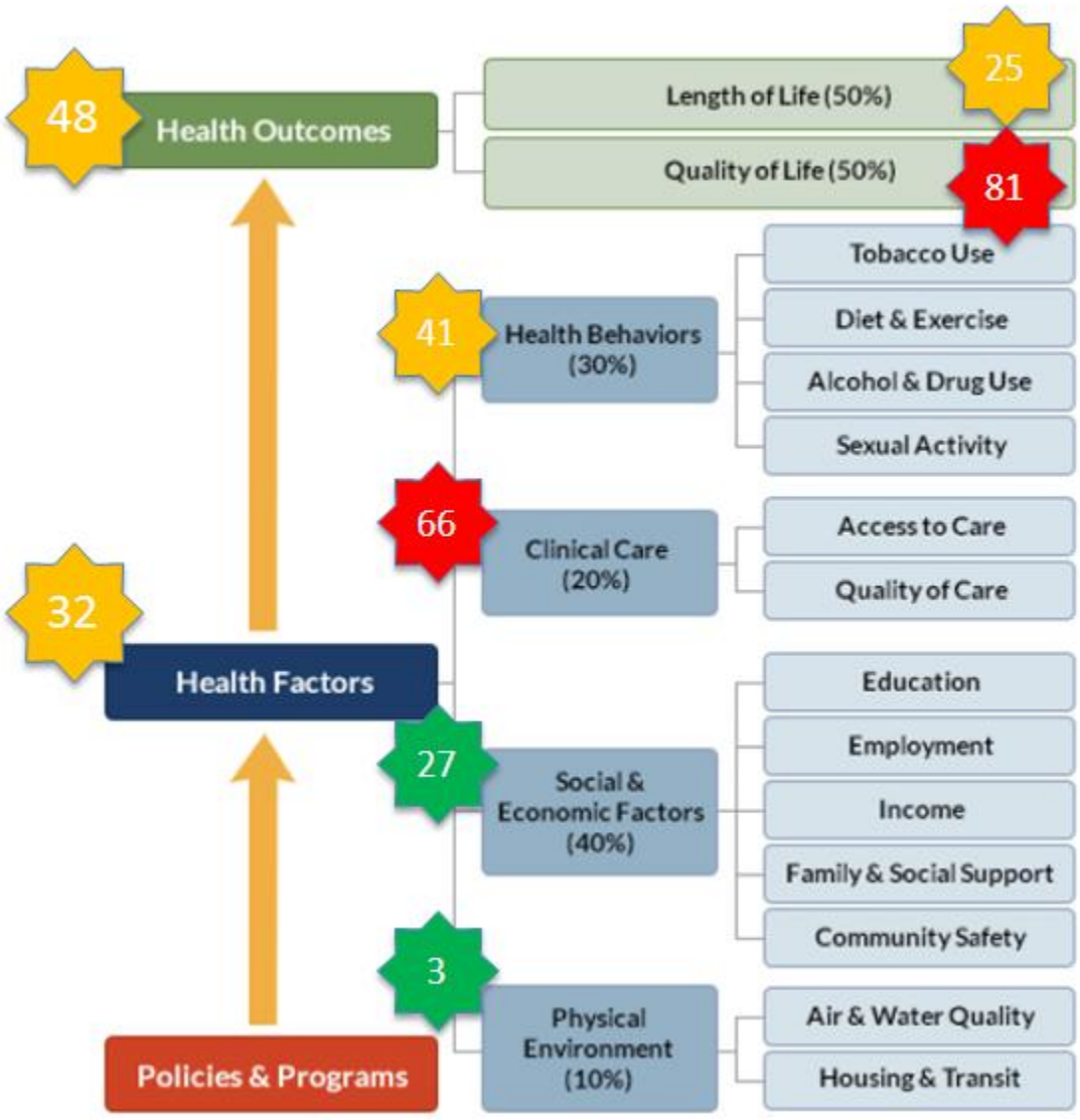
*Service Area is defined by approximately 80% of inpatient population.

Throughout the assessment, high priority was given to determining the health status and available resources within each community. Community members from each county met with MSHA to discuss current health priorities and identify potential solutions. The information gathered from a local perspective, paired with regional, state and national data, helps to communicate the region's health situation in order to begin formulating solutions for improvement.

In 2014, Tennessee ranked 45th and Virginia ranked 21st out of 50 states for overall health outcomes. Both states had high rates of adult obesity, cancer deaths, infant mortality, and diabetes. Though Virginia's overall ranking is moderately low, the health outcomes in Southwest Virginia counties, where MSHA's facilities are located, resembles those of Tennessee. After compiling the various sources of information, the top health priorities were identified for the communities that each of the MSHA hospitals serve. This effort has determined the top health priorities identified in Carter County to include **obesity, smoking, diabetes and substance abuse**. There are certainly a number of other health challenges in this community, but these rise to the top based on this assessment.

According to the 2015 County Health Rankings, Carter County is ranked 48th in Tennessee for health outcomes and 32th for health factors out of 95 counties. The leading causes of death for ages 65 and over are heart disease, cancer, and stroke. Carter County also ranked 41th in health behaviors. When compared to other Tennessee counties, Carter County has high physical inactivity, high overweight/obesity rates and high smoking rates. As for social and economic factors, Carter County ranks 27th due to low rates of college education, high rates of children in poverty, and high unemployment rates.

Carter County Health Ranking
2015 County Health Rankings
www.countyhealthrankings.org



*Ranking is in comparison to all 95 counties in the state of Tennessee.

Community Interview Summary

Between spring 2014 and spring 2015 the MSHA Strategic Planning Department completed individual interviews and a focus group in order to connect with community members of Carter County and determine the needs of the community that Sycamore Shoals Hospital serves. MSHA hospital administration teams were contacted in order to obtain names of individuals in the community who were considered public health officials or community leaders. The 17 interviewees included representatives from the local health department, school nursing program, school system administration and several community-based organizations. These individuals were invited to discuss and assist in determining the health priorities and resources available in their community of Carter County.

Collecting Community Input

In order to complete the community health needs assessment for Sycamore Shoals Hospital, MSHA met with various individuals from Carter County, TN. The organizations that were represented are listed in Table 1.1.

Table 1.1 – Summary Organizations Participating in SSH's CHNA

Reported Organizations Providing Input for Assessment
Elizabethton City Schools
Carter County Schools
United Healthcare
UT-Carter Co Extension
Center on Aging and Health
Carter County Governor's Office
Coordinated School Health
BABE Breastfeeding Coalition
Project Access
Carter County Health Department

To begin the community health needs assessment, MSHA's strategic planning staff presented data that had been collected to illustrate past and current health trends for Tennessee and Carter County. The presentation depicted the current national health rankings, in addition to providing a snapshot of the county.

Following the presentation, each participant was given a survey to determine the individual's personal assessment of their county's health priorities. Secondly, the individuals were asked to submit ideas and suggestions as to how MSHA could use the available resources in order to improve the health priorities determined. After the surveys had been completed, each group discussed the questions and continued brainstorming ways to address obstacles and utilize resources. All of the information collected from the surveys and open discussion was evaluated and prioritized based on health needs.

In surveys obtained from the Carter County representatives, several community health needs and resources were identified. Table 1.2 lists the survey questions given to each participant in the assessment.

Table 1.2 – Community Survey Questions

	Survey Questions
1	How would you rate the general health status of the patient population in this community on a scale of 1 to 10 (with 1 being the poorest and 10 being the best)?
2	Keeping in mind resources are not unlimited, can you identify the top 1-2 health priorities in your local community that you feel should be addressed in the following areas: a)Health Outcomes/Diseases b)Health Behaviors c)Social Environment
3	What existing resources, such as organized groups or public health initiatives have been developed and are in place to address these health priorities?
4	What ideas do you have that may serve to improve these health priorities?

Health Status Rating

Overall, the general health status of Carter County was rated as 4.7 on a scale of 1 – 10, with 1 being the poorest and 10 being the best. Individual responses ranged from 2.5 to 7. The health ranking for Carter County can be found below in Table 1.3.

Table 1.3 – Average Health Status Ranking

MSHA Facility/County	Number of Individuals	Average of Health Status Rating
SYCAMORE SHOALS HOSPITAL, Carter County, TN	17	4.7

Top Health Priorities

From the results of the surveys, the most prevalent health priorities in Carter County were obesity (physical inactivity/poor diet), smoking and tobacco use, diabetes and substance abuse. Table 1.4 lists the health priorities input provided by community participants.

Table 1.4 – Top Identified Health Priorities

Top Health Priorities	Responses	% of Total Responses
Health Outcomes/Diseases		
Obesity	10	62.50%
Diabetes	7	43.75%
Cardiovascular Disease	4	25.00%
Cancer	4	25.00%
COPD	3	18.75%
Asthma	2	12.50%
Hypertension	1	6.25%
Health Behaviors		
Smoking/Tobacco Use	10	62.50%
Physical Inactivity	9	56.25%
Poor Nutrition	6	37.50%
Substance and Prescription Drug Abuse	5	31.25%
Prenatal care/education	1	6.25%
Social Environment		
Education	6	37.50%
Poverty	5	31.25%
Changes in family structure/culture	2	12.50%
Transportation barriers	2	12.50%
Access to Dental Care	1	6.25%
Utilization of health screenings	1	6.25%
Immunizations	1	6.25%
Fast food culture	1	6.25%
Teen Pregnancy	1	6.25%
Built environment for physical activity	1	6.25%
High cost of healthy food	1	6.25%
Cultural barriers (pride, trust)	1	6.25%
Literacy	1	6.25%

*Individuals submitted multiple answers regarding health priorities.

These priorities are consistent with the secondary data findings.

- Obesity
  - While still high, the obesity rate of Carter County is less than that of the state (30% vs. 32%); however, the percentage of adults who are overweight in Carter County does exceed that of the state (40% vs. 37%)
  - Self-reported physical inactivity rates among Carter County residents exceed the state average (32% vs. 31%)
- Smoking
  - The smoking rate of Carter County residents far exceeds that of the state of Tennessee (33% vs. 23%)
- Diabetes
  - The prevalence rate of diabetes in Carter County well exceeds the state average (13% vs. 11%).
  - Diabetic monitoring is less than the state average (defined as the percentage of diabetic Medicare enrollees ages 65-75 that receive HbA1c monitoring; 84% vs. 86%)
- Substance abuse
  - The rate of neonatal abstinence syndrome per 1,000 live births in Carter County is five times the state rate (31.3 vs. 6.7)
  - The rate of drug poisoning deaths in Carter County is greater than the state average (20 vs. 16 per 100,000)

All of these issues lead to a higher percentage of self-reported age-adjusted fair or poor health rates in Carter County compared to the state (23% vs. 19%) as well as a higher number of years of potential life lost before 75 per 100,000 (a measure of premature death) at 8,846 in the county vs. 8,696 in TN.

Carter (CT)

	Carter County	Error Margin	Top U.S. Performers*	Tennessee	Rank (of 95)
Health Outcomes					48
Length of Life					25
Premature death	8,846	7,916-9,776	5,200	8,696	
Quality of Life					81
Poor or fair health	23%	18-28%	10%	19%	
Poor physical health days	5.2	3.9-6.5	2.5	4.3	
Poor mental health days	4.8	3.2-6.4	2.3	3.4	
Low birthweight	9.8%	8.9-10.7%	5.9%	9.2%	
Health Factors					32
Health Behaviors					41
Adult smoking	31%	25-38%	14%	23%	
Adult obesity	29%	24-34%	25%	32%	
Food environment index	6.2		8.4	6.9	
Physical inactivity	32%	27-37%	20%	30%	
Access to exercise opportunities	82%		92%	70%	
Excessive drinking	7%	4-12%	10%	9%	
Alcohol-impaired driving deaths	27%		14%	28%	
Sexually transmitted infections	169		138	504	
Teen births	49	45-53	20	47	
Clinical Care					66
Uninsured	17%	16-19%	11%	16%	
Primary care physicians	2,868:1		1,045:1	1,388:1	
Dentists	3,373:1		1,377:1	1,996:1	
Mental health providers	3,584:1		386:1	786:1	
Preventable hospital stays	94	85-103	41	73	
Diabetic monitoring	84%	77-91%	90%	86%	
Mammography screening	58.6%	50.7-66.4%	70.7%	61.8%	
Social & Economic Factors					27
High school graduation	93%			87%	
Some college	49.0%	44.6-53.4%	71.0%	57.7%	
Unemployment	8.6%		4.0%	8.2%	
Children in poverty	34%	27-41%	13%	27%	
Income inequality	4.7	4.3-5.1	3.7	4.8	
Children in single-parent households	29%	24-34%	20%	36%	
Social associations	14.8		22.0	11.5	
Violent crime	206		59	621	
Injury deaths	73	64-83	50	78	
Physical Environment					3
Air pollution - particulate matter	13.0		9.5	13.8	
Drinking water violations	0%		0%	4%	
Severe housing problems	13%	11-15%	9%	15%	
Driving alone to work	83%	81-85%	71%	84%	
Long commute - driving alone	28%	25-31%	15%	32%	

* 90th percentile, i.e., only 10% are better.
Note: Blank values reflect unreliable or missing data

2015

Identifying Available Resources

MSHA realizes that there are numerous resources in all of the counties it serves that can provide care for individuals. Our goal, in order to reduce costs and provide the best care possible for patients, is to identify these resources to prevent duplication of services and efforts. The interviewees were asked to list all of the services and resources within their community. The interviewees acknowledged that many resources currently exist to help meet health needs. Table 1.5 lists the current resources within each county that offer health services to the community.

Table 1.5 – Identified Available Resources

Resources Available
Carter County, Tennessee
Coordinated School Health
Carter County Health Council
Carter County Health Department
Walking trails/Tweetsie Trail
Healthy Tennessee / Small Starts
Tennessee Education Initiative
Carter County Anti-Drug Coalition
TNCEP
Tobacco Settlement Fund
TIPS-Maternal Smoking Cessation Program
ReadNPlay
Mommy and Me Support Group
Red Legacy
Project Access
MSHA Health Resource Center

*MSHA understands that there are other resources available in each county that are not listed in this table. This table represents only the resources listed by participants in community health needs assessment. MSHA will continue to identify resources.

Improving Health Priorities

The community members who were surveyed provided helpful ideas as to how to begin formulating a plan to improve the health priorities throughout the region. To enhance existing resources, the participants stressed the significance of increasing public awareness of both addressing one's health needs and the availability of health care options within each community. Additional suggestions as to how MSHA can improve the previously identified health priorities are listed in Table 1.6.

Table 1.6 – Ideas to Improve Health Priorities

	Responses
1	More public healthcare initiatives for free screenings/care similar to Remote Area Medical (RAM)
2	Low cost or free exercise programs/opportunities
3	Low cost or free nutrition coaches
4	Local farmer's markets
5	Support groups for grandparents raising grandchildren
6	Organizational collaboration
7	Healthcare navigators / care coordinators
8	COPD clinic
9	Access to urgent care clinics
10	Care transition coordination
11	Legislation on tobacco products
12	Better promotion/marketing of health programs and services
13	Legislation on artificial sugar substances
14	Additional mental health services
15	Parenting skills classes
16	Community gardens
17	Repeal TN pregnancy criminalization legislation
18	Project Access
19	Promote health education to younger populations
20	Inpatient and outpatient substance abuse treatment programs

However, it is also helpful to understand from a more global perspective the health status of our nation as a whole, since many issues we face in our service area are not limited to just our region. Compiled on an annual basis, the *America's Health Rankings* publication developed by the United Health Foundation, the American Public Health Association and Partnership for Prevention provides one of the most comprehensive assessments regarding the status of the nation's health. The following information in the national and regional overview is from the 2015 edition

Health is a result of our behaviors, our individual genetic predisposition to disease, the environment and the community in which we live, the clinical care we receive and the policies and practices of our health care and prevention systems. Each of us, individually, as a community, and as a society, strives to optimize these health determinants, so that all of us can have a long, disease-free, and robust life regardless of race, gender or socio-economic status.

This report looks at the four groups of health determinants that can be affected:

1. **Behaviors** include the everyday activities we do that affect our personal health. It includes habits and practices we develop as individuals and families that have an effect on our personal health and on our utilization of health resources. These behaviors are modifiable with effort by the individual supported by community, policy and clinical interventions.

2. **Community and environment** reflects the reality that the daily conditions in which we live our lives have a great effect on achieving optimal individual health.

3**. Public and health policies** are indicative of the availability of resources to encourage and maintain health and the extent that public and health programs reach into the general population.

4. **Clinical care reflect**s the quality, appropriateness and cost of the care we receive at doctors' offices, clinics and hospitals.

All health determinants are intertwined and must work together to be optimally effective. For example, an initiative that addresses tobacco cessation requires not only efforts on the part of the individual but also support from the community in the form of public and health policies that promote non-smoking and the availability of effective counseling and care at clinics. Similarly sound prenatal care requires individual effort, access to and availability of prenatal care coupled with high quality health care services. Addressing obesity, which is a health epidemic now facing this country, requires coordination among almost all sectors of the economy including food producers, distributors, restaurants, grocery and convenience stores, exercise facilities, parks, urban and transportation design, building design, educational institutions, community organizations, social groups, health care delivery and insurance to complement and augment individual actions.



America's Health Rankings® combines individual measures of each of these determinants with the resultant health outcomes into one, comprehensive view of the health of a state. Additionally, it discusses health determinants separately from health outcomes and provides related health, economic and social information to present a comprehensive profile of the overall health of each state.

America's Health Rankings® employs a unique methodology, developed and periodically reviewed by a panel of leading public health scholars, which balances the contributions of various factors, such as smoking, obesity, binge drinking, high school graduation rates, children in poverty, access to care and incidence of preventable disease, to a state's health. The report is based on data from the

U.S. Departments of Health and Human Services, Commerce, Education and Labor; U.S. Environmental Protection Agency; U.S. Census Bureau, the American Medical Association; the American Dental Association; the Dartmouth Atlas Project; and the Trust for America's Health.

Purpose

The ultimate purpose of *America's Health Rankings*® is to stimulate action by individuals, elected officials, health care professionals, employers, and communities to improve the health of the population of the United States. We do this by promoting public conversation concerning health in our states, as well as providing information to facilitate citizen, community and group participation. We encourage participation in all elements: behaviors, community and environment, clinical care, and public and health policies. Each person individually, and in their capacity as an employee, employer, voter, community volunteer, health official or elected official, can contribute to the advancement of the healthiness of their state. Proven, effective and innovative actions can improve the health of people in every state whether the state is first or 50th.

Findings

Comparison to Other Nations

When health in the United States is compared to health in other countries, the picture is disappointing. The World Health Organization, in its annual World Health Statistics 2013, compares the United States to the nations of the world on a large variety of measures. While the U.S. does exceed many countries, it is far from the best in many of the common measures used to gauge healthiness and lags behind its peers in other developed countries.

The United States ranks at or near the bottom among high-income countries on nearly all indicators of mortality, survival, and life expectancy. Life expectancy is a measure that indicates the number of years that a newborn is expected to live. Japan, San Marino, and Switzerland are the persistent leaders for developed countries in this measure, with an overall life expectancy of 83 years. At 81 years for women and 76 years of men, the United States ranks 33rd among the 193 reporting nations of the WHO. The United States male life expectancy rates are on par with Chile, Cuba, Brunei Darussalam, and Maldives, while the female life expectancy rates are on par with Columbia, Costa Rica, Czech Republic, Estonia, Poland, and Qatar. There are 32 other countries that exceed the United States in healthy life expectancy, including Australia, Italy, Spain, France, Germany, Greece and the United Kingdom.

One of the underlying causes for these differences is the gap in infant mortality rates between the United States and many other countries. The infant mortality rate for the U.S. in 2011 was 6 deaths per 1,000 live births, ranking 40th among WHO nations. The infant mortality rates in Finland, Japan, and Sweden were *one* third that of the U.S. rate. Of the 193 countries rated, 39 countries had lower infant mortality rates than the United States.

These countries also have considerably lower infant mortality rates than that of non-Hispanic whites in the United States, which is the ethnic/racial group with the lowest infant mortality rate. The racial/ethnic disparities related to infant mortality could be related to differences in risk factors among different racial/ethnic groups, including risk for low birth weight delivery, access to medical care, and socioeconomic status. However, many of the racial/ethnic differences in infant mortality remain unexplained. It should also be noted that the reporting and classification of infant mortality varies among countries, which could be reflected in the ranks.

In addition to infant mortality, youth and young adults' mortality impacts life expectancy. Unintentional injuries claim approximately 30 percent of the years lost before age 50, along with violence and suicides, among U.S. young adults and adolescents. Non-communicable (chronic)

diseases, such as cancer, heart disease, and other conditions that are not caused by infections, begin to be more of a contributing factor after the age of 30.

Differences in healthy life expectancy are also affected by the effectiveness of treating disease, especially those that are amenable to care, including bacterial infections, treatable cancers, diabetes, cardiovascular and cerebrovascular disease, some ischemic heart disease, and complications from common surgical procedures. The age-adjusted amenable mortality rate before age 75 for the United States was 95.5 deaths per 100,000 population in 2006 to 2007, which is still a slower rate of improvement than in other Organization for Economic Cooperation and Development (OECD) nations studied. The rate in the U.S. is 50 percent higher than the rate in France, Japan, Italy, and Australia.

Additionally, the study indicated that despite spending more than any other country on health care, the United States continues to slip further behind and has one of the highest inequalities in health compared to other developed countries. The U.S. ranks among the worst OECD countries for child health well-being, having an inequality higher than average. Furthermore, although the United States has the highest income per person, it continues to rank as the worst country for income inequality, which is thought to explain why it has the highest index of health and social problems compared to other developed nations.

Physical inactivity and obesity play major contributions to disease worldwide and in the United States. Physical inactivity is the fourth leading risk factor for global mortality, and is responsible for an estimated 6 to 10 percent of non-communicable diseases, such as type 2 diabetes, heart disease, colon cancer, and breast cancer. North America has 34 percent of the world's biomass due to obesity; however, it only makes up for 6 percent of the world's population. Asia, on the other hand, has 61 percent of the world's population, yet only has 13 percent of its biomass due to obesity. While the U.S. is only one of several countries that form North America, it is the only North American nation to rank among the heaviest nations globally. It is estimated that eliminating physical activity in the United States would add approximately 1 year to life expectancy and dramatically reduce the burden of chronic diseases.

The results of these studies should be a wake-up call to everyone in the United States to strive to improve all aspects of our health system, including education, safety, prevention, and clinical care. Other countries have improved their overall health, indicating that we, too, can do the same.

National Changes since 1990

In the past year, 20 health measures improved, 8 measures declined, and 1 measure remained unchanged. Table 1 shows the national changes in the last year. These improvements were offset by deterioration in several measures, including increases in the prevalence of obesity, the percentage of children in poverty and lack of health insurance.

Since 2012, the prevalence of smoking declined from 21.2 percent to 19 percent among adults. The binge drinking prevalence rate dropped from 18.3 percent to 16.8 percent of adults who binged in the last 30 days, and physical inactivity decreased from 26.2 percent to 25.3 percent. The incidence of pertussis increased sharply from 9.0 to 15.5 cases per 100,000 populations. The percentages of children in poverty, lack of health insurance, child immunization coverage, and low birth weight have also suppressed faster improvement in our nation's health.

Table 1 – National Successes and Challenges

SUCCESSES

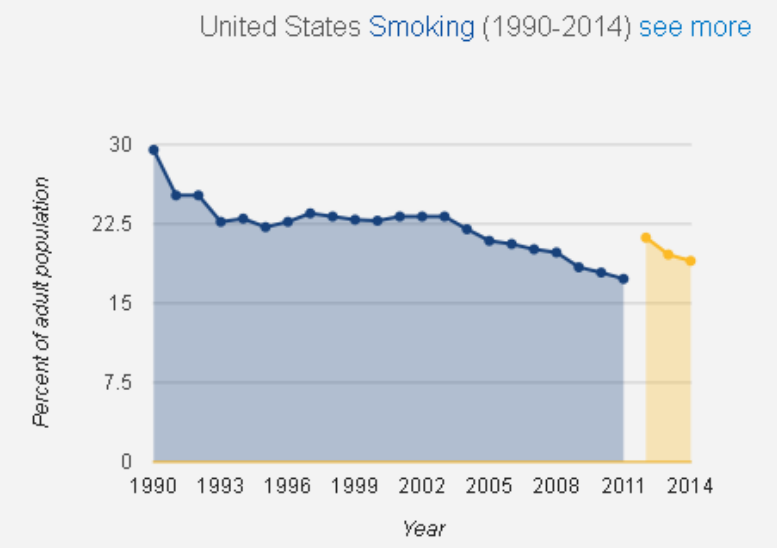
Smoking	Since 1990, smoking decreased 36% from 29.5% to 19.0% of adults who smoke regularly.
High School Graduation	At 81% of ninth graders graduating within 4 years, high school graduation is still a challenge. However, it is slowly trending upward from 71.7% in 2004.
Violent Crime	At 387 offenses per 100,000 population, violent crime is 37% lower than in 1990 and 49% lower than its peak in 1993.
Air Pollution	The average amount of fine particulates in the air continues to decline from 13.2 micrograms per cubic meter in 2003 to 9.9 micrograms per cubic meter in 2014.
Preventable Hospitalizations	Preventable hospitalizations continue to decline. In 2001, there were 82.5 discharges per 1,000 Medicare beneficiaries; in 2014, there were 62.9 discharges per 1,000 Medicare beneficiaries.
Occupational Fatalities	Occupational fatalities have declined in the last 8 years from 5.3 deaths per 100,000 workers in 2007 to 3.8 deaths per 100,000 workers. This is the second consecutive year the rate is below 4 deaths per 100,000 workers.
Infant Mortality	Since 1990, infant mortality decreased 41% from 10.2 to 6.0 deaths per 1,000 live births, although most of that decline occurred between 1990 and 1999. Even though the infant mortality rate is the lowest in US history, it is double the rate of many developed countries. In addition, large racial and geographic disparities exist within the country.
Premature Death	Since 1990, premature death declined 20% from 8,716 to 6,976 years of potential life lost before age 75. Premature death, like several other metrics, has leveled off in the last decade compared with improvements made in the 1990s.
Cancer Deaths	Cancer deaths declined 4% from 197.5 deaths in 1990 to 189.9 deaths per 100,000 population.
Cardiovascular Deaths	Since 1990, cardiovascular deaths declined 38% from 405.1 to 251.4 deaths per 100,000 population. This continues a relatively constant improvement of 2% to 3% yearly.

CHALLENGES

Obesity	Since 1990, obesity has increased 153% from 11.6% to 29.4% of adults.
Physical Inactivity	Physical inactivity remains high at 23.5% of adults and has not changed appreciably for the last decade.
Children in Poverty	At 19.9% of children, the children in poverty measure is far above the 23-year low of 15.8% in the 2002 Edition and near the 1990 level of 20.6%.
Public Health Funding	State public health funding continues its slow decline over the past 4 years. Since 2011, it decreased from $95.01 to $90.00 in expenditures per person at the state level.
Immunization Coverage — Children	Nationwide, comprehensive immunization coverage among children aged 19 to 35 months is only 70.4%. It increased marginally in the past year.
Immunization Coverage — Adolescents	Nationwide, comprehensive immunization coverage among teens aged 13 to 17 years is only 67.1%. It increased marginally in the past year.
Low Birthweight	In the last 20 years, the prevalence of low birthweight infants has increased from 7.1% to 8.0% nationwide. The good news is that it appears to have peaked in 2009 and is trending downward.
Diabetes	In the nation, 9.6% of adults report they have been told they have diabetes. There has been a steady, upward climb in the prevalence of diabetes, although data from the last 3 years shows a leveling of the prevalence.

The United States has the potential to return to the rates of improvement typical in the 1990s. However, to do so, it must address the drivers of health directly by focusing on reducing important risk factors. For example, the prevalence of smoking had been stagnant for many years and recently started to show improvement in the last two decades. However, there was an increase in rates from 2010 to 2012. In the last year, the prevalence of smoking declined in the United States from 21.2 percent to 19 percent of adults who smoke regularly; however Tennessee ranks 46th as one of the bottom five states with 24.3 percent of adults smoking and Virginia ranks 24th at 19.1 percent.

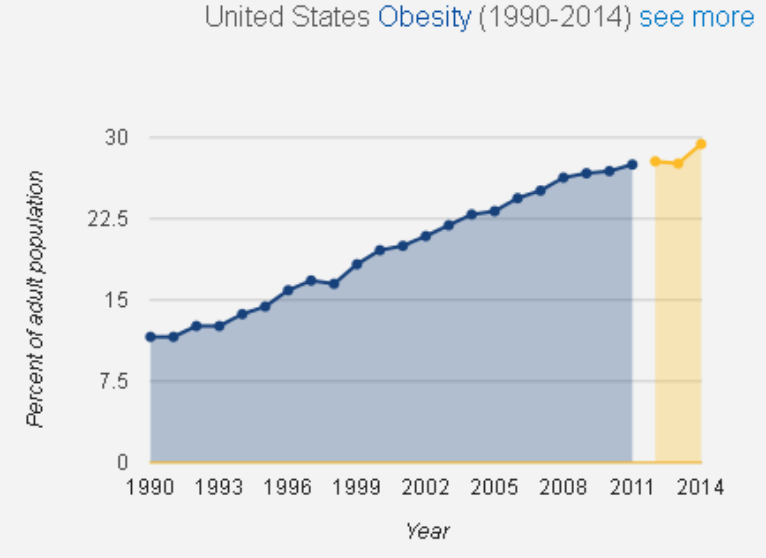
Graph 1 - Prevalence of Smoking Since 1990



Unprecedented and unchecked growth in the prevalence of obesity over the last 20 years has also dramatically affected the overall health of the United States. The prevalence of obesity, a risk factor for numerous illnesses including heart disease and diabetes, appears to be leveling off after increasing for decades. However, more than one in four people in the U.S. is considered obese - a category that the Centers for Disease Control and Prevention reserves for those who are significantly over the suggested body weight given their height. In the United States, the prevalence of obesity is 29.4 percent of adults, which has increased from 27.8 percent in 2012. Virginia's obesity score ranks 18th at 27.2 percent, while Tennessee ranks 47th at 33.7 percent of obese adults.

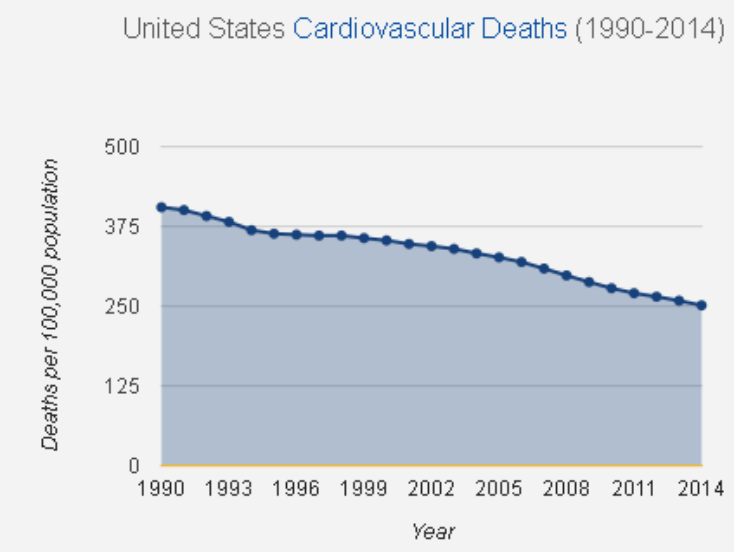
These very high obesity rates are gathered from the Behavioral Risk Factor Surveillance System, the nation's largest phone survey about health, and rely on self-reported height and weight. Actual obesity rates, as measured by health professionals, may be almost 10 percent higher, meaning that over one-third of the population is now obese.

Graph 2 - Prevalence of Obesity Since 1990



Despite increasing risk factors such as obesity, high cholesterol, and high blood pressure, deaths contributed to cardiovascular disease have consistently declined by 2 to 3 percent per year for the last decade. Cardiovascular disease accounts for 30 percent of Medicare spending, 17 percent of medical spending, and totals nearly $150 billion each year. For cardiovascular deaths, Virginia ranked 25th with a rate of 241.1 per 100,000 and Tennessee ranked 44th with the rate of 300.6.

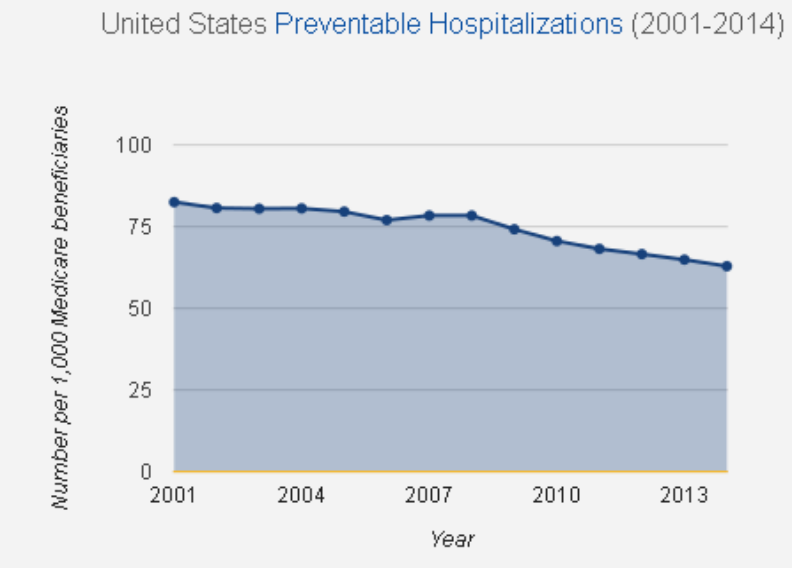
Graph 3 – Prevalence of Cardiovascular Deaths Since 1990



Like cardiovascular disease, potentially preventable hospitalizations have steadily decreased over the past 12 years. Preventable hospitalizations (hospitalizations that may be preventable with high quality primary and preventive care) have decreased from 82.5 to 62.9 discharges per 1,000 Medicare enrollees since 2001. Preventable hospitalizations reflect how efficiently a population uses various health care options for care and often occur as a result of a failure to detect or treat

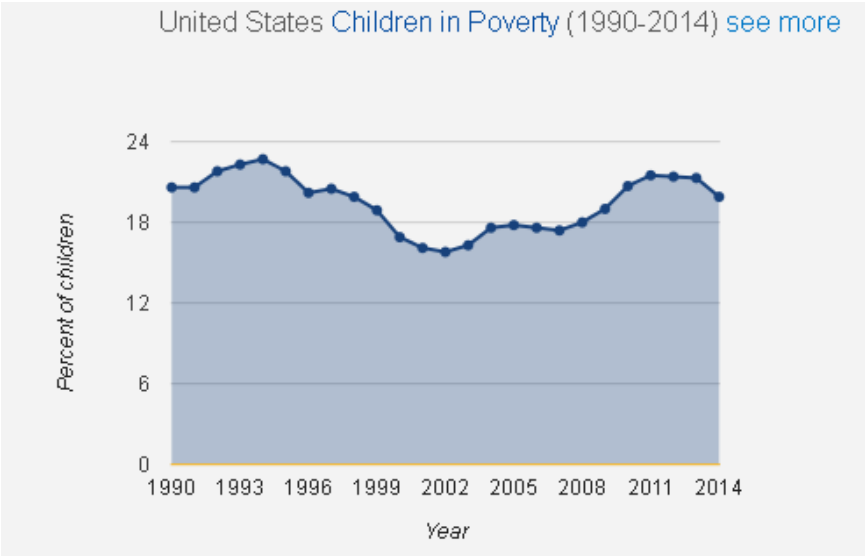
conditions early. Preventable hospitalizations could be avoided with earlier, less costly interventions. Virginia ranked 22nd in this measure with a 55.2 rate and Tennessee ranked 47th with a rate of 78.5.

Graph 4 – Preventable Hospitalizations Since 2001



The current economic climate also increases the challenge of maintaining a healthy population. Poverty is an indication of the lack of access to health care, including preventive care, for this vulnerable population. Graph 5 shows the recent increase in the percentage of children in poverty in the last few years, increasing from 16.1 percent of children in the 2011 Edition to 19.9 percent of children in the 2014 Edition. On this measure Virginia ranks 12th with a 14.5 percent of children living in poverty and Tennessee ranks 45th with 26.7 percent. In the 2002 Edition, the child poverty rate was at a historic low of 15.8 percent of persons under age 18.

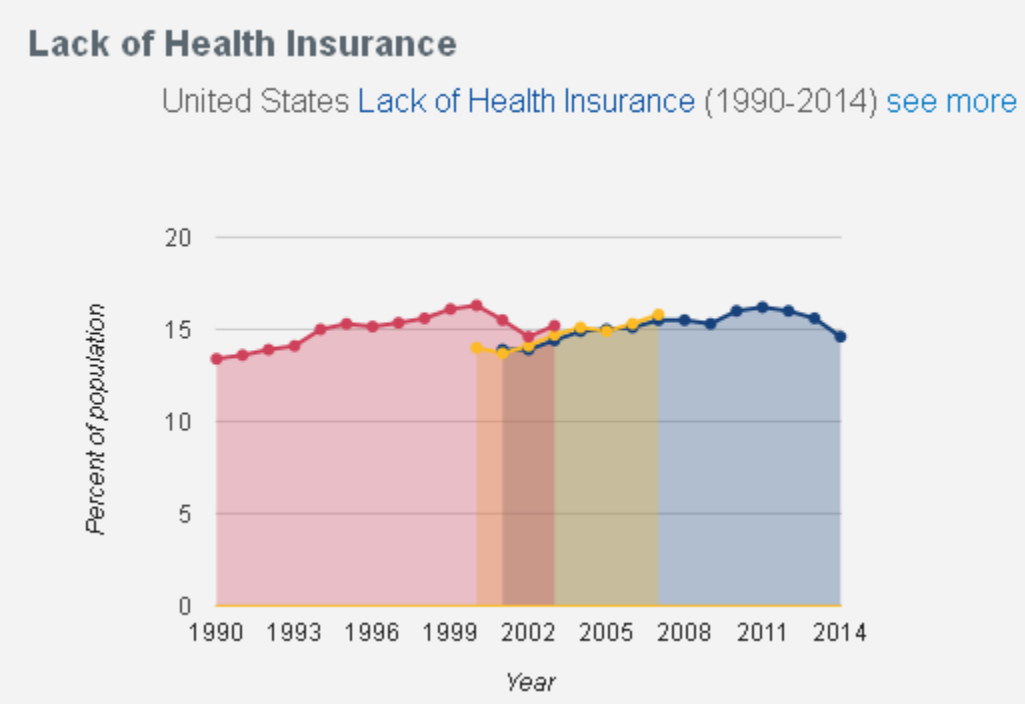
Graph 5 – Children in Poverty since 1990



Lack of health insurance coverage increased from 13.9 percent in the 2001 Edition to 14.6 percent of the population in the 2014 Edition. Lack of health insurance not only inhibits people from getting the proper care when needed but also reduces access to necessary preventive care to curtail or minimize future illnesses.

Massachusetts, with the lack of health insurance at 3.8 percent of the population, is substantially better than all other states and less than one-fourth of the national average. Texas has a rate six times that of Massachusetts. Changes in national health care laws have the potential to dramatically affect this metric over the next few years.

Graph 6 – Lack of Health Insurance Since 2001



2014 State Results

America's Health Rankings®-2014 Edition shows Hawaii at the top of the list of healthiest states again this year. The state has steadily remained within the top 5 healthiest states since 1990. Hawaii has consistently sustained its place within the top 5 healthiest states for the last 22 years, excluding 2002 when it was ranked 6th. Hawaii's strengths include its number one position for overall health rank and ranking in the top 5 states for a low rate of preventable hospitalizations, high immunization coverage among children, low prevalence of smoking and obesity, high per capita public health funding, a low rate of uninsured population, and low cancer and cardiovascular mortality rates. Hawaii's three challenges are a high prevalence of binge drinking, low high school graduate rate, and a high incidence of Salmonella infections.

Mississippi is 50th this year, the same as the last ten years, excluding in 2011 when it ranked 49th. It has been in the bottom three states since the 1990 Edition. The state ranks well for a low prevalence of binge drinking, higher immunization coverage among children, and small disparity in health status by educational attainment. In the past year, despite ranking last in the nation for immunization coverage among adolescents, coverage increased from 30.2 percent to 35.4 percent of persons aged 13 to 17 years. Mississippi also ranks last in many health outcomes, including infant mortality, low birth weight, premature death, cardiovascular death, infectious diseases, and overall health status. Mississippi's prevalence of obesity, physical inactivity, and diabetes remain among the highest in the nation with approximately 690,000 physically inactive adults, 770,000 obese adults, and 280,000 adults with diabetes. It ranks 48th in health determinants and 49th in health outcomes; therefore, its overall ranking is unlikely to change significantly in the near future

2014 Edition Ranking

2014 RANK (1–50)	STATE	SCORE
1	Hawaii	.91
2	Vermont	.85
3	Massachusetts	.74
4	Connecticut	.74
5	Utah	.73
6	Minnesota	.73
7	New Hampshire	.68
8	Colorado	.57
9	North Dakota	.55
10	Nebraska	.50
11	New Jersey	.47
12	Oregon	.41
13	Washington	.40
14	New York	.39
15	Rhode Island	.37
16	Maryland	.35
17	California	.35
18	Idaho	.34
18	South Dakota	.34
20	Maine	.30
21	Virginia	.30
22	Montana	.28
23	Wisconsin	.23
24	Iowa	.22
25	Wyoming	.21

2014 Edition Ranking

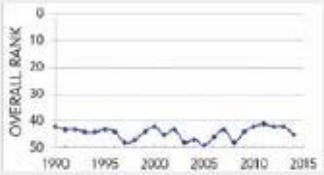
2014 RANK (1–50)	STATE	SCORE
26	Alaska	.13
27	Kansas	.08
28	Pennsylvania	.01
29	Arizona	-.04
30	Illinois	-.08
31	Texas	-.11
32	Florida	-.15
33	New Mexico	-.18
34	Michigan	-.21
35	Delaware	-.23
36	Missouri	-.28
37	North Carolina	-.29
38	Georgia	-.32
39	Nevada	-.33
40	Ohio	-.36
41	Indiana	-.38
42	South Carolina	-.64
43	Alabama	-.66
44	West Virginia	-.71
45	Tennessee	-.71
46	Oklahoma	-.74
47	Kentucky	-.75
48	Louisiana	-.80
49	Arkansas	-.93
50	Mississippi	-1.00

Tennessee



Overall Rank: 45

Change: ▼ 3
Determinants Rank: 44
Outcomes Rank: 46



Strengths:

- Low prevalence of binge drinking
- Low incidence of pertussis
- Ready availability of primary care physicians

Challenges:

- High prevalence of obesity
- High prevalence of physical inactivity
- High violent crime rate

Ranking:

Tennessee is 45th this year; it was 42nd in 2013. The ranking for senior health in Tennessee was 43rd in 2014.

Highlights:

- In the past year, physical inactivity increased by 17 percent from 28.6 percent to 33.6 percent of adults.
- In the past year, binge drinking decreased by 15 percent from 11.3 percent to 9.6 percent of adults, the lowest rate in the nation.
- In the past year, preventable hospitalizations decreased by 10 percent from 80.8 to 73.1 per 1,000 Medicare beneficiaries.
- In the last 2 years, immunization coverage among adolescents increased by 16 percent from 52.7 percent to 61.2 percent of adolescents aged 13 to 17 years.
- Since 1990, children in poverty decreased by 10 percent from 29.6 percent to 26.7 percent of children.

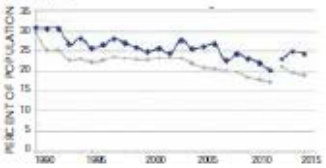
State Health Department Website:

http://health.state.tn.us

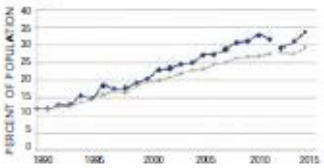
	2014 VALUE	2014 RANK	NO.1 STATE
Behaviors			
Smoking (Percent of adult population)	24.3	46	10.3
Binge Drinking (Percent of adult population)	9.6	1	9.6
Drug Deaths (Deaths per 100,000 population)	17.2	40	3.0
Obesity (Percent of adult population)	33.7	47	21.3
Physical Inactivity (Percent of adult population)	33.6	49	16.2
High School Graduation (Percent of incoming ninth graders)	83.0	20	93.0
Community & Environment			
Violent Crime (Offenses per 100,000 population)	644	50	123
Occupational Fatalities (Deaths per 100,000 workers)	5.0	32	2.2
Infectious Disease (Combined score Chlamydia, Pertussis, *Salmonella**)	0.01	29	-0.9
Chlamydia (Cases per 100,000 population)	507.9	39	233.0
Pertussis (Cases per 100,000 population)	4.8	10	1.6
Salmonella (Cases per 100,000 population)	17.2	35	6.8
Children in Poverty (Percent of children)	26.7	45	9.2
Air Pollution (Micrograms of fine particles per cubic meter)	9.5	30	4.9
Policy			
Lack of Health Insurance (Percent of population)	13.9	26	3.8
Public Health Funding (Dollars per person)	$83	20	$219
Immunization–Children (Percent aged 19 to 35 months)	68.5	33	82.1
Immunization–Adolescents (Percent aged 13 to 17 years)	61.2	36	81.3
Clinical Care			
Low Birthweight (Percent of live births)	9.2	44	5.7
Primary Care Physicians (Number per 100,000 population)	124.4	19	324.6
Dentists (Number per 100,000 population)	50.9	36	107.6
Preventable Hospitalizations (Number per 1,000 Medicare beneficiaries)	73.1	46	28.2
ALL DETERMINANTS	-0.43	44	0.71
OUTCOMES			
Diabetes (Percent of adult population)	12.2	46	6.5
Poor Mental Health Days (Days in previous 30 days)	3.7	24	2.5
Poor Physical Health Days (Days in previous 30 days)	5.0	49	2.8
Disparity in Health Status (Percent difference by education level**)	32.1	38	15.5
Infant Mortality (Deaths per 1,000 live births)	7.3	41	4.2
Cardiovascular Deaths (Deaths per 100,000 population)	300.6	44	184.7
Cancer Deaths (Deaths per 100,000 population)	213.5	44	145.7
Premature Deaths (Years lost per 100,000 population)	9,168	43	5,345
ALL OUTCOMES	-0.29	46	0.34
OVERALL	-0.71	45	0.91

*Negative score denotes less disease than US average, positive score indicates more than US average
**Difference in the percentage of adults aged 25 and older with vs without a high school education who report their health is very good or excellent

SMOKING



OBESITY



STATE ◆——◆ NATION ●——●

The 2012–2014 data in the above graphs are not directly comparable to prior years. See Methodology for additional information.

ECONOMIC ENVIRONMENT	TN	US
Annual Unemployment Rate (2013)	8.2	7.4
Annual Underemployment Rate (2013)	14.7	13.8
Median Household Income (2013)	$42,499	$51,939

MEASURE	ADULT POPULATION AFFECTED
Smoking	1,163,000
Obesity	1,595,000
Physical Inactivity	1,691,000
Diabetes	615,000

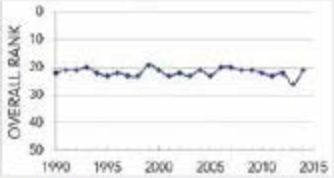
Virginia

VIRGINIA



Overall Rank: 21

Change: ▲ 5
Determinants Rank: 19
Outcomes Rank: 23



Strengths:

- Low rate of drug deaths
- Low violent crime rate
- Low percentage of children in poverty

Challenges:

- Low immunization coverage among children
- Low immunization coverage among teens
- High infant mortality rate

Ranking:

Virginia is 21st this year; it was 26th in 2013. The ranking for senior health in Virginia was 21st in 2014.

Highlights:

- In the past year, air pollution decreased by 6 percent from 9.3 to 8.7 micrograms of fine particles per cubic meter.
- In the last 2 years, drug deaths decreased by 10 percent from 9.3 to 8.4 deaths per 100,000 population.
- In the last 10 years, preventable hospitalizations decreased by 25 percent from 73.8 to 55.2 per 1,000 Medicare beneficiaries.
- Since 1990, cardiovascular deaths decreased by 42 percent from 413.2 to 241.1 deaths per 100,000 population.
- Since 1990, infant mortality decreased by 38 percent from 10.6 to 6.6 deaths per 1,000 live births.

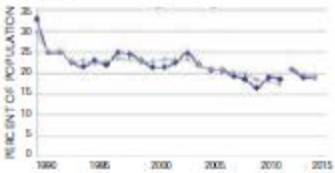
State Health Department Website:

www.vdh.state.va.us

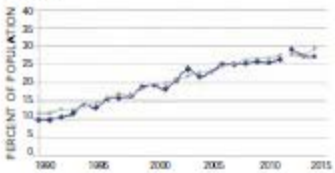
	2014 VALUE	2014 RANK	NO 1 STATE
Behaviors			
Smoking (Percent of adult population)	19.0	24	10.3
Binge Drinking (Percent of adult population)	15.9	20	9.6
Drug Deaths (Deaths per 100,000 population)	8.4	4	3.0
Obesity (Percent of adult population)	27.2	18	21.3
Physical Inactivity (Percent of adult population)	23.0	20	16.2
High School Graduation (Percent of incoming ninth graders)	84.0	16	93.0
Community & Environment			
Violent Crime (Offenses per 100,000 population)	190	4	123
Occupational Fatalities (Deaths per 100,000 workers)	4.4	25	2.2
Infectious Disease (Combined score Chlamydia, Pertussis, *Salmonella**)	-0.29	16	-0.9
Chlamydia (Cases per 100,000 population)	431.8	26	233.0
Pertussis (Cases per 100,000 population)	7.7	18	1.6
Salmonella (Cases per 100,000 population)	14.1	25	6.8
Children in Poverty (Percent of children)	14.5	12	9.2
Air Pollution (Micrograms of fine particles per cubic meter)	8.7	19	4.9
Policy			
Lack of Health Insurance (Percent of population)	12.4	20	3.8
Public Health Funding (Dollars per person)	$68	28	$219
Immunization–Children (Percent aged 19 to 35 months)	69.2	29	82.1
Immunization–Adolescents (Percent aged 13 to 17 years)	58.5	42	81.3
Clinical Care			
Low Birthweight (Percent of live births)	8.1	27	5.7
Primary Care Physicians (Number per 100,000 population)	125.8	16	324.6
Dentists (Number per 100,000 population)	61.6	19	107.6
Preventable Hospitalizations (Number per 1,000 Medicare beneficiaries)	55.2	22	28.2
ALL DETERMINANTS	0.24	19	0.71
OUTCOMES			
Diabetes (Percent of adult population)	9.8	26	6.5
Poor Mental Health Days (Days in previous 30 days)	3.3	11	2.5
Poor Physical Health Days (Days in previous 30 days)	3.6	15	2.8
Disparity in Health Status (Percent difference by education level**)	29.1	27	15.5
Infant Mortality (Deaths per 1,000 live births)	6.6	31	4.2
Cardiovascular Deaths (Deaths per 100,000 population)	241.1	25	184.7
Cancer Deaths (Deaths per 100,000 population)	189.5	23	145.7
Premature Deaths (Years lost per 100,000 population)	6,502	19	5,345
ALL OUTCOMES	0.06	23	0.34
OVERALL	0.30	21	0.91

*Negative score denotes less disease than US average, positive score indicates more than US average
**Difference in the percentage of adults aged 25 and older with vs without a high school education who report their health is very good or excellent

SMOKING



OBESITY



STATE ◆—◆ NATION ●—●

The 2012–2014 data in the above graphs are not directly comparable to prior years. See Methodology for additional information.

ECONOMIC ENVIRONMENT	VA	US
Annual Unemployment Rate (2013)	5.5	7.4
Annual Underemployment Rate (2013)	11.5	13.8
Median Household Income (2013)	$67,620	$51,939

MEASURE	ADULT POPULATION AFFECTED
Smoking	1,159,000
Obesity	1,632,000
Physical Inactivity	1,481,000
Diabetes	631,000

As Mountain States Health Alliance works to develop an implementation plan based on the findings from this assessment, key focus areas for consideration to impact the health of our community would be the 27 measures that comprise the *America's Health Rankings*. These determinants have been carefully selected by leaders in health and public policy as factors which have the greatest impact on future health of a population. For a state (or area for that matter) to improve the health of its population, efforts must focus on changing the determinants of health. A description of these determinants is outlined below.

Selection of Components

Four primary considerations drove the design of *America's Health Rankings*® and the selection of the individual measures:

1. The overall rankings had to represent a broad range of issues that affect a population's health,
2. Individual measures needed to use common health measurement criteria,
3. Data had to be available at a state level, and
4. Data had to be current and updated periodically.

While not perfect, the measures selected are believed to be the best available indicators of the various aspects of healthiness at this time and are consistent with past reports.

The measures are divided into two categories - Determinants and Outcomes. For further clarity, determinants are divided into four groups: Behaviors, Community and Environment, Public and Health Policies, and Clinical Care. These four groups of measures influence the health outcomes of the population in a state, and improving these inputs will improve outcomes over time. Most measures are actually a combination of activities in all four groups. For example, the prevalence of smoking is a behavior that is strongly influenced by the community and environment in which we live, by public policy including taxation and restrictions on smoking in public places, and by the care received to treat the chemical and behavioral addictions associated with tobacco. However, for simplicity, we placed each measure in a single category.

For *America's Health Rankings*® to continue to meet its objectives it must evolve and incorporate new information as it becomes available. The Scientific Advisory Committee provides guidance for the evolution of the rankings, balancing the need to change with the desire for longitudinal comparability. Over the last few years, change is being driven by: 1) the acknowledgment that health is more than years lived but also includes the quality of those years; 2) data about the quality and cost of health care delivery are becoming available on a comparative basis; and 3) measurement of the additional determinants of health are being initiated and/or improved. The committee also emphasizes that the real impact on health will be made by addressing the determinants, and making improvements on these items will affect the long-term health of the population. The determinants are the predictors of our future health.

Outcomes are traditionally measured using mortality measures which include premature death, infant mortality, cancer and cardiovascular mortality. While these measures overlap significantly, they do present different views of mortality outcomes of a population. Two measures of the quality of life- poor mental health days and poor physical health days - are also included and defined as the number of days in the previous 30 days when a person indicates their activities are limited due to mental or physical health difficulties.

As with all indices, the positive and negative aspects of each measure must be weighed when choosing and developing them. These aspects for consideration include: 1) the interdependence of

the different measures; 2) the possibility that the overall ranking may disguise the effects of individual measures; 3) an inability to adjust all data by age and race; 4) an over-reliance on mortality data; and 5) the use of indirect measures to estimate some effects on health. These concerns cannot be addressed directly by adjusting the methodology; however, assigning weights to the individual measures can mitigate their impact.

Each measure is assigned a weight that determines its percentage of the overall score. Determinants account for 75 percent of the overall ranking and outcomes account for 25 percent, a shift from the 50/50 balance in the original 1990 index. This reflects the importance and growing availability of determinant data.

A short description of each measure immediately follows. The data for each year is the most current data available at the time the report was compiled.

The table includes the core measures included in the current model, plus supplemental measures that can be used to further understand each state's unique situation. The supplemental measures are more fully described at http://www.americashealthrankings.org/About/Model.

Data for each state and the United States is available at Get Informed or by clicking the link above.

Core Measures

Determinants

Behaviors	Description
Smoking	Percentage of adults who are current smokers (smoked at least 100 cigarettes in their lifetime and currently smoke).
Binge Drinking	Percentage of adults who self-report having 4 or more (women) or 5 or more (men) alcoholic beverages on at least 1 occasion in the past 30 days.
Drug Deaths	Number of deaths due to drug injury of any intent (unintentional, suicide, homicide, or undetermined) per 100,000 population.
Obesity	Percentage of adults who are obese, with a body mass index (BMI) of 30.0 or higher.
Physical Inactivity	Percentage of adults who report doing no physical activity or exercise (such as running, calisthenics, golf, gardening, or walking) other than their regular job in the last 30 days.
High School Graduation	Percentage of incoming ninth graders who graduate in 4 years from a high school with a regular degree.

Community and Environment

Violent Crime	Number of murders, rapes, robberies, and aggravated assaults per 100,000 population.
Occupational Fatalities	Number of fatalities from occupational injuries per 100,000 workers.
Children in Poverty	Percentage of persons younger than 18 years who live in households at or below the poverty threshold.
Infectious Disease	Combined average z-score using the values of incident cases of chlamydia, pertussis, and *Salmonella* per 100,000 population.

Air Pollution	Average exposure of the general public to particulate matter of 2.5 microns or less in size (PM2.5).

Policy

Lack of Health Insurance	Percentage of the population that does not have health insurance privately, through their employer, or the government.
Public Health Funding	State funding dedicated to public health as well as federal funding directed to states by the Centers for Disease Control and Prevention and the Health Resources and Services Administration.
Immunization-Children	Percentage of children receiving the recommended doses of DTaP, polio, MMR, Hib, hepatitis B, varicella, and PCV vaccines by age 19–35 months.
Immunization-Adolescents	Percentage of adolescents aged 13 to 17 years who have received 1 dose of Tdap since the age of 10 years, 1 dose of meningococcal conjugate vaccine, and 3 doses of HPV vaccine (females only).

Clinical Care

Low Birth weight	Percentage of infants weighing less than 2,500 grams (5 pounds, 8 ounces) at birth.
Primary Care Physicians	Number of primary care physicians (including general practice, family practice, OB-GYN, pediatrics, and internal medicine) per 100,000 population.
Dentists	Number of dentists per 100,000 population
Preventable Hospitalizations	Discharge rate among the Medicare population for diagnoses that are amenable to non-hospital based care.

Outcomes

Diabetes	Percentage of adults who have been told by a health professional that they have diabetes (does not include pre-diabetes or diabetes during pregnancy).
Poor Mental Health Days	Number of days in the previous 30 days when a person indicates their activities were limited due to mental health difficulties.
Poor Physical Health Days	Number of days in the previous 30 days when a person indicates their activities were limited due to physical health difficulties.
Disparity in Health Status	Percent difference in adults aged 25 and older who did not graduate high school and adults with at least a high school education who self-report being in excellent or very good health.
Infant Mortality	Number of infant deaths (before age 1) per 1,000 live births.
Cardiovascular Deaths	Number of deaths due to all cardiovascular diseases, including heart disease and strokes, per 100,000 population
Cancer Deaths	Number of deaths due to all causes of cancer per 100,000 population
Premature Death	Number of years of potential life lost prior to age 75 per 100,000 population

Supplemental Measures

Behaviors

Cholesterol Check	Percentage of adults who have had their blood cholesterol checked within the last 5 years.
Dental Visit, Annual	Percentage of adults who have visited the dentist or dental clinic within the past year for any reason.
Diet, Fruit	Number of fruits consumed on an average day.
Diet, Vegetables	Number of vegetables consumed on an average day.
Teen Birth Rate	Number of births per 1,000 mothers aged 15 to 19 years.
Youth Smoking	Percentage of high school youth who smoked cigarettes on at least 1 day during the last 30 days.
Youth Obesity	Percentage of high school students who were greater or equal to the 95th percentile for body mass index, based on sex and age-specific reference data from the 2000 CDC growth charts.

Chronic Disease

Heart Disease	Percentage of adults who have been told by a health professional that they have angina or coronary heart disease.
High Cholesterol	Percentage of adults who have had their cholesterol checked and been told that it was high.
Heart Attack	Percentage of adults who have been told by a health professional that they had a heart attack (myocardial infarction).
Stroke	Percentage of adults who have been told by a health professional that they had a stroke.
Hypertension	Percentage of adults who have been told by a health professional that they have high blood pressure.

Clinical Care

Preterm Birth	Percentage of babies born before 37 weeks gestation.

Economic Environment

Personal Income	Per capita personal income in current dollars.
Median Household Income	The amount of income that divides the income distribution into 2 equal groups.
Unemployment Rate	Total unemployed as a percentage of the civilian labor force (U-3 definition).
Underemployment Rate	Total unemployed, plus all marginally attached workers, plus total employed part-time for economic reasons, as a percent of the civilian labor force (U-6 Definition).
Income Disparity (Gini coefficient)	A common measure of income inequality, where 0 represents complete equality and 1 indicates complete inequality.

Outcomes

Low Health Status	Percentage of adults who describe their general health as fair or poor.
Suicide	Number of deaths due to intentional self-harm per 100,000 population.

Overview

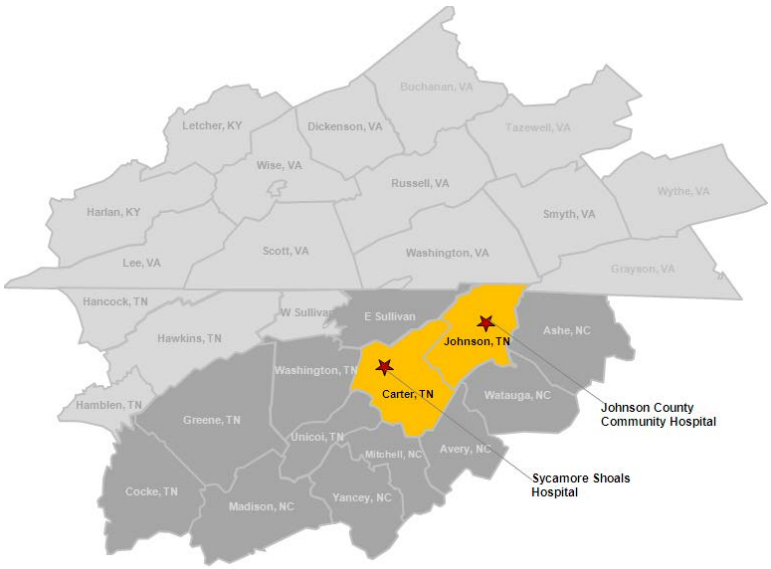
The County Snapshots consists of demographics, key indicators of health status, interview highlights, and local resources. The model for the key indicators of health status analysis was based on the 2015 *County Health Rankings*, a key component of the Mobilizing Action Toward Community Health (MATCH). MATCH is collaboration between the Robert Wood Johnson Foundation and the University of Wisconsin Population Health Institute. Indicators are organized into two broad categories: Health Outcomes and Health Factors. The Health Factors have multiple components, including Clinical Care, Health Behaviors, Social and Economic Factors, and Physical Environment. A number of additional key indicators of health status were included in this analysis from other sources (they are noted in blue font in the snapshot section). For each indicator, the state and county score is provided as well as a comparison of the county's performance to that of the state.

SYCAMORE SHOALS HOSPITAL

Service Area Counties:

- Carter, TN
- Johnson, TN

Primary Service Area Map:



Facility Profiles:

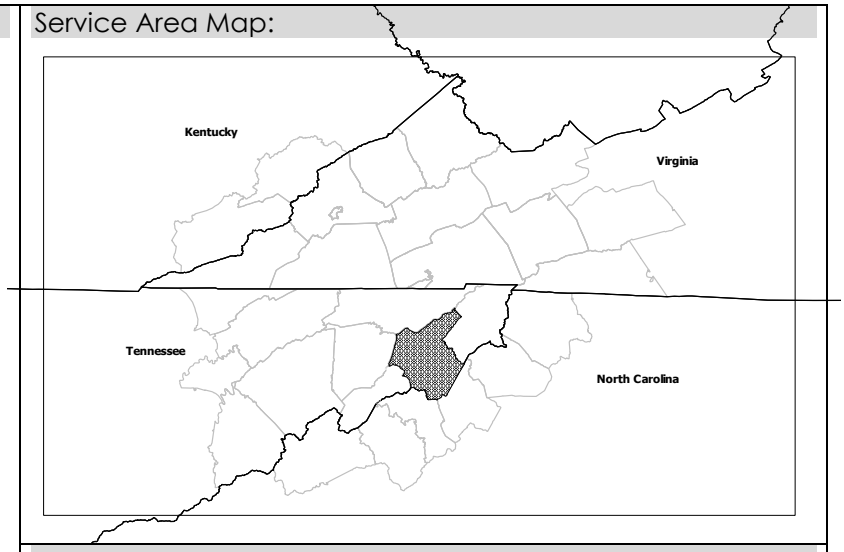
Sycamore Shoals Hospital (SSH), located in Elizabethton, Tennessee, is a 121-bed non-profit hospital dedicated to providing a lifetime of quality, patient-centered health care. SSH is fully accredited by The Joint Commission and serves the East Tennessee counties of Carter, Johnson, Sullivan and Unicoi and surrounding counties in North Carolina. The caring staff is committed to providing superior care and meeting the community's need.

A 6-page profile of each county is provided. The profile includes demographic highlights, key indicators of health status, utilization projections, and survey results specific to the county. A detailed demographic analysis by county is provided in the appendix which follows the collection of county snapshots.

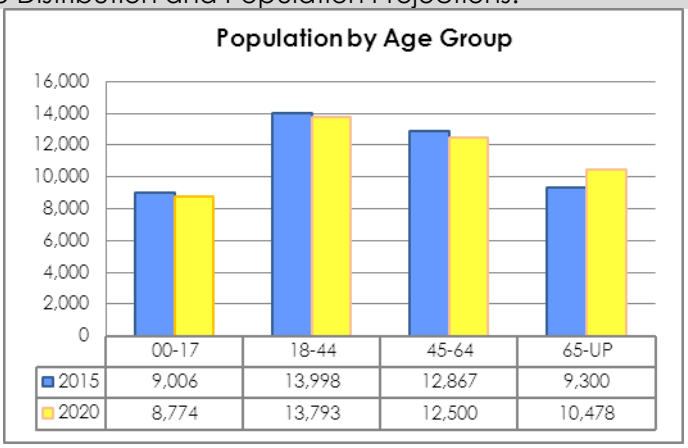
Demographic Highlights:

- Large elderly population compared to TN and US
- Declining rate of females of child-bearing age expected
- Low average household income level (20.6% of households make less than $15,000)
- Lower level of educational attainment compared to state and country (9.1% with no high school education compared to 5.9% nationally)
- Low level of diversity compared to state and national

Service Area Map:



Age Distribution and Population Projections:



Key Statistics:

	Carter County	Tennessee	U.S.
2015 Total Population	45,171	6,735,022	321,369,000
% Change 2015-2020	0.8%	5.5%	4.1%
% of Population 65+ (2015)	20.6%	15.6%	14.9%
% Minority (2015)	4.5%	26.1%	38.3%

	2015	2020	% Change
Total Male Population	22,105	22,298	0.9%
Total Female Population	23,066	23,247	0.8%
Females, Child Bearing Age (15-44)	7,730	7,608	-1.6%

Local Health Highlights:

STRENGTHS:

- Divorce Rate
- STD
- Teen Pregnancy
- Binge Drinking
- Deaths due to diabetes
- Children Un/Improperly Restrained in a Crash

WEAKNESSES:

- Pre-1950 housing
- Diabetic HbA1c testing
- Smoking During Pregnancy
- Deaths due to cardiovascular and cancer
- No Biennial Mammogram
- Air Quality Hazard Index

Leading Causes of Death:

Leading Causes of Death

Ages 1 - 14 years

Cause of Death	Rate	Rank
Accidents	22.5	1
Motor Vehicle Accident	11.1	2
Malformation/Abnormalities	7.3	3
All Other Causes	0.0	*

Ages 15 - 21 years

Cause of Death	Rate	Rank
Accidents	17.9	1
Meningitis	6	2
Suicide	5.9	3
All Other Causes	0	*

Ages 22 - 64

Cause of Death	Rate	Rank
Cancer	116.8	1
Heart Disease	85.9	2
Accidents	46.9	3
Chronic Lower Respiratory	30.6	4
Liver & Cirrhosis	21.1	5
Diabetes Mellitus	16.3	6
Influenza/Pneumonia	15.3	7
Suicide	14.4	8
Cerebrovascular Disease	11.5	9
Viral Hepatitis	8.6	10
All Other Causes	91.1	*

Ages 65+

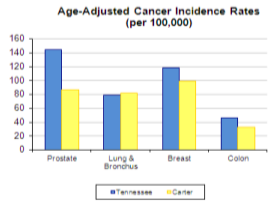
Cause of Death	Rate	Rank
Heart Disease	1153.9	1
Cancer	1041.2	2
Chronic Lower Respiratory	348.2	3
Influenza & Pneumonia	307.2	4
Alzheimer's Disease	273.1	5
Cerebrovascular Disease	218.5	6
Accidents	105.8	7
Diabetes Mellitus	102.4	8
Septicemia	75.1	9
Pneumonitis	58	10
All Other Causes	1031	*

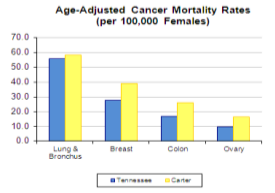
Key Indicators of Health Status:

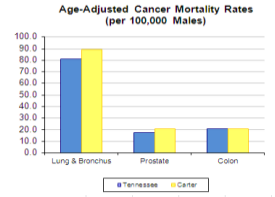
County: Carter, TN

	TN	Carter	2010	Desired
Health Outcomes				↓
Mortality (years of potential life lost/ 100,000)	8,790	9,292	9447	↓
Low Birth Weight (3-yr avg %)	9.0%	9.2%	9.30%	↓
General Health Status (% fair/poor health)*	19.0%	25.0%	26.00%	↓
Very Low Birth Weight (%)	1.6%	1.0%	3.30%	↓
Infant Mortality (3-yr avg rate per 1,000)	8.1	10.8	11.7	↓
Mortality Rate (3-yr avg rate per 100,000)	953.0	1,053.0	972.6	↓
Cardiovascular Deaths (per 100,000)	226.5	237.9	295.6	↓
Cancer Deaths (3-yr avg rate per 100,000)	214.4	237.9	220.5	↓
Diabetes Mellitus Deaths (per 100,000)	28.7	18.3	35.3	↓
Cerebrovascular Deaths (per 100,000)	47.0	45.0	48.7	↓
Suicide Deaths (per 100,000)	15.0	15.0	23.5	↓
Mortality rate for ages 1- 14 yrs	66.8	86.4	95.2	↓
Mortality rate for ages 15 - 21yrs	70.4	30.0	107.2	↓
Mortality rates for ages 65+	4,870.1	4,714.4	5472	↓
Lung Cancer Deaths (3-yr avg rate per 100,000)	68.8	77.4	71.6	↓
Female Breast Cancer Deaths (3-yr avg rate per 100,000)	14.1	17.3	20.5	↓
Prevalence of Asthma (%)	9.3	13.2	90.5	↓
Prevalence of Diabetes (%)	11.3	12.8	57.7	↓
Health Determinants				↓
Health Care Resources				↓
No Health Insurance (%)*	21.0%	22.0%	16.40%	↓
Medicaid/Tenncare Enrollees (%)	18.7%	19.6%	20.20%	↓
Medical Doctors Per Capita (per 100,000)	246.1	71.4	55.7	↑
Dentists Per Capita (per 100,000)	52.2	27.9	32	↑
Percent without Pneumococcal Vaccinations (%)*	74.2%	66.7%	72.30%	↓
Percent without Influenza Vaccinations (%)*	59.4%	50.7%	59.30%	↓
No Diabetic Eye Exams (%)	74.3%	72.2%	58.30%	↓
No Diabetic HbA1c Testing (%)	16.0%	24.0%	18.30%	↓
No Biennial Mammography (%)*	23.3%	29.3%	23.30%	↓
Inadequate or No Prenatal Care (%)	40.7%	33.6%	5.50%	↓
Month Prenatal Care Began	3.2	2.9	2.9	↓
First Trimester Prenatal Care (%)	59.3%	66.4%	72.40%	↑
Children (0-18 yrs) with Medicaid/Tenncare Coverage (%)	46.8%	52.3%	54.60%	↓
Hospital Staffed Beds (per 1,000)	3.6	2.1	2	↑
Licensed Nursing Beds (per 1,000 65+)	44.8	56.7	61	↑
# of Primary Care MDs	7,703	18	18	↓
# of Psychiatric Specialists	684	1	0	↓
Inpatient Discharge Rate (per 1,000) - Total	126.3	112.1	118.9	↓
Health Behaviors (continued)				↓
Cigarette Smoking (%)*	23.0%	28.0%	28.90%	↓
Smoking During Pregnancy (%)	16.3%	29.8%	37.30%	↓
Physical Inactivity (%)*	30.0%	33.0%	38.40%	↓
Overweight/Obesity (% BMI > 25)*	67.8%	67.8%	67.90%	↓
Obesity (% BMI > 30)*	32.0%	35.0%	34.00%	↓
Low Fruit and Vegetable Consumption (% <5 a day)*	76.7%	73.0%	76.60%	↓
Binge Drinking (%)*	10.0%	5.0%	7.90%	↓
% of Children (0-4) Un/Improperly Restrained in a Crash	14.5%	5.2%	7.40%	↓
Teen Birth Rate (per 1,000)	37.3	34.4	49	↓
Sexually Transmitted Diseases (per 100,000)	446	150	108	↓
Violent Crime (per 100,000)	667.0	219.0	240	↓
Motor Vehicle Crash Deaths (per 100,000)	19	18	19	↓
Unmarried Mother Birth Rate (%)	44.1%	42.7%	43.60%	↓
Injury-related Mortality (3-yr avg rate per 100,000)	53.7	50.1	75.6	↓
Young Driver Crash Rate 15 - 24	116.9	94.6	103.5	↓
Elderly Drive Crash Rate (65+)	31.3	24	28.8	↓
Homicides (per 100,000)	8	4.0	0	↓
All accidental deaths per 100,000 population	52	46.7	53.7	↓
Average Fatality Rate in Alchohol-Related Crashes (per 100,000 population)	6.9	3.5	11.1	↓

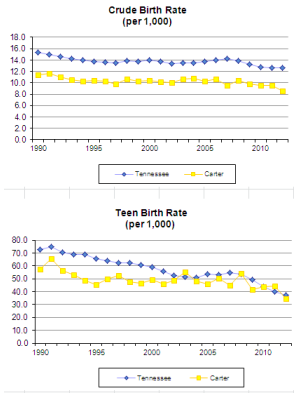
Cancer Incidence:







Birth Rate Trend:



Key Indicators of Health Status:

Socioecomonic Factors				↓
High School Graduation Rate (%)	86.0%	92.0%	88.60%	↑
Level of Education (%)	83.2%	78.6%	75.90%	↑
Unemployment (%)	8.8%	11.1%	8.10%	↓
Children (age 0 to 17) in poverty ratio (%)	26.5%	31.4%	30.30%	↓
Divorce Rate (per 100,000)	4.3	4.1	1.8	↓
Food Stamp Recipients (% of individuals)	21.1%	22.3%	17.70%	↓
Poverty Rate (% of all ages)	18.4%	20.6%	21.50%	↓
Temporary Assistance for Needy Families (% of individuals)	2.6%	1.1%	1.10%	↓
High School Dropout Rate	6.9%	6.7%	7.10%	↓
Average Annual Wage	$ 36,576	$ 27,962	$23,987	↑
Physical Environment				↓
Air Quality Cancer Risk (per 1,000,000)	4.6	3.1	24.1	↓
Air Quality Hazard Index (per 1,000,000)	1.4	9.1	2.8	↓
Air Quality - Fine Particulate Matter in Air (3 yr avg Mg/m3)*	13.2	12.7	14.5	↓
Ozone Level (ppb)*	0.062	0.063	0.082	↓
Nitrate Levels in drinking water (mg/L)	0.70	0.50	1.60	↓
Pre-1950 Housing (%)	11.8%	19.4%	23.60%	↓
Lead Poisoned Children (%)	0.1%	n/a	0.90%	↓
Child Abuse and Neglect (rate per 1,000)	5.5	4.9	5.2	↓
Communicable Diseases				↓
Hepatitis A (per 100,000)	0.3	0.0	n/a	↓
Campylobacter Infection (per 100,000)	7.2	6.8	n/a	↓
Salmonella, Non Typhoid (per 100,000)	17.6	3.4	n/a	↓
Shigellosis (per 100,000)	3.3	0.0	n/a	↓
AIDS/HIV (per 100,000)	293	82	n/a	↓
Primary and Secondary Syphilis (per 100,000)	4.3	0.0	n/a	↓
Penicillin-Sensitive *Streptococcus pneumoniae* (per 100,000)	0.0	0.0	n/a	↓
Group B *Streptococcus* (per 100,000)	6.2	0.0	n/a	↓
Chlamydia (per 100,000)	517.3	164.3	n/a	↓
Gonorrhea (per 100,000)	144.8	27.1	n/a	↓

Inpatient Projections

	2014	2019		2024	
DRG Service Line	**Discharges**	**Discharges**	**% Change**	**Discharges**	**% Change**
Cardiac Surgery	71	68	-3.50%	69	-3.20%
Cardiology	622	539	-13.30%	477	-23.20%
Cardiology Intervention	248	226	-8.90%	209	-15.70%
Endocrinology	159	126	-20.90%	113	-29.00%
ENT Surgery	11	10	-6.80%	10	-11.90%
Gastroenterology	646	611	-5.40%	599	-7.30%
General Medicine	633	635	0.30%	594	-6.20%
General Surgery	364	352	-3.20%	342	-6.20%
Gynecology	55	50	-8.40%	47	-13.90%
Hematology	96	93	-2.80%	95	-0.80%
Neonatology	199	184	-7.50%	172	-13.50%
Nephrology	330	305	-7.50%	276	-16.30%
Neurology	318	316	-0.70%	321	1.00%
Neurosurgery	125	122	-2.10%	122	-2.10%
Normal Newborns	242	249	2.90%	246	1.50%
OB Deliveries Sections	141	121	-14.50%	111	-21.20%
OB Deliveries Vaginal	275	288	4.80%	286	3.90%
OB Other	45	43	-4.50%	42	-7.30%
Oncology Medicine	121	117	-3.10%	107	-11.20%
Oncology Surgery	35	35	-0.70%	33	-5.70%
Ophthalmic Medicine	7	6	-11.50%	6	-16.80%
Ophthalmic Surgery	2	2	-11.70%	2	-11.50%
Oral Surgery	7	7	-6.60%	7	-6.10%
Orthopedic Medicine	84	84	-0.40%	84	0.40%
Orthopedic Surgery	355	373	5.10%	379	6.80%
Otolaryngology	32	28	-12.80%	27	-16.60%
Plastic Surgery	14	13	-6.70%	12	-16.70%
Psychiatry	462	513	11.00%	486	5.30%
Pulmonary	905	781	-13.60%	741	-18.10%
Rehabilitation	89	75	-16.30%	80	-9.70%
Rheumatology	29	27	-6.20%	27	-7.50%
Substance Abuse	62	64	3.30%	62	0.00%
Thoracic Surgery	52	49	-6.30%	47	-9.90%
Trauma Medical	26	24	-8.40%	24	-7.40%
Urology Medicine	25	22	-10.50%	22	-13.80%
Urology Surgery	60	56	-6.10%	53	-12.40%
Vascular Surgery	102	99	-2.60%	96	-5.70%
Womens Other	4	4	-8.90%	3	-20.80%
Grand Total	**7,053**	**6,719**	**-4.70%**	**6,428**	**-8.90%**

Outpatient Projections

	2014		2019			2024	
Site of Care	**Volumes**		**Volumes**	**% Change**		**Volumes**	**% Change**
ED	28,480		28,487	0.00%		27,274	-4.20%
Home	62,251		72,114	15.80%		78,595	26.30%
Hosp OP/ASC	70,077		74,750	6.70%		75,887	8.30%
Office/Clinic	378,290		403,160	6.60%		388,891	2.80%
Other	27,103		29,580	9.10%		30,021	10.80%
SNF	1,708		1,850	8.30%		1,945	13.90%
Urgent/Retail	666		699	5.10%		668	0.40%
Virtual			7,613			31,509	
Grand Total	**568,574**		**618,252**	**8.70%**		**634,791**	**11.60%**

Interview Highlights:

INTERVIEWEES:

- Seventeen (17) individuals

KEY FINDINGS:

- Average rating of health status is 4.7, with a range in responses of 2.5 to 7
- Top health issues are:
  - Obesity
  - Smoking/Tobacco Use
  - Diabetes
  - Substance and Prescription Drug Abuse
- Additional health issues are:
  - Physical Inactivity
  - Poor Nutrition
  - Education
  - Poverty
  - Cardiovascular Disease
  - Cancer
  - COPD
  - Asthma
  - Shift in family culture/norms
  - Transportation barriers
  - Access to dental care
  - Built environment for physical activity
  - Cultural barriers (pride, trust)
  - Fast food culture
  - High cost healthy food
  - Hypertension
  - Stroke
  - Immunizations
  - Literacy
  - Prenatal care/education
  - Teen pregnancy
  - Utilization of health screenings
- Ideas to improve these conditions include:
  - Smoking Cessation Programs
  - MSHA Mobile Health bus travel to Roan Mountain
  - Increase community health events
  - Community Paramedic Program
  - Cooking education classes
  - More public healthcare initiatives for free healthcare and screenings
  - Low cost or free exercise programs/opportunities
  - Low cost or free nutrition coaches
  - Local farmers markets
  - Support groups for grandparents raising grandchildren
  - Organizational collaboration
  - Healthcare navigators/care coordinators
  - COPD clinics
  - Urgent care clinics
  - Care transition coordination
  - Tighter legislation on tobacco products
  - Better promotion/marketing of health programs and services

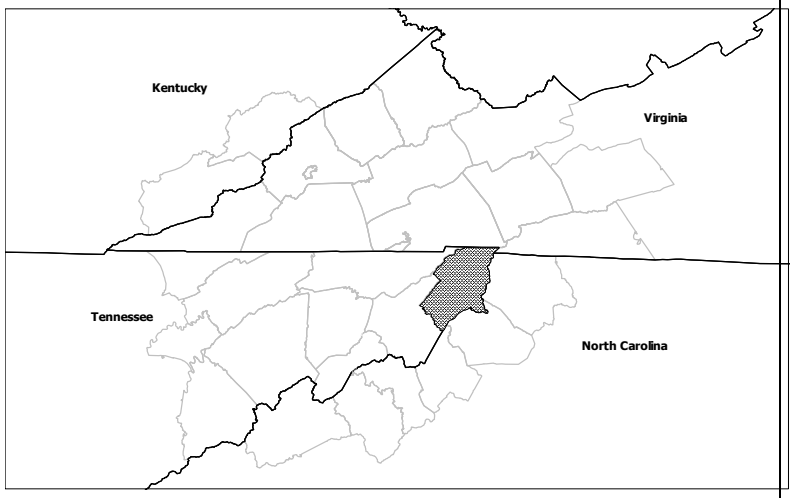
- Legislation on artificial sugar substances
- Additional mental health services
- Parenting skills classes
- Community gardens
- Repeal TN pregnancy criminalization legislation
- Project Access
- Promote health education to younger populations
- Inpatient and outpatient substance abuse treatment programs

Sources:	Local Resources:
▪ Medstat ▪ County Health Rankings ▪ TN Advisory Commission on Intergovernmental Relations ▪ TN Dept of Health ▪ BRFSS ▪ TennCare ▪ Kidscount ▪ TN Dept of Safety and Homeland Security ▪ EPA ▪ CDC Wonder ▪ TN Dept of Environment & Conservation ▪ Childhood Lead Poisoning Prevention Program	▪ Local Health ClinicsFree blood sugar testing at local community events ▪ MSHA Mobile Health bus ▪ Company wellness programs ▪ Coordinated School Health ▪ Carter County Health Council ▪ Carter County Health Department ▪ Walking trails/Tweetsie Trail ▪ Healthy Tennessee / Small Starts ▪ Tennessee Education Initiative ▪ Carter County Anti-Drug Coalition ▪ TNCEP ▪ Tobacco Settlement Fund ▪ TIPS-Maternal Smoking Cessation Program ▪ ReadNPlay ▪ Mommy and Me Support Group ▪ Red Legacy ▪ Project Access ▪ MSHA Health Resources Center

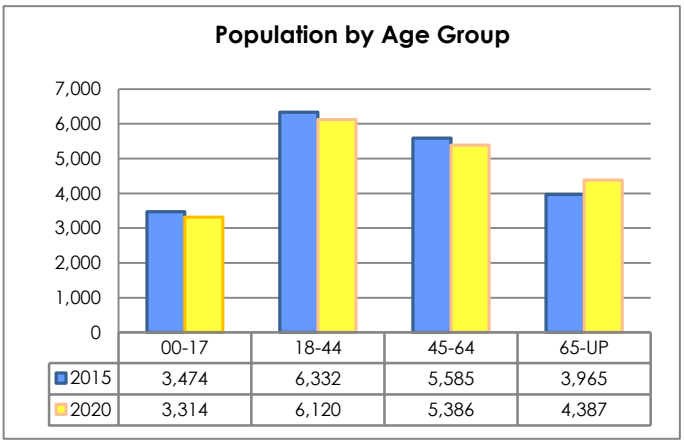
Demographic Highlights:

- Large elderly population compared to TN and US
- Large declining rate of females of child-bearing age expected
- Large disparity between genders (males account for 54% of total vs. females at 46% of total)
- Unemployment rate above national rate
- Low average household income level (21.6% of households make less than $15,000)
- Lower level of educational attainment compared to state and country (11.3% with no high school education compared to 5.9% nationally)
- Low level of diversity compared to state and national

Service Area Map:



Age Distribution and Population Projections:



Key Statistics:

	Johnson County	Tennessee	U.S.
2015 Total Population	19,356	6,735,022	321,369,000
% Change 2015-2020	-0.8%	5.5%	4.1%
% of Population 65+ (2015)	20.5%	15.6%	14.9%
% Minority (2015)	5.8%	26.1%	38.3%

	2015	2020	% Change
Total Male Population	10,358	10,273	-0.8%
Total Female Population	8,998	8,934	-0.7%
Females, Child Bearing Age (15-44)	2,836	2,745	-3.2%

Local Health Highlights:

STRENGTHS:

- STD
- Crime Rate
- Low Birth Weight
- Cerebrovascular Deaths
- Binge Drinking
- High School Drop Out

WEAKNESSES:

- No Health Insurance
- Prevalence of Asthma
- Vaccinations
- Smoking during Pregnancy
- Deaths due to cardiovascular, cancer, and injuries
- No Biennial Mammogram
- Prenatal Care
- Teen Birth Rate
- Poverty
- Level of Education

Leading Causes of Death:

Ages 1 - 14 years

Cause of Death	Rate	Rank
All Causes	0	1

Ages 15 - 21 years

Cause of Death	Rate	Rank
Accidents	67.1	1
All Other Causes	0.5	*

Ages 22 - 64

Cause of Death	Rate	Rank
Cancer	144.3	1
Accidents	54.1	2
Heart Disease	45.1	3
Respiratory	27.1	4
Suicide	18	5
Homicide	18	5
All Other Causes	90.3	*

Ages 65+

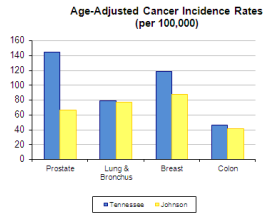
Cause of Death	Rate	Rank
Cancer	1090.1	1
Heart Disease	946.6	2
Respiratory	315.6	3
Flu/Pneumonia	229.5	4
Alzheimer's Disease	172.1	5
Diabetes Mellitus	143.4	6
Cerebrovascular	114.7	7
Parkinson's	86.1	8
Pneumonitis	86.1	8
Accidents	86.1	8
Aortic Aneurysm/ Dissection	57.4	9
Suicide	28.7	10
All Other Causes	1319.5	*

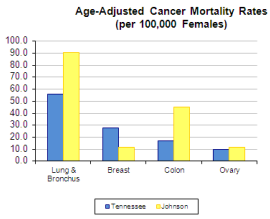
Key Indicators of Health Status:

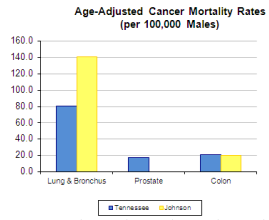
County: Johnson, TN

	TN	Johnson	2010	Desired
Health Outcomes				↓
Mortality (years of potential life lost/100,000)	8,790	9,480	11423.0	↓
Low Birth Weight (3-yr avg %)	9.0%	5.4%	10.9%	↓
General Health Status (% fair/poor health)*	19.0%	27.0%	28.5%	↓
Very Low Birth Weight (%)	1.6%	0.7%	3.0%	↓
Infant Mortality (3-yr avg rate per 1,000)	8.1	3.8	15.4	↓
Mortality Rate (3-yr avg rate per 100,000)	953.0	1,043.4	979.1	↓
Cardiovascular Deaths (per 100,000)	226.5	245.3	217.1	↓
Cancer Deaths (3-yr avg rate per 100,000)	214.4	248.3	202.9	↓
Diabetes Mellitus Deaths (per 100,000)	28.7	26.7	32.6	↓
Cerebrovascular Deaths (per 100,000)	47.0	21.3	65.1	↓
Suicide Deaths (per 100,000)	15.0	16.0	5.4	↓
Mortality rate for ages 1- 14 yrs	66.8	0.0	13.6	↓
Mortality rate for ages 15 - 21yrs	70.4	67.6	112.4	↓
Mortality rates for ages 65+	4,870.1	4,675.9	5116.4	↓
Lung Cancer Deaths (3-yr avg rate per 100,000)	68.8	87.5	79.2	↓
Female Breast Cancer Deaths (3-yr avg rate per 100,000)	14.1	14.3	18.1	↓
Prevalence of Asthma (%)	9.3%	13.2%	10.2%	↓
Prevalence of Diabetes (%)	11.0%	12.8%	12.0%	↓
Health Determinants				↓
Health Care Resources				↓
No Health Insurance (%)*	21.0%	17.0%	16.4%	↓
Medicaid/Tenncare Enrollees (%)	18.7%	21.4%	23.1%	↓
Medical Doctors Per Capita (per 100,000)	246.1	32.9	27.5	↑
Dentists Per Capita (per 100,000)	52.2	11.0	27.3	↑
Percent without Pneumococcal Vaccinations (%)*	74.2%	66.7%	72.3%	↓
Percent without Influenza Vaccinations (%)*	59.4%	50.7%	59.3%	↓
No Diabetic Eye Exams (%)	74.3%	72.2%	66.8%	↓
No Diabetic HbA1c Testing (%)	16.0%	17.0%	14.8%	↓
No Biennial Mammography (%)*	23.3%	29.3%	23.3%	↓
Inadequate or No Prenatal Care (%)	40.7%	56.0%	28.9%	↓
Month Prenatal Care Began	3.2	3.1	2.9	↓
First Trimester Prenatal Care (%)	59.3%	44.0%	71.5%	↑
Children (0-18 yrs) with Medicaid/Tenncare Coverage (%)	46.8%	57.9%	58.3%	↓
Hospital Staffed Beds (per 1,000)	3.6	0.1	0.1	↑
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Smoking During Pregnancy (%)	16.3%	38.9%	31.9%	↓
Physical Inactivity (%)*	30.0%	32.0%	38.4%	↓
Overweight/Obesity (% BMI > 25)	67.8%	67.8%	67.9%	↓
Obesity (% BMI > 30)*	32.0%	32.0%	31.0%	↓
Low Fruit and Vegetable Consumption (% <5 a day)*	76.7%	73.0%	41.5%	↓
Binge Drinking (%)*	10.0%	3.0%	7.9%	↓
% of Children (0-4) Un/Improperly Restrained in a Crash	14.5%	7.1%	12.5%	↓
Teen Birth Rate (per 1,000)	37.3	49.5	37.5	↓
Sexually Transmitted Diseases (per 100,000)	446	104	83.0	↓
Violent Crime (per 100,000)	667.0	454.0	430.0	↓
Motor Vehicle Crash Deaths (per 100,000)	19	24	29.0	↓
Unmarried Mother Birth Rate (%)	44.1%	40.8%	44.8%	↓
Injury-related Mortality (3-yr avg rate per 100,000)	53.7	71.5	91.4	↓
Young Driver Crash Rate 15 - 24	116.9	92.1	76.2	↓
Elderly Drive Crash Rate (65+)	31.3	24.8	24.1	↓
Homicides (per 100,000)	8	10.7	5.5	↓
All accidental deaths per 100,000 population	52	53.3	65.1	↓
Average Fatality Rate in Alcohol-Related Crashes (per 100,000 population)	6.9	2.8	6.7	↓

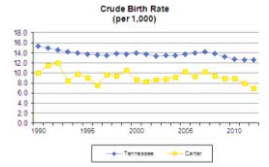
Cancer Incidence:

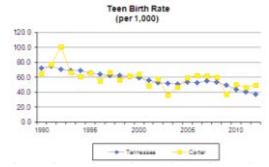






Birth Rate Trend:





Key Indicators of Health Status:

Socioecomonic Factors				
High School Graduation Rate (%)	86.0%	89.0%	90.3%	↑
Level of Education (%)	83.2%	70.1%	63.3%	↑
Unemployment (%)	8.8%	8.0%	9.7%	↓
Children (age 0 to 17) in poverty ratio (%)	26.5%	37.0%	32.5%	↓
Divorce Rate (per 100,000)	4.3	4.3	3.2	↓
Food Stamp Recipients (% of individuals)	21.1%	25.5%	28.2%	↓
Poverty Rate (% of all ages)	18.4%	26.1%	25.8%	↓
Temporary Assistance for Needy Families	2.6%	2.1%	2.3%	↓
High School Dropout Rate	6.9%	2.3%	6.8%	↓
Average Annual Wage	$ 36,576	$ 24,806	$ 20,785	↑
Physical Environment				↓
Air Quality Cancer Risk (per 1,000,000)	4.6	2.3	15.6	↓
Air Quality Hazard Index (per 1,000,000)	1.4	4.9	1.0	↓
Air Quality - Fine Particulate Matter in Air (3 yr avg Mg/m3)*	13.2	13.0	14.5	↓
Ozone Level (ppb)*	0.062	0.063	0.1	↓
Nitrate Levels in drinking water (mg/L Avg.)	0.70	0.51	0.78	↓
Pre-1950 Housing (%)	11.8%	15.1%	19.0%	↓
Lead Poisoned Children (%)	0.1%	n/a	0.5%	↓
Child Abuse and Neglect (rate per 1,000)	5.5	11.6	6.0	↓
Communicable Diseases				↓
Hepatitis A (per 100,000)	0.3	0.0	n/a	↓
Campylobacter Infection (per 100,000)	7.2	0.0	n/a	↓
Salmonella, Non Typhoid (per 100,000)	17.6	0.0	n/a	↓
Shigellosis (per 100,000)	3.3	0.0	n/a	↓
AIDS/HIV (per 100,000)	293	97	n/a	↓
Primary and Secondary Syphilis (per 100,000)	4.3	0.0	n/a	↓
Penicillin-Sensitive *Streptococcus pneumoniae* (per 100,000)	0.0	0.0	n/a	↓
Group B *Streptococcus* (per 100,000)	6.2	5.5	n/a	↓
Chlamydia (per 100,000)	517.3	88.9	n/a	↓
Gonorrhea (per 100,000)	144.8	0.0	n/a	↓

Inpatient Projections

	2014	2019		2024	
DRG Service Line	**Discharges**	**Discharges**	**% Change**	**Discharges**	**% Change**
Cardiac Surgery	27	27	-1.20%	27	0.90%
Cardiology	242	209	-13.40%	186	-22.90%
Cardiology Intervention	99	91	-8.40%	85	-14.00%
Endocrinology	49	39	-21.30%	35	-29.50%
ENT Surgery	6	5	-11.30%	5	-15.00%
Gastroenterology	234	219	-6.50%	213	-8.80%
General Medicine	224	224	0.00%	208	-7.00%
General Surgery	166	154	-7.40%	149	-10.30%
Gynecology	13	12	-9.10%	11	-15.10%
Hematology	28	28	-1.70%	28	1.20%
Neonatology	61	55	-9.10%	51	-16.70%
Nephrology	96	90	-6.70%	79	-17.70%
Neurology	138	135	-1.90%	138	-0.40%
Neurosurgery	46	44	-4.30%	43	-5.80%
Normal Newborns	91	92	0.60%	88	-3.10%
OB Deliveries Sections	55	46	-15.50%	42	-23.20%
OB Deliveries Vaginal	98	101	2.90%	98	-0.10%
OB Other	8	8	-5.30%	7	-9.00%
Oncology Medicine	54	51	-5.70%	46	-15.40%
Oncology Surgery	15	15	-1.80%	14	-7.60%
Ophthalmic Medicine	4	3	-15.80%	3	-24.50%
Ophthalmic Surgery	1	1	-10.50%	1	-8.80%
Oral Surgery	5	4	-10.40%	4	-11.60%
Orthopedic Medicine	22	22	-0.90%	21	-3.00%
Orthopedic Surgery	162	168	3.80%	169	4.40%
Otolaryngology	11	9	-18.70%	8	-26.70%
Plastic Surgery	7	7	2.00%	7	2.90%
Psychiatry	159	173	8.80%	162	2.10%
Pulmonary	319	273	-14.50%	257	-19.40%
Rehabilitation	29	24	-18.40%	25	-13.60%
Rheumatology	6	5	-8.60%	5	-12.90%
Substance Abuse	15	15	0.10%	14	-5.10%
Thoracic Surgery	21	20	-4.70%	20	-6.40%
Trauma Medical	7	7	-6.40%	6	-7.20%
Urology Medicine	6	5	-14.70%	5	-21.80%
Urology Surgery	16	15	-9.10%	13	-18.20%
Vascular Surgery	48	47	-2.00%	47	-3.10%
Womens Other	4	4	-10.60%	3	-21.70%
Grand Total	**2,592**	**2,445**	**-5.70%**	**2,326**	**-10.30%**

Outpatient Projections

	2014		2019			2024	
Site of Care	**Volumes**		**Volumes**	**% Change**		**Volumes**	**% Change**
ED	8,849		8,688	-1.80%		8,148	-7.90%
Home	20,858		24,071	15.40%		26,235	25.80%
Hosp OP/ASC	19,681		20,789	5.60%		20,846	5.90%
Office/Clinic	135,034		141,401	4.70%		133,637	-1.00%
Other	23,929		25,945	8.40%		25,892	8.20%
SNF	490		531	8.40%		554	13.20%
Urgent/Retail	121		125	3.50%		120	-0.20%
Virtual			3,116			12,540	
Grand Total	**208,961**		**224,666**	**7.50%**		**227,974**	**9.10%**

Interview Highlights:

INTERVIEWEES:

- Eleven individuals

KEY FINDINGS:

- Average rating of health status is 5.14, with a range of 3 to 7
- Top health issues are:
  - Diabetes
  - Cancer
  - Obesity
  - Smoking/Tobacco Use
- Additional health issues include:
  - Cardiovascular Disease
  - Behavioral/Mental Health
  - Asthma
  - Inactivity
  - Poor Nutrition
  - Substance Misuse/Abuse
  - Education
  - Fatalism (feeling of no control of outcomes)
  - Geographic Isolation / Transportation Barrier
  - Built Environment
  - Poverty
  - Familial Dynamics (disrupted families, multi-generational living)
  - Lack of Activities/Resources
- Ideas to improve these conditions include:
  - Better marketing of available health-related programs and resources
  - Comprehensive smoking cessation services
  - Enhance access to physical activity through built environment and physical fitness activities
  - Behavioral health services
  - Inpatient and outpatient substance abuse treatment
  - Recruiting specialists to area
  - Enhance telehealth services
  - Community engagement
  - Use churches to disseminate information
  - After school health programs for children

Sources:	Local Resources:
▪ Medstat ▪ County Health Rankings ▪ TN Advisory Commission on Intergovernmental Relations ▪ TN Dept of Health ▪ BRFSS ▪ TennCare ▪ Kidscount ▪ TN Dept of Safety and Homeland Security ▪ EPA ▪ CDC Wonder ▪ TN Dept of Environment & Conservation ▪ Childhood Lead Poisoning Prevention Program	▪ After School Programs ▪ Anti-Drug/Action Coalition ▪ Cancer Support Group ▪ Coordinated School Health ▪ Extended Hours Clinic ▪ Frontier Health ▪ Intensive Outpatient Program ▪ Johnson County Health Council ▪ Medical Mission ▪ Pregnancy Support Center ▪ Telemedicine ▪ Tennessee Department of Health – Primary Prevention Initiative ▪ Johnson County Health Department ▪ UT-TSU Extension Service

APPENDIX

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2. Johnson, TN Detailed Demographics

Mountain State Health Alliance

Carter County, TN

Population and Gender	Market 2015 Population	Market 2015 % of Total	Market 2020 Population	Market 2020 % of Total	Market Population % Change	National 2015 % of Total
Female Population	23,066	51.1%	23,247	51.0%	0.8%	50.8%
Male Population	22,105	48.9%	22,298	49.0%	0.9%	49.2%
Total	45,171	100.0%	45,545	100.0%	0.8%	100.0%

Age Groups	Market 2015 Population	Market 2015 % of Total	Market 2020 Population	Market 2020 % of Total	Market Population % Change	National 2015 % of Total
00-17	9,006	19.9%	8,774	19.3%	(2.6)%	23.1%
18-44	13,998	31.0%	13,793	30.3%	(1.5)%	35.9%
45-64	12,867	28.5%	12,500	27.5%	(2.9)%	26.3%
65-UP	9,300	20.6%	10,478	23.0%	12.7%	14.7%
Total	45,171	100.0%	45,545	100.0%	0.8%	100.0%

Ethnicity/Race	Market 2015 Population	Market 2015 % of Total	Market 2020 Population	Market 2020 % of Total	Market Population % Change	National 2015 % of Total
Asian & Pacific Is. Non-Hispanic	129	0.3%	123	0.3%	(4.7)%	5.3%
Black Non-Hispanic	570	1.3%	611	1.3%	7.2%	12.3%
Hispanic	777	1.7%	940	2.1%	21.0%	17.6%
White Non-Hispanic	43,145	95.5%	43,286	95.0%	0.3%	61.8%
All Others	550	1.2%	585	1.3%	6.4%	3.1%
Total	45,171	100.0%	45,545	100.0%	0.8%	100.0%

Language*	Market 2015 Population	Market 2015 % of Total	Market 2020 Population	Market 2020 % of Total	Market Population % Change	National 2015 % of Total
French at Home	63	0.2%	64	0.2%	1.6%	0.7%
Only English at Home	41,998	98.1%	42,400	98.1%	1.0%	79.0%
Other Indo-European Lang at Home	79	0.2%	77	0.2%	(2.5)%	1.8%
Spanish at Home	412	1.0%	413	1.0%	0.2%	13.0%
Tagalog at Home	125	0.3%	125	0.3%	0.0%	0.6%
All Others	158	0.4%	158	0.4%	0.0%	4.9%
Total	42,835	100.0%	43,237	100.0%	0.9%	100.0%

Mountain State Health Alliance

Carter County, TN

Household Income	Market 2015 Households	Market 2015 % of Total	Market 2020 Households	Market 2020 % of Total	Market Households % Change	National 2015 % of Total
<$15K	3,924	20.6%	3,550	18.4%	(9.5)%	12.7%
$15-25K	2,963	15.6%	2,734	14.2%	(7.7)%	10.8%
$25-50K	5,691	29.9%	5,757	29.9%	1.2%	23.9%
$50-75K	3,341	17.6%	3,257	16.9%	(2.5)%	17.8%
$75-100K	1,667	8.8%	1,930	10.0%	15.8%	12.0%
$100K-200K	1,268	6.7%	1,808	9.4%	42.6%	17.9%
>$200K	172	0.9%	245	1.3%	42.4%	5.0%
Total	19,026	100.0%	19,281	100.0%	1.3%	100.0%

Education Level**	Market 2015 Population	Market 2015 % of Total	Market 2020 Population	Market 2020 % of Total	Market Population % Change	National 2015 % of Total
Less than High School	2,964	9.1%	3,038	9.2%	2.5%	5.9%
Some High School	3,909	12.0%	4,002	12.1%	2.4%	8.0%
High School Degree	12,544	38.6%	12,793	38.7%	2.0%	28.1%
Some College/Assoc. Degree	8,678	26.7%	8,784	26.6%	1.2%	31.1%
Bachelor's Degree or Greater	4,428	13.6%	4,447	13.5%	0.4%	26.9%
Total	32,523	100.0%	33,064	100.0%	1.7%	100.0%

*Excludes population age <5, **Excludes population age <25

Mountain State Health Alliance

Johnson County, TN

Population and Gender	Market 2015 Population	Market 2015 % of Total	Market 2020 Population	Market 2020 % of Total	Market Population % Change	National 2015 % of Total
Female Population	8,998	46.5%	8,934	46.5%	(0.7)%	50.8%
Male Population	10,358	53.5%	10,273	53.5%	(0.8)%	49.2%
Total	19,356	100.0%	19,207	100.0%	(0.8)%	100.0%

Age Groups	Market 2015 Population	Market 2015 % of Total	Market 2020 Population	Market 2020 % of Total	Market Population % Change	National 2015 % of Total
00-17	3,474	18.0%	3,314	17.3%	(4.6)%	23.1%
18-44	6,332	32.7%	6,120	31.9%	(3.4)%	35.9%
45-64	5,585	28.9%	5,386	28.0%	(3.6)%	26.3%
65-UP	3,965	20.5%	4,387	22.8%	10.6%	14.7%
Total	19,356	100.0%	19,207	100.0%	(0.8)%	100.0%

Ethnicity/Race	Market 2015 Population	Market 2015 % of Total	Market 2020 Population	Market 2020 % of Total	Market Population % Change	National 2015 % of Total
Asian & Pacific Is. Non-Hispanic	58	0.3%	65	0.3%	12.1%	5.3%
Black Non-Hispanic	469	2.4%	531	2.8%	13.2%	12.3%
Hispanic	340	1.8%	401	2.1%	17.9%	17.6%
White Non-Hispanic	18,237	94.2%	17,914	93.3%	(1.8)%	61.8%
All Others	252	1.3%	296	1.5%	17.5%	3.1%
Total	19,356	100.0%	19,207	100.0%	(0.8)%	100.0%

Language*	Market 2015 Population	Market 2015 % of Total	Market 2020 Population	Market 2020 % of Total	Market Population % Change	National 2015 % of Total
French at Home	29	0.2%	30	0.2%	3.5%	0.7%
Germanic Lang at Home	11	0.1%	11	0.1%	0.0%	0.5%
Only English at Home	18,104	97.9%	17,990	97.9%	(0.6)%	79.0%
Other Indo-European Lang at Home	42	0.2%	40	0.2%	(4.8)%	1.8%
Spanish at Home	276	1.5%	272	1.5%	(1.5)%	13.0%
All Others	26	0.1%	25	0.1%	(3.9)%	4.9%
Total	18,488	100.0%	18,368	100.0%	(0.7)%	100.0%

Mountain State Health Alliance

Johnson County, TN

Household Income	Market 2015 Households	Market 2015 % of Total	Market 2020 Households	Market 2020 % of Total	Market Households % Change	National 2015 % of Total
<$15K	1,673	21.6%	1,411	18.2%	(15.7)%	12.7%
$15-25K	1,293	16.7%	1,221	15.8%	(5.6)%	10.8%
$25-50K	2,176	28.0%	2,170	28.0%	(0.3)%	23.9%
$50-75K	1,242	16.0%	1,151	14.9%	(7.3)%	17.8%
$75-100K	704	9.1%	806	10.4%	14.5%	12.0%
$100K-200K	574	7.4%	861	11.1%	50.0%	17.9%
>$200K	97	1.3%	123	1.6%	26.8%	5.0%
Total	7,759	100.0%	7,743	100.0%	(0.2)%	100.0%

Education Level**	Market 2015 Population	Market 2015 % of Total	Market 2020 Population	Market 2020 % of Total	Market Population % Change	National 2015 % of Total
Less than High School	1,614	11.3%	1,614	11.3%	0.0%	5.9%
Some High School	2,449	17.1%	2,449	17.1%	0.0%	8.0%
High School Degree	5,794	40.4%	5,770	40.4%	(0.4)%	28.1%
Some College/Assoc. Degree	3,025	21.1%	2,997	21.0%	(0.9)%	31.1%
Bachelor's Degree or Greater	1,468	10.2%	1,455	10.2%	(0.9)%	26.9%
Total	14,350	100.0%	14,285	100.0%	(0.5)%	100.0%

*Excludes population age <5, **Excludes population age <25



2015 COMMUNITY HEALTH NEEDS ASSESSMENT

UNICOI COUNTY COMMUNITY HOSPITAL

Published June 29, 2015

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a. UCMH Area Snapshot

Introduction

Mountain States Health Alliance (MSHA) is an integrated health care delivery system providing a comprehensive continuum of care to people in 29 counties in Tennessee, Virginia, Kentucky, and North Carolina. MSHA was formed after Johnson City Medical Center Hospital, Inc. acquired six Columbia/HCA hospitals in Northeast Tennessee on September 1, 1998; and was later renamed Mountain States Health Alliance in January 1999.

Today, MSHA is the largest regional health care system with 13 hospitals operating at approximately $1.0 billion in net revenues. The hospitals are:

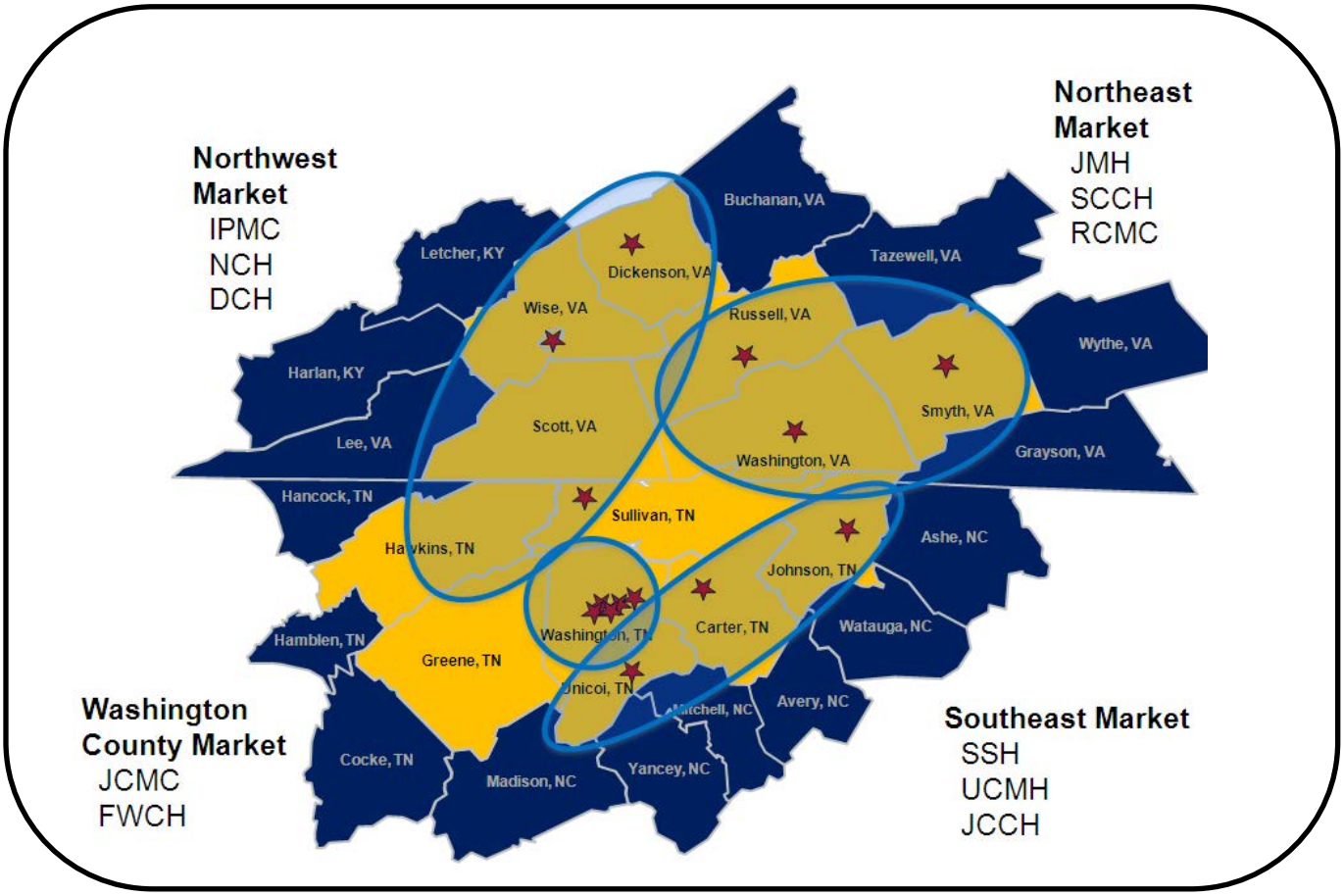
- Johnson City Medical Center
- Niswonger Children's Hospital
- Woodridge Psychiatric Hospital
- Franklin Woods Community Hospital
- Unicoi County Community Hospital
- Indian Path Medical Center
- Johnson County Community Hospital
- Sycamore Shoals Hospital
- Dickenson Community Hospital
- Johnston Memorial Hospital
- Norton Community Hospital
- Russell County Medical Center
- Smyth County Community Hospital

In addition to 13 hospitals, MSHA's integrated health care delivery system includes primary/preventive care centers and numerous outpatient care sites, including First Assist Urgent Care, MedWorks, Same Day Surgery, and Mountain States Rehabilitation.

Executive Summary

Regional and national rankings for health factors continue to be disappointing as cancer, heart disease, and diabetes rates continue to increase each year. Obesity and smoking continue to be major problems in the United States, leading to additional diseases. From a global perspective, the United States falls behind other developing nations in health outcomes. Clearly, there are many needs that exist and need attention. The interrelatedness between the health of a community, its economic status, and its educational attainment levels is becoming increasingly recognized. Mountain States Health Alliance (MSHA) exists to "*identify and respond to the health care needs of individuals and communities in our region and to assist them in attaining their highest possible level of health.*" In doing so, MSHA recognizes this is a very complex challenge that involves the engagement of many prongs of the community.

In order for MSHA to serve its region most effectively, it is essential to understand each community's individual needs. MSHA has conducted a Community Health Needs Assessment to profile the health of the residents within the local region (a map of the MSHA service area is provided on the following page). Activities associated with the development of this assessment have taken place from spring of 2014 through spring of 2015, including state, regional and county-specific secondary data collection and primary data obtained through individual surveys and focus groups with individuals from the local communities.



★ Represents county in which MSHA owns a facility. MSHA has part-ownership in other hospitals but they are not included in this assessment.

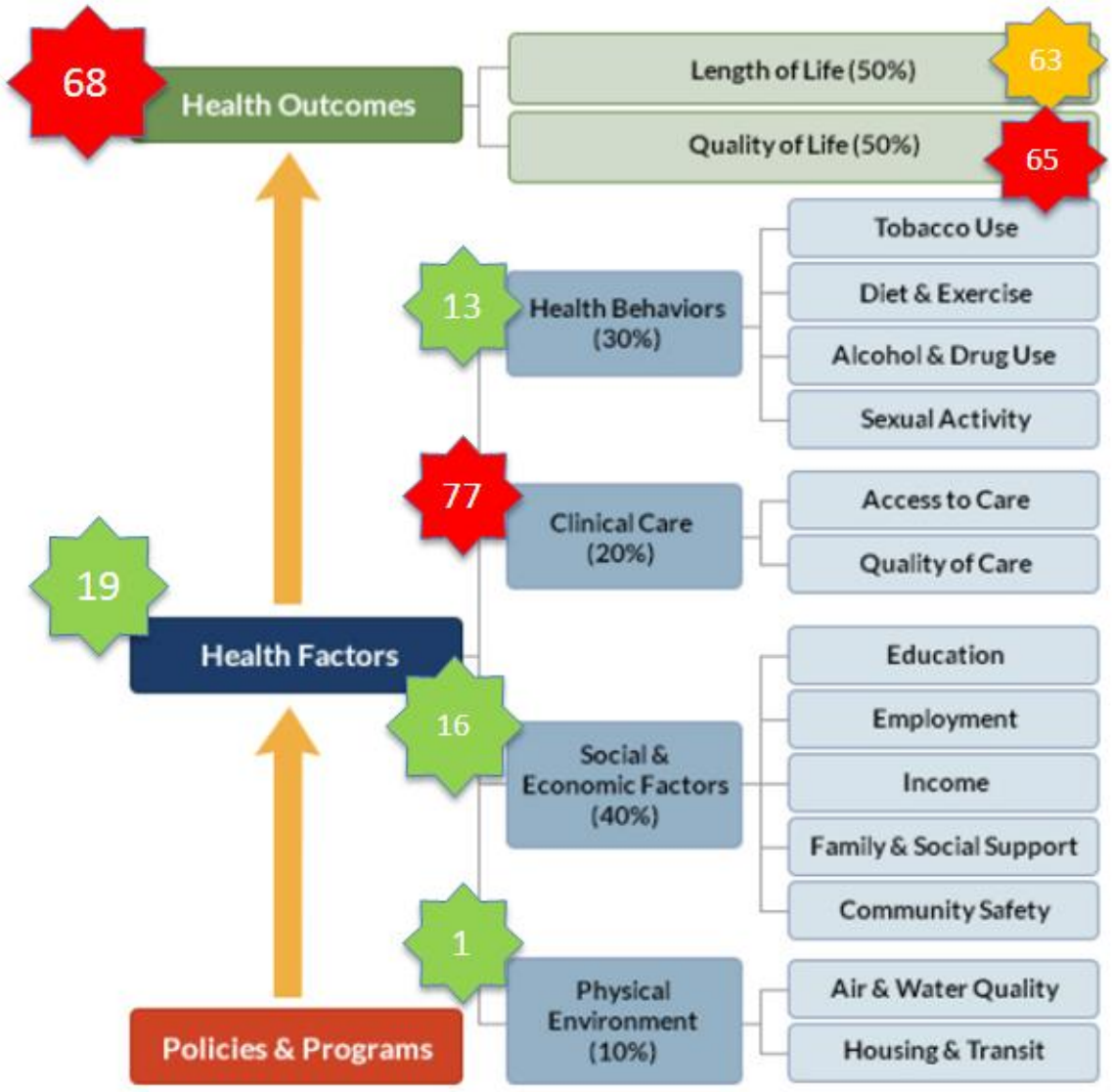
*Service Area is defined by approximately 80% of inpatient population.

Throughout the assessment, high priority was given to determining the health status and available resources within each community. Community members from each county met with MSHA to discuss current health priorities and identify potential solutions. The information gathered from a local perspective, paired with regional, state and national data, helps to communicate the region's health situation in order to begin formulating solutions for improvement.

In 2014, Tennessee ranked 45th and Virginia ranked 21st out of 50 states for overall health outcomes. Both states had high rates of adult obesity, cancer deaths, infant mortality, and diabetes. Though Virginia's overall ranking is moderately low, the health outcomes in Southwest Virginia counties, where MSHA's facilities are located, resembles those of Tennessee. After compiling the various sources of information, the top health priorities were identified for the communities that each of the MSHA hospitals serve. This effort has determined the top health priorities identified in Unicoi County to include **diabetes, obesity, cancer, and substance abuse**. There are certainly a number of other health challenges in this community, but these rise to the top based on this assessment.

According to the 2015 County Health Rankings, Unicoi County is ranked 68th in Tennessee for health outcomes and 19th for health factors out of 95 counties. The leading causes of death for ages 65 and over are heart disease, cancer, and stroke. Unicoi County also ranked 13th in health behaviors. When compared to other Tennessee counties, Unicoi County has high physical inactivity, high overweight/obesity rates, low compliance on diabetic monitoring and mammography screening. As for social and economic factors, Unicoi County ranks 16th due to high rates of children in poverty, high rate of violent crime and high unemployment rates.

Unicoi County Health Ranking
2015 County Health Rankings
www.countyhealthrankings.org



*Ranking is in comparison to all 95 counties in the state of Tennessee.

Community Interview Summary

In the spring of 2015 the MSHA Strategic Planning Department completed individual interviews and a focus group in order to connect with community members of Unicoi County and determine the needs of the community that Unicoi County Community Hospital serves. MSHA hospital administration teams were contacted in order to obtain names of individuals in the community who were considered public health officials or community leaders. The 8 interviewees included representatives from the local health department, local businesses, early childhood education, local YMCA and the Center on Aging and Health. These individuals were invited to discuss and assist in determining the health priorities and resources available in their community of Unicoi County.

Collecting Community Input

In order to complete the community health needs assessment for Unicoi County Community Hospital, MSHA met with various individuals from Unicoi County, TN. The organizations that were represented are listed in Table 1.1.

Table 1.1 – Summary Organizations Participating in UCMH's CHNA

Reported Organizations Providing Input for Assessment
Unicoi County Chamber of Commerce
Back of Tennessee
Unicoi County Family YMCA
Keesecker / Steel Rails
Center on Aging and Health
UETHDA Head Start
Telemon Head Start
Unicoi County Health Department

To begin the community health needs assessment, MSHA's strategic planning staff presented data that had been collected to illustrate past and current health trends for Tennessee and Unicoi County. The presentation depicted the current national health rankings, in addition to providing a snapshot of the county.

Following the presentation, each participant was given a survey to determine the individual's personal assessment of their county's health priorities. Secondly, the individuals were asked to submit ideas and suggestions as to how MSHA could use the available resources in order to improve the health priorities determined. After the surveys had been completed, each group discussed the questions and continued brainstorming ways to address obstacles and utilize resources. All of the information collected from the surveys and open discussion was evaluated and prioritized based on health needs.

In surveys obtained from the Unicoi County representatives, several community health needs and resources were identified. Table 1.2 lists the survey questions given to each participant in the assessment.

Table 1.2 – Community Survey Questions

	Survey Questions
1	How would you rate the general health status of the patient population in this community on a scale of 1 to 10 (with 1 being the poorest and 10 being the best)?
2	Keeping in mind resources are not unlimited, can you identify the top 1-2 health priorities in your local community that you feel should be addressed in the following areas: a)Health Outcomes/Diseases b)Health Behaviors c)Social Environment
3	What existing resources, such as organized groups or public health initiatives have been developed and are in place to address these health priorities?
4	What ideas do you have that may serve to improve these health priorities?

Health Status Rating

Overall, the general health status of Unicoi County was rated as 4.9 on a scale of 1 – 10, with 1 being the poorest and 10 being the best. Individual responses ranged from 3 to 6. The health ranking for Unicoi County can be found below in Table 1.3.

Table 1.3 – Average Health Status Ranking

MSHA Facility/County	Number of Individuals	Average of Health Status Rating
UNICOI COUNTY COMMUNITY HOSPITAL, Unicoi County, TN	8	4.9

Top Health Priorities

From the results of the surveys, the most prevalent health priorities in Unicoi County were diabetes, cancer, obesity (physical inactivity/poor diet), and substance/prescription drug abuse. Table 1.4 lists the health priorities input provided by community participants.

Table 1.4 – Top Identified Health Priorities

Top Health Priorities	Responses	% of Total Responses
Health Outcomes/Diseases		
Diabetes	4	50.00%
Cancer	4	50.00%
Obesity	4	50.00%
Addiction	3	37.50%
Alzheimers	2	25.00%
COPD	1	12.50%
Cardiovascular Disease	1	12.50%
Health Behaviors		
Poor Nutrition	4	50.00%
Drug & RX Abuse	3	37.50%
Inactivity	2	25.00%
Smoking / Tobacco Use	2	25.00%
Neonatal Abstinence Syndrome	1	12.50%
Mental Health	1	12.50%
Medical Noncompliance	1	12.50%
Second Hand Smoke	1	12.50%
Poor utilization of wellness screenings	1	12.50%
Social Environment		
Children's/Parenting programs	3	37.50%
Lack of access to urgent care	1	12.50%
Access to physical activity	1	12.50%
Access to long term care	1	12.50%
Unemployment	1	12.50%
Medical access to low-income families	1	12.50%
Lack of health education	1	12.50%
Fast food prevalence	1	12.50%
Transportation barriers	1	12.50%
Cultural barriers (pride)	1	12.50%

*Individuals submitted multiple answers regarding health priorities.

These priorities are consistent with the secondary data findings.

- Diabetes
  - The prevalence rate of diabetes in Unicoi County exceeds the state average (12% vs. 11%).
  - Diabetic monitoring is less than the state average (defined as the percentage of diabetic Medicare enrollees ages 65-75 that receive HbA1c monitoring; 82% vs. 86%)
- Cancer
  - It is the number one cause of death in those ages 22 to 64; number two in those over 65
  - Age-adjusted lung cancer, colon cancer and ovarian mortality rates of women well exceed the state average; lung cancer mortality rates of men are nearly double the state average (143 vs. 80 per 100,000)

    - The three year average rate of cancer deaths per 100,000 in Unicoi County well exceeds the state rate (300 vs. 214)
- Obesity
    - Self-reported physical inactivity rates among Unicoi County residents exceed the state average (37% vs. 30%)
- Substance & Prescription Drug Abuse
    - Rate of drug poisoning deaths per 100,000 in Unicoi is 1.5 times higher than state average (24 vs. 16)

Unicoi (UI)

	Unicoi County	Error Margin	Top U.S. Performers*	Tennessee	Rank (of 95)
Health Outcomes					68
Length of Life					63
Premature death	10,604	8,719-12,490	5,200	8,696	
Quality of Life					65
Poor or fair health	26%	18-36%	10%	19%	
Poor physical health days	5.0	2.7-7.2	2.5	4.3	
Poor mental health days	4.6	2.2-7.0	2.3	3.4	
Low birthweight	8.8%	7.2-10.4%	5.9%	9.2%	
Health Factors					19
Health Behaviors					13
Adult smoking	23%	15-35%	14%	23%	
Adult obesity	30%	24-37%	25%	32%	
Food environment index	7.5		8.4	6.9	
Physical inactivity	37%	30-45%	20%	30%	
Access to exercise opportunities	100%		92%	70%	
Excessive drinking			10%	9%	
Alcohol-impaired driving deaths	22%		14%	28%	
Sexually transmitted infections	143		138	504	
Teen births	45	38-52	20	47	
Clinical Care					77
Uninsured	17%	15-18%	11%	16%	
Primary care physicians	1,824:1		1,045:1	1,388:1	
Dentists	3,616:1		1,377:1	1,996:1	
Mental health providers	4,521:1		386:1	786:1	
Preventable hospital stays	117	103-131	41	73	
Diabetic monitoring	82%	71-93%	90%	86%	
Mammography screening	56.1%	45.2-67.1%	70.7%	61.8%	
Social & Economic Factors					16
High school graduation	98%			87%	
Some college	42.1%	35.3-49.0%	71.0%	57.7%	
Unemployment	8.9%		4.0%	8.2%	
Children in poverty	29%	21-37%	13%	27%	
Income inequality	4.7	4.0-5.3	3.7	4.8	
Children in single-parent households	24%	16-32%	20%	36%	
Social associations	17.5		22.0	11.5	
Violent crime	167		59	621	
Injury deaths	83	66-104	50	78	
Physical Environment					1
Air pollution - particulate matter	13.1		9.5	13.8	
Drinking water violations	0%		0%	4%	
Severe housing problems	10%	7-13%	9%	15%	
Driving alone to work	83%	80-86%	71%	84%	
Long commute - driving alone	28%	23-33%	15%	32%	

* 90th percentile, i.e., only 10% are better.
Note: Blank values reflect unreliable or missing data

2015

Identifying Available Resources

MSHA realizes that there are numerous resources in all of the counties it serves that can provide care for individuals. Our goal, in order to reduce costs and provide the best care possible for patients, is to identify these resources to prevent duplication of services and efforts. The interviewees were asked to list all of the services and resources within their community. The interviewees acknowledged that many resources currently exist to help meet health needs. Table 1.5 lists the current resources within each county that offer health services to the community.

Table 1.5 – Identified Available Resources

Resources Available
Unicoi County, Tennessee
Unicoi County YMCA Unicoi County Health Department Unicoi County Chamber of Commerce Unicoi County Memorial Hospital Senior Center Walking trails Alzheimers Support Group Farmers Market Tobacco Settlement Funds Supplemental Nutrition Assistance Program (SNAP) Community health events Telemon Head Start

*MSHA understands that there are other resources available in each county that are not listed in this table. This table represents only the resources listed by participants in community health needs assessment. MSHA will continue to identify resources.

Improving Health Priorities

The community members who were surveyed provided helpful ideas as to how to begin formulating a plan to improve the health priorities throughout the region. To enhance existing resources, the participants stressed the significance of increasing public awareness of both addressing one's health needs and the availability of health care options within each community. Additional suggestions as to how MSHA can improve the previously identified health priorities are listed in Table 1.6.

Table 1.6 – Ideas to Improve Health Priorities

	Responses
1	Better marketing of available health-related programs and resources
2	Community gardens
3	Fitness center programs
4	Increase health education programs and opportunities
5	Community health events
6	School-based fitness programs
7	Nutrition education
8	Wellness screenings
9	More urgent care clinics
10	More primary care clinics
11	Legislative regulations on prescription/prescribing
12	Legislation on smoking/vapor cigarettes
13	Diabetes education
14	Family support services
15	Elderly support services
16	Offering SNAP benefits at farmers market
17	Substance abuse/mental health facilities and program

However, it is also helpful to understand from a more global perspective the health status of our nation as a whole, since many issues we face in our service area are not limited to just our region. Compiled on an annual basis, the *America's Health Rankings* publication developed by the United Health Foundation, the American Public Health Association and Partnership for Prevention provides one of the most comprehensive assessments regarding the status of the nation's health. The following information in the national and regional overview is from the 2015 edition

Health is a result of our behaviors, our individual genetic predisposition to disease, the environment and the community in which we live, the clinical care we receive and the policies and practices of our health care and prevention systems. Each of us, individually, as a community, and as a society, strives to optimize these health determinants, so that all of us can have a long, disease-free, and robust life regardless of race, gender or socio-economic status.

This report looks at the four groups of health determinants that can be affected:

1. **Behaviors** include the everyday activities we do that affect our personal health. It includes habits and practices we develop as individuals and families that have an effect on our personal health and on our utilization of health resources. These behaviors are modifiable with effort by the individual supported by community, policy and clinical interventions.

2. **Community and environment** reflects the reality that the daily conditions in which we live our lives have a great effect on achieving optimal individual health.

3**. Public and health policies** are indicative of the availability of resources to encourage and maintain health and the extent that public and health programs reach into the general population.

4. **Clinical care reflect**s the quality, appropriateness and cost of the care we receive at doctors' offices, clinics and hospitals.

All health determinants are intertwined and must work together to be optimally effective. For example, an initiative that addresses tobacco cessation requires not only efforts on the part of the individual but also support from the community in the form of public and health policies that promote non-smoking and the availability of effective counseling and care at clinics. Similarly sound prenatal care requires individual effort, access to and availability of prenatal care coupled with high quality health care services. Addressing obesity, which is a health epidemic now facing this country, requires coordination among almost all sectors of the economy including food producers, distributors, restaurants, grocery and convenience stores, exercise facilities, parks, urban and transportation design, building design, educational institutions, community organizations, social groups, health care delivery and insurance to complement and augment individual actions.



America's Health Rankings® combines individual measures of each of these determinants with the resultant health outcomes into one, comprehensive view of the health of a state. Additionally, it discusses health determinants separately from health outcomes and provides related health, economic and social information to present a comprehensive profile of the overall health of each state.

America's Health Rankings® employs a unique methodology, developed and periodically reviewed by a panel of leading public health scholars, which balances the contributions of various factors, such as smoking, obesity, binge drinking, high school graduation rates, children in poverty, access to care and incidence of preventable disease, to a state's health. The report is based on data from the

U.S. Departments of Health and Human Services, Commerce, Education and Labor; U.S. Environmental Protection Agency; U.S. Census Bureau, the American Medical Association; the American Dental Association; the Dartmouth Atlas Project; and the Trust for America's Health.

Purpose

The ultimate purpose of *America's Health Rankings*® is to stimulate action by individuals, elected officials, health care professionals, employers, and communities to improve the health of the population of the United States. We do this by promoting public conversation concerning health in our states, as well as providing information to facilitate citizen, community and group participation. We encourage participation in all elements: behaviors, community and environment, clinical care, and public and health policies. Each person individually, and in their capacity as an employee, employer, voter, community volunteer, health official or elected official, can contribute to the advancement of the healthiness of their state. Proven, effective and innovative actions can improve the health of people in every state whether the state is first or 50th.

Findings

Comparison to Other Nations

When health in the United States is compared to health in other countries, the picture is disappointing. The World Health Organization, in its annual World Health Statistics 2013, compares the United States to the nations of the world on a large variety of measures. While the U.S. does exceed many countries, it is far from the best in many of the common measures used to gauge healthiness and lags behind its peers in other developed countries.

The United States ranks at or near the bottom among high-income countries on nearly all indicators of mortality, survival, and life expectancy. Life expectancy is a measure that indicates the number of years that a newborn is expected to live. Japan, San Marino, and Switzerland are the persistent leaders for developed countries in this measure, with an overall life expectancy of 83 years. At 81 years for women and 76 years of men, the United States ranks 33rd among the 193 reporting nations of the WHO. The United States male life expectancy rates are on par with Chile, Cuba, Brunei Darussalam, and Maldives, while the female life expectancy rates are on par with Columbia, Costa Rica, Czech Republic, Estonia, Poland, and Qatar. There are 32 other countries that exceed the United States in healthy life expectancy, including Australia, Italy, Spain, France, Germany, Greece and the United Kingdom.

One of the underlying causes for these differences is the gap in infant mortality rates between the United States and many other countries. The infant mortality rate for the U.S. in 2011 was 6 deaths per 1,000 live births, ranking 40th among WHO nations. The infant mortality rates in Finland, Japan, and Sweden were *one* third that of the U.S. rate. Of the 193 countries rated, 39 countries had lower infant mortality rates than the United States.

These countries also have considerably lower infant mortality rates than that of non-Hispanic whites in the United States, which is the ethnic/racial group with the lowest infant mortality rate. The racial/ethnic disparities related to infant mortality could be related to differences in risk factors among different racial/ethnic groups, including risk for low birth weight delivery, access to medical care, and socioeconomic status. However, many of the racial/ethnic differences in infant mortality remain unexplained. It should also be noted that the reporting and classification of infant mortality varies among countries, which could be reflected in the ranks.

In addition to infant mortality, youth and young adults' mortality impacts life expectancy. Unintentional injuries claim approximately 30 percent of the years lost before age 50, along with violence and suicides, among U.S. young adults and adolescents. Non-communicable (chronic)

diseases, such as cancer, heart disease, and other conditions that are not caused by infections, begin to be more of a contributing factor after the age of 30.

Differences in healthy life expectancy are also affected by the effectiveness of treating disease, especially those that are amenable to care, including bacterial infections, treatable cancers, diabetes, cardiovascular and cerebrovascular disease, some ischemic heart disease, and complications from common surgical procedures. The age-adjusted amenable mortality rate before age 75 for the United States was 95.5 deaths per 100,000 population in 2006 to 2007, which is still a slower rate of improvement than in other Organization for Economic Cooperation and Development (OECD) nations studied. The rate in the U.S. is 50 percent higher than the rate in France, Japan, Italy, and Australia.

Additionally, the study indicated that despite spending more than any other country on health care, the United States continues to slip further behind and has one of the highest inequalities in health compared to other developed countries. The U.S. ranks among the worst OECD countries for child health well-being, having an inequality higher than average. Furthermore, although the United States has the highest income per person, it continues to rank as the worst country for income inequality, which is thought to explain why it has the highest index of health and social problems compared to other developed nations.

Physical inactivity and obesity play major contributions to disease worldwide and in the United States. Physical inactivity is the fourth leading risk factor for global mortality, and is responsible for an estimated 6 to 10 percent of non-communicable diseases, such as type 2 diabetes, heart disease, colon cancer, and breast cancer. North America has 34 percent of the world's biomass due to obesity; however, it only makes up for 6 percent of the world's population. Asia, on the other hand, has 61 percent of the world's population, yet only has 13 percent of its biomass due to obesity. While the U.S. is only one of several countries that form North America, it is the only North American nation to rank among the heaviest nations globally. It is estimated that eliminating physical activity in the United States would add approximately 1 year to life expectancy and dramatically reduce the burden of chronic diseases.

The results of these studies should be a wake-up call to everyone in the United States to strive to improve all aspects of our health system, including education, safety, prevention, and clinical care. Other countries have improved their overall health, indicating that we, too, can do the same.

National Changes since 1990

In the past year, 20 health measures improved, 8 measures declined, and 1 measure remained unchanged. Table 1 shows the national changes in the last year. These improvements were offset by deterioration in several measures, including increases in the prevalence of obesity, the percentage of children in poverty and lack of health insurance.

Since 2012, the prevalence of smoking declined from 21.2 percent to 19 percent among adults. The binge drinking prevalence rate dropped from 18.3 percent to 16.8 percent of adults who binged in the last 30 days, and physical inactivity decreased from 26.2 percent to 25.3 percent. The incidence of pertussis increased sharply from 9.0 to 15.5 cases per 100,000 populations. The percentages of children in poverty, lack of health insurance, child immunization coverage, and low birth weight have also suppressed faster improvement in our nation's health.

Table 1 – National Successes and Challenges

SUCCESSES

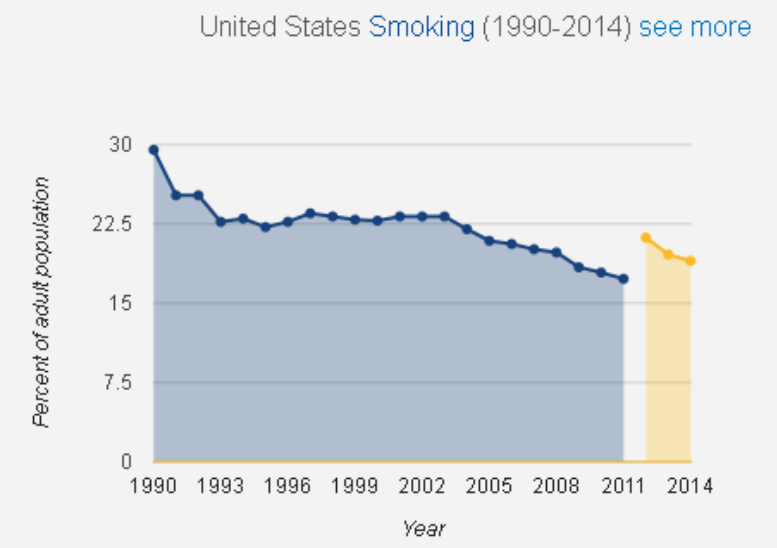
Smoking	Since 1990, smoking decreased 36% from 29.5% to 19.0% of adults who smoke regularly.
High School Graduation	At 81% of ninth graders graduating within 4 years, high school graduation is still a challenge. However, it is slowly trending upward from 71.7% in 2004.
Violent Crime	At 387 offenses per 100,000 population, violent crime is 37% lower than in 1990 and 49% lower than its peak in 1993.
Air Pollution	The average amount of fine particulates in the air continues to decline from 13.2 micrograms per cubic meter in 2003 to 9.9 micrograms per cubic meter in 2014.
Preventable Hospitalizations	Preventable hospitalizations continue to decline. In 2001, there were 82.5 discharges per 1,000 Medicare beneficiaries; in 2014, there were 62.9 discharges per 1,000 Medicare beneficiaries.
Occupational Fatalities	Occupational fatalities have declined in the last 8 years from 5.3 deaths per 100,000 workers in 2007 to 3.8 deaths per 100,000 workers. This is the second consecutive year the rate is below 4 deaths per 100,000 workers.
Infant Mortality	Since 1990, infant mortality decreased 41% from 10.2 to 6.0 deaths per 1,000 live births, although most of that decline occurred between 1990 and 1999. Even though the infant mortality rate is the lowest in US history, it is double the rate of many developed countries. In addition, large racial and geographic disparities exist within the country.
Premature Death	Since 1990, premature death declined 20% from 8,716 to 6,976 years of potential life lost before age 75. Premature death, like several other metrics, has leveled off in the last decade compared with improvements made in the 1990s.
Cancer Deaths	Cancer deaths declined 4% from 197.5 deaths in 1990 to 189.9 deaths per 100,000 population.
Cardiovascular Deaths	Since 1990, cardiovascular deaths declined 38% from 405.1 to 251.4 deaths per 100,000 population. This continues a relatively constant improvement of 2% to 3% yearly.

CHALLENGES

Obesity	Since 1990, obesity has increased 153% from 11.6% to 29.4% of adults.
Physical Inactivity	Physical inactivity remains high at 23.5% of adults and has not changed appreciably for the last decade.
Children in Poverty	At 19.9% of children, the children in poverty measure is far above the 23-year low of 15.8% in the 2002 Edition and near the 1990 level of 20.6%.
Public Health Funding	State public health funding continues its slow decline over the past 4 years. Since 2011, it decreased from $95.01 to $90.00 in expenditures per person at the state level.
Immunization Coverage — Children	Nationwide, comprehensive immunization coverage among children aged 19 to 35 months is only 70.4%. It increased marginally in the past year.
Immunization Coverage — Adolescents	Nationwide, comprehensive immunization coverage among teens aged 13 to 17 years is only 67.1%. It increased marginally in the past year.
Low Birthweight	In the last 20 years, the prevalence of low birthweight infants has increased from 7.1% to 8.0% nationwide. The good news is that it appears to have peaked in 2009 and is trending downward.
Diabetes	In the nation, 9.6% of adults report they have been told they have diabetes. There has been a steady, upward climb in the prevalence of diabetes, although data from the last 3 years shows a leveling of the prevalence.

The United States has the potential to return to the rates of improvement typical in the 1990s. However, to do so, it must address the drivers of health directly by focusing on reducing important risk factors. For example, the prevalence of smoking had been stagnant for many years and recently started to show improvement in the last two decades. However, there was an increase in rates from 2010 to 2012. In the last year, the prevalence of smoking declined in the United States from 21.2 percent to 19 percent of adults who smoke regularly; however Tennessee ranks 46th as one of the bottom five states with 24.3 percent of adults smoking and Virginia ranks 24th at 19.1 percent.

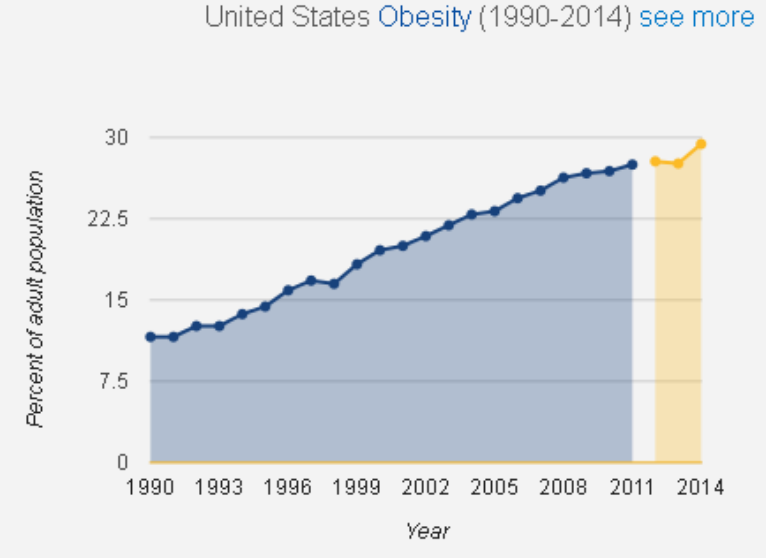
Graph 1 - Prevalence of Smoking Since 1990



Unprecedented and unchecked growth in the prevalence of obesity over the last 20 years has also dramatically affected the overall health of the United States. The prevalence of obesity, a risk factor for numerous illnesses including heart disease and diabetes, appears to be leveling off after increasing for decades. However, more than one in four people in the U.S. is considered obese - a category that the Centers for Disease Control and Prevention reserves for those who are significantly over the suggested body weight given their height. In the United States, the prevalence of obesity is 29.4 percent of adults, which has increased from 27.8 percent in 2012. Virginia's obesity score ranks 18th at 27.2 percent, while Tennessee ranks 47th at 33.7 percent of obese adults.

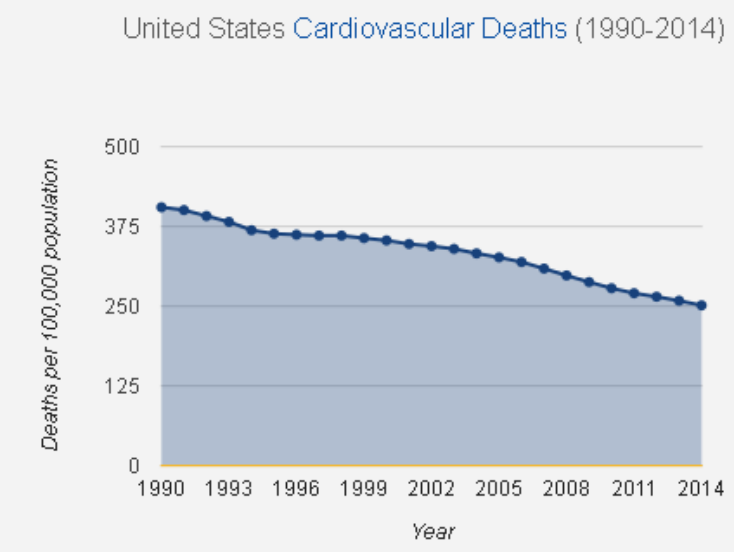
These very high obesity rates are gathered from the Behavioral Risk Factor Surveillance System, the nation's largest phone survey about health, and rely on self-reported height and weight. Actual obesity rates, as measured by health professionals, may be almost 10 percent higher, meaning that over one-third of the population is now obese.

Graph 2 - Prevalence of Obesity Since 1990



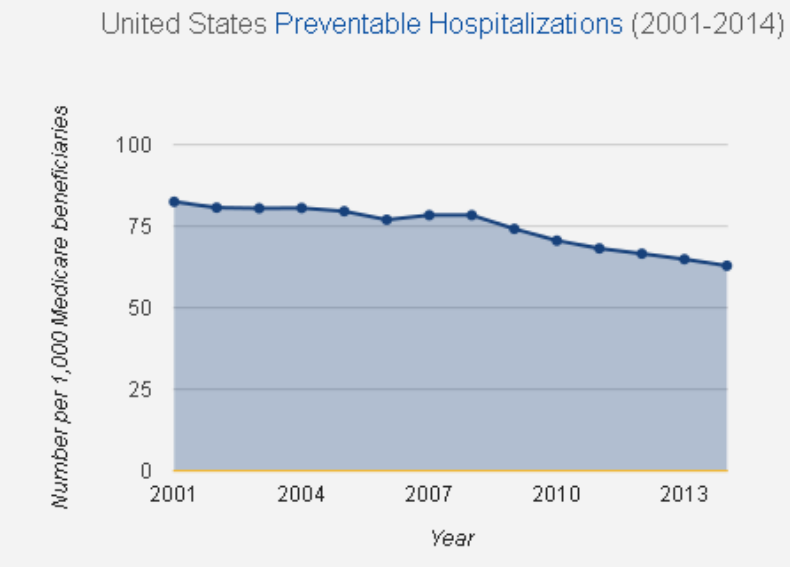
Despite increasing risk factors such as obesity, high cholesterol, and high blood pressure, deaths contributed to cardiovascular disease have consistently declined by 2 to 3 percent per year for the last decade. Cardiovascular disease accounts for 30 percent of Medicare spending, 17 percent of medical spending, and totals nearly $150 billion each year. For cardiovascular deaths, Virginia ranked 25th with a rate of 241.1 per 100,000 and Tennessee ranked 44th with the rate of 300.6.

Graph 3 – Prevalence of Cardiovascular Deaths Since 1990



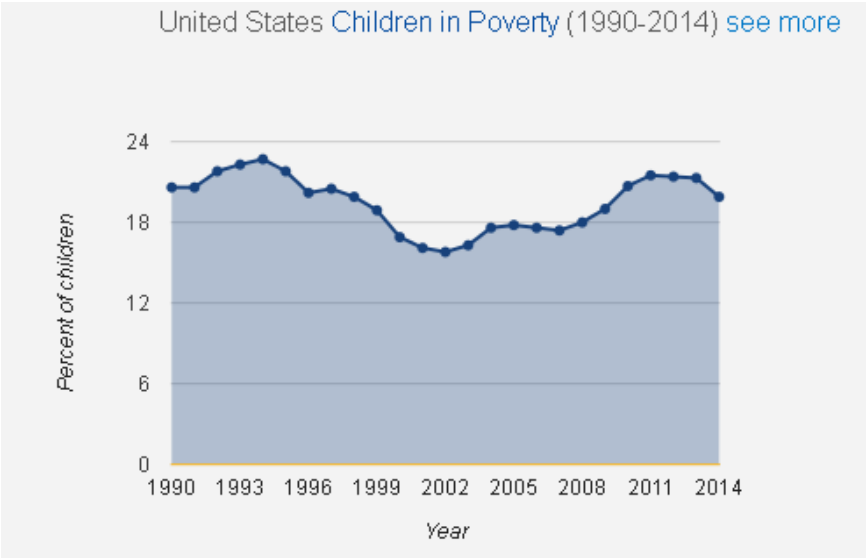
Like cardiovascular disease, potentially preventable hospitalizations have steadily decreased over the past 12 years. Preventable hospitalizations (hospitalizations that may be preventable with high quality primary and preventive care) have decreased from 82.5 to 62.9 discharges per 1,000 Medicare enrollees since 2001. Preventable hospitalizations reflect how efficiently a population uses various health care options for care and often occur as a result of a failure to detect or treat conditions early. Preventable hospitalizations could be avoided with earlier, less costly interventions. Virginia ranked 22nd in this measure with a 55.2 rate and Tennessee ranked 47th with a rate of 78.5.

Graph 4 – Preventable Hospitalizations Since 2001



The current economic climate also increases the challenge of maintaining a healthy population. Poverty is an indication of the lack of access to health care, including preventive care, for this vulnerable population. Graph 5 shows the recent increase in the percentage of children in poverty in the last few years, increasing from 16.1 percent of children in the 2011 Edition to 19.9 percent of children in the 2014 Edition. On this measure Virginia ranks 12th with a 14.5 percent of children living in poverty and Tennessee ranks 45th with 26.7 percent. In the 2002 Edition, the child poverty rate was at a historic low of 15.8 percent of persons under age 18.

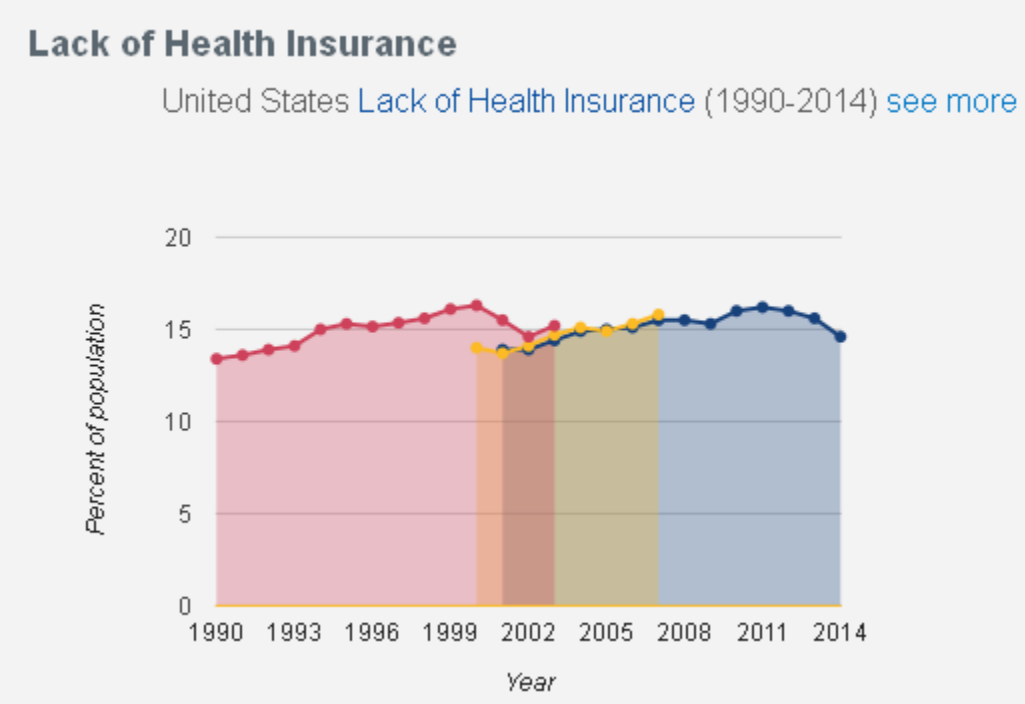
Graph 5 – Children in Poverty since 1990



Lack of health insurance coverage increased from 13.9 percent in the 2001 Edition to 14.6 percent of the population in the 2014 Edition. Lack of health insurance not only inhibits people from getting the proper care when needed but also reduces access to necessary preventive care to curtail or minimize future illnesses.

Massachusetts, with the lack of health insurance at 3.8 percent of the population, is substantially better than all other states and less than one-fourth of the national average. Texas has a rate six times that of Massachusetts. Changes in national health care laws have the potential to dramatically affect this metric over the next few years.

Graph 6 – Lack of Health Insurance Since 2001



2014 State Results

America's Health Rankings®-2014 Edition shows Hawaii at the top of the list of healthiest states again this year. The state has steadily remained within the top 5 healthiest states since 1990. Hawaii has consistently sustained its place within the top 5 healthiest states for the last 22 years, excluding 2002 when it was ranked 6th. Hawaii's strengths include its number one position for overall health rank and ranking in the top 5 states for a low rate of preventable hospitalizations, high immunization coverage among children, low prevalence of smoking and obesity, high per capita public health funding, a low rate of uninsured population, and low cancer and cardiovascular mortality rates. Hawaii's three challenges are a high prevalence of binge drinking, low high school graduate rate, and a high incidence of Salmonella infections.

Mississippi is 50th this year, the same as the last ten years, excluding in 2011 when it ranked 49th. It has been in the bottom three states since the 1990 Edition. The state ranks well for a low prevalence of binge drinking, higher immunization coverage among children, and small disparity in health status by educational attainment. In the past year, despite ranking last in the nation for immunization coverage among adolescents, coverage increased from 30.2 percent to 35.4 percent of persons aged 13 to 17 years. Mississippi also ranks last in many health outcomes, including infant mortality, low birth weight, premature death, cardiovascular death, infectious diseases, and overall health status. Mississippi's prevalence of obesity, physical inactivity, and diabetes remain among the highest in the nation with approximately 690,000 physically inactive adults, 770,000 obese adults, and 280,000 adults with diabetes. It ranks 48th in health determinants and 49th in health outcomes; therefore, its overall ranking is unlikely to change significantly in the near future

2014 Edition Ranking

2014 RANK (1–50)	STATE	SCORE
1	Hawaii	.91
2	Vermont	.85
3	Massachusetts	.74
4	Connecticut	.74
5	Utah	.73
6	Minnesota	.73
7	New Hampshire	.68
8	Colorado	.57
9	North Dakota	.55
10	Nebraska	.50
11	New Jersey	.47
12	Oregon	.41
13	Washington	.40
14	New York	.39
15	Rhode Island	.37
16	Maryland	.35
17	California	.35
18	Idaho	.34
18	South Dakota	.34
20	Maine	.30
21	Virginia	.30
22	Montana	.28
23	Wisconsin	.23
24	Iowa	.22
25	Wyoming	.21

2014 Edition Ranking

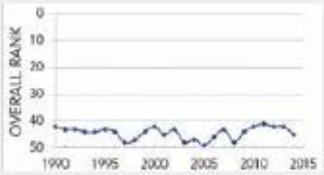
2014 RANK (1–50)	STATE	SCORE
26	Alaska	.13
27	Kansas	.08
28	Pennsylvania	.01
29	Arizona	-.04
30	Illinois	-.08
31	Texas	-.11
32	Florida	-.15
33	New Mexico	-.18
34	Michigan	-.21
35	Delaware	-.23
36	Missouri	-.28
37	North Carolina	-.29
38	Georgia	-.32
39	Nevada	-.33
40	Ohio	-.36
41	Indiana	-.38
42	South Carolina	-.64
43	Alabama	-.66
44	West Virginia	-.71
45	Tennessee	-.71
46	Oklahoma	-.74
47	Kentucky	-.75
48	Louisiana	-.80
49	Arkansas	-.93
50	Mississippi	-1.00

Tennessee



Overall Rank: 45

Change: ▼ 3
Determinants Rank: 44
Outcomes Rank: 46



Strengths:

- Low prevalence of binge drinking
- Low incidence of pertussis
- Ready availability of primary care physicians

Challenges:

- High prevalence of obesity
- High prevalence of physical inactivity
- High violent crime rate

Ranking:

Tennessee is 45th this year; it was 42nd in 2013. The ranking for senior health in Tennessee was 43rd in 2014.

Highlights:

- In the past year, physical inactivity increased by 17 percent from 28.6 percent to 33.6 percent of adults.
- In the past year, binge drinking decreased by 15 percent from 11.3 percent to 9.6 percent of adults, the lowest rate in the nation.
- In the past year, preventable hospitalizations decreased by 10 percent from 80.8 to 73.1 per 1,000 Medicare beneficiaries.
- In the last 2 years, immunization coverage among adolescents increased by 16 percent from 52.7 percent to 61.2 percent of adolescents aged 13 to 17 years.
- Since 1990, children in poverty decreased by 10 percent from 29.6 percent to 26.7 percent of children.

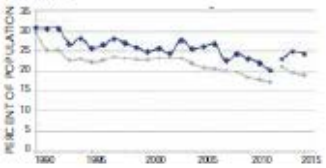
State Health Department Website:

http://health.state.tn.us

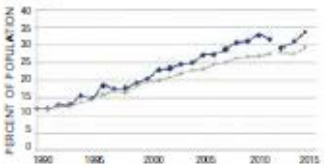
	2014 VALUE	2014 RANK	NO.1 STATE
Behaviors			
Smoking (Percent of adult population)	24.3	46	10.3
Binge Drinking (Percent of adult population)	9.6	1	9.6
Drug Deaths (Deaths per 100,000 population)	17.2	40	3.0
Obesity (Percent of adult population)	33.7	47	21.3
Physical Inactivity (Percent of adult population)	33.6	49	16.2
High School Graduation (Percent of incoming ninth graders)	83.0	20	93.0
Community & Environment			
Violent Crime (Offenses per 100,000 population)	644	50	123
Occupational Fatalities (Deaths per 100,000 workers)	5.0	32	2.2
Infectious Disease (Combined score Chlamydia, Pertussis, *Salmonella**)	0.01	29	-0.9
Chlamydia (Cases per 100,000 population)	507.9	39	233.0
Pertussis (Cases per 100,000 population)	4.8	10	1.6
Salmonella (Cases per 100,000 population)	17.2	35	6.8
Children in Poverty (Percent of children)	26.7	45	9.2
Air Pollution (Micrograms of fine particles per cubic meter)	9.5	30	4.9
Policy			
Lack of Health Insurance (Percent of population)	13.9	26	3.8
Public Health Funding (Dollars per person)	$83	20	$219
Immunization–Children (Percent aged 19 to 35 months)	68.5	33	82.1
Immunization–Adolescents (Percent aged 13 to 17 years)	61.2	36	81.3
Clinical Care			
Low Birthweight (Percent of live births)	9.2	44	5.7
Primary Care Physicians (Number per 100,000 population)	124.4	19	324.6
Dentists (Number per 100,000 population)	50.9	36	107.6
Preventable Hospitalizations (Number per 1,000 Medicare beneficiaries)	73.1	46	28.2
ALL DETERMINANTS	-0.43	44	0.71
OUTCOMES			
Diabetes (Percent of adult population)	12.2	46	6.5
Poor Mental Health Days (Days in previous 30 days)	3.7	24	2.5
Poor Physical Health Days (Days in previous 30 days)	5.0	49	2.8
Disparity in Health Status (Percent difference by education level**)	32.1	38	15.5
Infant Mortality (Deaths per 1,000 live births)	7.3	41	4.2
Cardiovascular Deaths (Deaths per 100,000 population)	300.6	44	184.7
Cancer Deaths (Deaths per 100,000 population)	213.5	44	145.7
Premature Deaths (Years lost per 100,000 population)	9,168	43	5,345
ALL OUTCOMES	-0.29	46	0.34
OVERALL	-0.71	45	0.91

*Negative score denotes less disease than US average, positive score indicates more than US average
**Difference in the percentage of adults aged 25 and older with vs without a high school education who report their health is very good or excellent

SMOKING



OBESITY



STATE ◆——◆ NATION ●——●

The 2012–2014 data in the above graphs are not directly comparable to prior years. See Methodology for additional information.

ECONOMIC ENVIRONMENT	TN	US
Annual Unemployment Rate (2013)	8.2	7.4
Annual Underemployment Rate (2013)	14.7	13.8
Median Household Income (2013)	$42,499	$51,939

MEASURE	ADULT POPULATION AFFECTED
Smoking	1,163,000
Obesity	1,595,000
Physical Inactivity	1,691,000
Diabetes	615,000

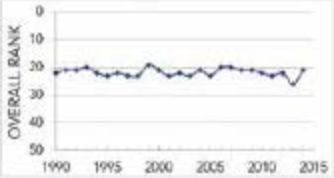
Virginia

VIRGINIA



Overall Rank: 21

Change: ▲ 5
Determinants Rank: 19
Outcomes Rank: 23



Strengths:

- Low rate of drug deaths
- Low violent crime rate
- Low percentage of children in poverty

Challenges:

- Low immunization coverage among children
- Low immunization coverage among teens
- High infant mortality rate

Ranking:

Virginia is 21st this year; it was 26th in 2013. The ranking for senior health in Virginia was 21st in 2014.

Highlights:

- In the past year, air pollution decreased by 6 percent from 9.3 to 8.7 micrograms of fine particles per cubic meter.
- In the last 2 years, drug deaths decreased by 10 percent from 9.3 to 8.4 deaths per 100,000 population.
- In the last 10 years, preventable hospitalizations decreased by 25 percent from 73.8 to 55.2 per 1,000 Medicare beneficiaries.
- Since 1990, cardiovascular deaths decreased by 42 percent from 413.2 to 241.1 deaths per 100,000 population.
- Since 1990, infant mortality decreased by 38 percent from 10.6 to 6.6 deaths per 1,000 live births.

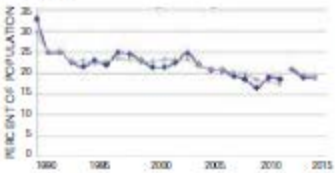
State Health Department Website:

www.vdh.state.va.us

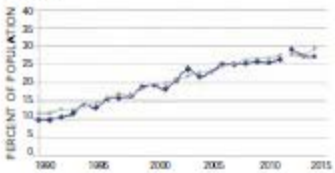
	2014 VALUE	2014 RANK	NO 1 STATE
Behaviors			
Smoking (Percent of adult population)	19.0	24	10.3
Binge Drinking (Percent of adult population)	15.9	20	9.6
Drug Deaths (Deaths per 100,000 population)	8.4	4	3.0
Obesity (Percent of adult population)	27.2	18	21.3
Physical Inactivity (Percent of adult population)	23.0	20	16.2
High School Graduation (Percent of incoming ninth graders)	84.0	16	93.0
Community & Environment			
Violent Crime (Offenses per 100,000 population)	190	4	123
Occupational Fatalities (Deaths per 100,000 workers)	4.4	25	2.2
Infectious Disease (Combined score Chlamydia, Pertussis, *Salmonella**)	-0.29	16	-0.9
Chlamydia (Cases per 100,000 population)	431.8	26	233.0
Pertussis (Cases per 100,000 population)	7.7	18	1.6
Salmonella (Cases per 100,000 population)	14.1	25	6.8
Children in Poverty (Percent of children)	14.5	12	9.2
Air Pollution (Micrograms of fine particles per cubic meter)	8.7	19	4.9
Policy			
Lack of Health Insurance (Percent of population)	12.4	20	3.8
Public Health Funding (Dollars per person)	$68	28	$219
Immunization–Children (Percent aged 19 to 35 months)	69.2	29	82.1
Immunization–Adolescents (Percent aged 13 to 17 years)	58.5	42	81.3
Clinical Care			
Low Birthweight (Percent of live births)	8.1	27	5.7
Primary Care Physicians (Number per 100,000 population)	125.8	16	324.6
Dentists (Number per 100,000 population)	61.6	19	107.6
Preventable Hospitalizations (Number per 1,000 Medicare beneficiaries)	55.2	22	28.2
ALL DETERMINANTS	0.24	19	0.71
OUTCOMES			
Diabetes (Percent of adult population)	9.8	26	6.5
Poor Mental Health Days (Days in previous 30 days)	3.3	11	2.5
Poor Physical Health Days (Days in previous 30 days)	3.6	15	2.8
Disparity in Health Status (Percent difference by education level**)	29.1	27	15.5
Infant Mortality (Deaths per 1,000 live births)	6.6	31	4.2
Cardiovascular Deaths (Deaths per 100,000 population)	241.1	25	184.7
Cancer Deaths (Deaths per 100,000 population)	189.5	23	145.7
Premature Deaths (Years lost per 100,000 population)	6,502	19	5,345
ALL OUTCOMES	0.06	23	0.34
OVERALL	0.30	21	0.91

*Negative score denotes less disease than US average, positive score indicates more than US average
**Difference in the percentage of adults aged 25 and older with vs without a high school education who report their health is very good or excellent

SMOKING



OBESITY



STATE ◆—◆ NATION ●—●

The 2012–2014 data in the above graphs are not directly comparable to prior years. See Methodology for additional information.

ECONOMIC ENVIRONMENT	VA	US
Annual Unemployment Rate (2013)	5.5	7.4
Annual Underemployment Rate (2013)	11.5	13.8
Median Household Income (2013)	$67,620	$51,939

MEASURE	ADULT POPULATION AFFECTED
Smoking	1,159,000
Obesity	1,632,000
Physical Inactivity	1,481,000
Diabetes	631,000

As Mountain States Health Alliance works to develop an implementation plan based on the findings from this assessment, key focus areas for consideration to impact the health of our community would be the 27 measures that comprise the *America's Health Rankings*. These determinants have been carefully selected by leaders in health and public policy as factors which have the greatest impact on future health of a population. For a state (or area for that matter) to improve the health of its population, efforts must focus on changing the determinants of health. A description of these determinants is outlined below.

Selection of Components

Four primary considerations drove the design of *America's Health Rankings*® and the selection of the individual measures:

1. The overall rankings had to represent a broad range of issues that affect a population's health,
2. Individual measures needed to use common health measurement criteria,
3. Data had to be available at a state level, and
4. Data had to be current and updated periodically.

While not perfect, the measures selected are believed to be the best available indicators of the various aspects of healthiness at this time and are consistent with past reports.

The measures are divided into two categories - Determinants and Outcomes. For further clarity, determinants are divided into four groups: Behaviors, Community and Environment, Public and Health Policies, and Clinical Care. These four groups of measures influence the health outcomes of the population in a state, and improving these inputs will improve outcomes over time. Most measures are actually a combination of activities in all four groups. For example, the prevalence of smoking is a behavior that is strongly influenced by the community and environment in which we live, by public policy including taxation and restrictions on smoking in public places, and by the care received to treat the chemical and behavioral addictions associated with tobacco. However, for simplicity, we placed each measure in a single category.

For *America's Health Rankings*® to continue to meet its objectives it must evolve and incorporate new information as it becomes available. The Scientific Advisory Committee provides guidance for the evolution of the rankings, balancing the need to change with the desire for longitudinal comparability. Over the last few years, change is being driven by: 1) the acknowledgment that health is more than years lived but also includes the quality of those years; 2) data about the quality and cost of health care delivery are becoming available on a comparative basis; and 3) measurement of the additional determinants of health are being initiated and/or improved. The committee also emphasizes that the real impact on health will be made by addressing the determinants, and making improvements on these items will affect the long-term health of the population. The determinants are the predictors of our future health.

Outcomes are traditionally measured using mortality measures which include premature death, infant mortality, cancer and cardiovascular mortality. While these measures overlap significantly, they do present different views of mortality outcomes of a population. Two measures of the quality of life- poor mental health days and poor physical health days - are also included and defined as the number of days in the previous 30 days when a person indicates their activities are limited due to mental or physical health difficulties.

As with all indices, the positive and negative aspects of each measure must be weighed when choosing and developing them. These aspects for consideration include: 1) the interdependence of

the different measures; 2) the possibility that the overall ranking may disguise the effects of individual measures; 3) an inability to adjust all data by age and race; 4) an over-reliance on mortality data; and 5) the use of indirect measures to estimate some effects on health. These concerns cannot be addressed directly by adjusting the methodology; however, assigning weights to the individual measures can mitigate their impact.

Each measure is assigned a weight that determines its percentage of the overall score. Determinants account for 75 percent of the overall ranking and outcomes account for 25 percent, a shift from the 50/50 balance in the original 1990 index. This reflects the importance and growing availability of determinant data.

A short description of each measure immediately follows. The data for each year is the most current data available at the time the report was compiled.

The table includes the core measures included in the current model, plus supplemental measures that can be used to further understand each state's unique situation. The supplemental measures are more fully described at http://www.americashealthrankings.org/About/Model.

Data for each state and the United States is available at Get Informed or by clicking the link above.

Core Measures

Determinants

Behaviors	Description
Smoking	Percentage of adults who are current smokers (smoked at least 100 cigarettes in their lifetime and currently smoke).
Binge Drinking	Percentage of adults who self-report having 4 or more (women) or 5 or more (men) alcoholic beverages on at least 1 occasion in the past 30 days.
Drug Deaths	Number of deaths due to drug injury of any intent (unintentional, suicide, homicide, or undetermined) per 100,000 population.
Obesity	Percentage of adults who are obese, with a body mass index (BMI) of 30.0 or higher.
Physical Inactivity	Percentage of adults who report doing no physical activity or exercise (such as running, calisthenics, golf, gardening, or walking) other than their regular job in the last 30 days.
High School Graduation	Percentage of incoming ninth graders who graduate in 4 years from a high school with a regular degree.

Community and Environment

Violent Crime	Number of murders, rapes, robberies, and aggravated assaults per 100,000 population.
Occupational Fatalities	Number of fatalities from occupational injuries per 100,000 workers.
Children in Poverty	Percentage of persons younger than 18 years who live in households at or below the poverty threshold.
Infectious Disease	Combined average z-score using the values of incident cases of chlamydia, pertussis, and *Salmonella* per 100,000 population.

Air Pollution	Average exposure of the general public to particulate matter of 2.5 microns or less in size (PM2.5).

Policy

Lack of Health Insurance	Percentage of the population that does not have health insurance privately, through their employer, or the government.
Public Health Funding	State funding dedicated to public health as well as federal funding directed to states by the Centers for Disease Control and Prevention and the Health Resources and Services Administration.
Immunization-Children	Percentage of children receiving the recommended doses of DTaP, polio, MMR, Hib, hepatitis B, varicella, and PCV vaccines by age 19–35 months.
Immunization-Adolescents	Percentage of adolescents aged 13 to 17 years who have received 1 dose of Tdap since the age of 10 years, 1 dose of meningococcal conjugate vaccine, and 3 doses of HPV vaccine (females only).

Clinical Care

Low Birth weight	Percentage of infants weighing less than 2,500 grams (5 pounds, 8 ounces) at birth.
Primary Care Physicians	Number of primary care physicians (including general practice, family practice, OB-GYN, pediatrics, and internal medicine) per 100,000 population.
Dentists	Number of dentists per 100,000 population
Preventable Hospitalizations	Discharge rate among the Medicare population for diagnoses that are amenable to non-hospital based care.

Outcomes

Diabetes	Percentage of adults who have been told by a health professional that they have diabetes (does not include pre-diabetes or diabetes during pregnancy).
Poor Mental Health Days	Number of days in the previous 30 days when a person indicates their activities were limited due to mental health difficulties.
Poor Physical Health Days	Number of days in the previous 30 days when a person indicates their activities were limited due to physical health difficulties.
Disparity in Health Status	Percent difference in adults aged 25 and older who did not graduate high school and adults with at least a high school education who self-report being in excellent or very good health.
Infant Mortality	Number of infant deaths (before age 1) per 1,000 live births.
Cardiovascular Deaths	Number of deaths due to all cardiovascular diseases, including heart disease and strokes, per 100,000 population
Cancer Deaths	Number of deaths due to all causes of cancer per 100,000 population
Premature Death	Number of years of potential life lost prior to age 75 per 100,000 population

Supplemental Measures

Behaviors

Cholesterol Check	Percentage of adults who have had their blood cholesterol checked within the last 5 years.
Dental Visit, Annual	Percentage of adults who have visited the dentist or dental clinic within the past year for any reason.
Diet, Fruit	Number of fruits consumed on an average day.
Diet, Vegetables	Number of vegetables consumed on an average day.
Teen Birth Rate	Number of births per 1,000 mothers aged 15 to 19 years.
Youth Smoking	Percentage of high school youth who smoked cigarettes on at least 1 day during the last 30 days.
Youth Obesity	Percentage of high school students who were greater or equal to the 95th percentile for body mass index, based on sex and age-specific reference data from the 2000 CDC growth charts.

Chronic Disease

Heart Disease	Percentage of adults who have been told by a health professional that they have angina or coronary heart disease.
High Cholesterol	Percentage of adults who have had their cholesterol checked and been told that it was high.
Heart Attack	Percentage of adults who have been told by a health professional that they had a heart attack (myocardial infarction).
Stroke	Percentage of adults who have been told by a health professional that they had a stroke.
Hypertension	Percentage of adults who have been told by a health professional that they have high blood pressure.

Clinical Care

Preterm Birth	Percentage of babies born before 37 weeks gestation.

Economic Environment

Personal Income	Per capita personal income in current dollars.
Median Household Income	The amount of income that divides the income distribution into 2 equal groups.
Unemployment Rate	Total unemployed as a percentage of the civilian labor force (U-3 definition).
Underemployment Rate	Total unemployed, plus all marginally attached workers, plus total employed part-time for economic reasons, as a percent of the civilian labor force (U-6 Definition).
Income Disparity (Gini coefficient)	A common measure of income inequality, where 0 represents complete equality and 1 indicates complete inequality.

Outcomes

Low Health Status	Percentage of adults who describe their general health as fair or poor.
Suicide	Number of deaths due to intentional self-harm per 100,000 population.

Overview

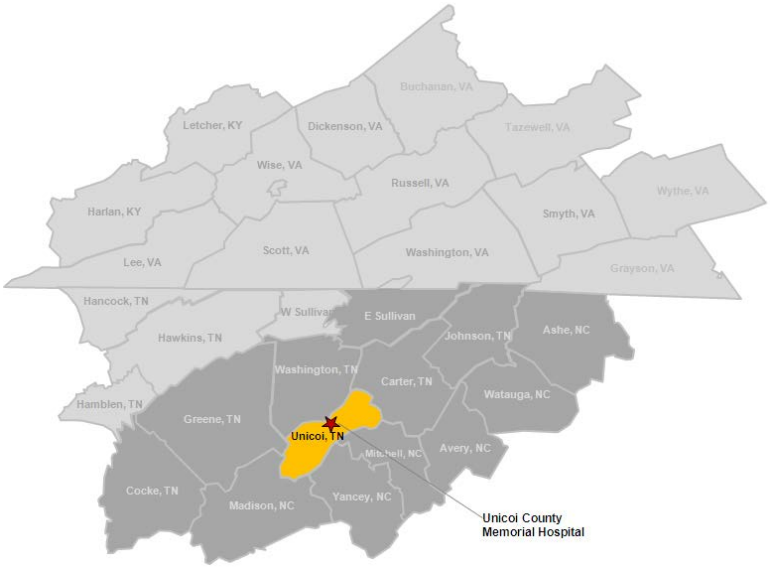
The County Snapshots consists of demographics, key indicators of health status, interview highlights, and local resources. The model for the key indicators of health status analysis was based on the 2015 *County Health Rankings*, a key component of the Mobilizing Action Toward Community Health (MATCH). MATCH is collaboration between the Robert Wood Johnson Foundation and the University of Wisconsin Population Health Institute. Indicators are organized into two broad categories: Health Outcomes and Health Factors. The Health Factors have multiple components, including Clinical Care, Health Behaviors, Social and Economic Factors, and Physical Environment. A number of additional key indicators of health status were included in this analysis from other sources (they are noted in blue font in the snapshot section). For each indicator, the state and county score is provided as well as a comparison of the county's performance to that of the state.

UNICOI COUNTY MEMORIAL HOSPITAL

Service Area Counties:

- Unicoi, TN

Primary Service Area Map:



Facility Profiles:

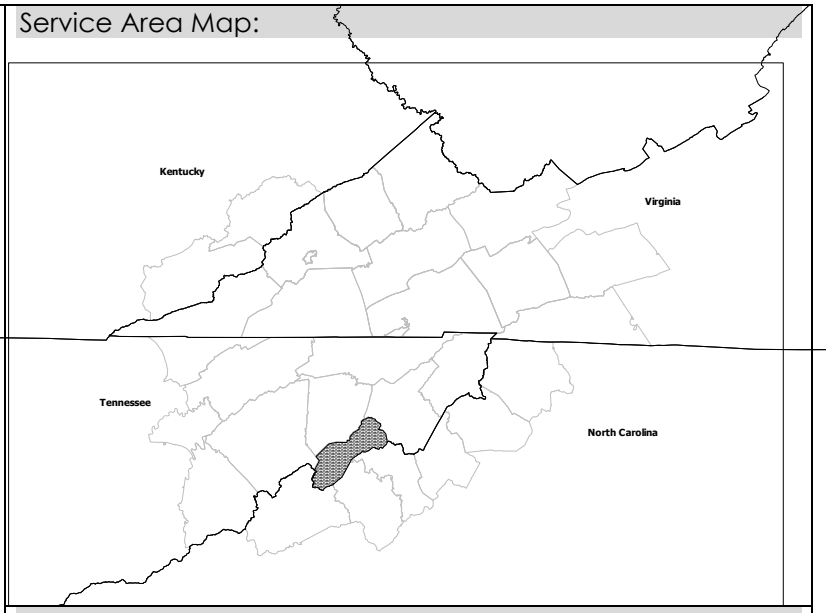
Unicoi County Memorial Hospital is a 48 acute-care bed facility and has provided high quality medical care since 1953. UCMH is accredited by the Joint Commission on Accreditation of Health Care Organizations.

A 6-page profile of each county is provided. The profile includes demographic highlights, key indicators of health status, utilization projections, and survey results specific to the county. A detailed demographic analysis by county is provided in the appendix which follows the collection of county snapshots.

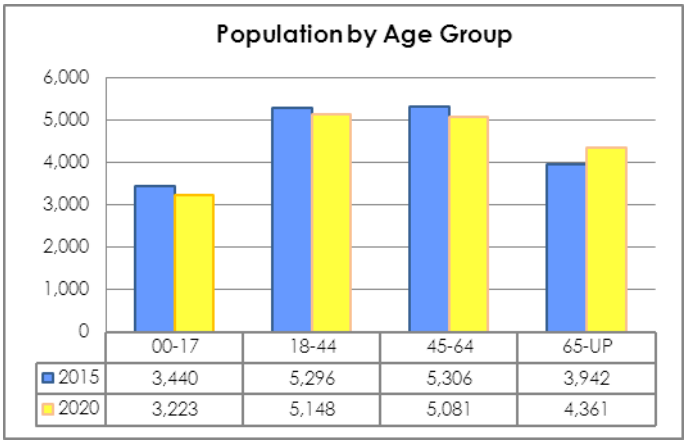
Demographic Highlights:

- Large elderly population compared to TN and US
- Declining rate of females of child-bearing age expected
- Low average household income level (19.1% of households make less than $15,000)
- Lower level of educational attainment compared to state and country (10.6% with no high school education compared to 5.9% nationally)
- Low level of diversity compared to state and national

Service Area Map:



Age Distribution and Population Projections:



Key Statistics:

	Unicoi County	Tennessee	U.S.
2015 Total Population	17,984	6,735,022	321,369,000
% Change 2015-2020	-1.0%	5.5%	4.1%
% of Population 65+ (2015)	21.9%	15.6%	14.9%
% Minority (2015)	6.8%	26.1%	38.3%

	2015	2020	% Change
Total Male Population	8,824	8,741	-0.9%
Total Female Population	9,160	9,072	-1.0%
Females, Child Bearing Age (15-44)	2,962	2,855	-3.6%

Local Health Highlights:

STRENGTHS:

- STD
- High school graduation rate
- Health Insurance
- Percent of Children Un/Improperly Restrained in a Crash

WEAKNESSES:

- Low birth weight
- Pre-1950 Housing
- Teen birth rate
- Smoking During Pregnancy
- Deaths due to cardiovascular, cancer, diabetes, cerebrovascular, injuries and suicide

Leading Causes of Death:

Ages 1 - 14 years

Cause of Death	Rate	Rank
All Causes	0	1

Ages 15 - 21 years

Cause of Death	Rate	Rank
All Causes	0	1

Ages 22 - 64

Cause of Death	Rate	Rank
Cancer	160.1	1
Heart Disease	110.1	2
Accidents	50.1	3
Diabetes Mellitus	30	4
Suicide	30	4
Liver/Cirrhosis	20	5
Flu/pneumonia	10	6
Respiratory	10	6
Malformations/ Deformations	10	6
All Other Causes	70.2	*

Ages 65+

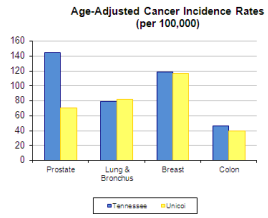
Cause of Death	Rate	Rank
Heart diseases	1299.4	1
Cancer	1045.2	2
Cerebrovascular	452	3
Respiratory	395.5	4
Alzheimer's	254.2	5
Diabetes Mellitus	169.5	6
Flu/Pneumonia	113	7
Parkinson's	56.5	8
Aortic Aneurysm and Dissection	56.5	9
Hypertension	56.5	10
All Other Causes	1242.9	*

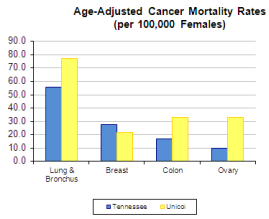
Key Indicators of Health Status:

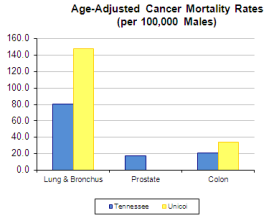
County: Unicoi, TN

	TN	Uni Co	2010	Desired
Health Outcomes				
Mortality (years of potential life lost/100,000)	8,790	9,655	10,961	↓
Low Birth Weight (3-yr avg %)	9.0%	12.3%	7.7%	↓
General Health Status (% fair/poor health)*	19.0%	22.0%	22.0%	↑
Very Low Birth Weight (%)	1.6%	1.3%	3.0%	↓
Infant Mortality (3-yr avg rate per 1,000)	8.1	7.6	7	↓
Mortality Rate (3-yr avg rate per 100,000)	953.0	1,373.3	1,046.80	↓
Cardiovascular Deaths (3-yr avg rate per 100,000)	226.5	446.0	368.2	↓
Cancer Deaths (3-yr avg rate per 100,000)	214.4	300.4	218.9	↓
Diabetes Mellitus Deaths (3-yr avg rate per 100,000)	28.7	35.6	36.8	↓
Cerebrovascular Deaths (3-yr avg rate per 100,000)	47.0	67.2	43.7	↓
Suicide Deaths (per 100,000)	15.0	22.4	11.3	↓
Mortality rate for ages 1- 14 yrs	66.8	0.0	24.9	↓
Mortality rate for ages 15 - 21yrs	70.4	0.0	161.6	↓
Mortality rates for ages 65+	4,870.1	5,141.2	5,897.40	↓
Lung Cancer Deaths (3-yr avg rate per 100,000)	68.8	119.4	63.7	↓
Female Breast Cancer Deaths (3-yr avg rate per 100,000)	14.1	13.1	27.9	↓
Prevalence of Asthma (%)	9.3%	13.2%	12.4%	↓
Prevalence of Diabetes (%)	11.0%	12.0%	14.0%	↓
Health Determinants				
Health Care Resources				
No Health Insurance (%)*	21.0%	16.0%	14.0%	↓
Medicaid/Tenncare Enrollees (%)	18.7%	19.1%	20.2%	↓
Medical Doctors Per Capita (per 100,000)	246.1	49.1	537.9	↑
Dentists Per Capita (per 100,000)	52.2	27.3	60.7	↑
Percent without Pneumococcal Vaccinations (%)*	74.2%	66.7%	67.7%	↑
Percent without Influenza Vaccinations (%)*	59.4%	50.7%	55.3%	↑
No Diabetic Eye Exams (%)	74.3%	72.2%	64.0%	↓
No Diabetic HbA1c Testing (%)	16.0%	17.0%	12.5%	↑
No Biennial Mammography (%)*	23.3%	29.3%	25.1%	↑
Inadequate or No Prenatal Care (%)	40.7%	32.5%	6.4%	↓
Month Prenatal Care Began	3.2	3.0	2.9	↓
First Trimester Prenatal Care (%)	59.3%	67.5%	85-94%	↓
Children (0-18 yrs) with Medicaid/Tenncare Coverage (%)	46.8%	50.7%	46.1%	↑
Hospital Staffed Beds (per 1,000)	3.6	2.6	1.5	↓
Licensed Nursing Beds (per 1,000 65+)	44.8	83.0	87.5	↓
# of Primary Care MDs	7,703	5	5	↑
# of Psychiatric Specialists	684	1	0	↓
Inpatient Discharge Rate (per 1,000) - Total	126.3	158.9	174.5	↓
Health Behaviors (continued)				
Cigarette Smoking (%)*	23.0%	21.0%	25.4%	↓
Smoking During Pregnancy (%)	16.3%	29.4%	37.3%	↓
Physical Inactivity (%)*	30.0%	32.0%	31.2%	↓
Overweight/Obesity (% BMI > 25)	67.8%	67.8%	63.8%	↓
Obesity (% BMI > 30)*	32.0%	33.0%	30.0%	↓
Low Fruit and Vegetable Consumption (% <5 a day)*	76.7%	73.0%	37.1%	↓
Binge Drinking (%)*	10.0%	6.0%	7.5%	↓
% of Children (0-4) Un/Improperly Restrained in a Crash	14.5%	5.3%	19.0%	↓
Teen Birth Rate (per 1,000)	37.3	45.4	59	↓
Sexually Transmitted Diseases (100,000)	446	98	73	↓
Violent Crime (per 100,000)	667.0	139.0	207	↓
Motor Vehicle Crash Deaths (per 100,000)	19	21	32	↓
Unmarried Mother Birth Rate (%)	44.1%	38.0%	33.8%	↓
Injury-related Mortality (3-yr avg rate per 100,000)	53.7	87.7	124.8	↓
Young Driver Crash Rate 15 - 24	116.9	62.3	79.3	↓
Elderly Drive Crash Rate (65+)	31.3	19.4	14.2	↓
Homicides (per 100,000)	8	0.0	11.3	↓
All accidental deaths per 100,000 population	52	33.6	39.5	↓
Average Fatality Rate in Alchohol-Related Crashes (per 100,000 population)	6.9	4.6	5.3	↓

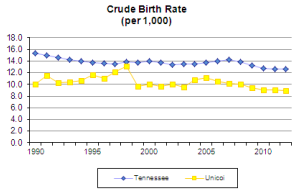
Cancer Incidence:

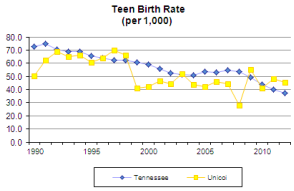






Birth Rate Trend:





Key Indicators of Health Status:

Socioecomonic Factors				
High School Graduation Rate (%)	86.0%	94.0%	77.0%	↓
Level of Education (%)	83.2%	75.3%	63.3%	↓
Unemployment (%)	8.8%	8.1%	7.9%	↓
Children (age 0 to 17) in poverty ratio (%)	26.5%	29.0%	30.3%	↓
Divorce Rate (per 100,000)	4.3	3.4	4	↓
Food Stamp Recipients (% of individuals)	21.1%	22.1%	10.6%	↓
Poverty Rate (% of all ages)	18.4%	20.4%	14.9%	↓
Temporary Assistance for Needy Families	2.6%	1.4%	2.1%	↓
High School Dropout Rate	6.9%	1.9%	6.0%	↓
Average Annual Wage	$ 36,576	$ 30,910	$30,235	↓
Physical Environment				
Air Quality Cancer Risk (per 1,000,000)	4.6	2.8	21.6	↓
Air Quality Hazard Index (per 1,000,000)	1.4	7	2.2	↓
Air Quality - Fine Particulate Matter in Air (3 yr avg Mg/m3)*	13.2	13.1	14.7	↓
Ozone Level (ppb)*	0.062	0.063	0.082	↓
Nitrate Levels in drinking water (mg/L Avg.)	0.70	1.34	1.08	↓
Pre-1950 Housing (%)	11.8%	21.6%	9.4%	↓
Lead Poisoned Children (%)	0.1%	n/a	0.0%	↓
Child Abuse and Neglect (rate per 1,000)	5.5	6.0	5	↓
Communicable Diseases				
Hepatitis A (per 100,000)	0.3	0.0	n/a	↓
Campylobacter Infection (per 100,000)	7.2	11.3	n/a	↓
Salmonella, Non Typhoid (per 100,000)	17.7	5.6	n/a	↓
Shigellosis (per 100,000)	3.3	0.0	n/a	↓
AIDS/HIV (per 100,000)	293	58	n/a	↓
Primary and Secondary Syphilis (per 100,000)	4.3	0.0	n/a	↓
Penicillin-Sensitive *Streptococcus pneumoniae* (per 100,000)	0.0	0.0	n/a	↓
Group B *Streptococcus* (per 100,000)	6.2	0.0	n/a	↓
Chlamydia (per 100,000)	517.3	146.6	n/a	↓
Gonorrhea (per 100,000)	144.8	22.5	n/a	↓

Inpatient Projections

	2014	2019		2024	
DRG Service Line	**Discharges**	**Discharges**	**% Change**	**Discharges**	**% Change**
Cardiac Surgery	27	27	1.80%	29	5.90%
Cardiology	284	247	-13.00%	220	-22.60%
Cardiology Intervention	126	116	-7.70%	110	-12.80%
Endocrinology	72	56	-21.60%	52	-28.10%
ENT Surgery	6	6	-1.90%	6	-2.70%
Gastroenterology	294	277	-5.70%	274	-6.70%
General Medicine	219	221	1.00%	206	-5.80%
General Surgery	184	175	-4.70%	169	-7.90%
Gynecology	24	22	-8.60%	21	-13.50%
Hematology	53	52	-2.30%	53	-0.10%
Neonatology	64	60	-7.00%	56	-12.40%
Nephrology	172	160	-6.90%	140	-18.80%
Neurology	141	141	-0.30%	142	1.00%
Neurosurgery	41	38	-7.90%	37	-10.40%
Normal Newborns	91	94	3.50%	94	2.80%
OB Deliveries Sections	52	45	-13.50%	42	-19.50%
OB Deliveries Vaginal	105	111	5.70%	111	5.40%
OB Other	15	14	-4.00%	14	-6.10%
Oncology Medicine	69	66	-4.20%	60	-13.30%
Oncology Surgery	20	20	-2.20%	19	-5.10%
Ophthalmic Medicine	2	2	-15.70%	1	-26.30%
Oral Surgery	8	7	-12.30%	7	-16.60%
Orthopedic Medicine	58	56	-3.10%	56	-3.80%
Orthopedic Surgery	150	153	1.90%	152	1.20%
Otolaryngology	13	12	-6.50%	12	-4.50%
Plastic Surgery	4	4	-3.80%	4	-12.10%
Psychiatry	148	163	10.20%	156	5.50%
Pulmonary	406	339	-16.50%	309	-23.90%
Rehabilitation	35	28	-19.70%	29	-16.90%
Rheumatology	9	8	-9.60%	8	-13.90%
Substance Abuse	9	9	3.90%	9	1.40%
Thoracic Surgery	14	14	-2.10%	13	-3.80%
Trauma Medical	12	11	-8.00%	11	-7.40%
Unspecified	1	1	8.70%	1	17.40%
Urology Medicine	12	10	-13.80%	9	-21.30%
Urology Surgery	27	26	-5.50%	25	-9.10%
Vascular Surgery	43	41	-3.50%	40	-6.00%
Womens Other	1	1	-15.10%	1	-33.10%
Grand Total	**3,011**	**2,834**	**-5.90%**	**2,697**	**-10.40%**

Outpatient Projections

	2014		2019			2024	
Site of Care	**Volumes**		**Volumes**	**% Change**		**Volumes**	**% Change**
ED	9,919		9,938	0.20%		9,518	-4.00%
Home	18,118		20,713	14.30%		22,390	23.60%
Hosp OP/ASC	29,338		31,605	7.70%		32,399	10.40%
Office/Clinic	148,825		157,392	5.80%		151,068	1.50%
Other	8,047		8,593	6.80%		8,372	4.00%
SNF	562		596	5.90%		624	11.00%
Urgent/Retail	304		329	8.20%		324	6.60%
Virtual			3,315			12,682	
Grand Total	**215,112**		**232,480**	**8.10%**		**237,377**	**10.40%**

Interview Highlights:

INTERVIEWEES:

- Eight individuals

KEY FINDINGS:

- Average rating of health status is 4.9, with a range in responses of 3 to 6
- Top health issues are:
  - Obesity
  - Diabetes
  - Cancer
  - Substance/Prescription Drug Abuse
- Additional identified health priorities:
  - Addiction
  - Neonatal Abstinence Syndrome
  - Mental Health
  - COPD/ Respiratory Needs
  - Cardiovascular disease
  - Physical inactivity
  - Utilization of wellness screenings
  - Parenting education
  - Smoking/Tobacco and vapor cigarette use
  - Second-Hand Smoke
  - Medical non-compliance
  - Access to urgent care clinics
  - Access to primary care clinics
  - Access to physical activity
  - Access to long-term care
  - Unemployment
  - Access to health education
  - Fast food prevalence
  - Transportation barriers
  - Cultural barriers
- Ideas to improve these conditions include:
  - Better marketing of available health-related programs and resources
  - Community gardens
  - Fitness center programs
  - Increase health education programs and opportunities
  - Community health events
  - School-based fitness programs
  - Nutrition education
  - Wellness screenings
  - More urgent care clinics
  - More primary care clinics
  - Legislative regulations on prescription drugs/prescribing practices
  - Legislation on smoking/vapor cigarettes
  - Diabetes education
  - Family support services
  - Elderly support services
  - Offering SNAO benefits at farmers market
  - Substance abuse/mental health facilities and programs

Sources:	Local Resources:

▪ Medstat ▪ County Health Rankings ▪ TN Advisory Commission on Intergovernmental Relations ▪ TN Dept of Health ▪ BRFSS ▪ TennCare ▪ Kidscount ▪ TN Dept of Safety and Homeland Security ▪ EPA ▪ CDC Wonder ▪ TN Dept of Environment & Conservation ▪ Childhood Lead Poisoning Prevention Program	▪ Telamon Migrant Head Start ▪ Unicoi County Health Department ▪ Unicoi County Chamber of Commerce ▪ Unicoi County Memorial Hospital ▪ Unicoi County Family YMCA ▪ Senior Center ▪ Walking trails ▪ Alzheimers Support Group ▪ Farmers Market ▪ Tobacco Settlement Funds ▪ SNAP ▪ Community health events

APPENDIX

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1. Unicoi County Detailed Demographics

Mountain State Health Alliance

Unicoi County, TN

Population and Gender	Market 2015 Population	Market 2015 % of Total	Market 2020 Population	Market 2020 % of Total	Market Population % Change	National 2015 % of Total
Female Population	9,160	50.9%	9,072	50.9%	(1.0)%	50.8%
Male Population	8,824	49.1%	8,741	49.1%	(0.9)%	49.2%
Total	17,984	100.0%	17,813	100.0%	(1.0)%	100.0%

Age Groups	Market 2015 Population	Market 2015 % of Total	Market 2020 Population	Market 2020 % of Total	Market Population % Change	National 2015 % of Total
00-17	3,440	19.1%	3,223	18.1%	(6.3)%	23.1%
18-44	5,296	29.5%	5,148	28.9%	(2.8)%	35.9%
45-64	5,306	29.5%	5,081	28.5%	(4.2)%	26.3%
65-UP	3,942	21.9%	4,361	24.5%	10.6%	14.7%
Total	17,984	100.0%	17,813	100.0%	(1.0)%	100.0%

Ethnicity/Race	Market 2015 Population	Market 2015 % of Total	Market 2020 Population	Market 2020 % of Total	Market Population % Change	National 2015 % of Total
Asian & Pacific Is. Non-Hispanic	51	0.3%	72	0.4%	41.2%	5.3%
Black Non-Hispanic	88	0.5%	143	0.8%	62.5%	12.3%
Hispanic	842	4.7%	1,012	5.7%	20.2%	17.6%
White Non-Hispanic	16,759	93.2%	16,299	91.5%	(2.7)%	61.8%
All Others	244	1.4%	287	1.6%	17.6%	3.1%
Total	17,984	100.0%	17,813	100.0%	(1.0)%	100.0%

Language*	Market 2015 Population	Market 2015 % of Total	Market 2020 Population	Market 2020 % of Total	Market Population % Change	National 2015 % of Total
French at Home	40	0.2%	42	0.3%	5.0%	0.7%
Germanic Lang at Home	57	0.3%	57	0.3%	0.0%	0.5%
Only English at Home	16,318	95.2%	16,188	95.2%	(0.8)%	79.0%
Other Asian-Pacific Lang at Home	13	0.1%	9	0.1%	(30.8)%	0.9%
Spanish at Home	716	4.2%	704	4.1%	(1.7)%	13.0%
All Others	5	0.0%	5	0.0%	0.0%	5.9%
Total	17,149	100.0%	17,005	100.0%	(0.8)%	100.0%

Mountain State Health Alliance

Unicoi County, TN

Household Income	Market 2015 Households	Market 2015 % of Total	Market 2020 Households	Market 2020 % of Total	Market Households % Change	National 2015 % of Total
<$15K	1,447	19.1%	1,329	17.7%	(8.2)%	12.7%
$15-25K	1,296	17.1%	1,189	15.9%	(8.3)%	10.8%
$25-50K	2,058	27.2%	2,023	27.0%	(1.7)%	23.9%
$50-75K	1,154	15.2%	1,171	15.6%	1.5%	17.8%
$75-100K	699	9.2%	700	9.3%	0.1%	12.0%
$100K-200K	810	10.7%	940	12.5%	16.1%	17.9%
>$200K	113	1.5%	149	2.0%	31.9%	5.0%
Total	7,577	100.0%	7,501	100.0%	(1.0)%	100.0%

Education Level**	Market 2015 Population	Market 2015 % of Total	Market 2020 Population	Market 2020 % of Total	Market Population % Change	National 2015 % of Total
Less than High School	1,402	10.6%	1,411	10.7%	0.6%	5.9%
Some High School	1,762	13.3%	1,767	13.4%	0.3%	8.0%
High School Degree	5,358	40.6%	5,353	40.6%	(0.1)%	28.1%
Some College/Assoc. Degree	3,271	24.8%	3,248	24.7%	(0.7)%	31.1%
Bachelor's Degree or Greater	1,421	10.8%	1,396	10.6%	(1.8)%	26.9%
Total	13,214	100.0%	13,175	100.0%	(0.3)%	100.0%

*Excludes population age <5, **Excludes population age <25

Community Health Needs Assessment

2016



Bristol Regional Medical Center

A Member of Wellmont Health System

Community Health Needs Assessment: Table of Contents

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If you have questions regarding the assessment, please visit wellmont.org/ContactUs.

Bristol Regional Medical Center
A Member of Wellmont Health System

Introduction: Wellmont Health System

Background

6
Wellmont Health System hospitals

Wellmont Health System is a leading health care provider in the Tri-Cities region of Northeast Tennessee and Southwest Virginia. Wellmont is a not-for-profit health system guided by the mission to deliver superior health care with compassion and a vision to deliver the best health care anywhere.

Formed in 1996 with the merger of Holston Valley Medical Center in Kingsport, Tennessee, and Bristol Regional Medical Center in Bristol, Tennessee, Wellmont has grown steadily since its inception, developing a regional network of hospitals and health care facilities. Today, thousands of caregivers and hundreds of physicians focus on improving our communities and healing patients.

As part of its mission, Wellmont regularly surveys the communities it serves to assess their health care needs.



750 beds across six hospitals, two skilled nursing facilities and Wellmont Medical Associates

The goals of this community health needs assessment are:

- Complete a thorough review of our communities' health status and unmet needs
- Collect valuable information to help target community benefit, outreach and wellness programs
- Develop action plans, strategies and partnerships that support regional efforts to address any unmet health needs
- Create or strengthen partnerships among community organizations with shared accountability for the population's health

Wellmont's hospitals include:

- Holston Valley Medical Center, Kingsport, Tennessee
- Bristol Regional Medical Center, Bristol, Tennessee
- Mountain View Regional Medical Center, Norton, Virginia
- Lonesome Pine Hospital, Big Stone Gap, Virginia
- Hawkins County Memorial Hospital, Rogersville, Tennessee
- Hancock County Hospital, Sneedville, Tennessee



270 physicians and other providers

Wellmont is licensed to operate more than 750 beds across a network of six hospitals as well as two skilled nursing facilities. Wellmont Medical Associates offers an integrated network of 270 physicians and other providers. The Wellmont CVA Heart Institute delivers nationally recognized cardiovascular care, and the Wellmont Cancer Institute provides a broad spectrum of care throughout the region.

Introduction: Wellmont Health System



Access to a continuum of services

Scope of Services

Wellmont provides a continuum of services ranging from community-based acute care to highly specialized tertiary services, including the nationally recognized Wellmont CVA Heart Institute and comprehensive oncology care from the Wellmont Cancer Institute. Wellmont also offers the region's most robust robotics program with the CyberKnife Robotic Radiosurgery System and da Vinci Surgical System. Other technology that strengthens Wellmont's delivery of care are the Trilogy linear accelerator and TrueBeam STx with Brainlab.

Additionally, Wellmont is ready to care for our region's most critically injured patients with Level I and Level II trauma centers, as well as serve the smallest and sickest babies at its Level III neonatal intensive care unit. And with mobile services such as WellmontOne Air Transport and the Wellmont Health Coach, we're constantly enhancing access to lifesaving measures.



Physician leadership team and board of directors

Integrated Physicians

Wellmont's integrated physician groups include Wellmont Medical Associates and the Wellmont CVA Heart Institute, which is the region's largest cardiovascular practice.

Wellmont Medical Associates was formed in 2012 as a fundamental restructuring of Wellmont's physician practice operations. Believing physicians are best suited to determine the care plans for patients, the organization has a four-member physician leadership team and a board of directors with 15 physicians. Wellmont Medical Associates' services include not only providing expert treatment for illness, but also educating people and proactively managing patients' care to prevent illness. This philosophy advances the health system's goal to employ effective medical home models and to serve as a high-performing network of physicians and hospitals in value-based care delivery models.

The heart institute provides top-quality cardiovascular services in its 11 community offices and in Wellmont hospitals. The heart institute delivers high-quality, cost-effective heart and vascular care with compassion and improves the cardiovascular health of the region. The institute's providers diagnose, treat and manage all aspects of adult cardiovascular disease, with services ranging from general cardiology, preventive cardiology and cardiothoracic surgery to electrophysiology, interventional cardiology, vascular medicine, structural heart disease, heart failure management and advanced cardiovascular imaging. The institute is also a national leader in clinical research and is an international teaching institution.

Introduction: Wellmont Health System



National leader
in clinical research

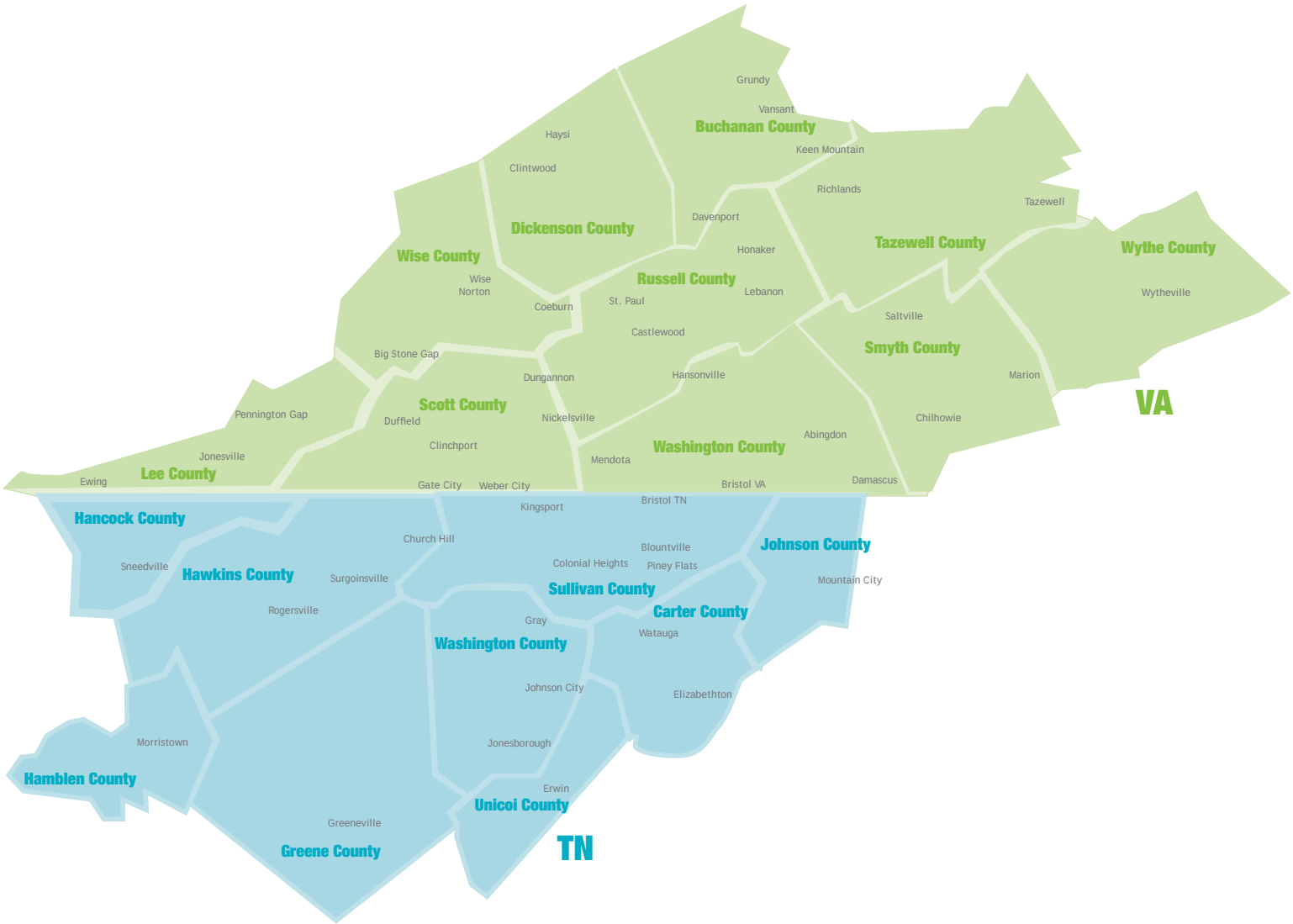
When it comes to oncology care, the Wellmont Cancer Institute's innovative approach brings together multiple board-certified physician specialists and other experts – such as a registered dietitian and clinical trial coordinator – to design a customized plan for each patient. Besides this team-driven model of care, we offer the region's most advanced technologies, clinical trials and diagnostics. We have a robust cancer program that extends throughout the region and includes leading-edge technology such as TrueBeam STx with Brainlab, CyberKnife Robotic Radiosurgery System and a Trilogy linear accelerator.

The cancer institute provides services at Holston Valley Medical Center and Bristol Regional Medical Center, as well as outpatient facilities in Johnson City and Kingsport, Tennessee, and Bristol and Norton, Virginia. In early 2015, the cancer institute introduced its lung nodule program, a comprehensive, multidicisplinary approach that enables physicians and other caregivers to detect lung cancer at its earliest stages.

Service Area

With services strategically placed throughout the region, Wellmont is positioned to be the region's high-quality, low-cost health care provider.

Wellmont's service area encompasses the northeastern counties of Tennessee and the southwestern counties of Virginia in the heart of central Appalachia, with our tertiary care hospitals based in Kingsport and Bristol, Tennessee.



Introduction: Bristol Regional Medical Center

Primary Service Area

Tennessee

- Sullivan County

Virginia

- Bristol City
- Buchanan County
- Dickenson County
- Russell County
- Smyth County
- Tazewell County
- Washington County

Facility Description

Since it relocated to its present site in 1994, Bristol Regional Medical Center has served Northeast Tennessee and Southwest Virginia with high-quality care, technological innovation and compassion. During the last 22 years, Bristol Regional has grown to include more than 2,000 dedicated, skilled physicians and caregivers, and the hospital is home to some of the region's most advanced medical technology.

Bristol Regional was the first hospital in the region to offer a digital cardiac catheterization lab and an Advanced Primary Stroke Center, and it has continued to be a trailblazer. The hospital led the way with a CyberKnife Robotic Radiosurgery System to treat life-threatening tumors and has since expanded its suite of services with a TrueBeam STx with Brainlab, which opens up new possibilities to treat complex cancer cases, including those in the brain, liver, lungs and nervous system.

These and other offerings have garnered recognition from leading ratings organizations, such as CareChex®, a division of Comparion®. In 2016, Bristol Regional was named the No. 1 hospital in the state for medical excellence in joint replacement, and it was in the top 100 hospitals nationally for medical excellence in heart attack treatment and trauma care.



Introduction: Bristol Regional Medical Center

Primary Service Area

Tennessee

- Sullivan County

Virginia

- Bristol City
- Buchanan County
- Dickenson County
- Russell County
- Smyth County
- Tazewell County
- Washington County

Key Services

- Wellmont CVA Heart Institute
- Wellmont Cancer Institute – J.D. and Lorraine Nicewonder Cancer Center, Leonard Family Comprehensive Breast Center and Jackie Leonard Infusion Center
- Advanced Primary Stroke Center and neuroscience center
- Level II trauma center and emergency department
- Orthopedics and Every Step Joint Replacement Center
- Inpatient and outpatient hospice and palliative care
- Rehabilitation services and outpatient physical therapy
- Outpatient services
- Occupational health
- Volunteer Parkway Imaging Center
- Wellmont Diabetes Treatment Centers



Methodology

Information for this report was gathered from a variety of sources, including:

- Physician needs assessment
- Community health facility assessment
- Mental health needs assessment
- Publicly available population and demographic information
- Publicly available population health information, including America's Health Rankings and the County Health Rankings
- State and regional health department data
- The Southwest Virginia Health Authority's Blueprint for Health Enabled Prosperity
- The ETSU, Wellmont, Mountain States Community Work Group Project
- Other studies



Work groups dedicated to key health topics met regularly and provided input to create the report, "Identifying priorities and solutions for improving health in Northeast Tennessee and Southwest Virginia."

Community Work Group Project

In April 2015, Wellmont Health System and Mountain States Health Alliance announced they have agreed to exclusively explore the creation of a new, integrated and locally governed health system designed to address the serious health issues affecting our area.

As part of the proposed merger, the two systems, in conjunction with East Tennessee State University and its College of Public Health, launched an initiative to focus on four key areas for health improvement in our region. Work groups dedicated to these topics provided input to ETSU, which then created the report, "Identifying priorities and solutions for improving health in Northeast Tennessee and Southwest Virginia."

That report, along with the other reference sources listed above, enabled Wellmont to collate and assess information to determine the greatest unmet health needs facing our region. Strategies to address these needs are being developed, utilizing internal resources and partnerships with other health care organizations and physicians.

Key Findings: Bristol Regional Medical Center



Meeting the acute care needs of the populations we serve

Key Findings

The health needs assessment of Bristol Regional's service area revealed we are generally meeting the acute care needs of the populations we serve. Our region still suffers by comparison, though, when its health status is measured against other parts of the country.

The below findings are also echoed wholeheartedly by people in the regions we serve; specifically, by interviews with key community leaders and participants with the ETSU work groups.

Many of the findings are interrelated and ultimately stem from similar root causes. As a result, no single finding is prioritized over another, and many of our implementation plans address several of those findings simultaneously.

The counties we serve rank among the lowest in our states in several categories related to health and wellness.

(See Appendix: Population Health Factors and Outcomes)

4th

Tennessee ranks fourth highest in the country in prevalence of type 2 diabetes

Based on data collected by the Robert Wood Johnson Foundation and the University of Wisconsin Population Health Institute, our counties rank among the worst in Tennessee and Virginia in several categories, notably in the prevalence of chronic disease management, tobacco use, diet and exercise.

These deficits can be attributed to any number of issues plaguing our region. Indeed, many of these rankings are undoubtedly tied to those counties' equally low rankings in several socioeconomic categories such as education, employment and income. Moreover, poor health literacy rates are immensely detrimental to local residents' abilities to stay abreast of their conditions.

For example, the percentage of people in the United States who have adult type 2 diabetes is 9.3 percent, and Tennessee ranks fourth highest in the country in the prevalence of type 2 diabetes at 11.3 percent, with Sullivan County as the fifth highest county in the state at 13.9 percent. Virginia is 23rd in the nation, but the communities nearest to the Tri-Cities have some of the highest rates in the commonwealth.

23rd

Virginia ranks 23rd highest in the country in prevalence of type 2 diabetes

Plus, the current shortages in primary care and family medicine physicians in certain parts of the region limit the population's ability to access the preventive care and disease management needed to curtail these health concerns. The work groups identified a strong need for leadership from the health system and regional partners, as well as from community leaders.

The services provided by Wellmont consistently rank very high, as validated by third-party ratings agencies and publicly reported data. However, the ability to reverse poor health trends and the behaviors that lead to them has been limited.

Key Findings: Bristol Regional Medical Center

The uninsured and underinsured are vulnerable populations.



Despite charity care provisions, uninsured and underinsured populations often seek emergent care rather than effectively managing their health, often resulting in high-cost care and poor health outcomes.

As is the case throughout the country, the uninsured and underinsured populations we serve are at an increased health risk. While the passage of the Affordable Care Act has helped many in our region obtain insurance, the decision by Tennessee and Virginia not to expand their state Medicaid programs has left quite a few low-income individuals and families still unable to afford premiums. Additionally, many insured people face high deductibles, which still leaves them reluctant to seek care on a regular basis.

The reticence of these populations to establish relationships with primary care providers and follow screening and preventive care schedules creates a large risk for burgeoning health problems.

In turn, these populations can become over-utilizers of high-cost services such as the emergency department, or their health problems eventually require extensive treatment.

There is a need in our region for expanded and enhanced mental health services.



Need for increased recruitment of psychiatric caregivers and access to services

This finding also mirrors a national gap and conversation about the availability of mental health care. Locally, data suggests a need for increased recruitment of psychiatric caregivers and access to services, especially intensive outpatient services.

Though some of these perceived gaps may stem from a lack of awareness surrounding these services and how they can be accessed, there remains irrefutable evidence highlighting the need for more work in this area.

These services should also include an intense focus on addiction and drugs, as both the ETSU work groups and several community leaders have identified substance abuse as a major problem plaguing our region. While this has been an issue for many years in Northeast Tennessee and Southwest Virginia, the abuse of prescription medication has skyrocketed in recent years.

As local health organizations step together to confront the problem, community feedback suggests three areas for improvement:

- Early signs of substance abuse and mental health problems identified in the population
- Effective prevention, early intervention and a full continuum of treatment services available for all
- Integration within the community throughout the early identification, treatment and recovery processes.

Key Findings: Bristol Regional Medical Center



Generational issues affect families and children

If our communities are to thrive, we must focus on encouraging healthy children and families.

An echoing theme throughout our research and reporting is that the socioeconomic makeup of Northeast Tennessee and Southwest Virginia – the same factors that have contributed to the other health needs identified in this assessment – is a generational issue that affects families and children.

Plainly stated, poor health tends to start in childhood and continue through adulthood. This is particularly evident in the data highlighting early tobacco use among children, as well as the unsettling national trends surrounding childhood obesity. There is more than ample evidence to demonstrate these habits and issues become major health concerns later in life, as shown with our region's high rates of diabetes, COPD, lung cancer and hypertension.

The low quality of health for families not only creates generations of unhealthy people in southern Appalachia but is unhealthy for the economic health of our region. As our counties fight to stay competitive and attractive for new businesses and residents, a poor quality of health reflects badly on the overall quality of life in our area.

Implementation Plans

While we constantly strive to enhance the quality of care offered at Wellmont facilities, we know we need to extend our influence outside our buildings and into the communities we serve. So, as we move forward, we set our primary courses of action to:

- Improve access to health care services
- Advance wellness and preventive health services
- Advance population health management strategies
- Ensure the needs of our most vulnerable populations are being met



Desire to increase access to care leads to new initiatives

Focus on access

A better quality of health begins with a better focus on preventive care and prompt, low-cost medical treatment. As such, Wellmont Medical Associates has been committed to recruiting and retaining primary care and family medicine providers, especially in rural areas.

For people who do not have primary care or who are unable to access it immediately, Wellmont Urgent Care is a low-cost, high-quality option for prompt treatment of minor illnesses and injuries. To best serve our populations, we continue to open new locations, and in Tennessee, offer Wellmont Urgent Care facilities in Bristol, Johnson City, Kingsport and Rogersville. Our Virginia offerings are in Abingdon, Bristol, Norton and Lebanon.

We've also increased accessibility for specialty care, with a new Wellmont Cancer Institute infusion office in Bristol, Virginia, as well as new clinics for Wellmont Medical Associates and the Wellmont Cancer Institute.

To reach even more rural and remote locations, we offer the Wellmont Health Coach, a mobile screening unit that provides digital mammography, baseline biometrics and heart and vascular screenings. In the last two years, the health coach has visited more than 40 locations, completing more than 600 mammograms and nearly 400 heart and vascular screenings.

Finally, with the implementation of MyWellmont, as part of our electronic health record, patients can access their medical records through a computer or smart phone. This software gives patients an interface to send questions to their providers, conduct E-visits, schedule appointments and track their health progress – connecting them to their health like never before.

Implementation Plans: Bristol Regional Medical Center

Focus on preventive health and wellness

A healthier region starts with healthier individuals. That's why Wellmont LiveWell, a community health transformation initiative, leverages Wellmont's medical strengths and expertise to champion, lead and sustain a new tradition of wellness in our region. LiveWell provides individuals with a free risk assessment to help identify key areas of improvement and provides regular follow-ups to encourage participants to stay committed to their healthier lives.

The LiveWell philosophy has been shared with several of our community partners. To further our mission and goals, Wellmont has partnered with like-minded organizations such as Healthy Kingsport and Live Sugarfreed, as well as several leading businesses. Through these programs, we're helping more people than ever reach health milestones and sustain their new, healthy lifestyles.



Wellmont LiveWell encourages participants to stay committed to healthier lives.

Another important aspect of wellness is ensuring a complete partnership between our patients and their primary care providers. This enables physicians to have a clear understanding of patients' circumstances and preferences, while patients have a clear understanding of what they can do to live better, healthier lives. That's also the philosophy behind Wellmont Medical Associates' Patient Centered Medical Home. Wellmont Medical Associates has earned Level 3 status from the National Committee for Quality Assurance, which is the highest achievable recognition.

Wellmont Diabetes Treatment Centers is also making a special effort to test adolescents to determine whether they have pre-diabetes or type 2 diabetes. Because the number of adolescents with these conditions is growing, Wellmont is partnering with the YMCA and a company called GBC locally to offer finger sticks so youths who score 140 or higher are then administered an A1C test, which gives their average blood-glucose level during a three-month period. Adolescents who score in the ranges for pre-diabetes or diabetes on this test are provided an opportunity to participate in a comprehensive program that consists of diabetes awareness, nutrition counseling, behavior modification and fitness.

Additionally, since people with diabetes are prone to have a diabetes emergency at any time, including when they are driving a vehicle, Wellmont has developed the Diabetes Alert sticker. This decal is placed on the driver's side of the rear windshield and informs an officer to check whether a driver is having difficulty with his or her diabetes.

Implementation Plans: Bristol Regional Medical Center

Focus on population health management

Building on our efforts to improve individual health and wellness, Wellmont will also strive to empower our communities to make healthier choices. To that end, we will continue partnering with businesses, churches and other community organizations to create a foundation and momentum for change in our region.

We will continue to engage business leaders and their thousands of employees through Wellmont Business Health Solutions, a comprehensive program that provides employers an array of health plans, wellness programs, illness prevention tools and occupational medicine services. These help keep co-workers healthy – an especially important strategy given the region's high concentration of physically taxing manufacturing and manual labor jobs.



Wellmont Medical Associates has consistently earned Level 3 status from the National Committee for Quality Assurance.

Wellmont will also continue to develop its chronic disease management programs to proactively care for conditions such as diabetes, heart disease, lung cancer and hypertension. We've made tremendous strides in the early detection and treatment of lung disease through our LungSTRONG program, which provides quick access to a team of Wellmont Medical Associates and Wellmont Cancer Institute specialists who catch, treat and monitor potential problem spots as early as possible.

Additionally, Wellmont Medical Associates will continue to be a leader with the American Medical Group Foundation and its Measure Up, Pressure Down program for hypertension management. Wellmont Medical Associates is also developing quality improvement efforts for the treatment of diabetes, based on the foundation's Best Practices Learning Collaborative.

And in 2016, the Wellmont CVA Heart Institute will bolster its leadership in cardiac rehabilitation with its new Bill Gatton Center for Advanced Cardiac Rehab using the Pritikin Intensive Cardiac Rehab program. This comprehensive lifestyle education program offers the opportunity to improve outcomes and make cardiac rehab more sustainable. The ultimate goal for the Pritikin program is for our cardiac patients to gain an in-depth understanding about the relationship between lifestyle and cardiovascular health.

Implementation Plans: Bristol Regional Medical Center

Focus on vulnerable populations

Wellmont will continue to pursue a variety of strategies to ensure our uninsured and underinsured populations have access to needed care. One such approach is through support and collaboration with key community partners such as local clinics which serve the uninsured and underinsured, departments of health and federally qualified health centers. Through these efforts, we seek to provide a continuum of care to vulnerable populations so individuals can benefit from prevention programs as well as emergency care and acute care.



Wellmont will ensure vulnerable populations have access to needed care.

Wellmont is also a key partner in the annual Tri-Cities Remote Area Medical – or RAM – clinics. Held annually at Bristol Motor Speedway, RAM provides nearly 2,000 people in need with free medical, dental and vision care. The health system also collaborates with the speedway every year to provide free head and neck cancer screenings for race-goers. Plus, the Southwest Virginia Cancer Center partners with the health department annually to provide a series of health screenings.

We will also help close the coverage gap. Through a grant from the Tennessee Hospital Association and Centers for Medicaid and Medicare Services, Wellmont has hired four certified health insurance navigators, who help uninsured populations sign up for insurance through HealthCare.gov. They also aid people who might qualify for Medicaid and the Children's Health Insurance Program.

Finally, we will continue to evaluate our charity care policies and those of partner organizations to ensure we are providing the most efficient and appropriate care to our vulnerable populations. One way we will monitor the effectiveness of these policies is through tracking the percentage and amounts of charity care we deliver. We will also continue our advocacy efforts to expand our charity care efforts through increased state and federal funding.

Market Overview: Bristol Regional Medical Center

Primary Service Area

Tennessee

- Sullivan County

Virginia

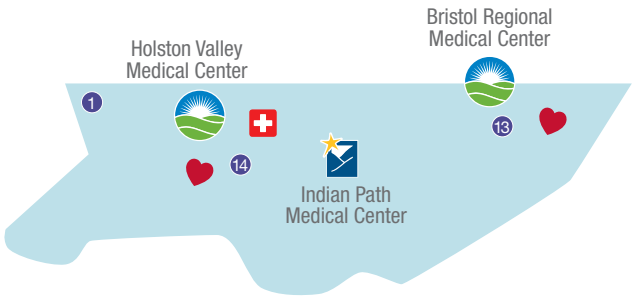
- Bristol City
- Buchanan County
- Dickenson County
- Russell County
- Smyth County
- Tazewell County
- Washington County





Market Overview: Sullivan County, Tennessee

Sullivan County



- Wellmont Health System Hospitals
- Mountain States Health Alliance Hospitals
- Independent Hospitals
- Wellmont CVA Heart Institute Offices
- Wellmont Urgent Care Locations
- # Wellmont Medical Associates Practices – Numeral represents number of practices in the community

Health Outcomes

Rank **36**

Sullivan County Rankings

Sullivan County health rankings improved in 5 out of 6 categories.

	2013	2015
Health Outcomes	43	36
Health Factors	16	12
Health Behaviors	54	47
Clinical Care	5	5
Social & Economic Factors	24	17
Physical Environment	33	7

Denotes improvement

Strengths

(BETTER than national and Tennessee state):

- Alcohol-impaired driving deaths
- Sexually transmitted infections
- Diabetes monitoring at 90%
- Higher percent of high school graduates
- Lower rate of severe housing problems
- Unemployment

Challenges

(WORSE than national and Tennessee state):

- 22% report poor or fair health. National rate is 16% and Tennessee is 19%
- Poor physical and mental health days are greater than the nation and Tennessee
- Adult smoking – Sullivan County increased percentage of smokers from 2013 to 2015
- 35% report physical inactivity, which is up from 30.5% in 2013. National is 23%, and Tennessee is 30%.
- Preventable hospital days at 86, up from 75 in 2013, with the nation at 59 and Tennessee at 73
- Higher rates of childhood and skin cancer

Highlights:

- Premature death (years of potential life lost) dropped from 2013 by 5%
- Adult obesity dropped by 1.6%
- Excessive drinking dropped by 1.9%, coming in line with Tennessee and staying less than the nation
- Increase of mental health providers lowered mental patient/provider ratio
- Diabetes and mammogram monitoring increased
- High school graduates increased from 74% to 92%
- Percent of those reporting they have limited access to health foods dropped from 20% to 14%
- 62-point improvement in physical environment from 2013-2015

Market Overview: Sullivan County, Tennessee

Wellmont Physician Locations

Cancer
- Wellmont Cancer Institute, Bristol
- Wellmont Cancer Institute, Kingsport
- Wellmont Medical Associates Oncology & Hematology, Bristol
- Wellmont Medical Associates Oncology & Hematology, Kingsport

Cardiology
- Wellmont CVA Heart Institute, Bristol
- Wellmont CVA Heart Institute, Kingsport

Endocrinology
- Wellmont Medical Associates Endocrinology, Bristol

Family medicine
- Wellmont Medical Associates, Bristol, Eighth Street
- Wellmont Medical Associates, Bristol, Meadowview Road
- Wellmont Medical Associates, Kingsport, Stone Drive
- Wellmont Medical Associates, Kingsport, Ravine Road
- Wellmont Medical Associates, Kingsport, Sevier Avenue
- Wellmont Urgent Care, Bristol
- Wellmont Urgent Care, Kingsport

Gynecologic cancer
- Wellmont Medical Associates Women's Cancer Services, Kingsport

Infectious diseases
- Wellmont Medical Associates Infectious Diseases, Bristol

Internal medicine
- Wellmont Medical Associates, Kingsport

Obstetrics and gynecology
- Wellmont Medical Associates Women's Health, Kingsport

Pain management
- Wellmont Medical Associates Pain Management, Bristol

Palliative care
- Wellmont Medical Associates Palliative Medicine, Kingsport

Pulmonology and sleep
- Wellmont Medical Associates Pulmonology & Sleep, Bristol
- Wellmont Medical Associates Pulmonology & Sleep, Kingsport

Surgery
- Wellmont Medical Associates, Kingsport

Spine and rehabilitation
- Wellmont Medical Associates Spine & Rehabilitation, Kingsport

Community Health Facilities

Mental health facilities and resources
- Bristol Regional Counseling Center
- Friends in Need
- Frontier Industries – Bristol
- Frontier Industries – Kingsport
- Holston Children & Youth Services
- Holston Counseling Center
- Open Arms Peer Support Center
- Tennessee Community Support Services

County health departments
- Bristol City Health Department, Bristol
- Sullivan County Health Department, Blountville

Federally qualified health centers
- Bluff City Medical Center, Bluff City
- Kingsport Medical Center, Kingsport
- Twin City Medical Center, Bristol

Other
- Crossroads Medical Mission – Bristol Faith in Action (VAFC), Bristol
- Crossroads Medical Mission – Celebration Church, Blountville
- Crossroads Medical Mission – First Broad Street United Methodist Church, Kingsport
- Crossroads Medical Mission – Haven of Rest, Bristol
- Crossroads Medical Mission – Reynolds Memorial United Methodist Church, Bristol
- First Assist Urgent Care, Kingsport
- First Assist Urgent Care, Piney Flats
- HMG Urgent Care, Kingsport
- Indian Path Medical Center, Kingsport
- MedExpress Urgent Care, Bristol
- Sapling Grove Urgent Care, Bristol
- Veterans Affairs Bristol Outpatient Clinic Preston Square, Bristol

Market Overview: Sullivan County, Tennessee

Rural health clinics

- Community Medical Care, US Highway 19

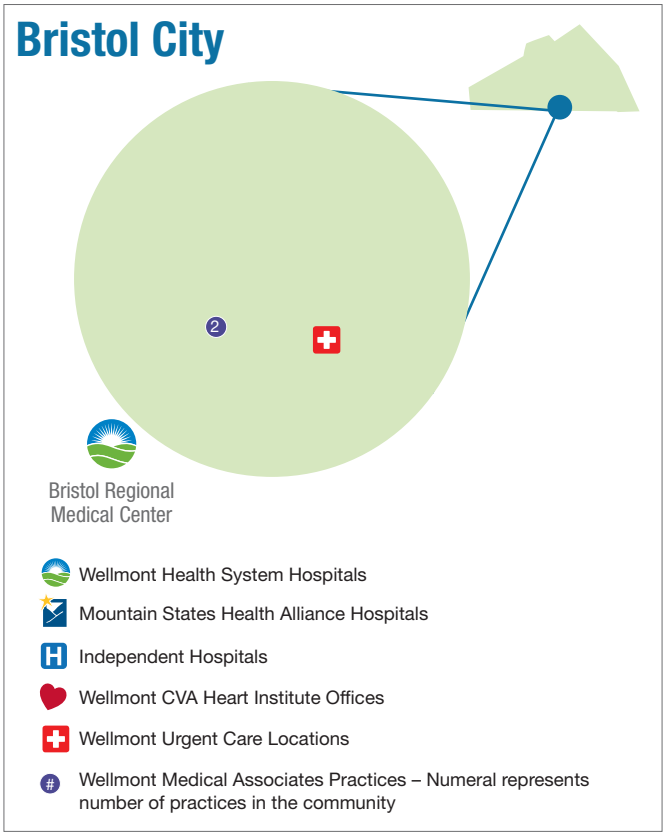
Dialysis

- Fresenius Medical Care at Johnston Memorial Hospital, Abingdon

Dental health

- Bristol Virginia Health Department Dental Unit, Bristol
- Friends in Need – Dental, Kingsport
- Healing Hands Health Center, Bristol
- Remote Area Medical – Bristol Motor Speedway, Bristol
- Washington County Health Department Dental Clinic, Bristol

Market Overview: Bristol City, Virginia



Strengths

(BETTER than national and Virginia state):

- Teen birth rate
- Access to exercise opportunity is 97%
- Lower rate of colorectal, prostate and lung cancer than national benchmarks

Challenges

(WORSE than national and Virginia state):

- Premature death (years of life lost) increased and stayed well above benchmarks
- Adult obesity
- Preventable hospital stays
- Mammogram screening
- Children in poverty
- Children in single-parent households
- Diabetes

Highlights:

- Health, social and economic factors improved from 2013-2015

Health Outcomes

Rank **111**

Bristol City Rankings

Bristol City health rankings improved in 2 out of 6 categories.

	2013	2015
Health Outcomes	78	111
Health Factors	105	107
Health Behaviors	25	58
Clinical Care	111	127
Social & Economic Factors	121	110
Physical Environment	129	124

Denotes improvement

Market Overview: Bristol City, Virginia

Wellmont Physician Locations

Cancer

- Wellmont Cancer Institute, Bristol
- Wellmont Medical Associates Oncology & Hematology, Bristol

Family medicine

- Wellmont Medical Associates, Bristol, Stagecoach Road
- Wellmont Urgent Care, Bristol

Community Health Facilities

Mental health facilities and resources

- Stepping Stone (Psychiatric Recovery Program), Bristol

County health departments

- Bristol City Health Department, Bristol
- Washington County Health Department, Bristol

Federally qualified health centers

- Twin City Medical Center, Bristol

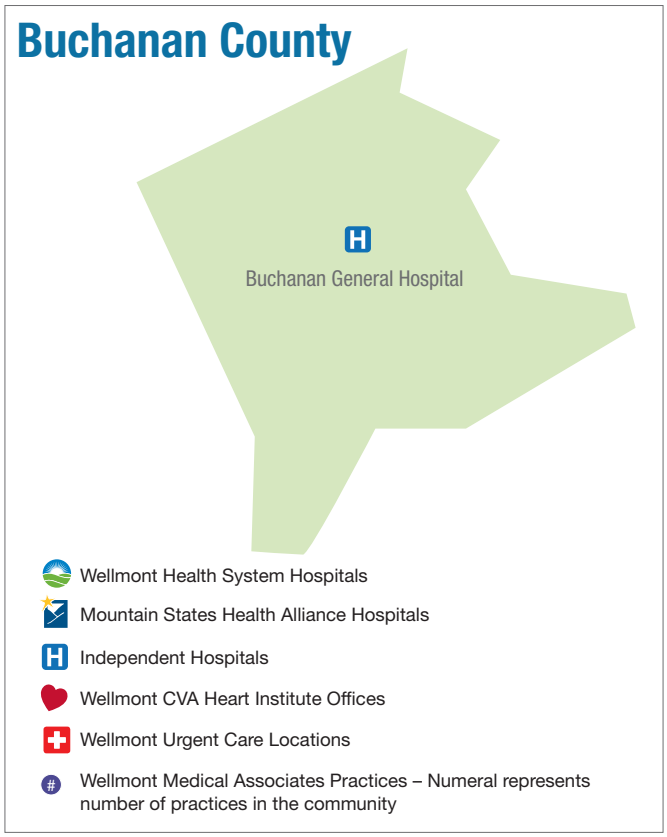
Other

- Crossroads Medical Mission – Bristol Faith in Action (VAFC), Bristol
- Crossroads Medical Mission – Haven of Rest, Bristol
- Crossroads Medical Mission – Reynolds Memorial United Methodist Church, Bristol
- MedExpress Urgent Care, Bristol
- Sapling Grove Urgent Care, Bristol
- Veterans Affairs Bristol Outpatient Clinic, Preston Square, Bristol

Dental health

- Bristol Virginia Health Department Dental Unit, Bristol
- Healing Hands Health Center, Bristol
- Remote Area Medical – Bristol Motor Speedway, Bristol
- Washington County Health Department Dental Clinic, Bristol

Market Overview: Buchanan County, Virginia



Health Outcomes

Rank 132

Buchanan County Rankings

Dickenson County health rankings improved in 1 out of 6 categories.

	2013	2015
Health Outcomes	131	132
Health Factors	128	132
Health Behaviors	129	103
Clinical Care	132	133
Social & Economic Factors	102	130
Physical Environment	91	116

Denotes improvement

Strengths

(BETTER than national and Virginia state):

- Alcohol-impaired driving deaths dropped and moved below Virginia benchmark
- Sexually transmitted infections
- Air quality

Challenges

(WORSE than national and Virginia state):

- 29% report poor or fair health, although the rate dropped by more than 5%. National averages are 16% and Virginia is 14%.
- Poor physical and mental health days, both greater than the nation and Virginia
- Low birthweight
- Adult smoking
- Access to exercise opportunities
- Mammogram screening
- Physical factors decreased 47 points from 2013-2015
- 27% report access to exercise opportunities

Highlights

- Median household income improved 20% from 2013-2015

Community Health Facilities

Mental health facilities and resources

- Buchanan County Satellite Office, Grundy
- O.U.R. House, Grundy

County health departments

- Buchanan County Health Department, Grundy

Federally qualified health centers

- Davenport Clinic, Davenport
- Hurley Family Health Center, Hurley
- Meadowview Health Clinic, Meadowview
- Thompson Health Center, Vansant
- Vansant Respiratory Care Center, Oakwood

Other

- Buchanan Health Center, Grundy
- Buchanan General Hospital, Grundy
- C-Health, Honaker
- Commonwealth Internal Medicine and Pediatrics, Grundy
- Dr. J.P. Sutherland, Grundy
- Dr. Kabarla, Oakwood
- Family Care Center, Grundy
- Harman Clinic, Grundy
- Keen Mountain Medical Associates, Keen Mountain
- Merit Medical Group, Oakwood
- Pikeville Medical Center, Cardiology Clinic, Grundy
- Pikeville Medical Center, Oncology Clinic, Grundy
- Slate Creek Internal Medicine, Grundy
- Tri-State Clinic, Grundy
- Veterans Affairs Vansant Rural Outreach Clinic, Vansant

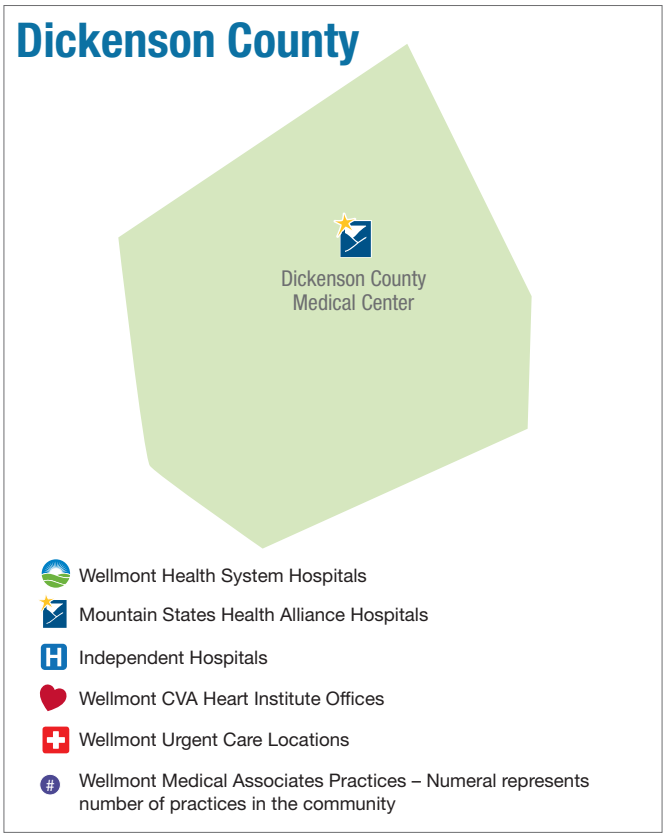
Rural health clinics

- Community Medical Care, US Highway 19

Dialysis

- Fresenius Medical Care Southwest Virginia Dialysis, Grundy

Market Overview: Dickenson County, Virginia



Health Outcomes

Rank 130

Dickenson County Rankings

Dickenson County health rankings improved in 1 out of 6 categories.

	2013	2015
Health Outcomes	130	130
Health Factors	112	130
Health Behaviors	115	126
Clinical Care	123	130
Social & Economic Factors	97	124
Physical Environment	101	92

Denotes improvement

Strengths

(BETTER than national and Virginia state):

- Access to exercise opportunities
- Violent crime rate
- Access to healthy foods

Challenges

(WORSE than national and Virginia state):

- Premature death (years of life lost)
- Those reporting to be in poor or fair health has increased and is well above benchmarks
- Poor physical and mental health days
- Physical inactivity
- Alcohol-impaired driving deaths at 70%
- Teen birth rate
- Preventable hospital days
- Mammogram screening
- Lung cancer rate

Highlights:

- Children in single-parent households decreased by more than 3%
- All health factors and outcomes decreased from 2013-2015

Community Health Facilities

County health departments

- Dickenson County Health Department, Clintwood

Federally qualified health centers

- Haysi Clinic, Haysi

Other

- Appalachian Healthcare Associates, Clintwood
- Dickenson Community Hospital, Clintwood
- Dickenson Medical Associates, Clintwood
- Dickenson Medical Clinic, Clintwood

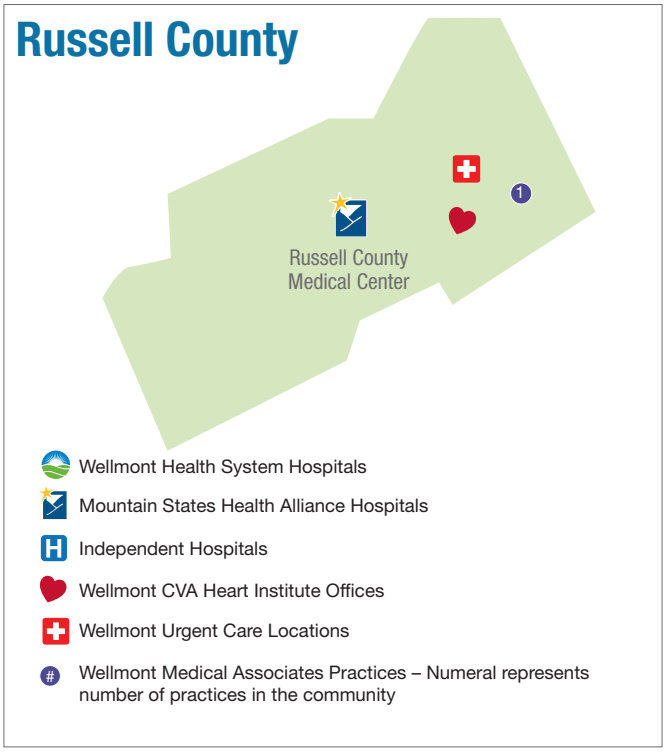
Rural health clinics

- Community Medical Care, Clintwood

Dental health

- The Health Wagon, Clintwood

Market Overview: Russell County, Virginia



Strengths

(BETTER than national and Virginia state):

- Sexually transmitted infections
- 16% report inability to see doctor due to cost, compared to 23% nationally
- Access to healthy foods

Challenges

(WORSE than national and Virginia state):

- Those reporting to be in poor or fair health stayed the same; however, it is above benchmarks
- Poor physical and mental health days
- Adult obesity
- Physical inactivity
- Cancer prevalence

Highlights

- Overall health outcomes improved 2013-2015

Health Outcomes

Rank 122

Russell County Rankings

Lee County health rankings improved in 3 out of 6 categories.

	2013	2015
Health Outcomes	127	122
Health Factors	117	125
Health Behaviors	91	116
Clinical Care	133	132
Social & Economic Factors	99	106
Physical Environment	122	109

Denotes improvement

Market Overview: Russell County, Virginia

Wellmont Physician Locations

Cardiology
- Wellmont CVA Heart Institute, Lebanon

Family medicine
- Wellmont Medical Associates, Lebanon

Pulmonology and sleep
- Wellmont Medical Associates Pulmonology & Sleep, Lebanon

Community Health Facilities

Mental health facilities and resources
- Clinch Mountain Recovery House, Lebanon
- Russell County Satellite Office, Lebanon

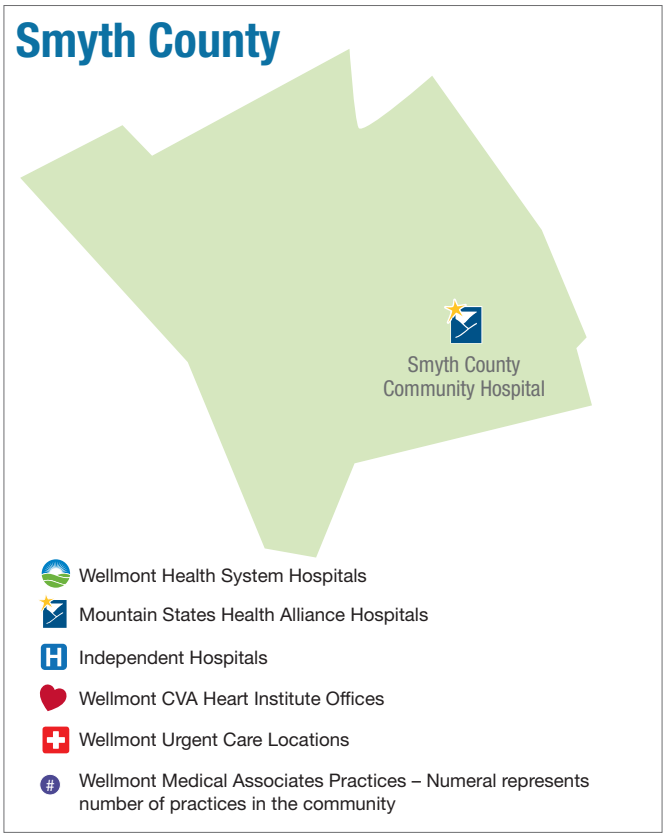
County health departments
- Russell County Health Department, Lebanon
- Washington County Health Department, Bristol

Other
- C-Health, Honaker
- C-Health, Lebanon
- Merit Medical Group, Honaker
- Smyth County Community Hospital, Marion
- Smyth County Family Physicians, Marion
- Smyth County Free Clinic, Marion
- Smyth Regional Internal Medicine, Marion
- Veterans Affairs Marion Rural Outreach Clinic, Marion

Rural health clinics
- Family Care of Chilhowie/Greever Clinic, Chilhowie

Dental health
- Southwest Virginia Regional Dental Center, Saltville

Market Overview: Smyth County, Virginia



Health Outcomes

Rank 123

Smyth County Rankings

Smyth County health rankings improved in 5 out of 6 categories.

	2013	2015
Health Outcomes	113	123
Health Factors	109	90
Health Behaviors	88	67
Clinical Care	104	86
Social & Economic Factors	112	100
Physical Environment	127	93

Denotes improvement

Strengths

(BETTER than national and Virginia state):

- Adult smoking dropped by 5%, although it remains above benchmarks
- Sexually transmitted infections
- Low violent crime rate

Challenges

(WORSE than national and Virginia state):

- Those reporting to be in poor or fair health stayed the same; however, it is above benchmarks
- Poor physical and mental health days
- Adult obesity
- Mammogram screening
- Teen birth rate

Highlights:

- Children in poverty and children in single-parent household dropped; however, they stay just above benchmarks
- Health behaviors improved 31 points from 2013-2015

Community Health Facilities

Mental health facilities and resources

- Integrative Behavioral Healthcare Program, Saltville
- Southwestern Virginia Mental Health Institute, Marion

County health departments

- Smyth County Health Department, Marion

Federally qualified health centers

- Saltville Medical Center, Saltville

Other

- Family Physicians of Marion, Marion
- Migrant Health Network, Saltville
- Smyth County Community Hospital, Marion
- Smyth County Family Physicians, Marion
- Smyth County Free Clinic, Marion
- Smyth Regional Internal Medicine, Marion
- Veterans Affairs Marion Rural Outreach Clinic, Marion

Rural health clinics

- Family Care of Chilhowie/Greever Clinic, Chilhowie

Dental health

- Southwest Virginia Regional Dental Center, Saltville

Market Overview: Tazewell County, Virginia



Strengths

(BETTER than national and Virginia state):

- Sexually transmitted infections
- Adult smoking and obesity dropped; however, they stay just above benchmarks
- Access to healthy foods

Challenges

(WORSE than national and Virginia state):

- Those reporting to be in poor or fair health stayed the same; however, they are above benchmarks
- Poor physical and mental health days
- Mammogram screening
- Premature death rate is nearly twice national and Virginia rates
- Preventable hospital stays

Highlights:

- Children in poverty and children in single-parent households dropped; however, they stay just above benchmarks
- Unemployment dropped and is the same as the nation and just above Virginia
- Depression rates are exactly in line with national benchmarks, but lower than Virginia's

Health Outcomes

Rank **133**

Tazewell County Rankings

Tazewell County health rankings improved in 3 out of 6 categories.

	2013	2015
Health Outcomes	132	133
Health Factors	107	96
Health Behaviors	104	59
Clinical Care	129	129
Social & Economic Factors	85	96
Physical Environment	121	78

Denotes improvement

Community Health Facilities

Mental health facilities and resources

- Cumberland Mountain Home, Cedar Bluff
- Tazewell County Satellite Office, Tazewell
- Tazewell House, Tazewell
- The ARK House, Richlands

County health departments

- Tazewell County Health Department, Tazewell

Federally qualified health centers

- Tazewell Community Health, Tazewell

Other

- Clinch Valley Medical Center, Richlands
- The Clinic, Richlands
- Dr. Carpio, Tazewell
- Dr. Eric Shrader, Tazewell
- Merit Medical Group, Richlands
- Reddy Tri-County Health Clinic, Richlands
- Tazewell Community Hospital, Tazewell
- Tazewell Family Health Care, Tazewell
- Tazewell Family Physicians, Tazewell
- Washington Square Clinic, Richlands

Rural health clinics

- Community Medical Care, US Highway 19

Market Overview: Washington County, Virginia



Strengths

(BETTER than national and Virginia state):

- Sexually transmitted infections
- Poor physical and mental health days
- Access to exercise opportunities
- Violent crime rate

Challenges

(WORSE than national and Virginia state):

- Those reporting to be in poor or fair health dropped slightly; however, they are above benchmarks
- Mammogram screening
- Preventable hospital stays
- Teen birth rate
- Physical inactivity

Highlights:

- Unemployment dropped and is just below both benchmarks
- Limited access to healthy foods dropped substantially and is lower than benchmarks
- Overall cancer rates are lower than national benchmarks, but incidence rates of colorectal and lung cancer are higher

Health Outcomes

Rank **82**

Washington County Rankings

Washington County health rankings improved in 2 out of 6 categories.

	2013	2015
Health Outcomes	96	82
Health Factors	68	77
Health Behaviors	63	81
Clinical Care	73	93
Social & Economic Factors	51	60
Physical Environment	126	81

Denotes improvement

Market Overview: Washington County, Virginia

Wellmont Physician Locations

Cardiology

- Wellmont CVA Heart Institute, Abingdon

Family medicine

- Wellmont Medical Associates, Abingdon
- Wellmont Urgent Care, Abingdon

Internal medicine

- Wellmont Medical Associates, Abingdon

Pulmonology and sleep

- Wellmont Medical Associates Pulmonology & Sleep, Abingdon

Community Health Facilities

Mental health facilities and resources

- Highlands Community Services Center for Behavioral Health, Abingdon
- Home Recovery Crisis Stabilization, Abingdon
- Intellectual Disability Services (The Annex), Abingdon
- Oasis (Mental Health Supports), Abingdon

Federally qualified health centers

- Holston Family Health Center, Damascus
- Konnarock Family Health Center, Damascus
- Meadowview Health Clinic, Meadowview
- Saltville Medical Center, Saltville

Other

- Abingdon Family, Abingdon
- Abingdon Family Healthcare, Abingdon
- Abingdon Family Practice, Abingdon
- Abingdon Internal Medicine, Abingdon
- Crossroads Medical Mission – Ecumenical Faith in Action, Abingdon
- First Assist Urgent Care, Abingdon
- Johnston Memorial Hospital, Abingdon
- Magnolia Family Medicine, Abingdon
- Migrant Health Network, Saltville
- Mountain States Medical Group – Internal Medicine, Abingdon
- Russell County Medical Center, Lebanon

Dialysis

- Fresenius Medical Care at Johnston Memorial Hospital, Abingdon

Appendix: Population Profile

		Total Population			Median Household Income		
State	County	2013	2015	% Change	2013	2015	% Change
Tennessee			6,495,978				
	Sullivan	158,942	156,595	-1.5%	$40,293	$40,385	0.2%
Virginia			8,260,405				
	Bristol City	17,060	17,341	1.6%	$31,694	$35,167	11.0%
	Buchanan	24,553	23,597	-3.9%	$26,343	$31,621	20.0%
	Dickenson	14,660	15,486	5.6%	$27,750	$33,386	20.3%
Va.	Russell	29,341	28,264	-3.7%	$29,959	$36,107	20.5%
	Smyth	32,541	31,652	-2.7%	$34,141	$37,475	9.8%
	Tazewell	44,025	44,103	0.2%	$33,884	$38,336	13.1%
	Washington	54,102	54,907	1.5%	$37,118	$42,242	13.8%
Grand Total		**415,172**	**371,945**	**-10.4%**	**$32,648**	**$36,840**	**12.8%**

Population 2011–2016 by county

Source:
2013 numbers via MedStat – 2011 Census Estimates

2015 numbers via RWJ County Health Rankings – 2013 Census Estimates

		Age 0–17			Age 65+		
State	County	2013	2015	% of Population	2013	2015	% of Population
Tennessee			1,491,577	23.0%		952,376	14.7%
	Sullivan	32,909	31,376	20.0%	29,696	31,364	20.0%
Virginia			1,864,535	22.6%		1,105,381	13.4%
	Bristol City	3,416	3,468	20.0%	4,035	3,394	19.6%
	Buchanan	4,774	4,241	18.0%	3,676	4,371	18.5%
	Dickenson	2,961	3,207	20.7%	2,558	2,804	18.1%
Va.	Russell	6,002	5,551	19.6%	5,125	5,121	18.1%
	Smyth	6,590	6,354	20.1%	5,992	6,138	19.4%
	Tazewell	8,670	8,676	19.7%	7,807	8,163	18.5%
	Washington	10,535	10,652	19.4%	9,853	10,707	19.5%
Grand Total		**75,857**	**73,525**	**19.8%**	**68,742**	**72,062**	**19.4%**

Appendix: Physician Needs Assessment

Current Market Surplus/Deficit

The market surplus/(deficit) includes 100% of supply and demand for physicians within the Total Service Area, regardless of institutional alignment. Numbers surrounded by parentheses represent a deficit of physicians.

	Current FTEs			
Specialty	**Supply**	**Demand**	**Surplus / (Deficit)**	**% Unmet Need**
Primary Care				
Family Medicine	213.3	270.2	(56.9)	(21%)
Internal Medicine	110.1	189.7	(79.7)	(42%)
General Primary Care	323.4	460.0	(136.6)	(30%)
Obstetrics & Gynecology	75.9	63.8	12.1	19%
Pediatrics	77.7	78.6	(0.9)	(1%)
Total Primary Care	**477.0**	**602.4**	**(125.4)**	**(21%)**
Medical Sub-Specialties				
Allergy & Immunology	9.9	12.9	(3.0)	(23%)
Cardiology - Medical	35.9	35.9	0.1	0%
Cardiology - Electrophysiology	4.6	5.3	(0.7)	(13%)
Cardiology - Interventional	9.4	16.3	(7.0)	(43%)
Cardiology - Total	49.9	57.5	(7.6)	(13%)
Dermatology	20.6	28.7	(8.1)	(28%)
Endocrinology	5.7	11.9	(6.2)	(52%)
Gastroenterology	27.9	39.4	(11.5)	(29%)
Hematology/Oncology	24.3	30.2	(5.9)	(20%)
Infectious Disease	5.7	9.4	(3.7)	(40%)
Nephrology	15.3	19.7	(4.4)	(22%)
Neurology	16.9	31.8	(14.9)	(47%)
Pain Management	9.4	11.0	(1.6)	(15%)
Physical Medicine & Rehab	6.0	20.8	(14.8)	(71%)
Psychiatry	42.5	29.6	12.9	44%
Pulmonary	20.3	23.5	(3.2)	(13%)
Reproductive Endocrinology	1.5	1.0	0.5	54%
Rheumatology	8.0	11.0	(3.0)	(28%)
Sleep Medicine	2.1	2.6	(0.6)	(21%)
Sports Medicine	3.5	4.9	(1.4)	(29%)
Total Medical Sub-Specialties	**269.4**	**346.1**	**(76.7)**	**(22%)**

	Current FTEs			
Specialty	**Supply**	**Demand**	**Surplus / (Deficit)**	**% Unmet Need**
Surgical Sub-Specialties				
Cardiac Surgery	3.8	7.4	(3.6)	(49%)
Thoracic Surgery	5.2	7.3	(2.1)	(29%)
Cardio/Thoracic Surgery	9.0	14.7	(5.7)	(39%)
Gynecology Oncology	2.0	2.4	(0.4)	(15%)
Maternal Fetal Medicine	1.3	6.8	(5.5)	(80%)
Neurosurgery - Cranial	2.7	3.0	(0.3)	(10%)
Neurosurgery - Spine	5.3	5.7	(0.4)	(7%)
Neurosurgery - Total	8.0	8.7	(0.7)	(8%)
Ophthalmology	31.1	47.1	(16.0)	(34%)
Orthopedic Surgery - General	43.2	53.1	(9.9)	(19%)
Orthopedic Surgery - Hand	1.7	2.0	(0.3)	(16%)
Orthopedic Surgery - Spine	2.8	3.6	(0.8)	(21%)
Orthopedic Surgery - Total	47.7	58.7	(11.0)	(19%)
Otolaryngology	18.8	28.3	(9.5)	(33%)
Plastic Surgery	9.5	5.3	4.2	80%
Podiatry	17.3	26.1	(8.8)	(34%)
Urology	18.6	28.0	(9.4)	(34%)
Bariatric Surgery	1.3	3.7	(2.4)	(65%)
Breast Surgery	1.5	5.4	(3.9)	(72%)
Colon & Rectal Surgery	2.0	5.9	(3.9)	(66%)
General Surgery	47.0	32.0	14.9	47%
Oncology Surgery	1.7	3.5	(1.8)	(52%)
Transplant Surgery	-	0.5	(0.5)	(100%)
Vascular Surgery	8.2	16.4	(8.3)	(50%)
General Surgery - Total	61.6	67.5	(5.9)	(9%)
Total Surgical Sub-Specialties	**224.9**	**293.5**	**(68.6)**	**(23%)**

Total All Specialties	**971.3**	**1,242.0**	**(270.7)**	**(22%)**

Source: 3d Health, Inc.

Appendix: Physician Needs Assessment

Current Market Surplus/Deficit by Region

The market surplus/(deficit) includes 100% of supply and demand for physicians within each region, regardless of institutional alignment. Numbers surrounded by parentheses represent a deficit of physicians.

	Current FTE Surplus/(Deficit)			
Specialty	**Bristol Regional**	**Hawkins / Hancock**	**Holston Valley**	**Lonesome Pine / Mountain View**
Primary Care				
Family Medicine	(19.0)	(16.6)	(26.4)	(11.1)
Internal Medicine	(44.0)	(14.1)	(42.8)	(3.3)
General Primary Care	(63.0)	(30.7)	(69.2)	(14.4)
Obstetrics & Gynecology	15.0	(4.9)	8.8	(1.1)
Pediatrics	0.3	(5.9)	7.7	(1.4)
Total Primary Care	**(47.6)**	**(41.5)**	**(52.6)**	**(16.9)**
Medical Sub-Specialties				
Allergy & Immunology	(0.3)	(1.1)	(1.4)	(1.3)
Cardiology - Medical	7.3	(3.1)	(1.8)	(0.9)
Cardiology - Electrophysiology	0.7	(0.5)	1.3	(0.5)
Cardiology - Interventional	(3.0)	(1.4)	(3.4)	(1.5)
Cardiology - Total	5.0	(4.9)	(3.9)	(2.8)
Dermatology	(0.9)	(2.4)	(1.7)	(1.7)
Endocrinology	(3.7)	1.0	(2.8)	(1.1)
Gastroenterology	(0.0)	(2.9)	(6.8)	(3.7)
Hematology/Oncology	2.4	(2.6)	(3.1)	(2.7)
Infectious Disease	(3.6)	(0.8)	(1.2)	(0.9)
Nephrology	(0.2)	(1.7)	(1.4)	(1.8)
Neurology	(4.3)	(2.7)	(10.2)	(3.0)
Pain Management	0.6	(0.9)	(0.7)	(1.0)
Physical Medicine & Rehab	(6.3)	(1.7)	(8.3)	(2.0)
Psychiatry	3.5	(1.9)	11.1	(1.9)
Pulmonary	1.0	(1.0)	(2.7)	(1.2)
Reproductive Endocrinology	0.1	(0.1)	0.4	(0.1)
Rheumatology	(1.4)	(0.9)	0.1	(1.0)
Sleep Medicine	(0.6)	(0.2)	0.3	(0.2)
Sports Medicine	(1.8)	(0.4)	(0.1)	(0.5)
Total Medical Sub-Specialties	**(10.5)**	**(25.3)**	**(32.5)**	**(26.9)**

Source: 3d Health, Inc.

Appendix: Physician Needs Assessment

Current Market Surplus/Deficit by Region

The market surplus/(deficit) includes 100% of supply and demand for physicians within each region, regardless of institutional alignment. Numbers surrounded by parentheses represent a deficit of physicians.

	Current FTE Surplus / (Deficit)			
Specialty	**Bristol Regional**	**Hawkins / Hancock**	**Holston Valley**	**Lonesome Pine / Mountain View**
Surgical Sub-Specialties				
Cardiac Surgery	(0.8)	(0.6)	(1.8)	(0.7)
Thoracic Surgery	(0.4)	(0.6)	(0.4)	(0.7)
Cardio/Thoracic Surgery	(1.2)	(1.3)	(2.2)	(1.3)
Gynecology Oncology	(0.1)	(0.2)	0.5	(0.2)
Maternal Fetal Medicine	(3.1)	(0.6)	(3.1)	(0.7)
Neurosurgery - Cranial	0.2	(0.3)	(0.2)	(0.3)
Neurosurgery - Spine	0.7	(0.5)	(0.3)	(0.5)
Neurosurgery - Total	0.9	(0.7)	(0.4)	(0.8)
Ophthalmology	(6.5)	(4.0)	(8.9)	(3.2)
Orthopedic Surgery - General	0.5	(4.5)	(5.4)	(2.9)
Orthopedic Surgery - Hand	(0.3)	(0.2)	0.2	(0.2)
Orthopedic Surgery - Spine	(0.6)	(0.3)	(0.3)	(0.4)
Orthopedic Surgery - Total	(0.4)	(5.0)	(5.4)	(3.4)
Otolaryngology	(1.3)	(2.4)	(7.2)	(1.3)
Plastic Surgery	3.7	(0.4)	4.0	(0.5)
Podiatry	(1.5)	(2.0)	(8.2)	(1.4)
Urology	(0.2)	(2.4)	(5.7)	(1.6)
Bariatric Surgery	(0.9)	(0.3)	(1.0)	(0.4)
Breast Surgery	(2.2)	(0.5)	(1.9)	(0.5)
Colon & Rectal Surgery	(2.9)	(0.5)	(1.7)	(0.5)
General Surgery	17.0	(1.7)	1.2	(0.0)
Oncology Surgery	(0.7)	(0.3)	(0.5)	(0.3)
Transplant Surgery	(0.2)	(0.0)	(0.3)	(0.1)
Vascular Surgery	(4.4)	(1.4)	(3.2)	(1.5)
General Surgery - Total	5.7	(4.7)	(7.5)	(3.3)
Total Surgical Sub-Specialties	**(4.0)**	**(23.7)**	**(44.2)**	**(17.8)**
Total All Specialties	**(62.1)**	**(90.5)**	**(129.3)**	**(61.5)**

Source: 3d Health, Inc.

Appendix: Population Health Considerations

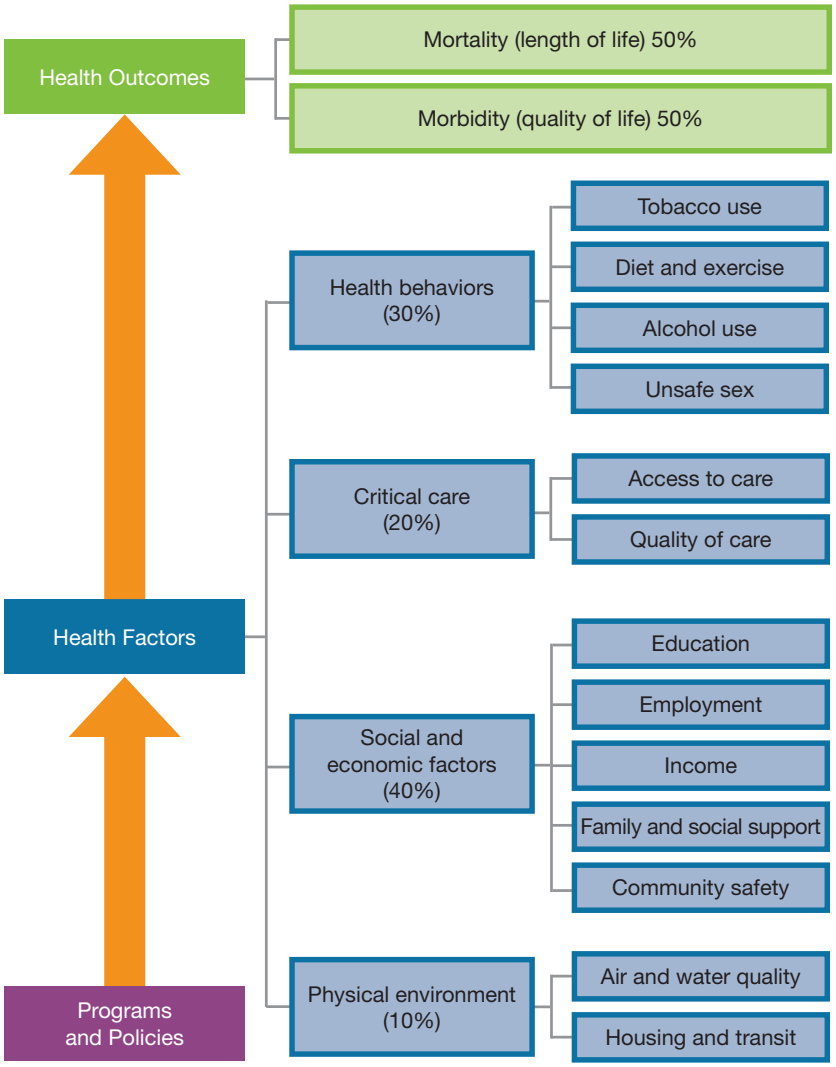
Factors of Health

The RWJ model focuses on morbidity and mortality as the primary measures of health outcomes. Fifty percent of the input variables fall directly within the mission of Wellmont Health System – specifically, access and quality of care, as well as improved community health in controllable factors such as tobacco use, diet and exercise.

Five primary factors are assessed:

- Percent of population under age 65 without health insurance
- Ratio of primary care physicians to population
- Hospitalization rate for ambulatory sensitive care conditions per 1,000 of the Medicare population
- Percent of diabetic Medicare enrollees who receive HbA1c screenings
- Percent of female Medicare enrollees who receive mammography screenings

Healthiest County Ranking Methodology



County Health Rankings model © 2014 UWPHI

Appendix: Population Health Factors and Outcomes

	Tennessee		Virginia							
	Sullivan County		Bristol City		Buchanan County		Dickenson County		Russell County	
Category	2013	2015	2013	2015	2013	2015	2013	2015		
Health Outcomes	43	36	78	111	131	132	130	130	127	122
Health Factors	16	12	105	107	128	132	112	130	117	125
Health Behaviors	54	47	25	58	129	103	115	126	91	116
Clinical Care	5	5	111	127	132	133	123	130	133	132
Social & Economic Factors	24	17	121	110	102	130	97	124	99	106
Physical Environment	33	7	129	124	91	116	101	92	122	109

	Virginia					
	Smyth County		Tazewell County		Wasington County	
Category	2013	2015	2013	2015	2013	2015
Health Outcomes	113	123	132	133	96	82
Health Factors	109	90	107	96	68	77
Health Behaviors	88	67	104	59	63	81
Clinical Care	104	86	129	129	73	93
Social & Economic Factors	112	100	85	96	51	60
Physical Environment	127	93	121	78	126	81

Denotes negative ranking movement

Source:
RWJ University of Wisconsin Population Health Institute / Overall Rankings

Note:
Tennessee's rank is out of 95 counties; Virginia's rank is out of 133 counties

Appendix: Population Health Factors and Outcomes

					Tennessee		Virginia		
Category	Description	Measure	National Benchmark 2015	BRMC Service Area 2015	Tenn. State 2015	Sullivan County 2015	Va. State 2015	Bristol City 2015	Buchanan County 2015
Health Outcomes	Premature death (Years of Potential Life Lost)	YPLL Rate	6,622	10,818	8,696	8978	6,192	11,142	12,854
	Poor or fair health	% Fair/Poor	16.0%	26.9%	19.0%	22.0%	14.0%		29.0%
	Poor physical health days	Physically Unhealthy Days	3.7	6.4	4.3	5.4	3.2		7.6
	Poor mental health days	Mentally Unhealthy Days	3.4	5.2	3.4	4.5	3.1		5
	Low birthweight	% LBW	8.0%	8.1%	9.2%	8.6%	8.3%	9.1%	10.1%
Health Behaviors	Adult smoking	% Smokers	20.0%	25.7%	23.0%	26.0%	18.0%		30.0%
	Adult obesity	% Obese	27.0%	27.4%	32.0%	33.0%	28.0%	30.0%	29.0%
	Physical inactivity	Physical Inactivity	23.0%	26.9%	30.0%	35.0%	22.0%	24.0%	28.0%
	Excessive drinking	% Excessive Drinking	15.0%	9.5%	9.0%	9.0%	16.0%		
	Alcohol-impaired driving deaths	% Deaths from MV accident	31%	28.3%	28%	23%	31%	25%	28%
	Sexually transmitted infections	Rates per 100,000	453.3	156.6	504	259	427	311	63
	Teen birth rate	Teen Birth Rate	36.6	43.6	47	49	29	33	48
	Access to exercise opportunities	% With access	85%	49.0%	70.0%	77.0%	81.0%	97.0%	27.0%
Clinical Care	Uninsured	% Uninsured	17%	14.3%	16.0%	15.0%	14.0%	16.0%	16.0%
	Primary care physicians	PCP Ratio	1342:1	2072:1	1388:1	754:1	1344:1	2208:1	2982:1
	Mental health providers	MH Provider Ratio	529.1	1627:1	786:1	865:1	724:1	1239:1	3933:1
	Preventable hospital stays	ACSC Rate	59.3	106.9	73.0	86	55.0	110	182
	Diabetic monitoring	% HbA1c	85%	75.5%	86.0%	90.0%	87.0%	84.0%	83.0%
	Mammography screening	Mammography Rate	71%	51.8%	61.8%	66.5%	63.4%	57.2%	51.1%
Social and Economic Environment	High school graduation	AFGR	80%	72.0%	87.0%	92.0%	83.0%	73.0%	76.0%
	Some college (post-secondary education)	PSED	63%	44.0%	57.7%	55.2%	68.2%	54.8%	41.8%
	Unemployment	% Unemployed	7%	7.3%	8.2%	7.5%	5.5%	7.8%	9.8%
	Children in poverty	% Children in Poverty	22%	23.1%	27.0%	28.0%	16.0%	36.0%	33.0%
	Children in single-parent households	% Single-Parent Households	33%	28.5%	36.0%	35.0%	30.0%	43.0%	41.0%
	Violent crime rate (per 100,000)	Violent Crime Rate	392.0	167.8	621.0	530	200.0	331	145
	Could not see doctor due to cost	% Couldn't afford tx	22.8%	19.3%	17.0%	18.0%	12.0%		20.0%
Physical Environment	Air pollution-ozone days	Ozone Days	11.1	11.4	13.8	13	12.7	13	13
	Severe housing problems	% with severe problems	19%	9.9%	15.0%	11.0%	15.0%	19.0%	12.0%
	Limited access to healthy foods	% Limited Access	16.9%	4.3%	8.0%	14.0%	3.7%	15.5%	2.9%

Source:
RWJ University of Wisconsin Population Health Institute / Ranking Details

Appendix: Population Health Factors and Outcomes

					Virginia					
Category	Description	Measure	National Benchmark 2015	BRMC Service Area 2015	Va. State 2015	Dickenson County 2015	Russell County 2015	Smyth County 2015	Tazewell County 2015	Washington County 2015
Health Outcomes	Premature death (Years of Potential Life Lost)	YPLL Rate	6,622	10,818	6,192	11,985	10,663	9,688	13,009	8,223
	Poor or fair health	% Fair/Poor	16.0%	26.9%	14.0%	31.0%	29.0%	29.0%	29.0%	19.0%
	Poor physical health days	Physically Unhealthy Days	3.7	6.4	3.2	7.7	7.1	6.9	5.9	4
	Poor mental health days	Mentally Unhealthy Days	3.4	5.2	3.1	6.4	5	5.6	6.3	4
	Low birthweight	% LBW	8.0%	8.1%	8.3%	8.5%	7.7%	10.1%	10.7%	8.7%
Health Behaviors	Adult smoking	% Smokers	20.0%	25.7%	18.0%	32.0%	25.0%	22.0%	21.0%	24.0%
	Adult obesity	% Obese	27.0%	27.4%	28.0%	29.0%	35.0%	31.0%	30.0%	32.0%
	Physical inactivity	Physical Inactivity	23.0%	26.9%	22.0%	32.0%	36.0%	23.0%	31.0%	30.0%
	Excessive drinking	% Excessive Drinking	15.0%	9.5%	16.0%				10.0%	
	Alcohol-impaired driving deaths	% Deaths from MV accident	31%	28.3%	31%	70%	23%	28%	23%	31%
	Sexually transmitted infections	Rates per 100,000	453.3	156.6	427	300	151	183	156	141
	Teen birth rate	Teen Birth Rate	36.6	43.6	29	53	46	59	49	45
	Access to exercise opportunities	% With access	85%	49.0%	81.0%	47.0%	43.0%	77.0%	52.0%	69.0%
Clinical Care	Uninsured	% Uninsured	17%	14.3%	14.0%	17.0%	17.0%	16.0%	17.0%	16.0%
	Primary care physicians	PCP Ratio	1342:1	2072:1	1344:1	3923:1	2032:1	1586:1	1165:1	1577:1
	Mental health providers	MH Provider Ratio	529.1	1627:1	724:1	3097:1	1229:1	989:1	788:1	872:1
	Preventable hospital stays	ACSC Rate	59.3	106.9	55.0	130.0	160.0	77.0	130.0	90
	Diabetic monitoring	% HbA1c	85%	75.5%	87.0%	85.0%	87.0%	88.0%	84.0%	87.0%
	Mammography screening	Mammography Rate	71%	51.8%	63.4%	57.9%	53.5%	62.0%	59.1%	63.9%
Social and Economic Environment	High school graduation	AFGR	80%	72.0%	83.0%	83.0%	81.0%	84.0%	74.0%	86.0%
	Some college (post-secondary education)	PSED	63%	44.0%	68.2%	47.5%	47.8%	50.0%	50.1%	59.2%
	Unemployment	% Unemployed	7%	7.3%	5.5%	10.0%	8.7%	8.4%	7.0%	6.9%
	Children in poverty	% Children in Poverty	22%	23.1%	16.0%	28.0%	26.0%	26.0%	23.0%	21.0%
	Children in single-parent households	% Single-Parent Households	33%	28.5%	30.0%	33.0%	28.0%	36.0%	26.0%	29.0%
	Violent crime rate (per 100,000)	Violent Crime Rate	392.0	167.8	200.0	106.0	130.0	193.0	134.0	104
	Could not see doctor due to cost	% Couldn't afford tx	22.8%	19.3%	12.0%	27.0%	16.0%	20.0%	19.0%	15.0%
Physical Environment	Air pollution-ozone days	Ozone Days	11.1	11.4	12.7	13.0	13.0	13.0	13.0	13
	Severe housing problems	% with sever problems	19%	9.9%	15.0%	11.0%	12.0%	11.0%	11.0%	11.0%
	Limited access to healthy foods	% Limited Access	16.9%	4.3%	3.7%	0.1%	3.0%	3.7%	6.9%	3.6%

Source:
RWJ University of Wisconsin Population Health Institute / Ranking Details

Appendix: Mortality and Top Causes of Death

Total causes of death for 2010–2014

National	Tenn.	% of Total Deaths in Tenn.	Va.	% of Total Deaths in Va.
12,750,583	310,142	2.43%	307,714	2.41%

12,750,583

Total U.S. deaths from 2010–2014

The 15 leading grouped causes of death nationally for 2010–2014 were:

Diseases of heart 3,019,430

Malignant neoplasms 2,910,637

Chronic lower respiratory diseases 720,818

Cerebrovascular diseases 649,035

Accidents (unintentional injuries) 641,699

Alzheimer's disease 430,413

Diabetes mellitus 368,900

Influenza and pneumonia 266,765

Nephritis, nephrotic syndrome and nephrosis 236,947

Intentional self-harm (suicide) 202,404

Septicemia 183,498

Chronic liver disease and cirrhosis 175,121

Essential hypertension and hypertensive renal disease 144,593

Parkinson's disease 120,307

Pneumonitis due to solids and liquids 90,474



Age-adjusted death rate for black population was 1.2 times that for the white population in 2013.

17.8%

higher risk of death for black population than for white population

Source:
CDC Mortality By Cause of Death

Appendix: Mortality and Top Causes of Death

Death rate by county 2010–2014

		Tennessee				Virginia					
Cause of Death	National	Tenn.	% of Cause Within Nation	Sullivan County	% of Cause Within State	Va.	% of Cause Within Nation	Bristol City	% of Cause Within State	Buchanan County	% of Cause Within State
Acute myocardial infarction, unspecified	589,906	19,431	3.3%	659	3.4%	13,141	2.2%	116	0.9%	92	0.7%
Alzheimer's disease, unspecified	417,726	12,228	2.9%	391	3.2%	8,610	2.1%	55	0.6%	27	0.3%
Atherosclerotic cardiovascular disease, so described	295,078	9,720	3.3%	139	1.4%	5,018	1.7%	44	0.9%	39	0.8%
Breast, unspecified - malignant neoplasms	207,325	4,551	2.2%	125	2.7%	5,414	2.6%	20	0.4%	16	0.3%
Chronic obstructive pulmonary disease, unspecified	517,895	13,024	2.5%	509	3.9%	11,328	2.2%	91	0.8%	96	0.8%
Colon, unspecified - malignant neoplasms	200,497	4,694	2.3%	144	3.1%	4,702	2.3%	20	0.4%	27	0.6%
Congestive heart failure	276,761	3,811	1.4%	150	3.9%	7,288	2.6%	25	0.3%	33	0.5%
Intentional self-harm (suicide)	202,044	4,848	2.4%	126	2.6%	5,264	2.6%	14	0.3%	29	0.6%
Malignant neoplasm of prostate	139,802	2,857	2.0%	89	3.1%	3,422	2.4%				
Malignant neoplasm without specification of site	128,856	3,017	2.3%	99	3.3%	3,649	2.8%			12	0.3%
Other ill-defined and unspecified causes of mortality	56,847	3,100	5.5%	82	2.6%	1,072	1.9%	13	1.2%	10	0.9%
Pancreas, unspecified - malignant neoplasms	191,330	4,108	2.1%	128	3.1%	4,746	2.5%	13	0.3%	22	0.5%
Stroke, not specified as hemorrhage or infarction	333,124	8,825	2.6%	256	2.9%	9,072	2.7%	47	0.5%	22	0.2%
Unspecified diabetes mellitus, without complications	165,994	3,386	2.0%	108	3.2%	4,076	2.5%	17	0.4%	20	0.5%
Urinary tract infection, site not specified	56,201	1,787	3.2%	69	3.9%	1,633	2.9%	16	1.0%		

Source:
CDC Mortality By Cause of Death

Appendix: Mortality and Top Causes of Death

Death rate by county 2010–2014

		Virginia											
Cause of Death	National	Va.	% of Cause Within Nation	Dickenson County	% of Cause Within State	Russell County	% of Cause Within State	Smyth County	% of Cause Within State	Tazewell County	% of Cause Within State	Washington County	% of Cause Within State
Acute myocardial infarction, unspecified	589,906	13,141	2.2%	41	0.3%	88	0.7%	149	1.1%	214	1.6%	164	1.2%
Alzheimer's disease, unspecified	417,726	8,610	2.1%	16	0.2%	24	0.3%	65	0.8%	88	1.0%	91	1.1%
Atherosclerotic cardiovascular disease, so described	295,078	5,018	1.7%	15	0.3%	55	1.1%	29	0.6%	53	1.1%	86	1.7%
Breast, unspecified - malignant neoplasms	207,325	5,414	2.6%	18	0.3%	25	0.5%	17	0.3%	49	0.9%	46	0.8%
Chronic obstructive pulmonary disease, unspecified	517,895	11,328	2.2%	88	0.8%	90	0.8%	152	1.3%	167	1.5%	164	1.4%
Colon, unspecified - malignant neoplasms	200,497	4,702	2.3%	16	0.3%	20	0.4%	30	0.6%	45	1.0%	42	0.9%
Congestive heart failure	276,761	7,288	2.6%	16	0.2%	50	0.7%	35	0.5%	71	1.0%	67	0.9%
Intentional self-harm (suicide)	202,044	5,264	2.6%	33	0.6%	25	0.5%	29	0.6%	32	0.6%	49	0.9%
Malignant neoplasm of prostate	139,802	3,422	2.4%			19	0.6%	17	0.5%	15	0.4%	31	0.9%
Malignant neoplasm without specification of site	128,856	3,649	2.8%	14	0.4%	16	0.4%	20	0.5%	35	1.0%	35	1.0%
Other ill-defined and unspecified causes of mortality	56,847	1,072	1.9%			10	0.9%	20	1.9%	24	2.2%	12	1.1%
Pancreas, unspecified - malignant neoplasms	191,330	4,746	2.5%	14	0.3%	23	0.5%	18	0.4%	34	0.7%	34	0.7%
Stroke, not specified as hemorrhage or infarction	333,124	9,072	2.7%	20	0.2%	37	0.4%	74	0.8%	62	0.7%	82	0.9%
Unspecified diabetes mellitus, without complications	165,994	4,076	2.5%	13	0.3%	19	0.5%	23	0.6%	63	1.5%	35	0.9%
Urinary tract infection, site not specified	56,201	1,633	2.9%					14	0.9%	23	1.4%	17	1.0%

Source:
CDC Mortality By Cause of Death

Appendix: Cancer Incidence and Mortality

All Cancer Sites, 2008–2012

		Tennessee		Virginia							
Cancer Type	National	Tenn.	Sullivan County	Va.	Bristol City	Buchanan County	Dickenson County	Russell County	Smyth County	Tazewell County	Washington County
All Cancers	453.8	468.3	472.8	429.1	265.7	325.8	356.4	365.4	389.1	376.4	420.8
Cervix	7.7	8.7	6.6	6.3							
Colon & Rectum	41.9	43.3	39.7	38.3	22.8	38.5	31.5	31.4	33.9	34.6	43.3
Kidney & Renal Pelvis	16.0	17.2	15.8	14.3				12.9	7.9	13.4	13.4
Prostate	131.7	135.5	114.6	126.3	52.2	66.0	80.5	102.2	83.3	81.3	93.5
Childhood < age 20	17.4	17.7	20.6	15.5							
Lung & Bronchus	63.7	77.5	76.3	63.6	58.3	63.6	69.9	64.8	93.4	69.3	77.4
Skin	19.9	20.8	35.5	18.3		11.3		13.1	16.6	21.6	17.3
African American	465.8	475.3	429.0	459.7						231.2	433

Source:
The data comes from different sources. Due to different years of data availability, most of the trends are AAPCs based on APCs, but some are APCs calculated in SEER*Stat. Please refer to the source for each graph for additional information.

Note:
Incidence rates (cases per 100,000 population per year) are age-adjusted to the 2000 US standard population. Rates are for invasive cancer only (except for bladder cancer, which is invasive and in situ) or unless otherwise specified. Rates calculated using SEER*Stat. Population counts for denominators are based on census populations as modified by NCI. The 1969-2013 US Population Data File is used for SEER and NPCR incidence rates.

The total count for the US may differ from the summation of the individual states reported in this table. The total uses data from the CDC's National Program of Cancer Registries Cancer Surveillance System (NPCR-CSS) January 2015 data submission for the following states: California, Kentucky, Louisiana and New Jersey, but data for those states when shown individually are sourced from the SEER November 2014 submission.

Appendix: Cancer Prevalence

Cancer Prevalence Statistics

Metric	National	Tenn.	Va.
Cancer Prevalence	7%	7%	8%
Average Cost	$19,601	$17,390	$17,303

7%

National rate of cancer prevalence

Metric	Tennessee	Virginia			
	Sullivan County	Bristol City	Buchanan County	DIckenson County	Russell County
All Prevalence	7%	7%			13%
All Average Cost	$14,860	$16,410			$16,263

7%

Tennessee rate of cancer prevalence

Metric	Virginia		
	Smyth County	Tazewell County	Washington County
All Prevalence	0%	6%	3%
All Average Cost	$20,164	$19,030	$16,638

8% ↑

Virginia rate of cancer prevalence

No value = No case or too low to report

↑ Denotes higher than national average

↓ Denotes lower than national average

Source:
Centers for Medicare & Medicaid Services / Interactive Mapping Medicare Disparities Tool

Note:
Prevalence rates are calculated by searching for certain diagnosis codes in Medicare beneficiaries' claims. A beneficiary is considered to have a condition if the CMS administrative data has a claim indicating the beneficiary is diagnosed for a specific condition over the reference time period (one, two or three years, depending on the condition chosen) or, in the case of ESRD and disability, if the reason for entitlement (original or current) is listed as disabled or ESRD in the MBSF. The prevalence rate of a condition for a specific sub-population (e.g., all beneficiaries in a county) is the proportion of beneficiaries who are found to have the condition. The total costs (i.e., Medicare spending) are annual averages of all costs across all types of claims for beneficiaries with a particular condition (regardless of having or not having other conditions). The principal costs for beneficiaries with a condition are annual averages of all costs across all types of claims with a primary diagnosis associated with that particular condition (regardless of having or not having other conditions). The hospitalization rate is the share of the sub-population that is hospitalized for a specific disease in a given year, presented per 1,000 beneficiaries.

Appendix: Diabetes Prevalence

Diabetes Prevalence Statistics

Metric	National	Tenn.	Va.
Diabetes Prevalence	27%	28%	27%
Average Cost	$14,707	$12,856	$12,400

27%
National rate of diabetes prevalence

	Tennessee	Virginia			
Metric	Sullivan County	Bristol City	Buchanan County	DIckenson County	Russell County
All Prevalence	28%	42%			39%
All Average Cost	$11,172	$12,669			$10,320

28% ↑
Tennessee rate of diabetes prevalence

	Virginia		
Metric	Smyth County	Tazewell County	Washington County
All Prevalence	36%	48%	34%
All Average Cost	$12,210	$11,707	$10,624

27%
Virginia rate of diabetes prevalence

No value = No case or too low to report

↑ Denotes higher than national average

↓ Denotes lower than national average

Source:
Centers for Medicare & Medicaid Services / Interactive Mapping Medicare Disparities Tool

Note:
Prevalence rates are calculated by searching for certain diagnosis codes in Medicare beneficiaries' claims. A beneficiary is considered to have a condition if the CMS administrative data has a claim indicating the beneficiary is diagnosed for a specific condition over the reference time period (one, two, or three years, depending on the condition chosen) or, in the case of ESRD and disability, if the reason for entitlement (original or current) is listed as disabled or ESRD in the MBSF. The prevalence rate of a condition for a specific sub-population (e.g., all beneficiaries in a county) is the proportion of beneficiaries who are found to have the condition. The total costs (i.e., Medicare spending) are annual averages of all costs across all types of claims for beneficiaries with a particular condition (regardless of having or not having other conditions). The principal costs for beneficiaries with a condition are annual averages of all costs across all types of claims with a primary diagnosis associated with that particular condition (regardless of having or not having other conditions). The hospitalization rate is the share of the sub-population that is hospitalized for a specific disease in a given year, presented per 1,000 beneficiaries.

Appendix: Depression Prevalence

Depression Prevalence Statistics

Metric	National	Tenn.	Va.
Depression Prevalence	15%	16%	13%
Average Cost	$19,759	$17,225	$17,187

15%
National rate of depression prevalence

Metric	Tennessee	Virginia			
	Sullivan County	Bristol City	Buchanan County	DIckenson County	Russell County
All Prevalence	18%	22%			21%
All Average Cost	$14,911	$15,303			

16% ↑
Tennessee rate of depression prevalence

Metric	Virginia		
	Smyth County	Tazewell County	Washington County
All Prevalence	17%	15%	18%
All Average Cost		$16,534	$16,321

13% ↓
Virginia rate of depression prevalence

No value = No case or too low to report

↑ Denotes higher than national average

↓ Denotes lower than national average

Source:
Centers for Medicare & Medicaid Services / Interactive Mapping Medicare Disparities Tool

Note:
Prevalence rates are calculated by searching for certain diagnosis codes in Medicare beneficiaries' claims. A beneficiary is considered to have a condition if the CMS administrative data has a claim indicating the beneficiary is diagnosed for a specific condition over the reference time period (one, two, or three years, depending on the condition chosen) or, in the case of ESRD and disability, if the reason for entitlement (original or current) is listed as disabled or ESRD in the MBSF. The prevalence rate of a condition for a specific sub-population (e.g., all beneficiaries in a county) is the proportion of beneficiaries who are found to have the condition. The total costs (i.e., Medicare spending) are annual averages of all costs across all types of claims for beneficiaries with a particular condition (regardless of having or not having other conditions). The principal costs for beneficiaries with a condition are annual averages of all costs across all types of claims with a primary diagnosis associated with that particular condition (regardless of having or not having other conditions). The hospitalization rate is the share of the sub-population that is hospitalized for a specific disease in a given year, presented per 1,000 beneficiaries.

Appendix: Hypertension Prevalence

Hypertension Prevalence Statistics

Metric	National	Tenn.	Va.
Hypertension Prevalence	53%	59%	57%
Average Cost	$13,528	$11,344	$11,121

53%
National rate of hypertension prevalence

Metric	Tennessee	Virginia			
	Sullivan County	Bristol City	Buchanan County	DIckenson County	Russell County
All Prevalence	57%	56%			63%
All Average Cost	$10,130	$10,560			$9,480

59% ↑
Tennessee rate of hypertension prevalence

Metric	Virginia		
	Smyth County	Tazewell County	Washington County
All Prevalence	59%	60%	57%
All Average Cost	$10,906	$10,347	$10,247

57% ↑
Virginia rate of hypertension prevalence

No value = No case or too low to report

↑ Denotes higher than national average

↓ Denotes lower than national average

Source:
Centers for Medicare & Medicaid Services / Interactive Mapping Medicare Disparities Tool

Note:
Prevalence rates are calculated by searching for certain diagnosis codes in Medicare beneficiaries' claims. A beneficiary is considered to have a condition if the CMS administrative data has a claim indicating the beneficiary is diagnosed for a specific condition over the reference time period (one, two, or three years, depending on the condition chosen) or, in the case of ESRD and disability, if the reason for entitlement (original or current) is listed as disabled or ESRD in the MBSF. The prevalence rate of a condition for a specific sub-population (e.g., all beneficiaries in a county) is the proportion of beneficiaries who are found to have the condition. The total costs (i.e., Medicare spending) are annual averages of all costs across all types of claims for beneficiaries with a particular condition (regardless of having or not having other conditions). The principal costs for beneficiaries with a condition are annual averages of all costs across all types of claims with a primary diagnosis associated with that particular condition (regardless of having or not having other conditions). The hospitalization rate is the share of the sub-population that is hospitalized for a specific disease in a given year, presented per 1,000 beneficiaries.

Appendix: COPD Prevalence

COPD Prevalence Statistics

Metric	National	Tenn.	Va.
COPD Prevalence	11%	13%	10%
Average Cost	$24,128	$20,082	$21,097

11%
National rate of COPD prevalence

Metric	Tennessee	Virginia			
	Sullivan County	Bristol City	Buchanan County	DIckenson County	Russell County
All Prevalence	13%	15%			17%
All Average Cost	$18,104	$17,809			$17,889

13% ↑
Tennessee rate of COPD prevalence

Metric	Virginia		
	Smyth County	Tazewell County	Washington County
All Prevalence	15%	16%	13%
All Average Cost	$19,838	$19,290	$18,663

10% ↓
Virginia rate of COPD prevalence

No value = No case or too low to report

↑ Denotes higher than national average

↓ Denotes lower than national average

Source:
Centers for Medicare & Medicaid Services / Interactive Mapping Medicare Disparities Tool

Note:
Prevalence rates are calculated by searching for certain diagnosis codes in Medicare beneficiaries' claims. A beneficiary is considered to have a condition if the CMS administrative data has a claim indicating the beneficiary is diagnosed for a specific condition over the reference time period (one, two or three years, depending on the condition chosen) or, in the case of ESRD and disability, if the reason for entitlement (original or current) is listed as disabled or ESRD in the MBSF. The prevalence rate of a condition for a specific sub-population (e.g., all beneficiaries in a county) is the proportion of beneficiaries who are found to have the condition. The total costs (i.e., Medicare spending) are annual averages of all costs across all types of claims for beneficiaries with a particular condition (regardless of having or not having other conditions). The principal costs for beneficiaries with a condition are annual averages of all costs across all types of claims with a primary diagnosis associated with that particular condition (regardless of having or not having other conditions). The hospitalization rate is the share of the sub-population that is hospitalized for a specific disease in a given year, presented per 1,000 beneficiaries.

Appendix: Sources of Information

Metric	Source	Data Description	Profile Years
Population	Robert Wood Johnson Foundation, University of Wisconsin Population Health Institute http://www.countyhealthrankings.org/#app/	Population by county by age cohort	2013 Census Estimates
Physician Supply & Demand	3d Health, Inc. Overall Provider Database: WHS Provider Rosters, Competitor Online Rosters, Healthgrades, State License Databases, AMA Masterfile, Payer	Database of various sources built. Confirmation of data obtained via phone calls to 80% of providers.	2016
Population Health Overall & Sub-Rankings	Robert Wood Johnson Foundation, University of Wisconsin Population Health Institute http://www.countyhealthrankings.org/#app/	Rankings complied using county-level measures from national and state data sources	Range 2010 – 2015
Sub-Ranking Individual Measures	2016 Measures & Data Sources See additional information on next page for specific source, description and applicable year		
Mortality Cause of Death	CDC Mortality By Cause of Death http://wonder.cdc.gov/wonder/help	Data based on death certificates for US residents	Range 1999 – 2014
Cancer Rates	CDC State Cancer Profiles http://statecancerprofiles.cancer.gov	Collaboration of the National Cancer Institute and the CDC from public health surveillance systems reports or public use files	5 Year Rates 2008 – 2012
CMS Prevalence and Disparity Stats: Cancer Diabetes Obesity Depression Hypertension COPD	Centers for Medicare & Medicaid Services / Interactive Mapping Medicare Disparities Tool https://www.cms.gov/	The Mapping Medicare Disparities Tool identifies disparities in health outcomes, utilization and spending by race and ethnicity and geographic location. Prevalence rates are calculated by searching for certain diagnosis codes in Medicare beneficiaries' claims. The prevalence rate of a condition for a specific sub-population (e.g., all beneficiaries in a county) is the proportion of beneficiaries who are found to have the condition. The total costs (i.e., Medicare spending) are annual averages of all costs across all types of claims for beneficiaries with a particular condition (regardless of having or not having other conditions).	2014
COPD Charts	TN & VA COPD Fact Sheets	21 states, the District of Columbia and Puerto Rico administered an optional module as part of the annual BRFSS survey. The questions in the optional module asked about COPD-related health care behaviors and health-related quality of life and were asked of respondents who reported having COPD.	2011

Appendix: Sources of Information

Ranked Measures & Data Sources

Health Outcome	Measure	Data Source	Years of Data
Health Outcomes			
Length of Life	Premature death	National Center for Health Statistics – Mortality files	2011-2013
Quality of Life	Poor or fair health	Behavioral Risk Factor Surveillance System	2014
	Poor physical health days	Behavioral Risk Factor Surveillance System	2014
	Poor mental health days	Behavioral Risk Factor Surveillance System	2014
	Low birthweight	National Center for Health Statistics - Natality files	2007-2013
Health Behaviors			
Tobacco Use	Adult smoking	Behavioral Risk Factor Surveillance System	2014
Diet and Exercise	Adult obesity	CDC Diabetes Interactive Atlas	2012
	Physical inactivity	CDC Diabetes Interactive Atlas	2012
	Access to exercise opportunities	Business Analyst, Delorme map data, ESRI & US Census Tigerline Files	2010 & 2014
Alcohol and Drug Use	Excessive drinking	Behavioral Risk Factor Surveillance System	2014
	Alcohol-impaired driving deaths	Fatality Analysis Reporting System	2010-2014
Sexual Activity	Sexually transmitted infections	National Center for HIV/AIDS, Viral Hepatitis, STD and TB Prevention	2013
	Teen births	National Center for Health Statistics - Natality files	2007-2013
Clinical Care			
Access to Care	Uninsured	Small Area Health Insurance Estimates	2013
	Primary care physicians	Area Health Resource File/American Medical Association	2013
	Mental health providers	CMS, National Provider Identification file	2015
Quality of Care	Preventable hospital stays	Dartmouth Atlas of Health Care	2013
	Diabetic monitoring	Dartmouth Atlas of Health Care	2013
	Mammography screening	Dartmouth Atlas of Health Care	2013
Social and Economic Factors			
Education	High school graduation	U.S. Department of Education (EDFacts)	2012-2013
	Some college	American Community Survey	2010-2014
Employment	Unemployment	Bureau of Labor Statistics	2014
Income	Children in poverty	Small Area Income and Poverty Estimates	2014
	Income inequality	American Community Survey	2010-2014
Family and Social Support	Children in single-parent households	American Community Survey	2010-2014
Community Safety	Violent crime	Uniform Crime Reporting – FBI	2010-2012
Physical Environment			
Housing and Transit	Severe housing problems	Comprehensive Housing Affordability Strategy (CHAS) data	2008-2012

Community Health Needs Assessment

2016



Hancock County Hospital

A Member of Wellmont Health System

Community Health Needs Assessment: Table of Contents

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If you have questions regarding the assessment, please visit wellmont.org/ContactUs.

Hancock County Hospital
A Member of Wellmont Health System

Introduction: Wellmont Health System

Background

6
Wellmont Health System hospitals

Wellmont Health System is a leading health care provider in the Tri-Cities region of Northeast Tennessee and Southwest Virginia. Wellmont is a not-for-profit health system guided by the mission to deliver superior health care with compassion and a vision to deliver the best health care anywhere.

Formed in 1996 with the merger of Holston Valley Medical Center in Kingsport, Tennessee, and Bristol Regional Medical Center in Bristol, Tennessee, Wellmont has grown steadily since its inception, developing a regional network of hospitals and health care facilities. Today, thousands of caregivers and hundreds of physicians focus on improving our communities, and healing patients.

As part of its mission, Wellmont regularly surveys the communities it serves to assess their health care needs.



750 beds across six hospitals, two skilled nursing facilities and Wellmont Medical Associates

The goals of this community health needs assessment are:

- Complete a thorough review of our communities' health status and unmet needs
- Collect valuable information to help target community benefit, outreach and wellness programs
- Develop action plans, strategies and partnerships that support regional efforts to address any unmet health needs
- Create or strengthen partnerships among community organizations with shared accountability for the population's health

Wellmont's hospitals include:

- Holston Valley Medical Center, Kingsport, Tennessee
- Bristol Regional Medical Center, Bristol, Tennessee
- Mountain View Regional Medical Center, Norton, Virginia
- Lonesome Pine Hospital, Big Stone Gap, Virginia
- Hawkins County Memorial Hospital, Rogersville, Tennessee
- Hancock County Hospital, Sneedville, Tennessee



270 physicians and other providers

Wellmont is licensed to operate more than 750 beds across a network of six hospitals as well as two skilled nursing facilities. Wellmont Medical Associates offers an integrated network of 270 physicians and other providers. The Wellmont CVA Heart Institute delivers nationally recognized cardiovascular care, and the Wellmont Cancer Institute provides a broad spectrum of care throughout the region.

Introduction: Wellmont Health System

Scope of Services



Access to a continuum of services

Wellmont provides a continuum of services ranging from community-based acute care to highly specialized tertiary services, including the nationally recognized Wellmont CVA Heart Institute and comprehensive oncology care from the Wellmont Cancer Institute. Wellmont also offers the region's most robust robotics program with the CyberKnife Robotic Radiosurgery System and da Vinci Surgical System. Other technology that strengthens Wellmont's delivery of care are the Trilogy linear accelerator and TrueBeam STx with Brainlab.

Additionally, Wellmont is ready to care for our region's most critically injured patients with Level I and Level II trauma centers, as well as serve the smallest and sickest babies at its Level III neonatal intensive care unit. And with mobile services such as WellmontOne Air Transport and the Wellmont Health Coach, we're constantly enhancing access to lifesaving measures.

Integrated Physicians



Physician leadership team and board of directors

Wellmont's integrated physician groups include Wellmont Medical Associates and the Wellmont CVA Heart Institute, which is the region's largest cardiovascular practice.

Wellmont Medical Associates was formed in 2012 as a fundamental restructuring of Wellmont's physician practice operations. Believing physicians are best suited to determine the care plans for patients, the organization has a four-member physician leadership team and a board of directors with 15 physicians. Wellmont Medical Associates' services include not only providing expert treatment for illness, but also educating people and proactively managing patients' care to prevent illness. This philosophy advances the health system's goal to employ effective medical home models and to serve as a high-performing network of physicians and hospitals in value-based care delivery models.

The heart institute provides top-quality cardiovascular services in its 11 community offices and in Wellmont hospitals. The heart institute delivers high-quality, cost-effective heart and vascular care with compassion and improves the cardiovascular health of the region. The institute's providers diagnose, treat and manage all aspects of adult cardiovascular disease, with services ranging from general cardiology, preventive cardiology and cardiothoracic surgery, to electrophysiology, interventional cardiology, vascular medicine, structural heart disease, heart failure management and advanced cardiovascular imaging. The institute is also a national leader in clinical research and is an international teaching institution.

Introduction: Wellmont Health System



National leader
in clinical research

When it comes to oncology care, the Wellmont Cancer Institute's innovative approach brings together multiple board-certified physician specialists and other experts – such as a registered dietitian and clinical trial coordinator – to design a customized plan for each patient. Besides this team-driven model of care, we offer the region's most advanced technologies, clinical trials and diagnostics. We have a robust cancer program that extends throughout the region that includes leading-edge technology such as TrueBeam STx with Brainlab, CyberKnife Robotic Radiosurgery System and Trilogy linear accelerator.

The cancer institute provides services at Holston Valley Medical Center and Bristol Regional Medical Center, as well as outpatient facilities in Johnson City and Kingsport, Tennessee, and Bristol and Norton, Virginia. In early 2015, the cancer institute introduced its lung nodule program, a comprehensive, multidicisplinary approach that enables physicians and other caregivers to detect lung cancer at its earliest stages.

Service Area

With services strategically placed throughout the region, Wellmont is positioned to be the region's high-quality, low-cost health care provider.

Wellmont's service area encompasses the northeastern counties of Tennessee and the southwestern counties of Virginia in the heart of central Appalachia, with our tertiary care hospitals based in Kingsport and Bristol Tennessee.



Introduction: Hancock County Hospital

Primary Service Area

Tennessee

- Hancock County

Facility Description

Hancock County Hospital, a 10-bed critical-access facility located in Sneedville, Tennessee, was built in 2005 and provides care to patients of Hancock County.

The hospital offers a 24-hour emergency department and access to WellmontOne Air Transport. With nearly 40 physicians, nurses, technicians and support staff members, Hancock County Hospital is ready to provide inpatient care, laboratory tests and respiratory therapy, as well as diagnostic imaging services that include X-ray, ultrasound and a 16-slice CT scanner.

Additionally, Hancock County Hospital has 24-availability to ground medical transportation if patients require the services of a tertiary medical center.

Key Services

- Emergency care
- Inpatient care
- Laboratory
- Imaging
- Physical therapy



Methodology

Information for this report was gathered from a variety of sources, including:

- Physician needs assessment
- Community health facility assessment
- Mental health needs assessment
- Publicly available population and demographic information
- Publicly available population health information, including America's Health Rankings and the County Health Rankings
- State and regional health department data
- The Southwest Virginia Health Authority's Blueprint for Health Enabled Prosperity
- The ETSU, Wellmont, Mountain States Community Work Group Project
- Other studies



Work groups dedicated to key health topics met regularly and provided input to create the report, "Identifying priorities and solutions for improving health in Northeast Tennessee and Southwest Virginia."

Community Work Group Project

In April 2015, Wellmont Health System and Mountain States Health Alliance announced they have agreed to exclusively explore the creation of a new, integrated and locally governed health system designed to address the serious health issues affecting our area.

As part of the proposed merger, the two systems, in conjunction with East Tennessee State University and its College of Public Health, launched an initiative to focus on four key areas for health improvement in our region. Work groups dedicated to these topics provided input to ETSU, which then created the report, "Identifying priorities and solutions for improving health in Northeast Tennessee and Southwest Virginia."

That report, along with the other reference sources listed above, enabled Wellmont to collate and assess information to determine the greatest unmet health needs facing our region. Strategies to address these needs are being developed, utilizing internal resources and partnerships with other health care organizations and physicians.



Meeting the acute care needs of the populations we serve

Key Findings

The health needs assessment of Hancock County's service area revealed we are generally meeting the acute care needs of the populations we serve. Our region still suffers by comparison, though, when its health status is measured against other parts of the country.

The below findings are also echoed wholeheartedly by people in the regions we serve; specifically, by interviews with key community leaders and participants with the ETSU work groups.

Many of the findings are interrelated and ultimately stem from similar root causes. As a result, no single finding is prioritized over another, and many of our implementation plans address several of those findings simultaneously.

The counties we serve rank among the lowest in our states in several categories related to health and wellness.

(See Appendix: Population Health Factors and Outcomes)

4th

Tennessee ranks fourth highest in the country in prevalence of type 2 diabetes

Based on data collected by the Robert Wood Johnson Foundation and the University of Wisconsin Population Health Institute, our counties rank among the worst in Tennessee and Virginia in several categories, notably in the prevalence of chronic disease management, obesity, tobacco use, diet and exercise.

These deficits can be attributed to any number of issues plaguing our region. Indeed, many of these rankings are undoubtedly tied to those counties' equally low rankings in several socioeconomic categories such as education, employment and income. Moreover, poor health literacy rates are immensely detrimental to local residents' abilities to stay abreast of their condition.

For example, the percentage of people in the United States who have adult type 2 diabetes is 9.3 percent, and Tennessee ranks fourth highest in the country in the prevalence of type 2 diabetes at 11.3 percent, with Sullivan County as the fifth highest county in the state at 13.9 percent.

Plus, the current shortages in primary care and family medicine physicians in certain parts of the region limit the population's ability to access the preventive care and disease management needed to curtail these health concerns. The work groups identified a strong need for leadership from the health system and regional partners, as well as from community leaders.

The services provided by Wellmont consistently rank very high, as validated by third-party ratings agencies and publicly reported data. However, the ability to reverse poor health trends and the behaviors that lead to them has been limited.

Key Findings: Hancock County Hospital

The uninsured and underinsured are vulnerable populations.



Despite charity care provisions, uninsured and underinsured populations often seek emergent care rather than effectively managing their health, often resulting in high-cost care and poor health outcomes.

As is the case throughout the country, the uninsured and underinsured populations we serve are at an increased health risk. While the passage of the Affordable Care Act has helped many in our region obtain insurance, the decision by Tennessee and Virginia not to expand their state Medicaid programs has left quite a few low-income individuals and families still unable to afford premiums. Additionally, many insured people face high deductibles, which still leaves them reluctant to seek care on a regular basis.

The reticence of these populations to establish relationships with primary care providers and follow screening and preventive care schedules creates a large risk for burgeoning health problems.

In turn, these populations can become over-utilizers of high-cost services such a such as the emergency department, or when their health problems require extensive treatment.

There is a need in our region for expanded and enhanced mental health services.



Need for increased recruitment of psychiatric caregivers and access to services

This finding also mirrors a national gap and conversation about the availability of mental health care. Locally, data suggests a need for increased recruitment of psychiatric caregivers and access to services, especially intensive outpatient services.

Mental health, for Hancock County's service area, applies to any range of emotional well-being and mental illness, ranging from anxiety, depression and substance abuse to post-traumatic stress disorder and debilitating psychoses.

Though some of these perceived gaps might stem from a lack of awareness about these services and how they can be accessed, irrefutable evidence highlights the need for more work in this area.

These services should also include an intense focus on addiction and drugs, as both the ETSU work groups and several community leaders have identified substance abuse as a major problem plaguing our region. While this has been an issue for many years in Northeast Tennessee and Southwest Virginia, the abuse of prescription medication has skyrocketed in recent years.

Key Findings: Hancock County Hospital

As local health organizations step together to confront the problem, community feedback suggests three areas for improvement:

- Early signs of substance abuse and mental health problems identified in the population
- Effective prevention, early intervention and a full continuum of treatment services available for all
- Integration within the community throughout the early identification, treatment and recovery processes

If our communities are to thrive, we must focus on encouraging healthy children and families.



Generational issues affect families and children.

An echoing theme throughout our research and reporting is that the socioeconomic makeup of Northeast Tennessee and Southwest Virginia – the same factors that have contributed to the other health needs identified in this assessment – is a generational issue that affects families and children.

Plainly stated, poor health tends to start in childhood and continue through adulthood. This is particularly evident in the data highlighting early tobacco use among children, as well as the unsettling national trends surrounding childhood obesity. There is more than ample evidence to demonstrate these habits and issues become major health concerns later in life, as shown with our region's high rates of diabetes, COPD, lung cancer and hypertension.

The low quality of health for families not only creates generations of unhealthy people in southern Appalachia but is unhealthy for the economic health of our region. As our counties fight to stay competitive and attractive for new businesses and residents, a poor quality of health reflects badly on the overall quality of life in our area.

Implementation Plans

While we constantly strive to enhance the quality of care offered at Wellmont facilities, we know we need to extend our influence outside our buildings and into the communities we serve. So, as we move forward, we set our primary courses of action to:

- Improve access to health care services
- Advance wellness and preventive health services
- Advance population health management strategies
- Ensure the needs of our most vulnerable populations are being met



Desire to increase access to care leads to new initiatives

Focus on access

A better quality of health begins with a better focus on preventive care and prompt, low-cost medical treatment. As such, Wellmont Medical Associates has been committed to recruiting and retaining primary care and family medicine providers, especially in rural areas.

For people who do not have primary care or who are unable to access it immediately, Wellmont Urgent Care is a low-cost, high-quality option for prompt treatment of minor illnesses and injuries. To best serve our populations, we continue to open new locations, and in Tennessee, offer Wellmont Urgent Care facilities in Bristol, Johnson City, Kingsport and Rogersville. Our Virginia offerings are in Abingdon, Bristol, Norton and Lebanon.

We've also increased accessibility for specialty care, with a new Wellmont Cancer Institute infusion office in Bristol, Virginia, as well as new clinics for Wellmont Medical Associates and the Wellmont Cancer Institute.

To reach even more rural and remote locations, we offer the Wellmont Health Coach, a mobile screening unit that provides digital mammography, baseline biometrics and heart and vascular screenings. In the last two years, the health coach has visited more than 40 locations, completing more than 600 mammograms and nearly 400 heart and vascular screenings.

Finally, with the implementation of MyWellmont, as part of our electronic health record, patients can access their medical records through a computer or smart phone. This software gives patients an interface to send questions to their providers, conduct E-Visits, schedule appointments and track their health progress – connecting them to their health like never before.

Implementation Plans: Hancock County Hospital

Focus on preventive health and wellness

A healthier region starts with healthier individuals. That's why Wellmont LiveWell, a community health transformation initiative, leverages Wellmont's medical strengths and expertise to champion, lead and sustain a new tradition of wellness in our region. LiveWell provides individuals with a free risk assessment to help identify key areas of improvement and provides regular follow-ups to encourage participants to stay committed to their healthier lives.

The LiveWell philosophy has been shared with several of our community partners. To further our mission and goals, Wellmont has partnered with like-minded organizations such as Healthy Kingsport and Live Sugarfreed, as well as several leading businesses. Through these programs, we're helping more people than ever reach health milestones and sustain their new, healthy lifestyles.



Wellmont LiveWell encourages participants to stay committed to healthier lives.

Another important aspect of wellness is ensuring a complete partnership between our patients and their primary care providers. This enables physicians to have a clear understanding of patients' circumstances and preferences, while patients have a clear understanding of what they can do to live better, healthier lives. That's also the philosophy behind Wellmont Medical Associates' Patient Centered Medical Home. Wellmont Medical Associates has earned Level 3 status from the National Committee for Quality Assurance, which is the highest achievable recognition.

Wellmont Diabetes Treatment Centers is also making a special effort to test adolescents to determine whether they have pre-diabetes or type 2 diabetes. Because the number of adolescents with these conditions is growing, Wellmont is partnering with the YMCA and a company called GBC locally to offer finger sticks so youths who score 140 or higher are then administered an A1C test, which gives their average blood-glucose level during a three-month period. Adolescents who score in the ranges for pre-diabetes or diabetes on this test are provided an opportunity to participate in a comprehensive program that consists of diabetes awareness, nutrition counseling, behavior modification and fitness.

Additionally, since people with diabetes are prone to have a diabetes emergency at any time, including when they are driving a vehicle, Wellmont has developed the Diabetes Alert sticker. This decal is placed on the driver's side of the rear windshield and informs an officer to check whether a driver is having difficulty with his or her diabetes.

Implementation Plans: Hancock County Hospital

Focus on population health management

Building on our efforts to improve individual health and wellness, Wellmont will also strive to empower our communities to make healthier choices. To that end, we will continue partnering with businesses, churches and other community organizations to create a foundation and momentum for change in our region.

We will continue to engage business leaders and their thousands of employees through Wellmont Business Health Solutions, a comprehensive program that provides employers an array of health plans, wellness programs, illness prevention tools and occupational medicine services. These help keep co-workers healthy – an especially important strategy given the region's high concentration of physically taxing manufacturing and manual labor jobs.



Wellmont Medical Associates has consistently earned Level 3 status from the National Committee for Quality Assurance.

Wellmont will also continue to develop its chronic disease management programs to proactively care for conditions such as diabetes, heart disease, lung cancer and hypertension. We've made tremendous strides in the early detection and treatment of lung disease through our LungSTRONG program, which provides quick access to a team of Wellmont Medical Associates and Wellmont Cancer Institute specialists who catch, treat and monitor potential problem spots as early as possible.

Additionally, Wellmont Medical Associates will continue to be a leader with the American Medical Group Foundation and its Measure Up, Pressure Down program for hypertension management. Wellmont Medical Associates is also developing quality improvement efforts for the treatment of diabetes, based on the foundation's Best Practices Learning Collaborative.

And in 2016, the Wellmont CVA Heart Institute will bolster its leadership in cardiac rehabilitation with its new Bill Gatton Center for Advanced Cardiac Rehab using the Pritikin Intensive Cardiac Rehab program. This comprehensive lifestyle education program offers the opportunity to improve outcomes and make cardiac rehab more sustainable. The ultimate goal for the Pritikin program is for our cardiac patients to gain an in-depth understanding about the relationship between lifestyle and cardiovascular health.

Implementation Plans: Hancock County Hospital

Focus on vulnerable populations

Wellmont will continue to pursue a variety of strategies to ensure our uninsured and underinsured populations have access to needed care. One such approach is through support and collaboration with key community partners, such as local clinics which serve the uninsured and underinsured, departments of health, and federally qualified health centers. Through these efforts, we seek to provide a continuum of care resources to vulnerable populations so individuals can benefit from prevention programs as well as emergency care and acute care.



Wellmont will ensure vulnerable populations have access to needed care.

Wellmont is also a key partner in the annual Tri-Cities Remote Area Medical – or RAM – clinics. Held annually at Bristol Motor Speedway, RAM provides nearly 2,000 people in need with free medical, dental and vision care. The health system also collaborates with the speedway every year to provide free head and neck cancer screenings for race-goers. Plus, the Southwest Virginia Cancer Center partners with the health department annually to provide a series of health screenings.

We will also help close the coverage gap. Through a grant from the Tennessee Hospital Association and Centers for Medicaid and Medicare Services, Wellmont has hired four certified health insurance navigators, who help uninsured populations sign up for insurance through HealthCare.gov. They also aid people who might qualify for Medicaid and the Children's Health Insurance Program.

Finally, we will continue to evaluate our charity care policies and those of partner organizations to ensure we are providing the most efficient and appropriate care to our vulnerable populations. One way we will monitor the effectiveness of these policies is through tracking the percentage and amounts of charity care we deliver. We will also continue our advocacy efforts to expand our charity care efforts through increased state and federal funding.

Market Overview: Hancock County Hospital

Primary Service Area

Tennessee

- Hancock County





Market Overview: Hancock County, Tennessee

Hancock County



- Wellmont Health System Hospitals
- Mountain States Health Alliance Hospitals
- Independent Hospitals
- Wellmont CVA Heart Institute Offices
- Wellmont Urgent Care Locations
- Wellmont Medical Associates Practices – Numeral represents number of practices in the community

Health Outcomes

Rank **93**

Hancock County Rankings

Hancock County health rankings showed no improvement.

	2013	2015
Health Outcomes	93	93
Health Factors	94	95
Health Behaviors	57	93
Clinical Care	91	93
Social & Economic Factors	94	95
Physical Environment	40	63

Denotes improvement

Strengths

(BETTER than national and Tennessee state):

- Sexually transmitted infections is substantially lower than national and Tennessee
- Limited access to health foods is at less than 1%, well below the nation and Tennessee
- Diabetes monitoring stayed consistent and is slightly higher than national

Challenges

(WORSE than national and Tennessee state):

- Premature death (years of potential life lost) inreased from 2013 and remains well above benchmarks
- Those reporting poor or fair health
- Adult smoking is at 40%, with the nation and Tennessee in the 20% range
- Physical inactivity increased by 3% and stayed above benchmarks
- Alcohol-impaired driving deaths is at 56% with the nation at 31% and Tennessee at 28%
- Teen birth rate dropped; however, stayed above benchmarks
- Preventable hospital days increased and stayed well above benchmarks
- Mammogram screening increased; however, stayed well below benchmarks
- Children in poverty shows 45%; with national at only 22%
- Only 4% report having access to exercise opportunities

Highlights

- Median household income increased nearly 30% from 2013-2015; however, number of children in poverty is nearly twice that of national benchmarks

Community Health Facilities

Mental health facilities and resources

- Hancock County Mental Health Clinic
- New Start Peer Support Center

County health departments

- Hancock County Health Department, Sneedville
- Hancock County School-Based Health Departments, Sneedville

Federally qualified health centers

- Sneedville Medical Center – Rural Health Consortium, Sneedville

Appendix: Population Profile

		Total Population			Median Household Income		
State	County	2013	2015	% Change	2013	2015	% Change
Tennessee			6,495,978				
	Hancock	6,084	6,679	9.8%	$20,070	$26,000	29.5%
Grand Total		6,084	6,679	9.8%	$20,070	$26,000	29.5%

		Age 0–17			Age 65+		
State	County	2013	2015	% of Population	2013	2015	% of Population
Tennessee			1,491,577	23.0%		952,376	14.7%
	Hancock	1,277	1,367	20.5%	993	1,215	18.2%
Grand Total		1,277	1,367	20.5%	993	1,215	18.2%

Population 2011–2016 by county

Source:
2013 numbers via MedStat – 2011 Census Estimates

2015 numbers via RWJ County Health Rankings – 2013 Census Estimates

Appendix: Physician Needs Assessment

Current Market Surplus/Deficit

The market surplus/(deficit) includes 100% of supply and demand for physicians within the Total Service Area, regardless of institutional alignment. Numbers surrounded by parentheses represent a deficit of physicians.

	Current FTEs			
Specialty	**Supply**	**Demand**	**Surplus / (Deficit)**	**% Unmet Need**
Primary Care				
Family Medicine	213.3	270.2	(56.9)	(21%)
Internal Medicine	110.1	189.7	(79.7)	(42%)
General Primary Care	323.4	460.0	(136.6)	(30%)
Obstetrics & Gynecology	75.9	63.8	12.1	19%
Pediatrics	77.7	78.6	(0.9)	(1%)
Total Primary Care	**477.0**	**602.4**	**(125.4)**	**(21%)**
Medical Sub-Specialties				
Allergy & Immunology	9.9	12.9	(3.0)	(23%)
Cardiology - Medical	35.9	35.9	0.1	0%
Cardiology - Electrophysiology	4.6	5.3	(0.7)	(13%)
Cardiology - Interventional	9.4	16.3	(7.0)	(43%)
Cardiology - Total	49.9	57.5	(7.6)	(13%)
Dermatology	20.6	28.7	(8.1)	(28%)
Endocrinology	5.7	11.9	(6.2)	(52%)
Gastroenterology	27.9	39.4	(11.5)	(29%)
Hematology/Oncology	24.3	30.2	(5.9)	(20%)
Infectious Disease	5.7	9.4	(3.7)	(40%)
Nephrology	15.3	19.7	(4.4)	(22%)
Neurology	16.9	31.8	(14.9)	(47%)
Pain Management	9.4	11.0	(1.6)	(15%)
Physical Medicine & Rehab	6.0	20.8	(14.8)	(71%)
Psychiatry	42.5	29.6	12.9	44%
Pulmonary	20.3	23.5	(3.2)	(13%)
Reproductive Endocrinology	1.5	1.0	0.5	54%
Rheumatology	8.0	11.0	(3.0)	(28%)
Sleep Medicine	2.1	2.6	(0.6)	(21%)
Sports Medicine	3.5	4.9	(1.4)	(29%)
Total Medical Sub-Specialties	**269.4**	**346.1**	**(76.7)**	**(22%)**

	Current FTEs			
Specialty	**Supply**	**Demand**	**Surplus / (Deficit)**	**% Unmet Need**
Surgical Sub-Specialties				
Cardiac Surgery	3.8	7.4	(3.6)	(49%)
Thoracic Surgery	5.2	7.3	(2.1)	(29%)
Cardio/Thoracic Surgery	9.0	14.7	(5.7)	(39%)
Gynecology Oncology	2.0	2.4	(0.4)	(15%)
Maternal Fetal Medicine	1.3	6.8	(5.5)	(80%)
Neurosurgery - Cranial	2.7	3.0	(0.3)	(10%)
Neurosurgery - Spine	5.3	5.7	(0.4)	(7%)
Neurosurgery - Total	8.0	8.7	(0.7)	(8%)
Ophthalmology	31.1	47.1	(16.0)	(34%)
Orthopedic Surgery - General	43.2	53.1	(9.9)	(19%)
Orthopedic Surgery - Hand	1.7	2.0	(0.3)	(16%)
Orthopedic Surgery - Spine	2.8	3.6	(0.8)	(21%)
Orthopedic Surgery - Total	47.7	58.7	(11.0)	(19%)
Otolaryngology	18.8	28.3	(9.5)	(33%)
Plastic Surgery	9.5	5.3	4.2	80%
Podiatry	17.3	26.1	(8.8)	(34%)
Urology	18.6	28.0	(9.4)	(34%)
Bariatric Surgery	1.3	3.7	(2.4)	(65%)
Breast Surgery	1.5	5.4	(3.9)	(72%)
Colon & Rectal Surgery	2.0	5.9	(3.9)	(66%)
General Surgery	47.0	32.0	14.9	47%
Oncology Surgery	1.7	3.5	(1.8)	(52%)
Transplant Surgery	-	0.5	(0.5)	(100%)
Vascular Surgery	8.2	16.4	(8.3)	(50%)
General Surgery - Total	61.6	67.5	(5.9)	(9%)
Total Surgical Sub-Specialties	**224.9**	**293.5**	**(68.6)**	**(23%)**

Total All Specialties	**971.3**	**1,242.0**	**(270.7)**	**(22%)**

Source: 3d Health, Inc.

Appendix: Physician Needs Assessment

Current Market Surplus/Deficit by Region

The market surplus/(deficit) includes 100% of supply and demand for physicians within each region, regardless of institutional alignment. Numbers surrounded by parentheses represent a deficit of physicians.

	Current FTE Surplus/(Deficit)			
Specialty	**Bristol Regional**	**Hawkins / Hancock**	**Holston Valley**	**Lonesome Pine / Mountain View**
Primary Care				
Family Medicine	(19.0)	(16.6)	(26.4)	(11.1)
Internal Medicine	(44.0)	(14.1)	(42.8)	(3.3)
General Primary Care	(63.0)	(30.7)	(69.2)	(14.4)
Obstetrics & Gynecology	15.0	(4.9)	8.8	(1.1)
Pediatrics	0.3	(5.9)	7.7	(1.4)
Total Primary Care	**(47.6)**	**(41.5)**	**(52.6)**	**(16.9)**
Medical Sub-Specialties				
Allergy & Immunology	(0.3)	(1.1)	(1.4)	(1.3)
Cardiology - Medical	7.3	(3.1)	(1.8)	(0.9)
Cardiology - Electrophysiology	0.7	(0.5)	1.3	(0.5)
Cardiology - Interventional	(3.0)	(1.4)	(3.4)	(1.5)
Cardiology - Total	5.0	(4.9)	(3.9)	(2.8)
Dermatology	(0.9)	(2.4)	(1.7)	(1.7)
Endocrinology	(3.7)	1.0	(2.8)	(1.1)
Gastroenterology	(0.0)	(2.9)	(6.8)	(3.7)
Hematology/Oncology	2.4	(2.6)	(3.1)	(2.7)
Infectious Disease	(3.6)	(0.8)	(1.2)	(0.9)
Nephrology	(0.2)	(1.7)	(1.4)	(1.8)
Neurology	(4.3)	(2.7)	(10.2)	(3.0)
Pain Management	0.6	(0.9)	(0.7)	(1.0)
Physical Medicine & Rehab	(6.3)	(1.7)	(8.3)	(2.0)
Psychiatry	3.5	(1.9)	11.1	(1.9)
Pulmonary	1.0	(1.0)	(2.7)	(1.2)
Reproductive Endocrinology	0.1	(0.1)	0.4	(0.1)
Rheumatology	(1.4)	(0.9)	0.1	(1.0)
Sleep Medicine	(0.6)	(0.2)	0.3	(0.2)
Sports Medicine	(1.8)	(0.4)	(0.1)	(0.5)
Total Medical Sub-Specialties	**(10.5)**	**(25.3)**	**(32.5)**	**(26.9)**

Source: 3d Health, Inc.

Appendix: Physician Needs Assessment

Current Market Surplus/Deficit by Region

The market surplus/(deficit) includes 100% of supply and demand for physicians within each region, regardless of institutional alignment. Numbers surrounded by parentheses represent a deficit of physicians.

	Current FTE Surplus/(Deficit)			
Specialty	**Bristol Regional**	**Hawkins / Hancock**	**Holston Valley**	**Lonesome Pine / Mountain View**
Surgical Sub-Specialties				
Cardiac Surgery	(0.8)	(0.6)	(1.8)	(0.7)
Thoracic Surgery	(0.4)	(0.6)	(0.4)	(0.7)
Cardio/Thoracic Surgery	(1.2)	(1.3)	(2.2)	(1.3)
Gynecology Oncology	(0.1)	(0.2)	0.5	(0.2)
Maternal Fetal Medicine	(3.1)	(0.6)	(3.1)	(0.7)
Neurosurgery - Cranial	0.2	(0.3)	(0.2)	(0.3)
Neurosurgery - Spine	0.7	(0.5)	(0.3)	(0.5)
Neurosurgery - Total	0.9	(0.7)	(0.4)	(0.8)
Ophthalmology	(6.5)	(4.0)	(8.9)	(3.2)
Orthopedic Surgery - General	0.5	(4.5)	(5.4)	(2.9)
Orthopedic Surgery - Hand	(0.3)	(0.2)	0.2	(0.2)
Orthopedic Surgery - Spine	(0.6)	(0.3)	(0.3)	(0.4)
Orthopedic Surgery - Total	(0.4)	(5.0)	(5.4)	(3.4)
Otolaryngology	(1.3)	(2.4)	(7.2)	(1.3)
Plastic Surgery	3.7	(0.4)	4.0	(0.5)
Podiatry	(1.5)	(2.0)	(8.2)	(1.4)
Urology	(0.2)	(2.4)	(5.7)	(1.6)
Bariatric Surgery	(0.9)	(0.3)	(1.0)	(0.4)
Breast Surgery	(2.2)	(0.5)	(1.9)	(0.5)
Colon & Rectal Surgery	(2.9)	(0.5)	(1.7)	(0.5)
General Surgery	17.0	(1.7)	1.2	(0.0)
Oncology Surgery	(0.7)	(0.3)	(0.5)	(0.3)
Transplant Surgery	(0.2)	(0.0)	(0.3)	(0.1)
Vascular Surgery	(4.4)	(1.4)	(3.2)	(1.5)
General Surgery - Total	5.7	(4.7)	(7.5)	(3.3)
Total Surgical Sub-Specialties	**(4.0)**	**(23.7)**	**(44.2)**	**(17.8)**
Total All Specialties	**(62.1)**	**(90.5)**	**(129.3)**	**(61.5)**

Source: 3d Health, Inc.

Appendix: Population Health Considerations

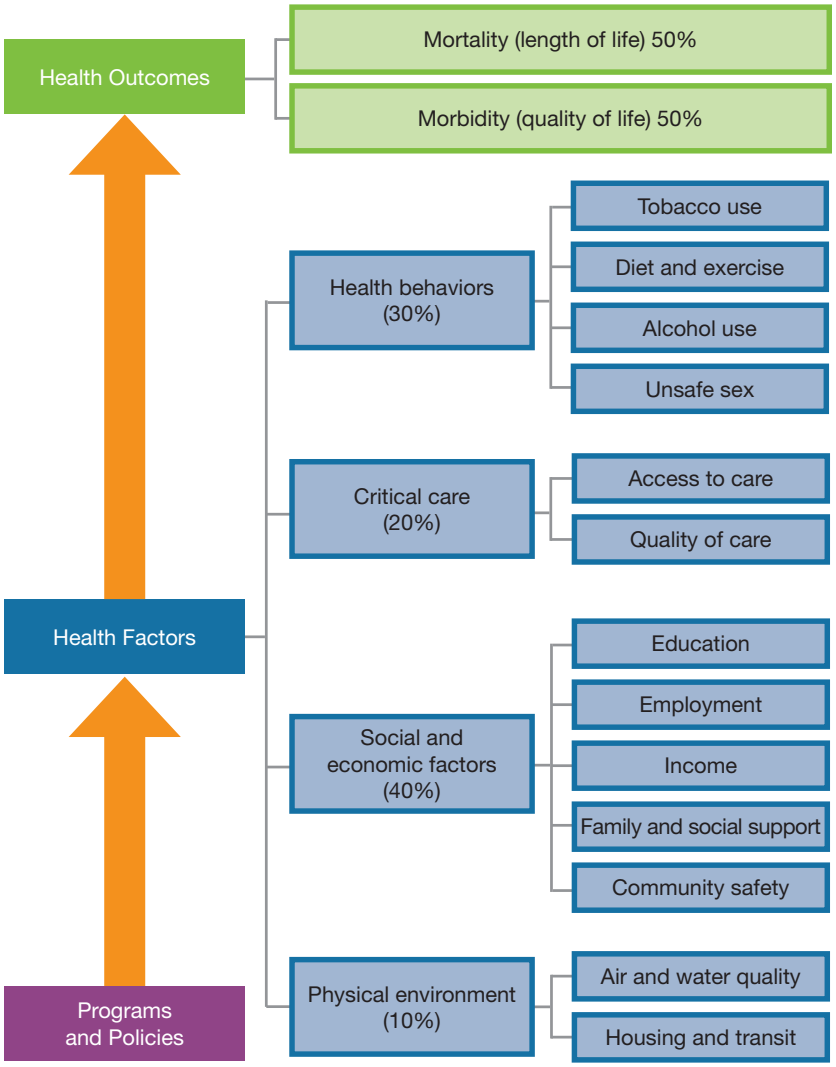
Factors of Health

The RWJ model focuses on morbidity and mortality as the primary measures of health outcomes. Fifty percent of the input variables fall directly within the mission of Wellmont Health System – specifically, access and quality of care, as well as improved community health in controllable factors such as tobacco use, diet and exercise.

Five primary factors are assessed:

- Percent of population under age 65 without health insurance
- Ratio of primary care physicians to population
- Hospitalization rate for ambulatory sensitive care conditions per 1,000 of the Medicare population
- Percent of diabetic Medicare enrollees who receive HbA1c screenings
- Percent of female Medicare enrollees who receive mammography screenings

Healthiest County Ranking Methodology



County Health Rankings model © 2014 UWPHI

Appendix: Population Health Factors and Outcomes

	Tennessee	
	Hancock County	
Category	2013	2015
Health Outcomes	93	93
Health Factors	94	95
Health Behaviors	57	93
Clinical Care	91	93
Social & Economic Factors	94	95
Physical Environment	40	63

Denotes negative ranking movement

				Tennessee	
Category	Description	Measure	National Benchmark 2015	Tenn. State 2015	Hancock County 2015
Health Outcomes	Premature death (Years of Potential Life Lost)	YPLL Rate	6,622	8,696	13,805
	Poor or fair health	% Fair/Poor	16.0%	19.0%	29.0%
	Poor physical health days	Physically Unhealthy Days	3.7	4.3	8.2
	Poor mental health days	Mentally Unhealthy Days	3.4	3.4	
	Low birthweight	% LBW	8.0%	9.2%	9.0%
Health Behaviors	Adult smoking	% Smokers	20.0%	23.0%	40.0%
	Adult obesity	% Obese	27.0%	32.0%	30.0%
	Physical inactivity	Physical Inactivity	23.0%	30.0%	39.0%
	Excessive drinking	% Excessive Drinking	15.0%	9.0%	
	Alcohol-impaired driving deaths	% Deaths from MV accident	31%	28%	56%
	Sexually transmitted infections	Rates per 100,000	453.3	504	238
	Teen birth rate	Teen Birth Rate	36.6	47	50
	Access to exercise opportunities	% With access	85%	70.0%	4.0%
Clinical Care	Uninsured	% Uninsured	17%	16.0%	17.0%
	Primary care physicians	PCP Ratio	1342:1	1388:1	6720:1
	Mental health providers	MH Provider Ratio	529.1	786:1	
	Preventable hospital stays	ACSC Rate	59.3	73.0	181.0
	Diabetic monitoring	% HbA1c	85%	86.0%	86.0%
	Mammography screening	Mammography Rate	71%	61.8%	37.3%
Social and Economic Environment	High school graduation	AFGR	80%	87.0%	78.0%
	Some college (post-secondary education)	PSED	63%	57.7%	36.8%
	Unemployment	% Unemployed	7%	8.2%	12.3%
	Children in poverty	% Children in Poverty	22%	27.0%	45.0%
	Children in single-parent households	% Single-Parent Households	33%	36.0%	36.0%
	Violent crime rate (per 100,000)	Violent Crime Rate	392.0	621.0	429.0
	Could not see doctor due to cost	% Couldn't afford tx	22.8%	17.0%	
Physical Environment	Air pollution-ozone days	Ozone Days	11.1	13.8	13.1
	Severe housing problems	% with severe problems	19%	15.0%	17.0%
	Limited access to healthy foods	% Limited Access	16.9%	8.0%	0.7%

Source:
RWJ University of Wisconsin Population Health Institute / Overall Rankings

RWJ University of Wisconsin Population Health Institute / Ranking Details

Note:
Tennessee's rank is out of 95 counties

Appendix: Mortality and Top Causes of Death

Total causes of death for 2010–2014

National	Tenn.	% of Total Deaths in Tenn.	Va.	% of Total Deaths in Va.
12,750,583	310,142	2.43%	307,714	2.41%

12,750,583

Total U.S. deaths from 2010–2014

The 15 leading grouped causes of death nationally for 2010–2014 were:

Diseases of heart 3,019,430

Malignant neoplasms 2,910,637

Chronic lower respiratory diseases 720,818

Cerebrovascular diseases 649,035

Accidents (unintentional injuries) 641,699

Alzheimer's disease 430,413

Diabetes mellitus 368,900

Influenza and pneumonia 266,765

Nephritis, nephrotic syndrome and nephrosis 236,947

Intentional self-harm (suicide) 202,404

Septicemia 183,498

Chronic liver disease and cirrhosis 175,121

Essential hypertension and hypertensive renal disease 144,593

Parkinson's disease 120,307

Pneumonitis due to solids and liquids 90,474



Age-adjusted death rate for black population was 1.2 times that for the white population in 2013

17.8%

higher risk of death for black population than for white population

Source:
CDC Mortality By Cause of Death

Appendix: Mortality and Top Causes of Death

Death rate by county 2010–2014

		Tennessee			
Cause of Death	National	Tenn.	% of Cause Within Nation	Hancock County	% of Cause Within State
Acute myocardial infarction, unspecified	589,906	19,431	3.3%	54	0.3%
Alzheimer's disease, unspecified	417,726	12,228	2.9%	21	0.2%
Atherosclerotic cardiovascular disease, so described	295,078	9,720	3.3%		
Breast, unspecified - malignant neoplasms	207,325	4,551	2.2%		
Chronic obstructive pulmonary disease, unspecified	517,895	13,024	2.5%	32	0.2%
Colon, unspecified - malignant neoplasms	200,497	4,694	2.3%		
Congestive heart failure	276,761	3,811	1.4%		
Intentional self-harm (suicide)	202,044	4,848	2.4%	16	0.3%
Malignant neoplasm of prostate	139,802	2,857	2.0%		
Malignant neoplasm without specification of site	128,856	3,017	2.3%		
Other ill-defined and unspecified causes of mortality	56,847	3,100	5.5%		
Pancreas, unspecified - malignant neoplasms	191,330	4,108	2.1%	13	0.3%
Stroke, not specified as hemorrhage or infarction	333,124	8,825	2.6%	21	0.2%
Unspecified diabetes mellitus, without complications	165,994	3,386	2.0%		
Urinary tract infection, site not specified	56,201	1,787	3.2%		

Source:
CDC Mortality By Cause of Death

Appendix: Cancer Incidence and Mortality

All Cancer Sites, 2008–2012

		Tennessee	
Cancer Type	National	Tenn.	Hancock County
All Cancers	453.8	468.3	483.5
Cervix	7.7	8.7	
Colon & Rectum	41.9	43.3	39.8
Kidney & Renal Pelvis	16.0	17.2	
Prostate	131.7	135.5	140.5
Childhood <20	17.4	17.7	
Lung & Bronchus	63.7	77.5	82.4
Skin	19.9	20.8	
African American	465.8	475.3	

Source:
The data comes from different sources. Due to different years of data availability, most of the trends are AAPCs based on APCs but some are APCs calculated in SEER*Stat. Please refer to the source for each graph for additional information.

Note:
Incidence rates (cases per 100,000 population per year) are age-adjusted to the 2000 US standard population. Rates are for invasive cancer only (except for bladder cancer, which is invasive and in situ) or unless otherwise specified. Rates calculated using SEER*Stat. Population counts for denominators are based on census populations as modified by NCI. The 1969-2013 US Population Data File is used for SEER and NPCR incidence rates.

The total count for the US may differ from the summation of the individual states reported in this table. The total uses data from the CDC's National Program of Cancer Registries Cancer Surveillance System (NPCR-CSS) January 2015 data submission for the following states: California, Kentucky, Louisiana and New Jersey, but data for those states when shown individually are sourced from the SEER November 2014 submission.

Appendix: Cancer Prevalence

Cancer Prevalence Statistics

Metric	National	Tenn.	Va.
Cancer Prevalence	7%	7%	8%
Average Cost	$19,601	$17,390	$17,303

7%

National rate of cancer prevalence

	Tennessee
Metric	Hancock County
All Prevalence	
All Average Cost	

7%

Tennessee rate of cancer prevalence

No value = No case or too low to report

8% ↑

Virginia rate of cancer prevalence

↑ Denotes higher than national average

↓ Denotes lower than national average

Source:
Centers for Medicare & Medicaid Services / Interactive Mapping Medicare Disparities Tool

Note:
Prevalence rates are calculated by searching for certain diagnosis codes in Medicare beneficiaries' claims. A beneficiary is considered to have a condition if the CMS administrative data has a claim indicating the beneficiary is diagnosed for a specific condition over the reference time period (one, two, or three years, depending on the condition chosen) or, in the case of ESRD and disability, if the reason for entitlement (original or current) is listed as disabled or ESRD in the MBSF. The prevalence rate of a condition for a specific sub-population (e.g., all beneficiaries in a county) is the proportion of beneficiaries who are found to have the condition. The total costs (i.e., Medicare spending) are annual averages of all costs across all types of claims for beneficiaries with a particular condition (regardless of having or not having other conditions). The principal costs for beneficiaries with a condition are annual averages of all costs across all types of claims with a primary diagnosis associated with that particular condition (regardless of having or not having other conditions). The hospitalization rate is the share of the sub-population that is hospitalized for a specific disease in a given year, presented per 1,000 beneficiaries.

Appendix: Diabetes Prevalence

Diabetes Prevalence Statistics

Metric	National	Tenn.	Va.
Diabetes Prevalence	27%	28%	27%
Average Cost	$14,707	$12,856	$12,400

27%
National rate of diabetes prevalence

	Tennessee
Metric	Hancock County
All Prevalence	
All Average Cost	

28% ↑
Tennessee rate of diabetes prevalence

No value = No case or too low to report

27%
Virginia rate of diabetes prevalence

↑ Denotes higher than national average

↓ Denotes lower than national average

Source:
Centers for Medicare & Medicaid Services / Interactive Mapping Medicare Disparities Tool

Note:
Prevalence rates are calculated by searching for certain diagnosis codes in Medicare beneficiaries' claims. A beneficiary is considered to have a condition if the CMS administrative data has a claim indicating the beneficiary is diagnosed for a specific condition over the reference time period (one, two, or three years, depending on the condition chosen) or, in the case of ESRD and disability, if the reason for entitlement (original or current) is listed as disabled or ESRD in the MBSF. The prevalence rate of a condition for a specific sub-population (e.g., all beneficiaries in a county) is the proportion of beneficiaries who are found to have the condition. The total costs (i.e., Medicare spending) are annual averages of all costs across all types of claims for beneficiaries with a particular condition (regardless of having or not having other conditions). The principal costs for beneficiaries with a condition are annual averages of all costs across all types of claims with a primary diagnosis associated with that particular condition (regardless of having or not having other conditions). The hospitalization rate is the share of the sub-population that is hospitalized for a specific disease in a given year, presented per 1,000 beneficiaries.

Appendix: Depression Prevalence

Depression Prevalence Statistics

Metric	National	Tenn.	Va.
Depression Prevalence	15%	16%	13%
Average Cost	$19,759	$17,225	$17,187

15%
National rate of depression prevalence

	Tennessee
Metric	Hancock County
All Prevalence	
All Average Cost	

16% ↑
Tennessee rate of depression prevalence

No value = No case or too low to report

13% ↓
Virginia rate of depression prevalence

↑ Denotes higher than national average

↓ Denotes lower than national average

Source:
Centers for Medicare & Medicaid Services / Interactive Mapping Medicare Disparities Tool

Note:
Prevalence rates are calculated by searching for certain diagnosis codes in Medicare beneficiaries' claims. A beneficiary is considered to have a condition if the CMS administrative data has a claim indicating the beneficiary is diagnosed for a specific condition over the reference time period (one, two, or three years, depending on the condition chosen) or, in the case of ESRD and disability, if the reason for entitlement (original or current) is listed as disabled or ESRD in the MBSF. The prevalence rate of a condition for a specific sub-population (e.g., all beneficiaries in a county) is the proportion of beneficiaries who are found to have the condition. The total costs (i.e., Medicare spending) are annual averages of all costs across all types of claims for beneficiaries with a particular condition (regardless of having or not having other conditions). The principal costs for beneficiaries with a condition are annual averages of all costs across all types of claims with a primary diagnosis associated with that particular condition (regardless of having or not having other conditions). The hospitalization rate is the share of the sub-population that is hospitalized for a specific disease in a given year, presented per 1,000 beneficiaries.

Appendix: Hypertension Prevalence

Hypertension Prevalence Statistics

Metric	National	Tenn.	Va.
Hypertension Prevalence	53%	59%	57%
Average Cost	$13,528	$11,344	$11,121

53%
National rate of hypertension prevalence

	Tennessee
Metric	Hancock County
All Prevalence	
All Average Cost	

59% ↑
Tennessee rate of hypertension prevalence

No value = No case or too low to report

57% ↑
Virginia rate of hypertension prevalence

↑ Denotes higher than national average

↓ Denotes lower than national average

Source:
Centers for Medicare & Medicaid Services / Interactive Mapping Medicare Disparities Tool

Note:
Prevalence rates are calculated by searching for certain diagnosis codes in Medicare beneficiaries' claims. A beneficiary is considered to have a condition if the CMS administrative data has a claim indicating the beneficiary is diagnosed for a specific condition over the reference time period (one, two, or three years, depending on the condition chosen) or, in the case of ESRD and disability, if the reason for entitlement (original or current) is listed as disabled or ESRD in the MBSF. The prevalence rate of a condition for a specific sub-population (e.g., all beneficiaries in a county) is the proportion of beneficiaries who are found to have the condition. The total costs (i.e., Medicare spending) are annual averages of all costs across all types of claims for beneficiaries with a particular condition (regardless of having or not having other conditions). The principal costs for beneficiaries with a condition are annual averages of all costs across all types of claims with a primary diagnosis associated with that particular condition (regardless of having or not having other conditions). The hospitalization rate is the share of the sub-population that is hospitalized for a specific disease in a given year, presented per 1,000 beneficiaries.

Appendix: COPD Prevalence

COPD Prevalence Statistics

Metric	National	Tenn.	Va.
COPD Prevalence	11%	13%	10%
Average Cost	$24,128	$20,082	$21,097

11%
National rate of COPD prevalence

	Tennessee
Metric	Hancock County
All Prevalence	
All Average Cost	

13% ↑
Tennessee rate of COPD prevalence

No value = No case or too low to report

10% ↓
Virginia rate of COPD prevalence

↑ Denotes higher than national average

↓ Denotes lower than national average

Source:
Centers for Medicare & Medicaid Services / Interactive Mapping Medicare Disparities Tool

Note:
Prevalence rates are calculated by searching for certain diagnosis codes in Medicare beneficiaries' claims. A beneficiary is considered to have a condition if the CMS administrative data has a claim indicating the beneficiary is diagnosed for a specific condition over the reference time period (one, two, or three years, depending on the condition chosen) or, in the case of ESRD and disability, if the reason for entitlement (original or current) is listed as disabled or ESRD in the MBSF. The prevalence rate of a condition for a specific sub-population (e.g., all beneficiaries in a county) is the proportion of beneficiaries who are found to have the condition. The total costs (i.e., Medicare spending) are annual averages of all costs across all types of claims for beneficiaries with a particular condition (regardless of having or not having other conditions). The principal costs for beneficiaries with a condition are annual averages of all costs across all types of claims with a primary diagnosis associated with that particular condition (regardless of having or not having other conditions). The hospitalization rate is the share of the sub-population that is hospitalized for a specific disease in a given year, presented per 1,000 beneficiaries.

Appendix: Sources of Information

Metric	Source	Data Description	Profile Years
Population	Robert Wood Johnson Foundation, University of Wisconsin Population Health Institute http://www.countyhealthrankings.org/#app/	Population by county by age cohort	2013 Census Estimates
Physician Supply & Demand	3d Health, Inc. Overall Provider Database: WHS Provider Rosters, Competitor Online Rosters, Healthgrades, State License Databases, AMA Masterfile, Payer	Database of various sources built. Confirmation of data obtained via phone calls to 80% of providers.	2016
Population Health Overall & Sub-Rankings	Robert Wood Johnson Foundation, University of Wisconsin Population Health Institute http://www.countyhealthrankings.org/#app/	Rankings complied using county-level measures from national and state data sources	Range 2010 – 2015
Sub-Ranking Individual Measures	2016 Measures & Data Sources See additional information on next page for specific source, description and applicable year		
Mortality Cause of Death	CDC Mortality By Cause of Death http://wonder.cdc.gov/wonder/help	Data based on death certificates for US residents	Range 1999 – 2014
Cancer Rates	CDC State Cancer Profiles http://statecancerprofiles.cancer.gov	Collaboration of the National Cancer Institute and the CDC from public health surveillance systems reports or public use files.	5 Year Rates 2008 – 2012
CMS Prevalence and Disparity Stats: Cancer Diabetes Obesity Depression Hypertension COPD	Centers for Medicare & Medicaid Services / Interactive Mapping Medicare Disparities Tool https://www.cms.gov/	The Mapping Medicare Disparities Tool identifies disparities in health outcomes, utilization and spending by race and ethnicity and geographic location. Prevalence rates are calculated by searching for certain diagnosis codes in Medicare beneficiaries' claims. The prevalence rate of a condition for a specific sub-population (e.g., all beneficiaries in a county) is the proportion of beneficiaries who are found to have the condition. The total costs (i.e., Medicare spending) are annual averages of all costs across all types of claims for beneficiaries with a particular condition (regardless of having or not having other conditions).	2014
COPD Charts	TN & VA COPD Fact Sheets	21 states, the District of Columbia and Puerto Rico administered an optional module as part of the annual BRFSS survey. The questions in the optional module asked about COPD-related health care behaviors and health-related quality of life and were asked of respondents who reported having COPD.	2011

Appendix: Sources of Information

Ranked Measures & Data Sources

Health Outcome	Measure	Data Source	Years of Data
Health Outcomes			
Length of Life	Premature death	National Center for Health Statistics – Mortality files	2011-2013
Quality of Life	Poor or fair health	Behavioral Risk Factor Surveillance System	2014
	Poor physical health days	Behavioral Risk Factor Surveillance System	2014
	Poor mental health days	Behavioral Risk Factor Surveillance System	2014
	Low birthweight	National Center for Health Statistics - Natality files	2007-2013
Health Behaviors			
Tobacco Use	Adult smoking	Behavioral Risk Factor Surveillance System	2014
Diet and Exercise	Adult obesity	CDC Diabetes Interactive Atlas	2012
	Physical inactivity	CDC Diabetes Interactive Atlas	2012
	Access to exercise opportunities	Business Analyst, Delorme map data, ESRI, & US Census Tigerline Files	2010 & 2014
Alcohol and Drug Use	Excessive drinking	Behavioral Risk Factor Surveillance System	2014
	Alcohol-impaired driving deaths	Fatality Analysis Reporting System	2010-2014
Sexual Activity	Sexually transmitted infections	National Center for HIV/AIDS, Viral Hepatitis, STD, and TB Prevention	2013
	Teen births	National Center for Health Statistics - Natality files	2007-2013
Clinical Care			
Access to Care	Uninsured	Small Area Health Insurance Estimates	2013
	Primary care physicians	Area Health Resource File/American Medical Association	2013
	Mental health providers	CMS, National Provider Identification file	2015
Quality of Care	Preventable hospital stays	Dartmouth Atlas of Health Care	2013
	Diabetic monitoring	Dartmouth Atlas of Health Care	2013
	Mammography screening	Dartmouth Atlas of Health Care	2013
Social and Economic Factors			
Education	High school graduation	U.S. Department of Education (EDFacts)	2012-2013
	Some college	American Community Survey	2010-2014
Employment	Unemployment	Bureau of Labor Statistics	2014
Income	Children in poverty	Small Area Income and Poverty Estimates	2014
	Income inequality	American Community Survey	2010-2014
Family and Social Support	Children in single-parent households	American Community Survey	2010-2014
Community Safety	Violent crime	Uniform Crime Reporting – FBI	2010-2012
Physical Environment			
Housing and Transit	Severe housing problems	Comprehensive Housing Affordability Strategy (CHAS) data	2008-2012

Community Health Needs Assessment

2016



Hawkins County Memorial Hospital

A Member of Wellmont Health System

Community Health Needs Assessment: Table of Contents

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If you have questions regarding the assessment, please visit wellmont.org/ContactUs.

Hawkins County Memorial Hospital
A Member of Wellmont Health System

Introduction: Wellmont Health System

Background

6
Wellmont Health System hospitals

Wellmont Health System is a leading health care provider in the Tri-Cities region of Northeast Tennessee and Southwest Virginia. Wellmont is a not-for-profit health system guided by the mission to deliver superior health care with compassion and a vision to deliver the best health care anywhere.

Formed in 1996 with the merger of Holston Valley Medical Center in Kingsport, Tennessee, and Bristol Regional Medical Center in Bristol, Tennessee, Wellmont has grown steadily since its inception, developing a regional network of hospitals and health care facilities. Today, thousands of caregivers and hundreds of physicians focus on improving our communities and healing patients.

As part of its mission, Wellmont regularly surveys the communities it serves to assess their health care needs.



750 beds across six hospitals, two skilled nursing facilities and Wellmont Medical Associates

The goals of this community health needs assessment are:

- Complete a thorough review of our communities' health status and unmet needs
- Collect valuable information to help target community benefit, outreach and wellness programs
- Develop action plans, strategies and partnerships that support regional efforts to address any unmet health needs
- Create or strengthen partnerships among community organizations with shared accountability for the population's health

Wellmont's hospitals include:

- Holston Valley Medical Center, Kingsport, Tennessee
- Bristol Regional Medical Center, Bristol, Tennessee
- Mountain View Regional Medical Center, Norton, Virginia
- Lonesome Pine Hospital, Big Stone Gap, Virginia
- Hawkins County Memorial Hospital, Rogersville, Tennessee
- Hancock County Hospital, Sneedville, Tennessee



270 physicians and other providers

Wellmont is licensed to operate more than 750 beds across a network of six hospitals as well as two skilled nursing facilities. Wellmont Medical Associates offers an integrated network of 270 physicians and other providers. The Wellmont CVA Heart Institute delivers nationally recognized cardiovascular care, and the Wellmont Cancer Institute provides a broad spectrum of care throughout the region.

Introduction: Wellmont Health System

Scope of Services



Access to a continuum of services

Wellmont provides a continuum of services ranging from community-based acute care to highly specialized tertiary services, including the nationally recognized Wellmont CVA Heart Institute and comprehensive oncology care from the Wellmont Cancer Institute. Wellmont also offers the region's most robust robotics program with the CyberKnife Robotic Radiosurgery System and da Vinci Surgical System. Other technology that strengthens Wellmont's delivery of care is Trilogy linear accelerator and TrueBeam STx with Brainlab.

Additionally, Wellmont is ready to care for our region's most critically injured patients with Level I and Level II trauma centers, as well as serve the smallest and sickest babies at its Level III neonatal intensive care unit. And with mobile services such as WellmontOne Air Transport and the Wellmont Health Coach, we're constantly enhancing access to lifesaving measures.

Integrated Physicians



Physician leadership team and board of directors

Wellmont's integrated physician groups include Wellmont Medical Associates and the Wellmont CVA Heart Institute, which is the region's largest cardiovascular practice.

Wellmont Medical Associates was formed in 2012 as a fundamental restructuring of Wellmont's physician practice operations. Believing physicians are best suited to determine the care plans for patients, the organization has a four-member physician leadership team and a board of directors with 15 physicians. Wellmont Medical Associates' services include not only providing expert treatment for illness, but also educating people and proactively managing patients' care to prevent illness. This philosophy advances the health system's goal to employ effective medical home models and to serve as a high-performing network of physicians and hospitals in value-based care delivery models.

The heart institute provides top-quality cardiovascular services in its 11 community offices and in Wellmont hospitals. The heart institute delivers high-quality, cost-effective heart and vascular care with compassion and improves the cardiovascular health of the region. The institute's providers diagnose, treat and manage all aspects of adult cardiovascular disease, with services ranging from general cardiology, preventive cardiology and cardiothoracic surgery to electrophysiology, interventional cardiology, vascular medicine, structural heart disease, heart failure management and advanced cardiovascular imaging. The institute is also a national leader in clinical research and is an international teaching institution.

Introduction: Wellmont Health System



National leader
in clinical research

When it comes to oncology care, the Wellmont Cancer Institute's innovative approach brings together multiple board-certified physician specialists and other experts – such as a registered dietitian and clinical trial coordinator – to design a customized plan for each patient. Besides this team-driven model of care, we offer the region's most advanced technologies, clinical trials and diagnostics. We have a robust cancer program that extends throughout the region and includes leading-edge technology such as TrueBeam STx with Brainlab, CyberKnife Robotic Radiosurgery System and a Trilogy linear accelerator.

The cancer institute provides services at Holston Valley Medical Center and Bristol Regional Medical Center, as well as outpatient facilities in Johnson City and Kingsport, Tennessee, and Bristol and Norton, Virginia. In early 2015, the cancer institute introduced its lung nodule program, a comprehensive, multidicisplinary approach that enables physicians and other caregivers to detect lung cancer at its earliest stages.

Service Area

With services strategically placed throughout the region, Wellmont is positioned to be the region's high-quality, low-cost health care provider.

Wellmont's service area encompasses the northeastern counties of Tennessee and the southwestern counties of Virginia in the heart of central Appalachia, with our tertiary care hospitals based in Kingsport and Bristol Tennessee.



Introduction: Hawkins County Memorial Hospital

Primary Service Area

Tennessee

- Hawkins County

Facility Description

Hawkins County Memorial Hospital, a 50-bed acute care facility located in Rogersville, Tennessee, has served the residents of Hawkins County since 1961. The hospital offers various inpatient and outpatient services, including a 24-hour emergency department and access to WellmontOne Air Transport services.

More than 150 physicians, nurses, technicians and other co-workers staff the 24-hour emergency department, as well as surgeries and pulmonary and sleep medicine services. The hospital's robust physical therapy services include neurological rehabilitation for stroke and brain-injury patients. Hawkins County Memorial's diagnostic imaging department consists of a 16-slice computed tomography scanner, a nuclear medicine camera, digital mammography, magnetic resonance imaging, bone densitometry, ultrasound and HeartSHAPE® calcium scoring. The outpatient specialty clinic provides physicians specializing in gastroenterology; podiatry; pain management; ear, nose and throat services; physical medicine; and rehabilitation.

In 2016, Hawkins County Memorial was recognized by CareChex®, a division of Comparion®, as being among the top 10 percent of hospitals in the nation for patient satisfaction for overall medical, hospital and surgical care. This was the fourth consecutive year Hawkins County Memorial received those honors. Truven Health Analytics also named Hawkins County Memorial in 2016 one of the top 100 hospitals in the country.



Introduction: Hawkins County Memorial Hospital

Primary Service Area

Tennessee

- Hawkins County

Key Services

- Medical/surgical
- Emergency care
- Physical therapy
- Orthopedics
- Pulmonology
- Imaging
- Sleep Evaluation Center
- Outpatient specialty clinics (spine, rehabilitation, podiatry, gastroenterology and ear, nose and throat services)



Methodology

Information for this report was gathered from a variety of sources, including:

- Physician needs assessment
- Community health facility assessment
- Mental health needs assessment
- Publicly available population and demographic information
- Publicly available population health information, including America's Health Rankings and the County Health Rankings
- State and regional health department data
- The Southwest Virginia Health Authority's Blueprint for Health Enabled Prosperity
- The ETSU, Wellmont, Mountain States Community Work Group Project
- Other studies



Work groups dedicated to key health topics met regularly and provided input to create the report, "Identifying priorities and solutions for improving health in Northeast Tennessee and Southwest Virginia."

Community Work Group Project

In April 2015, Wellmont Health System and Mountain States Health Alliance announced they have agreed to exclusively explore the creation of a new, integrated and locally governed health system designed to address the serious health issues affecting our area.

As part of the proposed merger, the two systems, in conjunction with East Tennessee State University and its College of Public Health, launched an initiative to focus on four key areas for health improvement in our region. Work groups dedicated to these topics provided input to ETSU, which then created the report, "Identifying priorities and solutions for improving health in Northeast Tennessee and Southwest Virginia."

That report, along with the other reference sources listed above, enabled Wellmont to collate and assess information to determine the greatest unmet health needs facing our region. Strategies to address these needs are being developed, utilizing internal resources and partnerships with other health care organizations and physicians.



Meeting the acute care needs of the populations we serve

Key Findings

The health needs assessment of Hawkins County Memorial's service area revealed we are generally meeting the acute care needs of the populations we serve. Our region still suffers by comparison, though, when its health status is measured against other parts of the country.

The below findings are also echoed wholeheartedly by people in the regions we serve; specifically, by interviews with key community leaders and participants with the ETSU work groups.

Many of the findings are interrelated and ultimately stem from similar root causes. As a result, no single finding is prioritized over another, and many of our implementation plans address several of those findings simultaneously.

The counties we serve rank among the lowest in our states in several categories related to health and wellness.

(See Appendix: Population Health Factors and Outcomes)

4th

Tennessee ranks fourth highest in the country in prevalence of type 2 diabetes

Based on data collected by the Robert Wood Johnson Foundation and the University of Wisconsin Population Health Institute, our counties rank among the worst in Tennessee and Virginia in several categories, notably in the prevalence of chronic disease management, obesity, tobacco use, diet and exercise.

These deficits can be attributed to any number of issues plaguing our region. Indeed, many of these rankings are undoubtedly tied to those counties' equally low rankings in several socioeconomic categories such as education, employment and income. Moreover, poor health literacy rates are immensely detrimental to local residents' abilities to stay abreast of their condition.

For example, the percentage of people in the United States who have adult type 2 diabetes is 9.3 percent, and Tennessee ranks fourth highest in the country in the prevalence of type 2 diabetes at 11.3 percent, with Sullivan County as the fifth highest county in the state at 13.9 percent.

Plus, the current shortages in primary care and family medicine physicians in certain parts of the region limit the population's ability to access the preventive care and disease management needed to curtail these health concerns. The work groups identified a strong need for leadership from the health system and regional partners, as well as from community leaders.

The services provided by Wellmont consistently rank very high, as validated by third-party ratings agencies and publicly reported data. However, the ability to reverse poor health trends and the behaviors that lead to them has been limited.

Key Findings: Hawkins County Memorial Hospital

The uninsured and underinsured are vulnerable populations.



Despite charity care provisions, uninsured and underinsured populations often seek emergent care rather than effectively managing their health, often resulting in high-cost care and poor health outcomes.

As is the case throughout the country, the uninsured and underinsured populations we serve are at an increased health risk. While the passage of the Affordable Care Act has helped many in our region obtain insurance, the decision by Tennessee and Virginia not to expand their state Medicaid programs has left quite a few low-income individuals and families still unable to afford premiums. Additionally, many insured people face high deductibles, which still leaves them reluctant to seek care on a regular basis.

The reticence of these populations to establish relationships with primary care providers and follow screening and preventive care schedules creates a large risk for burgeoning health problems.

In turn, these populations can become over-utilizers of high-cost services such a such as the emergency department, or delay care until their health problems require extensive treatment.

There is a need in our region for expanded and enhanced mental health services.



Need for increased recruitment of psychiatric caregivers and access to services

This finding also mirrors a national gap and conversation about the availability of mental health care. Locally, data suggests a need for increased recruitment of psychiatric caregivers and access to services, especially intensive outpatient services.

Mental health, for Hawkins County Memorial's service area, applies to any range of emotional well-being and mental illness, ranging from anxiety, depression and substance abuse to post-traumatic stress disorder and debilitating psychoses.

Though some of these perceived gaps might stem from a lack of awareness about these services and how they can be accessed, irrefutable evidence highlights the need for more work in this area.

These services should also include an intense focus on addiction and drugs, as both the ETSU work groups and several community leaders have identified substance abuse as a major problem plaguing our region. While this has been an issue for many years in Northeast Tennessee, the abuse of prescription medication has skyrocketed in recent years.

Key Findings: Hawkins County Memorial Hospital

As local health organizations step together to confront the problem, community feedback suggests three areas for improvement:

- Early signs of substance abuse and mental health problems identified in the population
- Effective prevention, early intervention and a full continuum of treatment services available for all
- Integration within the community throughout the early identification, treatment and recovery processes

If our communities are to thrive, we must focus on encouraging healthy children and families.



Generational issues affect families and children

An echoing theme throughout our research and reporting is that the socioeconomic makeup of Northeast Tennessee – the same factors that have contributed to the other health needs identified in this assessment – is a generational issue that affects families and children.

Plainly stated, poor health tends to start in childhood and continue through adulthood. This is particularly evident in the data highlighting early tobacco use among children, as well as the unsettling national trends surrounding childhood obesity. There is more than ample evidence to demonstrate these habits and issues become major health concerns later in life, as shown with our region's high rates of diabetes, COPD, lung cancer and hypertension.

The low quality of health for families not only creates generations of unhealthy people in southern Appalachia but is unhealthy for the economic health of our region. As our counties fight to stay competitive and attractive for new businesses and residents, a poor quality of health reflects badly on the overall quality of life in our area.

Implementation Plans

While we constantly strive to enhance the quality of care offered at Wellmont facilities, we know we need to extend our influence outside our buildings and into the communities we serve. So, as we move forward, we set our primary courses of action to:

- Improve access to health care services
- Advance wellness and preventive health services
- Advance population health management strategies
- Ensure the needs of our most vulnerable populations are being met



Desire to increase access to care leads to new initiatives

Focus on access

A better quality of health begins with a better focus on preventive care and prompt, low-cost medical treatment. As such, Wellmont Medical Associates has been committed to recruiting and retaining primary care and family medicine providers, especially in rural areas.

For people who do not have primary care or who are unable to access it immediately, Wellmont Urgent Care is a low-cost, high-quality option for prompt treatment of minor illnesses and injuries. To best serve our populations, we continue to open new locations, and in Tennessee, offer Wellmont Urgent Care facilities in Bristol, Johnson City, Kingsport and Rogersville. Our Virginia offerings are in Abingdon, Bristol, Norton and Lebanon.

We've also increased accessibility for specialty care, with a new Wellmont Cancer Institute infusion office in Bristol, Virginia, as well as new clinics for Wellmont Medical Associates and the Wellmont Cancer Institute.

To reach even more rural and remote locations, we offer the Wellmont Health Coach, a mobile screening unit that provides digital mammography, baseline biometrics and heart and vascular screenings. In the last two years, the health coach has visited more than 40 locations, completing more than 600 mammograms and nearly 400 heart and vascular screenings.

Finally, with the implementation of MyWellmont, as part of our electronic health record, patients can access their medical records through a computer or smart phone. This software gives patients an interface to send questions to their providers, conduct E-visits, schedule appointments and track their health progress – connecting them to their health like never before.

Implementation Plans: Hawkins County Memorial Hospital

Focus on preventive health and wellness

A healthier region starts with healthier individuals. That's why Wellmont LiveWell, a community health transformation initiative, leverages Wellmont's medical strengths and expertise to champion, lead and sustain a new tradition of wellness in our region. LiveWell provides individuals with a free risk assessment to help identify key areas of improvement and provides regular follow-ups to encourage participants to stay committed to their healthier lives.

The LiveWell philosophy has been shared with several of our community partners. To further our mission and goals, Wellmont has partnered with like-minded organizations such as Healthy Kingsport and Live Sugarfreed, as well as several leading businesses. Through these programs, we're helping more people than ever reach health milestones and sustain their new, healthy lifestyles.



Wellmont LiveWell encourages participants to stay committed to healthier lives.

Another important aspect of wellness is ensuring a complete partnership between our patients and their primary care providers. This enables physicians to have a clear understanding of patients' circumstances and preferences, while patients have a clear understanding of what they can do to live better, healthier lives. That's the philosophy behind Wellmont Medical Associates' Patient Centered Medical Home. Wellmont Medical Associates has earned Level 3 status from the National Committee for Quality Assurance, which is the highest achievable recognition.

Wellmont Diabetes Treatment Centers is also making a special effort to test adolescents to determine whether they have pre-diabetes or type 2 diabetes. Because the number of adolescents with these conditions is growing, Wellmont is partnering with the YMCA and a company called GBC locally to offer finger sticks so youths who score 140 or higher are then administered an A1C test, which gives their average blood-glucose level during a three-month period. Adolescents who score in the ranges for pre-diabetes or diabetes on this test are provided an opportunity to participate in a comprehensive program that consists of diabetes awareness, nutrition counseling, behavior modification and fitness.

Additionally, since people with diabetes are prone to have a diabetes emergency at any time, including when they are driving a vehicle, Wellmont has developed the Diabetes Alert sticker. This decal is placed on the driver's side of the rear windshield and informs an officer to check whether a driver is having difficulty with his or her diabetes.

Implementation Plans: Hawkins County Memorial Hospital

Focus on population health management

Building on our efforts to improve individual health and wellness, Wellmont will also strive to empower our communities to make healthier choices. To that end, we will continue partnering with businesses, churches and other community organizations to create a foundation and momentum for change in our region.

We will continue to engage business leaders and their thousands of employees through Wellmont Business Health Solutions, a comprehensive program that provides employers an array of health plans, wellness programs, illness prevention tools and occupational medicine services. These help keep co-workers healthy – an especially important strategy given the region's high concentration of physically taxing manufacturing and manual labor jobs.



Wellmont Medical Associates has consistently earned Level 3 status from the National Committee for Quality Assurance.

Wellmont will also continue to develop its chronic disease management programs to proactively care for conditions such as diabetes, heart disease, lung cancer and hypertension. We've made tremendous strides in the early detection and treatment of lung disease through our LungSTRONG program, which provides quick access to a team of Wellmont Medical Associates and Wellmont Cancer Institute specialists who catch, treat and monitor potential problem spots as early as possible.

Additionally, Wellmont Medical Associates will continue to be a leader with the American Medical Group Foundation and its Measure Up, Pressure Down program for hypertension management. Wellmont Medical Associates is also developing quality improvement efforts for the treatment of diabetes, based on the foundation's Best Practices Learning Collaborative.

And in 2016, the Wellmont CVA Heart Institute will bolster its leadership in cardiac rehabilitation with its new Bill Gatton Center for Advanced Cardiac Rehab using the Pritikin Intensive Cardiac Rehab program. This comprehensive lifestyle education program offers the opportunity to improve outcomes and make cardiac rehab more sustainable. The ultimate goal for the Pritikin program is for our cardiac patients to gain an in-depth understanding about the relationship between lifestyle and cardiovascular health.

Implementation Plans: Hawkins County Memorial Hospital

Focus on vulnerable populations

Wellmont will continue to pursue a variety of strategies to ensure our uninsured and underinsured populations have access to needed care. One such approach is through support and collaboration with key community partners such as local clinics which serve the uninsured and underinsured, departments of health, and federally qualified health centers. Through these efforts, we seek to provide a continuum of care resources to vulnerable populations so individuals can benefit from prevention programs as well as emergency care and acute care.



Wellmont will ensure vulnerable populations have access to needed care.

Wellmont is also a key partner in the annual Tri-Cities Remote Area Medical – or RAM – clinics. Held annually at Bristol Motor Speedway, RAM provides nearly 2,000 people in need with free medical, dental and vision care. The health system also collaborates with the speedway every year to provide free head and neck cancer screenings for race-goers. Plus, the Southwest Virginia Cancer Center partners with the health department annually to provide a series of health screenings.

We will also help close the coverage gap. Through grants from the Tennessee Hospital Association and Centers for Medicaid and Medicare Services, Wellmont has hired four certified health insurance navigators, who help uninsured populations sign up for insurance through HealthCare.gov. They also aid people who might qualify for Medicaid and the Children's Health Insurance Program.

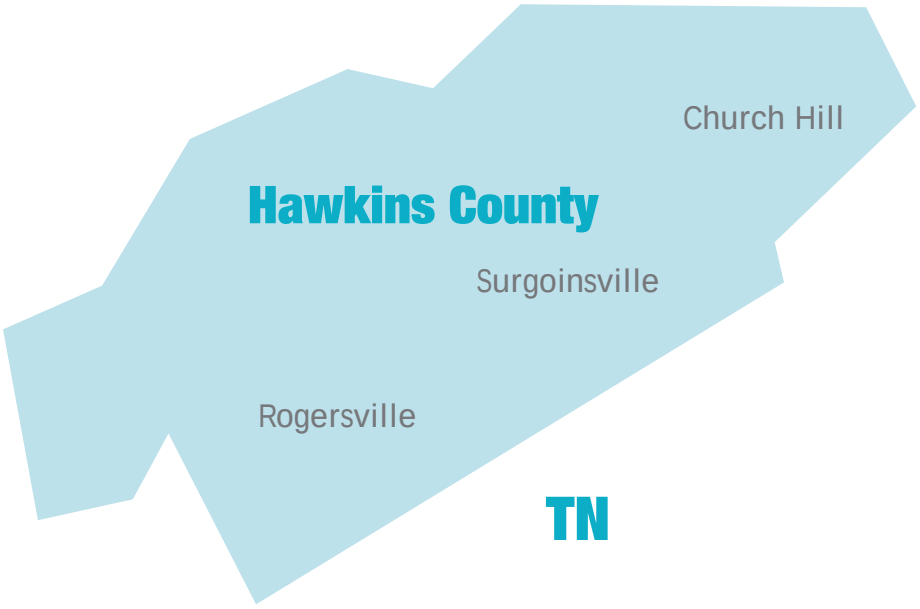
Finally, we will continue to evaluate our charity care policies and those of partner organizations to ensure we are providing the most efficient and appropriate care to our vulnerable populations. One way we will monitor the effectiveness of these policies is through tracking the percentage and amounts of charity care we deliver. We will also continue our advocacy efforts to expand our charity care efforts through increased state and federal funding.

Market Overview: Hawkins County Memorial Hospital

Primary Service Area

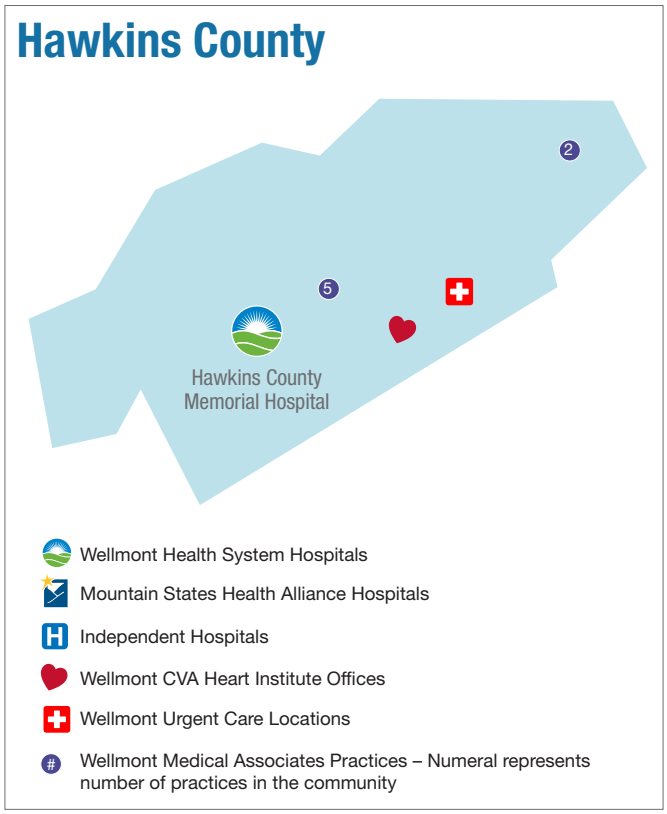
Tennessee

- Hawkins County





Market Overview: Hawkins County, Tennessee



Health Outcomes

Rank **64**

Hawkins County Rankings

Hawkins County health rankings improved in 4 out of 6 categories.

	2013	2015
Health Outcomes	56	64
Health Factors	31	28
Health Behaviors	66	51
Clinical Care	30	31
Social & Economic Factors	26	22
Physical Environment	80	19

Denotes improvement

Strengths

(BETTER than national and Tennessee state):

- Excessive drinking shows much lower than benchmarks and decreased by 1% from last report
- Alcohol-impaired driving deaths is at 21%, with the nation at 31% and Tennessee at 28%
- Diabetes monitoring shows 88% – just above national and Tennessee
- High school graduation rate is at 95%

Challenges

(WORSE than national and Tennessee state):

- Premature death (years of potential life lost) increased from 2013 report and stayed above benchmarks
- Those reporting in poor or fair health has increased and continues to stay well above benchmarks
- Adult smoking, obesity and physical inactivity all have increased and stay above benchmarks
- Only 36% report having access to exercise opportunities
- Preventable hospital days are reduced within the county; however, it stays above benchmarks
- Mammogram screening decreased slightly and stays below benchmarks
- Could not see doctor due to cost increased in percentage and is just above national and a bit above Tennessee
- Ratio of mental health providers

Highlights:

- Unemployment dropped by more than 1%; however, it is just over national and just below Tennessee
- Dropped the percent of those with limited access to healthy foods substantially, and it is well below the national benchmark and consistent, now, with Tennessee
- Lung cancer incidence rate is at 96.3 cases per 100,000 population, which is higher than any other county in the service area

Market Overview: Hawkins County, Tennessee

Wellmont Physician Locations

Cardiology
- Wellmont CVA Heart Institute, Rogersville

Endocrinology
- Wellmont Medical Associates Endocrinology, Church Hill

Family medicine
- Wellmont Medical Associates, Rogersville
- Wellmont Urgent Care, Rogersville

Internal medicine
- Wellmont Medical Associates, Church Hill

Obstetrics and gynecology
- Wellmont Medical Associates Women's Health, Rogersville

Pulmonology and sleep
- Wellmont Medical Associates Pulmonology & Sleep, Rogersville

Surgery
- Wellmont Medical Associates Surgery, Rogersville

Community Health Facilities

Mental health facilities and resources
- Veterans Affairs Rogersville Outpatient Clinic
- Hawkins County Mental Health Center

County health departments
- Hawkins County Health Department, Church Hill
- Hawkins County Health Department, Rogersville

Federally qualified health centers
- Bulls Gap Medical Center, Bulls Gap
- Hawkins Medical Center, Rogersville
- Rogersville Medical Complex, Rogersville
- West Main Medical Center, Rogersville

Appendix: Population Profile

		Total Population			Median Household Income		
State	County	2013	2015	% Change	2013	2015	% Change
Tenn. State			6,495,978				
	Hawkins	55,505	56,800	2.3%	$33,484	$36,102	7.8%
Grand Total		55,505	56,800	2.3%	$33,484	$36,102	7.8%

		Age 0–17			Age 65+		
State	County	2013	2015	% of Population	2013	2015	% of Population
Tenn. State			1,491,577	23.0%		952,376	14.7%
	Hawkins	11,906	12,071	21.3%	9,248	10,613	18.7%
Grand Total		11,906	12,071	21.3%	9,248	10,613	18.7%

Population 2011–2016 by county

Source:
2013 numbers via MedStat – 2011 Census Estimates

2015 numbers via RWJ County Health Rankings – 2013 Census Estimates

Appendix: Physician Needs Assessment

Current Market Surplus/Deficit

The market surplus/(deficit) includes 100% of supply and demand for physicians within the Total Service Area, regardless of institutional alignment. Numbers surrounded by parentheses represent a deficit of physicians.

	Current FTEs			
Specialty	**Supply**	**Demand**	**Surplus / (Deficit)**	**% Unmet Need**
Primary Care				
Family Medicine	213.3	270.2	(56.9)	(21%)
Internal Medicine	110.1	189.7	(79.7)	(42%)
General Primary Care	323.4	460.0	(136.6)	(30%)
Obstetrics & Gynecology	75.9	63.8	12.1	19%
Pediatrics	77.7	78.6	(0.9)	(1%)
Total Primary Care	**477.0**	**602.4**	**(125.4)**	**(21%)**
Medical Sub-Specialties				
Allergy & Immunology	9.9	12.9	(3.0)	(23%)
Cardiology - Medical	35.9	35.9	0.1	0%
Cardiology - Electrophysiology	4.6	5.3	(0.7)	(13%)
Cardiology - Interventional	9.4	16.3	(7.0)	(43%)
Cardiology - Total	49.9	57.5	(7.6)	(13%)
Dermatology	20.6	28.7	(8.1)	(28%)
Endocrinology	5.7	11.9	(6.2)	(52%)
Gastroenterology	27.9	39.4	(11.5)	(29%)
Hematology/Oncology	24.3	30.2	(5.9)	(20%)
Infectious Disease	5.7	9.4	(3.7)	(40%)
Nephrology	15.3	19.7	(4.4)	(22%)
Neurology	16.9	31.8	(14.9)	(47%)
Pain Management	9.4	11.0	(1.6)	(15%)
Physical Medicine & Rehab	6.0	20.8	(14.8)	(71%)
Psychiatry	42.5	29.6	12.9	44%
Pulmonary	20.3	23.5	(3.2)	(13%)
Reproductive Endocrinology	1.5	1.0	0.5	54%
Rheumatology	8.0	11.0	(3.0)	(28%)
Sleep Medicine	2.1	2.6	(0.6)	(21%)
Sports Medicine	3.5	4.9	(1.4)	(29%)
Total Medical Sub-Specialties	**269.4**	**346.1**	**(76.7)**	**(22%)**

	Current FTEs			
Specialty	**Supply**	**Demand**	**Surplus / (Deficit)**	**% Unmet Need**
Surgical Sub-Specialties				
Cardiac Surgery	3.8	7.4	(3.6)	(49%)
Thoracic Surgery	5.2	7.3	(2.1)	(29%)
Cardio/Thoracic Surgery	9.0	14.7	(5.7)	(39%)
Gynecology Oncology	2.0	2.4	(0.4)	(15%)
Maternal Fetal Medicine	1.3	6.8	(5.5)	(80%)
Neurosurgery - Cranial	2.7	3.0	(0.3)	(10%)
Neurosurgery - Spine	5.3	5.7	(0.4)	(7%)
Neurosurgery - Total	8.0	8.7	(0.7)	(8%)
Ophthalmology	31.1	47.1	(16.0)	(34%)
Orthopedic Surgery - General	43.2	53.1	(9.9)	(19%)
Orthopedic Surgery - Hand	1.7	2.0	(0.3)	(16%)
Orthopedic Surgery - Spine	2.8	3.6	(0.8)	(21%)
Orthopedic Surgery - Total	47.7	58.7	(11.0)	(19%)
Otolaryngology	18.8	28.3	(9.5)	(33%)
Plastic Surgery	9.5	5.3	4.2	80%
Podiatry	17.3	26.1	(8.8)	(34%)
Urology	18.6	28.0	(9.4)	(34%)
Bariatric Surgery	1.3	3.7	(2.4)	(65%)
Breast Surgery	1.5	5.4	(3.9)	(72%)
Colon & Rectal Surgery	2.0	5.9	(3.9)	(66%)
General Surgery	47.0	32.0	14.9	47%
Oncology Surgery	1.7	3.5	(1.8)	(52%)
Transplant Surgery	-	0.5	(0.5)	(100%)
Vascular Surgery	8.2	16.4	(8.3)	(50%)
General Surgery - Total	61.6	67.5	(5.9)	(9%)
Total Surgical Sub-Specialties	**224.9**	**293.5**	**(68.6)**	**(23%)**

Total All Specialties	**971.3**	**1,242.0**	**(270.7)**	**(22%)**

Source: 3d Health, Inc.

Appendix: Physician Needs Assessment

Current Market Surplus/Deficit by Region

The market surplus/(deficit) includes 100% of supply and demand for physicians within each region, regardless of institutional alignment. Numbers surrounded by parentheses represent a deficit of physicians.

	Current FTE Surplus / (Deficit)			
Specialty	**Bristol Regional**	**Hawkins / Hancock**	**Holston Valley**	**Lonesome Pine / Mountain View**
Primary Care				
Family Medicine	(19.0)	(16.6)	(26.4)	(11.1)
Internal Medicine	(44.0)	(14.1)	(42.8)	(3.3)
General Primary Care	(63.0)	(30.7)	(69.2)	(14.4)
Obstetrics & Gynecology	15.0	(4.9)	8.8	(1.1)
Pediatrics	0.3	(5.9)	7.7	(1.4)
Total Primary Care	**(47.6)**	**(41.5)**	**(52.6)**	**(16.9)**
Medical Sub-Specialties				
Allergy & Immunology	(0.3)	(1.1)	(1.4)	(1.3)
Cardiology - Medical	7.3	(3.1)	(1.8)	(0.9)
Cardiology - Electrophysiology	0.7	(0.5)	1.3	(0.5)
Cardiology - Interventional	(3.0)	(1.4)	(3.4)	(1.5)
Cardiology - Total	5.0	(4.9)	(3.9)	(2.8)
Dermatology	(0.9)	(2.4)	(1.7)	(1.7)
Endocrinology	(3.7)	1.0	(2.8)	(1.1)
Gastroenterology	(0.0)	(2.9)	(6.8)	(3.7)
Hematology/Oncology	2.4	(2.6)	(3.1)	(2.7)
Infectious Disease	(3.6)	(0.8)	(1.2)	(0.9)
Nephrology	(0.2)	(1.7)	(1.4)	(1.8)
Neurology	(4.3)	(2.7)	(10.2)	(3.0)
Pain Management	0.6	(0.9)	(0.7)	(1.0)
Physical Medicine & Rehab	(6.3)	(1.7)	(8.3)	(2.0)
Psychiatry	3.5	(1.9)	11.1	(1.9)
Pulmonary	1.0	(1.0)	(2.7)	(1.2)
Reproductive Endocrinology	0.1	(0.1)	0.4	(0.1)
Rheumatology	(1.4)	(0.9)	0.1	(1.0)
Sleep Medicine	(0.6)	(0.2)	0.3	(0.2)
Sports Medicine	(1.8)	(0.4)	(0.1)	(0.5)
Total Medical Sub-Specialties	**(10.5)**	**(25.3)**	**(32.5)**	**(26.9)**

Source: 3d Health, Inc.

Appendix: Physician Needs Assessment

Current Market Surplus/Deficit by Region

The market surplus/(deficit) includes 100% of supply and demand for physicians within each region, regardless of institutional alignment. Numbers surrounded by parentheses represent a deficit of physicians.

	Current FTE Surplus / (Deficit)			
Specialty	**Bristol Regional**	**Hawkins / Hancock**	**Holston Valley**	**Lonesome Pine / Mountain View**
Surgical Sub-Specialties				
Cardiac Surgery	(0.8)	(0.6)	(1.8)	(0.7)
Thoracic Surgery	(0.4)	(0.6)	(0.4)	(0.7)
Cardio/Thoracic Surgery	(1.2)	(1.3)	(2.2)	(1.3)
Gynecology Oncology	(0.1)	(0.2)	0.5	(0.2)
Maternal Fetal Medicine	(3.1)	(0.6)	(3.1)	(0.7)
Neurosurgery - Cranial	0.2	(0.3)	(0.2)	(0.3)
Neurosurgery - Spine	0.7	(0.5)	(0.3)	(0.5)
Neurosurgery - Total	0.9	(0.7)	(0.4)	(0.8)
Ophthalmology	(6.5)	(4.0)	(8.9)	(3.2)
Orthopedic Surgery - General	0.5	(4.5)	(5.4)	(2.9)
Orthopedic Surgery - Hand	(0.3)	(0.2)	0.2	(0.2)
Orthopedic Surgery - Spine	(0.6)	(0.3)	(0.3)	(0.4)
Orthopedic Surgery - Total	(0.4)	(5.0)	(5.4)	(3.4)
Otolaryngology	(1.3)	(2.4)	(7.2)	(1.3)
Plastic Surgery	3.7	(0.4)	4.0	(0.5)
Podiatry	(1.5)	(2.0)	(8.2)	(1.4)
Urology	(0.2)	(2.4)	(5.7)	(1.6)
Bariatric Surgery	(0.9)	(0.3)	(1.0)	(0.4)
Breast Surgery	(2.2)	(0.5)	(1.9)	(0.5)
Colon & Rectal Surgery	(2.9)	(0.5)	(1.7)	(0.5)
General Surgery	17.0	(1.7)	1.2	(0.0)
Oncology Surgery	(0.7)	(0.3)	(0.5)	(0.3)
Transplant Surgery	(0.2)	(0.0)	(0.3)	(0.1)
Vascular Surgery	(4.4)	(1.4)	(3.2)	(1.5)
General Surgery - Total	5.7	(4.7)	(7.5)	(3.3)
Total Surgical Sub-Specialties	**(4.0)**	**(23.7)**	**(44.2)**	**(17.8)**
Total All Specialties	**(62.1)**	**(90.5)**	**(129.3)**	**(61.5)**

Source: 3d Health, Inc.

Appendix: Population Health Considerations

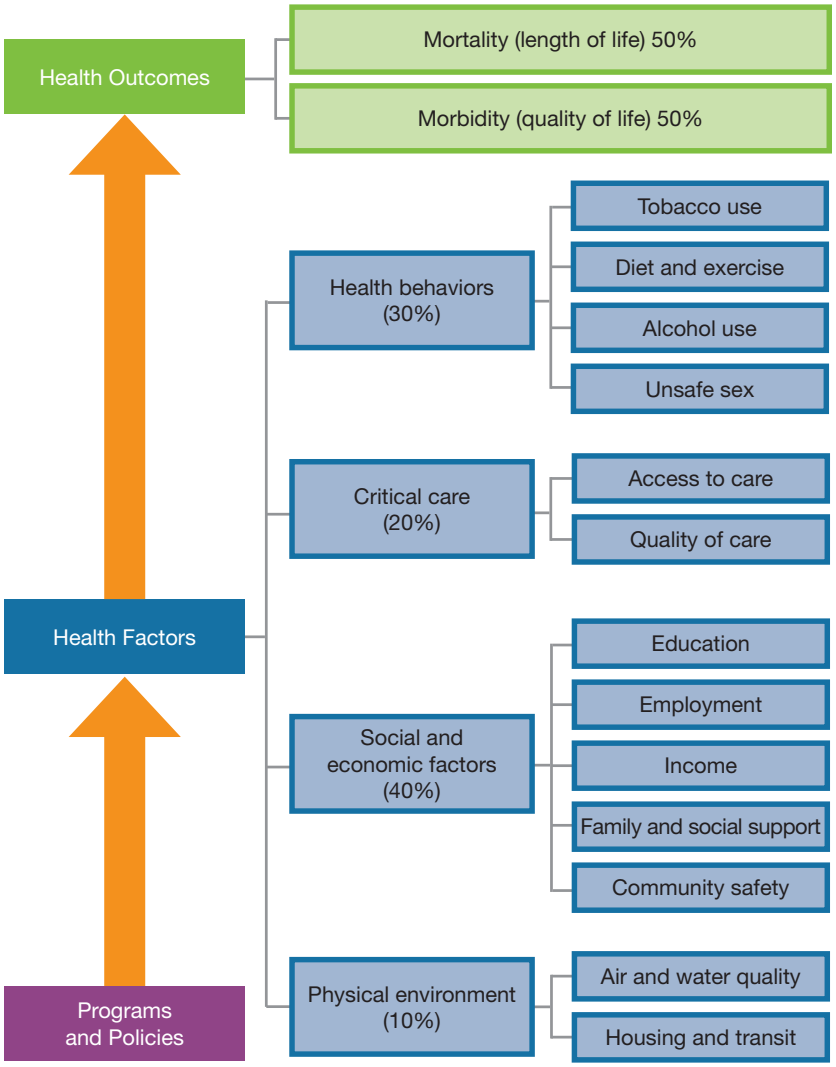
Factors of Health

The RWJ model focuses on morbidity and mortality as the primary measures of health outcomes. Fifty percent of the input variables fall directly within the mission of Wellmont Health System – specifically, access and quality of care, as well as improved community health in controllable factors such as tobacco use, diet and exercise.

Five primary factors are assessed:

- Percent of population under age 65 without health insurance
- Ratio of primary care physicians to population
- Hospitalization rate for ambulatory sensitive care conditions per 1,000 of the Medicare population
- Percent of diabetic Medicare enrollees who receive HbA1c screenings
- Percent of female Medicare enrollees who receive mammography screenings

Healthiest County Ranking Methodology



County Health Rankings model © 2014 UWPHI

Appendix: Population Health Factors and Outcomes

	Tennessee	
	Hawkins County	
Category	2013	2015
Health Outcomes	56	64
Health Factors	31	28
Health Behaviors	66	51
Clinical Care	30	31
Social & Economic Factors	26	22
Physical Environment	80	19

Denotes negative ranking movement

				Tennessee	
Category	Description	Measure	National Benchmark 2015	Tenn. State 2015	Hawkins County 2015
Health Outcomes	Premature death (Years of Potential Life Lost)	YPLL Rate	6,622	8,696	10,433
	Poor or fair health	% Fair/Poor	16.0%	19.0%	26.0%
	Poor physical health days	Physically Unhealthy Days	3.7	4.3	5.6
	Poor mental health days	Mentally Unhealthy Days	3.4	3.4	4
	Low birthweight	% LBW	8.0%	9.2%	8.9%
Health Behaviors	Adult smoking	% Smokers	20.0%	23.0%	26.0%
	Adult obesity	% Obese	27.0%	32.0%	35.0%
	Physical inactivity	Physical Inactivity	23.0%	30.0%	35.0%
	Excessive drinking	% Excessive Drinking	15.0%	9.0%	5.0%
	Alcohol-impaired driving deaths	% Deaths from MV accident	31%	28%	21%
	Sexually transmitted infections	Rates per 100,000	453.3	504	302
	Teen birth rate	Teen Birth Rate	36.6	47	51
	Access to exercise opportunities	% With access	85%	70.0%	36.0%
Clinical Care	Uninsured	% Uninsured	17%	16.0%	16.0%
	Primary care physicians	PCP Ratio	1342:1	1388:1	3537:1
	Mental health providers	MH Provider Ratio	529.1	786:1	7100:1
	Preventable hospital stays	ACSC Rate	59.3	73.0	82.0
	Diabetic monitoring	% HbA1c	85%	86.0%	88.0%
	Mammography screening	Mammography Rate	71%	61.8%	62.4%
Social and Economic Environment	High school graduation	AFGR	80%	87.0%	95.0%
	Some college (post-secondary education)	PSED	63%	57.7%	46.8%
	Unemployment	% Unemployed	7%	8.2%	8.0%
	Children in poverty	% Children in Poverty	22%	27.0%	31.0%
	Children in single-parent households	% Single-Parent Households	33%	36.0%	31.0%
	Violent crime rate (per 100,000)	Violent Crime Rate	392.0	621.0	256.0
	Could not see doctor due to cost	% Couldn't afford tx	22.8%	17.0%	25.0%
Physical Environment	Air pollution-ozone days	Ozone Days	11.1	13.8	13.1
	Severe housing problems	% with severe problems	19%	15.0%	10.0%
	Limited access to healthy foods	% Limited Access	16.9%	8.0%	8.0%

Source:
RWJ University of Wisconsin Population Health Institute / Overall Rankings

RWJ University of Wisconsin Population Health Institute / Ranking Details

Note:
Tennessee's rank is out of 95 counties

Appendix: Mortality and Top Causes of Death

Total causes of death for 2010–2014

National	Tenn.	% of Total Deaths in Tenn.	Va.	% of Total Deaths in Va.
12,750,583	310,142	2.43%	307,714	2.41%

12,750,583

Total U.S. deaths from 2010–2014

The 15 leading grouped causes of death nationally for 2010–2014 were:

Diseases of heart 3,019,430

Malignant neoplasms 2,910,637

Chronic lower respiratory diseases 720,818

Cerebrovascular diseases 649,035

Accidents (unintentional injuries) 641,699

Alzheimer's disease 430,413

Diabetes mellitus 368,900

Influenza and pneumonia 266,765

Nephritis, nephrotic syndrome and nephrosis 236,947

Intentional self-harm (suicide) 202,404

Septicemia 183,498

Chronic liver disease and cirrhosis 175,121

Essential hypertension and hypertensive renal disease 144,593

Parkinson's disease 120,307

Pneumonitis due to solids and liquids 90,474



Age-adjusted death rate for black population was 1.2 times that for the white population in 2013.

17.8%

higher risk of death for black population than for white population

Source:
CDC Mortality By Cause of Death

Appendix: Mortality and Top Causes of Death

Death rate by county 2010–2014

		Tennessee			
Cause of Death	National	Tenn.	% of Cause Within Nation	Hawkins County	% of Cause Within State
Acute myocardial infarction, unspecified	589,906	19,431	3.3%	206	1.1%
Alzheimer's disease, unspecified	417,726	12,228	2.9%	112	0.9%
Atherosclerotic cardiovascular disease, so described	295,078	9,720	3.3%	158	1.6%
Breast, unspecified - malignant neoplasms	207,325	4,551	2.2%	44	1.0%
Chronic obstructive pulmonary disease, unspecified	517,895	13,024	2.5%	150	1.2%
Colon, unspecified - malignant neoplasms	200,497	4,694	2.3%	49	1.0%
Congestive heart failure	276,761	3,811	1.4%	38	1.0%
Intentional self-harm (suicide)	202,044	4,848	2.4%	53	1.1%
Malignant neoplasm of prostate	139,802	2,857	2.0%	24	0.8%
Malignant neoplasm without specification of site	128,856	3,017	2.3%	38	1.3%
Other ill-defined and unspecified causes of mortality	56,847	3,100	5.5%	47	1.5%
Pancreas, unspecified - malignant neoplasms	191,330	4,108	2.1%	46	1.1%
Stroke, not specified as hemorrhage or infarction	333,124	8,825	2.6%	66	0.7%
Unspecified diabetes mellitus, without complications	165,994	3,386	2.0%	44	1.3%
Urinary tract infection, site not specified	56,201	1,787	3.2%	20	1.1%

Source:
CDC Mortality By Cause of Death

Appendix: Cancer Incidence and Mortality

All Cancer Sites, 2008–2012

		Tennessee	
Cancer Type	National	Tenn.	Hawkins County
All Cancers	453.8	468.3	500.6
Cervix	7.7	8.7	
Colon & Rectum	41.9	43.3	46.5
Kidney & Renal Pelvis	16.0	17.2	13.0
Prostate	131.7	135.5	111.8
Childhood <20	17.4	17.7	
Lung & Bronchus	63.7	77.5	96.3
Skin	19.9	20.8	42.4
African American	465.8	475.3	

Source:
The data comes from different sources. Due to different years of data availability, most of the trends are AAPCs based on APCs, but some are APCs calculated in SEER*Stat. Please refer to the source for each graph for additional information.

Note:
Incidence rates (cases per 100,000 population per year) are age-adjusted to the 2000 US standard population. Rates are for invasive cancer only (except for bladder cancer, which is invasive and in situ) or unless otherwise specified. Rates calculated using SEER*Stat. Population counts for denominators are based on census populations as modified by NCI. The 1969-2013 US Population Data File is used for SEER and NPCR incidence rates.

The total count for the US may differ from the summation of the individual states reported in this table. The total uses data from the CDC's National Program of Cancer Registries Cancer Surveillance System (NPCR-CSS) January 2015 data submission for the following states: California, Kentucky, Louisiana and New Jersey, but data for those states when shown individually are sourced from the SEER November 2014 submission.

Appendix: Cancer Prevalence

Cancer Prevalence Statistics

Metric	National	Tenn.	Va.
Cancer Prevalence	7%	7%	8%
Average Cost	$19,601	$17,390	$17,303

7%

National rate of cancer prevalence

	Tennessee
Metric	Hawkins County
All Prevalence	5%
All Average Cost	$19,559

7%

Tennessee rate of cancer prevalence

No value = No case or too low to report

8% ↑

Virginia rate of cancer prevalence

↑ Denotes higher than national average

↓ Denotes lower than national average

Source:
Centers for Medicare & Medicaid Services / Interactive Mapping Medicare Disparities Tool

Note:
Prevalence rates are calculated by searching for certain diagnosis codes in Medicare beneficiaries' claims. A beneficiary is considered to have a condition if the CMS administrative data has a claim indicating the beneficiary is diagnosed for a specific condition over the reference time period (one, two, or three years, depending on the condition chosen) or, in the case of ESRD and disability, if the reason for entitlement (original or current) is listed as disabled or ESRD in the MBSF. The prevalence rate of a condition for a specific sub-population (e.g., all beneficiaries in a county) is the proportion of beneficiaries who are found to have the condition. The total costs (i.e., Medicare spending) are annual averages of all costs across all types of claims for beneficiaries with a particular condition (regardless of having or not having other conditions). The principal costs for beneficiaries with a condition are annual averages of all costs across all types of claims with a primary diagnosis associated with that particular condition (regardless of having or not having other conditions). The hospitalization rate is the share of the sub-population that is hospitalized for a specific disease in a given year, presented per 1,000 beneficiaries.

Appendix: Diabetes Prevalence

Diabetes Prevalence Statistics

Metric	National	Tenn.	Va.
Diabetes Prevalence	27%	28%	27%
Average Cost	$14,707	$12,856	$12,400

27%
National rate of diabetes prevalence

	Tennessee
Metric	Hawkins County
All Prevalence	29%
All Average Cost	$10,788

28% ↑
Tennessee rate of diabetes prevalence

No value = No case or too low to report

27%
Virginia rate of diabetes prevalence

↑ Denotes higher than national average

↓ Denotes lower than national average

Source:
Centers for Medicare & Medicaid Services / Interactive Mapping Medicare Disparities Tool

Note:
Prevalence rates are calculated by searching for certain diagnosis codes in Medicare beneficiaries' claims. A beneficiary is considered to have a condition if the CMS administrative data has a claim indicating the beneficiary is diagnosed for a specific condition over the reference time period (one, two, or three years, depending on the condition chosen) or, in the case of ESRD and disability, if the reason for entitlement (original or current) is listed as disabled or ESRD in the MBSF. The prevalence rate of a condition for a specific sub-population (e.g., all beneficiaries in a county) is the proportion of beneficiaries who are found to have the condition. The total costs (i.e., Medicare spending) are annual averages of all costs across all types of claims for beneficiaries with a particular condition (regardless of having or not having other conditions). The principal costs for beneficiaries with a condition are annual averages of all costs across all types of claims with a primary diagnosis associated with that particular condition (regardless of having or not having other conditions). The hospitalization rate is the share of the sub-population that is hospitalized for a specific disease in a given year, presented per 1,000 beneficiaries.

Appendix: Depression Prevalence

Depression Prevalence Statistics

Metric	National	Tenn.	Va.
Depression Prevalence	15%	16%	13%
Average Cost	$19,759	$17,225	$17,187

15%
National rate of depression prevalence

	Tennessee
Metric	Hawkins County
All Prevalence	17%
All Average Cost	

16% ↑
Tennessee rate of depression prevalence

No value = No case or too low to report

13% ↓
Virginia rate of depression prevalence

↑ Denotes higher than national average

↓ Denotes lower than national average

Source:
Centers for Medicare & Medicaid Services / Interactive Mapping Medicare Disparities Tool

Note:
Prevalence rates are calculated by searching for certain diagnosis codes in Medicare beneficiaries' claims. A beneficiary is considered to have a condition if the CMS administrative data has a claim indicating the beneficiary is diagnosed for a specific condition over the reference time period (one, two, or three years, depending on the condition chosen) or, in the case of ESRD and disability, if the reason for entitlement (original or current) is listed as disabled or ESRD in the MBSF. The prevalence rate of a condition for a specific sub-population (e.g., all beneficiaries in a county) is the proportion of beneficiaries who are found to have the condition. The total costs (i.e., Medicare spending) are annual averages of all costs across all types of claims for beneficiaries with a particular condition (regardless of having or not having other conditions). The principal costs for beneficiaries with a condition are annual averages of all costs across all types of claims with a primary diagnosis associated with that particular condition (regardless of having or not having other conditions). The hospitalization rate is the share of the sub-population that is hospitalized for a specific disease in a given year, presented per 1,000 beneficiaries.

Appendix: Hypertension Prevalence

Hypertension Prevalence Statistics

Metric	National	Tenn.	Va.
Hypertension Prevalence	53%	59%	57%
Average Cost	$13,528	$11,344	$11,121

53%
National rate of hypertension prevalence

	Tennessee
Metric	Hawkins County
All Prevalence	56%
All Average Cost	$10,123

59% ↑
Tennessee rate of hypertension prevalence

No value = No case or too low to report

57% ↑
Virginia rate of hypertension prevalence

↑ Denotes higher than national average

↓ Denotes lower than national average

Source:
Centers for Medicare & Medicaid Services / Interactive Mapping Medicare Disparities Tool

Note:
Prevalence rates are calculated by searching for certain diagnosis codes in Medicare beneficiaries' claims. A beneficiary is considered to have a condition if the CMS administrative data has a claim indicating the beneficiary is diagnosed for a specific condition over the reference time period (one, two, or three years, depending on the condition chosen) or, in the case of ESRD and disability, if the reason for entitlement (original or current) is listed as disabled or ESRD in the MBSF. The prevalence rate of a condition for a specific sub-population (e.g., all beneficiaries in a county) is the proportion of beneficiaries who are found to have the condition. The total costs (i.e., Medicare spending) are annual averages of all costs across all types of claims for beneficiaries with a particular condition (regardless of having or not having other conditions). The principal costs for beneficiaries with a condition are annual averages of all costs across all types of claims with a primary diagnosis associated with that particular condition (regardless of having or not having other conditions). The hospitalization rate is the share of the sub-population that is hospitalized for a specific disease in a given year, presented per 1,000 beneficiaries.

Appendix: COPD Prevalence

COPD Prevalence Statistics

Metric	National	Tenn.	Va.
COPD Prevalence	11%	13%	10%
Average Cost	$24,128	$20,082	$21,097

11%
National rate of COPD prevalence

	Tennessee
Metric	**Hawkins County**
All Prevalence	15%
All Average Cost	$17,877

13% ↑
Tennessee rate of COPD prevalence

No value = No case or too low to report

10% ↓
Virginia rate of COPD prevalence

↑ Denotes higher than national average

↓ Denotes lower than national average

Source:
Centers for Medicare & Medicaid Services / Interactive Mapping Medicare Disparities Tool

Note:
Prevalence rates are calculated by searching for certain diagnosis codes in Medicare beneficiaries' claims. A beneficiary is considered to have a condition if the CMS administrative data has a claim indicating the beneficiary is diagnosed for a specific condition over the reference time period (one, two, or three years, depending on the condition chosen) or, in the case of ESRD and disability, if the reason for entitlement (original or current) is listed as disabled or ESRD in the MBSF. The prevalence rate of a condition for a specific sub-population (e.g., all beneficiaries in a county) is the proportion of beneficiaries who are found to have the condition. The total costs (i.e., Medicare spending) are annual averages of all costs across all types of claims for beneficiaries with a particular condition (regardless of having or not having other conditions). The principal costs for beneficiaries with a condition are annual averages of all costs across all types of claims with a primary diagnosis associated with that particular condition (regardless of having or not having other conditions). The hospitalization rate is the share of the sub-population that is hospitalized for a specific disease in a given year, presented per 1,000 beneficiaries.

Appendix: Sources of Information

Metric	Source	Data Description	Profile Years
Population	Robert Wood Johnson Foundation, University of Wisconsin Population Health Institute http://www.countyhealthrankings.org/#app/	Population by county by age cohort	2013 Census Estimates
Physician Supply & Demand	3d Health, Inc. Overall Provider Database: WHS Provider Rosters, Competitor Online Rosters, Healthgrades, State License Databases, AMA Masterfile, Payer	Database of various sources built. Confirmation of data obtained via phone calls to 80% of providers.	2016
Population Health Overall & Sub-Rankings	Robert Wood Johnson Foundation, University of Wisconsin Population Health Institute http://www.countyhealthrankings.org/#app/	Rankings complied using county-level measures from national and state data sources	Range 2010 – 2015
Sub-Ranking Individual Measures	2016 Measures & Data Sources See additional information on next page for specific source, description and applicable year		
Mortality Cause of Death	CDC Mortality By Cause of Death http://wonder.cdc.gov/wonder/help	Data based on death certificates for US residents	Range 1999 – 2014
Cancer Rates	CDC State Cancer Profiles http://statecancerprofiles.cancer.gov	Collaboration of the National Cancer Institute and the CDC from public health surveillance systems reports or public use files.	5 Year Rates 2008 – 2012
CMS Prevalence and Disparity Stats: Cancer Diabetes Obesity Depression Hypertension COPD	Centers for Medicare & Medicaid Services / Interactive Mapping Medicare Disparities Tool https://www.cms.gov/	The Mapping Medicare Disparities Tool identifies disparities in health outcomes, utilization and spending by race and ethnicity and geographic location. Prevalence rates are calculated by searching for certain diagnosis codes in Medicare beneficiaries' claims. The prevalence rate of a condition for a specific sub-population (e.g., all beneficiaries in a county) is the proportion of beneficiaries who are found to have the condition. The total costs (i.e., Medicare spending) are annual averages of all costs across all types of claims for beneficiaries with a particular condition (regardless of having or not having other conditions).	2014
COPD Charts	TN & VA COPD Fact Sheets	21 states, the District of Columbia and Puerto Rico administered an optional module as part of the annual BRFSS survey. The questions in the optional module asked about COPD-related health care behaviors and health-related quality of life and were asked of respondents who reported having COPD.	2011

Appendix: Sources of Information

Ranked Measures & Data Sources

Health Outcome	Measure	Data Source	Years of Data
Health Outcomes			
Length of Life	Premature death	National Center for Health Statistics – Mortality files	2011-2013
Quality of Life	Poor or fair health	Behavioral Risk Factor Surveillance System	2014
	Poor physical health days	Behavioral Risk Factor Surveillance System	2014
	Poor mental health days	Behavioral Risk Factor Surveillance System	2014
	Low birthweight	National Center for Health Statistics - Natality files	2007-2013
Health Behaviors			
Tobacco Use	Adult smoking	Behavioral Risk Factor Surveillance System	2014
Diet and Exercise	Adult obesity	CDC Diabetes Interactive Atlas	2012
	Physical inactivity	CDC Diabetes Interactive Atlas	2012
	Access to exercise opportunities	Business Analyst, Delorme map data, ESRI, & US Census Tigerline Files	2010 & 2014
Alcohol and Drug Use	Excessive drinking	Behavioral Risk Factor Surveillance System	2014
	Alcohol-impaired driving deaths	Fatality Analysis Reporting System	2010-2014
Sexual Activity	Sexually transmitted infections	National Center for HIV/AIDS, Viral Hepatitis, STD, and TB Prevention	2013
	Teen births	National Center for Health Statistics - Natality files	2007-2013
Clinical Care			
Access to Care	Uninsured	Small Area Health Insurance Estimates	2013
	Primary care physicians	Area Health Resource File/American Medical Association	2013
	Mental health providers	CMS, National Provider Identification file	2015
Quality of Care	Preventable hospital stays	Dartmouth Atlas of Health Care	2013
	Diabetic monitoring	Dartmouth Atlas of Health Care	2013
	Mammography screening	Dartmouth Atlas of Health Care	2013
Social and Economic Factors			
Education	High school graduation	U.S. Department of Education (EDFacts)	2012-2013
	Some college	American Community Survey	2010-2014
Employment	Unemployment	Bureau of Labor Statistics	2014
Income	Children in poverty	Small Area Income and Poverty Estimates	2014
	Income inequality	American Community Survey	2010-2014
Family and Social Support	Children in single-parent households	American Community Survey	2010-2014
Community Safety	Violent crime	Uniform Crime Reporting – FBI	2010-2012
Physical Environment			
Housing and Transit	Severe housing problems	Comprehensive Housing Affordability Strategy (CHAS) data	2008-2012

Community Health Needs Assessment

2016



Holston Valley Medical Center

A Member of Wellmont Health System

Community Health Needs Assessment: Table of Contents

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If you have questions regarding the assessment, please visit wellmont.org/ContactUs.

Holston Valley Medical Center
A Member of Wellmont Health System

Introduction: Wellmont Health System

Background

6
Wellmont Health System hospitals

Wellmont Health System is a leading health care provider in the Tri-Cities region of Northeast Tennessee and Southwest Virginia. Wellmont is a not-for-profit health system guided by the mission to deliver superior health care with compassion and a vision to deliver the best health care anywhere.

Formed in 1996 with the merger of Holston Valley Medical Center in Kingsport, Tennessee, and Bristol Regional Medical Center in Bristol, Tennessee, Wellmont has grown steadily since its inception, developing a regional network of hospitals and health care facilities. Today, thousands of caregivers and hundreds of physicians focus on improving our communities and healing patients.

As part of its mission, Wellmont regularly surveys the communities it serves to assess their health care needs.



750 beds across six hospitals, two skilled nursing facilities and Wellmont Medical Associates

The goals of this community health needs assessment are:

- Complete a thorough review of our communities' health status and unmet needs
- Collect valuable information to help target community benefit, outreach and wellness programs
- Develop action plans, strategies and partnerships that support regional efforts to address any unmet health needs
- Create or strengthen partnerships among community organizations with shared accountability for the population's health

Wellmont's hospitals include:

- Holston Valley Medical Center, Kingsport, Tennessee
- Bristol Regional Medical Center, Bristol, Tennessee
- Mountain View Regional Medical Center, Norton, Virginia
- Lonesome Pine Hospital, Big Stone Gap, Virginia
- Hawkins County Memorial Hospital, Rogersville, Tennessee
- Hancock County Hospital, Sneedville, Tennessee



270 physicians and other providers

Wellmont is licensed to operate more than 750 beds across a network of six hospitals as well as two skilled nursing facilities. Wellmont Medical Associates offers an integrated network of 270 physicians and other providers. The Wellmont CVA Heart Institute delivers nationally recognized cardiovascular care, and the Wellmont Cancer Institute provides a broad spectrum of care throughout the region.

Introduction: Wellmont Health System



Access to a continuum of services

Scope of Services

Wellmont provides a continuum of services ranging from community-based acute care to highly specialized tertiary services, including the nationally recognized Wellmont CVA Heart Institute and comprehensive oncology care from the Wellmont Cancer Institute. Wellmont also offers the region's most robust robotics program with the CyberKnife Robotic Radiosurgery System and da Vinci Surgical System. Other technology that strengthens Wellmont's delivery of care are the Trilogy linear accelerator and TrueBeam STx with Brainlab.

Additionally, Wellmont is ready to care for our region's most critically injured patients with Level I and Level II trauma centers, as well as serve the smallest and sickest babies at its Level III neonatal intensive care unit. And with mobile services such as WellmontOne Air Transport and the Wellmont Health Coach, we're constantly enhancing access to lifesaving measures.



Physician leadership team and board of directors

Integrated Physicians

Wellmont's integrated physician groups include Wellmont Medical Associates and the Wellmont CVA Heart Institute, which is the region's largest cardiovascular practice.

Wellmont Medical Associates was formed in 2012 as a fundamental restructuring of Wellmont's physician practice operations. Believing physicians are best suited to determine the care plans for patients, the organization has a four-member physician leadership team and a board of directors with 15 physicians. Wellmont Medical Associates' services include not only providing expert treatment for illness, but also educating people and proactively managing patients' care to prevent illness. This philosophy advances the health system's goal to employ effective medical home models and to serve as a high-performing network of physicians and hospitals in value-based care delivery models.

The heart institute provides top-quality cardiovascular services in its 11 community offices and in Wellmont hospitals. The heart institute delivers high-quality, cost-effective heart and vascular care with compassion and improves the cardiovascular health of the region. The institute's providers diagnose, treat and manage all aspects of adult cardiovascular disease, with services ranging from general cardiology, preventive cardiology and cardiothoracic surgery to electrophysiology, interventional cardiology, vascular medicine, structural heart disease, heart failure management and advanced cardiovascular imaging. The institute is also a national leader in clinical research and is an international teaching institution.

Introduction: Wellmont Health System



National leader
in clinical research

When it comes to oncology care, the Wellmont Cancer Institute's innovative approach brings together multiple board-certified physician specialists and other experts – such as a registered dietitian and clinical trial coordinator – to design a customized plan for each patient. Besides this team-driven model of care, we offer the region's most advanced technologies, clinical trials and diagnostics. We have a robust cancer program that extends throughout the region that includes leading-edge technology such as TrueBeam STx with Brainlab, CyberKnife Robotic Radiosurgery System and Trilogy linear accelerator.

The cancer institute provides services at Holston Valley Medical Center and Bristol Regional Medical Center, as well as outpatient facilities in Johnson City and Kingsport, Tennessee, and Bristol and Norton, Virginia. In early 2015, the cancer institute introduced its lung nodule program, a comprehensive, multidicisplinary approach that enables physicians and other caregivers to detect lung cancer at its earliest stages.

Service Area

With services strategically placed throughout the region, Wellmont is positioned to be the region's high-quality, low-cost health care provider.

Wellmont's service area encompasses the northeastern counties of Tennessee and the southwestern counties of Virginia in the heart of central Appalachia, with our tertiary care hospitals based in Kingsport and Bristol, Tennessee.



Introduction: Holston Valley Medical Center

Primary Service Area

Tennessee

- Greene County
- Hancock County
- Hawkins County
- Sullivan County

Virginia

- Dickenson County
- Lee County
- Norton City
- Scott County
- Wise County

Facility Description

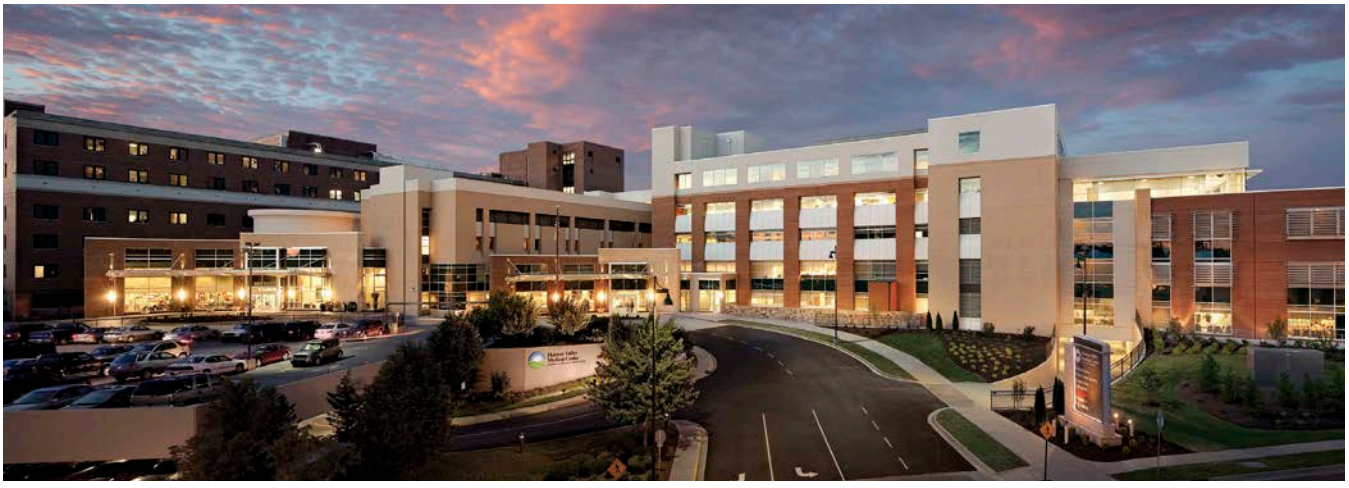
Partnering with and serving Kingsport and its surrounding region for more than 80 years, Holston Valley Medical Center houses one of Tennessee's six Level I trauma centers – equipped to serve the region's most critically injured patients – while its Level III neonatal intensive care unit treats some of the region's sickest babies.

Like Kingsport, Holston Valley has grown over the years and features the latest health care designs and innovations, including new intensive care units and operating suites, expanded emergency and radiology departments and a new grand entrance drive and bridge to improve hospital access.

With the Wellmont Cancer Institute, Holston Valley's Christine LaGuardia Phillips Cancer Center provides a full range of oncology diagnostic and treatment options, including a Trilogy linear accelerator, which targets tumors with pinpoint accuracy, minimizing damage to healthy tissue.

And physicians from the Wellmont CVA Heart Institute, along with highly trained staff, have made Holston Valley a beacon of cardiovascular leadership. In fact, the hospital was the first site in Tennessee to offer transcatheter aortic valve replacement surgery for patients who are at higher risk for open-heart surgery, and it has been a leader in cardiovascular research and training.

CareChex®, a quality ratings organization and division of Comparion®, selected Holston Valley in 2016 as the No. 1 hospital in the United States for medical excellence in interventional carotid care, as well as one of the top 10 percent of hospitals nationally for medical excellence in cardiac care and heart attack treatment.



Introduction: Holston Valley Medical Center

Primary Service Area

Tennessee

- Greene County
- Hancock County
- Hawkins County
- Sullivan County

Virginia

- Dickenson County
- Lee County
- Norton City
- Scott County
- Wise County

Key Services

- Wellmont CVA Heart Institute
- Wellmont Cancer Institute – Christine LaGuardia Phillips Cancer Center
- Accredited breast center
- Level I trauma center and emergency department
- Orthopedics and Every Step Joint Replacement Center
- Center of Excellence in bariatric surgery
- Level III neonatal intensive care unit
- Pediatrics
- Advanced Primary Stroke Center and neuroscience center
- Outpatient services
- Women's health
- Radiology
- Rehabilitation services and outpatient physical therapy
- Comprehensive surgical center
- Regional Center for Wound Care and Hyperbaric Medicine
- Wellmont Diabetes Treatment Centers



Methodology

Information for this report was gathered from a variety of sources, including:

- Physician needs assessment
- Community health facility assessment
- Mental health needs assessment
- Publicly available population and demographic information
- Publicly available population health information, including America's Health Rankings and the County Health Rankings
- State and regional health department data
- The Southwest Virginia Health Authority's Blueprint for Health Enabled Prosperity
- The ETSU, Wellmont, Mountain States Community Work Group Project
- Other studies



Work groups dedicated to key health topics met regularly and provided input to create the report, "Identifying priorities and solutions for improving health in Northeast Tennessee and Southwest Virginia."

Community Work Group Project

In April 2015, Wellmont Health System and Mountain States Health Alliance announced they have agreed to exclusively explore the creation of a new, integrated and locally governed health system designed to address the serious health issues affecting our area.

As part of the proposed merger, the two systems, in conjunction with East Tennessee State University and its College of Public Health, launched an initiative to focus on four key areas for health improvement in our region. Work groups dedicated to these topics provided input to ETSU, which then created the report, "Identifying priorities and solutions for improving health in Northeast Tennessee and Southwest Virginia."

That report, along with the other reference sources listed above, enabled Wellmont to collate and assess information to determine the greatest unmet health needs facing our region. Strategies to address these needs are being developed, utilizing internal resources and partnerships with other health care organizations and physicians.

Key Findings



Meeting the acute care needs of the populations we serve

The health needs assessment of Holston Valley's service area revealed we are generally meeting the acute care needs of the populations we serve. Our region still suffers by comparison, though, when its health status is measured against other parts of the country.

The below findings are also echoed wholeheartedly by people in the regions we serve; specifically, by interviews with key community leaders and participants with the ETSU work groups.

Many of the findings are interrelated and ultimately stem from similar root causes. As a result, no single finding is prioritized over another, and many of our implementation plans address several of those findings simultaneously.

The counties we serve rank among the lowest in our states in several categories related to health and wellness.

(See Appendix: Population Health Factors and Outcomes)

4th

Tennessee ranks fourth highest in the country in prevalence of type 2 diabetes

Based on data collected by the Robert Wood Johnson Foundation and the University of Wisconsin Population Health Institute, our counties rank among the worst in Tennessee and Virginia in several categories, notably in the prevalence of chronic disease management, tobacco use, diet and exercise.

These deficits can be attributed to any number of issues plaguing our region. Indeed, many of these rankings are undoubtedly tied to those counties' equally low rankings in several socioeconomic categories such as education, employment and income. Moreover, poor health literacy rates are immensely detrimental to local residents' abilities to stay abreast of their condition.

For example, the percentage of people in the United States who have adult type 2 diabetes is 9.3 percent, and Tennessee ranks fourth highest in the country in the prevalence of type 2 diabetes at 11.3 percent, with Sullivan County as the fifth highest county in the state at 13.9 percent. Virginia is 23rd in the nation, but the communities nearest to the Tri-Cities have some of the highest rates in the commonwealth.

23rd

Virginia ranks 23rd highest in the country in prevalence of type 2 diabetes

Plus, the current shortages in primary care and family medicine physicians in certain parts of the region limit the population's ability to access the preventive care and disease management needed to curtail these health concerns. The work groups identified a strong need for leadership from the health system and regional partners, as well as from community leaders.

The services provided by Wellmont consistently rank very high, as validated by third-party ratings agencies and publicly reported data. However, the ability to reverse poor health trends and the behaviors that lead to them has been limited.

Key Findings: Holston Valley Medical Center

The uninsured and underinsured are vulnerable populations.



Despite charity care provisions, uninsured and underinsured populations often seek emergent care rather than effectively managing their health, often resulting in high-cost care and poor health outcomes.

As is the case throughout the country, the uninsured and underinsured populations we serve are at an increased health risk. While the passage of the Affordable Care Act has helped many in our region obtain insurance, the decision by Tennessee and Virginia not to expand their state Medicaid programs has left quite a few low-income individuals and families still unable to afford premiums. Additionally, many insured people face high deductibles, which still leaves them reluctant to seek care on a regular basis.

The reticence of these populations to establish relationships with primary care providers and follow screening and preventive care schedules creates a large risk for burgeoning health problems.

In turn, these populations can become over-utilizers of high-cost services such a such as the emergency department, or delay care until their health problems require extensive treatment.

There is a need in our region for expanded and enhanced mental health services.



Need for increased recruitment of psychiatric caregivers and access to services

This finding also mirrors a national gap and conversation about the availability of mental health care. Locally, data suggests a need for increased recruitment of psychiatric caregivers and access to services, especially intensive outpatient services.

Mental health, for Holston Valley's service area, applies to any range of emotional well-being and mental illness, ranging from anxiety, depression and substance abuse to post-traumatic stress disorder and debilitating psychoses.

Though some of these perceived gaps might stem from a lack of awareness about these services and how they can be accessed, irrefutable evidence highlights the need for more work in this area.

These services should also include an intense focus on addiction and drugs, as both the ETSU work groups and several community leaders have identified substance abuse as a major problem plaguing our region. While this has been an issue for many years in Northeast Tennessee and Southwest Virginia, the abuse of prescription medication has skyrocketed in recent years.

Key Findings: Holston Valley Medical Center

As local health organizations step together to confront the problem, community feedback suggests three areas for improvement:

- Early signs of substance abuse and mental health problems identified in the population
- Effective prevention, early intervention and a full continuum of treatment services available for all
- Integration within the community throughout the early identification, treatment and recovery processes.

If our communities are to thrive, we must focus on encouraging healthy children and families.



Generational issues affect families and children.

An echoing theme throughout our research and reporting is that the socioeconomic makeup of Northeast Tennessee and Southwest Virginia – the same factors that have contributed to the other health needs identified in this assessment – is a generational issue that affects families and children.

Plainly stated, poor health tends to start in childhood and continue through adulthood. This is particularly evident in the data highlighting early tobacco use among children, as well as the unsettling national trends surrounding childhood obesity. There is more than ample evidence to demonstrate these habits and issues become major health concerns later in life, as shown with our region's high rates of diabetes, COPD, lung cancer and hypertension.

The low quality of health for families not only creates generations of unhealthy people in southern Appalachia, but it is unhealthy for the economic health of our region. As our counties fight to stay competitive and attractive for new businesses and residents, a poor quality of health reflects badly on the overall quality of life in our area.

Implementation Plans

While we constantly strive to enhance the quality of care offered at Wellmont facilities, we know we need to extend our influence outside our buildings and into the communities we serve. So, as we move forward, we set our primary courses of action to:

- Improve access to health care services
- Advance wellness and preventive health services
- Advance population health management strategies
- Ensure the needs of our most vulnerable populations are being met



Desire to increase access to care leads to new initiatives

Focus on access

A better quality of health begins with a better focus on preventive care and prompt, low-cost medical treatment. As such, Wellmont Medical Associates has been committed to recruiting and retaining primary care and family medicine providers, especially in rural areas.

For people who do not have primary care or who are unable to access it immediately, Wellmont Urgent Care is a low-cost, high-quality option for prompt treatment of minor illnesses and injuries. To best serve our populations, we continue to open new locations, and in Tennessee, we offer Wellmont Urgent Care facilities in Bristol, Johnson City, Kingsport and Rogersville. Our Virginia offerings are in Abingdon, Bristol, Norton and Lebanon.

We've also increased accessibility for specialty care, with a new Wellmont Cancer Institute infusion office in Bristol, Virginia, as well as new clinics for Wellmont Medical Associates and the Wellmont Cancer Institute.

To reach even more rural and remote locations, we offer the Wellmont Health Coach, a mobile screening unit that provides digital mammography, baseline biometrics and heart and vascular screenings. In the last two years, the health coach has visited more than 40 locations, completing more than 600 mammograms and nearly 400 heart and vascular screenings.

Finally, with the implementation of MyWellmont, as part of our electronic health record, patients can access their medical records through a computer or smart phone. This software gives patients an interface to send questions to their providers, conduct E-visits, schedule appointments and track their health progress – connecting them to their health like never before.

Implementation Plans: Holston Valley Medical Center

Focus on preventive health and wellness

A healthier region starts with healthier individuals. That's why Wellmont LiveWell, a community health transformation initiative, leverages Wellmont's medical strengths and expertise to champion, lead and sustain a new tradition of wellness in our region. LiveWell provides individuals with a free risk assessment to help identify key areas of improvement and provides regular follow-ups to encourage participants to stay committed to their healthier lives.



Wellmont LiveWell encourages participants to stay committed to healthier lives.

The LiveWell philosophy has been shared with several of our community partners. To further our mission and goals, Wellmont has partnered with like-minded organizations such as Healthy Kingsport and Live Sugarfreed, as well as several leading businesses. Through these programs, we're helping more people than ever reach health milestones and sustain their new, healthy lifestyles.

Another important aspect of wellness is ensuring a complete partnership between our patients and their primary care providers. This enables physicians to have a clear understanding of patients' circumstances and preferences, while patients have a clear understanding of what they can do to live better, healthier lives. That's the philosophy behind Wellmont Medical Associates' Patient Centered Medical Home. Wellmont Medical Associates has earned Level 3 status from the National Committee for Quality Assurance, which is the highest achievable recognition.

Wellmont Diabetes Treatment Centers is also making a special effort to test adolescents to determine whether they have pre-diabetes or type 2 diabetes. Because the number of adolescents with these conditions is growing, Wellmont is partnering with the YMCA and a company called GBC locally to offer finger sticks so youths who score 140 or higher are then administered an A1C test, which gives their average blood-glucose level during a three-month period. Adolescents who score in the ranges for pre-diabetes or diabetes on this test are provided an opportunity to participate in a comprehensive program that consists of diabetes awareness, nutrition counseling, behavior modification and fitness.

Additionally, since people with diabetes are prone to have a diabetes emergency at any time, including when they are driving a vehicle, Wellmont has developed the Diabetes Alert sticker. This decal is placed on the driver's side of the rear windshield and informs an officer to check whether a driver is having difficulty with his or her diabetes.

Implementation Plans: Holston Valley Medical Center

Focus on population health management

Building on our efforts to improve individual health and wellness, Wellmont will also strive to empower our communities to make healthier choices. To that end, we will continue partnering with businesses, churches and other community organizations to create a foundation and momentum for change in our region.

We will continue to engage business leaders and their thousands of employees through Wellmont Business Health Solutions, a comprehensive program that provides employers an array of health plans, wellness programs, illness prevention tools and occupational medicine services. These help keep co-workers healthy – an especially important strategy given the region's high concentration of physically taxing manufacturing and manual labor jobs.



Wellmont Medical Associates has consistently earned Level 3 status from the National Committee for Quality Assurance.

Wellmont will also continue to develop its chronic disease management programs to proactively care for conditions such as diabetes, heart disease, lung cancer and hypertension. We've made tremendous strides in the early detection and treatment of lung disease through our LungSTRONG program, which provides quick access to a team of Wellmont Medical Associates and Wellmont Cancer Institute specialists who catch, treat and monitor potential problem spots as early as possible.

Additionally, Wellmont Medical Associates will continue to be a leader with the American Medical Group Foundation and its Measure Up, Pressure Down program for hypertension management. Wellmont Medical Associates is also developing quality improvement efforts for the treatment of diabetes, based on the foundation's Best Practices Learning Collaborative.

And in 2016, the Wellmont CVA Heart Institute will bolster its leadership in cardiac rehabilitation with its new Bill Gatton Center for Advanced Cardiac Rehab using the Pritikin Intensive Cardiac Rehab program. This comprehensive lifestyle education program offers the opportunity to improve outcomes and make cardiac rehab more sustainable. The ultimate goal for the Pritikin program is for our cardiac patients to gain an in-depth understanding about the relationship between lifestyle and cardiovascular health.

Implementation Plans: Holston Valley Medical Center

Focus on vulnerable populations

Wellmont will continue to pursue a variety of strategies to ensure our uninsured and underinsured populations have access to needed care. One such approach is through support and collaboration with key community partners, such as local clinics which serve the uninsured and underinsured, departments of health and federally qualified health centers. Through these efforts, we seek to provide a continuum of care resources to vulnerable populations so individuals can benefit from prevention programs as well as emergency care and acute care.



Wellmont will ensure vulnerable populations have access to needed care.

Wellmont is also a key partner in the annual Tri-Cities Remote Area Medical – or RAM – clinics. Held annually at Bristol Motor Speedway, RAM provides nearly 2,000 people in need with free medical, dental and vision care. The health system also collaborates with the speedway every year to provide free head and neck cancer screenings for race-goers. Plus, the Southwest Virginia Cancer Center partners with the health department annually to provide a series of health screenings.

We will also help close the coverage gap. Through grants from the Tennessee Hospital Association and Centers for Medicaid and Medicare Services, Wellmont has hired four certified health insurance navigators, who help uninsured populations sign up for insurance through HealthCare.gov. They also aid people who might qualify for Medicaid and the Children's Health Insurance Program.

Finally, we will continue to evaluate our charity care policies and those of partner organizations to ensure we are providing the most efficient and appropriate care to our vulnerable populations. One way we will monitor the effectiveness of these policies is through tracking the percentage and amounts of charity care we deliver. We will also continue our advocacy efforts to expand our charity care efforts through increased state and federal funding.

Market Overview: Holston Valley Medical Center

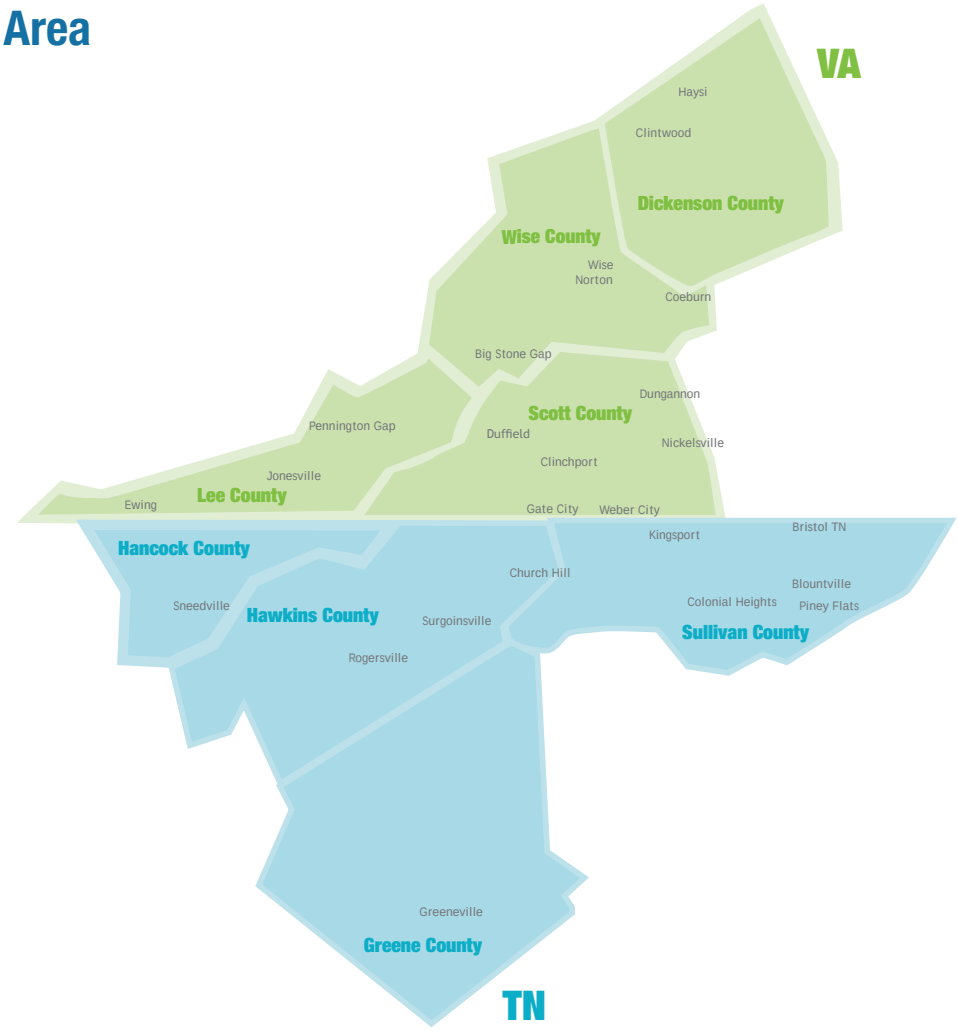
Primary Service Area

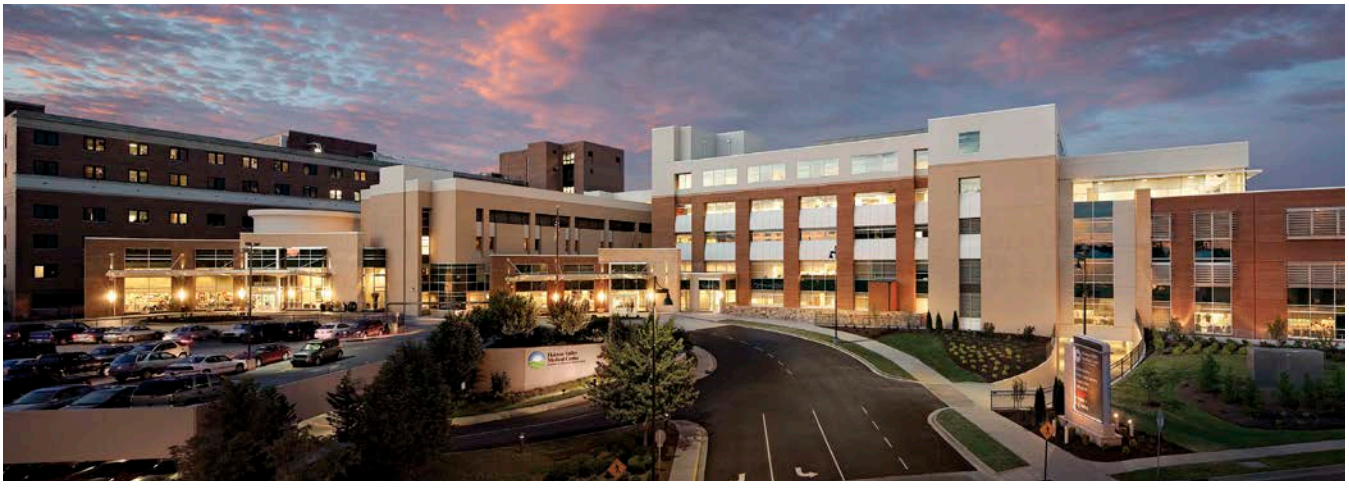
Tennessee

- Greene County
- Hancock County
- Hawkins County
- Sullivan County

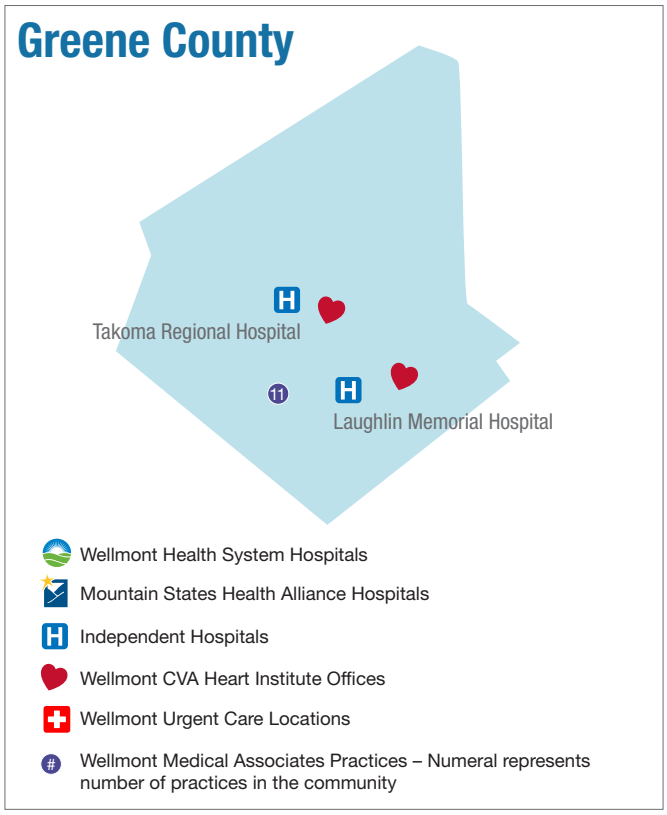
Virginia

- Dickenson County
- Lee County
- Norton City
- Scott County
- Wise County





Market Overview: Greene County, Tennessee



Health Outcomes

Rank **59**

Greene County Rankings

Greene County health rankings improved in 5 out of 6 categories.

	2013	2015
Health Outcomes	65	59
Health Factors	66	41
Health Behaviors	60	38
Clinical Care	38	38
Social & Economic Factors	78	55
Physical Environment	61	9

Denotes improvement

Strengths

(BETTER than national and Tennessee state):

- Excessive drinking shows lowest percentage within the Wellmont service area, and it has decreased from 2013
- Alcohol-impaired driving deaths
- Sexually transmitted infections, lower than the nation and state and decreased from 2013
- High school graduates show high percentage at 95%, up 5% from 2013
- Severe housing problems
- Access to healthy foods

Challenges

(WORSE than national and Tennessee state):

- Premature death (years of potential life lost)
- Adult smoking increased slightly from 2013, still higher than the nation and Tennessee
- Physical inactivity reports as higher percent than the nation and Tennessee and increased from 2013 as well
- Access to exercise opportunities is much lower than the nation and Tennessee
- Children in poverty shows slight decrease within the county; however, higher than the nation and Tennessee
- Low ratio of primary care physicians compared to national and Tennessee rates

Highlights:

- Unfortunately, years of potential life lost increased and stays above the benchmarks again in 2015
- Adult smoking, obesity and inactivity stayed consistent and higher than benchmarks
- Preventable hospital days dropped substantially by 15 days; however, it stayed well above the benchmarks
- Both diabetes and mammogram monitoring increased, but only slightly
- Unemployment dropped from 13.2% to 10.6%
- Those reporting they have limited access to healthy foods increased slightly to 4% from 1%
- Overall higher rate of cancer than national benchmarks, but lower in prostate and colorectal

Market Overview: Greene County, Tennessee

Wellmont Physician Locations

Cardiology

- Wellmont CVA Heart Institute, Greeneville, Tusculum Boulevard
- Wellmont CVA Heart Institute, Greeneville, Vann Road

Community Health Facilities

Mental health facilities and resources

- Church Street Pavilion, Greeneville
- Nolichucky-Holston Area Mental Health Center, Greeneville

County health departments

- Greene County Health Department, Greeneville

Federally qualified health centers

- Baileyton Medical Center, Greeneville

Other

- The Doctor's Office, Greeneville
- Dr. Brad Strange, Greeneville
- Dr. Elliott Smith, Greeneville
- Dr. Kenneth Susong, Greeneville
- Dr. Kevin Toppenberg, Greeneville
- Greeneville Family Practice Assoc. (Summit Medical Group), Greeneville
- Greeneville Internal Medical Group (Summit Medical Group), Greeneville
- Greeneville Urgent Care, Greeneville
- Laughlin Memorial Hospital, Greeneville
- Summit Family Medicine/Occupational Health Services, Greeneville
- Summit Medical Group, Greeneville
- Takoma Medical Associates, Internal Medicine, Greeneville
- Takoma Medical Associates, Greeneville
- Takoma Regional Hospital, Greeneville
- Tusculum Family Physicians (Summit Medical Group), Greeneville

Market Overview: Hancock County, Tennessee

Hancock County



- Wellmont Health System Hospitals
- Mountain States Health Alliance Hospitals
- Independent Hospitals
- Wellmont CVA Heart Institute Offices
- Wellmont Urgent Care Locations
- Wellmont Medical Associates Practices – Numeral represents number of practices in the community

Health Outcomes

Rank **93**

Hancock County Rankings

Hancock County health rankings showed no improvement.

	2013	2015
Health Outcomes	93	93
Health Factors	94	95
Health Behaviors	57	93
Clinical Care	91	93
Social & Economic Factors	94	95
Physical Environment	40	63

Denotes improvement

Strengths

(BETTER than national and Tennessee state):

- Sexually transmitted infections is substantially lower than national and Tennessee
- Limited access to health foods percent is at less than 1%, well below the nation and Tennessee
- Diabetes monitoring stayed consistent and is slightly higher than national

Challenges

(WORSE than national and Tennessee state):

- Premature death (years of potential life lost) inreased from 2013 and remains well above benchmarks
- Those reporting in poor or fair health
- Adult smoking is at 40%, with the nation and Tennessee in the 20% range
- Physical inactivity increased by 3% and stayed above benchmarks
- Alcohol-impaired driving deaths is at 56%, with the nation at 31% and Tennessee at 28%
- Teen birth rate dropped; however, stayed above benchmarks
- Preventable hospital days increased and stayed well above benchmarks
- Mammogram screening increased; however, stayed well below benchmarks
- Children in poverty shows 45%; with national at only 22%
- Only 4% report having access to exercise opportunities

Highlights

- Median household income increased nearly 30% from 2013-2015; however, number of children in poverty is nearly twice that of national benchmarks

Community Health Facilities

Mental health facilities and resources

- Hancock County Mental Health Clinic, Sneedville
- New Start Peer Support Center, Sneedville

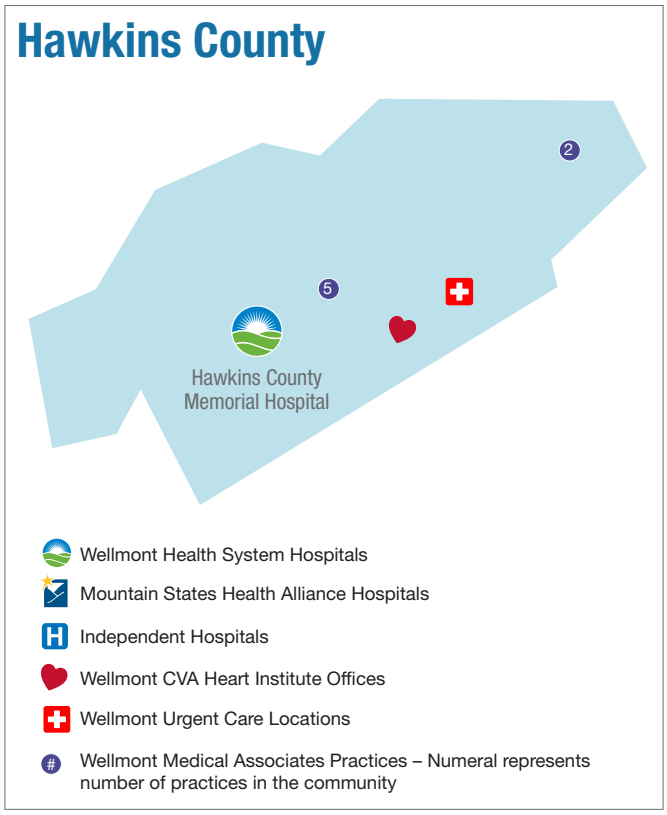
County health departments - Tennessee

- Hancock County Health Department, Sneedville

Federally qualified health centers

- Sneedville Medical Center, Sneedville

Market Overview: Hawkins County, Tennessee



Health Outcomes

Rank **64**

Hawkins County Rankings

Hawkins County health rankings improved in 4 out of 6 categories.

	2013	2015
Health Outcomes	56	64
Health Factors	31	28
Health Behaviors	66	51
Clinical Care	30	31
Social & Economic Factors	26	22
Physical Environment	80	19

Denotes improvement

Strengths

(BETTER than national and Tennessee state):

- Excessive drinking shows much lower than benchmarks and decreased by 1% from last report
- Alcohol-impaired driving deaths is at 21% with the nation at 31% and Tennessee at 28%
- Diabetes monitoring shows 88% – just above national and Tennessee
- High school graduation rate is at 95%

Challenges

(WORSE than national and Tennessee state):

- Premature death (years of potential life lost) increased from 2013 report and stays above benchmarks
- Those reporting in poor or fair health has increased and continues to stay well above benchmarks
- Adult smoking, obesity and physical inactivity all have increased and stay above benchmarks
- Only 36% report having access to exercise opportunities
- Preventable hospital days are reduced within the county; however, it stays above benchmarks
- Mammogram screening decreased slightly and stays below benchmarks
- Could not see doctor due to cost increased in percentage and is just above national and a bit above Tennessee
- Ratio of mental health providers

Highlights:

- Unemployment dropped by more than 1%; however, it is just over national and just below Tennessee
- Dropped the percent of those with limited access to healthy foods substantially, and it is well below the national benchmark and consistent, now, with Tennessee
- Lung cancer incidence rate is at 96.3 cases per 100,000 population; which is higher than any other county in the service area

Market Overview: Hawkins County, Tennessee

Wellmont Physician Locations

Cardiology
- Wellmont CVA Heart Institute, Rogersville

Endocrinology
- Wellmont Medical Associates Endocrinology, Church Hill

Family medicine
- Wellmont Medical Associates, Rogersville
- Wellmont Urgent Care, Rogersville

Internal medicine
- Wellmont Medical Associates, Church Hill

Obstetrics and gynecology
- Wellmont Medical Associates Women's Health, Rogersville

Pulmonology and sleep
- Wellmont Medical Associates Pulmonology & Sleep, Rogersville

Surgery
- Wellmont Medical Associates Surgery, Rogersville

Community Health Facilities

Mental health facilities and resources
- Hawkins County Mental Health Center, Rogersville

County health departments
- Hawkins County Health Department, Church Hill
- Hawkins County Health Department, Rogersville

Federally qualified health centers – Tennessee
- Bulls Gap Medical Center, Bulls Gap
- Hawkins Medical Center, Rogersville
- Kingsport Medical Center, Kingsport
- West Main Medical Center, Rogersville

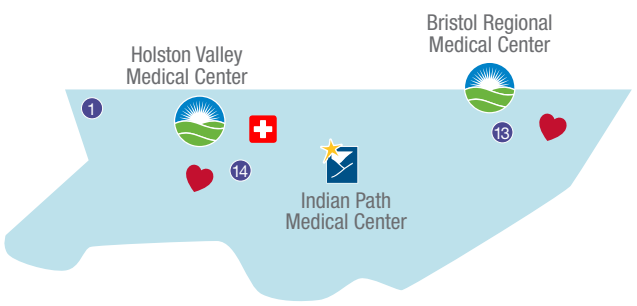
Federally qualified health centers – Virginia
- Clinch River Health Services, Dungannon

Other
- Crossroads Medical Mission – First Broad Street United Methodist Church, Kingsport
- First Assist Urgent Care, Kingsport
- HMG Urgent Care, Kingsport
- Indian Path Medical Center, Kingsport

Dental health
- Friends in Need – Dental, Kingsport

Market Overview: Sullivan County, Tennessee

Sullivan County



- Wellmont Health System Hospitals
- Mountain States Health Alliance Hospitals
- Independent Hospitals
- Wellmont CVA Heart Institute Offices
- Wellmont Urgent Care Locations
- # Wellmont Medical Associates Practices – Numeral represents number of practices in the community

Health Outcomes

Rank **36**

Sullivan County Rankings

Sullivan County health rankings improved in 5 out of 6 categories.

	2013	2015
Health Outcomes	43	36
Health Factors	16	12
Health Behaviors	54	47
Clinical Care	5	5
Social & Economic Factors	24	17
Physical Environment	33	7

Denotes improvement

Strengths

(BETTER than national and Tennessee state):

- Alcohol-impaired driving deaths
- Sexually transmitted infections
- Diabetes monitoring at 90%
- Higher percent of high school graduates
- Lower rate of severe housing problems
- Unemployment

Challenges

(WORSE than national and Tennessee state):

- 22% report poor or fair health. National rate is 16% and Tennessee is 19%
- Poor physical and mental health days are greater than the nation and Tennessee
- Adult smoking – Sullivan County increased percentage of smokers from 2013 to 2015
- 35% report physical inactivity, which is up from 30.5% in 2013. National is 23% and Tennessee is 30%.
- Preventable hospital days at 86, up from 75 in 2013, with the nation at 59 and Tennessee at 73
- Higher rates of childhood and skin cancer

Highlights:

- Premature death (years of potential life lost) dropped from 2013 by 5%
- Adult obesity drops by 1.6%
- Excessive drinking dropped by 1.9%, coming in line with Tennessee and staying less than the nation
- Increase of mental health providers lowered mental patient/provider ratio
- Diabetes and mammogram monitoring increased
- High school graduates increased from 74% to 92%
- Percent of those reporting they have limited access to health foods dropped from 20% to 14%
- 62-point improvement in physical environment from 2013-2015

Wellmont Physician Locations

Cancer

- Wellmont Cancer Institute, Bristol
- Wellmont Cancer Institute, Kingsport
- Wellmont Medical Associates Oncology & Hematology, Bristol
- Wellmont Medical Associates Oncology & Hematology, Kingsport

Cardiology

- Wellmont CVA Heart Institute, Bristol
- Wellmont CVA Heart Institute, Kingsport

Endocrinology

- Wellmont Medical Associates Endocrinology, Bristol

Family medicine

- Wellmont Medical Associates, Bristol, Eighth Street
- Wellmont Medical Associates, Bristol, Meadowview Road
- Wellmont Medical Associates, Kingsport, Stone Drive
- Wellmont Medical Associates, Kingsport, Ravine Road
- Wellmont Medical Associates, Kingsport, Sevier Avenue
- Wellmont Urgent Care, Bristol
- Wellmont Urgent Care, Kingsport

Gynecologic cancer

- Wellmont Medical Associates Women's Cancer Services, Kingsport

Infectious diseases

- Wellmont Medical Associates Infectious Diseases, Bristol

Internal medicine

- Wellmont Medical Associates, Kingsport

Obstetrics and gynecology

- Wellmont Medical Associates Women's Health, Kingsport

Pain management

- Wellmont Medical Associates Pain Management, Bristol

Palliative care

- Wellmont Medical Associates Palliative Medicine, Kingsport

Pulmonology and sleep

- Wellmont Medical Associates Pulmonology & Sleep, Bristol
- Wellmont Medical Associates Pulmonology & Sleep, Kingsport

Surgery

- Wellmont Medical Associates, Kingsport

Spine and rehabilitation

- Wellmont Medical Associates Spine & Rehabilitation, Kingsport

Community Health Facilities

Mental health facilities and resources

- Bristol Regional Counseling Center, Bristol
- Friends in Need, Kingsport
- Frontier Industries, Bristol
- Frontier Industries, Kingsport
- Holston Children & Youth Services, Kingsport
- Holston Counseling Center, Kingsport
- Open Arms Peer Support Center, Bristol
- Tennessee Community Support Services, Bristol

County health departments

- Sullivan County Health Department, Blountville

Federally qualified health centers

- Kingsport Medical Center, Kingsport
- Twin City Medical Center, Bristol

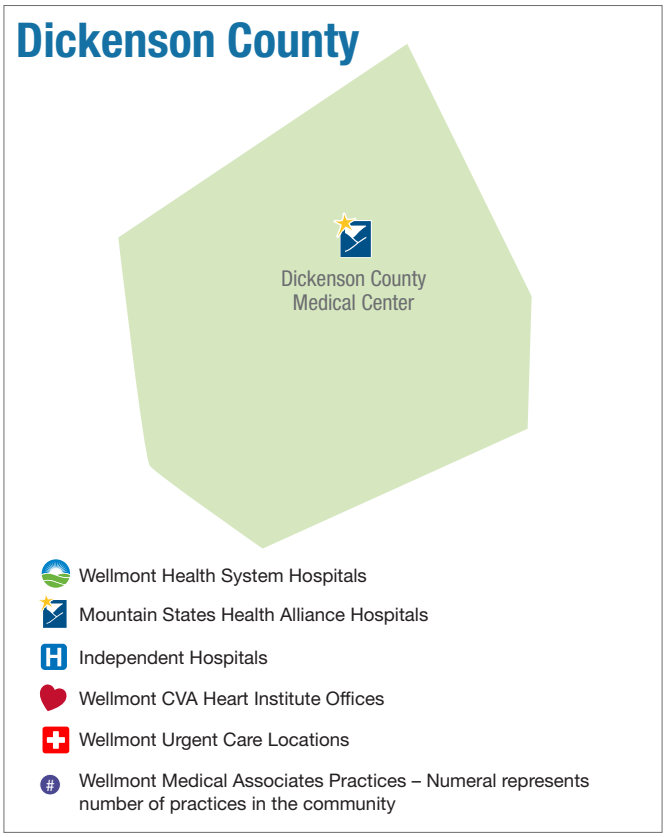
Other

- Crossroads Medical Mission – Celebration Church, Blountville
- Crossroads Medical Mission – First Broad Street United Methodist Church, Kingsport
- Crossroads Medical Mission – Haven of Rest, Bristol
- First Assist Urgent Care, Kingsport
- First Assist Urgent Care, Piney Flats
- HMG Urgent Care, Kingsport
- Indian Path Medical Center, Kingsport
- MedExpress Urgent Care, Bristol
- Sapling Grove Urgent Care, Bristol

Dental health

- Friends in Need – Dental, Kingsport
- Healing Hands Health Center, Bristol
- Remote Area Medical – Bristol Motor Speedway, Bristol

Market Overview: Dickenson County, Virginia



Health Outcomes

Rank 130

Dickenson County Rankings

Dickenson County health rankings improved in 1 out of 6 categories.

	2013	2015
Health Outcomes	130	130
Health Factors	112	130
Health Behaviors	115	126
Clinical Care	123	130
Social & Economic Factors	97	124
Physical Environment	101	92

Denotes improvement

Strengths

(BETTER than national and Virginia state):

- Access to exercise opportunities
- Violent crime rate
- Access to healthy foods

Challenges

(WORSE than national and Virginia state):

- Premature death (years of life lost)
- Those reporting to be in poor or fair health has increased and is well above benchmarks
- Poor physical and mental health days
- Physical inactivity
- Alcohol-impaired driving deaths at 70%
- Teen birth rate
- Preventable hospital days
- Mammogram screening
- Lung cancer rate

Highlights:

- Children in single-parent households decreased by more than 3%
- All health factors and outcomes decreased from 2013-2015

Community Health Facilities

County health departments

- Dickenson County Health Department, Clintwood

Federally qualified health centers

- Haysi Clinic, Haysi

Other

- Appalachian Healthcare Associates, Clintwood
- Dickenson Community Hospital, Clintwood
- Dickenson Medical Associates, Clintwood
- Dickenson Medical Clinic, Clintwood
- The Health and Beauty Clinic, Clintwood

Rural health clinics

- Community Medical Care, Clintwood

Dental health

- The Health Wagon, Clintwood

Market Overview: Lee County, Virginia



Strengths

(BETTER than national and Virginia state):

- Sexually transmitted infections dropped and remain well below benchmarks
- High school graduation rate
- Access to healthy foods

Challenges

(WORSE than national and Virginia state):

- Premature death (years of life lost)
- Those reporting to be in poor or fair health has increased and is well above benchmarks
- Poor physical and mental health days
- Teen birth rate
- Smoking rate
- Preventable hospital stays

Health Outcomes

Rank
116

Lee County Rankings

Lee County health rankings improved in 1 out of 6 categories.

	2013	2015
Health Outcomes	115	116
Health Factors	122	126
Health Behaviors	119	70
Clinical Care	131	131
Social & Economic Factors	96	122
Physical Environment	130	133

Denotes improvement

Market Overview: Lee County, Virginia

Wellmont Physician Locations

Family medicine

- Wellmont Medical Associates, Pennington Gap

Internal medicine

- Wellmont Medical Associates, Jonesville

Community Health Facilities

County health departments

- Lee County Health Department, Jonesville

Federally qualified health centers

- Pennington Family Health Center, Pennington Gap
- St. Charles Clinic, St. Charles
- Western Lee County Health Clinic, Ewing

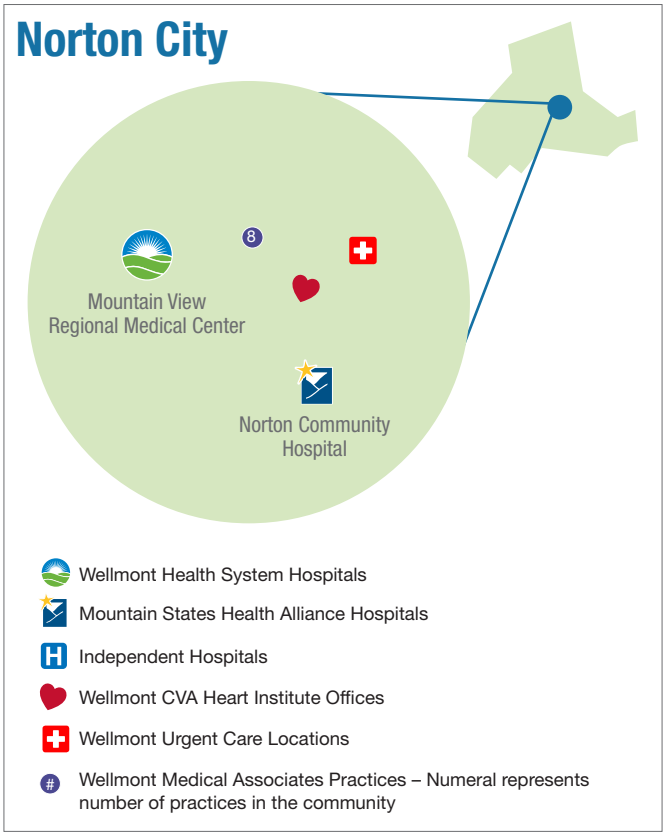
Other

- Litton Family Medicine, Pennington Gap

Rural health clinics

- Lee County Health Department, Jonesville
- Middlesboro ARH Clinic, Pennington Gap

Market Overview: Norton City, Virginia



Health Outcomes

Rank **89**

Norton City Rankings

Norton City health rankings improved in 4 out of 6 categories.

	2013	2015
Health Outcomes	94	89
Health Factors	63	72
Health Behaviors	54	50
Clinical Care	51	28
Social & Economic Factors	69	93
Physical Environment	119	102

Denotes improvement

Strengths

(BETTER than national and Virginia state):

- Sexually transmitted infections
- Access to exercise opportunities at 99%
- Uninsured dropped to 13% from more than 15% and is below benchmarks
- Primary care and mental health ratios are below benchmarks
- Diabetes monitoring at 91%
- Violent crime rate
- Access to exercise opportunities

Challenges

(WORSE than national and Virginia state):

- Premature death (years of life lost)
- Low birthweight just above benchmark; however, it increased from last report (by less than 0.5%)
- Adult obesity
- Umemployment increased and stays above benchmarks
- Children in poverty increased and is well above benchmarks
- Prevalence of cancer and diabetes
- Teen birth rate

Highlights

- Rates of depression and COPD are more than double national and state benchmarks

Market Overview: Norton City, Virginia

Wellmont Physician Locations

Cancer
- Southwest Virginia Cancer Center, Norton

Cardiology
- Wellmont CVA Heart Institute, Norton

Ear, nose and throat
- Wellmont Medical Associates Ear, Nose & Throat, Norton

Family medicine
- Wellmont Medical Associates, Norton
- Wellmont Urgent Care, Norton

General surgery
- Wellmont Medical Associates Surgery, Norton

Internal medicine
- Wellmont Medical Associates, Norton

Obstetrics and gynecology
- Wellmont Medical Associates Women's Health, Norton

Community Health Facilities

Other
- Appalachia After Hours Clinic, Norton
- Appalachian Healthcare Associates, Norton
- Community Physicians – Norton, Norton
- Dr. Ehtesham, Norton
- Dr. Moore, Norton
- Norton Community Hospital, Norton
- Park Avenue Medical Associates, Norton

Dialysis
- Fresenius Medical Care Mountain Empire Dialysis, Norton

Market Overview: Scott County, Virginia

Scott County

- Wellmont Health System Hospitals
- Mountain States Health Alliance Hospitals
- Independent Hospitals
- Wellmont CVA Heart Institute Offices
- Wellmont Urgent Care Locations
- Wellmont Medical Associates Practices – Numeral represents number of practices in the community

Health Outcomes

Rank **114**

Scott County Rankings

Scott County health rankings improved in 1 out of 6 categories.

	2013	2015
Health Outcomes	120	114
Health Factors	95	105
Health Behaviors	95	121
Clinical Care	107	111
Social & Economic Factors	67	87
Physical Environment	128	128

Denotes improvement

Strengths

(BETTER than national and Virginia state):

- Alcohol-impaired driving deaths
- Sexually transmitted infections, although it increased from the last report, stays below benchmarks
- Diabetes monitoring
- Violent crimes rate
- Cancer incidence and mortality

Challenges

(WORSE than national and Virginia state):

- Premature death, although it dropped, stays above benchmarks
- Low birthweight
- Adult obesity
- Physical inactivity
- Preventable hospital stays
- People reporting they're in poor or fair health

Highlights:

- Limited access to health foods dropped substantially and is well below national benchmark and just above Virginia
- Children in poverty and single-parent households are both well above national and state benchmarks

Community Health Facilities

County health departments

- Addington Hall, Duffield
- Independence Unlimited, Duffield
- Scott County Health Department, Gate City

Federally qualified health centers

- Clinch River Health Services, Dungannon

Other

- Holston Medical Group, Duffield
- Holston Medical Group, Weber City
- Mountain Region Family Medicine, Gate City
- Mountain Region Family Medicine, Nickelsville

Rural health clinics

- Regional Health Resources, Duffield

Dental health

- Clinch River Health Services, Dungannon

Market Overview: Wise County, Virginia



Health Outcomes

Rank
129

Wise County Rankings

Wise County health rankings improved in 4 out of 6 categories.

	2013	2015
Health Outcomes	124	129
Health Factors	129	127
Health Behaviors	132	128
Clinical Care	130	128
Social & Economic Factors	83	107
Physical Environment	133	113

Denotes improvement

Strengths

(BETTER than national and Virginia state):

- Sexually transmitted infections
- Limited access to health foods
- Violent crime rate
- Excessive drinking

Challenges

(WORSE than national and Virginia state):

- Premature death (years of life lost)
- Those reporting to be in poor or fair health decreased slightly; however, still well above benchmarks
- Poor physical and mental health days
- Physical inactivity
- Teen birth rate
- Prevalence of depression

Highlights:

- Limited access to health foods dropped substantially and is well below the national benchmark and just above Virginia's
- Median household incomes increased by more than 20% from 2015-2015

Market Overview: Wise County, Virginia

Wellmont Physician Locations

Family medicine

- Wellmont Medical Associates, Big Stone Gap
- Wellmont Medical Associates, Coeburn
- Wellmont Medical Associates, Wise

Internal medicine

- Wellmont Medical Associates, Big Stone Gap

Obstetrics and gynecology

- Wellmont Medical Associates Women's Health, Big Stone Gap

Pediatrics

- Wellmont Medical Associates Pediatrics, Big Stone Gap

Community Health Facilities

Mental health facilities and resources

- Norton Outpatient Clinic
- Developmental Services
- Four Seasons Greenhouse
- Independence House
- Wise County Behavioral Health Services

County health departments

- Wise County and City of Norton Health Department, Wise

Federally qualified health centers

- Appalachia Family Health Center, Appalachia
- Coeburn Family Health Center, Coeburn
- William A. Davis Health Clinic, St. Paul

Other

- C-Health, St. Paul
- Coeburn Hospital Clinic, Coeburn
- Community Physicians – Big Stone Gap, Big Stone Gap
- Crossroads Medical Mission – Oxbow Center, St. Paul

Rural health clinics

- Riverside Medical Clinic, St. Paul

Dental health

- Remote Area Medical – Wise County Fairgrounds, Wise

Appendix: Population Profile

		Total Population			Median Household Income		
State	County	2013	2015	% Change	2013	2015	% Change
Tennessee			6,495,978				
Tenn.	Greene	64,728	68,267	5.5%	$33,828	$35,980	6.4%
	Hancock	6,084	6,679	9.8%	$20,070	$26,000	29.5%
	Hawkins	55,505	56,800	2.3%	$33,484	$36,102	7.8%
	Sullivan	158,942	156,595	-1.5%	$40,293	$40,385	0.2%
Virginia			8,260,405				
Va.	Dickenson	14,660	15,486	5.6%	$27,750	$33,386	20.3%
	Lee	23,868	25,185	5.5%	$26,878	$32,092	19.4%
	Norton City	5,945	4,017	-32.4%	$29,942	$32,303	7.9%
	Scott	23,587	22,640	-4.0%	$32,342	$38,336	18.5%
	Wise	43,989	40,589	-7.7%	$30,988	$37,490	21.0%
Grand Total		**397,308**	**396,258**	**-0.3%**	**$30,619**	**$34,675**	**13.2%**

Population 2011–2016 by county

Source:
2013 numbers via MedStat – 2011 Census Estimates

2015 numbers via RWJ County Health Rankings – 2013 Census Estimates

		Age 0–17			Age 65+		
State	County	2013	2015	% of Population	2013	2015	% of Population
Tennessee			1,491,577	23.0%		952,376	14.7%
Tenn.	Greene	13,627	13,807	20.2%	11,506	10,964	16.1%
	Hancock	1,277	1,367	20.5%	993	1,215	18.2%
	Hawkins	11,906	12,071	21.3%	9,248	10,613	18.7%
	Sullivan	32,909	31,376	20.0%	29,696	31,364	20.0%
Virginia			1,864,535	22.6%		1,105,381	13.4%
Va.	Dickenson	2,961	3,207	20.7%	2,558	2,804	18.1%
	Lee	4,419	4,904	19.5%	4,204	4,586	18.2%
	Norton City	1,181	886	22.1%	982	572	14.2%
	Scott	4,446	4,287	18.9%	4,915	4,730	20.9%
	Wise	9,052	8,173	20.1%	6,543	6,185	15.2%
Grand Total		**81,778**	**80,078**	**20.2%**	**70,645**	**73,033**	**18.4%**

Appendix: Physician Needs Assessment

Current Market Surplus/Deficit

The market surplus/(deficit) includes 100% of supply and demand for physicians within the Total Service Area, regardless of institutional alignment. Numbers surrounded by parentheses represent a deficit of physicians.

	Current FTEs			
Specialty	**Supply**	**Demand**	**Surplus / (Deficit)**	**% Unmet Need**
Primary Care				
Family Medicine	213.3	270.2	(56.9)	(21%)
Internal Medicine	110.1	189.7	(79.7)	(42%)
General Primary Care	323.4	460.0	(136.6)	(30%)
Obstetrics & Gynecology	75.9	63.8	12.1	19%
Pediatrics	77.7	78.6	(0.9)	(1%)
Total Primary Care	**477.0**	**602.4**	**(125.4)**	**(21%)**
Medical Sub-Specialties				
Allergy & Immunology	9.9	12.9	(3.0)	(23%)
Cardiology - Medical	35.9	35.9	0.1	0%
Cardiology - Electrophysiology	4.6	5.3	(0.7)	(13%)
Cardiology - Interventional	9.4	16.3	(7.0)	(43%)
Cardiology - Total	49.9	57.5	(7.6)	(13%)
Dermatology	20.6	28.7	(8.1)	(28%)
Endocrinology	5.7	11.9	(6.2)	(52%)
Gastroenterology	27.9	39.4	(11.5)	(29%)
Hematology/Oncology	24.3	30.2	(5.9)	(20%)
Infectious Disease	5.7	9.4	(3.7)	(40%)
Nephrology	15.3	19.7	(4.4)	(22%)
Neurology	16.9	31.8	(14.9)	(47%)
Pain Management	9.4	11.0	(1.6)	(15%)
Physical Medicine & Rehab	6.0	20.8	(14.8)	(71%)
Psychiatry	42.5	29.6	12.9	44%
Pulmonary	20.3	23.5	(3.2)	(13%)
Reproductive Endocrinology	1.5	1.0	0.5	54%
Rheumatology	8.0	11.0	(3.0)	(28%)
Sleep Medicine	2.1	2.6	(0.6)	(21%)
Sports Medicine	3.5	4.9	(1.4)	(29%)
Total Medical Sub-Specialties	**269.4**	**346.1**	**(76.7)**	**(22%)**

	Current FTEs			
Specialty	**Supply**	**Demand**	**Surplus / (Deficit)**	**% Unmet Need**
Surgical Sub-Specialties				
Cardiac Surgery	3.8	7.4	(3.6)	(49%)
Thoracic Surgery	5.2	7.3	(2.1)	(29%)
Cardio/Thoracic Surgery	9.0	14.7	(5.7)	(39%)
Gynecology Oncology	2.0	2.4	(0.4)	(15%)
Maternal Fetal Medicine	1.3	6.8	(5.5)	(80%)
Neurosurgery - Cranial	2.7	3.0	(0.3)	(10%)
Neurosurgery - Spine	5.3	5.7	(0.4)	(7%)
Neurosurgery - Total	8.0	8.7	(0.7)	(8%)
Ophthalmology	31.1	47.1	(16.0)	(34%)
Orthopedic Surgery - General	43.2	53.1	(9.9)	(19%)
Orthopedic Surgery - Hand	1.7	2.0	(0.3)	(16%)
Orthopedic Surgery - Spine	2.8	3.6	(0.8)	(21%)
Orthopedic Surgery - Total	47.7	58.7	(11.0)	(19%)
Otolaryngology	18.8	28.3	(9.5)	(33%)
Plastic Surgery	9.5	5.3	4.2	80%
Podiatry	17.3	26.1	(8.8)	(34%)
Urology	18.6	28.0	(9.4)	(34%)
Bariatric Surgery	1.3	3.7	(2.4)	(65%)
Breast Surgery	1.5	5.4	(3.9)	(72%)
Colon & Rectal Surgery	2.0	5.9	(3.9)	(66%)
General Surgery	47.0	32.0	14.9	47%
Oncology Surgery	1.7	3.5	(1.8)	(52%)
Transplant Surgery	-	0.5	(0.5)	(100%)
Vascular Surgery	8.2	16.4	(8.3)	(50%)
General Surgery - Total	61.6	67.5	(5.9)	(9%)
Total Surgical Sub-Specialties	**224.9**	**293.5**	**(68.6)**	**(23%)**

Total All Specialties	**971.3**	**1,242.0**	**(270.7)**	**(22%)**

Source: 3d Health, Inc.

Appendix: Physician Needs Assessment

Current Market Surplus/Deficit by Region

The market surplus/(deficit) includes 100% of supply and demand for physicians within each region, regardless of institutional alignment. Numbers surrounded by parentheses represent a deficit of physicians.

	Current FTE Surplus/(Deficit)			
Specialty	**Bristol Regional**	**Hawkins / Hancock**	**Holston Valley**	**Lonesome Pine / Mountain View**
Primary Care				
Family Medicine	(19.0)	(16.6)	(26.4)	(11.1)
Internal Medicine	(44.0)	(14.1)	(42.8)	(3.3)
General Primary Care	(63.0)	(30.7)	(69.2)	(14.4)
Obstetrics & Gynecology	15.0	(4.9)	8.8	(1.1)
Pediatrics	0.3	(5.9)	7.7	(1.4)
Total Primary Care	**(47.6)**	**(41.5)**	**(52.6)**	**(16.9)**
Medical Sub-Specialties				
Allergy & Immunology	(0.3)	(1.1)	(1.4)	(1.3)
Cardiology - Medical	7.3	(3.1)	(1.8)	(0.9)
Cardiology - Electrophysiology	0.7	(0.5)	1.3	(0.5)
Cardiology - Interventional	(3.0)	(1.4)	(3.4)	(1.5)
Cardiology - Total	5.0	(4.9)	(3.9)	(2.8)
Dermatology	(0.9)	(2.4)	(1.7)	(1.7)
Endocrinology	(3.7)	1.0	(2.8)	(1.1)
Gastroenterology	(0.0)	(2.9)	(6.8)	(3.7)
Hematology/Oncology	2.4	(2.6)	(3.1)	(2.7)
Infectious Disease	(3.6)	(0.8)	(1.2)	(0.9)
Nephrology	(0.2)	(1.7)	(1.4)	(1.8)
Neurology	(4.3)	(2.7)	(10.2)	(3.0)
Pain Management	0.6	(0.9)	(0.7)	(1.0)
Physical Medicine & Rehab	(6.3)	(1.7)	(8.3)	(2.0)
Psychiatry	3.5	(1.9)	11.1	(1.9)
Pulmonary	1.0	(1.0)	(2.7)	(1.2)
Reproductive Endocrinology	0.1	(0.1)	0.4	(0.1)
Rheumatology	(1.4)	(0.9)	0.1	(1.0)
Sleep Medicine	(0.6)	(0.2)	0.3	(0.2)
Sports Medicine	(1.8)	(0.4)	(0.1)	(0.5)
Total Medical Sub-Specialties	**(10.5)**	**(25.3)**	**(32.5)**	**(26.9)**

Source: 3d Health, Inc.

Appendix: Physician Needs Assessment

Current Market Surplus/Deficit by Region

The market surplus/(deficit) includes 100% of supply and demand for physicians within each region, regardless of institutional alignment. Numbers surrounded by parentheses represent a deficit of physicians.

	Current FTE Surplus/(Deficit)			
Specialty	**Bristol Regional**	**Hawkins / Hancock**	**Holston Valley**	**Lonesome Pine / Mountain View**
Surgical Sub-Specialties				
Cardiac Surgery	(0.8)	(0.6)	(1.8)	(0.7)
Thoracic Surgery	(0.4)	(0.6)	(0.4)	(0.7)
Cardio/Thoracic Surgery	(1.2)	(1.3)	(2.2)	(1.3)
Gynecology Oncology	(0.1)	(0.2)	0.5	(0.2)
Maternal Fetal Medicine	(3.1)	(0.6)	(3.1)	(0.7)
Neurosurgery - Cranial	0.2	(0.3)	(0.2)	(0.3)
Neurosurgery - Spine	0.7	(0.5)	(0.3)	(0.5)
Neurosurgery - Total	0.9	(0.7)	(0.4)	(0.8)
Ophthalmology	(6.5)	(4.0)	(8.9)	(3.2)
Orthopedic Surgery - General	0.5	(4.5)	(5.4)	(2.9)
Orthopedic Surgery - Hand	(0.3)	(0.2)	0.2	(0.2)
Orthopedic Surgery - Spine	(0.6)	(0.3)	(0.3)	(0.4)
Orthopedic Surgery - Total	(0.4)	(5.0)	(5.4)	(3.4)
Otolaryngology	(1.3)	(2.4)	(7.2)	(1.3)
Plastic Surgery	3.7	(0.4)	4.0	(0.5)
Podiatry	(1.5)	(2.0)	(8.2)	(1.4)
Urology	(0.2)	(2.4)	(5.7)	(1.6)
Bariatric Surgery	(0.9)	(0.3)	(1.0)	(0.4)
Breast Surgery	(2.2)	(0.5)	(1.9)	(0.5)
Colon & Rectal Surgery	(2.9)	(0.5)	(1.7)	(0.5)
General Surgery	17.0	(1.7)	1.2	(0.0)
Oncology Surgery	(0.7)	(0.3)	(0.5)	(0.3)
Transplant Surgery	(0.2)	(0.0)	(0.3)	(0.1)
Vascular Surgery	(4.4)	(1.4)	(3.2)	(1.5)
General Surgery - Total	5.7	(4.7)	(7.5)	(3.3)
Total Surgical Sub-Specialties	**(4.0)**	**(23.7)**	**(44.2)**	**(17.8)**
Total All Specialties	**(62.1)**	**(90.5)**	**(129.3)**	**(61.5)**

Source: 3d Health, Inc.

Appendix: Population Health Considerations

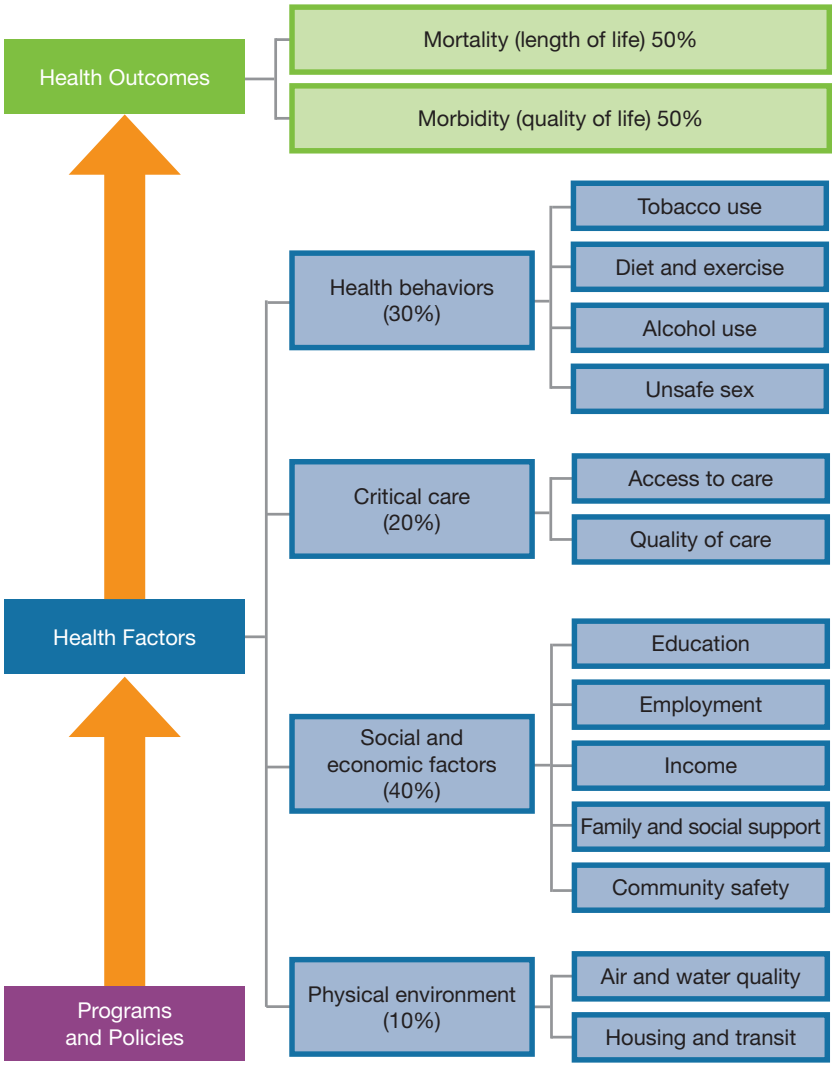
Factors of Health

The RWJ model focuses on morbidity and mortality as the primary measures of health outcomes. Fifty percent of the input variables fall directly within the mission of Wellmont Health System – specifically, access and quality of care, as well as improved community health in controllable factors such as tobacco use, diet and exercise.

Five primary factors are assessed:

- Percent of population under age 65 without health insurance
- Ratio of primary care physicians to population
- Hospitalization rate for ambulatory sensitive care conditions per 1,000 of the Medicare population
- Percent of diabetic Medicare enrollees who receive HbA1c screenings
- Percent of female Medicare enrollees who receive mammography screenings

Healthiest County Ranking Methodology



County Health Rankings model © 2014 UWPHI

Appendix: Population Health Factors and Outcomes

	Tennessee Counties							
	Greene County		Hancock County		Hawkins County		Sullivan County	
Category	2013	2015	2013	2015	2013	2015	2013	2015
Health Outcomes	65	59	93	93	56	64	43	36
Health Factors	66	41	94	95	31	28	16	12
Health Behaviors	60	38	57	93	66	51	54	47
Clinical Care	38	38	91	93	30	31	5	5
Social & Economic Factors	78	55	94	95	26	22	24	17
Physical Environment	61	9	40	63	80	19	33	7

	Virginia Counties									
	Dickenson County		Lee County		Norton City		Scott County		Wise County	
Category	2013	2015	2013	2015	2013	2015	2013	2015	2013	2015
Health Outcomes	130	130	115	116	94	89	120	114	124	129
Health Factors	112	130	122	126	63	72	95	105	129	127
Health Behaviors	115	126	119	70	54	50	95	121	132	128
Clinical Care	123	130	131	131	51	28	107	111	130	128
Social & Economic Factors	97	124	96	122	69	93	67	87	83	107
Physical Environment	101	92	130	133	119	102	128	128	133	113

Denotes negative ranking movement

Source:
RWJ University of Wisconsin Population Health Institute / Overall Rankings

Note:
Tennessee's rank is out of 95 counties; Virginia's rank is out of 133 counties

Appendix: Population Health Factors and Outcomes

					Tennessee				
Category	Description	Measure	National Benchmark 2015	HVMC Service Area 2015	Tenn. State 2015	Greene County 2015	Hancock County 2015	Hawkins County 2015	Sullivan County 2015
Health Outcomes	Premature death (Years of Potential Life Lost)	YPLL Rate	6,622	95,923	8,696	10,276	13,805	10,433	8978
	Poor or fair health	% Fair/Poor	16.0%	22.8%	19.0%	21.0%	29.0%	26.0%	22.0%
	Poor physical health days	Physically Unhealthy Days	3.7	5.5	4.3	5.5	8.2	5.6	5.4
	Poor mental health days	Mentally Unhealthy Days	3.4	3.9	3.4	4.1		4	4.5
	Low birthweight	% LBW	8.0%	8.8%	9.2%	9.3%	9.0%	8.9%	8.6%
Health Behaviors	Adult smoking	% Smokers	20.0%	26.8%	23.0%	31.0%	40.0%	26.0%	26.0%
	Adult obesity	% Obese	27.0%	31.4%	32.0%	32.0%	30.0%	35.0%	33.0%
	Physical inactivity	Physical Inactivity	23.0%	33.4%	30.0%	36.0%	39.0%	35.0%	35.0%
	Excessive drinking	% Excessive Drinking	15.0%	4.2%	9.0%	3.0%		5.0%	9.0%
	Alcohol-impaired driving deaths	% Deaths from MV accident	31%	28.6%	28%	21%	56%	21%	23%
	Sexually transmitted infections	Rates per 100,000	453.3	247.2	504	209	238	302	259
	Teen birth rate	Teen Birth Rate	36.6	52	47	48	50	51	49
	Access to exercise opportunities	% With access	85%	53.7%	70.0%	44.0%	4.0%	36.0%	77.0%
Clinical Care	Uninsured	% Uninsured	17%	16.0%	16.0%	17.0%	17.0%	16.0%	15.0%
	Primary care physicians	PCP Ratio	1342:1	2664:1	1388:1	1496:1	6720:1	3537:1	754:1
	Mental health providers	MH Provider Ratio	529.1	1977:1	786:1	1004:1		7100:1	865:1
	Preventable hospital stays	ACSC Rate	59.3	117.1	73.0	82.0	181.0	82.0	86
	Diabetic monitoring	% HbA1c	85%	87.0%	86.0%	83.0%	86.0%	88.0%	90.0%
	Mammography screening	Mammography Rate	71%	58.3%	61.8%	61.9%	37.3%	62.4%	66.5%
Social and Economic Environment	High school graduation	AFGR	80%	87.8%	87.0%	95.0%	78.0%	95.0%	92.0%
	Some college (post-secondary education)	PSED	63%	49.6%	57.7%	42.1%	36.8%	46.8%	55.2%
	Unemployment	% Unemployed	7%	9.2%	8.2%	10.6%	12.3%	8.0%	7.5%
	Children in poverty	% Children in Poverty	22%	32.6%	27.0%	30.0%	45.0%	31.0%	28.0%
	Children in single-parent households	% Single-Parent Households	33%	33.6%	36.0%	33.0%	36.0%	31.0%	35.0%
	Violent crime rate (per 100,000)	Violent Crime Rate	392.0	243.9	621.0	385.0	429.0	256.0	530
	Could not see doctor due to cost	% Couldn't afford tx	22.8%	16.8%	17.0%	23.0%		25.0%	18.0%
Physical Environment	Air pollution-ozone days	Ozone Days	11.1	13.0	13.8	13.1	13.1	13.1	13
	Severe housing problems	% with severe problems	19%	12.3%	15.0%	11.0%	17.0%	10.0%	11.0%
	Limited access to healthy foods	% Limited Access	16.9%	4.9%	8.0%	4.0%	0.7%	8.0%	14.0%

Source:
RWJ University of Wisconsin Population Health Institute / Ranking Details

Appendix: Population Health Factors and Outcomes

Category	Description	Measure	National Benchmark 2015	HVMC Service Area 2015	Virginia					
					Va. State 2015	Dickenson County 2015	Lee County 2015	Norton City 2015	Scott County 2015	Wise County 2015
Health Outcomes	Premature death (Years of Potential Life Lost)	YPLL Rate	6,622	95,923	6,192	11,985	9,684	9,229	10,335	11,198
	Poor or fair health	% Fair/Poor	16.0%	22.8%	14.0%	31.0%	29.0%		23.0%	24.0%
	Poor physical health days	Physically Unhealthy Days	3.7	5.5	3.2	7.7	6		4.7	6
	Poor mental health days	Mentally Unhealthy Days	3.4	3.9	3.1	6.4	5		4.1	7
	Low birthweight	% LBW	8.0%	8.8%	8.3%	8.5%	8.4%	8.6%	9.1%	9.1%
Health Behaviors	Adult smoking	% Smokers	20.0%	26.8%	18.0%	32.0%	25.0%		28.0%	33.0%
	Adult obesity	% Obese	27.0%	31.4%	28.0%	29.0%	29.0%	29.0%	34.0%	32.0%
	Physical inactivity	Physical Inactivity	23.0%	33.4%	22.0%	32.0%	27.0%	24.0%	35.0%	38.0%
	Excessive drinking	% Excessive Drinking	15.0%	4.2%	16.0%		11.0%			10.0%
	Alcohol-impaired driving deaths	% Deaths from MV accident	31%	28.6%	31%	70%	23%		15%	28%
	Sexually transmitted infections	Rates per 100,000	453.3	247.2	427	300	110	344	123	340
	Teen birth rate	Teen Birth Rate	36.6	52	29	53	57	56	49	58
	Access to exercise opportunities	% With access	85%	53.7%	81.0%	47.0%	53.0%	99.0%	48.0%	75.0%
Clinical Care	Uninsured	% Uninsured	17%	16.0%	14.0%	17.0%	17.0%	13.0%	16.0%	16.0%
	Primary care physicians	PCP Ratio	1342:1	2664:1	1344:1	3923:1	2830:1	291:1	2278:1	2154:1
	Mental health providers	MH Provider Ratio	529.1	1977:1	724:1	3097:1	1199:1	335:1	1029:1	1194:1
	Preventable hospital stays	ACSC Rate	59.3	117.1	55.0	130.0	135.0	126.0	106.0	126
	Diabetic monitoring	% HbA1c	85%	87.0%	87.0%	85.0%	83.0%	91.0%	91.0%	86.0%
	Mammography screening	Mammography Rate	71%	58.3%	63.4%	57.9%	54.0%	65.5%	60.6%	58.5%
Social and Economic Environment	High school graduation	AFGR	80%	87.8%	83.0%	83.0%	83.0%	93.0%	88.0%	83.0%
	Some college (post-secondary education)	PSED	63%	49.6%	68.2%	47.5%	51.0%	66.1%	52.6%	47.9%
	Unemployment	% Unemployed	7%	9.2%	5.5%	10.0%	9.1%	8.7%	7.4%	8.8%
	Children in poverty	% Children in Poverty	22%	32.6%	16.0%	28.0%	39.0%	37.0%	27.0%	28.0%
	Children in single-parent households	% Single-Parent Households	33%	33.6%	30.0%	33.0%	33.0%	45.0%	25.0%	31.0%
	Violent crime rate (per 100,000)	Violent Crime Rate	392.0	243.9	200.0	106.0	131.0	91.0	109.0	158
	Could not see doctor due to cost	% Couldn't afford tx	22.8%	16.8%	12.0%	27.0%	21.0%		19.0%	18.0%
Physical Environment	Air pollution-ozone days	Ozone Days	11.1	13.0	12.7	13.0	13.1	13.0	13.0	13
	Severe housing problems	% with severe problems	19%	12.3%	15.0%	11.0%	16.0%	11.0%	11.0%	13.0%
	Limited access to healthy foods	% Limited Access	16.9%	4.9%	3.7%	0.1%	0.0%	6.7%	5.2%	5.0%

Source:
RWJ University of Wisconsin Population Health Institute / Ranking Details

Appendix: Mortality and Top Causes of Death

Total causes of death for 2010–2014

National	Tenn.	% of Total Deaths in Tenn.	Va.	% of Total Deaths in Va.
12,750,583	310,142	2.43%	307,714	2.41%

12,750,583

Total U.S. deaths from 2010–2014

The 15 leading grouped causes of death nationally for 2010–2014 were:

Diseases of heart 3,019,430

Malignant neoplasms 2,910,637

Chronic lower respiratory diseases 720,818

Cerebrovascular diseases 649,035

Accidents (unintentional injuries) 641,699

Alzheimer's disease 430,413

Diabetes mellitus 368,900

Influenza and pneumonia 266,765

Nephritis, nephrotic syndrome and nephrosis 236,947

Intentional self-harm (suicide) 202,404

Septicemia 183,498

Chronic liver disease and cirrhosis 175,121

Essential hypertension and hypertensive renal disease 144,593

Parkinson's disease 120,307

Pneumonitis due to solids and liquids 90,474



Age-adjusted death rate for black population was 1.2 times that for the white population in 2013.

17.8%

higher risk of death for black population than for white population

Source:
CDC Mortality By Cause of Death

Appendix: Mortality and Top Causes of Death

Death rate by county 2010–2014

		Tennessee									
Cause of Death	National	Tenn.	% of Cause Within Nation	Greene County	% of Cause Within State	Hancock County	% of Cause Within State	Hawkins County	% of Cause Within State	Sullivan County	% of Cause Within State
Acute myocardial infarction, unspecified	589,906	19,431	3.3%	198	1.0%	54	0.3%	206	1.1%	659	3.4%
Alzheimer's disease, unspecified	417,726	12,228	2.9%	85	0.7%	21	0.2%	112	0.9%	391	3.2%
Atherosclerotic cardiovascular disease, so described	295,078	9,720	3.3%	215	2.2%			158	1.6%	139	1.4%
Breast, unspecified - malignant neoplasms	207,325	4,551	2.2%	50	1.1%			44	1.0%	125	2.7%
Chronic obstructive pulmonary disease, unspecified	517,895	13,024	2.5%	217	1.7%	32	0.2%	150	1.2%	509	3.9%
Colon, unspecified - malignant neoplasms	200,497	4,694	2.3%	62	1.3%			49	1.0%	144	3.1%
Congestive heart failure	276,761	3,811	1.4%	86	2.3%			38	1.0%	150	3.9%
Intentional self-harm (suicide)	202,044	4,848	2.4%	61	1.3%	16	0.3%	53	1.1%	126	2.6%
Malignant neoplasm of prostate	139,802	2,857	2.0%	54	1.9%			24	0.8%	89	3.1%
Malignant neoplasm without specification of site	128,856	3,017	2.3%	28	0.9%			38	1.3%	99	3.3%
Other ill-defined and unspecified causes of mortality	56,847	3,100	5.5%	39	1.3%			47	1.5%	82	2.6%
Pancreas, unspecified - malignant neoplasms	191,330	4,108	2.1%	50	1.2%	13	0.3%	46	1.1%	128	3.1%
Stroke, not specified as hemorrhage or infarction	333,124	8,825	2.6%	116	1.3%	21	0.2%	66	0.7%	256	2.9%
Unspecified diabetes mellitus, without complications	165,994	3,386	2.0%	50	1.5%			44	1.3%	108	3.2%
Urinary tract infection, site not specified	56,201	1,787	3.2%	24	1.3%			20	1.1%	69	3.9%

Source:
CDC Mortality By Cause of Death

Appendix: Mortality and Top Causes of Death

Death rate by county 2010–2014

		Virginia											
Cause of Death	National	Va.	% of Cause Within Nation	Dickenson County	% of Cause Within State	Lee County	% of Cause Within State	Norton City	% of Cause Within State	Scott County	% of Cause Within State	Wise County	% of Cause Within State
Acute myocardial infarction, unspecified	589,906	13,141	2.2%	41	0.3%	67	0.5%			89	0.7%	163	1.2%
Alzheimer's disease, unspecified	417,726	8,610	2.1%	16	0.2%	30	0.3%			55	0.6%	42	0.5%
Atherosclerotic cardiovascular disease, so described	295,078	5,018	1.7%	15	0.3%	57	1.1%			58	1.2%	31	0.6%
Breast, unspecified - malignant neoplasms	207,325	5,414	2.6%	18	0.3%	16	0.3%			20	0.4%	32	0.6%
Chronic obstructive pulmonary disease, unspecified	517,895	11,328	2.2%	88	0.8%	78	0.7%	11	0.1%	93	0.8%	157	1.4%
Colon, unspecified - malignant neoplasms	200,497	4,702	2.3%	16	0.3%	31	0.7%			17	0.4%	38	0.8%
Congestive heart failure	276,761	7,288	2.6%	16	0.2%	35	0.5%			17	0.2%	47	0.6%
Intentional self-harm (suicide)	202,044	5,264	2.6%	33	0.6%	26	0.5%			21	0.4%	36	0.7%
Malignant neoplasm of prostate	139,802	3,422	2.4%							11	0.3%	21	0.6%
Malignant neoplasm without specification of site	128,856	3,649	2.8%	14	0.4%	21	0.6%			17	0.5%	44	1.2%
Other ill-defined and unspecified causes of mortality	56,847	1,072	1.9%			18	1.7%			14	1.3%	11	1.0%
Pancreas, unspecified - malignant neoplasms	191,330	4,746	2.5%	14	0.3%	25	0.5%			21	0.4%	22	0.5%
Stroke, not specified as hemorrhage or infarction	333,124	9,072	2.7%	20	0.2%	33	0.4%			37	0.4%	74	0.8%
Unspecified diabetes mellitus, without complications	165,994	4,076	2.5%	13	0.3%	14	0.3%			24	0.6%	36	0.9%
Urinary tract infection, site not specified	56,201	1,633	2.9%							10	0.6%		

Source:
CDC Mortality By Cause of Death

Appendix: Cancer Incidence and Mortality

All Cancer Sites, 2008–2012

		Tennessee					Virginia					
Cancer Type	National	Tenn.	Greene County	Hancock County	Hawkins County	Sullivan County	Va.	Dickenson County	Lee County	Norton City	Scott County	Wise County
All Cancers	453.8	468.3	469.7	483.5	500.6	472.8	429.1	356.4	330.5	461.0	330.8	367.3
Cervix	7.7	8.7				6.6	6.3					
Colon & Rectum	41.9	43.3	39.0	39.8	46.5	39.7	38.3	31.5	29.4		30.3	33.3
Kidney & Renal Pelvis	16.0	17.2	17.2		13.0	15.8	14.3		14.3			9.6
Prostate	131.7	135.5	96.0	140.5	111.8	114.6	126.3	80.5	56.5		77.6	83.4
Childhood < age 20	17.4	17.7	22.5			20.6	15.5					
Lung & Bronchus	63.7	77.5	94.6	82.4	96.3	76.3	63.6	69.9	81.4	92.1	71.1	81.8
Skin	19.9	20.8	25.3		42.4	35.5	18.3					6.7
African American	465.8	475.3	546.3			429.0	459.7					

Source:
The data comes from different sources. Due to different years of data availability, most of the trends are AAPCs based on APCs but some are APCs calculated in SEER*Stat. Please refer to the source for each graph for additional information.

Note:
Incidence rates (cases per 100,000 population per year) are age-adjusted to the 2000 US standard population. Rates are for invasive cancer only (except for bladder cancer, which is invasive and in situ) or unless otherwise specified. Rates calculated using SEER*Stat. Population counts for denominators are based on census populations as modified by NCI. The 1969-2013 US Population Data File is used for SEER and NPCR incidence rates.

The total count for the US may differ from the summation of the individual states reported in this table. The total uses data from the CDC's National Program of Cancer Registries Cancer Surveillance System (NPCR-CSS) January 2015 data submission for the following states: California, Kentucky, Louisiana and New Jersey, but data for those states when shown individually are sourced from the SEER November 2014 submission.

Appendix: Cancer Prevalence

Cancer Prevalence Statistics

Metric	National	Tenn.	Va.
Cancer Prevalence	7%	7%	8%
Average Cost	$19,601	$17,390	$17,303

7%

National rate of cancer prevalence

	Tennessee			
Metric	Greene County	Hancock County	Hawkins County	Sullivan County
All Prevalence	6%		5%	7%
All Average Cost	$15,286		$19,559	$14,860

7%

Tennessee rate of cancer prevalence

	Virginia				
Metric	Dickenson County	Lee County	Norton City	Scott County	Wise County
All Prevalence		5%	6%	6%	13%
All Average Cost		$16,417	$17,937	$18,701	$17,655

8% ↑

Virginia rate of cancer prevalence

No value = No case or too low to report

↑ Denotes higher than national average

↓ Denotes lower than national average

Source:
Centers for Medicare & Medicaid Services / Interactive Mapping Medicare Disparities Tool

Note:
Prevalence rates are calculated by searching for certain diagnosis codes in Medicare beneficiaries' claims. A beneficiary is considered to have a condition if the CMS administrative data has a claim indicating the beneficiary is diagnosed for a specific condition over the reference time period (one, two or three years, depending on the condition chosen) or, in the case of ESRD and disability, if the reason for entitlement (original or current) is listed as disabled or ESRD in the MBSF. The prevalence rate of a condition for a specific sub-population (e.g., all beneficiaries in a county) is the proportion of beneficiaries who are found to have the condition. The total costs (i.e., Medicare spending) are annual averages of all costs across all types of claims for beneficiaries with a particular condition (regardless of having or not having other conditions). The principal costs for beneficiaries with a condition are annual averages of all costs across all types of claims with a primary diagnosis associated with that particular condition (regardless of having or not having other conditions). The hospitalization rate is the share of the sub-population that is hospitalized for a specific disease in a given year, presented per 1,000 beneficiaries.

Appendix: Diabetes Prevalence

Diabetes Prevalence Statistics

Metric	National	Tenn.	Va.
Diabetes Prevalence	27%	28%	27%
Average Cost	$14,707	$12,856	$12,400

27%
National rate of diabetes prevalence

	Tennessee			
Metric	Greene County	Hancock County	Hawkins County	Sullivan County
All Prevalence	26%		29%	28%
All Average Cost	$11,435		$10,788	$11,172

28% ↑
Tennessee rate of diabetes prevalence

	Virginia				
Metric	Dickenson County	Lee County	Norton City	Scott County	Wise County
All Prevalence		30%	34%	31%	32%
All Average Cost		$11,264	$11,687	$12,049	$12,396

27%
Virginia rate of diabetes prevalence

No value = No case or too low to report

↑ Denotes higher than national average

↓ Denotes lower than national average

Source:
Centers for Medicare & Medicaid Services / Interactive Mapping Medicare Disparities Tool

Note:
Prevalence rates are calculated by searching for certain diagnosis codes in Medicare beneficiaries' claims. A beneficiary is considered to have a condition if the CMS administrative data has a claim indicating the beneficiary is diagnosed for a specific condition over the reference time period (one, two or three years, depending on the condition chosen) or, in the case of ESRD and disability, if the reason for entitlement (original or current) is listed as disabled or ESRD in the MBSF. The prevalence rate of a condition for a specific sub-population (e.g., all beneficiaries in a county) is the proportion of beneficiaries who are found to have the condition. The total costs (i.e., Medicare spending) are annual averages of all costs across all types of claims for beneficiaries with a particular condition (regardless of having or not having other conditions). The principal costs for beneficiaries with a condition are annual averages of all costs across all types of claims with a primary diagnosis associated with that particular condition (regardless of having or not having other conditions). The hospitalization rate is the share of the sub-population that is hospitalized for a specific disease in a given year, presented per 1,000 beneficiaries.

Appendix: Depression Prevalence

Depression Prevalence Statistics

Metric	National	Tenn.	Va.
Depression Prevalence	15%	16%	13%
Average Cost	$19,759	$17,225	$17,187

15%
National rate of depression prevalence

	Tennessee			
Metric	Greene County	Hancock County	Hawkins County	Sullivan County
All Prevalence	19%		17%	18%
All Average Cost	$13,578			$14,911

16% ↑
Tennessee rate of depression prevalence

	Virginia				
Metric	Dickenson County	Lee County	Norton City	Scott County	Wise County
All Prevalence		19%	25%	18%	24%
All Average Cost			$12,718		$14,156

13% ↓
Virginia rate of depression prevalence

No value = No case or too low to report

↑ Denotes higher than national average

↓ Denotes lower than national average

Source:
Centers for Medicare & Medicaid Services / Interactive Mapping Medicare Disparities Tool

Note:
Prevalence rates are calculated by searching for certain diagnosis codes in Medicare beneficiaries' claims. A beneficiary is considered to have a condition if the CMS administrative data has a claim indicating the beneficiary is diagnosed for a specific condition over the reference time period (one, two, or three years, depending on the condition chosen) or, in the case of ESRD and disability, if the reason for entitlement (original or current) is listed as disabled or ESRD in the MBSF. The prevalence rate of a condition for a specific sub-population (e.g., all beneficiaries in a county) is the proportion of beneficiaries who are found to have the condition. The total costs (i.e., Medicare spending) are annual averages of all costs across all types of claims for beneficiaries with a particular condition (regardless of having or not having other conditions). The principal costs for beneficiaries with a condition are annual averages of all costs across all types of claims with a primary diagnosis associated with that particular condition (regardless of having or not having other conditions). The hospitalization rate is the share of the sub-population that is hospitalized for a specific disease in a given year, presented per 1,000 beneficiaries.

Appendix: Hypertension Prevalence

Hypertension Prevalence Statistics

Metric	National	Tenn.	Va.
Hypertension Prevalence	53%	59%	57%
Average Cost	$13,528	$11,344	$11,121

53%
National rate of hypertension prevalence

	Tennessee			
Metric	Greene County	Hancock County	Hawkins County	Sullivan County
All Prevalence	54%		56%	57%
All Average Cost	$10,244		$10,123	$10,130

59% ↑
Tennessee rate of hypertension prevalence

	Virginia				
Metric	Dickenson County	Lee County	Norton City	Scott County	Wise County
All Prevalence		59%	65%	60%	59%
All Average Cost		$9,897	$10,847	$10,164	$11,078

57% ↑
Virginia rate of hypertension prevalence

No value = No case or too low to report

↑ Denotes higher than national average

↓ Denotes lower than national average

Source:
Centers for Medicare & Medicaid Services / Interactive Mapping Medicare Disparities Tool

Note:
Prevalence rates are calculated by searching for certain diagnosis codes in Medicare beneficiaries' claims. A beneficiary is considered to have a condition if the CMS administrative data has a claim indicating the beneficiary is diagnosed for a specific condition over the reference time period (one, two, or three years, depending on the condition chosen) or, in the case of ESRD and disability, if the reason for entitlement (original or current) is listed as disabled or ESRD in the MBSF. The prevalence rate of a condition for a specific sub-population (e.g., all beneficiaries in a county) is the proportion of beneficiaries who are found to have the condition. The total costs (i.e., Medicare spending) are annual averages of all costs across all types of claims for beneficiaries with a particular condition (regardless of having or not having other conditions). The principal costs for beneficiaries with a condition are annual averages of all costs across all types of claims with a primary diagnosis associated with that particular condition (regardless of having or not having other conditions). The hospitalization rate is the share of the sub-population that is hospitalized for a specific disease in a given year, presented per 1,000 beneficiaries.

Appendix: COPD Prevalence

COPD Prevalence Statistics

Metric	National	Tenn.	Va.
COPD Prevalence	11%	13%	10%
Average Cost	$24,128	$20,082	$21,097

11%
National rate of COPD prevalence

Metric	Tennessee			
	Greene County	Hancock County	Hawkins County	Sullivan County
All Prevalence	15%		15%	13%
All Average Cost	$17,911		$17,877	$18,104

13% ↑
Tennessee rate of COPD prevalence

Metric	Virginia				
	Dickenson County	Lee County	Norton City	Scott County	Wise County
All Prevalence		21%	22%	16%	21%
All Average Cost		$16,048	$17,751	$19,941	$18,537

10% ↓
Virginia rate of COPD prevalence

No value = No case or too low to report

↑ Denotes higher than national average

↓ Denotes lower than national average

Source:
Centers for Medicare & Medicaid Services / Interactive Mapping Medicare Disparities Tool

Note:
Prevalence rates are calculated by searching for certain diagnosis codes in Medicare beneficiaries' claims. A beneficiary is considered to have a condition if the CMS administrative data has a claim indicating the beneficiary is diagnosed for a specific condition over the reference time period (one, two or three years, depending on the condition chosen) or, in the case of ESRD and disability, if the reason for entitlement (original or current) is listed as disabled or ESRD in the MBSF. The prevalence rate of a condition for a specific sub-population (e.g., all beneficiaries in a county) is the proportion of beneficiaries who are found to have the condition. The total costs (i.e., Medicare spending) are annual averages of all costs across all types of claims for beneficiaries with a particular condition (regardless of having or not having other conditions). The principal costs for beneficiaries with a condition are annual averages of all costs across all types of claims with a primary diagnosis associated with that particular condition (regardless of having or not having other conditions). The hospitalization rate is the share of the sub-population that is hospitalized for a specific disease in a given year, presented per 1,000 beneficiaries.

Appendix: Sources of Information

Metric	Source	Data Description	Profile Years
Population	Robert Wood Johnson Foundation, University of Wisconsin Population Health Institute http://www.countyhealthrankings.org/#app/	Population by county by age cohort	2013 Census Estimates
Physician Supply & Demand	3d Health, Inc. Overall Provider Database: WHS Provider Rosters, Competitor Online Rosters, Healthgrades, State License Databases, AMA Masterfile, Payer	Database of various sources built. Confirmation of data obtained via phone calls to 80% of providers.	2016
Population Health Overall & Sub-Rankings	Robert Wood Johnson Foundation, University of Wisconsin Population Health Institute http://www.countyhealthrankings.org/#app/	Rankings complied using county-level measures from national and state data sources	Range 2010 – 2015
Sub-Ranking Individual Measures	2016 Measures & Data Sources See additional information on next page for specific source, description and applicable year		
Mortality Cause of Death	CDC Mortality By Cause of Death http://wonder.cdc.gov/wonder/help	Data based on death certificates for US residents	Range 1999 – 2014
Cancer Rates	CDC State Cancer Profiles http://statecancerprofiles.cancer.gov	Collaboration of the National Cancer Institute and the CDC from public health surveillance systems reports or public use files.	5 Year Rates 2008 – 2012
CMS Prevalence and Disparity Stats: Cancer Diabetes Obesity Depression Hypertension COPD	Centers for Medicare & Medicaid Services / Interactive Mapping Medicare Disparities Tool https://www.cms.gov/	The Mapping Medicare Disparities Tool identifies disparities in health outcomes, utilization, and spending by race and ethnicity and geographic location. Prevalence rates are calculated by searching for certain diagnosis codes in Medicare beneficiaries' claims. The prevalence rate of a condition for a specific sub-population (e.g., all beneficiaries in a county) is the proportion of beneficiaries who are found to have the condition. The total costs (i.e., Medicare spending) are annual averages of all costs across all types of claims for beneficiaries with a particular condition (regardless of having or not having other conditions).	2014
COPD Charts	TN & VA COPD Fact Sheets	21 states, the District of Columbia and Puerto Rico administered an optional module as part of the annual BRFSS survey. The questions in the optional module asked about COPD-related health care behaviors and health-related quality of life and were asked of respondents who reported having COPD.	2011

Appendix: Sources of Information

Ranked Measures & Data Sources

Health Outcome	Measure	Data Source	Years of Data
Health Outcomes			
Length of Life	Premature death	National Center for Health Statistics – Mortality files	2011-2013
Quality of Life	Poor or fair health	Behavioral Risk Factor Surveillance System	2014
	Poor physical health days	Behavioral Risk Factor Surveillance System	2014
	Poor mental health days	Behavioral Risk Factor Surveillance System	2014
	Low birthweight	National Center for Health Statistics - Natality files	2007-2013
Health Behaviors			
Tobacco Use	Adult smoking	Behavioral Risk Factor Surveillance System	2014
Diet and Exercise	Adult obesity	CDC Diabetes Interactive Atlas	2012
	Physical inactivity	CDC Diabetes Interactive Atlas	2012
	Access to exercise opportunities	Business Analyst, Delorme map data, ESRI & US Census Tigerline Files	2010 & 2014
Alcohol and Drug Use	Excessive drinking	Behavioral Risk Factor Surveillance System	2014
	Alcohol-impaired driving deaths	Fatality Analysis Reporting System	2010-2014
Sexual Activity	Sexually transmitted infections	National Center for HIV/AIDS, Viral Hepatitis, STD and TB Prevention	2013
	Teen births	National Center for Health Statistics - Natality files	2007-2013
Clinical Care			
Access to Care	Uninsured	Small Area Health Insurance Estimates	2013
	Primary care physicians	Area Health Resource File/American Medical Association	2013
	Mental health providers	CMS, National Provider Identification file	2015
Quality of Care	Preventable hospital stays	Dartmouth Atlas of Health Care	2013
	Diabetic monitoring	Dartmouth Atlas of Health Care	2013
	Mammography screening	Dartmouth Atlas of Health Care	2013
Social and Economic Factors			
Education	High school graduation	U.S. Department of Education (EDFacts)	2012-2013
	Some college	American Community Survey	2010-2014
Employment	Unemployment	Bureau of Labor Statistics	2014
Income	Children in poverty	Small Area Income and Poverty Estimates	2014
	Income inequality	American Community Survey	2010-2014
Family and Social Support	Children in single-parent households	American Community Survey	2010-2014
Community Safety	Violent crime	Uniform Crime Reporting – FBI	2010-2012
Physical Environment			
Housing and Transit	Severe housing problems	Comprehensive Housing Affordability Strategy (CHAS) data	2008-2012

Community Health Needs Assessment

2016



Lonesome Pine Hospital
A Member of Wellmont Health System

Mountain View Regional Medical Center
A Facility of Lonesome Pine Hospital

Community Health Needs Assessment: Table of Contents

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If you have questions regarding the assessment, please visit wellmont.org/ContactUs.

Lonesome Pine Hospital
A Member of Wellmont Health System

Mountain View Regional Medical Center
A Facility of Lonesome Pine Hospital

Introduction: Wellmont Health System

Background

6
Wellmont Health System hospitals

Wellmont Health System is a leading health care provider in the Tri-Cities region of Northeast Tennessee and Southwest Virginia. Wellmont is a not-for-profit health system guided by the mission to deliver superior health care with compassion and a vision to deliver the best health care anywhere.

Formed in 1996 with the merger of Holston Valley Medical Center in Kingsport, Tennessee, and Bristol Regional Medical Center in Bristol, Tennessee, Wellmont has grown steadily since its inception, developing a regional network of hospitals and health care facilities. Today, thousands of caregivers and hundreds of physicians focus on improving our communities and healing patients.

As part of its mission, Wellmont regularly surveys the communities it serves to assess their health care needs.



750 beds across six hospitals, two skilled nursing facilities and Wellmont Medical Associates

The goals of this community health needs assessment are:

- Complete a thorough review of our communities' health status and unmet needs
- Collect valuable information to help target community benefit, outreach and wellness programs
- Develop action plans, strategies and partnerships that support regional efforts to address any unmet health needs
- Create or strengthen partnerships among community organizations with shared accountability for the population's health

Wellmont's hospitals include:

- Holston Valley Medical Center, Kingsport, Tennessee
- Bristol Regional Medical Center, Bristol, Tennessee
- Mountain View Regional Medical Center, Norton, Virginia
- Lonesome Pine Hospital, Big Stone Gap, Virginia
- Hawkins County Memorial Hospital, Rogersville, Tennessee
- Hancock County Hospital, Sneedville, Tennessee



270 physicians and other providers

Wellmont is licensed to operate more than 750 beds across a network of six hospitals as well as two skilled nursing facilities. Wellmont Medical Associates offers an integrated network of 270 physicians and other providers. The Wellmont CVA Heart Institute delivers nationally recognized cardiovascular care, and the Wellmont Cancer Institute provides a broad spectrum of care throughout the region.

Introduction: Wellmont Health System

Scope of Services



Access to a continuum of services

Wellmont provides a continuum of services ranging from community-based acute care to highly specialized tertiary services, including the nationally recognized Wellmont CVA Heart Institute and comprehensive oncology care from the Wellmont Cancer Institute. Wellmont also offers the region's most robust robotics program with the CyberKnife Robotic Radiosurgery System and da Vinci Surgical System. Other technology that strengthens Wellmont's delivery of care is Trilogy linear accelerator and TrueBeam STx with Brainlab.

Additionally, Wellmont is ready to care for our region's most critically injured patients with Level I and Level II trauma centers, as well as serve the smallest and sickest babies at its Level III neonatal intensive care unit. And with mobile services such as WellmontOne Air Transport and the Wellmont Health Coach, we're constantly enhancing access to lifesaving measures.

Integrated Physicians



Physician leadership team and board of directors

Wellmont's integrated physician groups include Wellmont Medical Associates and the Wellmont CVA Heart Institute, which is the region's largest cardiovascular practice.

Wellmont Medical Associates was formed in 2012 as a fundamental restructuring of Wellmont's physician practice operations. Believing physicians are best suited to determine the care plans for patients, the organization has a four-member physician leadership team and a board of directors with 15 physicians. Wellmont Medical Associates' services include not only providing expert treatment for illness, but also educating people and proactively managing patients' care to prevent illness. This philosophy advances the health system's goal to employ effective medical home models and to serve as a high-performing network of physicians and hospitals in value-based care delivery models.

The heart institute provides top-quality cardiovascular services in its 11 community offices and in Wellmont hospitals. The heart institute delivers high-quality, cost-effective heart and vascular care with compassion and improves the cardiovascular health of the region. The institute's providers diagnose, treat and manage all aspects of adult cardiovascular disease, with services ranging from general cardiology, preventive cardiology and cardiothoracic surgery to electrophysiology, interventional cardiology, vascular medicine, structural heart disease, heart failure management and advanced cardiovascular imaging. The institute is also a national leader in clinical research and is an international teaching institution.

Introduction: Wellmont Health System



National leader
in clinical research

When it comes to oncology care, the Wellmont Cancer Institute's innovative approach brings together multiple board-certified physician specialists and other experts – such as a registered dietitian and clinical trial coordinator – to design a customized plan for each patient. Besides this team-driven model of care, we offer the region's most advanced technologies, clinical trials and diagnostics. We have a robust cancer program that extends throughout the region that includes leading-edge technology such as TrueBeam STx with Brainlab, CyberKnife Robotic Radiosurgery System and Trilogy linear accelerator.

The cancer institute provides services at Holston Valley Medical Center and Bristol Regional Medical Center, as well as outpatient facilities in Johnson City and Kingsport, Tennessee, and Bristol and Norton, Virginia. In early 2015, the cancer institute introduced its lung nodule program, a comprehensive, multidicisplinary approach that enables physicians and other caregivers to detect lung cancer at its earliest stages.

Service Area

With services strategically placed throughout the region, Wellmont is positioned to be the region's high-quality, low-cost health care provider.

Wellmont's service area encompasses the northeastern counties of Tennessee and the southwestern counties of Virginia in the heart of central Appalachia, with our tertiary care hospitals based in Kingsport and Bristol, Tennessee.



Introduction: Mountain View Regional and Lonesome Pine

Primary Service Area

Virginia

- Dickenson County
- Lee County
- Norton City
- Scott County
- Wise County

Facility Description

Mountain View Regional Medical Center



Mountain View Regional Medical Center has served the Wise County area since 1948. The 118-bed facility, which offers various inpatient and outpatient services, also includes an 8,000-square-foot, 24-hour emergency department, which provides patients access to examination rooms specific for cardiac, pediatric and critical care emergency patients.

To better serve rural and remote patients, Mountain View Regional also provides access to WellmontOne and MedFlight II air transport services. Additionally, the 200 physicians and staff members of Mountain View Regional provide inpatient and outpatient surgery, cardiopulmonary rehabilitation services, intensive care, occupational medicine, physical therapy, comprehensive laboratory services and long-term care. And with Mountain View Regional's diagnostic imaging offers, patients have access to 64-slice computed tomography, ultrasound, mammography, HeartSHAPE® calcium scoring, magnetic resonance imaging, nuclear medicine, digital fluoroscopy and position emission topography.

Lonesome Pine Hospital



Lonesome Pine Hospital is a 60-bed acute care facility that has served the residents of Wise County since 1973. The facility offers various inpatient and outpatient services, including a 24-hour emergency department with 14 beds, three trauma/cardiac rooms and access to WellmontOne and MedFlight II air transport services.

The facility, which has more than 230 physicians, nurses, technicians and support staff members, offers inpatient and outpatient surgery, obstetrics and gynecology, physical therapy, pediatrics, wound care, hyperbarics, cardiopulmonary and respiratory services, including a four-bed sleep evaluation center. Lonesome Pine's diagnostic imaging department utilizes state-of-the art technologies, including computed, ultrasound, cardiac stress testing, magnetic resonance imaging, nuclear medicine, digital mammography and a position emission topography scanner.

Introduction: Mountain View Regional and Lonesome Pine

Primary Service Area

Virginia

- Dickenson County
- Lee County
- Norton City
- Scott County
- Wise County

Combined Key Services

- Cardiopulmonary rehabilitation
- Emergency care
- Hyperbarics
- Imaging
- Intensive care
- Laboratory
- Long-term care
- Medical/surgical
- Obstetrics and gynecology
- Occupational medicine
- Orthopedics
- Pediatrics
- Physical therapy
- Respiratory therapy
- Skilled nursing
- Sleep medicine
- Wound care





Methodology

Information for this report was gathered from a variety of sources, including:

- Physician needs assessment
- Community health facility assessment
- Mental health needs assessment
- Publicly available population and demographic information
- Publicly available population health information, including America's Health Rankings and the County Health Rankings
- State and regional health department data
- The Southwest Virginia Health Authority's Blueprint for Health Enabled Prosperity
- The ETSU, Wellmont, Mountain States Community Work Group Project
- Other studies



Work groups dedicated to key health topics met regularly and provided input to create the report, "Identifying priorities and solutions for improving health in Northeast Tennessee and Southwest Virginia."

Community Work Group Project

In April 2015, Wellmont Health System and Mountain States Health Alliance announced they have agreed to exclusively explore the creation of a new, integrated and locally governed health system designed to address the serious health issues affecting our area.

As part of the proposed merger, the two systems, in conjunction with East Tennessee State University and its College of Public Health, launched an initiative to focus on four key areas for health improvement in our region. Work groups dedicated to these topics provided input to ETSU, which then created the report, "Identifying priorities and solutions for improving health in Northeast Tennessee and Southwest Virginia."

That report, along with the other reference sources listed above, enabled Wellmont to collate and assess information to determine the greatest unmet health needs facing our region. Strategies to address these needs are being developed, utilizing internal resources and partnerships with other health care organizations and physicians.



Meeting the acute care needs of the populations we serve

Key Findings

The health needs assessment of Mountain View Regional and Lonesome Pine's service area revealed we are generally meeting the acute care needs of the populations we serve. Our region still suffers by comparison, though, when its health status is measured against other parts of the country.

The below findings are also echoed wholeheartedly by people in the regions we serve; specifically, by interviews with key community leaders and participants with the ETSU work groups.

Many of the findings are interrelated and ultimately stem from similar root causes. As a result, no single finding is prioritized over another, and many of our implementation plans address several of those findings simultaneously.

The counties we serve rank among the lowest in our states in several categories related to health and wellness.

(See Appendix: Population Health Factors and Outcomes)

Based on data collected by the Robert Wood Johnson Foundation and the University of Wisconsin Population Health Institute, our counties rank among the worst in Virginia in several categories, notably in the prevalence of chronic disease management, tobacco use, diet and exercise.

These deficits can be attributed to any number of issues plaguing our region. Indeed, many of these rankings are undoubtedly tied to those counties' equally low rankings in several socioeconomic categories such as education, employment and income. Moreover, poor health literacy rates are immensely detrimental to local residents' abilities to stay abreast of their condition.

As such, the health issues facing Wise County are largely similar to those in the rest of Northeast Tennessee and Southwest Virginia. In particular, obesity, diabetes and other chronic diseases are common, and affect people from childhood to old age.

Plus, the current shortages in primary care and family medicine physicians in certain parts of the region limit the population's ability to access the preventive care and disease management needed to curtail these health concerns. The work groups identified a strong need for leadership from the health system and regional partners, as well as from community leaders.

The services provided by Wellmont consistently rank very high, as validated by third-party ratings agencies and publicly reported data. However, the ability to reverse poor health trends and the behaviors that lead to them has been limited.

Key Findings: Mountain View Regional and Lonesome Pine

The uninsured and underinsured are vulnerable populations.



Despite charity care provisions, uninsured and underinsured populations often seek emergent care rather than effectively managing their health, often resulting in high-cost care and poor health outcomes.

As is the case throughout the country, the uninsured and underinsured populations we serve are at an increased health risk. While the passage of the Affordable Care Act has helped many in our region obtain insurance, the decision by Tennessee and Virginia not to expand their state Medicaid programs has left quite a few low-income individuals and families still unable to afford premiums. Additionally, many insured people face high deductibles, which still leaves them reluctant to seek care on a regular basis.

The reticence of these populations to establish relationships with primary care providers and follow screening and preventive care schedules creates a large risk for burgeoning health problems.

In turn, these populations can become over-utilizers of high-cost services such a such as the emergency department, or delay care until their health problems require extensive treatment.

There is a need in our region for expanded and enhanced mental health services.



Need for increased recruitment of psychiatric caregivers and access to services

This finding also mirrors a national gap and conversation about the availability of mental health care. Locally, data suggests a need for increased recruitment of psychiatric caregivers and access to services, especially intensive outpatient services.

Though some of these perceived gaps might stem from a lack of awareness about these services and how they can be accessed, irrefutable evidence highlights the need for more work in this area.

These services should also include an intense focus on addiction and drugs, as both the ETSU work groups and several community leaders have identified substance abuse as a major problem plaguing our region. While this has been an issue for many years in Southwest Virginia, the abuse of prescription medication has skyrocketed in recent years.

Key Findings: Mountain View Regional and Lonesome Pine

As local health organizations step together to confront the problem, community feedback suggests three areas for improvement:

- Early signs of substance abuse and mental health problems identified in the population
- Effective prevention, early intervention and a full continuum of treatment services available for all
- Integration within the community throughout the early identification, treatment and recovery processes

If our communities are to thrive, we must focus on encouraging healthy children and families.



Generational issues affect families and children

An echoing theme throughout our research and reporting is that the socioeconomic makeup of Southwest Virginia – the same factors that have contributed to the other health needs identified in this assessment – is a generational issue that affects families and children.

Plainly stated, poor health tends to start in childhood and continue through adulthood. This is particularly evident in the data highlighting early tobacco use among children, as well as the unsettling national trends surrounding childhood obesity. There is more than ample evidence to demonstrate these habits and issues become major health concerns later in life, as shown with our region's high rates of diabetes, COPD, lung cancer and hypertension.

The low quality of health for families not only creates generations of unhealthy people in southern Appalachia, but is also unhealthy for the economic health of our region. As our counties fight to stay competitive and attractive for new businesses and residents, a poor quality of health reflects badly on the overall quality of life in our area.

Implementation Plans

While we constantly strive to enhance the quality of care offered at Wellmont facilities, we know we need to extend our influence outside our buildings and into the communities we serve. So, as we move forward, we set our primary courses of action to:

- Improve access to health care services
- Advance wellness and preventive health services
- Advance population health management strategies
- Ensure the needs of our most vulnerable populations are being met



Desire to increase access to care leads to new initiatives

Focus on access

A better quality of health begins with a better focus on preventive care and prompt, low-cost medical treatment. As such, Wellmont Medical Associates has been committed to recruiting and retaining primary care and family medicine providers, especially in rural areas.

For people who do not have primary care or who are unable to access it immediately, Wellmont Urgent Care is a low-cost, high-quality option for prompt treatment of minor illnesses and injuries. To best serve our populations, we continue to open new locations, and in Tennessee, we offer Wellmont Urgent Care facilities in Bristol, Johnson City, Kingsport and Rogersville. Our Virginia offerings are in Abingdon, Bristol, Norton and Lebanon.

We've also increased accessibility for specialty care, with a new Wellmont Cancer Institute infusion office in Bristol, Virginia, as well as new clinics for Wellmont Medical Associates and the Wellmont Cancer Institute.

To reach even more rural and remote locations, we offer the Wellmont Health Coach, a mobile screening unit that provides digital mammography, baseline biometrics and heart and vascular screenings. In the last two years, the health coach has visited more than 40 locations, completing more than 600 mammograms and nearly 400 heart and vascular screenings.

Finally, with the implementation of MyWellmont, as part of our electronic health record, patients can access their medical records through a computer or smart phone. This software gives patients an interface to send questions to their providers, conduct E-Visits, schedule appointments and track their health progress – connecting them to their health like never before.

Implementation Plans: Mountain View Regional and Lonesome Pine

Focus on preventive health and wellness

A healthier region starts with healthier individuals. That's why Wellmont LiveWell, a community health transformation initiative, leverages Wellmont's medical strengths and expertise to champion, lead and sustain a new tradition of wellness in our region. LiveWell provides individuals with a free risk assessment to help identify key areas of improvement and provides regular follow-ups to encourage participants to stay committed to their healthier lives.



Wellmont LiveWell encourages participants to stay committed to healthier lives.

The LiveWell philosophy has been shared with several of our community partners. To further our mission and goals, Wellmont has partnered with like-minded organizations such as Healthy Kingsport and Live Sugarfreed, as well as several leading businesses. Through these programs, we're helping more people than ever reach health milestones and sustain their new, healthy lifestyles.

Another important aspect of wellness is ensuring a complete partnership between our patients and their primary care providers. This enables physicians to have a clear understanding of patients' circumstances and preferences, while patients have a clear understanding of what they can do to live better, healthier lives. That's also the philosophy behind Wellmont Medical Associates' Patient Centered Medical Home. Wellmont Medical Associates has earned Level 3 status from the National Committee for Quality Assurance, which is the highest achievable recognition.

Wellmont Diabetes Treatment Centers is also making a special effort to test adolescents to determine whether they have pre-diabetes or type 2 diabetes. Because the number of adolescents with these conditions is growing, Wellmont is partnering with the YMCA and a company called GBC locally to offer finger sticks so youths who score 140 or higher are then administered an A1C test, which gives their average blood-glucose level during a three-month period. Adolescents who score in the ranges for pre-diabetes or diabetes on this test are provided an opportunity to participate in a comprehensive program that consists of diabetes awareness, nutrition counseling, behavior modification and fitness.

Additionally, since people with diabetes are prone to have a diabetes emergency at any time, including when they are driving a vehicle, Wellmont has developed the Diabetes Alert sticker. This decal is placed on the driver's side of the rear windshield and informs an officer to check whether a driver is having difficulty with his or her diabetes.

Focus on population health management

Building on our efforts to improve individual health and wellness, Wellmont will also strive to empower our communities to make healthier choices. To that end, we will continue partnering with businesses, churches and other community organizations to create a foundation and momentum for change in our region.

We will continue to engage business leaders and their thousands of employees through Wellmont Business Health Solutions, a comprehensive program that provides employers an array of health plans, wellness programs, illness prevention tools and occupational medicine services. These help keep co-workers healthy – an especially important strategy given the region's high concentration of physically taxing manufacturing and manual labor jobs.



Wellmont Medical Associates has consistently earned Level 3 status from the National Committee for Quality Assurance.

Wellmont will also continue to develop its chronic disease management programs to proactively care for conditions such as diabetes, heart disease, lung cancer and hypertension. We've made tremendous strides in the early detection and treatment of lung disease through our LungSTRONG program, which provides quick access to a team of Wellmont Medical Associates and Wellmont Cancer Institute specialists who catch, treat and monitor potential problem spots as early as possible.

Additionally, Wellmont Medical Associates will continue to be a leader with the American Medical Group Foundation and its Measure Up, Pressure Down program for hypertension management. Wellmont Medical Associates is also developing quality improvement efforts for the treatment of diabetes, based on the foundation's Best Practices Learning Collaborative.

And in 2016, the Wellmont CVA Heart Institute will bolster its leadership in cardiac rehabilitation with its new Bill Gatton Center for Advanced Cardiac Rehab using the Pritikin Intensive Cardiac Rehab program. This comprehensive lifestyle education program offers the opportunity to improve outcomes and make cardiac rehab more sustainable. The ultimate goal for the Pritikin program is for our cardiac patients to gain an in-depth understanding about the relationship between lifestyle and cardiovascular health.

Implementation Plans: Mountain View Regional and Lonesome Pine

Focus on vulnerable populations

Wellmont will continue to pursue a variety of strategies to ensure our uninsured and underinsured populations have access to needed care. One such approach is through support and collaboration with key community partners, such as local clinics which serve the uninsured and underinsured, departments of health, and federally qualified health centers. Through these efforts, we seek to provide a continuum of care resources to vulnerable populations so individuals can benefit from prevention programs as well as emergency and acute care.



Wellmont will ensure vulnerable populations have access to needed care.

Wellmont is also a key partner in the annual Tri-Cities Remote Area Medical – or RAM – clinics. Held annually at Bristol Motor Speedway, RAM provides nearly 2,000 people in need with free medical, dental and vision care. The health system also collaborates with the speedway every year to provide free head and neck cancer screenings for race-goers. Plus, the Southwest Virginia Cancer Center partners with the health department annually to provide a series of health screenings.

We will also help close the coverage gap. Through a grant from the Tennessee Hospital Association and Centers for Medicaid and Medicare Services, Wellmont has hired four certified health insurance navigators, who help uninsured populations sign up for insurance through HealthCare.gov. They also aid people who might qualify for Medicaid and the Children's Health Insurance Program.

Finally, we will continue to evaluate our charity care policies and those of partner organizations to ensure we are providing the most efficient and appropriate care to our vulnerable populations. One way we will monitor the effectiveness of these policies is through tracking the percentage and amounts of charity care we deliver. We will also continue our advocacy efforts to expand our charity care efforts through increased state and federal funding.

Market Overview: Mountain View Regional and Lonesome Pine

Primary Service Area

Virginia

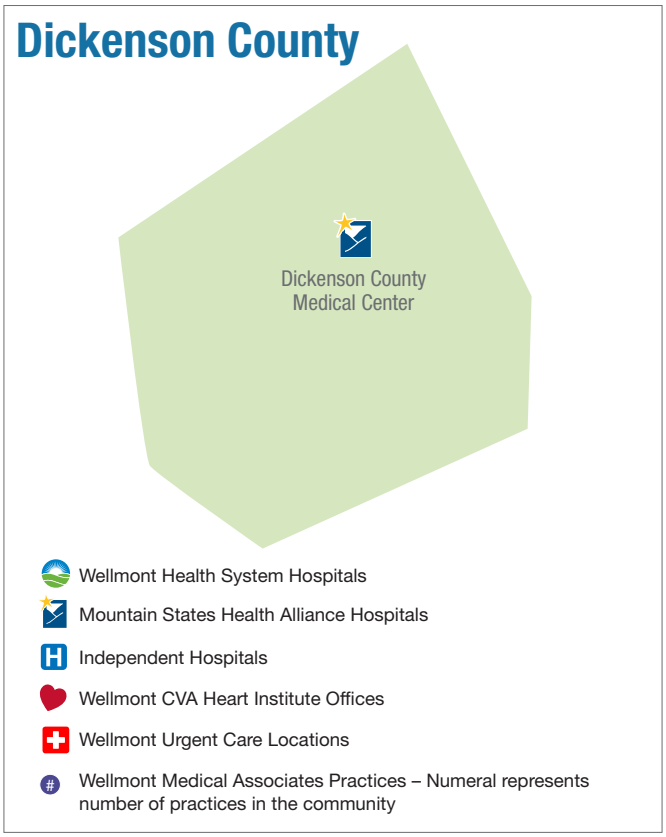
- Dickenson County
- Lee County
- Norton City
- Scott County
- Wise County







Market Overview: Dickenson County, Virginia



Health Outcomes

Rank 130

Dickenson County Rankings

Dickenson County health rankings improved in 1 out of 6 categories.

	2013	2015
Health Outcomes	130	130
Health Factors	112	130
Health Behaviors	115	126
Clinical Care	123	130
Social & Economic Factors	97	124
Physical Environment	101	92

Denotes improvement

Strengths

(BETTER than national and Virginia state):

- Access to exercise opportunities
- Violent crime rate
- Access to healthy foods

Challenges

(WORSE than national and Virginia state):

- Premature death (years of life lost)
- Those reporting to be in poor or fair health has increased and is well above benchmarks
- Poor physical and mental health days
- Physical inactivity
- Alcohol-impaired driving deaths at 70%
- Teen birth rate
- Preventable hospital days
- Mammogram screening
- Lung cancer rate

Highlights:

- Children in single-parent households decreased by more than 3%
- All health factors and outcomes decreased from 2013-2015

Community Health Facilities

County health departments

- Dickenson County Health Department, Clintwood

Federally qualified health centers

- Haysi Clinic, Haysi

Other

- Appalachian Healthcare Associates, Clintwood
- Dickenson Community Hospital, Clintwood
- Dickenson Medical Associates, Clintwood
- Dickenson Medical Clinic, Clintwood
- The Health and Beauty Clinic, Clintwood

Dental health

- The Health Wagon, Inc., Clintwood

Market Overview: Lee County, Virginia



Strengths

(BETTER than national and Virginia state):

- Sexually transmitted infections dropped and remain well below benchmarks
- High school graduation rate
- Access to healthy foods

Challenges

(WORSE than national and Virginia state):

- Premature death (years of life lost)
- Those reporting to be in poor or fair health has increased and is well above benchmarks
- Poor physical and mental health days
- Teen birth rate
- Smoking rate
- Preventable hospital stays

Health Outcomes

Rank
116

Lee County Rankings

Lee County health rankings improved in 1 out of 6 categories.

	2013	2015
Health Outcomes	115	116
Health Factors	122	126
Health Behaviors	119	70
Clinical Care	131	131
Social & Economic Factors	96	122
Physical Environment	130	133

Denotes improvement

Market Overview: Lee County, Virginia

Wellmont Physician Locations

Family medicine

- Wellmont Medical Associates, Pennington Gap

Internal medicine

- Wellmont Medical Associates, Jonesville

Community Health Facilities

Mental health facilities and resources

- Lee County Behavioral Health Services, Jonesville
- Veterans Affairs Jonesville Rural Outreach Clinic, Jonesville

County health departments

- Lee County Health Department, Jonesville

Federally qualified health centers

- Pennington Family Health Center, Pennington Gap
- St. Charles Clinic, St. Charles
- Western Lee County Health Clinic, Ewing

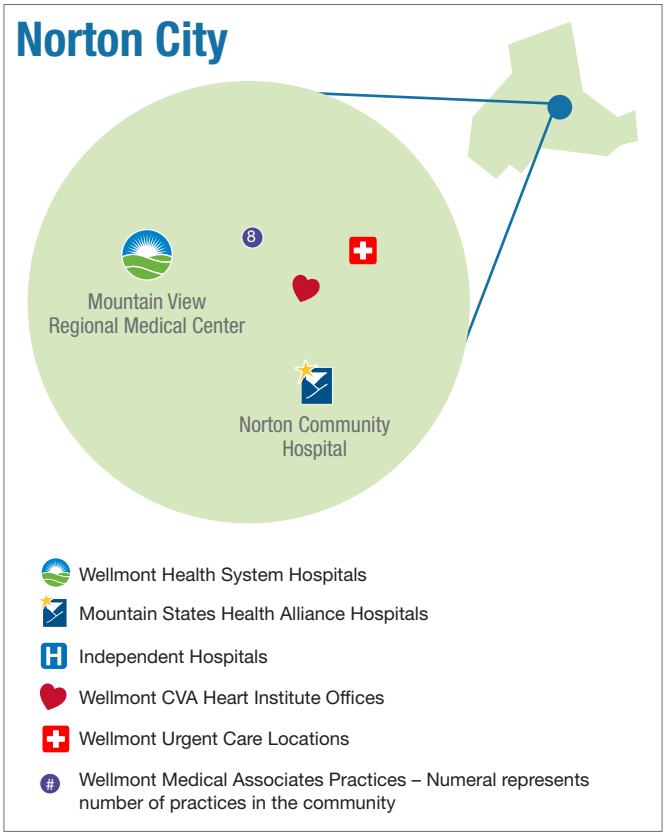
Other

- Litton Family Medicine, Pennington Gap

Rural health clinics

- Middlesboro ARH Clinic, Pennington Gap

Market Overview: Norton City, Virginia



Health Outcomes

Rank **89**

Norton City Rankings

Norton City health rankings improved in 4 out of 6 categories.

	2013	2015
Health Outcomes	94	89
Health Factors	63	72
Health Behaviors	54	50
Clinical Care	51	28
Social & Economic Factors	69	93
Physical Environment	119	102

Denotes improvement

Strengths

(BETTER than national and Virginia state):

- Sexually transmitted infections
- Access to exercise opportunities at 99%
- Uninsured dropped to 13%, from more than 15% and is below benchmarks
- Primary care and mental health ratios are below benchmarks
- Diabetes monitoring at 91%
- Violent crime rate
- Access to exercise opportunities

Challenges

(WORSE than national and Virginia state):

- Premature death (years of life lost)
- Low birthweight just above benchmark; however, it increased from last report (by less than 0.5%)
- Adult obesity
- Unemployment increased and stays above benchmarks
- Children in poverty increased and is well above benchmarks
- Prevalence of cancer and diabetes
- Teen birth rate

Highlights

- Rates of depression and COPD are more than double national and state benchmarks

Market Overview: Norton City, Virginia

Wellmont Physician Locations

Cancer
- Southwest Virginia Cancer Center, Norton

Cardiology
- Wellmont CVA Heart Institute, Norton

Ear, nose and throat
- Wellmont Medical Associates Ear, Nose & Throat, Norton

Family medicine
- Wellmont Medical Associates, Norton
- Wellmont Urgent Care, Norton

General surgery
- Wellmont Medical Associates Surgery, Norton

Internal medicine
- Wellmont Medical Associates, Norton

Obstetrics and gynecology
- Wellmont Medical Associates Women's Health, Norton

Community Health Facilities

Other
- Appalachia After Hours Clinic, Norton
- Dr. Ehtesham, Norton
- Dr. Moore, Norton
- Norton Community Hospital, Norton
- Park Avenue Medical Associates, Norton

Dialysis
- Fresenius Medical Care Mountain Empire Dialysis, Norton

Market Overview: Scott County, Virginia

Scott County

- Wellmont Health System Hospitals
- Mountain States Health Alliance Hospitals
- Independent Hospitals
- Wellmont CVA Heart Institute Offices
- Wellmont Urgent Care Locations
- Wellmont Medical Associates Practices – Numeral represents number of practices in the community

Health Outcomes

Rank **114**

Scott County Rankings

Scott County health rankings improved in 1 out of 6 categories.

	2013	2015
Health Outcomes	120	114
Health Factors	95	105
Health Behaviors	95	121
Clinical Care	107	111
Social & Economic Factors	67	87
Physical Environment	128	128

Denotes improvement

Strengths

(BETTER than national and Virginia state):

- Alcohol-impaired driving deaths
- Sexually transmitted infections, although it increased from the last report, stayed below benchmarks
- Diabetes monitoring
- Violent crime rate
- Cancer incidence and mortality

Challenges

(WORSE than national and Virginia state):

- Premature death, although it dropped, stays above benchmarks
- Low birthweight
- Adult obesity
- Physical inactivity
- Preventable hospital stays
- People reporting they're in poor or fair health

Highlights:

- Limited access to health foods dropped substantially and is well below national benchmark and just above Virginia
- Children in poverty and single-parent households are both well above national and state benchmarks

Community Health Facilities

Scott County

- Addington Hall, Duffield
- Independence Unlimited, Duffield
- Scott County Behavioral Health Services, Weber City

County health departments

- Scott County Health Department, Gate City

Federally qualified health centers

- Clinch River Health Services, Dungannon

Other

- Holston Medical Group, Duffield

Rural health clinics

- Regional Health Resources, Duffield

Dental health

- Clinch River Health Services, Dungannon

Market Overview: Wise County, Virginia



Health Outcomes

Rank
129

Wise County Rankings

Wise County health rankings improved in 4 out of 6 categories.

	2013	2015
Health Outcomes	124	129
Health Factors	129	127
Health Behaviors	132	128
Clinical Care	130	128
Social & Economic Factors	83	107
Physical Environment	133	113

Denotes improvement

Strengths

(BETTER than national and Virginia state):

- Sexually transmitted infections
- Limited access to health foods
- Violent crime rate
- Excessive drinking

Challenges

(WORSE than national and Virginia state):

- Premature death (years of life lost)
- Those reporting to be in poor or fair health decreased slightly; however, still well above benchmarks
- Poor physical and mental health days
- Physical inactivity
- Teen birth rate
- Prevalence of depression

Highlights:

- Limited access to health foods dropped substantially and is well below the national benchmark and just above Virginia's
- Median household incomes increased by more than 20% from 2015-2015

Market Overview: Wise County, Virginia

Wellmont Physician Locations

Family medicine

- Wellmont Medical Associates, Big Stone Gap
- Wellmont Medical Associates, Coeburn
- Wellmont Medical Associates, Wise

Internal medicine

- Wellmont Medical Associates, Big Stone Gap

Obstetrics and gynecology

- Wellmont Medical Associates Women's Health, Big Stone Gap

Pediatrics

- Wellmont Medical Associates Pediatrics, Big Stone Gap

Community Health Facilities

Wise County

- Developmental Services, Big Stone Gap
- Four Seasons Greenhouse, Big Stone Gap
- Independence House, Big Stone Gap
- Wise County Behavioral Health Services, Big Stone Gap

County health departments

- Wise County and City of Norton Health Department, Wise

Federally qualified health centers

- Appalachia Family Health Center, Appalachia
- Coeburn Family Health Center, Coeburn
- William A. Davis Health Clinic, St. Paul

Other

- Across The Tracks Healthcare, Big Stone Gap
- Coeburn Hospital Clinic, Coeburn
- Community Physicians, Big Stone Gap
- Community Physicians, Wise
- Crossroads Medical Mission – Oxbow Center, St. Paul

Rural health clinics

- Riverside Medical Clinic, St. Paul

Pharmacy

- Mountain Empire Older Citizens, Big Stone Gap

Appendix: Population Profile

		Total Population			Median Household Income		
State	County	2013	2015	% Change	2013	2015	% Change
Va. State			8,260,405				
Va.	Dickenson	14,660	15,486	5.6%	$27,750	$33,386	20.3%
	Lee	23,868	25,185	5.5%	$26,878	$32,092	19.4%
	Norton City	5,945	4,017	-32.4%	$29,942	$32,303	7.9%
	Scott	23,587	22,640	-4.0%	$32,342	$38,336	18.5%
	Wise	43,989	40,589	-7.7%	$30,988	$37,490	21.0%
Grand Total		**112,049**	**107,917**	**-3.7%**	**$29,580**	**$34,721**	**17.4%**

Population 2011–2016 by county

Source:
2013 numbers via MedStat – 2011 Census Estimates

2015 numbers via RWJ County Health Rankings – 2013 Census Estimates

		Age 0–17			Age 65+		
State	County	2013	2015	% of Population	2013	2015	% of Population
Va. State			1,864,535	22.6%		1,105,381	13.4%
Va.	Dickenson	2,961	3,207	20.7%	2,558	2,804	18.1%
	Lee	4,419	4,904	19.5%	4,204	4,586	18.2%
	Norton City	1,181	886	22.1%	982	572	14.2%
	Scott	4,446	4,287	18.9%	4,915	4,730	20.9%
	Wise	9,052	8,173	20.1%	6,543	6,185	15.2%
Grand Total		**22,059**	**21,457**	**19.9%**	**19,202**	**18,877**	**17.5%**

Appendix: Physician Needs Assessment

Current Market Surplus/Deficit

The market surplus/(deficit) includes 100% of supply and demand for physicians within the Total Service Area, regardless of institutional alignment. Numbers surrounded by parentheses represent a deficit of physicians.

	Current FTEs			
Specialty	**Supply**	**Demand**	**Surplus / (Deficit)**	**% Unmet Need**
Primary Care				
Family Medicine	213.3	270.2	(56.9)	(21%)
Internal Medicine	110.1	189.7	(79.7)	(42%)
General Primary Care	323.4	460.0	(136.6)	(30%)
Obstetrics & Gynecology	75.9	63.8	12.1	19%
Pediatrics	77.7	78.6	(0.9)	(1%)
Total Primary Care	**477.0**	**602.4**	**(125.4)**	**(21%)**
Medical Sub-Specialties				
Allergy & Immunology	9.9	12.9	(3.0)	(23%)
Cardiology - Medical	35.9	35.9	0.1	0%
Cardiology - Electrophysiology	4.6	5.3	(0.7)	(13%)
Cardiology - Interventional	9.4	16.3	(7.0)	(43%)
Cardiology - Total	49.9	57.5	(7.6)	(13%)
Dermatology	20.6	28.7	(8.1)	(28%)
Endocrinology	5.7	11.9	(6.2)	(52%)
Gastroenterology	27.9	39.4	(11.5)	(29%)
Hematology/Oncology	24.3	30.2	(5.9)	(20%)
Infectious Disease	5.7	9.4	(3.7)	(40%)
Nephrology	15.3	19.7	(4.4)	(22%)
Neurology	16.9	31.8	(14.9)	(47%)
Pain Management	9.4	11.0	(1.6)	(15%)
Physical Medicine & Rehab	6.0	20.8	(14.8)	(71%)
Psychiatry	42.5	29.6	12.9	44%
Pulmonary	20.3	23.5	(3.2)	(13%)
Reproductive Endocrinology	1.5	1.0	0.5	54%
Rheumatology	8.0	11.0	(3.0)	(28%)
Sleep Medicine	2.1	2.6	(0.6)	(21%)
Sports Medicine	3.5	4.9	(1.4)	(29%)
Total Medical Sub-Specialties	**269.4**	**346.1**	**(76.7)**	**(22%)**

	Current FTEs			
Specialty	**Supply**	**Demand**	**Surplus / (Deficit)**	**% Unmet Need**
Surgical Sub-Specialties				
Cardiac Surgery	3.8	7.4	(3.6)	(49%)
Thoracic Surgery	5.2	7.3	(2.1)	(29%)
Cardio/Thoracic Surgery	9.0	14.7	(5.7)	(39%)
Gynecology Oncology	2.0	2.4	(0.4)	(15%)
Maternal Fetal Medicine	1.3	6.8	(5.5)	(80%)
Neurosurgery - Cranial	2.7	3.0	(0.3)	(10%)
Neurosurgery - Spine	5.3	5.7	(0.4)	(7%)
Neurosurgery - Total	8.0	8.7	(0.7)	(8%)
Ophthalmology	31.1	47.1	(16.0)	(34%)
Orthopedic Surgery - General	43.2	53.1	(9.9)	(19%)
Orthopedic Surgery - Hand	1.7	2.0	(0.3)	(16%)
Orthopedic Surgery - Spine	2.8	3.6	(0.8)	(21%)
Orthopedic Surgery - Total	47.7	58.7	(11.0)	(19%)
Otolaryngology	18.8	28.3	(9.5)	(33%)
Plastic Surgery	9.5	5.3	4.2	80%
Podiatry	17.3	26.1	(8.8)	(34%)
Urology	18.6	28.0	(9.4)	(34%)
Bariatric Surgery	1.3	3.7	(2.4)	(65%)
Breast Surgery	1.5	5.4	(3.9)	(72%)
Colon & Rectal Surgery	2.0	5.9	(3.9)	(66%)
General Surgery	47.0	32.0	14.9	47%
Oncology Surgery	1.7	3.5	(1.8)	(52%)
Transplant Surgery	-	0.5	(0.5)	(100%)
Vascular Surgery	8.2	16.4	(8.3)	(50%)
General Surgery - Total	61.6	67.5	(5.9)	(9%)
Total Surgical Sub-Specialties	**224.9**	**293.5**	**(68.6)**	**(23%)**

Total All Specialties	**971.3**	**1,242.0**	**(270.7)**	**(22%)**

Source: 3d Health, Inc.

Appendix: Physician Needs Assessment

Current Market Surplus/Deficit by Region

The market surplus/(deficit) includes 100% of supply and demand for physicians within each region, regardless of institutional alignment. Numbers surrounded by parentheses represent a deficit of physicians.

	Current FTE Surplus/(Deficit)			
Specialty	**Bristol Regional**	**Hawkins / Hancock**	**Holston Valley**	**Lonesome Pine / Mountain View**
Primary Care				
Family Medicine	(19.0)	(16.6)	(26.4)	(11.1)
Internal Medicine	(44.0)	(14.1)	(42.8)	(3.3)
General Primary Care	(63.0)	(30.7)	(69.2)	(14.4)
Obstetrics & Gynecology	15.0	(4.9)	8.8	(1.1)
Pediatrics	0.3	(5.9)	7.7	(1.4)
Total Primary Care	**(47.6)**	**(41.5)**	**(52.6)**	**(16.9)**
Medical Sub-Specialties				
Allergy & Immunology	(0.3)	(1.1)	(1.4)	(1.3)
Cardiology - Medical	7.3	(3.1)	(1.8)	(0.9)
Cardiology - Electrophysiology	0.7	(0.5)	1.3	(0.5)
Cardiology - Interventional	(3.0)	(1.4)	(3.4)	(1.5)
Cardiology - Total	5.0	(4.9)	(3.9)	(2.8)
Dermatology	(0.9)	(2.4)	(1.7)	(1.7)
Endocrinology	(3.7)	1.0	(2.8)	(1.1)
Gastroenterology	(0.0)	(2.9)	(6.8)	(3.7)
Hematology/Oncology	2.4	(2.6)	(3.1)	(2.7)
Infectious Disease	(3.6)	(0.8)	(1.2)	(0.9)
Nephrology	(0.2)	(1.7)	(1.4)	(1.8)
Neurology	(4.3)	(2.7)	(10.2)	(3.0)
Pain Management	0.6	(0.9)	(0.7)	(1.0)
Physical Medicine & Rehab	(6.3)	(1.7)	(8.3)	(2.0)
Psychiatry	3.5	(1.9)	11.1	(1.9)
Pulmonary	1.0	(1.0)	(2.7)	(1.2)
Reproductive Endocrinology	0.1	(0.1)	0.4	(0.1)
Rheumatology	(1.4)	(0.9)	0.1	(1.0)
Sleep Medicine	(0.6)	(0.2)	0.3	(0.2)
Sports Medicine	(1.8)	(0.4)	(0.1)	(0.5)
Total Medical Sub-Specialties	**(10.5)**	**(25.3)**	**(32.5)**	**(26.9)**

Source: 3d Health, Inc.

Appendix: Physician Needs Assessment

Current Market Surplus/Deficit by Region

The market surplus/(deficit) includes 100% of supply and demand for physicians within each region, regardless of institutional alignment. Numbers surrounded by parentheses represent a deficit of physicians.

	Current FTE Surplus/(Deficit)			
Specialty	**Bristol Regional**	**Hawkins / Hancock**	**Holston Valley**	**Lonesome Pine / Mountain View**
Surgical Sub-Specialties				
Cardiac Surgery	(0.8)	(0.6)	(1.8)	(0.7)
Thoracic Surgery	(0.4)	(0.6)	(0.4)	(0.7)
Cardio/Thoracic Surgery	(1.2)	(1.3)	(2.2)	(1.3)
Gynecology Oncology	(0.1)	(0.2)	0.5	(0.2)
Maternal Fetal Medicine	(3.1)	(0.6)	(3.1)	(0.7)
Neurosurgery - Cranial	0.2	(0.3)	(0.2)	(0.3)
Neurosurgery - Spine	0.7	(0.5)	(0.3)	(0.5)
Neurosurgery - Total	0.9	(0.7)	(0.4)	(0.8)
Ophthalmology	(6.5)	(4.0)	(8.9)	(3.2)
Orthopedic Surgery - General	0.5	(4.5)	(5.4)	(2.9)
Orthopedic Surgery - Hand	(0.3)	(0.2)	0.2	(0.2)
Orthopedic Surgery - Spine	(0.6)	(0.3)	(0.3)	(0.4)
Orthopedic Surgery - Total	(0.4)	(5.0)	(5.4)	(3.4)
Otolaryngology	(1.3)	(2.4)	(7.2)	(1.3)
Plastic Surgery	3.7	(0.4)	4.0	(0.5)
Podiatry	(1.5)	(2.0)	(8.2)	(1.4)
Urology	(0.2)	(2.4)	(5.7)	(1.6)
Bariatric Surgery	(0.9)	(0.3)	(1.0)	(0.4)
Breast Surgery	(2.2)	(0.5)	(1.9)	(0.5)
Colon & Rectal Surgery	(2.9)	(0.5)	(1.7)	(0.5)
General Surgery	17.0	(1.7)	1.2	(0.0)
Oncology Surgery	(0.7)	(0.3)	(0.5)	(0.3)
Transplant Surgery	(0.2)	(0.0)	(0.3)	(0.1)
Vascular Surgery	(4.4)	(1.4)	(3.2)	(1.5)
General Surgery - Total	5.7	(4.7)	(7.5)	(3.3)
Total Surgical Sub-Specialties	**(4.0)**	**(23.7)**	**(44.2)**	**(17.8)**
Total All Specialties	**(62.1)**	**(90.5)**	**(129.3)**	**(61.5)**

Source: 3d Health, Inc.

Appendix: Population Health Considerations

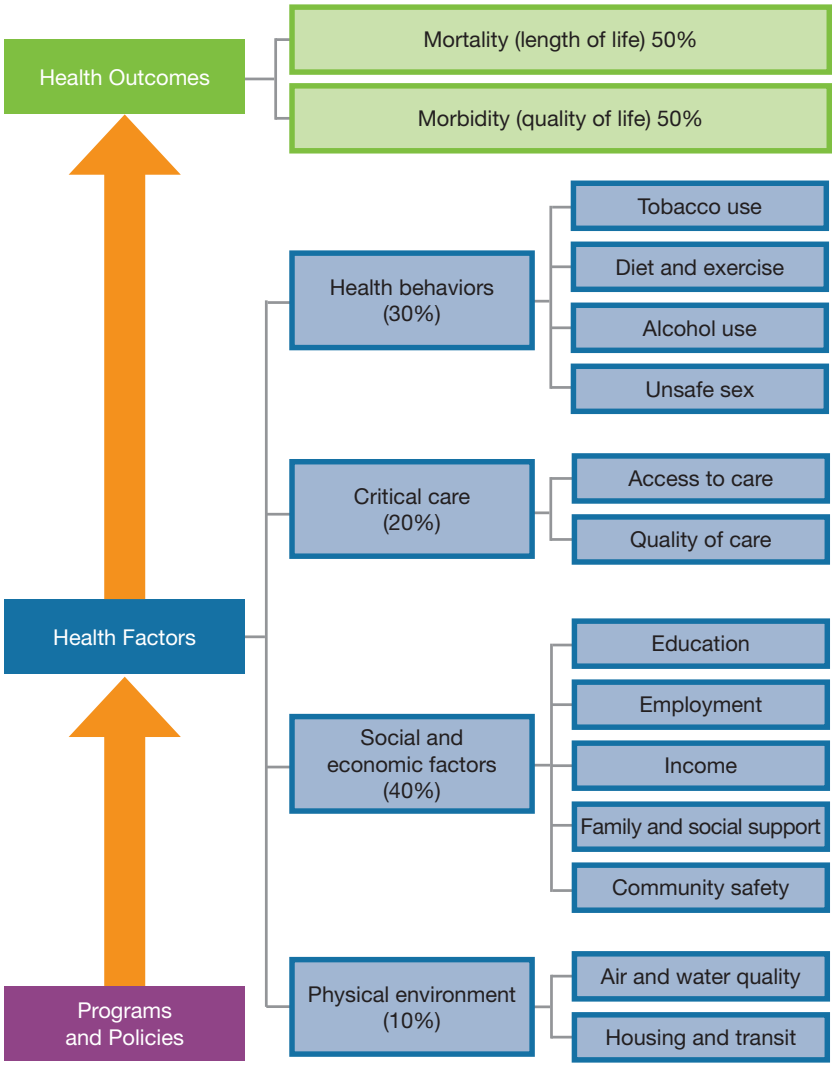
Factors of Health

The RWJ model focuses on morbidity and mortality as the primary measures of health outcomes. Fifty percent of the input variables fall directly within the mission of Wellmont Health System – specifically, access and quality of care, as well as improved community health in controllable factors such as tobacco use, diet and exercise.

Five primary factors are assessed:

- Percent of population under age 65 without health insurance
- Ratio of primary care physicians to population
- Hospitalization rate for ambulatory sensitive care conditions per 1,000 of the Medicare population
- Percent of diabetic Medicare enrollees who receive HbA1c screenings
- Percent of female Medicare enrollees who receive mammography screenings

Healthiest County Ranking Methodology



County Health Rankings model © 2014 UWPHI

Appendix: Population Health Factors and Outcomes

	Virginia									
	Dickenson County		Lee County		Norton City		Scott County		Wise County	
Category	2013	2015	2013	2015	2013	2015			2013	2015
Health Outcomes	130	130	115	116	94	89	120	114	124	129
Health Factors	112	130	122	126	63	72	95	105	129	127
Health Behaviors	115	126	119	70	54	50	95	121	132	128
Clinical Care	123	130	131	131	51	28	107	111	130	128
Social & Economic Factors	97	124	96	122	69	93	67	87	83	107
Physical Environment	101	92	130	133	119	102	128	128	133	113

Denotes negative ranking movement

Source:
RWJ University of Wisconsin Population Health Institute / Overall Rankings

Note:
Tennessee's rank is out of 95 counties; Virginia's rank is out of 133 counties

Appendix: Population Health Factors and Outcomes

Category	Description	Measure	National Benchmark 2015	MVRMC LPH Service Area 2015	Virginia					
					Va. State 2015	Dickenson County 2015	Lee County 2015	Norton City 2015	Scott County 2015	Wise County 2015
Health Outcomes	Premature death (Years of Potential Life Lost)	YPLL Rate	6,622	10,486	6,192	11,985	9,684	9,229	10,335	11,198
	Poor or fair health	% Fair/Poor	16.0%	21.4%	14.0%	31.0%	29.0%		23.0%	24.0%
	Poor physical health days	Physically Unhealthy Days	3.7	6.1	3.2	7.7	6		4.7	6
	Poor mental health days	Mentally Unhealthy Days	3.4	5.5	3.1	6.4	5		4.1	7
	Low birthweight	% LBW	8.0%	8.7%	8.3%	8.5%	8.4%	8.6%	9.1%	9.1%
Health Behaviors	Adult smoking	% Smokers	20.0%	29.5%	18.0%	32.0%	25.0%		28.0%	33.0%
	Adult obesity	% Obese	27.0%	30.6%	28.0%	29.0%	29.0%	29.0%	34.0%	32.0%
	Physical inactivity	Physical Inactivity	23.0%	31.2%	22.0%	32.0%	27.0%	24.0%	35.0%	38.0%
	Excessive drinking	% Excessive Drinking	15.0%	10.5%	16.0%		11.0%			10.0%
	Alcohol-impaired driving deaths	% Deaths from MV accident	31%	27.2%	31%	70%	23%		15%	28%
	Sexually transmitted infections	Rates per 100,000	453.3	243	427	300	110	344	123	340
	Teen birth rate	Teen Birth Rate	36.6	55	29	53	57	56	49	58
	Access to exercise opportunities	% With access	85%	64.4%	81.0%	47.0%	53.0%	99.0%	48.0%	75.0%
Clinical Care	Uninsured	% Uninsured	17%	15.8%	14.0%	17.0%	17.0%	13.0%	16.0%	16.0%
	Primary care physicians	PCP Ratio	1342:1	2295:1	1344:1	3923:1	2830:1	291:1	2278:1	2154:1
	Mental health providers	MH Provider Ratio	529.1	1371:1	724:1	3097:1	1199:1	335:1	1029:1	1194:1
	Preventable hospital stays	ACSC Rate	59.3	124.6	55.0	130.0	135.0	126.0	106.0	126
	Diabetic monitoring	% HbA1c	85%	87.2%	87.0%	85.0%	83.0%	91.0%	91.0%	86.0%
	Mammography screening	Mammography Rate	71%	59.3%	63.4%	57.9%	54.0%	65.5%	60.6%	58.5%
Social and Economic Environment	High school graduation	AFGR	80%	86.0%	83.0%	83.0%	83.0%	93.0%	88.0%	83.0%
	Some college (post-secondary education)	PSED	63%	53.0%	68.2%	47.5%	51.0%	66.1%	52.6%	47.9%
	Unemployment	% Unemployed	7%	8.8%	5.5%	10.0%	9.1%	8.7%	7.4%	8.8%
	Children in poverty	% Children in Poverty	22%	31.8%	16.0%	28.0%	39.0%	37.0%	27.0%	28.0%
	Children in single-parent households	% Single-Parent Households	33%	33.4%	30.0%	33.0%	33.0%	45.0%	25.0%	31.0%
	Violent crime rate (per 100,000)	Violent Crime Rate	392.0	119.0	200.0	106.0	131.0	91.0	109.0	158
	Could not see doctor due to cost	% Couldn't afford tx	22.8%	21.3%	12.0%	27.0%	21.0%		19.0%	18.0%
Physical Environment	Air pollution-ozone days	Ozone Days	11.1	13.0	12.7	13.0	13.1	13.0	13.0	13.0
	Severe housing problems	% with severe problems	19%	12.4%	15.0%	11.0%	16.0%	11.0%	11.0%	13.0%
	Limited access to healthy foods	% Limited Access	16.9%	3.4%	3.7%	0.1%	0.0%	6.7%	5.2%	5.0%

Source:
RWJ University of Wisconsin Population Health Institute / Ranking Details

Appendix: Mortality and Top Causes of Death

Total causes of death for 2010–2014

National	Tenn.	% of Total Deaths in Tenn.	Va.	% of Total Deaths in Va.
12,750,583	310,142	2.43%	307,714	2.41%

12,750,583

Total U.S. deaths from 2010–2014

The 15 leading grouped causes of death nationally for 2010–2014 were:

Diseases of heart 3,019,430

Malignant neoplasms 2,910,637

Chronic lower respiratory diseases 720,818

Cerebrovascular diseases 649,035

Accidents (unintentional injuries) 641,699

Alzheimer's disease 430,413

Diabetes mellitus 368,900

Influenza and pneumonia 266,765

Nephritis, nephrotic syndrome and nephrosis 236,947

Intentional self-harm (suicide) 202,404

Septicemia 183,498

Chronic liver disease and cirrhosis 175,121

Essential hypertension and hypertensive renal disease 144,593

Parkinson's disease 120,307

Pneumonitis due to solids and liquids 90,474



Age-adjusted death rate for black population was 1.2 times that for the white population in 2013.

17.8%

higher risk of death for black population than for white population

Source:
CDC Mortality By Cause of Death

Appendix: Mortality and Top Causes of Death

Death rate by county 2010–2014

		Virginia											
Cause of Death	National	Va.	% of Cause Within Nation	Dickenson County	% of Cause Within State	Lee County	% of Cause Within State	Norton City	% of Cause Within State	Scott County	% of Cause Within State	Wise County	% of Cause Within State
Acute myocardial infarction, unspecified	589,906	13,141	2.2%	41	0.3%	67	0.5%			89	0.7%	163	1.2%
Alzheimer's disease, unspecified	417,726	8,610	2.1%	16	0.2%	30	0.3%			55	0.6%	42	0.5%
Atherosclerotic cardiovascular disease, so described	295,078	5,018	1.7%	15	0.3%	57	1.1%			58	1.2%	31	0.6%
Breast, unspecified - malignant neoplasms	207,325	5,414	2.6%	18	0.3%	16	0.3%			20	0.4%	32	0.6%
Chronic obstructive pulmonary disease, unspecified	517,895	11,328	2.2%	88	0.8%	78	0.7%	11	0.1%	93	0.8%	157	1.4%
Colon, unspecified - malignant neoplasms	200,497	4,702	2.3%	16	0.3%	31	0.7%			17	0.4%	38	0.8%
Congestive heart failure	276,761	7,288	2.6%	16	0.2%	35	0.5%			17	0.2%	47	0.6%
Intentional self-harm (suicide)	202,044	5,264	2.6%	33	0.6%	26	0.5%			21	0.4%	36	0.7%
Malignant neoplasm of prostate	139,802	3,422	2.4%							11	0.3%	21	0.6%
Malignant neoplasm without specification of site	128,856	3,649	2.8%	14	0.4%	21	0.6%			17	0.5%	44	1.2%
Other ill-defined and unspecified causes of mortality	56,847	1,072	1.9%			18	1.7%			14	1.3%	11	1.0%
Pancreas, unspecified - malignant neoplasms	191,330	4,746	2.5%	14	0.3%	25	0.5%			21	0.4%	22	0.5%
Stroke, not specified as hemorrhage or infarction	333,124	9,072	2.7%	20	0.2%	33	0.4%			37	0.4%	74	0.8%
Unspecified diabetes mellitus, without complications	165,994	4,076	2.5%	13	0.3%	14	0.3%			24	0.6%	36	0.9%
Urinary tract infection, site not specified	56,201	1,633	2.9%							10	0.6%		

Source:
CDC Mortality By Cause of Death

Appendix: Cancer Incidence and Mortality

All Cancer Sites, 2008–2012

		Virginia					
Cancer Type	National	Va.	Dickenson County	Lee County	Norton City	Scott County	Wise County
All Cancers	453.8	429.1	356.4	330.5	461.0	330.8	367.3
Cervix	7.7	6.3					
Colon & Rectum	41.9	38.3	31.5	29.4		30.3	33.3
Kidney & Renal Pelvis	16.0	14.3		14.3			9.6
Prostate	131.7	126.3	80.5	56.5		77.6	83.4
Childhood < age 20	17.4	15.5					
Lung & Bronchus	63.7	63.6	69.9	81.4	92.1	71.1	81.8
Skin	19.9	18.3					6.7
African American	465.8	459.7					

Source:
The data comes from different sources. Due to different years of data availability, most of the trends are AAPCs based on APCs but some are APCs calculated in SEER*Stat. Please refer to the source for each graph for additional information.

Note:
Incidence rates (cases per 100,000 population per year) are age-adjusted to the 2000 US standard population. Rates are for invasive cancer only (except for bladder cancer, which is invasive and in situ) or unless otherwise specified. Rates calculated using SEER*Stat. Population counts for denominators are based on census populations as modified by NCI. The 1969-2013 US Population Data File is used for SEER and NPCR incidence rates.

The total count for the US may differ from the summation of the individual states reported in this table. The total uses data from the CDC's National Program of Cancer Registries Cancer Surveillance System (NPCR-CSS) January 2015 data submission for the following states: California, Kentucky, Louisiana and New Jersey, but data for those states when shown individually are sourced from the SEER November 2014 submission.

Appendix: Cancer Prevalence

Cancer Prevalence Statistics

Metric	National	Tenn.	Va.
Cancer Prevalence	7%	7%	8%
Average Cost	$19,601	$17,390	$17,303

7%

National rate of cancer prevalence

7%

Tennessee rate of cancer prevalence

Metric	Virginia				
	Dickenson County	Lee County	Norton City	Scott County	Wise County
All Prevalence		5%	6%	6%	13%
All Average Cost		$16,417	$17,937	$18,701	$17,655

No value = No case or too low to report

8% ↑

Virginia rate of cancer prevalence

↑ Denotes higher than national average

↓ Denotes lower than national average

Source:
Centers for Medicare & Medicaid Services / Interactive Mapping Medicare Disparities Tool

Note:
Prevalence rates are calculated by searching for certain diagnosis codes in Medicare beneficiaries' claims. A beneficiary is considered to have a condition if the CMS administrative data has a claim indicating the beneficiary is diagnosed for a specific condition over the reference time period (one, two, or three years, depending on the condition chosen) or, in the case of ESRD and disability, if the reason for entitlement (original or current) is listed as disabled or ESRD in the MBSF. The prevalence rate of a condition for a specific sub-population (e.g., all beneficiaries in a county) is the proportion of beneficiaries who are found to have the condition. The total costs (i.e., Medicare spending) are annual averages of all costs across all types of claims for beneficiaries with a particular condition (regardless of having or not having other conditions). The principal costs for beneficiaries with a condition are annual averages of all costs across all types of claims with a primary diagnosis associated with that particular condition (regardless of having or not having other conditions). The hospitalization rate is the share of the sub-population that is hospitalized for a specific disease in a given year, presented per 1,000 beneficiaries.

Appendix: Diabetes Prevalence

Diabetes Prevalence Statistics

Metric	National	Tenn.	Va.
Diabetes Prevalence	27%	28%	27%
Average Cost	$14,707	$12,856	$12,400

27%
National rate of diabetes prevalence

Metric	Virginia				
	Dickenson County	Lee County	Norton City	Scott County	Wise County
All Prevalence		30%	34%	31%	32%
All Average Cost		$11,264	$11,687	$12,049	$12,396

28% ↑
Tennessee rate of diabetes prevalence

No value = No case or too low to report

27%
Virginia rate of diabetes prevalence

↑ Denotes higher than national average

↓ Denotes lower than national average

Source:
Centers for Medicare & Medicaid Services / Interactive Mapping Medicare Disparities Tool

Note:
Prevalence rates are calculated by searching for certain diagnosis codes in Medicare beneficiaries' claims. A beneficiary is considered to have a condition if the CMS administrative data has a claim indicating the beneficiary is diagnosed for a specific condition over the reference time period (one, two, or three years, depending on the condition chosen) or, in the case of ESRD and disability, if the reason for entitlement (original or current) is listed as disabled or ESRD in the MBSF. The prevalence rate of a condition for a specific sub-population (e.g., all beneficiaries in a county) is the proportion of beneficiaries who are found to have the condition. The total costs (i.e., Medicare spending) are annual averages of all costs across all types of claims for beneficiaries with a particular condition (regardless of having or not having other conditions). The principal costs for beneficiaries with a condition are annual averages of all costs across all types of claims with a primary diagnosis associated with that particular condition (regardless of having or not having other conditions). The hospitalization rate is the share of the sub-population that is hospitalized for a specific disease in a given year, presented per 1,000 beneficiaries.

Appendix: Depression Prevalence

Depression Prevalence Statistics

Metric	National	Tenn.	Va.
Depression Prevalence	15%	16%	13%
Average Cost	$19,759	$17,225	$17,187

15%
National rate of depression prevalence

Metric	Virginia				
	Dickenson County	Lee County	Norton City	Scott County	Wise County
All Prevalence		19%	25%	18%	24%
All Average Cost			$12,718		$14,156

16% ↑
Tennessee rate of depression prevalence

No value = No case or too low to report

13% ↓
Virginia rate of depression prevalence

↑ Denotes higher than national average

↓ Denotes lower than national average

Source:
Centers for Medicare & Medicaid Services / Interactive Mapping Medicare Disparities Tool

Note:
Prevalence rates are calculated by searching for certain diagnosis codes in Medicare beneficiaries' claims. A beneficiary is considered to have a condition if the CMS administrative data has a claim indicating the beneficiary is diagnosed for a specific condition over the reference time period (one, two, or three years, depending on the condition chosen) or, in the case of ESRD and disability, if the reason for entitlement (original or current) is listed as disabled or ESRD in the MBSF. The prevalence rate of a condition for a specific sub-population (e.g., all beneficiaries in a county) is the proportion of beneficiaries who are found to have the condition. The total costs (i.e., Medicare spending) are annual averages of all costs across all types of claims for beneficiaries with a particular condition (regardless of having or not having other conditions). The principal costs for beneficiaries with a condition are annual averages of all costs across all types of claims with a primary diagnosis associated with that particular condition (regardless of having or not having other conditions). The hospitalization rate is the share of the sub-population that is hospitalized for a specific disease in a given year, presented per 1,000 beneficiaries.

Appendix: Hypertension Prevalence

Hypertension Prevalence Statistics

Metric	National	Tenn.	Va.
Hypertension Prevalence	53%	59%	57%
Average Cost	$13,528	$11,344	$11,121

53%
National rate of hypertension prevalence

Metric	Virginia				
	Dickenson County	Lee County	Norton City	Scott County	Wise County
All Prevalence		59%	65%	60%	59%
All Average Cost		$9,897	$10,847	$10,164	$11,078

59% ↑
Tennessee rate of hypertension prevalence

No value = No case or too low to report

57% ↑
Virginia rate of hypertension prevalence

↑ Denotes higher than national average

↓ Denotes lower than national average

Source:
Centers for Medicare & Medicaid Services / Interactive Mapping Medicare Disparities Tool

Note:
Prevalence rates are calculated by searching for certain diagnosis codes in Medicare beneficiaries' claims. A beneficiary is considered to have a condition if the CMS administrative data has a claim indicating the beneficiary is diagnosed for a specific condition over the reference time period (one, two, or three years, depending on the condition chosen) or, in the case of ESRD and disability, if the reason for entitlement (original or current) is listed as disabled or ESRD in the MBSF. The prevalence rate of a condition for a specific sub-population (e.g., all beneficiaries in a county) is the proportion of beneficiaries who are found to have the condition. The total costs (i.e., Medicare spending) are annual averages of all costs across all types of claims for beneficiaries with a particular condition (regardless of having or not having other conditions). The principal costs for beneficiaries with a condition are annual averages of all costs across all types of claims with a primary diagnosis associated with that particular condition (regardless of having or not having other conditions). The hospitalization rate is the share of the sub-population that is hospitalized for a specific disease in a given year, presented per 1,000 beneficiaries.

Appendix: COPD Prevalence

COPD Prevalence Statistics

Metric	National	Tenn.	Va.
COPD Prevalence	11%	13%	10%
Average Cost	$24,128	$20,082	$21,097

11%
National rate of COPD prevalence

Metric	Virginia				
	Dickenson County	Lee County	Norton City	Scott County	Wise County
All Prevalence		21%	22%	16%	21%
All Average Cost		$16,048	$17,751	$19,941	$18,537

13% ↑
Tennessee rate of COPD prevalence

No value = No case or too low to report

10% ↓
Virginia rate of COPD prevalence

↑ Denotes higher than national average

↓ Denotes lower than national average

Source:
Centers for Medicare & Medicaid Services / Interactive Mapping Medicare Disparities Tool

Note:
Prevalence rates are calculated by searching for certain diagnosis codes in Medicare beneficiaries' claims. A beneficiary is considered to have a condition if the CMS administrative data has a claim indicating the beneficiary is diagnosed for a specific condition over the reference time period (one, two, or three years, depending on the condition chosen) or, in the case of ESRD and disability, if the reason for entitlement (original or current) is listed as disabled or ESRD in the MBSF. The prevalence rate of a condition for a specific sub-population (e.g., all beneficiaries in a county) is the proportion of beneficiaries who are found to have the condition. The total costs (i.e., Medicare spending) are annual averages of all costs across all types of claims for beneficiaries with a particular condition (regardless of having or not having other conditions). The principal costs for beneficiaries with a condition are annual averages of all costs across all types of claims with a primary diagnosis associated with that particular condition (regardless of having or not having other conditions). The hospitalization rate is the share of the sub-population that is hospitalized for a specific disease in a given year, presented per 1,000 beneficiaries.

Appendix: Sources of Information

Metric	Source	Data Description	Profile Years
Population	Robert Wood Johnson Foundation, University of Wisconsin Population Health Institute http://www.countyhealthrankings.org/#app/	Population by county by age cohort	2013 Census Estimates
Physician Supply & Demand	3d Health, Inc. Overall Provider Database: WHS Provider Rosters, Competitor Online Rosters, Healthgrades, State License Databases, AMA Masterfile, Payer	Database of various sources built. Confirmation of data obtained via phone calls to 80% of providers.	2016
Population Health Overall & Sub-Rankings	Robert Wood Johnson Foundation, University of Wisconsin Population Health Institute http://www.countyhealthrankings.org/#app/	Rankings complied using county-level measures from national and state data sources	Range 2010 – 2015
Sub-Ranking Individual Measures	2016 Measures & Data Sources See additional information on next page for specific source, description and applicable year		
Mortality Cause of Death	CDC Mortality By Cause of Death http://wonder.cdc.gov/wonder/help	Data based on death certificates for US residents	Range 1999 – 2014
Cancer Rates	CDC State Cancer Profiles http://statecancerprofiles.cancer.gov	Collaboration of the National Cancer Institute and the CDC from public health surveillance systems reports or public use files.	5 Year Rates 2008 – 2012
CMS Prevalence and Disparity Stats: Cancer Diabetes Obesity Depression Hypertension COPD	Centers for Medicare & Medicaid Services / Interactive Mapping Medicare Disparities Tool https://www.cms.gov/	The Mapping Medicare Disparities Tool identifies disparities in health outcomes, utilization and spending by race and ethnicity and geographic location. Prevalence rates are calculated by searching for certain diagnosis codes in Medicare beneficiaries' claims. The prevalence rate of a condition for a specific sub-population (e.g., all beneficiaries in a county) is the proportion of beneficiaries who are found to have the condition. The total costs (i.e., Medicare spending) are annual averages of all costs across all types of claims for beneficiaries with a particular condition (regardless of having or not having other conditions).	2014
COPD Charts	TN & VA COPD Fact Sheets	21 states, the District of Columbia and Puerto Rico administered an optional module as part of the annual BRFSS survey. The questions in the optional module asked about COPD-related health care behaviors and health-related quality of life and were asked of respondents who reported having COPD.	2011

Appendix: Sources of Information

Ranked Measures & Data Sources

Health Outcome	Measure	Data Source	Years of Data
Health Outcomes			
Length of Life	Premature death	National Center for Health Statistics – Mortality files	2011-2013
Quality of Life	Poor or fair health	Behavioral Risk Factor Surveillance System	2014
	Poor physical health days	Behavioral Risk Factor Surveillance System	2014
	Poor mental health days	Behavioral Risk Factor Surveillance System	2014
	Low birthweight	National Center for Health Statistics - Natality files	2007-2013
Health Behaviors			
Tobacco Use	Adult smoking	Behavioral Risk Factor Surveillance System	2014
Diet and Exercise	Adult obesity	CDC Diabetes Interactive Atlas	2012
	Physical inactivity	CDC Diabetes Interactive Atlas	2012
	Access to exercise opportunities	Business Analyst, Delorme map data, ESRI, & US Census Tigerline Files	2010 & 2014
Alcohol and Drug Use	Excessive drinking	Behavioral Risk Factor Surveillance System	2014
	Alcohol-impaired driving deaths	Fatality Analysis Reporting System	2010-2014
Sexual Activity	Sexually transmitted infections	National Center for HIV/AIDS, Viral Hepatitis, STD and TB Prevention	2013
	Teen births	National Center for Health Statistics - Natality files	2007-2013
Clinical Care			
Access to Care	Uninsured	Small Area Health Insurance Estimates	2013
	Primary care physicians	Area Health Resource File/American Medical Association	2013
	Mental health providers	CMS, National Provider Identification file	2015
Quality of Care	Preventable hospital stays	Dartmouth Atlas of Health Care	2013
	Diabetic monitoring	Dartmouth Atlas of Health Care	2013
	Mammography screening	Dartmouth Atlas of Health Care	2013
Social and Economic Factors			
Education	High school graduation	U.S. Department of Education (EDFacts)	2012-2013
	Some college	American Community Survey	2010-2014
Employment	Unemployment	Bureau of Labor Statistics	2014
Income	Children in poverty	Small Area Income and Poverty Estimates	2014
	Income inequality	American Community Survey	2010-2014
Family and Social Support	Children in single-parent households	American Community Survey	2010-2014
Community Safety	Violent crime	Uniform Crime Reporting – FBI	2010-2012
Physical Environment			
Housing and Transit	Severe housing problems	Comprehensive Housing Affordability Strategy (CHAS) data	2008-2012

Markets	Northwest	
Hospital	Lonesome Pine Hospital	Mountain View Regional Medical Center
System	Wellmont	Wellmont
Inpatient Services	X	X
Bariatrics		
Cardiac Surgery		
Cardiology	X	X
Cardiology Intervention		
Endocrinology	X	X
ENT Surgery	X	X
Gastroenterology	X	X
General Medicine	X	X
General Surgery	X	X
Gynecology	X	X
Hematology	X	X
Intensive Care	X	X
CICU		
SICU		
Neonatology	X	
Level 1	X	
Level 2		
Level 3		
Nephrology	X	X
Neurology		
Neurosurgery		
OB Deliveries	X	
Oncology Medicine	X	X
Oncology Surgery	X	X
Ophthalmology		
Oral Surgery		
Orthopedic	X	
Pediatric Unit		
Perinatology		
Plastic Surgery		
Psychiatry/Behavioral Health		
Pulmonary	X	X
Rehabilitation		
Thoracic Surgery		
Trauma		
Level 1		
Level 2		
Urology	X	X
Vascular Surgery		
Diagnostic Imaging	X	X

MRI	X	X
CT	X	X
PET	X	X
Emergency	X	X
Stroke Center		
Chest Pain Center		

Exhibit 15

NOTE: Volume reflects 25 or more discharges.

System	MSHA	MSHA	MSHA	MSHA	MSHA	Wellmont
Hospital	Dickenson Community Hospital	Johnston Memorial Hospital	Norton Community Hospital	Russell County Medical Center	Smyth County Community Hospital	LPH/MVRMC
Diagnostic Imaging	X	X	X	X	X	X
Emergency	X	X	X	X	X	X
Inpatient Services	X	X	X	X	X	X
Cardiac Surgery						
Cardiology		627	242	119	167	270
Cardiology Intervention		150				
Endocrinology		223	65	67	68	84
ENT Surgery						
Gastroenterology		817	138	102	104	189
General Medicine		1,237	280	156	230	327
General Surgery		379	90		37	102
Gynecology		52				
Hematology		88				29
Neonatology		165	47			61
Nephrology		485	144	94	99	132
Neurology		300	126	29	43	47
Neurosurgery						
OB Deliveries Sections		162	54			125
OB Deliveries Vaginal		378	83			162
OB Other		33	26			32
Oncology Medicine		58				
Oncology Surgery						
Ophthalmic Medicine						
Ophthalmic Surgery						
Oral Surgery						
Orthopedic Medicine		87				
Orthopedic Surgery		323	32		77	34
Otolaryngology		29				
Plastic Surgery						
Psychiatry				478		
Pulmonary		939	425	312	275	422
Rehabilitation			47		164	89
Rheumatology						
Substance Abuse		34				
Thoracic Surgery						
Trauma Medical						
Urology Medicine		31	25			
Urology Surgery		30				
Vascular Surgery		60				

VA, TN, NC State IP Data Through CY 2015

Source: Discharge counts from THA and VHHA state databases. Includes discharges from patients residing within the 21 county service area only.

Exhibit 13

From Share Database - CY 2015 Q1-3 Volume

			Product Line						
Tennessee Hospital County	Hospital Name	System	Cardiac Surgery	Cardiology	Cardiology Intervention	Endocrinology	ENT Surgery	Gastroenterology	General Medicine
Carter, TN	Sycamore Shoals Hospital	MSHA		281	6	153		341	404
Greene, TN	Laughlin Memorial Hospital, Inc.	All Other		249	41	96		321	228
	Takoma Regional Hospital	All Other		156	1	47		195	286
Hamblen, TN	Morristown-Hamblen Healthcare System	All Other		278	89	108		357	394
Hancock, TN	Wellmont Hancock County Hospital	Wellmont		21		7		11	28
Hawkins, TN	Wellmont Hawkins County Memorial Hospital	Wellmont		114		20		56	146
Johnson, TN	Johnson County Community Hospital	MSHA		1				1	3
Sullivan, TN	HealthSouth Rehabilitation Hospital-Kingsport	All Other							
	Indian Path Medical Center	MSHA	1	464	217	136		423	722
	Wellmont Bristol Regional Medical Center	Wellmont	231	844	257	270	11	974	733
	Wellmont Holston Valley Medical Center	Wellmont	263	1,196	683	328	19	982	1,048
Unicoi, TN	Unicoi County Memorial Hospital, Inc.	MSHA		51		16		79	82
Washington, TN	Franklin Woods Community Hospital	MSHA		240	4	137	9	479	457
	HealthSouth Quillen Rehabilitation Hospital	MSHA							
	Johnson City Medical Center	MSHA	273	2,050	1,203	479	14	1,489	1,965
	Woodridge Psychiatric Hospital	MSHA		1				1	2
Grand Total			**768**	**5,946**	**2,501**	**1,797**	**53**	**5,709**	**6,498**

Lakeway data from 2014

Hospital Name	Cardiac Surgery			Cardiology	Cardiology Intervention	Endocrinology	ENT Surgery	Gastroenterology	General Medicine
Tennova Healthcare-Lakeway Regional Hospital				184	3	62		247	123
Grand Total				**184**	**3**	**62**		**247**	**123**

			Product Line						
Virginia Hospital County	Hospital Name	System		Cardiology	Cardiology Intervention	Endocrinology	ENT Surgery	Gastroenterology	General Medicine
Buchanan, VA	Buchanan General Hospital	All Other		88		29		58	71
Dickenson, VA	Dickenson Community Hospital	MSHA		1				1	2
Russell, VA	Russell County Medical Center	MSHA		119		67		102	156
Smyth, VA	Smyth County Community Hospital	MSHA		167		68		104	230
Tazewell, VA	Carilion Tazewell Community Hospital	All Other		68		16		34	71
	Clinch Valley Medical Center	All Other		377	66	151	1	390	267
Washington, VA	Johnston Memorial Hospital	MSHA		627	150	223	4	817	1,237
	Wellmont BRMC Ridgeview Pavilion	Wellmont							1
Wise, VA	Norton Community Hospital	MSHA		242		117		259	567
	Wellmont LPH/MVRMC	Wellmont		219		65	3	138	280
Wythe, VA	Wythe County Community Hospital	All Other		135		20		96	196
Grand Total				**2,043**	**216**	**756**	**8**	**1,999**	**3,078**

Source: Discharge counts from THA and VHHA state databases. Includes discharges from patients residing within the 21 county service area only.

Exhibit 13

From Share Database - CY 2015 Q1-3 Volume

Tennessee Hospital County	Hospital Name	System	General Surgery	Gynecology	Hematology	Neonatology	Nephrology	Neurology	Neurosurgery	OB Deliveries Sections
Carter, TN	Sycamore Shoals Hospital	MSHA	151	13	46		272	112	1	
Greene, TN	Laughlin Memorial Hospital, Inc.	All Other	182	6	32	67	126	62	2	42
	Takoma Regional Hospital	All Other	115	14	25	78	53	68	1	53
Hamblen, TN	Morristown-Hamblen Healthcare System	All Other	135	25	32	161	201	190	5	136
Hancock, TN	Wellmont Hancock County Hospital	Wellmont		1	1		21	5		
Hawkins, TN	Wellmont Hawkins County Memorial Hospital	Wellmont	18		13		59	28		
Johnson, TN	Johnson County Community Hospital	MSHA					3			
Sullivan, TN	HealthSouth Rehabilitation Hospital-Kingsport	All Other	2					2		
	Indian Path Medical Center	MSHA	293	26	40	194	234	174	81	216
	Wellmont Bristol Regional Medical Center	Wellmont	677	56	112	214	504	622	339	222
	Wellmont Holston Valley Medical Center	Wellmont	851	141	165	207	544	610	284	268
Unicoi, TN	Unicoi County Memorial Hospital, Inc.	MSHA	19	1	9		49	23		
Washington, TN	Franklin Woods Community Hospital	MSHA	356	30	34	338	260	82	2	326
	HealthSouth Quillen Rehabilitation Hospital	MSHA						1		
	Johnson City Medical Center	MSHA	1,173	123	242	755	842	1,138	529	330
	Woodridge Psychiatric Hospital	MSHA		1				28		
Grand Total			3,972	437	751	2,014	3,168	3,145	1,244	1,593

Lakeway data from 2014

Hospital Name	Cardiac Surgery	General Surgery	Gynecology	Hematology	Neonatology	Nephrology	Neurology	Neurosurgery	OB Deliveries Sections
Tennova Healthcare-Lakeway Regional Hospital		68	15	34	19	153	75	40	25
Grand Total		68	15	34	19	153	75	40	25

Virginia Hospital County	Hospital Name	System	General Surgery	Gynecology	Hematology	Neonatology	Nephrology	Neurology	Neurosurgery	OB Deliveries Sections
Buchanan, VA	Buchanan General Hospital	All Other	16		5	1	68	3		
Dickenson, VA	Dickenson Community Hospital	MSHA					2			
Russell, VA	Russell County Medical Center	MSHA	2	1	10		94	29		
Smyth, VA	Smyth County Community Hospital	MSHA	37	18	22		99	43		
Tazewell, VA	Carilion Tazewell Community Hospital	All Other			2		46	11		
	Clinch Valley Medical Center	All Other	143	60	50	45	188	104	3	82
Washington, VA	Johnston Memorial Hospital	MSHA	379	52	88	165	485	300	5	162
	Wellmont BRMC Ridgeview Pavilion	Wellmont						1		
Wise, VA	Norton Community Hospital	MSHA	139	16	30	47	144	126		54
	Wellmont LPH/MVRMC	Wellmont	90	20	17	48	109	36		105
Wythe, VA	Wythe County Community Hospital	All Other	50	39	11	57	55	46		87
Grand Total			856	206	235	363	1,290	699	8	490

Source: Discharge counts from THA and VHHA state databases. Includes discharges from pa

Exhibit 13

From Share Database - CY 2015 Q1-3 Volume

Tennessee Hospital County	Hospital Name	System	OB Deliveries Vaginal	OB Other	Oncology Medicine	Oncology Surgery	Ophthalmic Medicine	Ophthalmic Surgery	Oral Surgery	Orthopedic Medicine
Carter, TN	Sycamore Shoals Hospital	MSHA		2	30	8	3		2	28
Greene, TN	Laughlin Memorial Hospital, Inc.	All Other	94	6	27	4	2	2	2	27
	Takoma Regional Hospital	All Other	138	5	7	3	1			13
Hamblen, TN	Morristown-Hamblen Healthcare System	All Other	394	20	23	15			2	21
Hancock, TN	Wellmont Hancock County Hospital	Wellmont			1					4
Hawkins, TN	Wellmont Hawkins County Memorial Hospital	Wellmont			2				1	8
Johnson, TN	Johnson County Community Hospital	MSHA								
Sullivan, TN	HealthSouth Rehabilitation Hospital-Kingsport	All Other								1
	Indian Path Medical Center	MSHA	358	21	27	9	1		2	25
	Wellmont Bristol Regional Medical Center	Wellmont	427	45	114	49	3	1	12	152
	Wellmont Holston Valley Medical Center	Wellmont	462	45	130	73			15	161
Unicoi, TN	Unicoi County Memorial Hospital, Inc.	MSHA		1	6	2				16
Washington, TN	Franklin Woods Community Hospital	MSHA	562	21	39	46	4		11	35
	HealthSouth Quillen Rehabilitation Hospital	MSHA			1					
	Johnson City Medical Center	MSHA	740	179	331	59	24	3	30	403
	Woodridge Psychiatric Hospital	MSHA								
Grand Total			3,175	345	738	268	38	6	77	894

Lakeway data from 2014

Hospital Name	Cardiac Surgery	OB Deliveries Vaginal	OB Other	Oncology Medicine	Oncology Surgery	Ophthalmic Medicine	Ophthalmic Surgery	Oral Surgery	Orthopedic Medicine
Tennova Healthcare-Lakeway Regional Hospital		53	1	24	7	2			22
Grand Total		53	1	24	7	2			22

Virginia Hospital County	Hospital Name	System	OB Deliveries Vaginal	OB Other	Oncology Medicine	Oncology Surgery	Ophthalmic Medicine	Ophthalmic Surgery	Oral Surgery	Orthopedic Medicine
Buchanan, VA	Buchanan General Hospital	All Other			2	1				5
Dickenson, VA	Dickenson Community Hospital	MSHA								
Russell, VA	Russell County Medical Center	MSHA			5				1	10
Smyth, VA	Smyth County Community Hospital	MSHA		3	11	10			2	17
Tazewell, VA	Carilion Tazewell Community Hospital	All Other								4
	Clinch Valley Medical Center	All Other	146	18	78	10	2		6	58
Washington, VA	Johnston Memorial Hospital	MSHA	378	33	58	17	5	1	9	87
	Wellmont BRMC Ridgeview Pavilion	Wellmont		2						1
Wise, VA	Norton Community Hospital	MSHA	83	26	11	14	1		1	16
	Wellmont LPH/MVRMC	Wellmont	128	28	10	2	1		1	6
Wythe, VA	Wythe County Community Hospital	All Other	98	10	6	3	1		1	10
Grand Total			833	120	181	57	10	1	21	214

Source: Discharge counts from THA and VHHA state databases. Includes discharges from pa

Exhibit 13

From Share Database - CY 2015 Q1-3 Volume

Tennessee Hospital County	Hospital Name	System	Orthopedic Surgery	Otolaryngology	Plastic Surgery	Psychiatry	Pulmonary	Rehabilitation	Rheumatology
Carter, TN	Sycamore Shoals Hospital	MSHA	97	10	9	154	663		8
Greene, TN	Laughlin Memorial Hospital, Inc.	All Other	142	23	4	4	561		5
	Takoma Regional Hospital	All Other	68	6		140	238	68	1
Hamblen, TN	Morristown-Hamblen Healthcare System	All Other	244	6	6	112	631		8
Hancock, TN	Wellmont Hancock County Hospital	Wellmont		1			57	4	2
Hawkins, TN	Wellmont Hawkins County Memorial Hospital	Wellmont		4	2	2	185	26	1
Johnson, TN	Johnson County Community Hospital	MSHA					9		1
Sullivan, TN	HealthSouth Rehabilitation Hospital-Kingsport	All Other						587	
	Indian Path Medical Center	MSHA	337	12	4	7	549		16
	Wellmont Bristol Regional Medical Center	Wellmont	740	26	25	820	1,291	1	25
	Wellmont Holston Valley Medical Center	Wellmont	1,145	31	26	19	1,534		45
Unicoi, TN	Unicoi County Memorial Hospital, Inc.	MSHA	5	1	1		114		
Washington, TN	Franklin Woods Community Hospital	MSHA	1	46	1	3	572		16
	HealthSouth Quillen Rehabilitation Hospital	MSHA						420	
	Johnson City Medical Center	MSHA	1,364	94	18	92	2,086	1	118
	Woodridge Psychiatric Hospital	MSHA				3,385			
Grand Total			**4,143**	**260**	**96**	**4,738**	**8,490**	**1,107**	**246**

Lakeway data from 2014

Hospital Name	Cardiac Surgery		Orthopedic Surgery	Otolaryngology	Plastic Surgery		Pulmonary		Rheumatology
Tennova Healthcare-Lakeway Regional Hospital			125	7	4		368		7
Grand Total			**125**	**7**	**4**		**368**		**7**

Virginia Hospital County	Hospital Name	System	Orthopedic Surgery	Otolaryngology	Plastic Surgery	Psychiatry	Pulmonary	Rehabilitation	Rheumatology
Buchanan, VA	Buchanan General Hospital	All Other		15	2		345		2
Dickenson, VA	Dickenson Community Hospital	MSHA				6			
Russell, VA	Russell County Medical Center	MSHA		7		478	312	2	2
Smyth, VA	Smyth County Community Hospital	MSHA	77	1		8	275	164	2
Tazewell, VA	Carilion Tazewell Community Hospital	All Other		1		1	122		2
	Clinch Valley Medical Center	All Other	67	16	6	11	679		8
Washington, VA	Johnston Memorial Hospital	MSHA	323	29	22	16	939		19
	Wellmont BRMC Ridgeview Pavilion	Wellmont				599			
Wise, VA	Norton Community Hospital	MSHA	32	16	5	6	425	47	8
	Wellmont LPH/MVRMC	Wellmont	25	10	4	1	348	89	4
Wythe, VA	Wythe County Community Hospital	All Other	113	6	6	3	190	85	4
Grand Total			**637**	**101**	**45**	**1,129**	**3,635**	**387**	**51**

Source: Discharge counts from THA and VHHA state databases. Includes discharges from pa

Exhibit 13

From Share Database - CY 2015 Q1-3 Volume

Tennessee Hospital County	Hospital Name	System	Substance Abuse	Thoracic Surgery	Trauma Medical	Unspecified	Urology Medicine	Urology Surgery	Vascular Surgery
Carter, TN	Sycamore Shoals Hospital	MSHA	13	1	4		4	1	
Greene, TN	Laughlin Memorial Hospital, Inc.	All Other	3	1	6	1	8	8	43
	Takoma Regional Hospital	All Other	7	2	7				15
Hamblen, TN	Morristown-Hamblen Healthcare System	All Other	17	5	8		17	26	18
Hancock, TN	Wellmont Hancock County Hospital	Wellmont			1		1		
Hawkins, TN	Wellmont Hawkins County Memorial Hospital	Wellmont	1	1					
Johnson, TN	Johnson County Community Hospital	MSHA							
Sullivan, TN	HealthSouth Rehabilitation Hospital-Kingsport	All Other							
	Indian Path Medical Center	MSHA	11	28	7		5	34	11
	Wellmont Bristol Regional Medical Center	Wellmont	43	57	42	50	45	84	131
	Wellmont Holston Valley Medical Center	Wellmont	26	106	48	20	29	70	257
Unicoi, TN	Unicoi County Memorial Hospital, Inc.	MSHA	3	1	1	1	2		
Washington, TN	Franklin Woods Community Hospital	MSHA	26	3	3		104	170	1
	HealthSouth Quillen Rehabilitation Hospital	MSHA							
	Johnson City Medical Center	MSHA	139	156	122		50	92	456
	Woodridge Psychiatric Hospital	MSHA	106						
Grand Total			395	361	249	72	265	485	932

Lakeway data from 2014

Hospital Name	Cardiac Surgery	Thoracic Surgery	Trauma Medical	Unspecified	Urology Medicine	Urology Surgery	Vascular Surgery
Tennova Healthcare-Lakeway Regional Hospital			7		9	27	6
Grand Total			7		9	27	6

Virginia Hospital County	Hospital Name	System	Substance Abuse	Thoracic Surgery	Trauma Medical	Unspecified	Urology Medicine	Urology Surgery	Vascular Surgery
Buchanan, VA	Buchanan General Hospital	All Other	2		1				
Dickenson, VA	Dickenson Community Hospital	MSHA							
Russell, VA	Russell County Medical Center	MSHA	5		2		4		
Smyth, VA	Smyth County Community Hospital	MSHA	4		1		3	2	
Tazewell, VA	Carilion Tazewell Community Hospital	All Other	3		1		2		
	Clinch Valley Medical Center	All Other	10	10	8		11	21	18
Washington, VA	Johnston Memorial Hospital	MSHA	34	22	14	1	31	30	60
	Wellmont BRMC Ridgeview Pavilion	Wellmont	16						
Wise, VA	Norton Community Hospital	MSHA	16	1	6		25	20	2
	Wellmont LPH/MVRMC	Wellmont	5	1	1	2	2	1	3
Wythe, VA	Wythe County Community Hospital	All Other	5	1	5		1		1
Grand Total			100	35	39	3	79	74	84

Source: Discharge counts from THA and VHHA state databases. Includes discharges from pa

Exhibit 13

From Share Database - CY 2015 Q1-3 Volume			
Tennessee Hospital County	Hospital Name	System	Womens Other
Carter, TN	Sycamore Shoals Hospital	MSHA	5
Greene, TN	Laughlin Memorial Hospital, Inc.	All Other	
	Takoma Regional Hospital	All Other	
Hamblen, TN	Morristown-Hamblen Healthcare System	All Other	
Hancock, TN	Wellmont Hancock County Hospital	Wellmont	
Hawkins, TN	Wellmont Hawkins County Memorial Hospital	Wellmont	
Johnson, TN	Johnson County Community Hospital	MSHA	
Sullivan, TN	HealthSouth Rehabilitation Hospital-Kingsport	All Other	
	Indian Path Medical Center	MSHA	2
	Wellmont Bristol Regional Medical Center	Wellmont	1
	Wellmont Holston Valley Medical Center	Wellmont	3
Unicoi, TN	Unicoi County Memorial Hospital, Inc.	MSHA	
Washington, TN	Franklin Woods Community Hospital	MSHA	8
	HealthSouth Quillen Rehabilitation Hospital	MSHA	
	Johnson City Medical Center	MSHA	6
	Woodridge Psychiatric Hospital	MSHA	
Grand Total			25
Lakeway data from 2014			
Hospital Name	Cardiac Surgery		Womens Other
Tennova Healthcare-Lakeway Regional Hospital			1
Grand Total			1
Virginia Hospital County	Hospital Name	System	Womens Other
Buchanan, VA	Buchanan General Hospital	All Other	
Dickenson, VA	Dickenson Community Hospital	MSHA	
Russell, VA	Russell County Medical Center	MSHA	1
Smyth, VA	Smyth County Community Hospital	MSHA	
Tazewell, VA	Carilion Tazewell Community Hospital	All Other	
	Clinch Valley Medical Center	All Other	
Washington, VA	Johnston Memorial Hospital	MSHA	3
	Wellmont BRMC Ridgeview Pavilion	Wellmont	
Wise, VA	Norton Community Hospital	MSHA	1
	Wellmont LPH/MVRMC	Wellmont	1
Wythe, VA	Wythe County Community Hospital	All Other	
Grand Total			6
Source: Discharge counts from THA and VHHA state databases. Includes discharges from pa			

COMPARISON OF
VIRGINIA'S PLAN FOR WELL-BEING,
SOUTHWEST VIRGINIA HEALTH AUTHORITY BLUEPRINT GOALS,
AND NEW HEALTH SYSTEM COMMITMENTS, TEMPLATE COMMUNITY HEALTH IMPROVEMENT PLAN AND OTHER PROPOSALS

NEW HEALTH SYSTEM COMMITMENTS, TEMPLATE COMMUNITY HEALTH IMPROVEMENT PLAN AND OTHER PROPOSALS

The New Health System has proposed a new, regionally-integrated delivery model focused on population health improvement. Through the cooperative agreement, the New Health System has committed to invest hundreds of millions of dollars toward improving the health and well-being of the region's people, including Southwest Virginians. These commitments relate to:

- **Enhancing health care services, such as pediatric and behavioral health and other specialty services;**
- **Expanding access to and choice of health care, including commitments to maintain services and facilities and to preserve physician choice);**
- **Improving health care value by managing quality, cost and service, through measures such as limits on payer rate increases, enhanced information sharing technology and capabilities; and**
- **Investing in health education, research and the workforce, by building and sustaining research infrastructure, increasing residency slots, adding faculty, increasing post graduate training for health professionals, growing the research enterprise in the region, honoring prior service credit for benefits eligibility and vesting, addressing differences in employee pay.**

Specifically, in an effort to enhance population health status consistent with the regional health goals established by the Southwest Virginia Health Authority (the "Authority"), the New Health System will invest not less than $75 million over ten years in population health improvement for the service area. The New Health System will establish a plan, to be updated annually in collaboration with the Commonwealth, the Authority, and possibly the State of Tennessee, to make investments that are consistent with the plan and to complement resources already being expended. The New Health System also commits to pursuing opportunities to establish Accountable Care Communities in partnership with various local, state and federal agencies, payers, service providers and community groups who wish to

partner in such efforts. It is the desire of the New Health System for the Commonwealth and Tennessee to collaborate with the New Health System to establish a regional plan that disregards state boundaries.

The New Health System's integrated delivery system will target identified Key Focus Areas *such as* Ensure Strong Starts for Children, Help Adults Live Well in the Community, Promote a Drug-Free Community, Decrease Avoidable Hospital Admission in the High-Utilizing Uninsured, and Access to Behavioral Health Services. The New Health System's template Community Health Improvement Plan (previously referenced and attached as Exhibit XIII-5B to these Responses) was designed with Virginia's Plan for Well-Being (the "Plan") and the Southwest Virginia Health Authority's Blueprint for Health Improvement & Health-Enabled Prosperity (the "Blueprint") in mind and reflects the Parties' proposed Key Focus Areas. The template Community Health Improvement Plan includes short-term and intermediate-term outcomes for population health improvements, which the New Health System submits for consideration by the Department. The programs and targets outlined in the template Community Health Improvement Plan represent the Parties' proposals based on the Plan and Blueprint goals, feedback from the Community Health Work Groups described in the Application, the existing health resources and programs in the region, and the Parties' knowledge of and experience in the region. The Parties plan to utilize and support existing community programs where possible to further benefit the communities. The Parties expect to work collaboratively with the Commissioner during the Application review period to determine the appropriate final actions and targets.

The following chart demonstrates how the New Health System's commitments, template Community Health Improvement Plan and other proposals align with and will further the Plan and Blueprint goals.

COMPARISON OF BLUEPRINT GOALS, PLAN GOALS AND NEW HEALTH SYSTEM COMMITMENTS, COMMUNITY HEALTH IMPROVEMENT PLAN AND OTHER PROPOSALS

VIRGINIA'S PLAN FOR WELL-BEING – AIM 1: HEALTHY, CONNECTED COMMUNITIES **GOAL 1.1: VIRGINIA'S FAMILIES MAINTAIN ECONOMIC STABILITY**	
Corresponding SWVHA Blueprint Aims & Goals **AIM 4.0: Healthy Communities** **AIM 3.0: Healthy Behaviors**	**New Health System Commitments to Foster Healthy, Connected Communities and to and to Help Provide Economic Stability to the Workforce**
Goal 4.1: Decrease rate of unemployment across the region **Goal 4.2:** Increase households with access to high speed internet to equal or above the state goal of 72%. **Goal 4.3:** Decrease percent of households that are food insecure for some part of the year to no greater than 10%. **Goal 3.5:** Increase percent of high school graduates who are enrolled in an institute of higher education within 16 months after graduation to equal the state goal of 75%. Institutes of higher education can include, but are not limited to, universities, colleges, institutes of technology, vocational schools and trade schools.	Commitment – Application page 45: · The New Health System intends to offer all current employees of WHS and MSHA comparable positions within the New Health System. Revised Commitment 13: · In order to ensure employees are properly recognized for their years of service, and to protect the benefits they have earned over time, the NHS will honor prior service credit for eligibility and vesting under the employee benefit plans maintained by WHS and MSHA, and will provide all employees credit for accrued vacation and sick leave. Revised Commitment 14: · In order to ensure a uniform system of compensation, and to ensure competitiveness of pay for attracting and retaining employees, the NHS will work as quickly as practicable after completion of the merger to invest up to $70 million over 10 years addressing differences in salary/pay rates and employee benefit structures between WHS and MSHA. The NHS will offer competitive compensation and benefits for its employees to support its vision of becoming one of the strongest health systems in the country and one of the best health system employers in the country. Revised Commitment 15: · In order to ensure employees are treated fairly in the event there is a facility closure or termination of services related directly and demonstrably to the merger, the NHS will provide to the Commissioner, within two (2) months of closing, a severance policy addressing how employees will be compensated if they are not retained by the NHS or any of its subsidiaries or affiliates. This policy shall not affect termination of employees if the termination was for-cause or related to the routine operation of such facility. The severance policy shall consider several factors, including but not limited to, each individual's position within his/her current organization and years of service. The policy will also address outplacement support to be provided to any such employee. This provision shall not be construed to create a right of action for any individual employee. Revised Commitment 20: · All hospitals in operation at the effective date of the merger will remain operational as clinical and health care institutions for at least five years. After this time, the NHS will continue to provide access to health care services in the community, which may include continued operation of the hospital, new services as defined by the NHS, and continued investment in health care and preventive services based on the demonstrated need of

VIRGINIA'S PLAN FOR WELL-BEING – AIM 1: HEALTHY, CONNECTED COMMUNITIES GOAL 1.1: VIRGINIA'S FAMILIES MAINTAIN ECONOMIC STABILITY	
Corresponding SWVHA Blueprint Aims & Goals **AIM 4.0: Healthy Communities** **AIM 3.0: Healthy Behaviors**	**New Health System Commitments to Foster Healthy, Connected Communities and to and to Help Provide Economic Stability to the Workforce**
	the community. The NHS may adjust scope of services or repurpose hospital facilities; in such event, it will continue to provide defined "essential services" in the community. Revised Commitment 16: · In order to invest in the advancement of employees, and to assist employees in achieving growth in their careers, the New Health System will combine the best of both organizations' career development programs in order to ensure maximum opportunity for career enhancement and training. Revised Commitment 17: · In order to ensure training of physicians and allied health professionals meets the goals and objectives of the health system and the Authority, the New Health System will develop, in partnership with at least its current academic partners, a 10-year plan for post graduate training of physicians, nurse practitioners, and physician assistants and other allied health professionals in VA and TN. The plan will include, but not be limited to, how it will address the Authority's goals, how training will be deployed in VA and TN based on the assessed needs, clinical capacity and availability of programs. Contingent on continued funding for existing programs from federal and state sources, the New Health System will not reduce or eliminate any medical residency programs or available resident positions presently operated by the Applicants at any Virginia facility provided, however, that such programs may be moved within Virginia, or substituted for residency training in Virginia in other specialties if that is in the best interests of the patient population in the area. Revised Commitment 18: · In order to help create opportunities for investment in research in partnership with Virginia's academic institutions, the New Health System is committed to collaborating with the academic institutions to compete for research opportunities. As the Plan notes, health and poverty are inextricably linked. Healthier people contribute to economic stability, and the New Health System is committed to investing in the improvement of community health for Key Focus Areas agreed upon by the Commonwealth and the New Health System in the Virginia State Agreement. See the proposed Template Community Health Improvement Plan for a comprehensive proposal for improving community health in the Southwest Virginia service area.

VIRGINIA'S PLAN FOR WELL-BEING – AIM 1: HEALTHY, CONNECTED COMMUNITIES GOAL 1.2: VIRGINIA'S COMMUNITIES COLLABORATE TO IMPROVE THE POPULATION'S HEALTH	
Corresponding SWVHA Blueprint Aims & Goals **AIM 4.0: Healthy Communities**	**New Health System Commitments and Proposals to Foster Healthy, Connected Communities and to Collaborate to Improve the Population's Health**
Goal 4.4: Create a model for collaboration across agencies and organizations to share data and resources for the purpose of population health improvement	Revised Commitment 25: · In order to enhance access to services for patients, and to ensure robust choices remain in the market for physicians in the various specialties needed throughout the region, the New Health System will commit to the development of a comprehensive physician/physician extender needs assessment and recruitment plan every three years in each community served by the New Health System. The New Health System will consult with the Authority in development of the plan. The New Health System will employ physicians and physician extenders primarily in underserved areas and locations where needs are not being met, and where independent physician groups are not interested in, or capable of, adding such specialties or expanding. Revised Commitment 5: · In order to improve quality for patients, ensure seamless access to needed patient information, and to support the efforts of the local physician community to access needed information in order to provide high quality patient care, the NHS will participate meaningfully in a health information exchange or a cooperative arrangement whereby privacy protected health information may be shared with community-based providers for the purpose of providing seamless patient care. Revised Commitment 6: · In order to enhance quality and decrease the total cost of care, the NHS will collaborate in good faith with independent physician groups to develop a local, region-wide, clinical services network to share data, best practices and efforts to improve outcomes for patients and to deliver such outcomes at the highest possible value. Revised Commitment 19: · In order to enhance hospital quality, improve cost-efficiency, improve the utilization of hospital-related services, and to enhance opportunities in research, the NHS will adopt a Common Clinical IT Platform as soon as reasonably practical after the formation of the New Health System. The NHS will make access to the IT Platform available on reasonable terms to all physicians in the service area. This fully integrated medical information system will allow for better coordinated care between patients and their doctors, hospitals, and post-acute care and outpatient services and facilitate the move to value-based contracting. Subject to confidentiality laws and rules, the NHS will grant reasonable access to the data collected in its Common Clinical IT Platform to researchers with credible credentials who have entered into Business Associate Agreements for the purpose of conducting research in partnership with the NHS. Template Community Health Improvement Plan: A specific proposal to expand environmental prevention strategies to promote a drug free community: · Increase participation and support of multi-sector community collaborations – Program Example: *OneCare* A specific proposal to improve access to behavioral health care: · Expand community based outpatient psychiatric treatment–Program Example: *Assertive Community Treatment*

VIRGINIA'S PLAN FOR WELL-BEING – AIM 2: STRONG START FOR CHILDREN **GOAL 2.1: VIRGINIANS PLAN THEIR PREGNANCIES**	
Corresponding SWVHA Blueprint Aims & Goals **AIM 1.0: Healthy Starts for Children**	**New Health System Proposals to Ensure Strong Starts for Children and Help Virginians Plan Their Pregnancies**
Goal 1.8: Decrease total preterm births across the region **Goal 1.9**: Increase percent of women who receive early (first trimester) and adequate prenatal care to 80% **PS**: increase percent of pregnant women enrolled seeing OB provider in the first trimester; increase percent of women who have 10 or more prenatal visits **Goal 1.10:** Decrease percent of women who use alcohol and/or tobacco use during pregnancy **PS**: increase screening of pregnant women using evidence based tools eg. AUDIT, CAGE, etc; increase referrals and treatment options **Goal 1.11**: Decrease number of children born with Neonatal Abstinence Syndrome **PS**: increase screening of pregnant women for drug use using evidence based tools; increase referrals and treatment options **Goal 1.12**: Decrease teen pregnancy rate by 25% in all jurisdictions, with no jurisdiction trending upward	Template Community Health Improvement Plan: Specific proposals to ensure healthy starts for children and help Virginians plan their pregnancies, including decrease in preterm births: · Increase effectiveness of pre-natal care – Program Example: *Nurse Family Partnership; Centering Pregnancy*; *17-P Utilization*) · Decrease tobacco use among pregnant women – Program Example: ACOG 5 As *Behavioral Intervention*; *Baby and Me* · Decrease NAS births – Program Example: *Residential treatment for opioid addicted pregnant women* · Increase birth spacing – Program Example: *Post-partum LARC insertion* As the Plan notes, preconception health leads to improved birth outcomes: "Preconception health services for females and males include health screenings, counseling, and clinical services that enable them to become as healthy as possible before pregnancy." The New Health System is committed to investing in the improvement of community health for Key Focus Areas agreed upon by the Commonwealth and the New Health System in the Virginia State Agreement. See the proposed Template Community Health Improvement Plan for a comprehensive proposal for improving community health in the Southwest Virginia service area.

VIRGINIA'S PLAN FOR WELL-BEING – AIM 2: STRONG START FOR CHILDREN
GOAL 2.2: VIRGINIA'S CHILDREN ARE PREPARED TO SUCCEED IN KINDERGARTEN

Corresponding SWVHA Blueprint Aims & Goals AIM 1.0: Healthy Starts for Children	New Health System Proposals to Ensure Strong Starts for Children and Prepare Children for Success
Goal 1.1: Decrease by .5% across the region, the percent of children who do not meet the PALS K benchmarks in the fall of kindergarten and require literacy interventions, with no jurisdiction exceeding 20% failure to meet the benchmark **PS:** Increase Pre-K and Head Start enrollment; Increase day cares with Star Quality Program Certification **Goal 1.2:** Increase percent of third graders who pass the Standards of Learning third grade reading assessment to 80% or better, with no sustained decline in any jurisdiction **Goal 1.6:** Decrease rate of child abuse and neglect across the region **Goal 1.13:** Increase percent of women who initiate breastfeeding	Template Community Health Improvement Plan: A specific proposal to ensure strong starts for children and prepare them for success in school: · Increase read aloud opportunities – Program Examples: Bear *Buddies/Nurse Family Partnership*) · Short term outcome: Increased percentage of "at risk" K-2 students paired with a Bear Buddy reading mentor · Intermediate outcome: Increased percentage of 3rd graders scoring "pass/proficient" on VA DOE SOL tests As the Plan notes, helping children to succeed in school – in kindergarten and beyond – also requires focus on health and family issues. Through the Template Community Health Improvement Plan and Commitments, the New Health System is committed to investing in programs to address both of these issues: Some specific proposals in the Template Community Health Improvement Plan to address children's health issues: · Increase rates of breastfeeding – Program Example: *Baby Friendly Hospital Initiative* · Increase physical activity – Program Example: *Morning Mile; Project SPARK* · Increase healthy eating – Program Example: *#LiveSugarFree campaign* · Expand anti-smoking campaigns – Program Example: *#UNSMOKABLE* · Decrease diversion to opioid use – Program Example: *Drug return kiosks* · Expand anti-opioid campaigns – Program Example: *Above the Influence* Some specific proposals in the Template Community Health Improvement Plan to address family health and environmental issues: · Decrease opioid prescriptions written – Program Examples: *Choosing Wisely, Virginia PMP* · Increase participation and support of multi-sector community collaborations – Program Example: *OneCare* · Increase supportive housing – Program Example: *Oxford House* · Increased screening at sites of care for depression and substance abuse – Program Example: *SBIRT* · Expand community based outpatient psychiatric treatment – Program Example: *Assertive Community Treatment* · Expand crisis management services – Program Example: *Mobile Crisis Teams* · Expand continuum of treatment options for SUD recovery – Program Examples: *Medically Monitored Detox, Residential Treatment, Outpatient Treatment* Revised Commitment 26: · In an effort to enhance treatment of substance abuse in the region, the NHS will create new capacity for residential addiction recovery services serving the people of Southwest Virginia. · Because improved mental health services is a priority of the Authority and the law, the NHS will develop community-based mental health resources, such as mobile health crisis management teams and intensive outpatient treatment and addiction resources for adults, children, and adolescents designed to minimize inpatient psychiatric admissions, incarceration, and other out-of-home placements. · The plan will be developed no later than 24 months after closing and will include a time schedule for implementing the plan and expenditures under the plan.

VIRGINIA'S PLAN FOR WELL-BEING – AIM 2: STRONG START FOR CHILDREN GOAL 2.3: THE RACIAL DISPARITY IN VIRGINIA'S INFANT MORTALITY RATE IS ELIMINATED	
Corresponding SWVHA Blueprint Aims & Goals **AIM 1.0: Healthy Starts for Children**	**New Health System Commitments and Proposals to Ensure Strong Starts for Children and Help Decrease Infant Mortality Rates**
Goal 1.7: Decrease infant mortality rate across the region **Goal 1.13:** Increase percent of women who initiate breastfeeding	Template Community Health Improvement Plan: Some specific proposals to ensure healthy starts for children and decrease infant mortality rates: · Increase effectiveness of pre-natal care – Program Example: *Nurse Family Partnership; Centering Pregnancy; 17-P Utilization)* · Decrease tobacco use among pregnant women – Program Example: *ACOG 5 As Behavioral Intervention; Baby and Me* · Decrease NAS births – Program Example: *Residential treatment for opioid addicted pregnant women* · Increase birth spacing – Program Example: *Post-partum LARC insertion* · Increase rates of breastfeeding – Program Example: *Baby Friendly Hospital Initiative* Some specific proposals to improve access to behavioral health and contribute to decreased infant mortality rates: · Decrease opioid prescriptions written – Program Examples: *Choosing Wisely, Virginia PMP* · Increase participation and support of multi-sector community collaborations – Program Example: *OneCare* · Increase supportive housing – Program Example: *Oxford House* · Increased screening at sites of care for depression and substance abuse – Program Example: *SBIRT* · Expand community based outpatient psychiatric treatment – Program Example: *Assertive Community Treatment* · Expand crisis management services – Program Example: *Mobile Crisis Teams* · Expand continuum of treatment options for SUD recovery – Program Examples: *Medically Monitored Detox, Residential Treatment, Outpatient Treatment* Some specific proposals to decreased opioid abuse in youth and contribute to decreased infant mortality rates: · Decrease diversion to opioid use – Program Example: *Drug return kiosks* · Expand anti-opioid campaigns – Program Example: *Above the Influence* Revised Commitment 26: · The NHS will develop pediatric specialty centers and Emergency Rooms in Kingsport and Bristol, TN with further deployment of pediatric telemedicine and rotating specialty clinics in rural hospitals to ensure quick diagnosis and treatment in the right setting in close proximity to patients' homes. Application Section 15.a "Projected Efficiencies," pages 90-91: · "The New Health System will utilize the findings from [the Population Health & Healthy Communities Work Group] to identify health care delivery goals that could be improved, including, but not limited to: increased vaccinations and ***screenings, improved integration of primary care…***." · "The [Healthy Children & Families Work Group] will produce a report that identifies ***the most prominent physical, behavioral, and social health problems affecting children in the region and explores their causes, taking into account the social and family support necessary to equip children to make the strongest possible start…***."

VIRGINIA'S PLAN FOR WELL-BEING – AIM 3: PREVENTIVE ACTIONS **GOAL 3.1: VIRGINIANS FOLLOW A HEALTHY DIET AND LIVE ACTIVELY**	
Corresponding SWVHA Blueprint Aims & Goals **AIM 1.0: Healthy Starts for Children** **AIM 3.0: Healthy Behaviors** **AIM 4.0: Healthy Communities**	**New Health System Commitments and Proposals to Foster Preventive Actions and to Help Virginians Follow a Healthy Diet and Live Actively**
Goal 1.13: Increase percent of women who initiate breastfeeding **Goal 3.2**: Decrease percent of adults in the region who are overweight or obese to equal or below the state goal of 63%. PS: decrease sugar sweetened beverage intake; Increase percent of adults who report consumption of five or more servings of fruits and vegetables per day **Goal 3.3**: Decrease percent of children in the region who are overweight, or obese (BMI > 85% for age and gender) PS: Improve access to data on children who are overweight or obese; increase consumption of five servings of fruit and vegetables per day; decrease sugar sweetened beverage intake **Goal 3.4:** Decrease percent of adults who did not participate in any physical activity during the last 30 days to no more than 20% across the region PS: Increase access to outdoor recreation; increase access to free/affordable organized community activity programs; increase walking / biking/ hiking venues **Goal 4.5:** Increase number of communities that adopt policies, environmental and systems changes (PES) to support healthy living PS: Educate state and local government and private leaders on how the work done in their respective communities contributes to the health and well-being of all regional residents, and how policies have intended and unintended impacts on health. Consider policies related to built environment, complete streets, walking trails, bike lanes, restaurants, farmers markets, and tobacco use, etc.; Create a model for communities to evaluate, monitor, and track sustainable PES change	Template Community Health Improvement Plan: Some specific proposals to reduce obesity, foster healthy behaviors and help Virginians to follow a healthy diet and live actively: · Increase physical activity among children and adults – Program Examples: *YMCA Diabetes Prevention Program; Morning Mile; Project SPARK* · Increase Healthy Eating by children and adults – Program Examples: *YMCA Diabetes Prevention Program; #LiveSugarFree campaign* · Increase rates of breastfeeding – Program Example*: Baby Friendly Hospital Initiative* · Decrease youth and adult tobacco use, through expanded anti-smoking campaigns, increased cessation treatment and expanded successful mass-reach health communications interventions – Program Examples: *#UNSMOKABLE, Screenings and Physician Counseling, CDC's Tips From Former Smokers*

VIRGINIA PLAN FOR WELL-BEING - PLAN AIM 3: PREVENTIVE ACTIONS GOAL 3.2: VIRGINIA PREVENTS NICOTINE DEPENDENCY	
Corresponding SWVHA Blueprint Aims & Goals **AIM 3.0: Healthy Behaviors**	**New Health System Proposals to Foster Preventive Actions and to Prevent Nicotine Dependency**
Goal 3.6: Decrease the percent of adults who report using tobacco to no more than 12% across the region **PS:** set intermediate goal to reduce tobacco use to 20% by 2018; increase number of tobacco free environments by policy and legislation (public housing, public and private organizations, automobiles with children, etc.); increase cost of tobacco; repeal restrictive state laws that prohibit localities from addressing tobacco use. **Goal 3.7:** Decrease initiation of alcohol, tobacco, and other drugs (ATOD), including e-cigs in adolescents **PS**: Increase evidence based prevention education in school, community, and faith based settings; increase schools that administer and report data from YRBS; Monitor data on reported use of electronic cigarettes (e-cigs); increase cost of tobacco; enforce restriction of sales of tobacco to people under age 18; increase number of environments that are tobacco free	Template Community Health Improvement Plan: Specific proposals to foster healthy behaviors and prevent nicotine/tobacco and other dependencies among youth and adults: · Expand anti-smoking campaigns – Program Example: *#UNSMOKABLE* · Increase cessation treatment – Program Example: *Screening and Physician Counseling* · Expand successful mass-reach health communication interventions – Program Example: *CDC's Tips From Former Smokers* · Decrease diversion to opioid use – Program Example: *Drug return kiosks* · Expand anti-opioid campaigns – Program Example: *Above the Influence* · Decrease prescriptions written for opioids – Program Examples: *Choosing Wisely, Virginia PMP* · Increase participation and support of multi-sector community collaborations to expand environmental prevention strategies – Program Example: *OneCare* · Increase supportive housing to expand supportive services and promote a drug free community – Program Example: *Oxford House*

VIRGINIA PLAN FOR WELL-BEING – PLAN AIM 3: PREVENTIVE ACTIONS GOAL 3.3: VIRGINIANS ARE PROTECTED AGAINST VACCINE-PREVENTABLE DISEASES	
Corresponding SWVHA Blueprint Aims & Goals **AIM 1.0: Healthy Starts for Children** **AIM 3.0: Healthy Behaviors**	**New Health System Proposals to Foster Preventive Actions and Protect Against Vaccine-Preventable Disease**
Goal 1.3: Increase the percentage of children aged 19 to 35 months who receive the recommended doses of DTaP, polio, MMR, Hib, hepatitis B, varicella and pneumococcal conjugate vaccine (PCV) to 80% **PS:** Increase reporting to VIIS; Increase EMRs (to feed into)that automatically populate immunizations into VIIS; increase access to immunizations at primary care provider offices; share TN and VA immunization registry data **Goal 1.4:** Increase percent of boys and girls, age 13-17, who receive three doses of HPV vaccine, to 80% **PS:** Increase access to vaccine in primary care clinics, and school based clinics **Goal 3.1:** Increase the percent of adults who receive an annual influenza vaccine to 70%	Template Community Health Improvement Plan: Specific proposals to ensure healthy starts for children, foster healthy behaviors and protect Virginians against vaccine-preventable diseases: · Increase use of primary, BH, and specialty-care services – Program Examples: *Project Access, Free-clinics* · Increase use of home-based health services – Program Examples: *Community Paramedics, Community Health Workers* · Expand supportive services through increased use of case management – Program Example: *SC Medicaid Healthy Outcomes Program* · Decrease transportation barriers – Program Example: *Transportation vouchers* Application, page 50: Targeted efforts to address immunizations and preventive screenings are expected to be explicitly derived from the National Association of County and City Health Officials Mobilizing for Action through Planning and Partnerships ("MAPP") community health improvement process outlined in this Application…. Further, the Parties believe there are significant opportunities to partner with all categories of payers to create effective systems of care for best practice preventative services and to extend those services to both economically and geographically underserved populations through effective collaboration with Federally Qualified Health Centers, charity care clinics, health departments and others. In addition, Mountain States owns and operates drop-by Health Resources Centers that support chronic disease prevention and management in Kingsport and Johnson City, Tennessee, and Wellmont owns and operates mobile health buses that are equipped to offer immunizations, cardiovascular and cancer screenings, mammograms, and physicals along with health education and coaching resources to engage with populations for effective behavior change and the extension of disease management resources. Mobile strategies will allow reach into populations with both economic and geographic barriers and can be further supplanted by a host of health information technology strategies which are envisioned to be developed as part of the long-range community health improvement plan.

VIRGINIA PLAN FOR WELL-BEING - PLAN AIM 3: PREVENTIVE ACTIONS GOAL 3.4: IN VIRGINIA, CANCERS ARE PREVENTED OR DIAGNOSED AT THE EARLIEST STAGE POSSIBLE	
Corresponding SWVHA Blueprint Aims & Goals: **AIM 3.0: Healthy Behaviors** **AIM 5.0: Effective System of Health Care**	**New Health System Proposals to Foster Preventive Actions and Diagnose Disease at the Earliest Stage Possible**
Goal 5.2: Increase percent of adults appropriately screened for colon, cervical, and breast cancer based on standards of care **Related Goals for Disease Prevention and Treatment:** **Goal 3.9:** Decrease rate of avoidable deaths from heart disease, stroke, or hypertensive disease in the region equal to or below the state goal of 40 per 100,000 **Goal 3.10:** Decrease morbidity and mortality (age adjusted) related to diabetes **PS:** increase percent of people with diabetes who receive annual A1C testing; increase number of people with diabetes who participate in a diabetes education program; decrease hospitalizations related to uncontrolled diabetes	Template Community Health Improvement Plan: Specific proposals to foster healthy behaviors and an effective system of health care and help diagnose disease at the earliest stage possible: · Increase population screening – Program Examples: *Screening and Physician Counseling; SBIRT; Mobile Health Unit Deployment* · Increase use of primary, BH, and specialty-care services – Program Examples: *Project Access, Free-clinics* · Increase use of home-based health services – Program Examples: *Community Paramedics, Community Health Workers* · Expand supportive services through increased use of case management – Program Example: *SC Medicaid Healthy Outcomes Program* · Decrease transportation barriers – Program Example: *Transportation vouchers*

VIRGINIA PLAN FOR WELL-BEING - PLAN AIM 3: PREVENTIVE ACTIONS GOAL 3.5: VIRGINIANS HAVE LIFELONG WELLNESS	
Corresponding SWVHA Blueprint Aims & Goals **AIM 4.0: Healthy Communities** **AIM 5.0: Effective System of Health Care**	**New Health System Commitments and Other Proposals to Foster Preventive Actions and to Help Virginians Have Lifelong Wellness**
Goal 4.2: Increase households with access to high speed internet to equal or above the state goal of 72% **Goal 4.3:** Decrease percent of households that are food insecure for some part of the year to no greater than 10% **Goal 5.1:** Increase access to certified specialty care providers, with a focus on endocrinology, cardiology, pulmonary, and oncology **Goal 5.4:** Decrease hospitalizations for ambulatory care sensitive conditions to no greater than 1100 per 100,000 **PS**: Obtain data from VHI and all payers claim databases for Virginia residents admitted to hospitals in Virginia, Tennessee, and Kentucky	As the Plan notes: "Preventive actions and support systems can result in people living in their own home and community safely, independently, and comfortably, regardless of age, income, or ability level." The New Health System's Template Community Health Improvement Plan proposes measures that will provide support systems to people in the service area and foster lifelong wellness. · Increase use of primary, BH and specialty-care services to increase use of ED alternatives – Program Examples: *Project Access, Free-clinics* · Increase use of home-based health services – Program Examples: *Community Paramedics, Community Health Workers* · Expand supportive services through increased use of case management – Program Example: *SC Medicaid Healthy Outcomes Program* · Decrease transportation barriers – Program Example: *Transportation Vouchers* · Increase population screening for early detection of chronic disease – Program Examples: *Screening and Physician Counseling; SBIRT; Mobile Health Unit Deployment* Revised Commitment 27: · In an effort to enhance population health status consistent with the regional health goals established by the Authority, the New Health System will invest not less than $75 million over ten years in population health improvement for the service area. The New Health System will establish a plan, to be updated annually in collaboration with the Authority, the Commonwealth, and possibly the State of Tennessee, to make investments that are consistent with the plan and to complement resources already being expended. The New Health System also commits to pursuing opportunities to establish Accountable Care Communities in partnership with various local, state and federal agencies, payers, service providers and community groups who wish to partner in such efforts. It is the desire of the New Health System for the Commonwealth and Tennessee to collaborate with the New Health System to establish a regional plan that disregards state boundaries. Revised Commitments 9 and 10: · In order to ensure low income patients are not adversely impacted due to pricing, the NHS will adopt a charity care policy that provides for the full write-off of amounts owed for services by patients with incomes at or below two hundred percent (200%) of the federal poverty level. Uninsured or underinsured individuals who do not qualify under the charity care policy will receive a discount off hospital charges based on their ability to pay. Revised Commitment 25: · In order to enhance access to services for patients, and to ensure robust choices remain in the market for physicians in the various specialties needed throughout the region, the New Health System will commit to the development of a comprehensive physician/physician extender needs assessment and recruitment plan every three years in each community served by the New Health System. The New Health System will consult with the Authority in development of the plan. The New Health System will employ physicians and physician extenders primarily in underserved areas and locations where needs are not being met, and where independent physician groups are not interested in, or capable of, adding such specialties or expanding.

VIRGINIA PLAN FOR WELL-BEING - PLAN AIM 4: SYSTEM OF HEALTH CARE **GOAL 4.1: VIRGINIA HAS A STRONG PRIMARY CARE SYSTEM LINKED TO BEHAVIORAL HEALTH CARE, ORAL HEALTH CARE, AND COMMUNITY SUPPORT SYSTEMS**	
Corresponding SWVHA Blueprint Aims & Goals **AIM 2.0 Healthy Minds** **AIM 3.0 Healthy Behaviors** **AIM 1.0 Healthy Starts for Children**	**New Health System Commitments and Other Proposals to Develop a System of Care that Provides Virginians with a Strong Primary Care System Linked to Behavioral Health Care, Oral Health Care and Community Support**
Goal 2.1: Increase the number of certified or licensed professionals treating mental health and substance use disorders (SUD), including core mental health professionals, as defined by HRSA, sufficient to eliminate the Mental Health Professions Shortage Area Designation in the region. Core mental health professionals as defined by HRSA include psychiatrists, clinical psychologists, clinical social workers, psychiatric nurse specialists, and marriage and family therapists. **PS**: increase number of Licensed Substance Abuse Treatment Professionals; increase locations with integrated primary care and behavioral health services **Goal 2.2:** Increase access to diverse services for SUD treatment, including intensive outpatient, inpatient and residential **PS**: increase SUD treatment services integrated with primary care **Goal 2.3:** Increase the number of people who receive specialty treatment for SUD in the region **PS:** Increase screening and referral to treatment using evidence based screening tools for alcohol and SUD in settings including urgent care, emergency dept, primary care; decrease hospitalizations related to mental health and SUD **Goal 2.4:** Decrease number of drug/poison deaths in the region **PS**: Expand access to naloxone for lay rescuers and first responders; increase provider training on appropriate use of opiates in chronic pain management; decrease number of Fentanyl, Hydrocodone, Methadone, Oxycodone (FHMO) deaths **Goal 2.5:** Decrease suicide rate to equal or below state rate of 12.9 per 100,000 **PS**: increase depression screening and referral in care settings including emergency dept and primary care; increase community education and resources to identify	Revised Commitment 26: • In an effort to enhance treatment of substance abuse in the region, the NHS will create new capacity for residential addiction recovery services serving the people of Southwest Virginia. • Because improved mental health services is a priority of the Authority and the law, the NHS will develop community-based mental health resources, such as mobile health crisis management teams and intensive outpatient treatment and addiction resources for adults, children, and adolescents designed to minimize inpatient psychiatric admissions, incarceration, and other out-of-home placements. • The plan will be developed no later than 24 months after closing and will include a time schedule for implementing the plan and expenditures under the plan. Template Community Health Improvement Plan: Specific proposals to develop a system of care that provides Virginians with a strong primary care system linked to of behavioral health care, oral health care and community support: · Increased screening for depression and substance abuse at sites of care – Program Example: *SBIRT* · Expand community based outpatient psychiatric treatment – Program Example: *Assertive Community Treatment* · Expand crisis management services – Program Example: *Crisis Teams* · Increase number of individuals with SUD in recovery by expanding continuum of treatment options – Program Examples: *Medically Monitored Detox, Residential Treatment, Outpatient Treatment* · Increase use of primary, BH, and specialty-care services – Program Examples: *Project Access, Free-clinics* · Increase use of home-based health services – Program Examples: *Community Paramedics, Community Health Workers* · Expand supportive services through increased use of case management – Program Example: *SC Medicaid Healthy Outcomes Program* · Decrease transportation barriers – Program Example: *Transportation vouchers* Revised Commitments 9 and 10: • In order to ensure low income patients are not adversely impacted due to pricing, the NHS will

VIRGINIA PLAN FOR WELL-BEING - PLAN AIM 4: SYSTEM OF HEALTH CARE GOAL 4.1: VIRGINIA HAS A STRONG PRIMARY CARE SYSTEM LINKED TO BEHAVIORAL HEALTH CARE, ORAL HEALTH CARE, AND COMMUNITY SUPPORT SYSTEMS	
Corresponding SWVHA Blueprint Aims & Goals **AIM 2.0 Healthy Minds** **AIM 3.0 Healthy Behaviors** **AIM 1.0 Healthy Starts for Children**	**New Health System Commitments and Other Proposals to Develop a System of Care that Provides Virginians with a Strong Primary Care System Linked to Behavioral Health Care, Oral Health Care and Community Support**
persons at risk of suicide **Goal 3.8:** Increase access to oral health care services using traditional and innovative models of oral health care delivery, to include a sufficient number of dentists to eliminate the Dental Health Professions Shortage Area Designation. **PS:** Increase number of dental providers at fixed locations within the region; increase number of dental hygienists working under remote supervision, working in FQHCs and rural health clinics; pilot dental therapy practitioner model; expand Medicaid to include coverage for oral health care for adults **Goal 1.5:** Increase number of children, ages 1-18, who receive preventive oral health services **PS:** Increase medical providers who are trained, and provide fluoride varnish; increase the number of dentists who will see children as young as age 1; increase visits to dentist for children ages 1-4; increase number of FQHC locations who provide oral health services integrated with primary care; increase number of dental hygienists working under remote supervision working in VDH, FQHC, School Based Clinics, Head Start; increase number of school based oral health services to include dental sealants	adopt a charity care policy that provides for the full write-off of amounts owed for services by patients with incomes at or below two hundred percent (200%) of the federal poverty level. Uninsured or underinsured individuals who do not qualify under the charity care policy will receive a discount off hospital charges based on their ability to pay. Application Section 15.a.H "Description of Benefits," page 92: "The Parties expect to identify a more integrated care model similar to what is outlined by the Agency for Healthcare Research and Quality ("AHRQ") for the region through the efforts of the Community Health Work Groups. That model ***includes primary care and behavioral health clinicians working together with patients and families, using a systematic and cost-effective approach to provide patient-centered care addressing mental health, substance abuse conditions***, health behaviors, life stressors and crisis, stress-related physical symptoms, and ineffective patterns of health care utilization."

VIRGINIA PLAN FOR WELL-BEING - PLAN AIM 4: SYSTEM OF HEALTH CARE GOAL 4.2: VIRGINIA'S HEALTH IT SYSTEM CONNECTS PEOPLE, SERVICES AND INFORMATION TO SUPPORT OPTIMAL HEALTH OUTCOMES	
Corresponding SWVHA Blueprint Aims & Goals **AIM 4.0: Healthy Communities** **AIM 5.0: Effective System of Health Care**	**New Health System Commitments and Other Proposals to Develop a System of Health Care and Help Virginia's Health IT System Connect People, Services and Information to Support Optimal Health Outcomes**
Goal 4.2: Increase households with access to high speed internet to equal or above the state goal of 72% **Goal 5.5:** Increase Health Information Exchange (HIE) in regional health systems serving upper east Tennessee and Southwest Virginia **PS:** Implement data sharing between regional health systems, including but not limited to, Wellmont Health System, Mountain States Health Alliance, Veterans Administration System, Holston Medical Group, and Tennessee and Virginia Departments of Health.	Revised Commitment 5: • In order to improve quality for patients, ensure seamless access to needed patient information, and to support the efforts of the local physician community to access needed information in order to provide high quality patient care, the New Health System will participate meaningfully in a health information exchange or a cooperative arrangement whereby privacy protected health information may be shared with community-based providers for the purpose of providing seamless patient care. Revised Commitment 6: • In order to enhance quality and decrease the total cost of care, the New Health System will collaborate in good faith with independent physician groups to develop a local, region-wide, clinical services network to share data, best practices and efforts to improve outcomes for patients and to deliver such outcomes at the highest possible level. Revised Commitment 19: • In order to enhance hospital quality, improve cost-efficiency, improve the utilization of hospital-related services, and to enhance opportunities in research, the NHS will adopt a Common Clinical IT Platform as soon as reasonably practical after the formation of the New Health System. The NHS will make access to the IT Platform available on reasonable terms to all physicians in the service area. This fully integrated medical information system will allow for better coordinated care between patients and their doctors, hospitals, and post-acute care and outpatient services and facilitate the move to value-based contracting. Subject to confidentiality laws and rules, the NHS will grant reasonable access to the data collected in its Common Clinical IT Platform to researchers with credible credentials who have entered into Business Associate Agreements for the purpose of conducting research in partnership with the NHS.

VIRGINIA PLAN FOR WELL-BEING - PLAN AIM 4: SYSTEM OF HEALTH CARE GOAL 4.3: HEALTH CARE-ASSOCIATED INFECTIONS IN VIRGINIA ARE PREVENTED AND CONTROLLED	
Corresponding SWVHA Blueprint Aims & Goals **AIM 5.0: Effective System of Health Care**	**New Health System Commitments and Other Proposals to Develop a System of Health Care and Help Prevent and Control Health Care-Associated Infections in Virginia**
Goal 5.3: Increase the number of hospitals in the region meeting the state goal for prevention of hospital-onset *C.difficile* infections to 100% **PS:** Obtain data on hospital onset *C.Difficile* from hospitals utilized by Virginia residents located in Tennessee and Kentucky	Revised Commitment 8: • In order to enhance quality of patient care through greater transparency, improve utilization of hospital resources, and to ensure the population health of the region is consistent with goals established by the Authority, the NHS will establish annual priorities related to quality improvement and publicly report these quality measures in an easy to understand manner for use by patients, employers and insurers. Such reporting shall include posting of quality measures and actual performance on NHS's website accessible to the public. The NHS shall report such data timely so the public can easily evaluate the performance of the NHS as compared to its competitors, and ensure consumers retain the option to seek services where the quality is demonstrably the highest. In addition, the NHS will timely report and include on its web site its performance compared to the Medicare quality measures including readmission statistics. The NHS will give notice to the Authority of the metrics the NHS is prioritizing, and will, in good faith, include input from the Authority in establishing or modifying its priorities.

The *Blueprint for Health Improvement & Health – Enabled Prosperity* reflects the collaborative work of community members and organizations in identifying priority goals and strategies for population health improvement in Southwest Virginia. The aims, goals and preliminary strategies ("**PS**") in this document are ambitious, achievable, measurable, and intended to be attained by 2020. They apply to a geographic "region" that includes the counties of Lee, Scott, Wise, Dickenson, Buchanan, Tazewell, Russell, Washington, Smyth, and cities of Norton and Bristol.

Aim 1.0: Healthy Starts for Children

Goal 1.1: Decrease by .5% across the region, the percent of children who do not meet the PALS K benchmarks in the fall of kindergarten and require literacy interventions, with no jurisdiction exceeding 20% failure to meet the benchmark

PS: Increase Pre-K and Head Start enrollment; Increase day cares with Star Quality Program Certification

Goal 1.2: Increase percent of third graders who pass the Standards of Learning third grade reading assessment to 80% or better, with no sustained decline in any jurisdiction

Goal 1.3: Increase the percentage of children aged 19 to 35 months who receive the recommended doses of DTaP, polio, MMR, Hib, hepatitis B, varicella and pneumococcal conjugate vaccine (PCV) to 80%

PS: Increase reporting to VIIS; Increase EMRs (to feed into)that automatically populate immunizations into VIIS; increase access to immunizations at primary care provider offices; share TN and VA immunization registry data

Goal 1.4: Increase percent of boys and girls, age 13-17, who receive three doses of HPV vaccine, to 80%

PS: Increase access to vaccine in primary care clinics, and school based clinics

Goal 1.5: Increase number of children, ages 1-18, who receive preventive oral health services

PS: Increase medical providers who are trained, and provide fluoride varnish; increase the number of dentists who will see children as young as age 1; increase visits to dentist for children ages 1-4; increase number of FQHC locations who provide oral health services integrated with primary care; increase number of dental hygienists working under remote supervision working in VDH, FQHC, School Based Clinics, Head Start; increase number of school based oral health services to include dental sealants

Goal 1.6: Decrease rate of child abuse and neglect across the region

Goal 1.7: Decrease infant mortality rate across the region

Goal 1.8: Decrease total preterm births across the region

Goal 1.9: Increase percent of women who receive early (first trimester) and adequate prenatal care to 80%

PS: increase percent of pregnant women enrolled seeing OB provider in the first trimester; increase percent of women who have 10 or more prenatal visits

Goal 1.10: Decrease percent of women who use alcohol and/or tobacco use during pregnancy

PS: increase screening of pregnant women using evidence based tools eg. AUDIT, CAGE, etc; increase referrals and treatment options

Goal 1.11: Decrease number of children born with Neonatal Abstinence Syndrome

PS: increase screening of pregnant women for drug use using evidence based tools; increase referrals and treatment options

Goal 1.12: Decrease teen pregnancy rate by 25% in all jurisdictions, with no jurisdiction trending upward

Goal 1.13: Increase percent of women who initiate breastfeeding

Aim 2.0: Healthy Minds

Goal 2.1: Increase the number of certified or licensed professionals treating mental health and substance use disorders (SUD), including core mental health professionals, as defined by HRSA, sufficient to eliminate the Mental Health Professions Shortage Area Designation in the region. Core mental health professionals as defined by HRSA include psychiatrists, clinical psychologists, clinical social workers, psychiatric nurse specialists, and marriage and family therapists.

PS: increase number of Licensed Substance Abuse Treatment Professionals; increase locations with integrated primary care and behavioral health services

Goal 2.2: Increase access to diverse services for SUD treatment, including intensive outpatient, inpatient and residential

PS: increase SUD treatment services integrated with primary care

Goal 2.3: Increase the number of people who receive specialty treatment for SUD in the region

PS: Increase screening and referral to treatment using evidence based screening tools for alcohol and SUD in settings including urgent care, emergency dept, primary care; decrease hospitalizations related to mental health and SUD

Goal 2.4: Decrease number of drug/poison deaths in the region

PS: Expand access to naloxone for lay rescuers and first responders; increase provider training on appropriate use of opiates in chronic pain management; decrease number of Fentanyl, Hydrocodone, Methadone, Oxycodone (FHMO) deaths

Goal 2.5: Decrease suicide rate to equal or below state rate of 12.9 per 100,000

PS: increase depression screening and referral in care settings including emergency dept and primary care; increase community education and resources to identify persons at risk of suicide

Aim 3.0: Healthy Behaviors

Goal 3.1: Increase the percent of adults who receive an annual influenza vaccine to 70%

Goal 3.2: Decrease percent of adults in the region who are overweight or obese to equal or below the state goal of 63%.

PS: decrease sugar sweetened beverage intake; Increase percent of adults who report consumption of five or more servings of fruits and vegetables per day

Goal 3.3: Decrease percent of children in the region who are overweight, or obese (BMI > 85% for age and gender)

PS: Improve access to data on children who are overweight or obese; increase consumption of five servings of fruit and vegetables per day; decrease sugar sweetened beverage intake.

Goal 3.4: Decrease percent of adults who did not participate in any physical activity during the last 30 days to no more than 20% across the region

PS: Increase access to outdoor recreation; increase access to free/affordable organized community activity programs; increase walking / biking/ hiking venues

Goal 3.5: Increase percent of high school graduates who are enrolled in an institute of higher education within 16 months after graduation to equal the state goal of 75%. Institutes of higher education can include, but are not limited to, universities, colleges, institutes of technology, vocational schools and trade schools.

Goal 3.6: Decrease the percent of adults who report using tobacco to no more than 12% across the region

PS: set intermediate goal to reduce tobacco use to 20% by 2018; increase number of tobacco free environments by policy and legislation (public housing, public and private organizations, automobiles with children, etc.); increase cost of tobacco; repeal restrictive state laws that prohibit localities from addressing tobacco use.

Goal 3.7: Decrease initiation of alcohol, tobacco, and other drugs (ATOD), including e-cigs in adolescents

PS: Increase evidence based prevention education in school, community, and faith based settings; increase schools that administer and report data from YRBS; Monitor data on reported use of electronic cigarettes (e-cigs); increase cost of tobacco; enforce restriction of sales of tobacco to people under age 18; increase number of environments that are tobacco free

Goal 3.8: Increase access to oral health care services using traditional and innovative models of oral health care delivery, to include a sufficient number of dentists to eliminate the Dental Health Professions Shortage Area Designation.

PS: Increase number of dental providers at fixed locations within the region; increase number of dental hygienists working under remote

supervision, working in FQHCs and rural health clinics; pilot dental therapy practitioner model; expand Medicaid to include coverage for oral health care for adults

Goal 3.9: Decrease rate of avoidable deaths from heart disease, stroke, or hypertensive disease in the region equal to or below the state goal of 40 per 100,000

Goal 3.10: Decrease morbidity and mortality (age-adjusted) related to diabetes

PS: increase percent of people with diabetes who receive annual A1C testing; increase number of people with diabetes who participate in a diabetes education program; decrease hospitalizations related to uncontrolled diabetes

Aim 4.0: Healthy Communities

Goal 4.1: Decrease rate of unemployment across the region

Goal 4.2: Increase households with access to high speed internet to equal or above the state goal of 72%

Goal 4.3: Decrease percent of households that are food insecure for some part of the year to no greater than 10%

Goal 4.4: Create a model for collaboration across agencies and organizations to share data and resources for the purpose of population health improvement

Goal 4.5: Increase number of communities that adopt policies, environmental and systems changes (PES) to support healthy living

PS: Educate state and local government and private leaders on how the work done in their respective communities contributes to the health and well-being of all regional residents, and how policies have intended and unintended impacts on health. Consider policies related to built environment, complete streets, walking trails, bike lanes, restaurants,

farmers markets, and tobacco use, etc.; Create a model for communities to evaluate, monitor, and track sustainable PES change

Aim 5.0: Effective System of Health Care

Goal 5.1: Increase access to certified specialty care providers, with a focus on endocrinology, cardiology, pulmonary, and oncology

Goal 5.2: Increase percent of adults appropriately screened for colon, cervical, and breast cancer based on standards of care

Goal 5.3: Increase the number of hospitals in the region meeting the state goal for prevention of hospital-onset *C.difficile* infections to 100%

PS: Obtain data on hospital onset *C.Difficile* from hospitals utilized by Virginia residents located in Tennessee and Kentucky

Goal 5.4: Decrease hospitalizations for ambulatory care sensitive conditions to no greater than 1100 per 100,000

PS: Obtain data from VHI and all payers claim databases for Virginia residents admitted to hospitals in Virginia, Tennessee, and Kentucky

Goal 5.5: Increase Health Information Exchange (HIE) in regional health systems serving upper east Tennessee and Southwest Virginia

PS: Implement data sharing between regional health systems, including but not limited to, Wellmont Health System, Mountain States Health Alliance, Veterans Administration System, Holston Medical Group, and Tennessee and Virginia Departments of Health.

VIRGINIA'S PLAN FOR WELL-BEING

2016-2020

Aims and Goals

AIM 1 Healthy, Connected Communities

GOAL 1.1 Virginia's Families Maintain Economic Stability

GOAL 1.2 Virginia's Communities Collaborate to Improve the Population's Health

AIM 2 Strong Start for Children

GOAL 2.1 Virginians Plan Their Pregnancies

GOAL 2.2 Virginia's Children are Prepared to Succeed in Kindergarten

GOAL 2.3 The Racial Disparity in Virginia's Infant Mortality Rate is Eliminated

AIM 3 Preventive Actions

GOAL 3.1 Virginians Follow a Healthy Diet and Live Actively

GOAL 3.2 Virginia Prevents Nicotine Dependency

GOAL 3.3 Virginians Are Protected Against Vaccine-Preventable Diseases

GOAL 3.4 In Virginia, Cancers Are Prevented or Diagnosed at the Earliest Stage Possible

GOAL 3.5 Virginians Have Lifelong Wellness

AIM 4 System of Health Care

GOAL 4.1 Virginia Has a Strong Primary Care System Linked to Behavioral Health Care, Oral Health Care, and Community Support Systems

GOAL 4.2 Virginia's Health IT System Connects People, Services and Information to Support Optimal Health Outcomes

GOAL 4.3 Health Care-Associated Infections in Virginia are Prevented and Controlled

Exhibit XIV-6
New Health System Proposed Achievement Scoring Mechanism

New: The parties proposed a scoring system in the initial application designed to measure the continuing public advantage of the Cooperative Agreement, along with proposed accountability mechanisms. What follows is a modification of that proposal for consideration.

We propose that each commitment can be categorized into one of three groups: Protection, Conduct, and Investment Commitments. The suggested categorization of each commitment is listed below:

Protection Commitments	Conduct Commitments	Investment Commitments
1,2,3,4,5,6,7,8,9,10,20,21,22,23,24,29,32	11,12,13,14,15,16,28,30,31,33	17,18,19,25,26,27

Protection Commitments

Protection Commitments are designed specifically to mitigate any negative effects of the reduction of competition and provide assurances of access to services. Because each Protection Commitment is of significant importance to the fundamental goal of protecting payers, providers, and consumers, each must be fully met and attested to in each Annual Report filed with the state.

During an annual review process by the Commissioner and conveyance of a credible report to the New Health System to be audited as required in the regulations, the Commissioner may determine that a Protection Commitment is not being fulfilled and require an immediate corrective action plan from the New Health System and set forth a period of time for correction of not less than 90 days. If an acceptable plan is not submitted or corrective action is unsuccessful, the Commissioner may, at the Commissioner's discretion, compel immediate resolution under the procedure defined in regulation (see VA Code XXXX.XXXXX) or negotiate with the parties to determine effective remediation or additional corrective action steps.

Conduct and Investment Commitments

Conduct and Investment Commitments provide significant public advantage above and beyond the fundamental goal of protecting payers, providers, and consumers and will be evaluated collectively each year to ensure that commitments are being achieved as determined by an Overall Progress Score under the Cooperative Agreement..

Conduct Commitments are agreements made between the Authority and the Parties which govern the actions of the New Health System. These commitments will be evaluated on a "Satisfied" (Score 100) or "Not Satisfied" (Score 0) scale. Each Conduct Commitment will be assigned a weight of 2% of the overall Cooperative Agreement Score. For any Conduct Commitment not achieved, the Commissioner may require a corrective action plan to ensure compliance.

Investment Commitments require significant implementation resources, timelines for achievement or both. It is proposed that progress for Investment Commitments be measured by introducing a scoring methodology adopted from the Association of State and Territorial Health Officials *National Public Health Performance Standards (NPHPS).* Concurrent with the development of each implementation plan outlined for the Investment Commitments a questionnaire would be developed as part of the annual

reporting process. For each Investment Commitment, evaluation questions would be agreed upon by both the parties and the state. Each of these questions would have equal weight in scoring that commitment. Each question would then be graded according to the NPHPS categories:

No Performance: 0% or absolutely no activity. Score 0.
Minimal Performance: Greater than zero, but no more than the 25% of the activity described within the question is met. Score 25.
Moderate Performance: Greater than 25%, but no more than 50% of the activity described within the question is met. Score 50.
Significant Performance: Greater than 50%, but no more than 75% of the activity described within the question is met. Score 75.
Optimal Performance: Greater than 75% of the activity described within the question is met. Score 100.

Each individual Investment Commitment will receive a score between 0 and 100 based on the average of all questions scored within that commitment. The score will be multiplied against the suggested weight of each investment (derived relative to investment size) in the table below and the weighted scores will be totaled.

Investment Commitment	Commitment Weight
17. Expand GME and Training	10%
18. Grow Research	10%
19. Adopt a Common Clinical IT Platform	25%
26. Improve Community Health	10%
27. Enhance Health Care Services	25%

For Investment Commitments that achieve any score less than Moderate Activity, the Commissioner may require a corrective action plan to ensure compliance and also require that any investment less than that agreed to in the annual plan be fulfilled in the subsequent year or that the plan be adjusted in agreement with the state to ensure ongoing benefit.

Example Overall Progress Scoring:

<u>Conduct Commitments (Maximum Score of 20)</u>
9 Conduct Commitments are satisfied. 100 x 9 x 2% = 18
1 Conduct Commitment is Not Satisfied. 0 x 1 x 2% = 0
Subtotal: 18 + 0 = **18 Conduct Commitment Points**

<u>Investment Commitments (Maximum Score of 80)</u>

Eight of eight questions for Commitment #17 are Optimal. (8x100)/8= 100 Unweighted Score

Unweighted Score multiplied by weight: 100 x 10% = 10 Weighted Points

Six of six questions for Commitment #18 are Optimal. (6x100)/6= 100 Unweighted Score
Unweighted Score multiplied by weight: 100 x 10% = 10 Weighted Points

Four of six questions within Commitment #19 are Optimal and two are Significant (4x100)/6 + (2x75)/6 = 91.7 Unweighted Score
Unweighted Score multiplied by weight: 91.7 x 25% = 22.9 Weighted Points

Six of six questions for Commitment #26 are Optimal. (6x100)/6= 100 Unweighted Score
Unweighted Score multiplied by weight: 100 x 10% = 10 Weighted Points

Four of six questions within Commitment #27 are Optimal and two are at No Activity (4x100)/6 + (2x0)/6 = 66.7 Unweighted Score
Unweighted Score multiplied by weight: 66.7 x 25% = 16.7 Weighted Points

Subtotal: 10.0 + 10.0 + 22.9 + 10.0 + 16.7 = **69.6 Investment Commitment Points.**

Overall Progress Score

Conduct Commitment + Investment Commitment Points = 18 + 69.6 = **87.6 Overall Progress Score**

Continuing Public Advantage Score

Continuing Public Advantage cannot be achieved in a given evaluation year without fulfillment of all Protection Commitments and an Overall Progress Score of at least 60.

Continuing Public Advantage can be achieved during a particular year if individual Conduct or Investment Commitments receive a corrective action plan. However, failure to achieve success with corrective action plans within twelve months of enactment may result in the state compelling immediate resolution under the procedure defined in regulation (see VA Code XXXX.XXXXX).

ExhibitT-19

Audited Financial Statement on MSHA as of June 30, 2015

MOUNTAIN STATES HEALTH ALLIANCE

Audited Consolidated Financial Statements (and Supplemental Information)

Years Ended June 30, 2015 and 2014

PYA
Certified Public Accountants

MOUNTAIN STATES HEALTH ALLIANCE

Audited Consolidated Financial Statements (and Supplemental Information)
(Dollars in Thousands)

Years Ended June 30, 2015 and 2014

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INDEPENDENT AUDITOR'S REPORT

To the Board of Directors of
Mountain States Health Alliance:

Report on the Consolidated Financial Statements

We have audited the accompanying consolidated financial statements of Mountain States Health Alliance and its subsidiaries (the Alliance), which comprise the consolidated balance sheets as of June 30, 2015 and 2014, and the related consolidated statements of operations, changes in net assets, and cash flows for the years then ended, and the related notes to the financial statements.

Management's Responsibility for the Financial Statements

Management is responsible for the preparation and fair presentation of these consolidated financial statements in accordance with accounting principles generally accepted in the United States of America; this includes the design, implementation, and maintenance of internal control relevant to the preparation and fair presentation of consolidated financial statements that are free from material misstatements, whether due to fraud or error.

Auditor's Responsibility

Our responsibility is to express an opinion on these consolidated financial statements based on our audits. We conducted our audits in accordance with auditing standards generally accepted in the United States of America. Those standards require that we plan and perform the audit to obtain reasonable assurance about whether the consolidated financial statements are free from material misstatement.

An audit involves performing procedures to obtain audit evidence about the amounts and disclosures in the consolidated financial statements. The procedures selected depend on the auditor's judgment, including the assessment of the risks of material misstatement of the consolidated financial statements, whether due to fraud or error. In making those risk assessments, the auditor considers internal control relevant to the Alliance's preparation and fair presentation of the consolidated financial statements in order to design audit procedures that are appropriate in the circumstances, but not for the purpose of expressing an opinion on the effectiveness of the Alliance's internal control. Accordingly, we express no such opinion. An audit also includes evaluating the appropriateness of accounting policies used and the reasonableness of significant accounting estimates made by management, as well as evaluating the overall presentation of the consolidated financial statements.

We believe that the audit evidence we have obtained is sufficient and appropriate to provide a basis for our audit opinion.

Opinion

In our opinion, the consolidated financial statements referred to above present fairly, in all material respects, the financial position of Mountain States Health Alliance and its subsidiaries as of June 30, 2015 and 2014, and the results of their operations, changes in net assets, and cash flows for the years then ended in accordance with accounting principles generally accepted in the United States of America.

Report on Supplementary Information

Our audits were conducted for the purpose of forming an opinion on the consolidated financial statements as a whole. The supplemental information is presented for purposes of additional analysis and is not a required part of the consolidated financial statements. Such information is the responsibility of management and was derived from and relates directly to the underlying accounting and other records used to prepare the consolidated financial statements. The information has been subjected to the auditing procedures applied in the audit of the consolidated financial statements and certain additional procedures, including comparing and reconciling such information directly to the underlying accounting and other records used to prepare the consolidated financial statements or to the consolidated financial statements themselves, and other additional procedures in accordance with auditing standards generally accepted in the United States of America. In our opinion, the information is fairly stated in all material respects in relation to the consolidated financial statements as a whole.

Pershing Yoakley & Associates PC

Knoxville, Tennessee
October 28, 2015

MOUNTAIN STATES HEALTH ALLIANCE

Consolidated Balance Sheets
(Dollars in Thousands)

	June 30, 2015	June 30, 2014
ASSETS		
CURRENT ASSETS		
Cash and cash equivalents	**$ 79,714**	$ 59,185
Current portion of investments	**19,598**	25,029
Patient accounts receivable, less estimated allowances for uncollectible accounts of $73,805 in 2015 and $47,853 in 2014	**162,256**	161,318
Other receivables, net	**33,286**	45,502
Inventories and prepaid expenses	**33,969**	30,838
TOTAL CURRENT ASSETS	**328,823**	321,872
INVESTMENTS, less amounts required to meet current obligations	**694,542**	648,475
PROPERTY, PLANT AND EQUIPMENT, net	**847,089**	881,429
OTHER ASSETS		
Goodwill	**156,596**	156,613
Net deferred financing, acquisition costs and other charges	**24,755**	25,841
Other assets	**53,040**	48,350
TOTAL OTHER ASSETS	**234,391**	230,804
	$ 2,104,845	$ 2,082,580

MOUNTAIN STATES HEALTH ALLIANCE

Consolidated Balance Sheets - Continued
(Dollars in Thousands)

	June 30, 2015	June 30, 2014
LIABILITIES AND NET ASSETS		
CURRENT LIABILITIES		
Accrued interest payable	**$ 18,159**	$ 18,648
Current portion of long-term debt and capital lease obligations	**40,286**	30,618
Accounts payable and accrued expenses	**100,301**	87,126
Accrued salaries, compensated absences and amounts withheld	**72,066**	72,181
Estimated amounts due to third-party payers, net	**4,781**	10,463
TOTAL CURRENT LIABILITIES	**235,593**	219,036
OTHER LIABILITIES		
Long-term debt and capital lease obligations, less current portion	**1,031,661**	1,075,069
Estimated fair value of derivatives	**2,541**	10,603
Estimated professional liability self-insurance	**8,461**	8,957
Other long-term liabilities	**38,683**	35,974
TOTAL LIABILITIES	**1,316,939**	1,349,639
COMMITMENTS AND CONTINGENCIES - Notes D, F, G, and M		
NET ASSETS		
Unrestricted net assets		
Mountain States Health Alliance	**583,287**	541,979
Noncontrolling interests in subsidiaries	**191,118**	178,547
TOTAL UNRESTRICTED NET ASSETS	**774,405**	720,526
Temporarily restricted net assets		
Mountain States Health Alliance	**13,303**	12,204
Noncontrolling interests in subsidiaries	**71**	84
TOTAL TEMPORARILY RESTRICTED NET ASSETS	**13,374**	12,288
Permanently restricted net assets	**127**	127
TOTAL NET ASSETS	**787,906**	732,941
	$ 2,104,845	$ 2,082,580

MOUNTAIN STATES HEALTH ALLIANCE

Consolidated Statements of Operations
(Dollars in Thousands)

	Year Ended June 30,	
	2015	***2014***
Revenue, gains and support:		
Patient service revenue, net of contractual allowances and discounts	**$ 1,116,954**	$ 1,046,767
Provision for bad debts	**(127,519)**	(122,642)
Net patient service revenue	**989,435**	924,125
Premium revenue	**32,184**	10,683
Net investment gain	**17,016**	50,703
Net derivative gain	**13,890**	3,219
Other revenue, gains and support	**36,571**	62,457
TOTAL REVENUE, GAINS AND SUPPORT	**1,089,096**	1,051,187
Expenses and losses:		
Salaries and wages	**345,155**	340,589
Physician salaries and wages	**80,279**	77,636
Contract labor	**5,416**	4,282
Employee benefits	**77,306**	69,173
Fees	**120,691**	115,606
Supplies	**176,050**	163,699
Utilities	**16,775**	17,052
Medical costs	**18,383**	6,633
Other	**81,477**	79,980
Loss on early extinguishment of debt	**-**	4,622
Depreciation	**67,210**	69,437
Amortization	**1,557**	1,742
Interest and taxes	**43,697**	44,392
TOTAL EXPENSES AND LOSSES	**1,033,996**	994,843
EXCESS OF REVENUE, GAINS AND SUPPORT OVER EXPENSES AND LOSSES	**$ 55,100**	$ 56,344

See notes to consolidated financial statements.

MOUNTAIN STATES HEALTH ALLIANCE

Consolidated Statements of Changes in Net Assets
(Dollars in Thousands)

Year Ended June 30, 2015

	Mountain States Health Alliance	*Noncontrolling Interests*	*Total*
UNRESTRICTED NET ASSETS:			
Excess of Revenue, Gains and Support over Expenses and Losses	$ 41,008	$ 14,092	$ 55,100
Pension and other defined benefit plan adjustments	(178)	(152)	(330)
Net assets released from restrictions used for the purchase of property, plant and equipment	478	-	478
Repurchases of noncontrolling interests, net	-	(1,014)	(1,014)
Distributions to noncontrolling interests	-	(355)	(355)
INCREASE IN UNRESTRICTED NET ASSETS	41,308	12,571	53,879
TEMPORARILY RESTRICTED NET ASSETS:			
Restricted grants and contributions	3,663	69	3,732
Net assets released from restrictions	(2,564)	(82)	(2,646)
INCREASE (DECREASE) IN TEMPORARILY RESTRICTED NET ASSETS	1,099	(13)	1,086
INCREASE IN TOTAL NET ASSETS	42,407	12,558	54,965
NET ASSETS, BEGINNING OF YEAR	554,310	178,631	732,941
NET ASSETS, END OF YEAR	$ 596,717	$ 191,189	$ 787,906

See notes to consolidated financial statements.

MOUNTAIN STATES HEALTH ALLIANCE

Consolidated Statements of Changes in Net Assets - Continued
(Dollars in Thousands)

Year Ended June 30, 2014

	Mountain States Health Alliance	*Noncontrolling Interests*	*Total*
UNRESTRICTED NET ASSETS:			
Excess of Revenue, Gains and Support over Expenses and Losses	$ 48,058	$ 8,286	$ 56,344
Pension and other defined benefit plan adjustments	194	194	388
Net assets released from restrictions used for the purchase of property, plant and equipment	3,313	-	3,313
Noncontrolling interest in acquired subsidiary	-	914	914
Distributions to noncontrolling interests	-	(461)	(461)
INCREASE IN UNRESTRICTED NET ASSETS	51,565	8,933	60,498
TEMPORARILY RESTRICTED NET ASSETS:			
Restricted grants and contributions	4,693	88	4,781
Net assets released from restrictions	(5,265)	(56)	(5,321)
INCREASE (DECREASE) IN TEMPORARILY RESTRICTED NET ASSETS	(572)	32	(540)
INCREASE IN TOTAL NET ASSETS	50,993	8,965	59,958
NET ASSETS, BEGINNING OF YEAR	503,317	169,666	672,983
NET ASSETS, END OF YEAR	$ 554,310	$ 178,631	$ 732,941

MOUNTAIN STATES HEALTH ALLIANCE

Consolidated Statements of Cash Flows
(Dollars in Thousands)

	Year Ended June 30,	
	2015	*2014*
CASH FLOWS FROM OPERATING ACTIVITIES:		
Increase in net assets	**$ 54,965**	$ 59,958
Adjustments to reconcile increase in net assets to net cash provided by operating activities:		
Provision for depreciation and amortization	**69,242**	71,789
Provision for bad debts	**127,519**	122,642
Loss on early extinguishment of debt	**-**	4,622
Change in estimated fair value of derivatives	**(7,718)**	2,761
Equity in net income of joint ventures, net	**(79)**	(369)
Loss (gain) on disposal of assets	**(2,192)**	(3,489)
Amounts received on interest rate swap settlements	**(6,172)**	(5,980)
Capital Appreciation Bond accretion and other	**2,780**	2,629
Restricted contributions	**(3,732)**	(4,781)
Pension and other defined benefit plan adjustments	**330**	(388)
Increase (decrease) in cash due to change in:		
Patient accounts receivable	**(128,457)**	(115,380)
Other receivables, net	**12,303**	(11,880)
Inventories and prepaid expenses	**(3,131)**	959
Trading securities	**(39,873)**	(46,451)
Other assets	**(3,128)**	(2,492)
Accrued interest payable	**(489)**	(1,058)
Accounts payable and accrued expenses	**16,745**	(6,666)
Accrued salaries, compensated absences and amounts withheld	**(115)**	8,006
Estimated amounts due to third-party payers, net	**(5,682)**	(16,312)
Estimated professional liability self-insurance	**(496)**	199
Other long-term liabilities	**2,379**	16,425
Total adjustments	**30,034**	14,786
NET CASH PROVIDED BY OPERATING ACTIVITIES	**84,999**	74,744
CASH FLOWS FROM INVESTING ACTIVITIES:		
Purchases of property, plant and equipment and property held for expansion	**(44,569)**	(64,424)
Acquisitions, net of cash acquired	**-**	(4,256)
Purchases of held-to-maturity securities	**(1,417)**	(5,978)
Net distribution from joint ventures and unconsolidated affiliates	**4,859**	661
Proceeds from sale of property, plant and equipment and property held for resale	**2,654**	2,858
NET CASH USED IN INVESTING ACTIVITIES	**(38,473)**	(71,139)

MOUNTAIN STATES HEALTH ALLIANCE

Consolidated Statements of Cash Flows - Continued
(Dollars in Thousands)

	Year Ended June 30, 2015	2014
CASH FLOWS FROM FINANCING ACTIVITIES:		
Payments on long-term debt and capital lease obligations, including deposits to escrow	**(36,210)**	(38,768)
Payment of acquisition and financing costs	**-**	(3,826)
Proceeds from issuance of long-term debt and other financing arrangements	**-**	11,916
Net amounts received on interest rate swap settlements	**6,172**	5,980
Restricted contributions received	**4,041**	5,376
NET CASH USED IN FINANCING ACTIVITIES	**(25,997)**	(19,322)
NET INCREASE (DECREASE) IN CASH AND CASH EQUIVALENTS	**20,529**	(15,717)
CASH AND CASH EQUIVALENTS, beginning of year	**59,185**	74,902
CASH AND CASH EQUIVALENTS, end of year	**$ 79,714**	$ 59,185
SUPPLEMENTAL INFORMATION AND NON-CASH TRANSACTIONS:		
Cash paid for interest	**$ 38,982**	$ 40,546
Cash paid for federal and state income taxes	**$ 917**	$ 854
Construction related payables in accounts payable and accrued expenses	**$ 5,034**	$ 8,604
Assets contributed into joint venture	**$ 8,668**	$ -
Supplemental cash flow information regarding acquisitions:		
Assets acquired, net of cash	**$ -**	$ 12,715
Liabilities assumed	**-**	(8,459)
Acquisitions, net of cash acquired	**$ -**	$ 4,256

During the year ended June 30, 2014, the Alliance refinanced previously issued debt of $318,385.

NOTE A--ORGANIZATION AND OPERATIONS

Mountain States Health Alliance (the Alliance) is a tax-exempt entity with operations primarily located in Washington, Sullivan, Unicoi, and Carter counties of Tennessee and Smyth, Wise, Dickenson, Russell and Washington counties of Virginia. The primary operations of the Alliance consist of eleven acute and specialty care hospitals.

The Alliance's accompanying consolidated financial statements include all assets, liabilities, revenues, expenses, and changes in net assets attributable to the noncontrolling interests in the following subsidiaries:

- Smyth County Community Hospital and Subsidiary - the Alliance holds an 80% interest
- Norton Community Hospital and Subsidiaries - the Alliance holds a 50.1% interest
- Johnston Memorial Hospital, Inc. and Subsidiaries - the Alliance holds a 50.1% interest

The Alliance is the sole shareholder of Blue Ridge Medical Management Corporation (BRMM), a for-profit entity that owns and manages physician practices, real estate and ambulatory surgery centers and provides other healthcare services to individuals in Tennessee and Virginia.

The Alliance is a 99.9% shareholder of Integrated Solutions Health Network, LLC, a for-profit entity that owns a for-profit insurance company and an accountable care organization and administers a provider-sponsored health care delivery network,

The Alliance is the primary beneficiary of the activities of Mountain States Foundation, Inc., a not-for-profit foundation formed to coordinate fundraising and development activities of the Alliance.

NOTE B--SIGNIFICANT ACCOUNTING POLICIES

Principles of Consolidation: The accompanying consolidated financial statements include the accounts of the Alliance and its consolidated subsidiaries after elimination of all significant intercompany accounts and transactions.

Use of Estimates: The preparation of the consolidated financial statements in conformity with accounting principles generally accepted in the United States of America requires management to make estimates and assumptions that affect the reported amounts of assets and liabilities and disclosure of contingent assets and liabilities as of the date of the consolidated financial statements. Estimates also affect the reported amounts of revenue and expenses during the reporting period. Actual results could differ from these estimates.

Cash and Cash Equivalents: Cash and cash equivalents include all highly liquid investments with a maturity of three months or less when purchased. Cash and cash equivalents designated as assets limited as to use or uninvested amounts included in investment portfolios are not included as cash and cash equivalents.

Investments: Investments include trading securities and held-to-maturity securities. Within the trading securities portfolio, all debt securities and marketable equity securities with readily determinable fair values are reported at fair value based on quoted market prices. Investments without readily determinable fair values are reported at estimated fair market value utilizing observable and unobservable inputs. Investments which the Alliance has the positive intent and ability to hold to maturity are classified as held-to-maturity and are stated at amortized cost. Realized gains and losses are computed using the specific identification method for cost determination. Interest and dividend income is reported net of related investment fees.

Management evaluates whether unrealized losses on held-to-maturity investments indicate other-than-temporary impairment. Such evaluation considers the amount of decline in fair value, as well as the time period of any such decline. Management does not believe any investment classified as held-to-maturity is other-than-temporarily impaired at June 30, 2015.

Investments in joint ventures are reported under the equity method of accounting, which approximates the Alliance's equity in the underlying net book value. Other assets include investments in joint ventures of $5,180 and $1,364 at June 30, 2015 and 2014, respectively. During 2015, the Alliance contributed assets into a joint venture which owns and operates a rehabilitation hospital.

Inventories: Inventories, consisting primarily of medical supplies, are stated at the lower of cost or market with cost determined by first-in, first-out method.

Property, Plant and Equipment: Property, plant and equipment is stated on the basis of cost, or if donated, at the fair value at the date of gift. Generally, depreciation is computed by the straight-line method over the estimated useful life of the asset. Equipment held under capital lease obligations is amortized under the straight-line method over the shorter of the lease term or estimated useful life. Amortization of buildings and equipment held under capital leases is shown as a part of depreciation expense and accumulated depreciation in the accompanying consolidated financial statements. Renewals and betterments are capitalized and depreciated over their useful life, whereas costs of maintenance and repairs are expensed as incurred.

Interest costs incurred on borrowed funds during the period of construction of capital assets is capitalized as a component of the cost of acquiring those assets. The amount capitalized is net of investment earnings on assets limited as to use derived from borrowings designated for capital assets.

The Alliance reviews capital assets for indications of potential impairment when there are changes in circumstances related to a specific asset. If this review indicates that the carrying value of these assets may not be recoverable, the Alliance estimates future cash flows from operations and the eventual disposition of such assets. If the sum of these undiscounted future cash flows is less than the carrying amount of the asset, a write-down to estimated fair value is recorded. The Alliance did not recognize any impairment losses during 2015 and 2014.

Other assets include property held for resale and expansion of $19,316 and $20,793, respectively, at June 30, 2015 and 2014. Property held for resale and expansion primarily represents land contributed to, or purchased by, the Alliance plus costs incurred to develop the infrastructure of such land. Management annually evaluates its investment and records non-temporary declines in value when it is determined the ultimate net realizable value is less than the recorded amount. No such declines were identified in 2015 and 2014.

Goodwill: Goodwill is evaluated for impairment at least annually. The Alliance comprises a single reporting unit for evaluation of goodwill. Management performed an evaluation of goodwill for impairment considering qualitative and quantitative factors and does not believe the goodwill to be impaired as of June 30, 2015 and 2014. Management's estimates utilized in the evaluation contain significant estimates and it is reasonably possible that such estimates could change in the near term.

Deferred Financing, Acquisition Costs and Other Charges: Other assets include deferred financing, acquisition costs and other charges of $24,755 and $25,841 at June 30, 2015 and 2014, respectively. Deferred financing costs are amortized over the life of the respective bond issue using the average bonds outstanding method.

Derivative Financial Instruments: The Alliance is a party to various interest rate swaps. These financial instruments are not designated as hedges and have been presented at estimated fair market value in the accompanying Consolidated Balance Sheets as either current or long-term liabilities, based upon the remaining term of the instrument.

Estimated Professional Liability Self-Insurance and Other Long-Term Liabilities: Self-insurance liabilities include estimated reserves for reported and unreported professional liability claims and are recorded at the estimated net present value of such claims. Other long-term liabilities include contributions payable and obligations under deferred compensation arrangements, a defined benefit pension plan, a post-retirement employee benefit plan as well as other liabilities which management estimates are not payable within one year.

Net Patient Service Revenue/Receivables: Net patient service revenue is reported on the accrual basis in the period in which services are provided at the estimated net realizable amounts, including estimated retroactive adjustments under reimbursement agreements with third-party payers.

Retroactive adjustments are accrued on an estimated basis in the period the related services are rendered and adjusted in future periods as final settlements are determined. The Alliance's revenue recognition policies related to self-pay and other types of payers emphasize revenue recognition only when collections are reasonably assured.

Patient accounts receivable are reported net of both an estimated allowance for uncollectible accounts and an estimated allowance for contractual adjustments. The contractual allowance represents the difference between established billing rates and estimated reimbursement from Medicare, Medicaid, TennCare and other third-party payment programs. Current operations include a provision for bad debts in the Consolidated Statements of Operations estimated based upon the age of the patient accounts receivable, historical writeoffs and recoveries and any unusual circumstances (such as local, regional or national economic conditions) which affect the collectibility of receivables, including management's assumptions about conditions it expects to exist and courses of action it expects to take. The primary uncertainty lies with uninsured patient receivables and deductibles, co-payments or other amounts due from individual patients. Additions to the allowance for uncollectible accounts result from the provision for bad debts. Patient accounts written off as uncollectible are deducted from the allowance for uncollectible accounts.

For uninsured patients that do not qualify for charity care, the Alliance recognizes revenue on the basis of discounted rates under the Alliance's self-pay patient policy. Under the policy, a patient who has no insurance and is ineligible for any government assistance program has their bill reduced to the amount which generally would be billed to a commercially insured patient. The Alliance's policy does not require collateral or other security for patient accounts receivable. The Alliance routinely accepts assignment of, or is otherwise entitled to receive, patient benefits payable under health insurance programs, plans or policies.

Charity Care: The Alliance accepts all patients regardless of their ability to pay. A patient is classified as a charity patient by reference to certain established policies of the Alliance and various guidelines outlined by the Federal Government. These policies define charity as those services for which no payment is anticipated and, as such, charges at established rates are not included in net patient service revenue. Charges forgone, based on established rates, totaled $85,988 and $109,550 during 2015 and 2014, respectively. The estimated direct and indirect cost of providing these services totaled $17,953 and $24,011 in 2015 and 2014, respectively. Such costs are determined using a ratio of cost to charges analysis with indirect cost allocated.

In addition to the charity care services, the Alliance provides a number of other services to benefit the poor for which little or no payment is received. Medicare, Medicaid, TennCare and State indigent programs do not cover the full cost of providing care to beneficiaries of those programs. The Alliance also provides services to the community at large for which it receives little or no payment.

Excess of Revenue, Gains and Support Over Expenses and Losses: The Consolidated Statements of Operations and the Consolidated Statements of Changes in Net Assets includes the caption Excess of Revenue, Gains and Support Over Expenses and Losses (the Performance Indicator). Changes in unrestricted net assets which are excluded from the Performance Indicator, consistent with industry practice, include contributions of long-lived assets or amounts restricted to the purchase of long-lived assets, certain pension and related adjustments, and transactions with noncontrolling interests.

Income Taxes: The Alliance is classified as an organization exempt from income taxes under Section 501(c)(3) of the Internal Revenue Code. As such, no provision for income taxes has been made in the accompanying consolidated financial statements for the Alliance and its tax-exempt subsidiaries. The Alliance's taxable subsidiaries are discussed in Note L. The Alliance has no significant uncertain tax positions at June 30, 2015 and 2014. At June 30, 2015, tax returns for 2011 through 2014 are subject to examination by the Internal Revenue Service.

Temporarily and Permanently Restricted Net Assets: Temporarily restricted net assets are those whose use has been limited by donors to a specific time period or purpose. When a donor or time restriction expires; that is, when a stipulated time restriction ends or purpose restriction is fulfilled, temporarily restricted net assets are reclassified as unrestricted net assets and reported in the Consolidated Statements of Operations and Changes in Net Assets as net assets released from restrictions. The Alliance's policy is to net contribution and grant revenues against related expenses and present such amounts as a part of other revenue, gains and support in the Consolidated Statements of Operations. Permanently restricted net assets have been restricted by donors to be maintained by the Alliance in perpetuity.

Premium Revenue: Premium revenue include premiums from individuals and the Centers for Medicare & Medicaid Services (CMS). CMS premium revenue is based on predetermined prepaid rates under Medicare risk contracts. Premiums are recognized in the month in which the members are entitled to health care services. Premiums collected in advance are deferred and recorded as unearned premium revenue. Premium deficiency losses are recognized when it is probable that expected future claim expenses will exceed future premiums on existing contracts. Management evaluated the need for a premium deficiency reserve and recorded an estimated reserve of $2,000 at June 30, 2015 and 2014.

Medicare Shared Savings Program (MSSP): The Alliance participates in CMS's Medicare Shared Savings Program which is designed to facilitate coordination and cooperation among providers to improve the quality of care for Medicare beneficiaries and reduce unnecessary costs. Accountable care organizations participating in the program are assigned beneficiaries by CMS and are entitled to share in the savings if they are able to lower growth in Medicare Parts A and B fee-for-service costs while meeting performance standards on quality of care. Utilizing statistical data and the

methodology employed by CMS, management estimated and recognized $2,857 and $5,425 of shared savings in 2015 and 2014, respectively.

Electronic Health Record (EHR) Incentives: The American Recovery and Reinvestment Act of 2009 (ARRA) provides for incentive payments under the Medicare and Medicaid programs for certain hospitals and physician practices that demonstrate meaningful use of certified EHR technology. The incentive payments are calculated based upon estimated discharges, charity care and other input data and are recorded upon the Alliance's attainment of program and attestation criteria. The incentive payments are subject to regulatory audit. During the years ending June 30, 2015 and 2014, the Alliance recognized EHR incentive revenues of $1,883 and $18,269, respectively. EHR incentive revenues are included in other revenue, gains and support in the accompanying Consolidated Statements of Operations. The Alliance incurs both capital expenditures and operating expenses in connection with the implementation of its various EHR initiatives. The amount and timing of these expenditures does not directly correlate with the timing of the Alliance's receipt or recognition of the EHR incentive payments.

Medical Costs: The cost of health care services is recognized in the period in which services are provided. Medical costs include an estimate of the cost of services provided to members by third-party providers, which have been incurred but not reported.

Subsequent Events: The Alliance evaluated all events or transactions that occurred after June 30, 2015, through October 28, 2015, the date the consolidated financial statements were available to be issued. During this period management did not note any material recognizable subsequent events that required recognition or disclosure in the June 30, 2015 consolidated financial statements, other than as disclosed in Note P.

Reclassifications: Certain 2014 amounts have been reclassified to conform with the 2015 presentation in the accompanying consolidated financial statements.

New Accounting Pronouncements: In May 2014, the Financial Accounting Standards Board (FASB) issued Accounting Standards Update (ASU) 2014-09, *Revenue from Contracts with Customers*. Under ASU 2014-09, recognition of revenue occurs when a customer obtains control of promised goods or services in an amount that reflects the consideration which the entity expects to receive in exchange for those goods or services. In addition, the accounting standard requires disclosure of the nature, amount, timing, and uncertainty of revenue and cash flows arising from contracts with customers. The standard is effective for fiscal years beginning after December 15, 2017. Management is currently evaluating the impact of adopting the accounting standard.

NOTE C--INVESTMENTS

Assets limited as to use are summarized by designation or restriction as follows at June 30:

	2015	2014
Designated or restricted:		
Under safekeeping agreements	$ 8,221	$ 8,220
By Board to satisfy regulatory requirements	1,529	6,759
Under bond indenture agreements:		
For debt service and interest payments	53,812	55,123
For capital acquisitions	8,507	16,127
	72,069	86,229
Less: amount required to meet current obligations	(19,598)	(25,029)
	$ 52,471	$ 61,200

Assets limited as to use consist of the following at June 30:

	2015	2014
Cash and cash equivalents	$ 49,665	$ 54,437
U.S. Government and agency securities	19,757	28,518
Corporate and foreign bonds	860	2,354
Municipal obligations	1,787	920
	$ 72,069	$ 86,229

Held-to-maturity securities (other than assets limited as to use) are carried at amortized cost and consist of the following at June 30:

	2015	2014
Cash and cash equivalents	$ 2,781	$ 220
Corporate and foreign bonds	30,967	35,131
Municipal obligations	5,765	3,408
	$ 39,513	$ 38,759

Held-to-maturity securities had gross unrealized gains and losses of $98 and $425, respectively, at June 30, 2015 and $206 and $456, respectively, at June 30 2014. At June 30, 2015, the Alliance held securities within the held-to-maturity portfolio with a fair value and unrealized loss of $12,710

and $359, respectively, which had been at an unrealized loss position for over one year. At June 30, 2014, the Alliance held securities within the held-to-maturity portfolio with a fair value and unrealized loss of $13,513 and $456, respectively, which had been at an unrealized loss position for over one year. At June 30, 2015, the contractual maturities of held-to-maturity securities were $10,020 due in one year or less, $16,580 due from one to five years and $12,913 due after five years.

Trading securities consist of the following at June 30:

	2015	2014
Cash and cash equivalents	$ 20,789	$ 50,623
U.S. Government and agency securities	76,167	69,805
Corporate and foreign bonds	95,726	96,749
Municipal obligations	23,330	21,409
U.S. equity securities	5,419	1,868
Mutual funds	293,983	253,301
Alternative investments	87,144	54,761
	$ 602,558	$ 548,516

The net investment gain is comprised of the following for the years ending June 30:

	2015	2014
Interest and dividend income, net of fees	$ 13,894	$ 12,074
Net realized gains on the sale of securities	9,260	15,311
Change in net unrealized gains on securities	(6,138)	23,318
	$ 17,016	$ 50,703

The Alliance is a member of Premier Inc.'s (Premier) group purchasing organization and holds Class B Units which are convertible into cash or Class A common stock over a seven year vesting period. The Alliance records an investment relative to the estimated fair value of its Class B units, $14,724 and $14,713 at June 30, 2015 and 2014, respectively. In addition, as the vesting period is tangential to the Alliance's continued participation in the group purchasing contract, the Alliance recorded a liability equivalent to the estimated fair value of the Class B units, which is included within other long-term liabilities in the Consolidated Balance Sheets. The liability is being amortized as a vendor incentive over the vesting period. During 2015 and 2014, the Alliance recognized $4,045 and $2,933, respectively, related to the vendor incentive which is included within other revenue, gains and support in the Consolidated Statements of Operations.

NOTE D--DERIVATIVE TRANSACTIONS

The Alliance is subject to an enforceable master netting arrangement in the form of an ISDA agreement with Bank of America, Merrill Lynch (BofAML). The ISDA agreement requires that the Alliance post additional collateral for the derivatives' fair market value deficits above specified levels. As of June 30, 2015 and 2014, the Alliance was not required to post additional collateral. Under the terms of this agreement, offsetting of derivative contracts is permitted in the event of default of either party to the agreement.

The following is a summary of the interest rate swap agreements at June 30, 2015 and 2014:

Notional Amount	*Termination*	*Counterparty*	*Current Payments:* *Receive*	*Pay*	*Estimated Fair Value* *2015*	*2014*
$170,000	4/2026	BofAML	1.14%	0.00%	$ 5,205	$ 3,089
$95,000	4/2026	BofAML	1.14%	0.00%	2,929	1,748
$173,030	4/2034	BofAML	1.16%	0.00%	884	(1,884)
$82,055	7/2033	BofAML	67% USD-LIBOR-BBA	0.312% + USD-SIFMA	(8,253)	(9,365)
$50,000	7/2038	BofAML	67% (USD-LIBOR-BBA + 0.15%)	USD-SIFMA	(3,351)	(4,210)
$19,400	7/2018	BofAML	4.50%	1.05% + USD-SIFMA	48	63
$4,293	7/2015	First Tennessee Bank	0.00%	USD-LIBOR-BBA	(3)	(44)
					$ (2,541)	$ (10,603)

The Alliance recognized net settlement income on the interest rate swap agreements of $6,172 and $5,980 in 2015 and 2014, respectively.

NOTE E--PROPERTY, PLANT AND EQUIPMENT

Property, plant and equipment consist of the following at June 30:

	2015	2014
Land	$ 60,337	$ 60,722
Buildings and leasehold improvements	766,089	760,853
Property and improvements held for leasing	83,582	80,824
Equipment and information technology infrastructure	733,315	700,748
Buildings and equipment held under capital lease	249	340
	1,643,572	1,603,487
Less: Allowances for depreciation and amortization	(815,105)	(757,641)
	828,467	845,846
Construction in progress	18,622	35,583
	$ 847,089	$ 881,429

Accumulated depreciation and amortization on property and improvements held for leasing purposes is $29,520 and $27,500 at June 30, 2015 and 2014, respectively. Net interest capitalized was $925 and $1,533 for the years ended June 30, 2015 and 2014, respectively.

NOTE F--LONG-TERM DEBT AND OTHER FINANCING ARRANGEMENTS

Long-term debt and capital lease obligations consist of the following at June 30:

Description	*Rate as of June 30, 2015*	*Outstanding Balance 2015*	*2014*
2013 Hospital Revenue and Refunding Revenue Bonds:			
$61,180 variable rate tax-exempt term bond, due August 2031	1.15%	$ 327,785	$ 328,665
$47,970 variable rate tax-exempt term bond, due August 2032	0.93%		
$13,350 variable rate tax-exempt term bond, due August 2038	1.15%		
$89,370 variable rate tax-exempt term bonds, due August 2042	1.12% - 1.23%		
$16,235 variable rate tax-exempt term bond, due August 2043	0.07%		
$99,680 variable rate taxable term bond due August 2043	0.12%		
2012 Hospital Revenue Bonds: (net of unamortized premium of $1,696 and $1,756 at June 30, 2015 and 2014, respectively)			
$55,000 fixed rate tax-exempt term bond, due August 2042	5.00%	56,696	56,756
2011 Hospital Revenue and Refunding and Improvement Bonds:			
$74,795 variable rate tax-exempt term bonds, due July 2033	0.08%	94,320	104,710
$19,525 variable rate tax-exempt term bond, due July 2033	1.11%		

Description	*Rate as of June 30, 2015*	*Outstanding Balance 2015*	*2014*
2010 Hospital Revenue Refunding Bonds: (net of unamortized premium of $1,441 and $1,523 at June 30, 2015 and 2014, respectively)			
$33,960 fixed rate tax-exempt serial bonds, through 2020	4.00% to 5.00%	173,271	180,993
$4,355 fixed rate tax-exempt term bond, due July 2023	5.00%		
$14,985 fixed rate tax-exempt term bond, due July 2025	5.38%		
$4,250 fixed rate tax-exempt term bond, due July 2028	5.50%		
$19,230 fixed rate tax-exempt term bond, due July 2030	5.63%		
$95,050 fixed rate tax-exempt term bonds, due July 2038	6.00% - 6.50%		
2009 Hospital Revenue Bonds: (net of unamortized discount of $2,176 and $2,267 at June 30, 2015 and 2014, respectively)			
$14,425 fixed rate tax-exempt term bonds, due July 2019	7.25%	117,264	119,813
$21,730 fixed rate tax-exempt term bonds, due July 2029	7.50%		
$83,285 fixed rate tax-exempt term bonds, due July 2038	7.75% - 8.00%		
2007B Taxable Hospital Revenue Bonds:			
$15,920 variable rate taxable term bond due July 2019	0.12%	15,920	19,515
2006 Hospital First Mortgage Revenue Bonds: (net of unamortized premium of $123 and $129 at June 30, 2015 and 2014, respectively)			
$3,965 fixed rate tax-exempt serial bonds, through 2019	5.00%	167,143	167,864
$7,375 fixed rate tax-exempt term bond, due July 2026	5.25%		
$20,505 fixed rate tax-exempt term bond, due July 2031	5.50%		
$135,175 fixed rate tax-exempt term bond, due July 2036	5.50%		
2001 Hospital First Mortgage Revenue Bond:			
$19,400 fixed rate tax-exempt term bond, due July 2026	4.50%	19,400	20,400
2000 Hospital First Mortgage Revenue and Refunding Bonds:			
$42,000 fixed rate tax-exempt term bond, due July 2026	8.50%	81,538	81,006
$39,538 fixed rate tax-exempt Capital Appreciation Bond, interest and principal due July 2026 through 2030	6.63%		
Capitalized lease obligations secured by equipment			
Various monthly principal and interest payments through December 2016	Various	350	806
Notes payable secured by real estate			
Paid-off in 2015	Various	-	5,542
Promissory notes secured by assets of certain subsidiaries			
Various monthly principal and interest payments through 2019	Various	1,705	1,944
Term note			
Monthly principal payments of $60 plus variable rate interest beginning November 2012 through September 2015; remaining principal due October 2015	1.17%	16,160	16,883
Notes payable secured by equipment			
Various monthly principal and interest payments through 2016	Various	395	790
		1,071,947	1,105,687
Less current portion		(40,286)	(30,618)
		$ 1,031,661	$ 1,075,069

Capital Appreciation Bonds: The Series 2000 Bonds include $14,680 of insured Capital Appreciation Bonds. Such bonds bear a 0% coupon rate and have a yield of 6.625% annually. The Alliance recognizes interest expense and increases the amount of outstanding debt each year based upon this yield. Total principal and interest due at maturity (2026 through 2030) is $93,675.

Other: Outstanding tax-exempt bond obligations that were insured under municipal bond insurance policies were $81,538 and $81,006 at June 30, 2015 and 2014, respectively. Under terms of these policies, the insurer guarantees the Alliance's payment of principal and interest. At June 30, 2015 and 2014, the Alliance held $206,630 and $212,360, respectively, in variable rate demand bonds with letter of credit support and $231,395 and $240,530, respectively, in variable rate bonds held under direct purchase agreements.

Early Redemption: Essentially all of the Alliance's bonds are subject to redemption prior to maturity, including optional, mandatory sinking fund and extraordinary redemption, at various dates and prices as described in the respective Bond indentures and other documents.

Derecognized Bonds: In previous years, the Alliance advance refunded debt by placing required funds in irrevocable trusts in order to satisfy remaining scheduled principal and interest payments of the outstanding debt. Management, upon advice of legal counsel, believes the amounts deposited in such irrevocable trust accounts have contractually relieved the Alliance of any future obligations with respect to this debt. Debt outstanding and not recognized in the Consolidated Balance Sheet at June 30, 2015 due to previous advance refundings totaled $185,470.

The assets placed in the irrevocable trust accounts are also not recognized as assets of the Alliance. These assets consist primarily of various investments, as permitted by bond indentures and other documents, including United States Treasury obligations, an investment contract with MBIA Insurance Corporation (MBIA) in the original amount of $54,300, as well as the Series 2000C and 2000D Bonds which were purchased with the proceeds of the 2000A and 2000B Bonds specifically for the purpose of utilizing the Series 2000C and 2000D Bonds in the irrevocable trust. Therefore, certain of the assets held in the irrevocable trust accounts have future income streams contingent upon payments by the Alliance.

Financing Arrangements: The Alliance granted a deed of trust on Johnson City Medical Center and Sycamore Shoals Hospital to secure the payment of the outstanding bond indebtedness. The bonds are also secured by the Alliance's receivables, inventories and other assets as well as certain funds held under the documents pursuant to which the bonds were issued. The Johnston Memorial Hospital, Inc. and Subsidiaries (JMH) Series 2011 Hospital Refunding and Improvement Revenue Bonds are secured by pledged revenues of JMH, as defined in the Credit Agreement.

Certain members of the Alliance and JMH are each members of separate Obligated Groups. The bond indentures, master trust indentures, letter of credit agreements and loan agreements related to the various bond issues and notes payable contain covenants with which the respective Obligated Groups must comply. These requirements include maintenance of certain financial and liquidity ratios, deposits to trustee funds, permitted indebtedness, use of facilities and disposals of property. These covenants also require that failure to meet certain debt service coverage tests will require the deposit of all daily cash receipts of the Alliance into a trust fund. Management has represented the Alliance and JMH are in compliance with all such covenants at June 30, 2015.

The scheduled maturities and mandatory sinking fund payments of the long-term debt and capital lease obligations (excluding interest), exclusive of net unamortized original issue discount and premium, at June 30, 2015 are as follows:

Year Ending June 30,		
2016	$	40,286
2017		24,112
2018		24,793
2019		25,926
2020		27,048
Thereafter		928,699
		1,070,864
Net premium		1,083
	$	1,071,947

NOTE G--SELF-INSURANCE PROGRAMS

The Alliance is substantially self-insured for professional and general liability claims and related expenses. The Alliance maintains a $25,000 umbrella liability policy that attaches over the self-insurance limits of $10,000 per claim and a $15,000 annual aggregate retention. The Alliance's insurance program also provides professional liability coverage for certain affiliates and joint ventures.

The Alliance is also substantially self-insured for workers' compensation claims in the State of Tennessee and has established estimated liabilities for both reported and unreported claims. The Alliance maintains a stop-loss policy that attaches over the self-insurance limits of $1,000 per occurrence. In the State of Virginia, the Alliance is not self-insured and maintains workers' compensation insurance through commercial carriers.

At June 30, 2015, the Alliance is involved in litigation relating to medical malpractice and workers' compensation and other claims arising in the ordinary course of business. There are also known incidents occurring through June 30, 2015 that may result in the assertion of additional claims, and other unreported claims may be asserted arising from services provided in the past. Management has estimated and accrued for the cost of these unreported claims based on historical data and actuarial projections. The estimated net present value of malpractice and workers' compensation claims, both reported and unreported, as of June 30, 2015 and 2014 was $12,616 and $13,220, respectively. The discount rate utilized was 5% at June 30, 2015 and 2014.

Additionally, the Alliance is self-insured for employee health claims and recognizes expense each year based upon actual claims paid and an estimate of claims incurred but not yet paid. Such amount is included in accounts payable and accrued expenses in the Consolidated Balance Sheets.

NOTE H--NET PATIENT SERVICE REVENUE

Patient service revenue, net of contractual allowances and discounts, is composed of the following for the years ended June 30:

	2015	*2014*
Third-party payers	$ 965,865	$ 933,491
Patients	151,089	113,276
Patient service revenue	$ 1,116,954	$ 1,046,767

Patient deductibles and copayments under third-party payment programs are included within the patient amounts above.

The Alliance also provides services to uninsured and underinsured patients that do not qualify for financial assistance. Based on historical experience, a significant portion of uninsured and underinsured patients are unable or unwilling to pay the portion of their bill for which they are financially responsible, and a significant provision for bad debts is recorded in the period the services are provided.

The Alliance's allowance for doubtful accounts totaled $73,805 and $47,853 at June 30, 2015 and 2014, respectively. The allowance for doubtful accounts increased from 23% of patient accounts receivable, net of contractual allowances in 2014 to 31% of patient accounts receivable, net of contractual allowances in 2015. The increase is mainly related to the growing popularity of high-deductible insurance plans resulting in higher deductibles and out-of-pocket costs for patients. Management's estimate of the allowance for doubtful accounts is an estimate subject to change in the

near term. The provision for bad debts associated with the Alliance's ancillary service lines are not significant.

NOTE I--THIRD-PARTY REIMBURSEMENT

The Alliance renders services to patients under contractual arrangements with Medicare, Medicaid, TennCare and various other commercial payers. The Medicare program pays for inpatient services on a prospective basis. Payments are based upon diagnosis related group assignments, which are determined by the patient's clinical diagnosis and medical procedures utilized. The Alliance also receives additional payments from Medicare based on the provision of services to a disproportionate share of Medicaid and other low income patients. Most Medicare outpatient services are reimbursed on a prospectively determined payment methodology. The Medicare program also reimburses certain other services on the basis of reasonable cost, subject to various prescribed limitations and reductions.

Reimbursement under the State of Tennessee's Medicaid waiver program (TennCare) for inpatient and outpatient services is administered by various managed care organizations (MCOs) and is based on diagnosis related group assignments, a negotiated per diem or fee schedule basis. The Alliance also receives additional supplemental payments from the State of Tennessee and Medicaid. These payments recognized totaled $10,386 and $10,860 for the years ended June 30, 2015 and 2014, respectively.

The Virginia Medicaid program reimbursement for inpatient hospital services is based on a prospective payment system using both a per case and per diem methodology. Additional payments are made for the allowable costs of capital. Payments for outpatient services are transitioning from cost-based reimbursement principles to a prospective payment system. Full implementation of this transition is expected to take place over multiple years.

Amounts earned under the contractual agreements with the Medicare and Medicaid programs are subject to review and final determination by fiscal intermediaries and other appropriate governmental authorities or their agents. Retroactive adjustments are accrued on an estimated basis in the period the related services are rendered and adjusted in future periods as final settlements are determined. The impact of final settlements of cost reports or changes in estimates increased net patient service revenue by $3,076 and $6,201 in 2015 and 2014, respectively.

Activity with respect to audits and reviews of the governmental programs in the healthcare industry has increased and is expected to increase in the future. No additional specific reserves or allowances have been established with regard to these increased audits and reviews as management is not able to estimate such amounts, if any. Management believes that any adjustments from these increased audits and reviews will not have a material adverse impact on the consolidated financial statements.

However, due to uncertainties in the estimation, it is at least reasonably possible that management's estimate will change in 2016, although the amount of any change cannot be estimated.

Participation in the Medicare program subjects the Alliance to significant rules and regulations; failure to adhere to such could result in fines, penalties or expulsion from the program. Management believes that adequate provision has been made for any adjustments, fines or penalties which may result from final settlements or violations of other rules or regulations. Management has represented that the Alliance is in substantial compliance with these rules and regulations as of June 30, 2015.

The Alliance has also entered into payment agreements with certain commercial insurance carriers, health maintenance organizations, preferred provider organizations and employer groups. The basis for payment under these agreements includes prospectively determined rates per discharge, discounts from established charges and prospectively determined daily rates.

NOTE J--EMPLOYEE BENEFIT PLANS

The Alliance sponsors a defined contribution retirement plan (the Plan) which covers substantially all employees. The Alliance makes contributions to the Plan under a stratified system, whereby the Alliance's contribution percentage is based on each employee's years of service. Employees of certain other subsidiaries are covered by other plans, although such plans are not significant. The total expense related to defined contribution plans for the years ended June 30, 2015 and 2014 was $15,601 and $13,850, respectively.

NCH maintains a frozen defined benefit pension plan and a frozen post-retirement employee benefit plan. The accrued unfunded pension liability was $1,806 and $2,086, and the accrued unfunded post-retirement liability was $6,307 and $5,857 at June 30, 2015 and 2014, respectively.

The Alliance sponsors a secured executive benefit program (SEBP) for certain key executives. Contributions to the plan by the Alliance are based on an annual amount of funding necessary to produce a target benefit for the participants at their retirement dates, although the Alliance does not guarantee any level of benefit will be achieved. The Alliance contributed $1,727 and $511 to the plan during 2015 and 2014, respectively. Other assets at June 30, 2015 and 2014 include $13,030 and $11,302, respectively, related to the Alliance's portion of the benefits which are recoverable upon the death of the participant. In addition, the Alliance sponsors a Section 457(f) plan for certain key executives. Contributions to the Section 457(f) plan during 2015 and 2014 were not significant.

NOTE K--CONCENTRATION OF RISK

The Alliance has locations primarily in upper East Tennessee and Southwest Virginia, a geographic concentration. The Alliance grants credit without collateral to its patients, most of whom are local

residents and are insured under third-party payer agreements. Net patient service revenue from Washington County, Tennessee acute-care operations was approximately 52% of total net patient service revenue in 2015 and 2014.

The mix of receivables from patients and third-party payers based on charges at established rates is as follows as of June 30. The patient responsibility related to charges for which the third-party has not yet paid is included within the third-party payer categories.

	2015	*2014*
Medicare	41%	39%
Tenncare/Medicaid	15%	18%
Commercial	26%	28%
Other third-party payers	8%	8%
Patients	10%	7%
	100%	100%

Approximately 91% and 88% of the consolidated total revenue, gains and support were related to the provision of healthcare services during 2015 and 2014, respectively. Admitting physicians are primarily practitioners in the regional area.

The Hospital maintains bank accounts at various financial institutions covered by the Federal Deposit Insurance Corporation (FDIC). At times throughout the year, the Alliance may maintain bank account balances in excess of the FDIC insured limit. Management believes the credit risk associated with these deposits is not significant.

The Alliance routinely invests in investment vehicles as listed in Note C. The Alliance's investment portfolio is managed by outside investment management companies. Investments in corporate and foreign bonds, municipal obligations, money market funds, equities and other vehicles that are held by safekeeping agents are not insured or guaranteed by the U.S. government.

NOTE L--INCOME TAXES

BRMM and its subsidiaries file a consolidated federal tax return and separate state tax returns. As of June 30, 2015 and 2014, BRMM and its subsidiaries had net operating loss carryforwards for consolidated federal purposes of $30,700 and $27,085, respectively, related to operating loss carryforwards, which expire through 2033. At June 30, 2015 and 2014, BRMM had state net operating loss carryforwards of $75,619 and $74,191, respectively, which expire through 2029. The net operating loss carryforwards may be offset against future taxable income to the extent permitted by the Internal Revenue Code and Tennessee Code Annotated.

Net deferred tax assets related to these carryforwards and other deferred tax assets have been substantially offset through valuation allowances equal to these amounts. Income taxes paid relate primarily to state taxes for certain subsidiaries and federal alternative minimum tax.

NOTE M--OTHER COMMITMENTS AND CONTINGENCIES

Construction in Progress: Construction in progress at June 30, 2015 represents costs incurred related to various hospital and medical office building facility renovations and additions and information technology infrastructure. The Alliance has outstanding contracts and other commitments related to the completion of these projects, and the cost to complete these projects is estimated to be $30,508 at June 30, 2015. The Alliance does not expect any significant costs to be incurred for infrastructure improvements to assets held for resale.

Employee Scholarships: The Alliance offers scholarships to certain individuals which require that the recipients return to the Alliance to work for a specified period of time after they complete their degrees. Amounts due are then forgiven over a specific period of time as provided in the individual contracts. If the recipient does not return and work the required period of time, the funds disbursed on their behalf become due immediately, and interest is charged until the funds are repaid. Other receivables at June 30, 2015 and 2014 include $7,095 and $8,685, respectively, related to students in school, graduates working at the Alliance and amounts due from others who are no longer in the scholarship program, net of an estimated allowance.

Operating Leases and Maintenance Contracts: Total lease expense for the years ended June 30, 2015 and 2014 was $7,414 and $7,901, respectively. Future minimum lease payments for each of the next five years and in the aggregate for the Alliance's noncancellable operating leases with remaining lease terms in excess of one year are as follows:

Year Ending June 30,		
2016	$	7,346
2017		4,614
2018		3,605
2019		3,279
2020		2,481
Thereafter		11,240
	$	32,565

NOTE N--FAIR VALUE MEASUREMENT

The fair value of financial instruments has been estimated by the Alliance using available market information as of June 30, 2015 and 2014, and valuation methodologies considered appropriate. The estimates presented are not necessarily indicative of amounts the Alliance could realize in a current market exchange. The carrying value of substantially all financial instruments approximates fair value due to the nature or term of the instruments, except as described below.

Held-to-Maturity Securities: The estimated fair value of the Alliance's held-to-maturity securities at June 30, 2015 and 2014, is $39,186 and $38,508, respectively, and would be classified in level 2 of the fair value hierarchy (described below). The fair value is based on prices provided by the Alliance's investment managers and its custodian bank, which use a variety of pricing sources to determine market valuations.

Investment in Joint Ventures: It is not practical to estimate the fair market value of the investments in joint ventures.

Estimated Professional Liability Self-Insurance and Other Long-Term Liabilities: Estimates of reported and unreported professional liability claims, pension and post-retirement liabilities are discounted to approximate their estimated fair value. It is not practical to estimate the fair market value of other long-term liabilities.

Long-Term Debt: The estimated fair value of the Alliance's long-term debt at June 30, 2015 and 2014, is $1,130,580 and $1,172,357, respectively, and would be classified in Level 2 in the fair value hierarchy. The fair value of long-term debt is estimated based upon quotes obtained from brokers for bonds and discounted future cash flows using current market rates for other debt. For long-term debt with variable interest rates, the carrying value approximates fair value.

FASB Accounting Standards Codification 820 establishes a three-level valuation hierarchy for disclosure of fair value measurements. The valuation hierarchy is based upon the transparency of inputs to the valuation of an asset or liability as of the measurement date. The three levels are defined as follows:

- Level 1 - Inputs based on quoted market prices for identical assets or liabilities in active markets at the measurement date.

- Level 2 - Observable inputs other than quoted prices included in Level 1, such as quoted prices for similar assets and liabilities in active markets; quoted prices for identical or similar assets and liabilities in markets that are not active; or other inputs that are observable or can

- be corroborated by observable market data. The Alliance's Level 2 investments are valued primarily using the market valuation approach.

- Level 3 - Unobservable inputs that are supported by little or no market activity and are significant to the fair value of the assets or liabilities. Level 3 includes values determined using pricing models, discounted cash flow methodologies, or similar techniques reflecting the Alliance's own assumptions.

In instances where the determination of the fair value hierarchy measurement is based on inputs from different levels of the fair value hierarchy, the level in the fair value hierarchy within which the entire fair value measurement falls is based on the lowest level input that is significant to the fair value measurement in its entirety. The Alliance's assessment of the significance of a particular input to the fair value measurement in its entirety requires judgment and considers factors specific to the asset or liability.

The following table sets forth, by level within the fair value hierarchy, the financial instruments measured at fair value as of June 30, 2015 and 2014:

	Total	*Level 1*	*Level 2*	*Level 3*
June 30, 2015				
Cash and cash equivalents	$ 70,439	$ 70,439	$ -	$ -
U.S. Government and agency securities	88,083	88,083	-	-
Corporate and foreign bonds	96,586	-	96,586	-
Municipal obligations	23,329	-	23,329	-
U.S. equity securities	5,419	5,419	-	-
Mutual funds	293,983	212,323	81,660	-
Alternative investments	87,144	-	72,420	14,724
Total assets	$ 664,983	$ 376,264	$ 273,995	$ 14,724
Derivative agreements	$ (2,541)	$ -	$ -	$ (2,541)
June 30, 2014				
Cash and cash equivalents	$ 98,956	$ 98,956	$ -	$ -
U.S. Government and agency securities	90,474	90,474	-	-
Corporate and foreign bonds	99,103	-	99,103	-
Municipal obligations	21,409	-	21,409	-
U.S. equity securities	1,868	1,868	-	-
Mutual funds	253,301	177,067	76,234	-
Alternative investments	69,474	-	54,761	14,713
Total assets	$ 634,585	$ 368,365	$ 251,507	$ 14,713
Derivative agreements	$ (10,603)	$ -	$ -	$ (10,603)

Fair values for the Alliance's fixed maturity securities are based on prices provided by the Alliance's investment managers and its custodian bank, which use a variety of pricing sources to determine market valuations. Fair values of equity securities have been determined by the Alliance from market quotations.

Alternative Investments: The Alliance generally uses net asset value per unit as provided by external investment managers without further adjustment as the practical expedient estimate of the fair value of its alternative investment in a real estate fund. Accordingly, such values may differ from values that would have been used had an active market for the investments existed. The real estate fund invests primarily in U.S. commercial real estate. The Alliance may request redemption of all or a portion of its interests as of the end of a calendar quarter by delivering written notice to the fund managers at least 60 days prior to the end of the quarter. Such redemptions are subject to the capital requirements of the fund manager.

The Alliance's investment in Premier Class B units does not have a readily determinable fair value and have been reported at estimated fair market value. The significant unobservable inputs primarily relate to management's estimate of the discount for lack of marketability of 12%. Accordingly, such value may differ from values that would have been used had an active market for the investment existed and as such it has been classified in Level 3 of the fair value hierarchy.

Derivative Agreements: The valuation of the Alliance's derivative agreements is determined using market valuation techniques, including discounted cash flow analysis on the expected cash flows of each agreement. This analysis reflects the contractual terms of the agreement, including the period to maturity, and uses certain observable market-based inputs. The fair values of interest rate agreements are determined by netting the discounted future fixed cash payments (or receipts) and the discounted expected variable cash receipts (or payments). The variable cash receipts (or payments) are based on the expectation of future interest rates and the underlying notional amount. The Alliance also incorporates credit valuation adjustments (CVAs) to appropriately reflect both its own nonperformance or credit risk and the respective counterparty's nonperformance or credit risk in the fair value measurements. The CVA on the Alliance's interest rate swap agreements at June 30, 2015 and 2014 resulted in a decrease in the fair value of the related liability of $713 and $4,584, respectively.

A certain portion of the inputs used to value its interest rate swap agreements, including the forward interest rate curves and market perceptions of the Alliance's credit risk used in the CVAs, are unobservable inputs available to a market participant. As a result, the Alliance has determined that the interest rate swap valuations are classified in Level 3 of the fair value hierarchy. Due to the nature of these financial instruments, such estimates of fair value are subject to significant change in the near term.

The following tables provide a summary of changes in the fair value of the Alliance's Level 3 financial assets and liabilities during the fiscal years ended June 30, 2015 and 2014:

	Alternative Investment	*Derivatives, Net*
July 1, 2013	$ -	$ (8,185)
Total unrealized/realized losses	-	(2,761)
Net investment income	-	343
Additions	14,713	-
June 30, 2014	14,713	(10,603)
Total unrealized/realized gains	6,978	7,718
Net investment income	-	344
Settlements	(6,967)	-
June 30, 2015	$ 14,724	$ (2,541)

NOTE O--OPERATING EXPENSES BY FUNCTIONAL CLASSIFICATION

The Alliance does not present expense information by functional classification because its resources and activities are primarily related to providing healthcare services. Further, since the Alliance receives substantially all of its resources from providing healthcare services in a manner similar to business enterprises, other indicators contained in these consolidated financial statements are considered important in evaluating how well management has discharged their stewardship responsibilities.

NOTE P--SUBSEQUENT EVENTS

The Alliance and Wellmont Health System (Wellmont) have agreed to exclusively explore the creation of a new, integrated and locally governed health system. Wellmont operates six hospitals and numerous outpatient care sites, serving communities in Northeast Tennessee and Southwest Virginia. Wellmont and the Alliance have filed a letter of intent (LOI) with the Tennessee Department of Health, indicating the organizations will submit an application for a Certificate of Public Advantage (COPA). The two organizations have submitted a similar letter of intent with the Southwest Virginia Health Authority, signaling their intent to request approval by the commonwealth of the anticipated cooperative agreement between the two systems. A COPA in Tennessee and the cooperative agreement approval process in Virginia will allow Wellmont and the Alliance to merge, with the states actively supervising the proposed new health system to ensure it complies with the provisions of the COPA intended to contain costs and sustain high quality, affordable care. The two organizations are in the process of finalizing a definitive agreement. The date for expected completion of the merger has not been set but will not occur before state approval has been granted.

Supplemental Information

MOUNTAIN STATES HEALTH ALLIANCE

Consolidated Balance Sheets
(Smyth County Community Hospital and Subsidiary and Norton Community Hospital and Subsidiaries)
(Dollars in Thousands)

June 30, 2015

	Smyth County Community Hospital and Subsidiary	*Norton Community Hospital and Subsidiaries*
ASSETS		
CURRENT ASSETS		
Cash and cash equivalents	$ 2,940	$ 6,798
Patient accounts receivable, less estimated allowances for uncollectible accounts	6,295	11,137
Other receivables, net	156	310
Inventories and prepaid expenses	1,079	2,061
Estimated amounts due from third-party payers, net	793	292
TOTAL CURRENT ASSETS	11,263	20,598
INVESTMENTS, less amounts required to meet current obligations	24,807	30,451
PROPERTY, PLANT AND EQUIPMENT, net	67,550	50,275
OTHER ASSETS		
Net deferred financing, acquisition costs and other charges	139	210
Other assets	741	-
TOTAL OTHER ASSETS	880	210
	$ 104,500	$ 101,534

MOUNTAIN STATES HEALTH ALLIANCE

Consolidated Balance Sheets - Continued
(Smyth County Community Hospital and Subsidiary and Norton Community Hospital and Subsidiaries)
(Dollars in Thousands)

June 30, 2015

	Smyth County Community Hospital and Subsidiary	*Norton Community Hospital and Subsidiaries*
LIABILITIES AND NET ASSETS		
CURRENT LIABILITIES		
Accrued interest payable	$ 12	$ 15
Current portion of long-term debt and capital lease obligations	134	110
Accounts payable and accrued expenses	2,323	6,245
Accrued salaries, compensated absences and amounts withheld	2,116	4,388
Payables to affiliates, net	342	89
TOTAL CURRENT LIABILITIES	4,927	10,847
OTHER LIABILITIES		
Long-term debt and capital lease obligations, less current portion	15,830	20,985
Estimated professional liability self-insurance	442	632
Other long-term liabilities	1,178	8,200
TOTAL LIABILITIES	22,377	40,664
NET ASSETS		
Unrestricted net assets	82,114	60,734
Temporarily restricted net assets	9	136
TOTAL NET ASSETS	82,123	60,870
	$ 104,500	$ 101,534

MOUNTAIN STATES HEALTH ALLIANCE

Consolidated Statements of Operations and Changes in Net Assets
(Smyth County Community Hospital and Subsidiary and Norton Community Hospital and Subsidiaries)
(Dollars in Thousands)

Year Ended June 30, 2015

	Smyth County Community Hospital and Subsidiary	*Norton Community Hospital and Subsidiaries*
UNRESTRICTED NET ASSETS:		
Revenue, gains and support:		
Patient service revenue, net of contractual allowances and discounts	$ 48,370	$ 78,667
Provision for bad debts	(5,332)	(8,546)
Net patient service revenue	43,038	70,121
Net investment gain	651	746
Other revenue, gains and support	1,745	2,576
TOTAL REVENUE, GAINS AND SUPPORT	45,434	73,443
Expenses and losses:		
Salaries and wages	17,289	23,681
Physician salaries and wages	257	6,043
Contract labor	170	567
Employee benefits	4,365	8,965
Fees	9,050	8,326
Supplies	5,349	8,793
Utilities	978	1,286
Other	4,348	7,753
Depreciation	4,289	4,489
Amortization	8	30
Interest and taxes	156	257
TOTAL EXPENSES AND LOSSES	46,259	70,190
EXCESS (DEFICIT) OF REVENUE, GAINS AND SUPPORT OVER EXPENSES AND LOSSES	(825)	3,253
Pension and postretirement liability adjustments	-	(305)
INCREASE (DECREASE) IN UNRESTRICTED NET ASSETS	(825)	2,948

MOUNTAIN STATES HEALTH ALLIANCE

Consolidated Statements of Operations and Changes in Net Assets - Continued
(Smyth County Community Hospital and Subsidiary and Norton Community Hospital and Subsidiaries)
(Dollars in Thousands)

Year Ended June 30, 2015

	Smyth County Community Hospital and Subsidiary	*Norton Community Hospital and Subsidiaries*
TEMPORARILY RESTRICTED NET ASSETS:		
Restricted grants and contributions	8	134
Net assets released from restrictions	(8)	(160)
DECREASE IN TEMPORARILY RESTRICTED NET ASSETS	-	(26)
INCREASE (DECREASE) IN TOTAL NET ASSETS	(825)	2,922
NET ASSETS, BEGINNING OF YEAR	82,948	57,948
NET ASSETS, END OF YEAR	$ 82,123	$ 60,870

MOUNTAIN STATES HEALTH ALLIANCE

Consolidating Balance Sheet
(Obligated Group and Other Entities)
(Dollars in Thousands)

June 30, 2015

	Obligated Group	*Other Entities*	*Eliminations*	*Total*
ASSETS				
CURRENT ASSETS				
Cash and cash equivalents	$ 47,025	$ 32,689	$ -	$ 79,714
Current portion of investments	19,598	-	-	19,598
Patient accounts receivable, less estimated allowance for uncollectible accounts	134,777	27,479	-	162,256
Other receivables, net	17,873	15,413	-	33,286
Inventories and prepaid expenses	25,427	8,542	-	33,969
TOTAL CURRENT ASSETS	244,700	84,123	-	328,823
INVESTMENTS, less amounts required to meet current obligations	458,373	236,169	-	694,542
EQUITY IN AFFILIATES	351,724	-	(351,724)	-
PROPERTY, PLANT AND EQUIPMENT, net	614,870	232,219	-	847,089
OTHER ASSETS				
Goodwill	152,600	3,996	-	156,596
Net deferred financing, acquisition costs and other charges	23,504	1,251	-	24,755
Other assets	44,738	8,302	-	53,040
TOTAL OTHER ASSETS	220,842	13,549	-	234,391
	$ 1,890,509	$ 566,060	$ (351,724)	$ 2,104,845

See note to supplemental information.

MOUNTAIN STATES HEALTH ALLIANCE

Consolidating Balance Sheet – Continued
(Obligated Group and Other Entities)
(Dollars in Thousands)

June 30, 2015

	Obligated Group	*Other Entities*	*Eliminations*	*Total*
LIABILITIES AND NET ASSETS				
CURRENT LIABILITIES				
Accrued interest payable	$ 18,125	$ 34	$ -	$ 18,159
Current portion of long-term debt and capital lease obligations	22,040	18,246	-	40,286
Accounts payable and accrued expenses	80,408	19,893	-	100,301
Accrued salaries, compensated absences and amounts withheld	54,519	17,547	-	72,066
Payables to (receivables from) affiliates, net	15,314	(15,314)	-	-
Estimated amounts due to third-party payers, net	3,909	872	-	4,781
TOTAL CURRENT LIABILITIES	194,315	41,278	-	235,593
OTHER LIABILITIES				
Long-term debt and capital lease obligations, less current portion	1,012,167	19,494	-	1,031,661
Estimated fair value of derivatives, net	2,541	-	-	2,541
Estimated professional liability self-insurance	7,362	1,099	-	8,461
Other long-term liabilities	35,176	3,507	-	38,683
TOTAL LIABILITIES	1,251,561	65,378	-	1,316,939
NET ASSETS				
Unrestricted net assets				
Mountain States Health Alliance	583,287	344,360	(344,360)	583,287
Noncontrolling interests in subsidiaries	42,160	143,222	5,736	191,118
TOTAL UNRESTRICTED NET ASSETS	625,447	487,582	(338,624)	774,405
Temporarily restricted net assets				
Mountain States Health Alliance	13,303	12,966	(12,966)	13,303
Noncontrolling interests in subsidiaries	71	7	(7)	71
TOTAL TEMPORARILY RESTRICTED NET ASSETS	13,374	12,973	(12,973)	13,374
Permanently restricted net assets	127	127	(127)	127
TOTAL NET ASSETS	638,948	500,682	(351,724)	787,906
	$ 1,890,509	$ 566,060	$ (351,724)	$ 2,104,845

See note to supplemental information.

MOUNTAIN STATES HEALTH ALLIANCE

Consolidating Statement of Operations
(Obligated Group and Other Entities)
(Dollars in Thousands)

Year Ended June 30, 2015

	Obligated Group	*Other Entities*	*Eliminations*	*Total*
Revenue, gains and support:				
Patient service revenue, net of contractual allowances and discounts	$ 925,979	$ 203,883	$ (12,908)	$ 1,116,954
Provision for bad debts	(104,724)	(22,795)	-	(127,519)
Net patient service revenue	821,255	181,088	(12,908)	989,435
Premium revenue	-	32,184	-	32,184
Net investment gain	12,486	4,530	-	17,016
Net derivative gain	13,195	695	-	13,890
Other revenue, gains and support	27,244	97,465	(88,138)	36,571
Equity in net gain of affiliates	716	10,275	(10,991)	-
TOTAL REVENUE, GAINS AND SUPPORT	874,896	326,237	(112,037)	1,089,096
Expenses:				
Salaries and wages	284,643	67,093	(6,581)	345,155
Physician salaries and wages	64,838	71,222	(55,781)	80,279
Contract labor	3,101	2,913	(598)	5,416
Employee benefits	66,881	17,443	(7,018)	77,306
Fees	97,754	35,093	(12,156)	120,691
Supplies	146,516	29,660	(126)	176,050
Utilities	12,981	3,798	(4)	16,775
Medical Costs	-	30,566	(12,183)	18,383
Other	61,323	26,524	(6,370)	81,477
Depreciation	51,307	15,903	-	67,210
Amortization	1,488	69	-	1,557
Interest and taxes	41,599	2,098	-	43,697
TOTAL EXPENSES	832,431	302,382	(100,817)	1,033,996
EXCESS OF REVENUE, GAINS AND SUPPORT OVER EXPENSES AND LOSSES	$ 42,465	$ 23,855	$ (11,220)	$ 55,100

See note to supplemental information.

MOUNTAIN STATES HEALTH ALLIANCE

Consolidating Statement of Changes in Net Assets
(Obligated Group and Other Entities)
(Dollars in Thousands)

Year Ended June 30, 2015

	Obligated Group		*Total*	*Other Entities*		*Total*		
	Mountain States Health Alliance	*Noncontrolling Interests*	*Obligated Group*	*Mountain States Health Alliance*	*Noncontrolling Interests*	*Other Entities*	*Eliminations*	*Total*
UNRESTRICTED NET ASSETS:								
Excess of Revenue, Gains and Support over Expenses and Losses	$ 41,008	$ 1,457	$ 42,465	$ 13,832	$ 10,023	$ 23,855	$ (11,220)	$ 55,100
Pension and other defined benefit plan adjustments	(178)	(152)	(330)	(207)	(206)	(413)	413	(330)
Net assets released from restrictions used for the purchase of property, plant and equipment	478	-	478	478	-	478	(478)	478
Repurchases of noncontrolling interests, net	-	(1,000)	(1,000)	-	(14)	(14)	-	(1,014)
Distributions to noncontrolling interests	-	-	-	(458)	(355)	(813)	458	(355)
Net asset transfers	-	-	-	912	2,372	3,284	(3,284)	-
INCREASE IN UNRESTRICTED NET ASSETS	41,308	305	41,613	14,557	11,820	26,377	(14,111)	53,879
TEMPORARILY RESTRICTED NET ASSETS:								
Restricted grants and contributions	3,663	69	3,732	3,172	7	3,179	(3,179)	3,732
Net assets released from restrictions	(2,564)	(82)	(2,646)	(2,093)	(5)	(2,098)	2,098	(2,646)
INCREASE (DECREASE) IN TEMPORARILY RESTRICTED NET ASSETS	1,099	(13)	1,086	1,079	2	1,081	(1,081)	1,086
INCREASE IN TOTAL NET ASSETS	42,407	292	42,699	15,636	11,822	27,458	(15,192)	54,965
NET ASSETS, BEGINNING OF YEAR	554,310	41,939	596,249	341,817	131,407	473,224	(336,532)	732,941
NET ASSETS, END OF YEAR	$ 596,717	$ 42,231	$ 638,948	$ 357,453	$ 143,229	$ 500,682	$ (351,724)	$ 787,906

See note to supplemental information.

MOUNTAIN STATES HEALTH ALLIANCE

Note to Supplemental Information

Year Ended June 30, 2015

NOTE A--OBLIGATED GROUP MEMBERS

As described in Note F to the consolidated financial statements, the Alliance has granted a deed of trust on JCMC and SSH to secure the payment of the outstanding bonds. The bonds are also secured by the Alliance's receivables, inventories and other assets as well as certain funds held under the documents pursuant to which the bonds were issued. The members pledged pursuant to the Amended and Restated Master Trust Indenture between Mountain States Health Alliance and the Bank of New York Mellon Trust Company, NA as Master Trustee include Johnson City Medical Center Hospital, Indian Path Medical Center, Franklin Woods Community Hospital, Sycamore Shoals Hospital, Johnson County Community Hospital, Russell County Medical Center, Unicoi County Memorial Hospital, Norton Community Hospital (hospital only), Smyth County Community Hospital (hospital only) and Blue Ridge Medical Management Corporation (parent company only), collectively defined as the Obligated Group (Obligated Group).

The supplemental consolidating information includes the accounts of the members of the Obligated Group after elimination of all significant intergroup accounts and transactions. Certain other subsidiaries of the Alliance are not pledged to secure the payment of the outstanding bonds as they are not part of the Obligated Group. These affiliates have been accounted for within the Obligated Group based upon the Alliance's original and subsequent investments, as adjusted for the Alliance's pro rata share of income or losses and any distributions, and are included as a part of equity in affiliates in the supplemental consolidating balance sheet.

AnewCare Collaborative
A COMMUNITY-BASED ACCOUNTABLE CARE ORGANIZATION

AnewCare Collaborative
Board of Directors
FY 2017

Member	1st Term	2nd Term	Rotate Off
Dr. Robert Williams	3/26/12 – 6/30/15	7/1/15 – 6/30/18	6/30/18
Dr. Morris Seligman	8/29/13 – 6/30/16	7/1/16 – 6/30/19	6/30/19
Tony Keck	1/7/16 – 6/30/18	7/1/18 – 6/30/21	6/30/21
Dr. Scott Dulebohn	1/7/16 – 6/30/18	7/1/18 – 6/30/21	6/30/21
Dr. William Handy	1/7/16 – 6/30/18	7/1/18 – 6/30/21	6/30/21
Steve Kilgore	1/7/16 – 6/30/18	7/1/18 – 6/30/21	6/30/21
Dr. John Patterson *Chair as of 2/1/16*	1/7/16 – 6/30/18	7/1/18 – 6/30/21	6/30/21
Dr. Shari Rajoo	1/7/16 – 6/30/18	7/1/18 – 6/30/21	6/30/21
Lindy White	1/7/16 – 6/30/18	7/1/18 – 6/30/21	6/30/21
Dr. Andrew Fletcher	7/12/16 – 6/30/19	7/1/19 – 6/30/22	6/30/22

Updated 7/13/16