Key Priorities for Improving Health in Northeast Tennessee and Southwest Virginia: A Comprehensive Community Report

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PUBLIC HEALTH
EAST TENNESSEE STATE UNIVERSITY

A Letter to the Community

On behalf of the project team in the College of Public Health at East Tennessee State University, we are pleased to present this document, "Key Priorities for Improving Health in Northeast Tennessee and Southwest Virginia: A Comprehensive Community Report" to the people of our region.

This report is the product of a unique and unprecedented analysis resulting in a set of recommendations for improving the health and well-being of all people living in Northeast Tennessee and Southwest Virginia.

As outlined in the executive summary, there were several separate, but inter-related, processes that contributed to this report: four working groups composed of topic area experts from around the region; ten community roundtable meetings held at locations in both states; and considerable research and analysis conducted by the project team in the College of Public Health. As a result of the breadth of this approach, literally hundreds of people, from every part of the region, contributed to the contents of this report.

The working groups brought regional experts together for the review of a wide array of health information, and to identify those issues that pose the greatest threats to the health of communities in Northeast Tennessee and Southwest Virginia. Identified health improvement priorities from this process were then aligned with recommendations for the best evidence-based solutions.

The community groups allowed citizens from counties across the region to identify those issues that are of greatest concern to them, and, perhaps most importantly, to begin a critical dialogue on how communities can work together to address these concerns.

The project team, in addition to coordinating the community meetings and collecting their input, also provided support to the working groups, providing them with relevant data and helping to identify best practices. The team also developed a set of potential next steps based upon the careful review of working group recommendations as well as the available literature. The result of this inclusive approach is a data-driven report that is unique to the region and reflects what both experts and community members are most concerned about.

The value of any report, however, is ultimately in how it is used. While the report was commissioned by Mountain States Health Alliance and Wellmont Health System to help them identify potential community-based approaches to improving health in the region, if the report is to have its maximum impact, it must be used by a much broader range of partners from across the region.

Indeed, the greatest impact of this report will be to serve as a catalyst to bring the many organizations currently addressing the region's health challenges together around a core set of critical health priorities.

Currently, the report does not identify which regional health priorities should be addressed first, nor who should take those steps. Therefore, the most important "next step" will be to create a region-wide

collaborative approach to identifying a small number of key, high-impact, actions that are vital to improving health in the region.   Whether called an "Accountable Care Community" (ACC) or some other title, this effort should use this report:

1) To identify the highest priority health challenges to address over next five to ten years;
2) To select one or two key evidence-based interventions for each leading health priority.
3) To build collaborative networks capable of supporting sustainable health initiatives in the region. Building a strong coalition of community partners can have several essential benefits:
    - Like-minded community groups can re-focus their efforts to work together and support the regional health priorities;
    - The ACC can support community groups by assisting with grant writing/resource identification, adopting best practices, and facilitating partnerships between groups working on similar issues in different parts of the region;
    - The ACC can conduct research so that regional activities that are effective can be replicated in other parts of the country; and
    - Perhaps most importantly, the ACC can serve to bring together business leaders, faith community leaders, elected officials, social and community organizations, and many others to assure that the entire region develops a collaborative commitment—a "culture of health."

It will be essential that the community play a major role in each step described above.   Having the community directly involved in the process will encourage ownership of regional health priorities, help identify resources, and maintain open communication about progress towards achieving the identified goals. To assure that the community is kept abreast of progress, for each leading health priority, three types of measures should be identified:

1. Process Measures: are we doing the right things?
2. Progress Measures: are we seeing the anticipated changes?
3. Outcome Measures: are we changing the health statistic?

For example, say the ACC were to identify "infant mortality" as a leading health priority, and "safe to sleep[1]" as a key, evidence-based, intervention. A process measure would be: "The number of obstetricians and other birth attendants in the region who report that they are teaching pregnant women the importance of putting their babies to sleep on their backs." A progress measure would be "The number of women who report that they are putting their babies to sleep on their backs." The outcome measure, of course, would be seeing a reduction in the infant mortality rate.

While the ultimate outcome (infant mortality) might take several years to see a measurable change, it is important for the community to know that the correct process measures are being met and the anticipated progress measures are being seen.

We believe that the comprehensive process described above has the very real potential to make a major difference in the health status of the people of this region.   If we identify our greatest health challenges, build coalitions, collaborate to implement programs that are known to work, and involve a wide range of community groups, we believe that we will see fundamental changes that will impact people from all parts of the region.

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[1] The "Safe to Sleep" campaign, formerly known as "Back to Sleep" is a campaign supported by the National Institutes of Health, and the American Academy of Pediatrics that encourages parents to have infants sleep on their backs instead of their stomachs.

We would end this letter by thanking the hundreds of people—members of the general public, and working health professions—who contributed to this report.   We would like to, especially, thank the work group co-chairs for their leadership, Mountain States Health Alliance and Wellmont Health System for their support and commitment to the process of developing this report, and, most of all, the people of this region who will be involved in transitioning this report into a set of concrete actions that will give our children and grandchildren a region that is as healthy as it is beautiful.

Sincerely,

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EXECUTIVE SUMMARY

EXECUTIVE SUMMARY

In the summer of 2015, the East Tennessee State University (ETSU) College of Public Health, Mountain States Health Alliance, and Wellmont Health System began an in-depth process of identifying a set of high-impact health programs for inclusion in a ten-year regional plan designed to break the cycle of inter-generational poor health in a 21-county area of southern Appalachia stretching across Northeast Tennessee and Southwest Virginia (Figure 1).
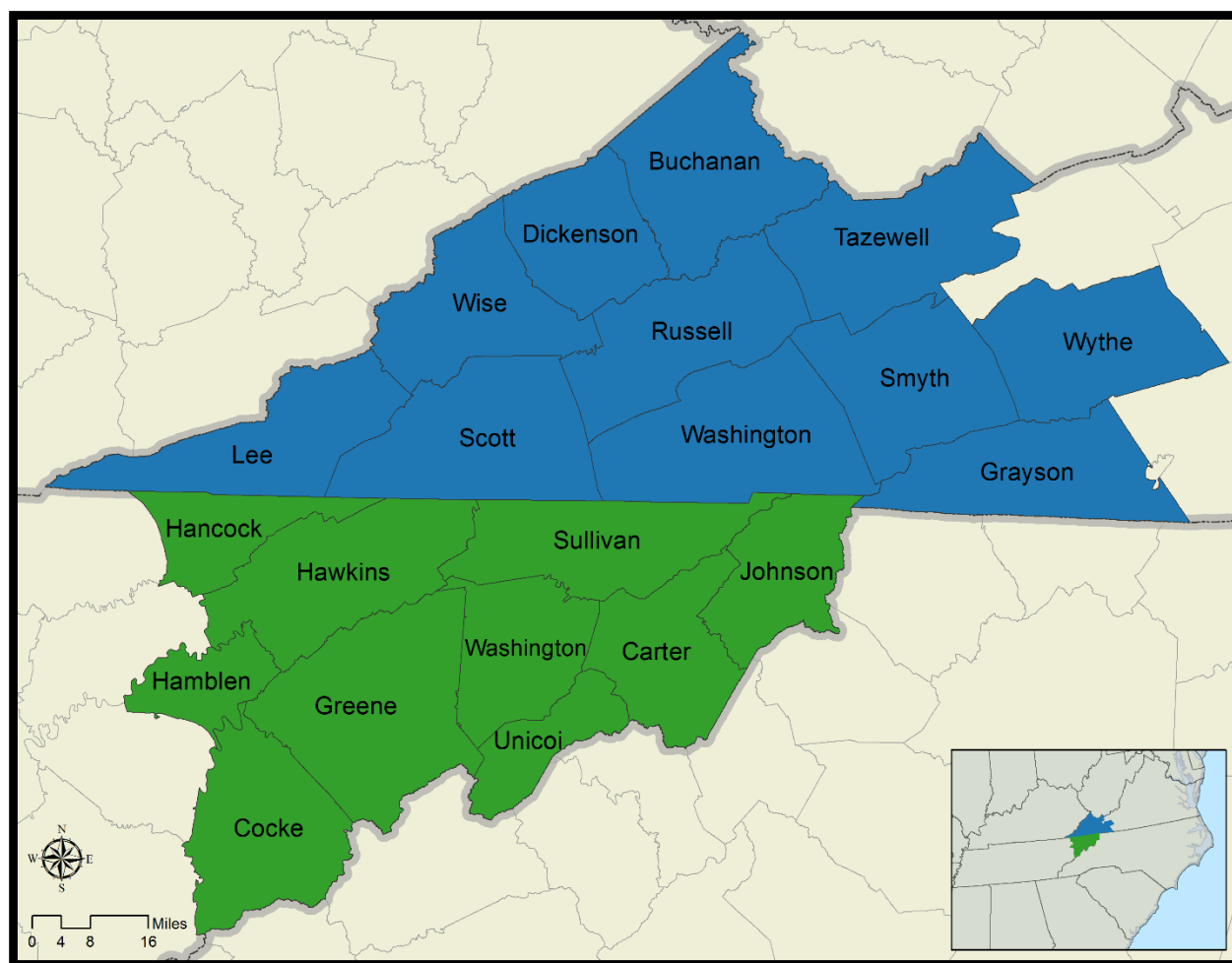
Figure 1. MSHA and WHS Catchment Region in Northeast Tennessee and Southwest Virginia

The region is home to 1.14 million people who enjoy a rich culture and history, living in some of the most beautiful landscape in the Blue Ridge. Regretfully, many communities in the region also face significant health challenges leading to high prevalence of chronic disease and premature death. Nearly half of the region is rural with rates of unemployment, housing instability, and poverty that are greater than the national average. The geographic isolation experienced by rural communities makes the delivery of services difficult, yet essential to assuring the health and well-being of the populations living within them.

The challenge faced by this project was identifying the most effective way to bring communities and services from both sides of the state line together in a coordinated effort to address major health concerns affecting people across the entire region.

This report represents the results of the first year of this effort, which consisted of three major activities:

1) Steering committees were formed around four topic areas: Healthy Children and Families; Population Health and Healthy Communities; Mental Health and Addictions; and Research and Academics. More than 140 healthcare, civic, and social service professionals representing 84 agencies participated and provided their expertise. Each committee was charged with; 1) identifying regional health priorities, 2) recommending effective approaches to address these priorities, and 3) identifying opportunities for cross-sector collaboration.

2) Community members from across the region were able to participate in the process through facilitated meetings that were held in ten counties. The meetings used a format chosen to encourage and facilitate discussion among participants around their local community's health concerns. The result was an in-depth and comprehensive look at the local health priorities, as identified by community members themselves.

3) The ETSU College of Public Health, working closely with representatives of the health systems, has begun developing a strategy for establishing a sustainable multi-sector collaboration that will allow a wide range of partners to work together toward improving health in the region. Specifically, the project team is exploring the creation of an Accountable Care Community (ACC) model, which, when established, would bring regional organizations, employers, and individuals together to identify and implement specific steps to address the region's leading health challenges. While the health systems would play a vital role in this process, many more partners would need to be involved to significantly impact the health of the region.

As the project moves forward into its second year, strategic planning for the ACC will be taking place in continued close partnership with community stakeholders and a wide range of regional agencies. The goal of these efforts will be to bring effective health care to all communities in the region, connect individuals with services to address health-related social needs, to encourage the adoption of healthier behaviors, and, ultimately, to promote healthier communities and prevent poor health outcomes in the region.

When collecting and analyzing health data for the region the project team identified several data points that were either not measured in both states or were collected and/or reported differently. In some cases, therefore, data from counties in Virginia and Tennessee cannot be directly compared. Wherever possible, however, the project team sought to identify and use data that are directly comparable across all 21 counties included in this report.

Community Health Roundtable Meetings

A total of 225 people participated in the ten Community Round Table meetings held between August and October in 2015. Each meeting began with a brief overview of the proposed merger and then a discussion about the health status of the region, with a focus on the behavioral and social factors that impact health. At each meeting, participants engaged in a process known as the World Café

approach—an effective mechanism that encourages community members to work together to identify issues of importance to that community. To this end, each group was asked to answer a single question: "**What can you do to improve health in the community?**" At the end of two rounds of small group discussion, notes were collected from the table moderators, or "Table Hosts", used for a final large group discussion to allow for further comment and clarification.

The results of this approach to community engagement were broad reaching. Perhaps the most valuable outcome was the engagement of a broad cross-section of community members in an open and focused discussion about health. An effective dialogue such as this is the first step toward a developing a shared understanding of health necessary to effect real change within any community. As outlined in detail in this report, the Round Table discussions identified a wide range of social factors that impact health and well-being in the region, including factors related to the region's economy, level of educational achievement, the region's culture and infrastructure challenges.

The Four Steering Committees

The co-chairs of each steering committee were free to work with their committee members to identify what issues they wanted to address, how they wanted to organize their work, and the format of their ultimate recommendations. Informational support and facilitation was provided by the project team, but committee chairs took the lead on meeting format and summary reporting. Below is a brief summary of the approaches taken by each committee as well as an outline of their recommendations. Each committee's recommendations are discussed in detail later in the report.

Mental Health and Addictions Steering Committee

The Mental Health and Addictions Steering Committee was tasked with evaluating the current state of services for adults and children in the region with the goal of reducing the prevalence and consequences of substance abuse and mental health problems in Northeast Tennessee and Southwest Virginia. The committee identified three aspects of an effective mental health and addiction prevention and treatment system of services. These are:

- 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

Both the community round table meetings and several of the steering committees identified the high rates of substance abuse, especially the abuse of prescription medications, as a major health threat in the region.

Recognizing this, the steering committee worked diligently to identify the gaps and conceptualize how professionals across sectors could coordinate to fill them.

The committee held five meetings between August 20th and November 19th, 2015. The goal of the first meeting was to review the charter, break into sub-committees (adult mental health, child and

adolescent, addiction and co-occurring disorders), and start the process of identifying gaps in the region with regard to services. Subsequent meetings focused on possibilities for collaboration across sectors, integration of care and proposed opportunities for the proposed merged health system to facilitate the committee's objectives. After all meetings were held a subcommittee was formed to develop an overarching set of priorities from the body of input provided by all members of the committee.

In order to establish a system of services in the region that is responsive to early signs of substance abuse and mental health problems in people living in the region, that is able to provide effective prevention, early intervention, and treatment services to all regardless of gender, race, age, or class, and that successfully integrates treatment and recovery within the community throughout the process, the committee members identified the approaches listed below:

I. Capacity building: Identify, recruit and retain needed professionals and provide appropriate services to meet the needs of the region's population;

II. Payment reform: Increase reimbursement for effect prevention, treatment, and recovery services.

III. Active collaboration across sectors in both Tennessee and Virginia
A. Coordinate all services needed to address behavioral health issues in the region:
1. Integration of behavioral health and primary care and
2. Integration of social welfare and behavioral health services (e.g. housing, food insecurity, utility needs, interpersonal violence, transportation, etc.).
B. Data integration and sharing

IV. Community education: Educational initiatives in the community and clinical settings should be instituted to reduce stigma around mental health and substance use disorder prevention, treatment, and recovery.

Population Health and Healthy Communities Steering Committee

The overarching goal of the Population Health and Healthy Communities Steering Committee was to identify a small number of high impact interventions that the merged system, its partners, and the region as a whole, could pursue to most effectively improve the health status of people living across the region. The goal of these high impact interventions would be to reduce preventable disease prevalence, create a culture of health, and ultimately break the cycle of inter-generational poor health.

While "population health" can have many definitions, the committee sought to identify any factor or behavior that was impacting the overall health status of the people in the region.

The committee focused on identifying unhealthy behaviors such as smoking, physical inactivity, poor nutrition, alcohol and drug abuse and also on those underlying factors that predict these behaviors in future generations.

The committee held five meetings between August 24th, 2015 and January 18th, 2016. The goal of each of the meetings was to identify a small set of priorities for the group to focus on when developing recommendations for improving health in the region. The committee identified five health challenges in the region including tobacco use and pulmonary health, physical activity and nutrition, healthy aging, substance abuse, and children's health. It was decided that the latter two were being addressed by other committees so focus was placed on the first three. Over the course of five meetings, the ETSU project team presented regional data along with best practices and evidence-based approaches to addressing the three health priorities. The committee recommended the following set of actions:

I.   Tobacco use and pulmonary health

    A. Adolescent smoking prevention
    B. Pregnancy smoking cessation
    C. Adult smoking cessation

II. Physical activity and nutrition

    A. School-based physical activity policy and programming
    B. Worksite-based educational and support programs
    C. Comprehensive community-based programming

III. Healthy aging

    A. Community support systems
    B. Coordinated care/case management
    C. End of life support programs
    D. Chronic disease self-management programs
    E. Patient-centered medical homes

Healthy Children and Families Steering Committee

The Healthy Children and Families Committee sought to identify priorities for improving the health of children and families in the region. The goal of the committee's work was to advocate for programs and services to support a resilient and healthy family environment in order to positively impact the life course of children. Specific objectives selected by the committee were:

- Promote positive birth outcomes
- Optimize early childhood and school aged child development and school performance.
- Assure that youth achieve their maximum potential and transition to post high school education and work.

The committee recognized that the health of children and families are inseparable, and in order to ensure a healthy life course for children, health-related social needs must be addressed. These social needs could include parental employment or economic security, stable and adequate housing, transportation, and healthy food security, among other factors. Additionally, the committee felt there must be sufficient supports for family behavioral health and child development included in any regional

plan. Developmental and behavioral health screening, early intervention, treatment, and recovery systems must be developed and implemented in local communities across the region.

Many families in the region live in economically depressed rural areas in which social factors such as poverty, unemployment, low educational attainment and substance abuse are highly prevalent.

In order to impact the inter-generational cycles of poor health of the region, the committee felt that it is important to provide healthy and enriching environments for children to be born, grow, go to school and enter the workplace. Simultaneously, the committee recommended offering evidence-based programs that improve the current health of children, youth and families and reduce unhealthy behaviors as they already exist in the region. Presented below is a set of priorities and recommended approaches:

I.   Healthy Start:

   A. Increase access to high quality prenatal and postnatal care including new models of supportive prenatal care such as CenteringPregnancy
   B. Increase delivery of services to prevent alcohol, drug and tobacco use in women of childbearing age.
   C. Increase support for breastfeeding initiation and continuation

II.   Ready to Learn:

   A. Improve educational and social readiness of children under 5 in preparation to enter Kindergarten through community wide measurement and interventions
   B. Increase access to affordable, high quality early education for all children including those with special needs
   C. Promote family strengths with increased access to in-home services that support child development and parenting
   D. Actively screen all children and families for psychosocial needs and provide accessible, family-based interventions
   E. Increase access to comprehensive and multi-specialty services for children with chronic conditions
   F. Increase access to dental screening and dental preventive care and restorative care
   G. Reduce hunger and food insecurity among expecting mothers and children.

III.   Supported and Empowered Youth

   A. Reduce teen pregnancy through increased access to evidence-based pregnancy prevention education and long acting reversible contraception methods.
   B. Increase the number of high school graduates pursuing postsecondary education or career training.
   C. Provide services to reduce teen suicide and teen suicide attempts

Research and Academics Steering Committee

The Research and Academics Steering Committee focused on exploring collaborative opportunities to help maximize the impact of the proposed regional health system merger on health and economic growth in Northeast Tennessee and Southwest Virginia. The committee concluded that a unified health care system working collaboratively with the regional academic institutions offers a unique and unprecedented opportunity to impact the health and economic well-being of the region by: 1) bolstering the academic training and supply of qualified health professionals, and 2) supporting research programs that enhance health care services and community interventions targeting priority health issues. The committee's overall objective was to propose a research and academics partnering strategy between the proposed merged health systems and regional academic institutions that would facilitate collaboration and ultimately lead to improved population health, enhanced access to health care services, and broad economic gains in Northeast Tennessee and Southwest Virginia. To meet this objective, committee members worked to:

- Identify opportunities and challenges for collaboration between the proposed regional health system and academic institutions to further research and health professions education;
- Identify existing institutional strengths to address identified population health workforce needs of the region.
- Develop an organizational structure to facilitate an integrated research and academic enterprise between the proposed regional health system, and the region's academic institutions.

The committee determined that a collaborative infrastructure that recognizes area institutions with health science programs can vastly improve efforts to meet the health needs of the region through education, research, and training. To that end, the committee proposed separate research and academic oversight councils (a health education and training council and a research institute) with representatives from member institutions. These bodies would be coordinated by a joint research and academic coordinating council that would provide input and guidance by interfacing with the health system and other funding organizations. The outcomes of this approach will include fewer programmatic redundancies across the region, better coordination of student flow through clinical and non-clinical training sites, greater efficiency in meeting the region's health workforce needs, and enhanced coordination of research efforts to improve the health of the region.

A major area of focus for the committee was assuring that the region provided the variety and complexity of health training programs required to meet the workforce needs of the region. The development of a program inventory, along with an understanding of how the two health systems currently work with educational institutions, provided a basis for discussions of ways to facilitate collaboration and coordination of programming going forward.

The second area of focus was the identification of strategies to respond to the health-related research needs of the region and identifying an infrastructure to do so. It was recognized that the other steering committees would be identifying specific areas of research focus, so this committee focused on how to structure the research endeavor in a way that would seek maximum synergy from the existing two health systems while drawing on the research strength of ETSU and the other institutions in the region. A focus on establishing research centers would appear to provide a way to bring together existing resources, be competitive in securing federal and other research dollars, and to focus on regional health priorities.

The committee recommended a formal infrastructure to facilitate collaboration and synergy in the delivery of education and training, as well as a model for translational research and clinical trials endeavors that will provide opportunities for growth and improvement to the health and wellbeing of our local communities.

Next Steps

Collaboration was a major theme in every meeting held over the course of the project. Nearly every committee member and community member at some point voiced the need for multi-sector collaboration to address the health needs in the region.

The work described in this report represents the first step toward true collaboration, which starts with building trust and creating opportunities for community leaders to engage in open discussions about how best to address the region's health challenges. The second step in the process is expected to occur after this report is reviewed by leaders in the community and begins to be utilized in the development of a ten-year health improvement plan for the region. This process will require deliberate and consistent communication, along with the development of a broadly inclusive strategic plan.

The Accountable Care Community (ACC) model expands the Accountable Care Organization (ACO) concept to improve the health of entire communities through collaboration and integration of a wide range of community partners. The ACC, sometimes called an "Accountable Community for Health," is not dependent solely on the local healthcare system, but rather creates initiatives that involve clinical providers, business leaders, public health systems, faith leaders and a broad cross-section of community stakeholders who must work together to address a small number of high priority health challenges. Each ACC is unique in that they are designed to address local health priorities and are tied to local resources. Over the next year, this report should serve as the basis for the development of a conceptual framework for establishing an ACC in Northeast Tennessee and Southwest Virginia.

There is a deep thread of multi-sector collaboration underlying every aspect this report. There was universal agreement across the community round tables and the steering committees that in order to truly impact health in the region, social support agencies, healthcare and behavioral health providers, local government, school officials, business leaders and a broad cross-section of community members will have to carefully and deliberately identify regional goals and develop collaborative plans to address those goals. This report should serve as the basis for that essential collaborative process. This approach will result in better healthcare with lower overall cost, improved outcomes, increased quality of life, lowered mental health and substance use disorders, stronger more resilient families, and, ultimately, improvements in the overall quality of life for the region.

REGIONAL HEALTH ASSESSMENT

Demographic and environmental assessment

More than one million people live in the 21-county region of Mountain States Health Alliance and Wellmont Health System, many of whom reside in a county designated as rural (Figure 1).[1] These geographically isolated counties experience a clustering of health-related social risk factors such as high unemployment, poverty, and lower educational attainment.[2]
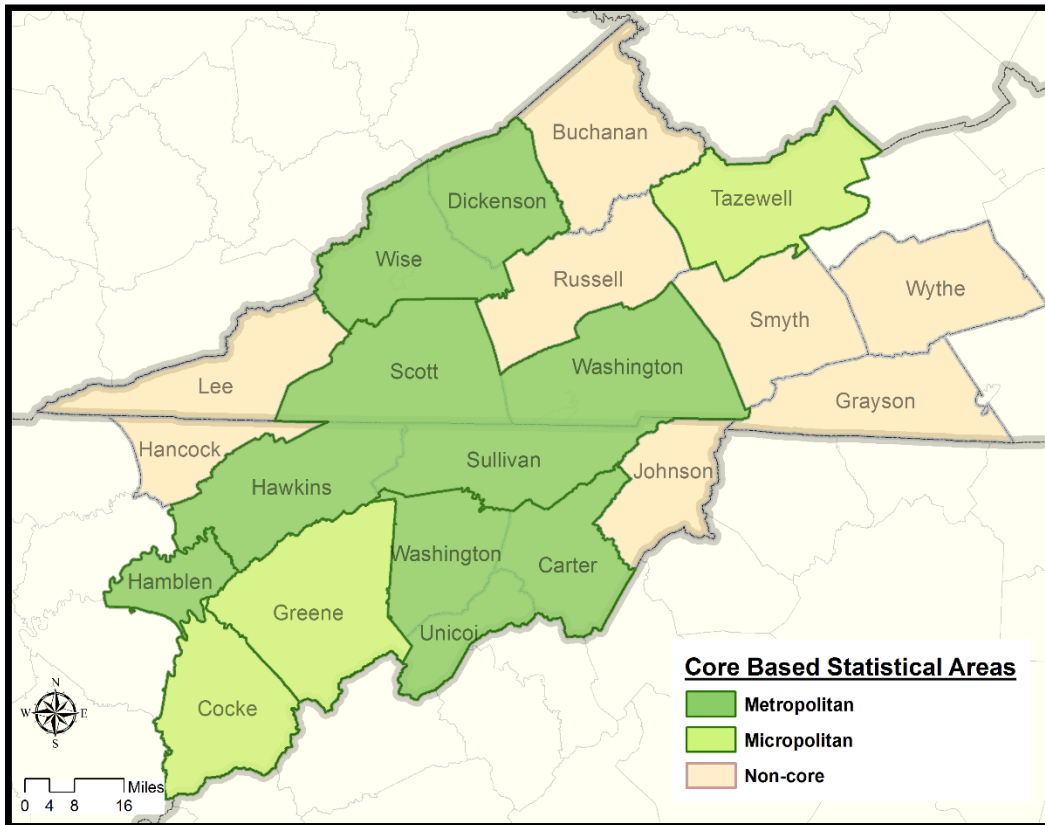

Figure 1. Core based statistical area map of catchment[1]

The counties making up Northeast Tennessee and Southwest Virginia are demographically different from the rest of the nation. While the percentage of non-Hispanic whites in the U.S. population is approximately 62%, in Northeast Tennessee and Southwest Virginia, non-Hispanic whites make up 94% of the population (Figure 2).[2]
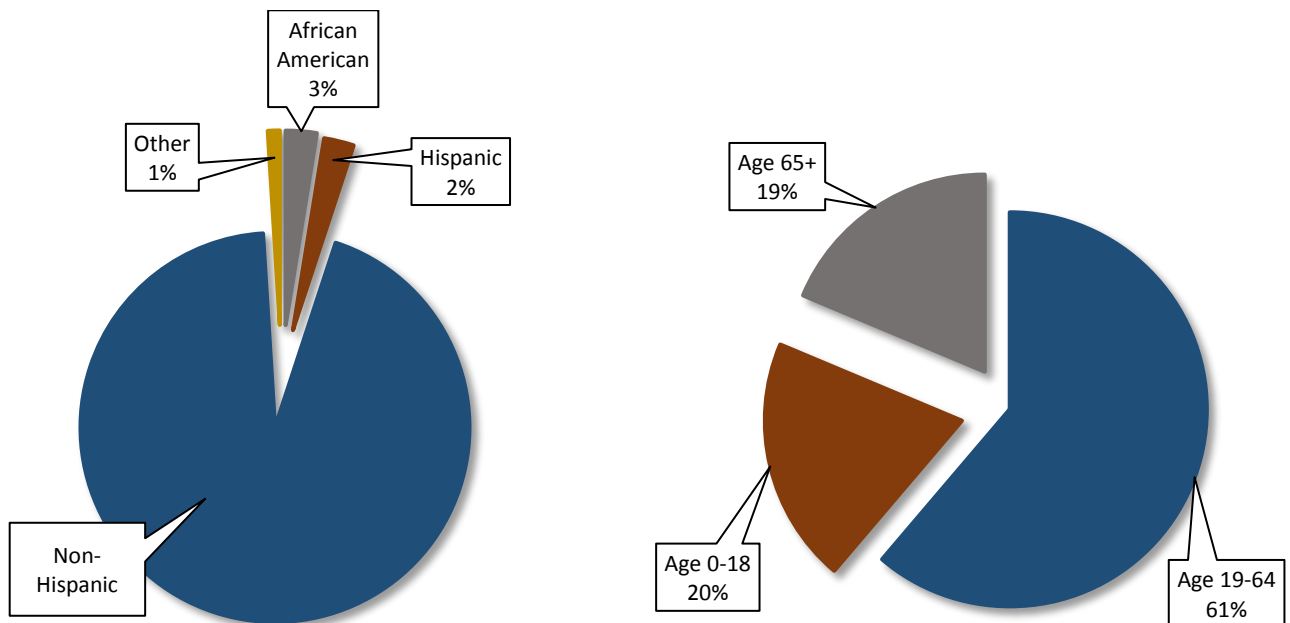
Figure 2. Racial and Age Distribution in Northeast Tennessee and Southwest Virginia, 2015[2]

Additionally, the region has a larger population of individuals 65 and older compared to the national average (18.7 and 14% respectively).[2] The distribution of males and females in the Northeast Tennessee and Southwest Virginia is roughly even. This is true in both rural and metropolitan areas.

Unemployment in the region overall is higher than national or state averages at 8.28%.[2] In 2015, the unemployment rate was 8.2% in Tennessee, 5.5% in Virginia, and 7.37% nationally.[2] Dickenson County in Virginia, a micropolitan county with a low population density (48.1 per square mile), had an unemployment rate of 10% in 2015, almost double the state average (Table 1).[2] Hancock County in Tennessee had the highest rate in the region for 2015 at 12.3%.[2] The unemployment rate in Southwest Virginia was 46% higher than the state as a whole. Northeast Tennessee and Southwest Virginia's combined unemployment rate was 12.3% higher than the nation in 2015.[2]

Table 1. Demographic Characteristics of Region, 2015[1,2,3,4]

State	County	Population	Unemployed (%)	Children in Poverty (%)	High School Grad (%)	NCHS Rural/ Urban Designation	Pop. Density Per Square Mile
TN	Carter	57338	8.6	34	93	Small metro	168.3
TN	Cocke	35479	10.8	41	94	Micropolitan	82.1
TN	Greene	68267	10.6	30	95	Micropolitan	110.6
TN	Hamblen	63074	8.9	29	87	Small metro	388.0
TN	Hancock	6679	12.3	45	78	Noncore	30.7
TN	Hawkins	56800	8.0	31	95	Medium metro	116.7
TN	Johnson	17977	9.9	38	93	Noncore	61.1
TN	Sullivan	156595	7.5	28	92	Medium metro	379.4
TN	Unicoi	18082	8.9	29	98	Small metro	98.4
TN	Washington	125546	7.3	24	93	Small metro	376.7
VA	Buchanan	23597	9.8	33	76	Noncore	74.9
VA	Dickenson	15486	10.0	28	83	Micro	48.1
VA	Grayson	15161	9.7	29	83	Noncore	35.1
VA	Lee	25185	9.1	39	83	Noncore	58.8
VA	Russell	28264	8.7	26	81	Noncore	61.0
VA	Scott	22640	7.4	27	88	Medium metro	43.3
VA	Smyth	31652	8.4	26	84	Noncore	71.4
VA	Tazewell	44103	7.0	23	74	Micropolitan	86.9
VA	Washington	54907	6.9	21	86	Medium metro	97.8
VA	Wise	40589	8.8	28	83	Micropolitan	102.8
VA	Wythe	29344	7.0	22	82	Noncore	63.3

In 2015, the percent of children living in poverty nationally was 22.2%.[2] In Tennessee the rate was 27% while in Virginia it was 16% for the same year. The percent of children in poverty within the 21-county catchment area was 28.4%, which was 27.9% higher than the national average. The percentage of children in poverty within the 11 counties of Southwest Virginia was 26.3% (64.1 percent higher than the rest of the state). Counties in Northeast Tennessee had a childhood poverty percentage of 29.5%, which was 9% higher than the rest of the state.[2]

While the rate of food insecurity in the region was slightly below the national rate in 2015 (14.2% compared to 15.8%) it remains an important health challenge.[2] Hancock, Johnson, and Cocke counties have the highest percentage of residents that are food insecure at 20, 17, and 18% respectively (Figure 3). Food insecurity can lead to obesity and obesity-related health issues such as high-blood pressure, cardiovascular disease, and type 2 diabetes.
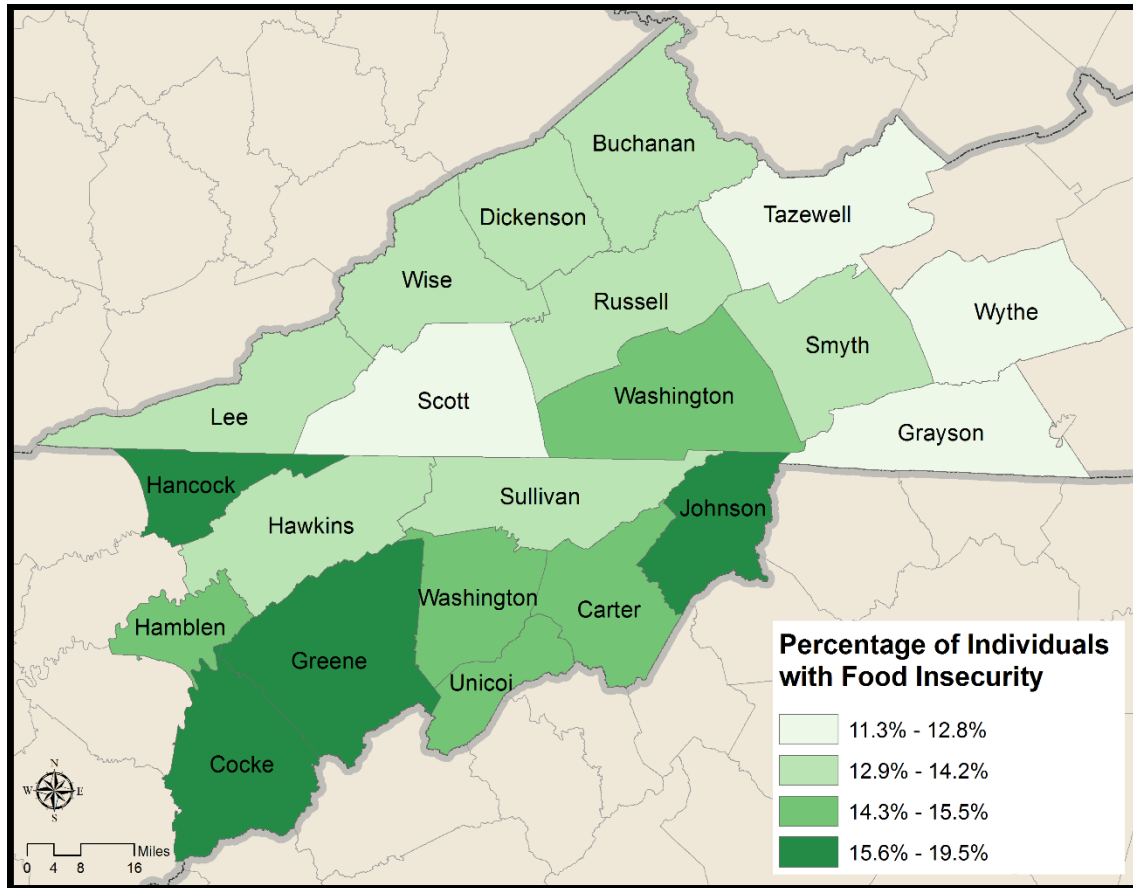
Figure 3. Distribution of food insecurity in the region[2]

Access to medical care is limited for many individuals in the region due to lack of insurance, absence of providers, geographic isolation, and other factors. Approximately 12% of adults and 1.2% of children in the region are uninsured. There were 8,789 individuals that reported not seeing a doctor due to cost in 2015.[2]

Six counties in Northeast Tennessee are designated as being entirely medically underserved areas (MUA), while another three counties are identified as partially underserved. The entirety of Southwest Virginia is designated as a MUA.[5]

Mountain States and Wellmont combined manage 19 hospitals of varying sizes across the region (Figure 4).
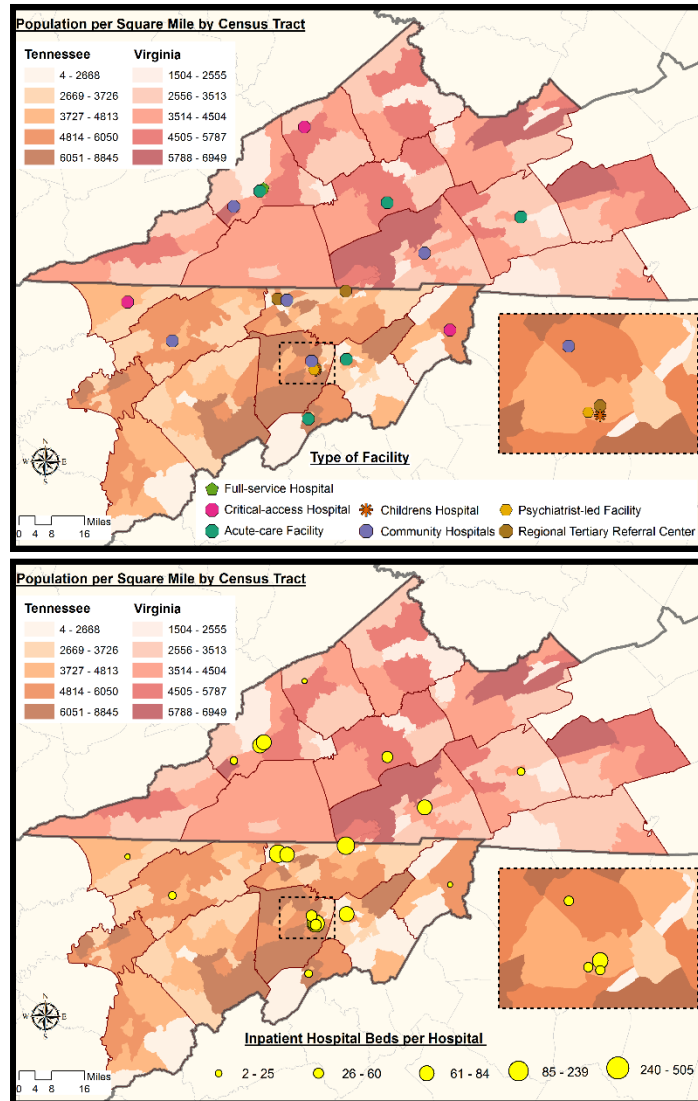
Figure 4. Distribution, Type, and Capacity of Hospitals in the Region

Communities in Hancock, Johnson, and Dickenson counties are served by critical access hospitals, which provide 24-hour emergency outpatient care. Individuals in these counties may be directed to regional tertiary referral centers in Kingsport, Bristol, and Johnson City for treatment by a specialist and for more serious conditions. The majority of counties in the region are served either by an acute-care facility or community hospital. Figure 5 shows the distribution of specific providers per 100,000 population.[5]
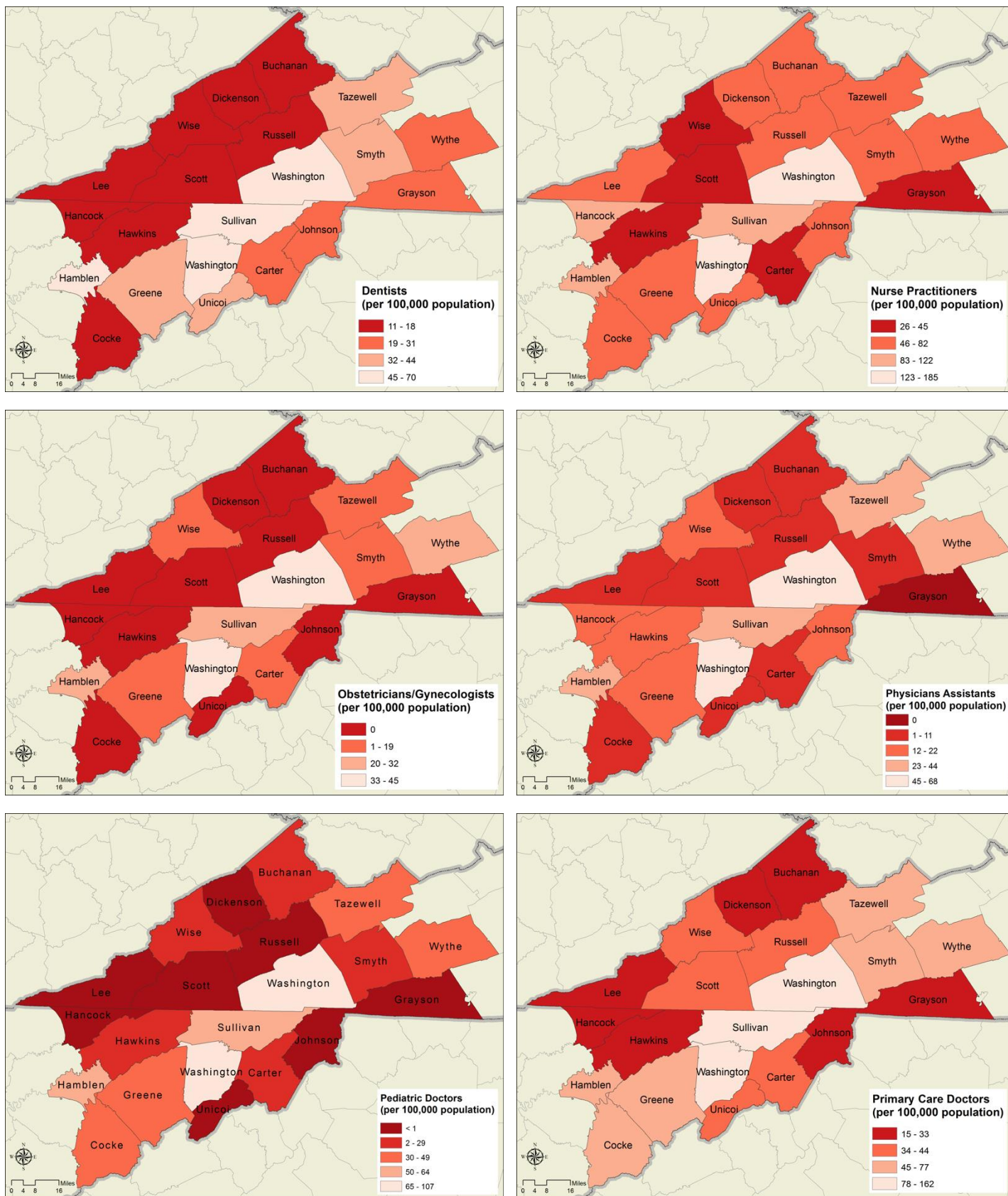
Figure 5. Providers per 100,000 population by county, 2013[5]

Premature mortality (death before the age of 75) is used as a general measure of the overall health status of a region. In 2015, Hancock and Tazewell counties had the highest age-adjusted premature mortality within the region (644.3 and 604.8 per 100,000 population respectively).[2] Six of the 11 counties in Southwest Virginia had premature mortality rates greater than 430 per 100,000 population (Figure 6). Age-adjusted premature mortality in Tennessee for 2015 was 429 per 100,000 population. In Virginia the same year age-adjusted mortality statewide was 315.4 per 100,000.
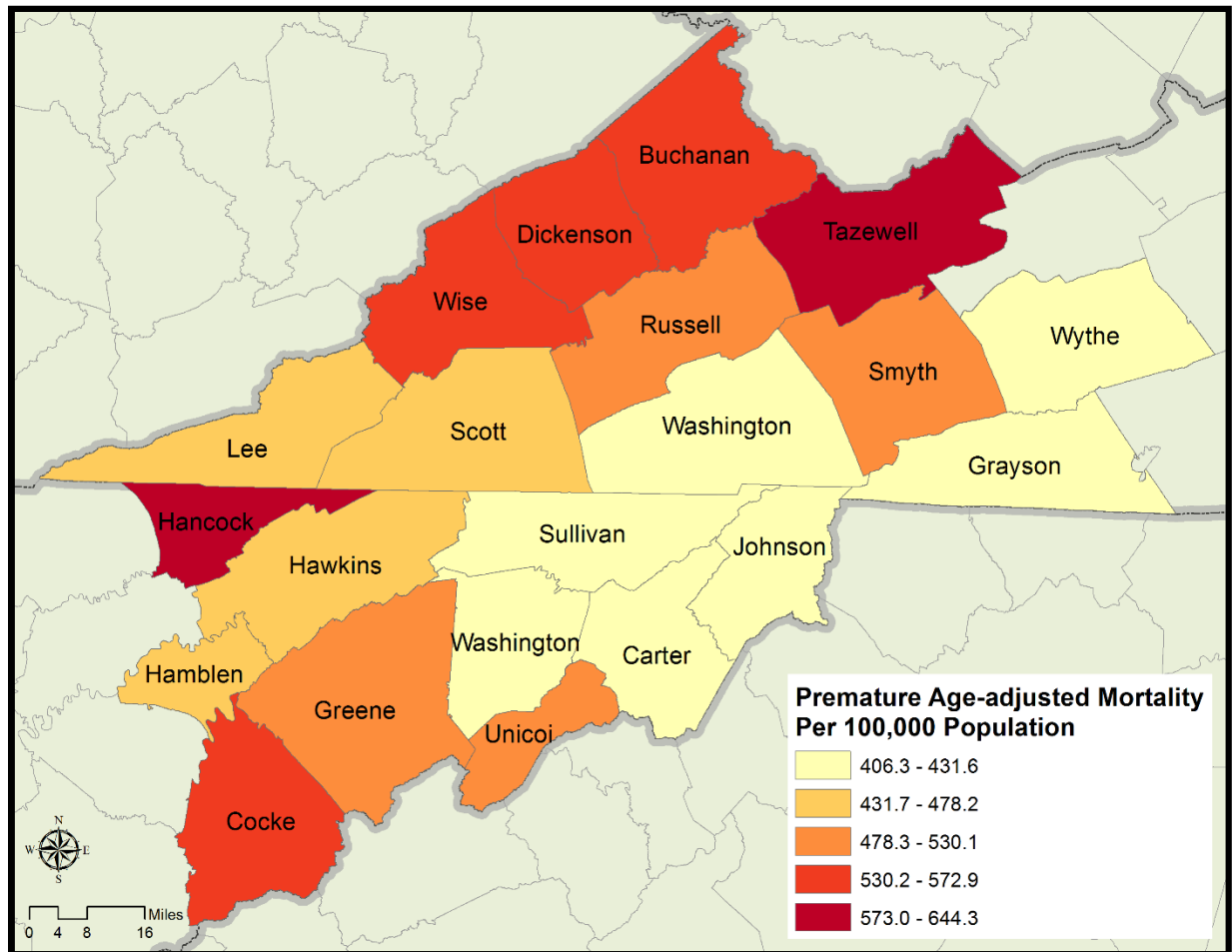
Figure 6. Age-adjusted premature mortality, 2015[2]

Preventable hospitalizations are used as a measure of the effectiveness of outpatient prevention and treatment efforts. Figure 7 displays areas in which preventable hospital stays are more prevalent in comparison to other counties in the region. Rural counties such as Hancock, Buchanan, and Russell had the highest rates of preventable hospital stays in the region.[2]
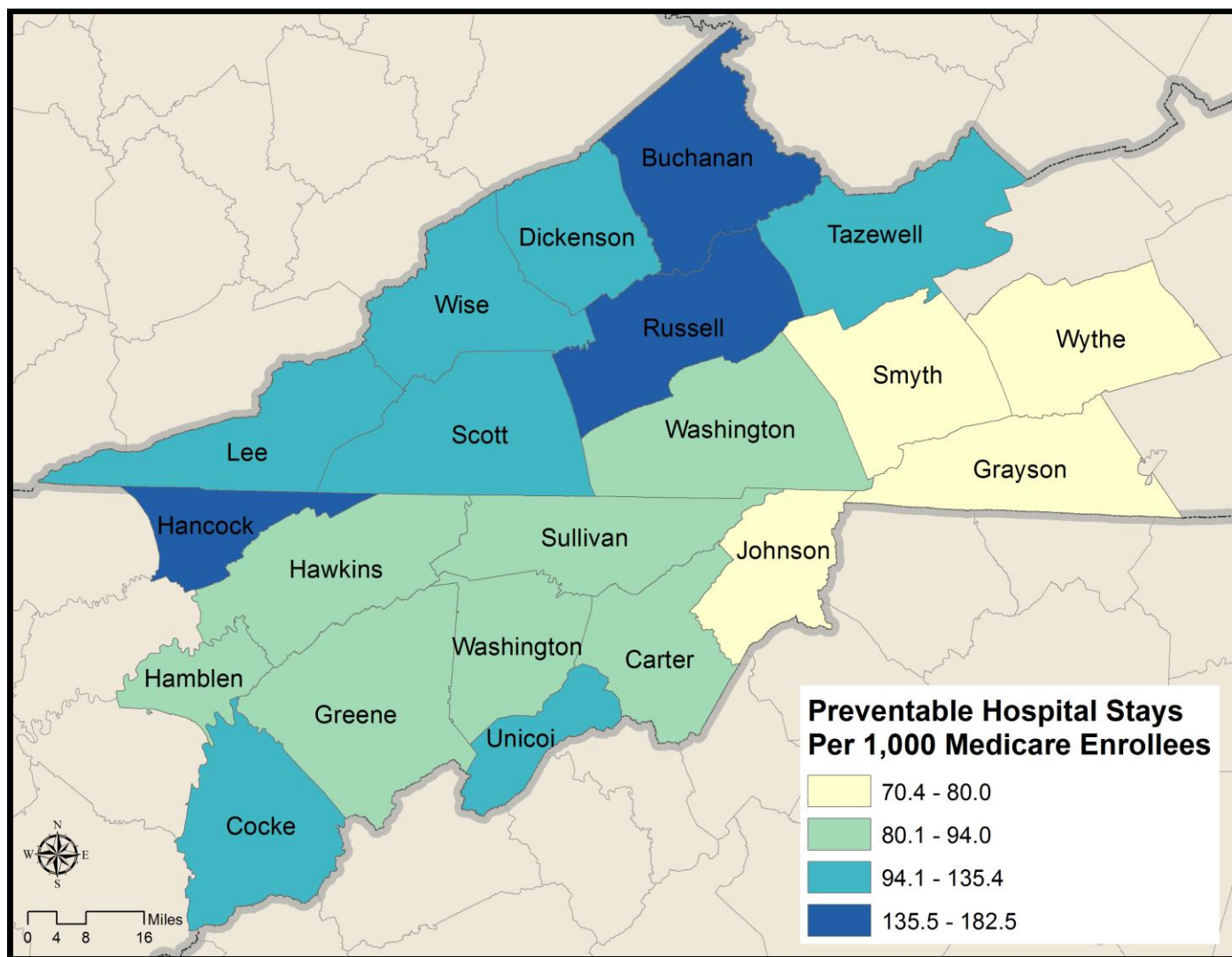
Figure 7. Preventable hospital stays per 1,000 Medicare enrollees, 2015[2]

References

1. Centers for Disease Control and Prevention. (2013). NCHS urban–rural classification scheme for counties. Retrieved March, 4 2016 from http://www.cdc.gov/nchs/data/series/sr_02/sr02_166.pdf.
2. University of Wisconsin Population Health Institute. (2015). County health rankings & roadmaps. Retrieved September 17, 2015 from http://www.countyhealthrankings.org/.
3. US Census Bureau. (2010). American factfinder. Retrieved March 7, 2016 from http://factfinder.census.gov/faces/tableservices/jsf/pages/productview.xhtml?pid=DEC_10_SF1_GCTPH1.US06PR&prodType=table.
4. United States Department of Agriculture. (2014). Economic research service county-level data sets. Retrieved February 25, 2016 from http://www.ers.usda.gov/data-products/county-level-data-sets/population.aspx.
5. US Department of Health and Human Services. (2013). Health resources and services administration (HRSA): Map of health professionals. Retrieved February 25, 2016 from http://ahrf.hrsa.gov/arfdashboard/ArfGeo.aspx.

Children and family health

In 2014, a total of 5,723 live births occurred in Northeast Tennessee and Southwest Virginia at a rate of 9.5 per 1000 population.[1, 2] Many of these babies were born in areas where social factors like poor housing, food insecurity, and unemployment are prevalent, thus decreasing their chance for a healthy childhood. Figure 1 below displays the distribution of households with children living in them as well as the population of individuals aged 0 to 17 in the region.
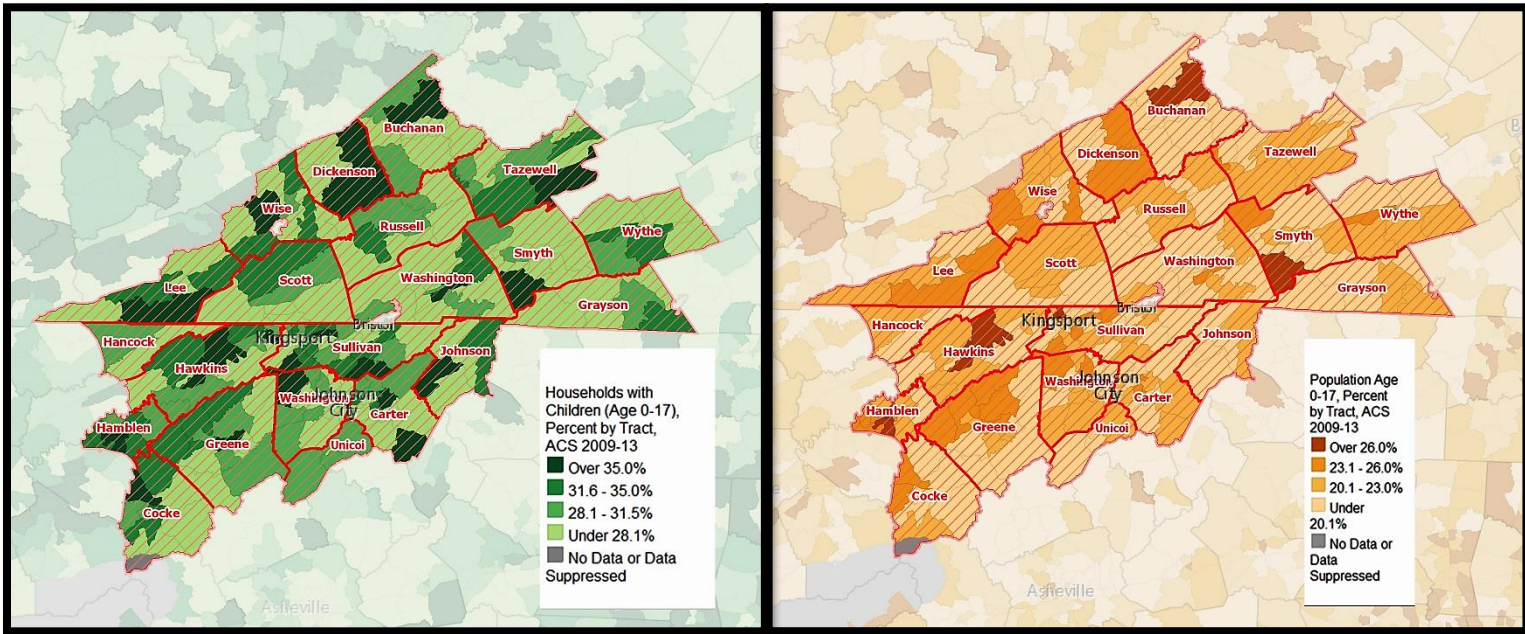
Figure 1. Households with children living in them and the population of individuals 0-17 in Northeast Tennessee and Southwest Virginia.[3]

Birth Outcomes

In 2015, the percentage of babies born with low birth weight (less than 5 pounds, 8 ounces at birth) in Northeast Tennessee and Southwest Virginia was 9.1% and 8.9%, respectively, compared to the national average of 8%.[4] Between 2006 and 2010, the highest average infant mortality rate was in Russell County, Virginia. The overall percentage of babies born with low weight was 8.95% for 2015.[4] Buchanan, Tazewell, and Smyth counties all had average low birth weight percentages over 10% for the 2006-12 time period (Figure 2).[4]
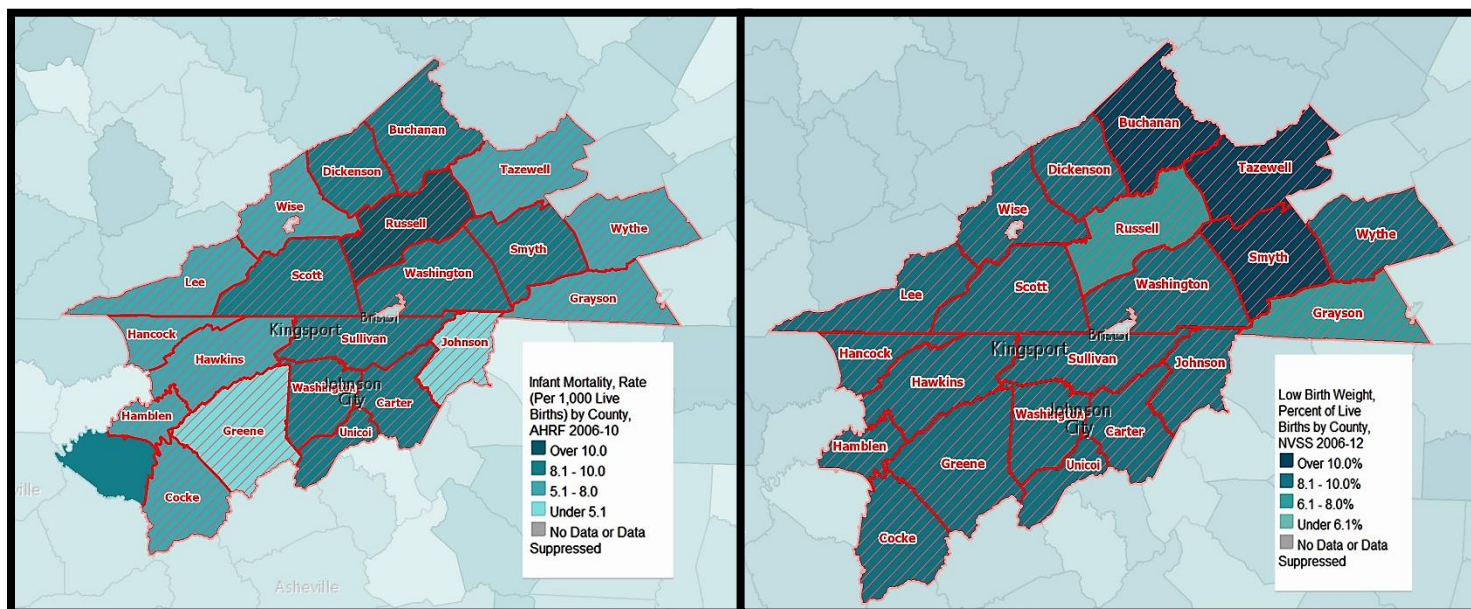
Figure 2. Infant mortality rate for 2006-10 low birthweight for 2006-12[5, 6]

In 2013, infant mortality in Tennessee and Virginia, statewide was 6.8 and 6.2 per 1,000 live births respectively compared to 6.0 nationally.[7] Northeast Tennessee experienced an infant mortality rate of 9.21 per 1,000, with some areas of Southwest Virginia suffering rates as high as 18 per 1,000.[8,9] These data should be considered cautiously because of the low number of births, each year, in some counties. Multiple year averages, which are much more reliable, were not available for Southwest Virginia and thus were not included in this report.

Maternal risk factors

Mothers in Northeast Tennessee and Southwest Virginia report several social and behavioral factors that have been linked to poor birth outcomes. The rate of mothers reporting that they smoked during pregnancy in Northeast Tennessee ranged from approximately 20% to 38% in 2014.[8] Similar data is not available in Southwest Virginia.

The percentage of women receiving early and adequate prenatal care in the region is below the national average, though comparisons are difficult. The reported national average of women receiving late or no prenatal care for 2013 was only 6%.[10] It would appear that Northeast Tennessee and Southwest Virginia are as much as 70% above this average in some counties (Table 1).

Maternal drug and substance abuse during pregnancy is directly linked to poor birth outcomes including low birth weight, premature births, and Neonatal Abstinence Syndrome (NAS), a cluster of symptoms exhibited by neonates born dependent on prescription or illicit drugs that can include seizures, irritability, poor feeding, and trembling.[11] Rates of NAS in Tennessee have increased from less than 1 per 1,000 live births to over 6.5 per 1,000 since 1999.[12] Northeast Tennessee bears nearly 25% of the total NAS births statewide.[13] In 2012, the Southwestern region of Virginia had the most NAS cases out of Virginia's five regions with 118 cases.[11]

Table 1. Prenatal care trends in Northeast Tennessee and Southwest Virginia (2010, 2013)[8,9]

Percent Live Births to Mothers Receiving Adequate Prenatal Care (Kessner Index)			Percent of Women Seeing Health Care Provider During First 13 Weeks of Pregnancy		
TN County	**2010**	**2013**	**VA County**	**2010**	**2013**
Carter	66.4%	39.9%	Buchanan	77.1%	64.7%
Cocke	69.8%	59.4%	Dickenson	72.9%	51.6%
Greene	63.0%	61.6%	Grayson	73.4%	77.7%
Hamblen	61.2%	64.2%	Lee	44.8%	45.0%
Hancock	67.2%	71.0%	Russell	70.5%	70.7%
Hawkins	57.6%	53.2%	Scott	26.1%	12.4%
Johnson	44.0%	33.3%	Smyth	82.6%	77.8%
Sullivan	61.9%	54.4%	Tazewell	75.5%	74.7%
Unicoi	67.5%	46.4%	Washington	59.0%	52.9%
Washington	65.4%	48.2%	Wise	68.3%	51.3%
			Wythe	81.9%	85.2%

Figures 3 and 4 illustrate how the number of NAS cases has risen consistently in both Tennessee and Virginia, statewide, in recent years. Some of the apparent increase is likely due to changes in surveillance methods because the issue has become a priority in both states. When these rates are compared with opioid prescription and overdose data, it becomes clear that while a portion of the increase may be due to measurement, it does not explain the trend completely.
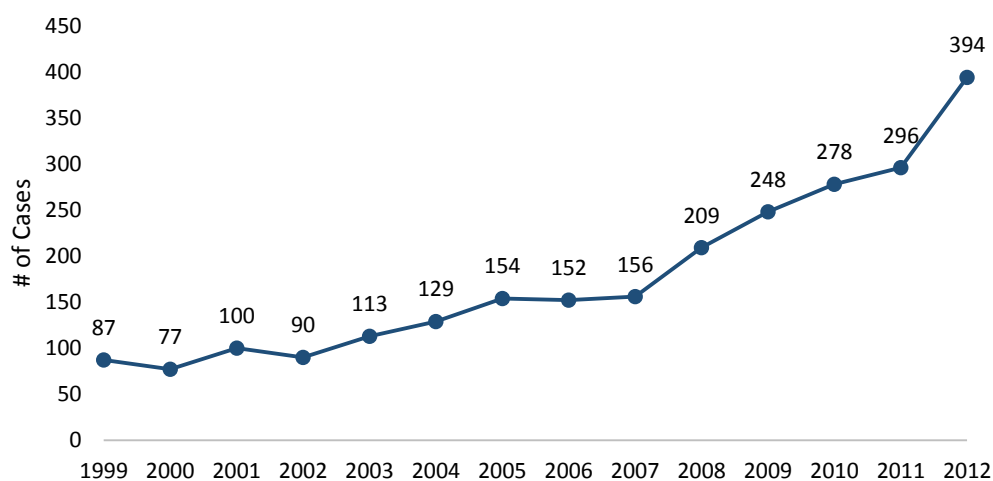
Figure 3. Neonatal Abstinence Syndrome cases in Virginia, 1999-2012[11]
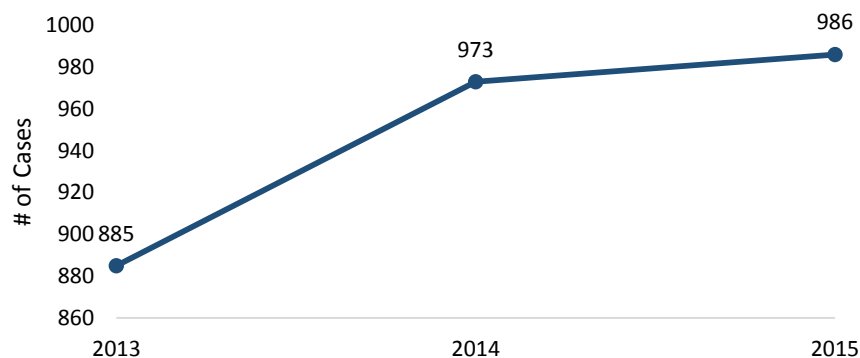
Figure 4. Neonatal Abstinence Syndrome Cases in Tennessee, 2013-2015[13]

Data from the Tennessee Department of Health NAS Surveillance system indicates that prescription drugs obtained through supervised replacement therapy, supervised pain therapy, therapy for psychiatric or neurological condition, or illegally without prescription are responsible for nearly all NAS cases reported in 2015.[12]

The teen birthrate in Northeast Tennessee and Southwest Virginia in 2015 was 49.3 per 1,000 females aged 15-19, which was well above the national average of 36.6 per 1,000.[4] Giving birth before the age of 20 has been linked to factors associated with adverse childhood experiences (ACEs) such as housing instability, poverty, depression, and child neglect.[14] Figure 5 shows the distribution of teen births across the   region.
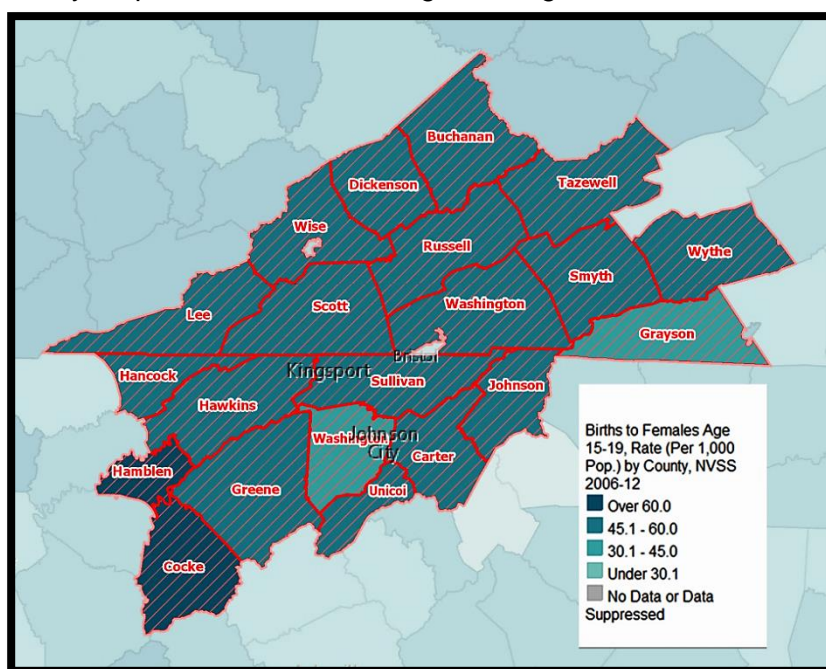
Figure 5. Teen Births per 1000 Females aged 15-19 in Northeast TN and Southwest VA, 2006-12[6]

Pre-conception counseling offers a chance for all women of childbearing age to address negative behaviors and conditions that may affect future pregnancies and improve their overall health. In Tennessee, 63.2% of mothers did not receive pre-conception counseling.[15] Women without insurance

before becoming pregnant and women living in rural counties were less likely to receive pre-conception counseling. Nearly half (47.5%) of Tennessee mothers said their pregnancies were unplanned.[15] This rate was even higher among younger, unmarried women with lower educational attainment. In 2010, 54% of all pregnancies in Virginia were unintended.[16]

Approximately 25% of mothers in Tennessee and 19.5% in Virginia reported never breastfeeding their baby (Table 2). Among women who started breastfeeding, less than 25% percent report making it to the recommended 6-month period of exclusively breastfeeding their baby.[17] Unmarried women, teens, and women aged 20-29 years are less likely to breastfeed past 8 weeks.[15]

Table 2. Percentage of Mothers Breastfeeding in the United States, TN, and VA, 2011[17]

|	Ever	@ 6 months	@ 12 months	Exclusive @ 3 months	Exclusive @ 6 months
United States	79.2	49.4	26.7	40.7	18.8
TN	74.9	40.7	20.9	39.1	15.4
VA	80.5	53.7	27.4	38.3	22.9

Social and environmental factors

In the rural areas of Northeast Tennessee and Southwest Virginia, many families struggle to meet the basic needs of transportation, food, housing, and employment. Table 3 displays key factors for the region. Some of the highest unemployment rates in the region are in rural and geographically isolated regions.

Table 3. Social and Environmental Factors Affecting the Health of Children and Families, 2015[4]

State	County	% Single-Parent Households	%Severe Housing Problems	% Children in Poverty	% Unemployed	Rural/ Urban Designation
TN	Carter	29	13	34	8.6	Small metro
TN	Cocke	41	17	41	10.8	Micropolitan
TN	Greene	33	11	30	10.6	Micropolitan
TN	Hamblen	31	13	29	8.9	Small metro
TN	Hancock	36	17	45	12.3	Noncore
TN	Hawkins	31	10	31	8.0	Med. metro
TN	Johnson	24	13	38	9.9	Noncore
TN	Sullivan	35	11	28	7.5	Med. metro
TN	Unicoi	24	10	29	8.9	Small metro
TN	Washington	31	15	24	7.3	Small metro
VA	Buchanan	41	12	33	9.8	Noncore
VA	Dickenson	33	11	28	10.0	Micro
VA	Grayson	36	9	29	9.7	Noncore
VA	Lee	33	16	39	9.1	Noncore
VA	Russell	28	12	26	8.7	Noncore
VA	Scott	25	11	27	7.4	Med. metro
VA	Smyth	36	11	26	8.4	Noncore
VA	Tazewell	26	11	23	7.0	Micropolitan
VA	Washington	29	11	21	6.9	Med. metro
VA	Wise	31	13	28	8.8	Micropolitan
VA	Wythe	32	10	22	7.0	Noncore

Transportation is a particularly difficult issue to assess and even more so to mitigate. Many families have limited access to services due to a lack of transportation. This can become a significant barrier to prevention and treatment efforts as the most at-risk populations may be unable to access available programs. According to data from the American Community Survey 2009-13, the percentage of households in the region with no vehicle ranges from 4.1% in some counties to over 8% in others (Figure 6).[3] Unfortunately, higher percentages of households without transportation are found in the same areas with high unemployment, children in poverty, and poor birth outcomes where the need for services is greatest.

According to the National Survey of Children's Health, 19% of children in Virginia and 27.5% in Tennessee, statewide, experienced two or more Adverse Childhood Experiences (ACEs) in 2012; the national average was 22.6%.[18] An ACE is a traumatic experience that occurs during childhood (such as physical or sexual abuse, substance abuse by a family member, incarceration of a parent) that can impact health later in life.
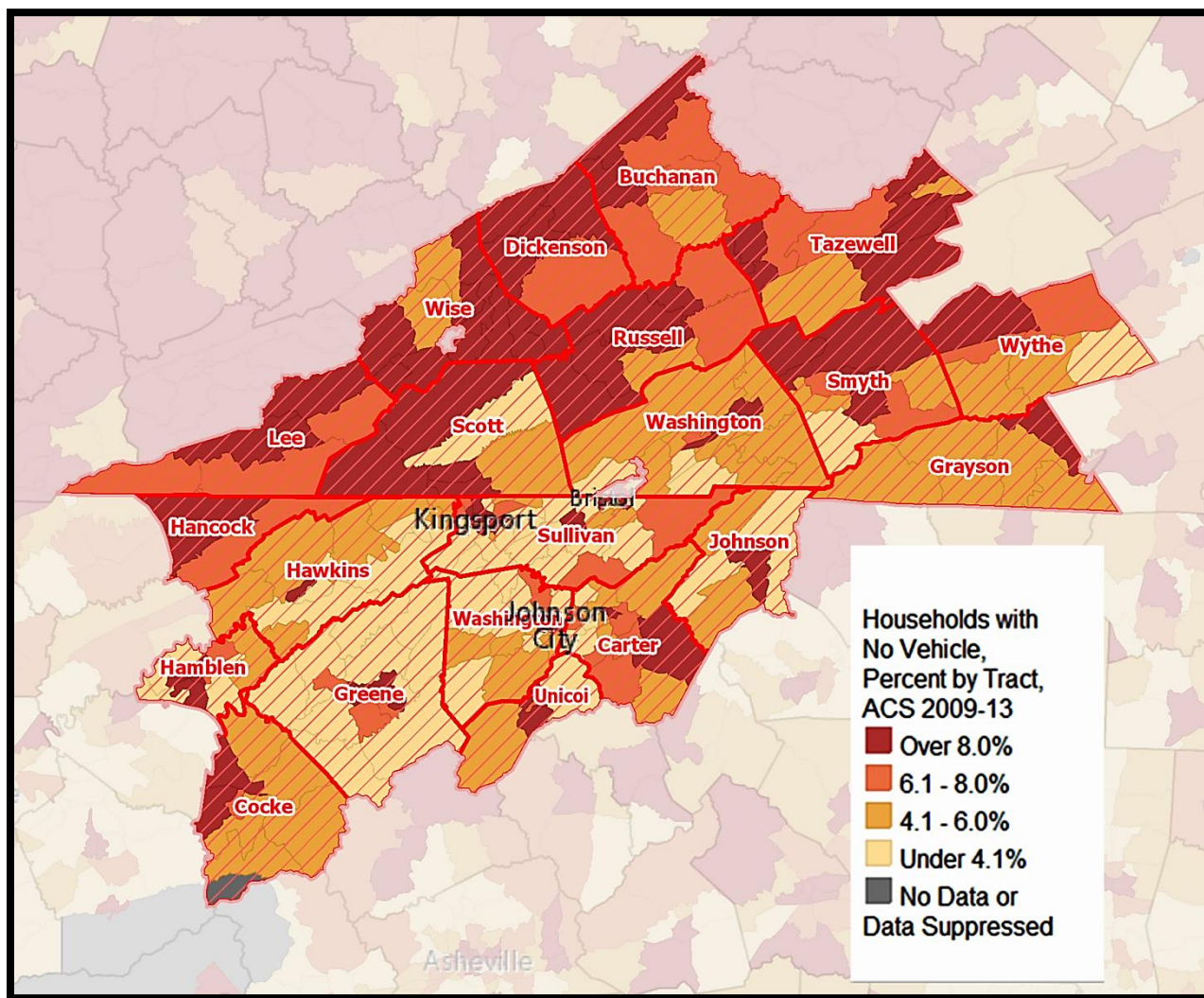

Figure 6. Households with no vehicle, percent by tract, 2009-13.[3]

Early child development

In 2011-2013, 61% of children aged 3 to 4 did not attend preschool in Tennessee.[8] In Virginia, only 54% of 3- to 4-year-olds attended any preschool.[9] In 2014, there were a total of 20,799 children enrolled in Head Start within Tennessee; 17,410 children in Virginia. In 2014, the Upper East Tennessee Human Development Agency served 1,050 children in Carter, Greene, Hancock, Hawkins, Johnson, Sullivan, Unicoi and Washington Counties.[19] In Southwest Virginia, Head Start programs serving over 17,000 kids are offered through public agencies (e.g. Lee County Public Schools) and nonprofit organizations (e.g. Kids Central, Inc.) in the following counties: Buchanan, Tazewell, Wise, Dickenson, Lee, Smyth, Wythe, Washington, Russell, Grayson and Scott.[20]

In 2011-12, 37% of Tennessee children and 28% of Virginia children under age 6 received a screening from a medical professional for specific concerns about development, communication, or social behavior.[8,9] Data from the 2011-12 Survey of Child Health indicate 21% of parents with children ages 2 to 17 in Tennessee and 17% in Virginia report being told by a physician that their child has autism, developmental delays, depression or anxiety, ADD/ADHD, or behavioral/conduct problems.[8,9] Table 4 displays the rate per 1,000 students aged 3 to 21 who received special education services in Northeast Tennessee counties for 2014.

This level of detail is not available for Southwest Virginia, but the state does collect data on the total percent of children ages 0-22+ who receive special education services, which for 2013 ranged between 9.9 and 18.7% in the region.[9] It is unclear what percentage of students identified as needing services actually receive them.

Table 4. Rate per 1000 students aged 3 to 21 who receive special education services in Northeast TN by county, 2014[8]

	Learning Disability	Language Impaired	Health Impaired	Developmentally Delayed	Intellectual Disability	Autism	Emotionally Disturbed	Other Disabilities
Carter	74	36.2	14.4	6.8	8.7	3	1	9.4
Cocke	54.4	34.9	14.6	12.2	10.1	7.9	2.8	6.1
Greene	63.7	50.2	16.5	10.8	7.8	4.7	3.7	6.3
Hamblin	32.2	37.5	24.2	12.3	7.4	6.4	3	3.3
Hancock	67.4	36.3	34.2	22.8	19.7	0	0	14.5
Hawkins	51	36.4	20.7	11.2	5.9	7.9	2.2	5.2
Johnson	89.5	53.7	19.3	5.2	10.4	2.8	0	4.7
Sullivan	71.7	39.5	21.4	16.3	8.2	6.7	2	4.2
Unicoi	75.4	75.4	6.4	8.4	10.4	6.4	0	6
Washington	50.9	40.4	12.1	7.1	6.9	5.8	0.7	3

Academic success

In Tennessee, roughly half of elementary and middle school-age children scored at grade level on the Tennessee Comprehensive Assessment Program (TCAP) reading test, 55.6% on the math portion, 64.5% in science. In Tennessee, 78% of fourth graders from families that are eligible for free and reduced school lunch scored below proficient reading levels in 2015.[8] In Virginia, 69% of third graders

passed reading Standards of Learning (SOL) in 2013; 67% passed math.[9] In 2015, the percentage of the ninth-grade cohort that graduated within four years in Northeast Tennessee (92%) was higher than the state average of 87%. The percentage of high-school graduates in Southwest Virginia was similar to the state at 83% for the same year (Figure 7.).[4]
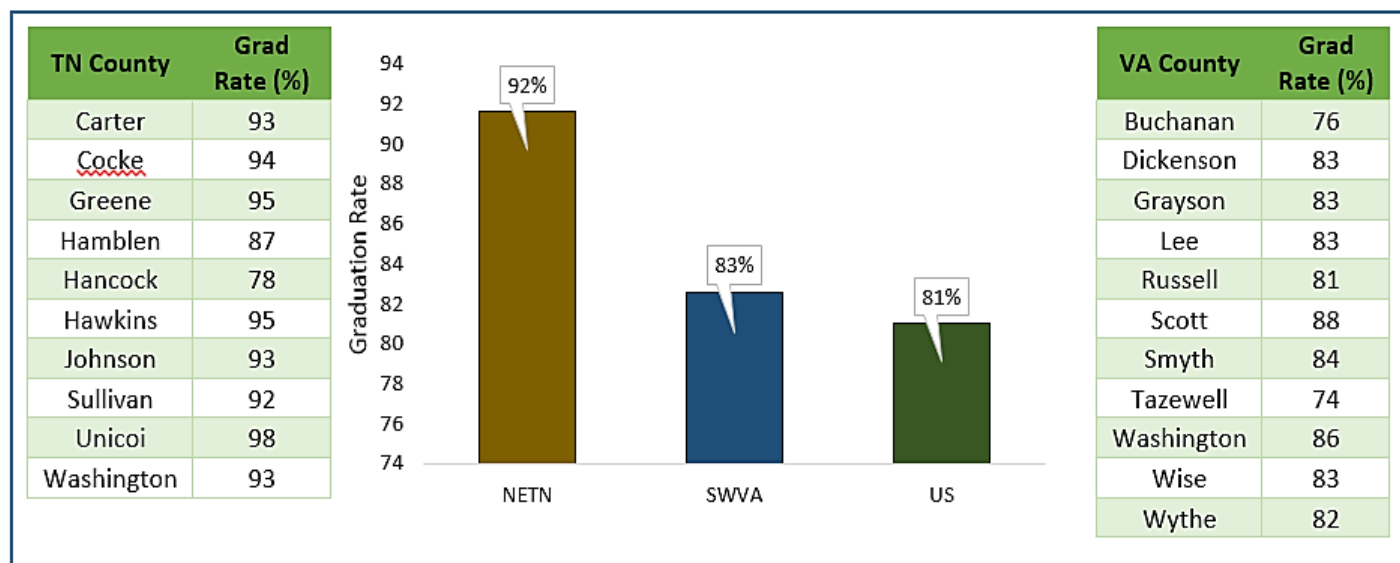
TN County	Grad Rate (%)
Carter	93
Cocke	94
Greene	95
Hamblen	87
Hancock	78
Hawkins	95
Johnson	93
Sullivan	92
Unicoi	98
Washington	93

VA County	Grad Rate (%)
Buchanan	76
Dickenson	83
Grayson	83
Lee	83
Russell	81
Scott	88
Smyth	84
Tazewell	74
Washington	86
Wise	83
Wythe	82

Figure 7. High school graduation rates, US, Northeast TN, Southwest VA, 2015.[4]

Childhood chronic disease

In 2013, 12% of children (under 18) in Tennessee and 9% in Virginia, statewide, were affected by symptoms of asthma.[8,9] The rate of hospitalization in Tennessee children aged 0-4 for asthma in 2011 was 21.6 per 10,000 population.[21] Cocke County, Tennessee, in that year had one of the highest overall rates in the state at 79.1 per 10,000 population.[21] The 0-4 age group in Cocke County had an asthma rate of 16.5 per 10,000.[21] Data for Virginia is very limited with regard to asthma and unfortunately neither state is part of the Centers for Disease Control and Prevention's (CDC) National Asthma Control program, which tracks detailed information about asthma rates in 36 states around the country.

Currently, there is no statewide system in place for Tennessee or Virginia to estimate diabetes prevalence in persons under age 18.[22] The CDC estimate that in the United States 0.26% of persons under age 20 have type 1 or type 2 diabetes.[23] In 2008-2009, the annual incidence of diagnosed diabetes in youth was estimated at 18,436 for type 1 diabetes and 5,089 for type 2.[23]

There were 1,399 new invasive cancer cases and 209 deaths due to cancer in children less than 20 years of age in Tennessee during 2005-2009.[24] Tennessee experienced the 8th highest childhood cancer incidence rate and the 13th highest childhood cancer mortality rate in the U.S during that period.[24] According to the CDC, the most prevalent types of cancer in Tennessee and Virginia are leukemia, acute lymphocytic leukemia, brain and other nervous system cancers (ONS), and brain cancer (Figure 8).[25]
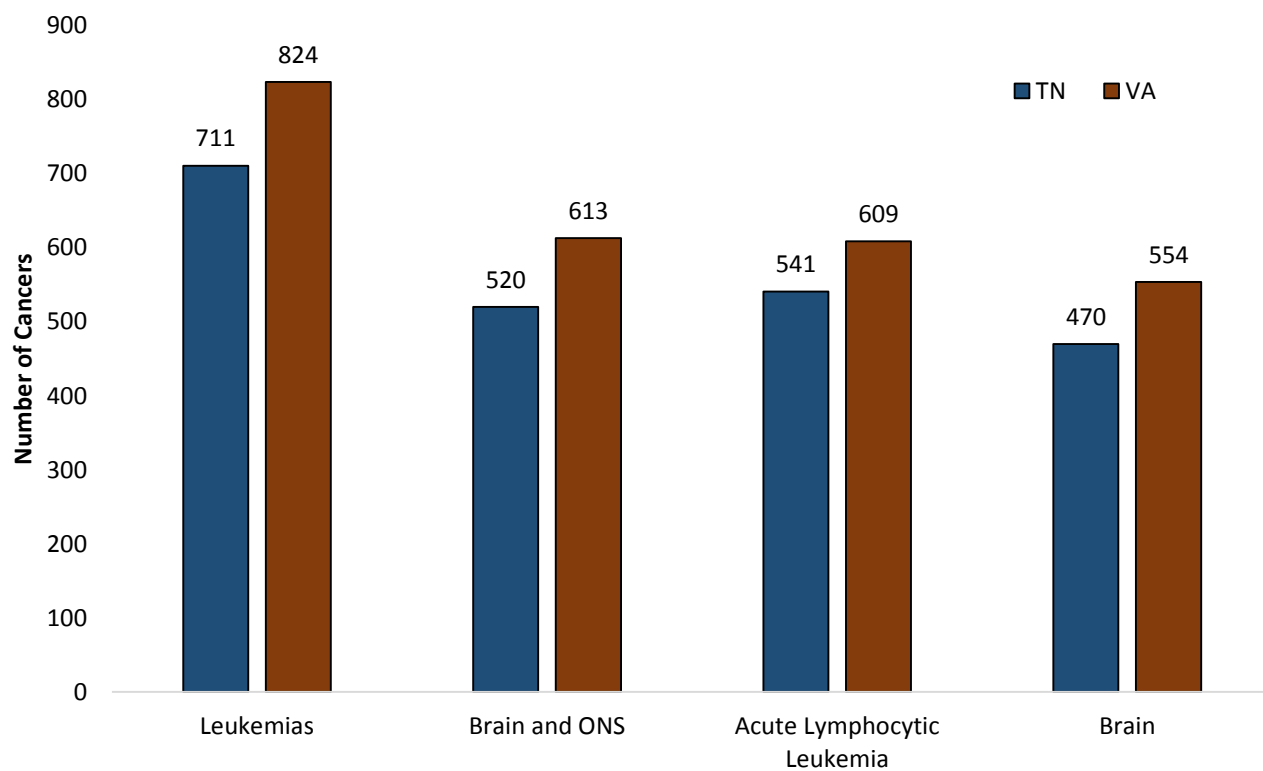
Figure 8. Number of cancer cases in Tennessee and Virginia for ages 0-19, 1999-2012.[25]

References

1. Tennessee Department of Health. (2014). Health information Tennessee: Tennessee birth data. Retrieved March 2016 from http://hit.state.tn.us/birthrateform.aspx.
2. Virginia Department of Health. (2016). Statistical reports and tables: Live births. Retrieved March 2016 from http://www.vdh.virginia.gov/healthstats/stats.htm.
3. US Census. (2014). American community survey. Retrieved March 2016 from https://www.census.gov/programs-surveys/acs/.
4. University of Wisconsin Population Health Institute. (2015). County health rankings & roadmaps. Retrieved September 17, 2015 from http://www.countyhealthrankings.org/.
5. Centers for Disease Control and Prevention. (2016). National vital statistics system. Retrieved March 2016 from http://www.cdc.gov/nchs/nvss.htm.
6. US Department of Health and Human Resources. (2015). Area health resource files. Retrieved March 2016 from http://ahrf.hrsa.gov/.
7. Kaiser Family Foundation. (2015). Infant mortality rate. Retrieved March 16, 2016 from http://kff.org/other/state-indicator/infant-death-rate/.
8. KIDS COUNT Data Center. (2015). Tennessee data. Retrieved March 16, 2016 from http://datacenter.kidscount.org/data#TN/2/0/char/0.
9. KIDS COUNT Data Center. (2015). Virginia data. Retrieved March 16, 2016 from http://datacenter.kidscount.org/data#VA/2/0/char/0.
10. KIDS COUNT Data Center. (2010). Births to women receiving late or no prenatal care. Retrieved March 2016 from http://datacenter.kidscount.org/data/tables/10-births-to-women-receiving-late-or-no-prenatal-care#detailed/1/any/false/133,38,35,18,17/any/263,264.
11. Virginia Department of Health. (2013). Neonatal abstinence syndrome: Virginia health information, 1999-2012. Retrieved March 2016 from http://www.vrha.org/webinars_16_3877055740.pdf.
12. Tennessee Department of Health. (2016). Neonatal abstinence syndrome (NAS). Background Information. Retrieved March 2016 from https://www.tn.gov/health/topic/nas.
13. Tennessee Department of Health. (2016). NAS summary archive. Retrieved March 18, 2016 from https://tn.gov/health/article/nas-summary-archive.
14. Bellis, M. A., Lowey, H., Leckenby, N., Hughes, K., & Harrison, D. (2014). Adverse childhood experiences: Retrospective study to determine their impact on adult health behaviours and health outcomes in a UK population. *Journal of Public Health (Oxford, England), 36*(1), 81-91.
15. Tennessee Department of Health. (2012). Tennessee pregnancy risk assessment monitoring system 2011 summary report. Retrieved March 21, 2016 from http://tn.gov/assets/entities/health/attachments/2011_TN_PRAMS_Summary_Report.pdf
16. Guttmatcher Institute. (2013). Facts about unintended pregnancy: Virginia. Retrieved March 18, 2016 from http://www.guttmacher.org/statecenter/unintended-pregnancy/VA.html.
17. Centers for Disease Control and Prevention. (2014). Breastfeeding report card: United States 2014. Retrieved March 2016 from http://www.cdc.gov/breastfeeding/pdf/2014breastfeedingreportcard.pdf.
18. National Survey of Children's Health. (2015). Retrieved March 16, 2016 from http://childhealthdata.org/learn/NSCH.
19. Early Childhood Knowledge and Learning Center. (2014). Head start annual report. Retrieved March 16, 2016 from http://uethda.org/site/wp-content/uploads/2014/09/2014-2015-UETHDA-Annual-Report.pdf.
20. Office of Head Start. (2015). Program information report: Summary report for Virginia. Retrieved March 2016 from http://headstartva.org/about-vahsa/virginia-program-information-report/.

21. Tennessee Department of Health. (2011). Interactive dashboard for asthma data. Retrieved March 2016 from https://healthwebaccess.tn.gov/idashboards/?guestuser=guest&dashID=545&c=0.
22. Virginia Department of Health. (2011). Diabetes in Virginia. Retrieved March 16, 2016 from http://www.vdh.virginia.gov/livewell/programs/diabetes/documents/DiabetesBurdenReport.pdf.
23. American Diabetes Association. (2014). Statistics about diabetes. Retrieved March 2016 from http://www.diabetes.org/diabetes-basics/statistics/.
24. Tennessee Department of Health. (2013). Presentation on cancer in Tennessee: 2005-2009. Retrieved March 2016 from https://tn.gov/assets/entities/health/attachments/Cancer_Tennessee_2005-2009.pdf.
25. CDC WONDER. (2014). United States cancer statistics: 1999-2012 incidence results. Retrieved March 21, 2016 from http://wonder.cdc.gov/.

Nutrition and physical activity

Obesity is a common and costly health issue that increases risk for heart disease, type 2 diabetes, cancer, and several other health conditions and affects more than one-third of adults (78.6 million) and 17 percent of youth in the United States.[1] According to the 2014 America's Health Rankings, 25.3% of adults report doing no physical activity or exercise other than their regular job in the preceding 30 days.[2] They also report eating only 1.39 fruits and 1.89 vegetables daily, which is below the five fruits and vegetables recommended by the USDA. Furthermore, 1 in 7 Americans struggles with food insecurity, a lack of consistent access to adequate food due to limited income and other resources at times during the year.[3]

In 2014, Tennessee and Virginia, statewide, had an adult obesity (BMI greater than 30) prevalence of 33.7% and 27.2% respectively.[1] The obesity rate among high school students in 2013 was 16.9% in Tennessee and 12.0% in Virginia.[4] In Northeast Tennessee, the percentage of adults who were overweight (BMI greater than 25) and obese (BMI greater than 30) was 70.4% and 31% respectively.[5] These percentages were similar in Southwest Virginia at 67.7% overweight and 31.4%.[6] Rates of obesity in the region do not vary greatly, though some rural areas (e.g. Hawkins and Cocke counties) do have rates a few points higher than other communities (Figure 1).
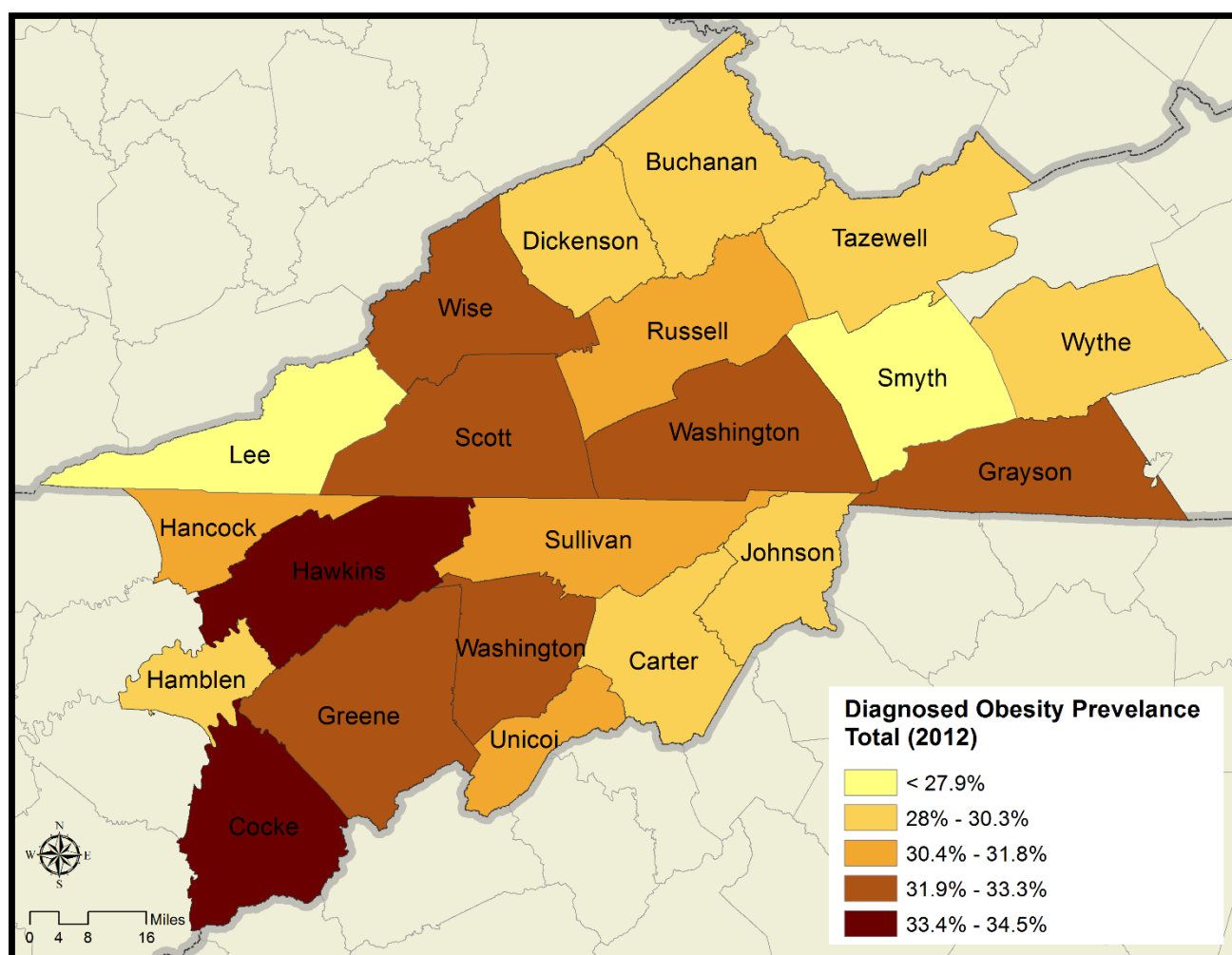
Figure 1. Obesity Prevalence by County, 2012[7]

33

Both Northeast Tennessee and Southwest Virginia had elevated rates of adults who report engaging in no physical activity or exercise other than their regular job in the last 30 days, with 39.5% of adults in Northeast Tennessee and 32.8% in Southwest Virginia.[7] Counties with the highest rate of physical inactivity in the region were Wise County, Virginia, and Hancock County, Tennessee (38 and 39% respectively).[7] The lowest percentage of physical inactivity in the region was 23% in Smyth County, Virginia (Figure 2).
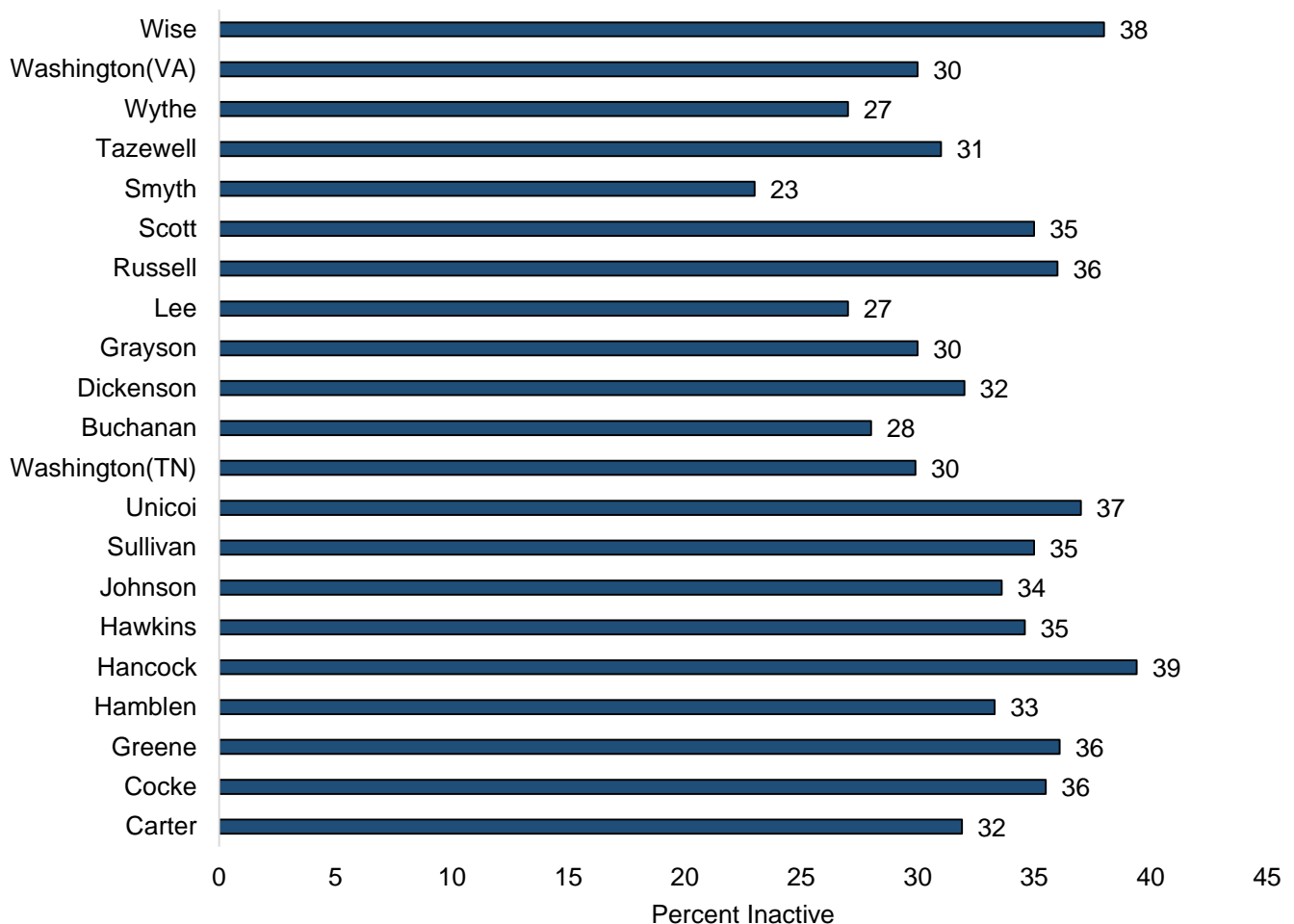
Figure 2. Percent of people reporting no physical activity in the past 30 days.[7]

According to the Youth Risk Behavior Surveillance System (YRBSS), physical inactivity is higher among Tennessee and Virginia high-school students compared to students in the United States overall.[4] Interestingly they are slightly lower than the United States average in time spent playing video games, using a computer or watching television (Figure 3).[4] By contrast, Tennessee middle school students watched more television on average compared to their national peers (37.1 and 32.5% respectively). For both Tennessee and Virginia, the percentage of students reporting no physical activity appeared to go up between middle school and high school (Figure 3). This is likely due to less hours spent during the school day on physical education within high schools.
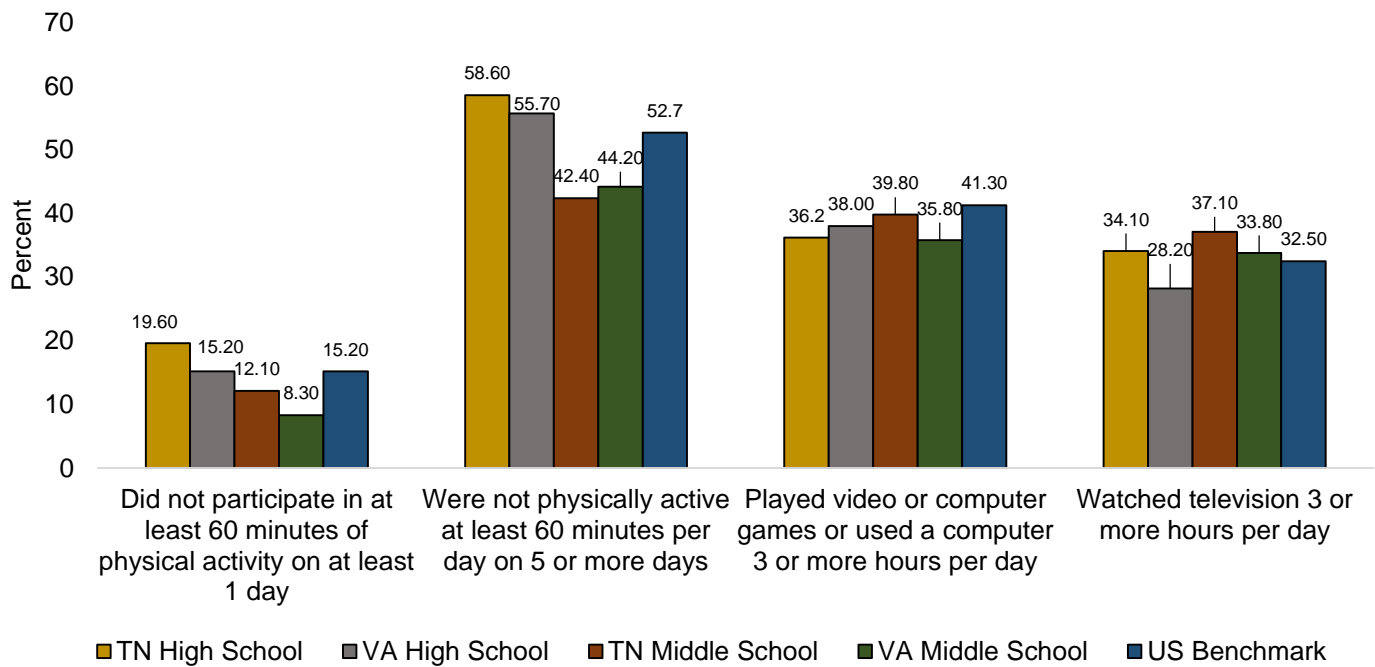
Figure 3. Physical Inactivity by State for High-school and Middle-school Students.[4]

The data suggest that statewide obesity prevalence trends upward throughout adulthood, peaking between 45 and 64 (Figure 4). Rates of obesity in young adulthood do not appear to differ significantly between Tennessee and Virginia, but tend to spread out between 26 and 64 with Tennessee reporting higher prevalence.
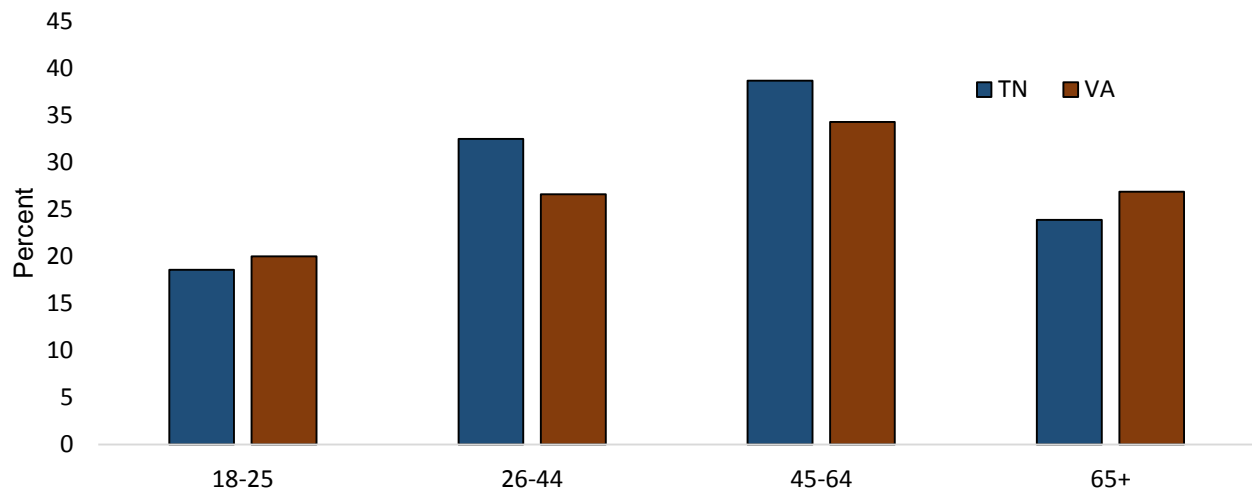
Figure 4. Percent obese by age group in 2014.[8,9]

In 2013, the rate of obesity among high school students was higher in Tennessee compared to both Virginia and the nation (Figure 5).
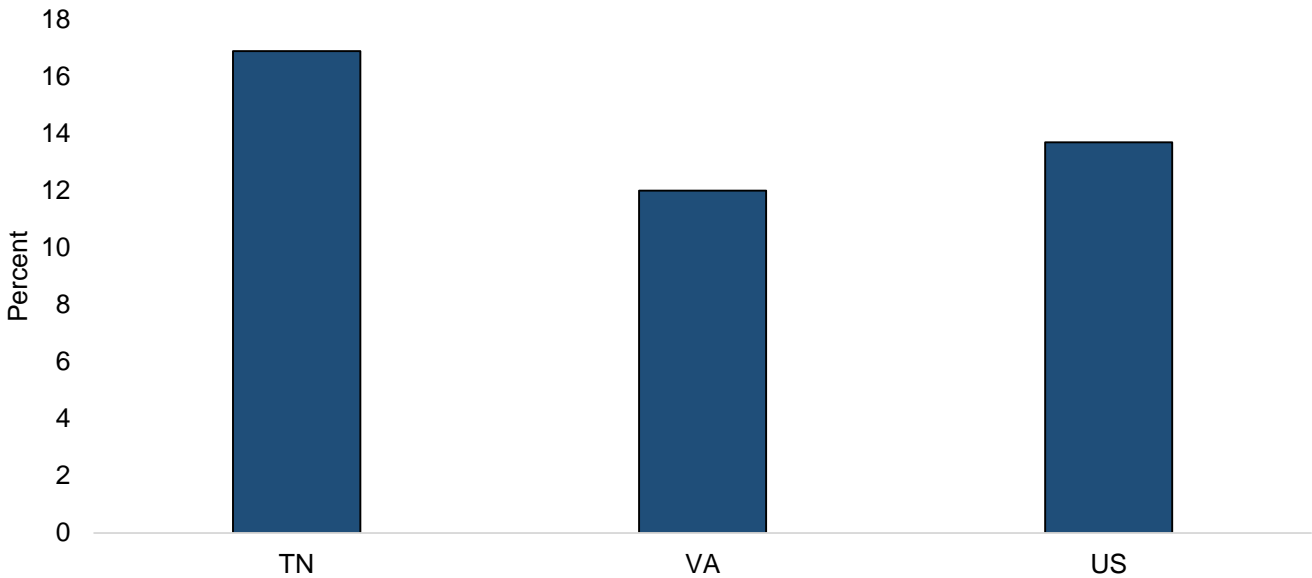
Figure 5. Percent of obese high school students in 2013.[8,9]

Data on the physical activity levels of children and teenagers are not available on the local (community or school system) level. Surveillance systems like the YRBSS will need to be improved and expanded in order to capture the necessary indicators in the school systems.

The percentage of adults who consumed more than five portions of fruits or vegetables daily in Southwest Virginia was approximately double that reported in Northeast Tennessee (Figure 6).[5,6]
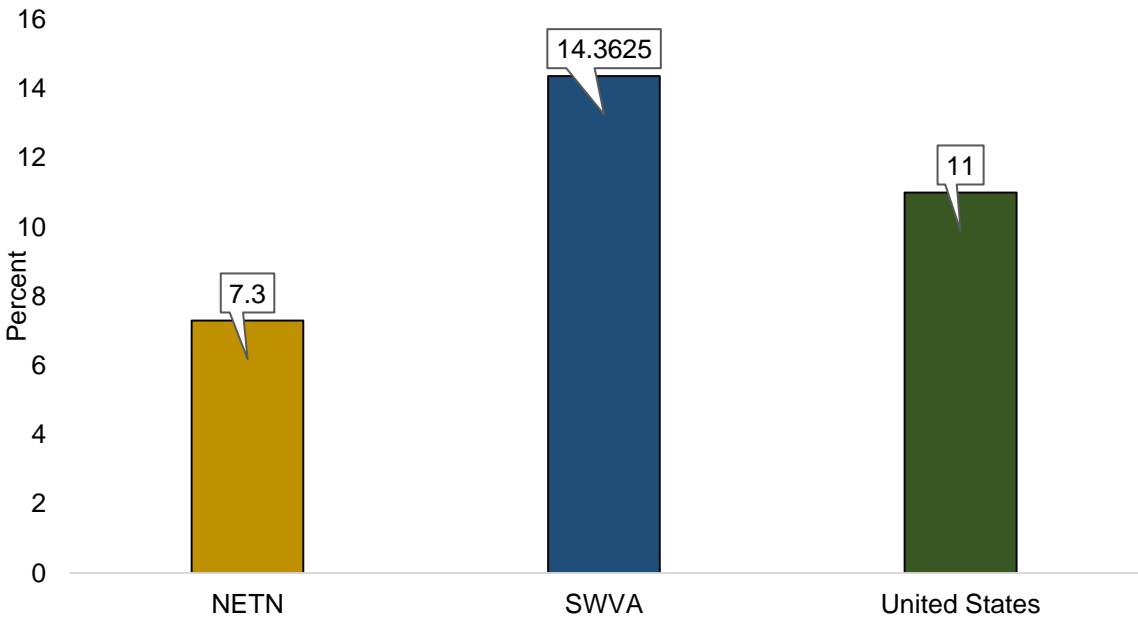
Figure 6. Percentage of Adults who Consume 5 or More Fruits and Vegetables Daily.[5,6]

As discussed in previous sections, the percentage of individuals who are identified as food insecure is as high as 19% in some counties in Northeast Tennessee and Southwest Virginia (Figure 7). The lack of access to healthy foods can contribute to the prevalence of obesity in communities. Efforts to educate the population on the benefits of eating a healthy diet may not be successful in the absence of access to healthy food choices.
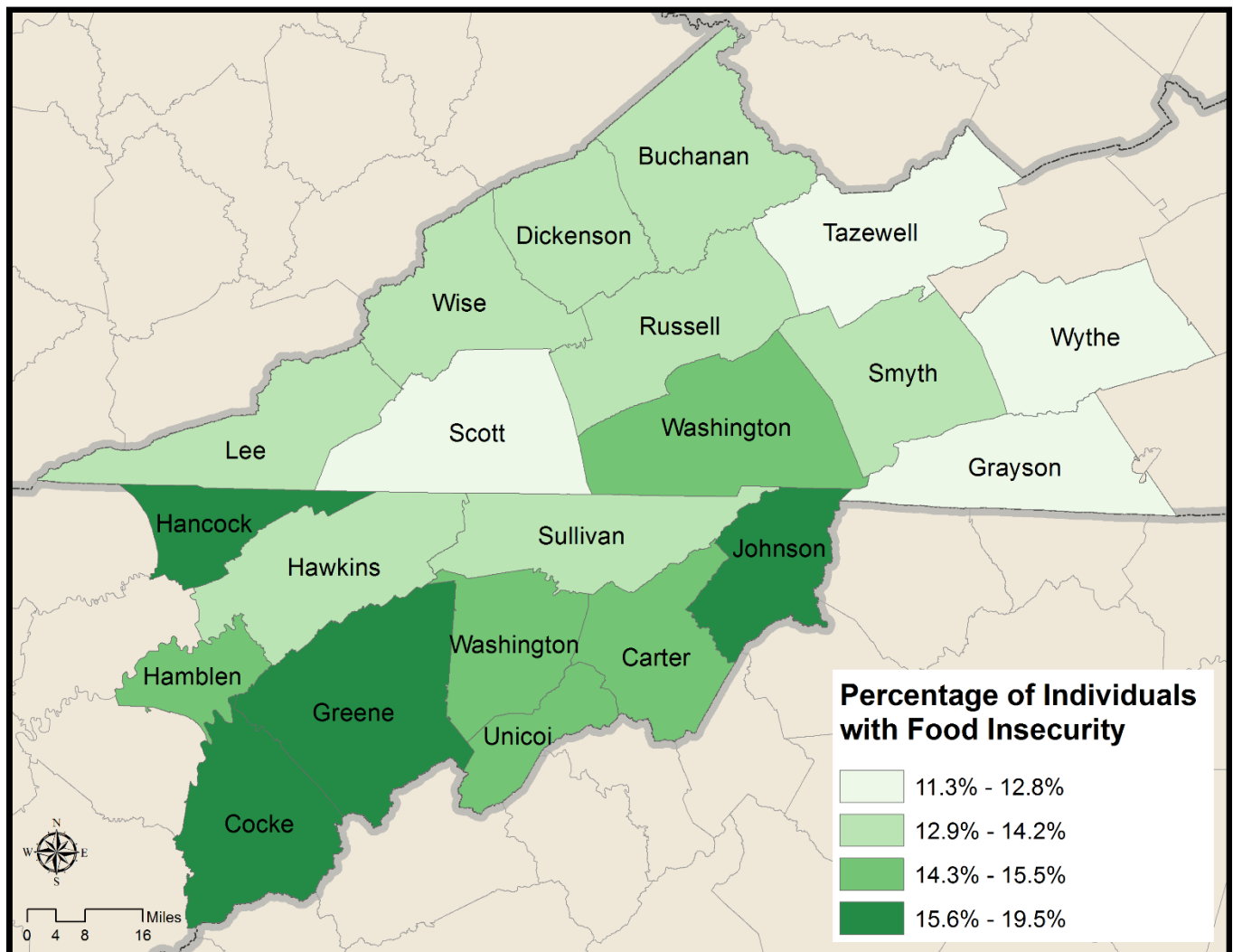
Figure 7. Distribution of food insecurity in the region[7]

One of the recognized consequences of the obesity epidemic has been an increase in the rates of diabetes. The latest data indicate that the prevalence of diagnosed diabetes among adults in Tennessee is greater than both Virginia and the national average (12.5, 9.8, and 9.8% respectively).[10] Northeast Tennessee and Southwest Virginia do not differ significantly in their prevalence of adult diabetes diagnoses; both are approximately 10% of the adult population.[10] Carter, Johnson, and Sullivan counties all have the highest diabetes prevalence in the region at 15% of the adult population (Figure 8).
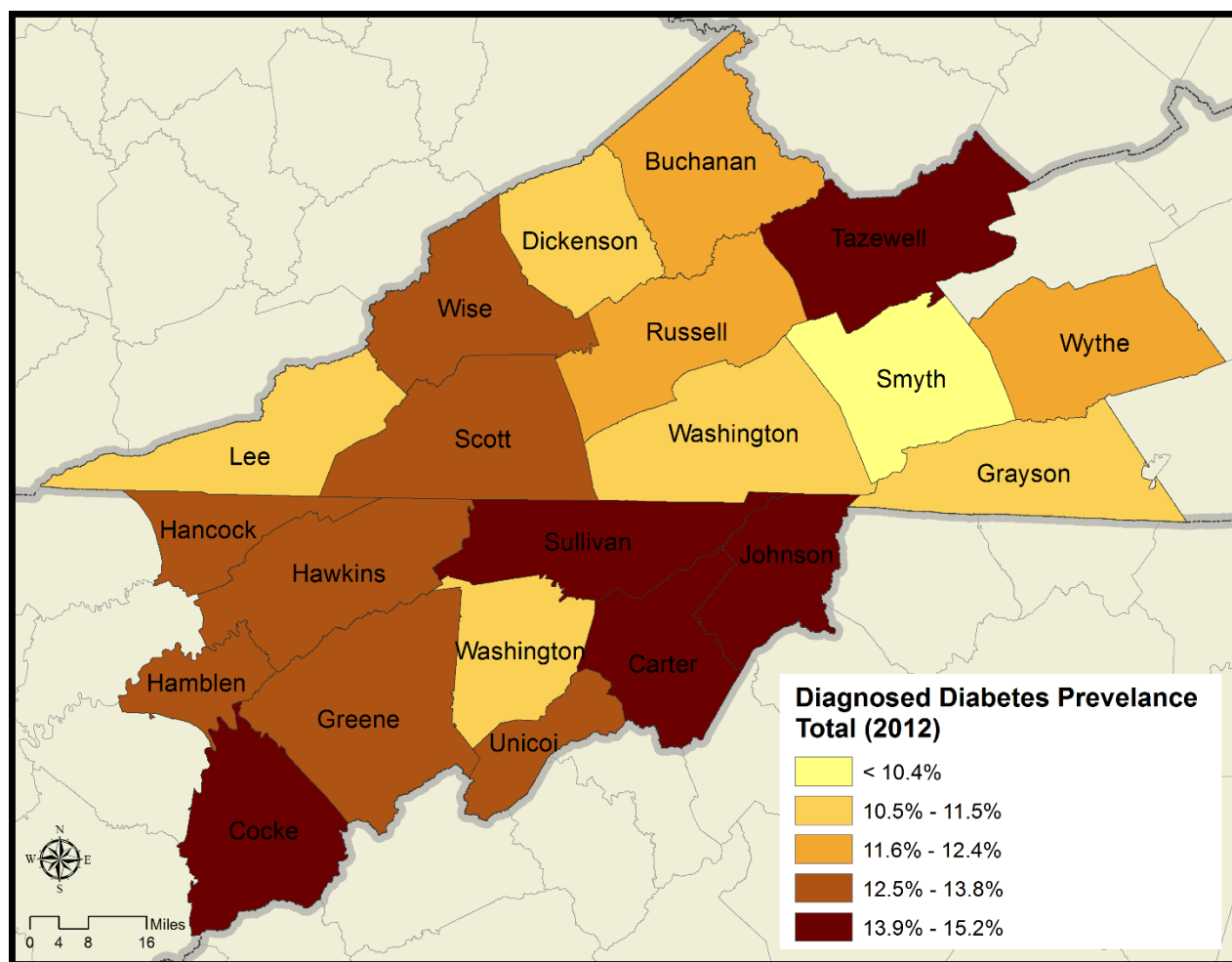
Figure 8. Distribution of diagnosed diabetes prevalence in the region[10]

References

1.   Center for Disease Control and Prevention: Division of Nutrition, Physical Activity, and Obesity. (2015). Overweight and obesity. Retrieved September 17, 2015 from http://www.cdc.gov/obesity/data/index.html.
2.   United Health Foundation. (2015). America's health rankings. Retrieved March 2016 from http://www.americashealthrankings.org/.
3.   United States Department of Agriculture. (2013). Household food security in the united states in 2013. Retrieved September 22, 2015 from http://www.ers.usda.gov/media/1565415/err173.pdf.
4.   Centers for Disease Control and Prevention. (2015). Youth risk factor behavior surveillance system. Retrieved September 17, 2015 from https://nccd.cdc.gov/youthonline/App/Default.aspx.
5.   Tennessee Department of Health. (2013). Behavioral risk factor surveillance system. Retrieved September 17, 2015 from http://tn.gov/health/article/brfss-dietexercise.
6.   Virginia Department of Health. (2013). Behavioral risk factor surveillance system. Retrieved September 17, 2015 from http://166.67.66.226/livewell/data/surveys/brfss/.
7.   University of Wisconsin Population Health Institute. (2015). County health rankings & roadmaps. Retrieved September 17, 2015 from http://www.countyhealthrankings.org/.
8.   State of Obesity. (2015). The state of obesity in Virginia. Retrieved February 26, 2016 from http://stateofobesity.org/states/va/.
9.   State of Obesity. (2015). The state of obesity in Tennessee. Retrieved February 26, 2016 from http://stateofobesity.org/states/tn/.
10. Centers for Disease Control and Prevention. (2012). Diabetes data and statistics: County data. Retrieved February 26, 2016 from http://www.cdc.gov/diabetes/atlas/countydata/atlas.html.

Tobacco use and pulmonary health

According to the 2013 Behavioral Risk Factor Surveillance System, 19% of adults in the United States are current smokers.[1] The adult smoking rate in Virginia is comparable with the national average while Tennessee is above average at 24.3%.[1] The 21-county region comprising Northeast Tennessee and Southwest Virginia has an adult smoking rate (26.2%) that is higher than either state as a whole.[2] Hancock County in Tennessee has the highest rate of adult smoking in the region with 40%, followed by Wise County in Virginia with 33% (Figure 1).[2]
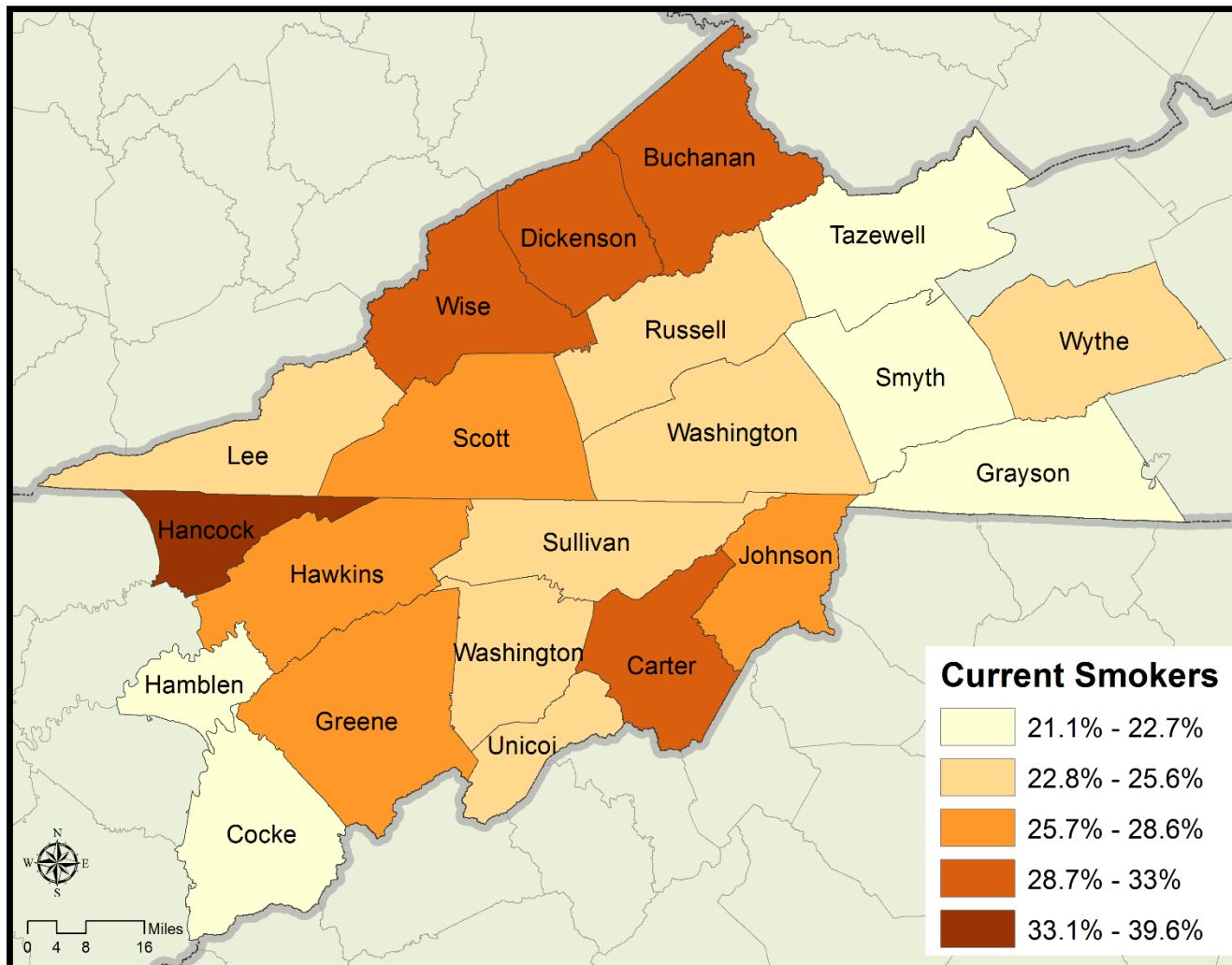
Figure 1. Distribution of adult smoking in the region[2]

In both Tennessee and Virginia, current smokers are more likely to be male between the ages of 25 and 55, have lower educational attainment, and lower income. In Tennessee, individuals without a high school diploma are four times as likely to be smokers compared to college graduates (40.5% and 9.9% respectively), while in Virginia the difference is more than two-fold (33.7 and 14.1% respectively).[1]

Educational attainment is measured differently at the college level in Virginia, possibly causing the diminished effect of education on smoking risk (Figure 2).
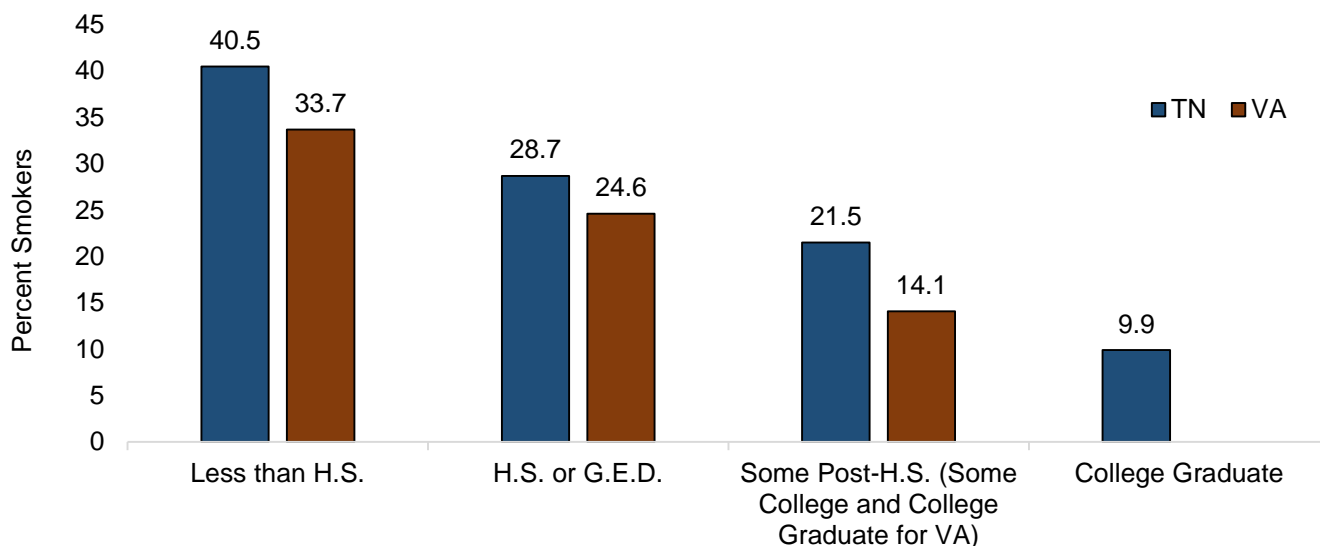
Figure 2. Smoking prevalence by educational attainment, 2013[1]

Among adults who earn $15,000-24,999 per year, the smoking prevalence is 37% in Tennessee and 33.2% in Virginia. Conversely, among adults who earn more than $75,000 per year the smoking prevalence in Tennessee is only 9%. The smoking rate in Virginia among those making $50,000 or more is 12% (Figure 3).
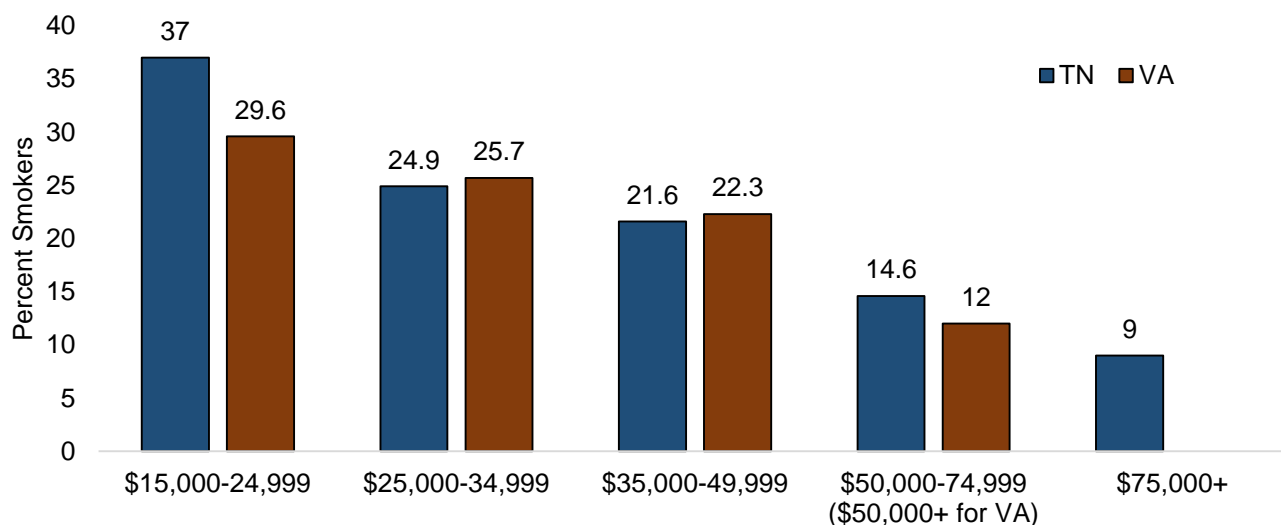
Figure 3. Smoking prevalence by income level, 2013[1]

In 2013, 22% of women in Tennessee smoked compared to 16.7% in Virginia.[1] The prevalence of smoking among males was 26.8% in Tennessee and 21.8% in Virginia. Comparison of age groups between Virginia and Tennessee are difficult as the states capture and categorize them differently

(Figure 4). Recognizing this caveat, we still can see that rates of adult smoking are higher in Tennessee in every age group, with the 25-34 group reporting the highest percentage (32.7%).
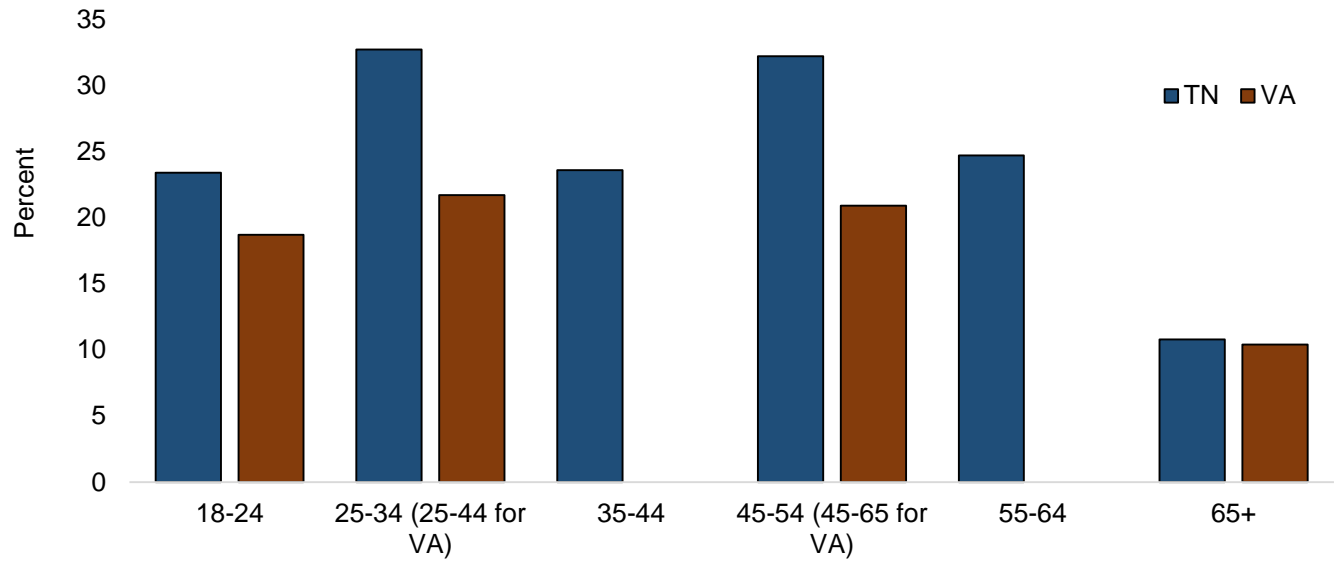
Figure 4. Smoking prevalence by age group, 2013[1]

In most counties in the region, smoking rates decreased between 2011 and 2015 (Figure 5 & 6). Notable exceptions in Northeast Tennessee are Carter County, Sullivan County, and Unicoi County (Figure 5). In Southwest Virginia, the prevalence of adult smoking has decreased in all counties since 2011 with the exception of Buchanan and Russell (Figure 6).
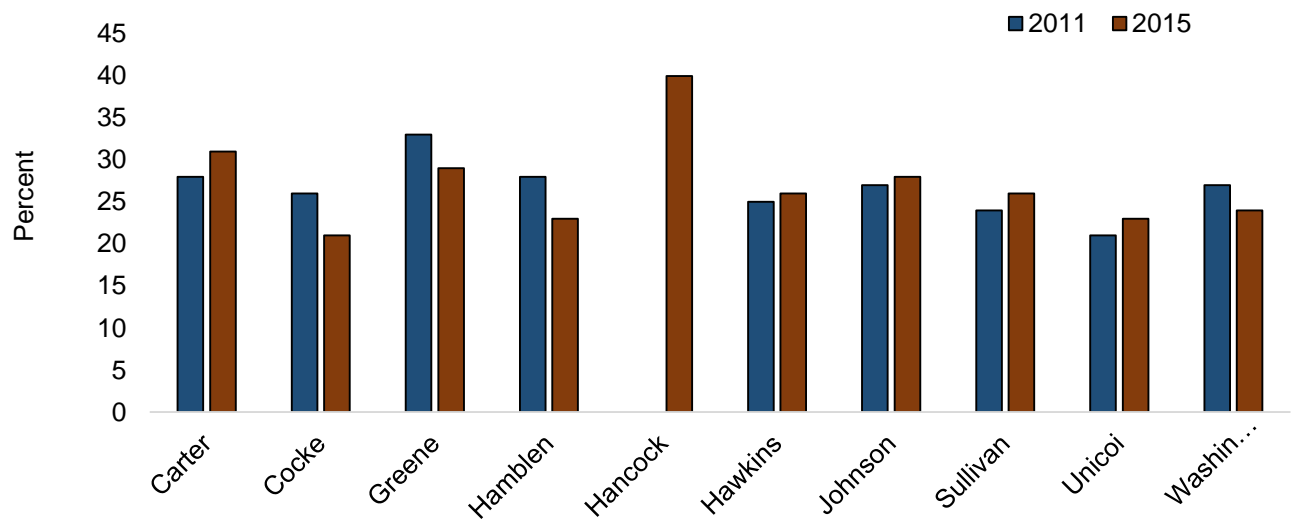
Figure 5. Adult smoking prevalence in Northeast Tennessee, 2011 & 2015[2]
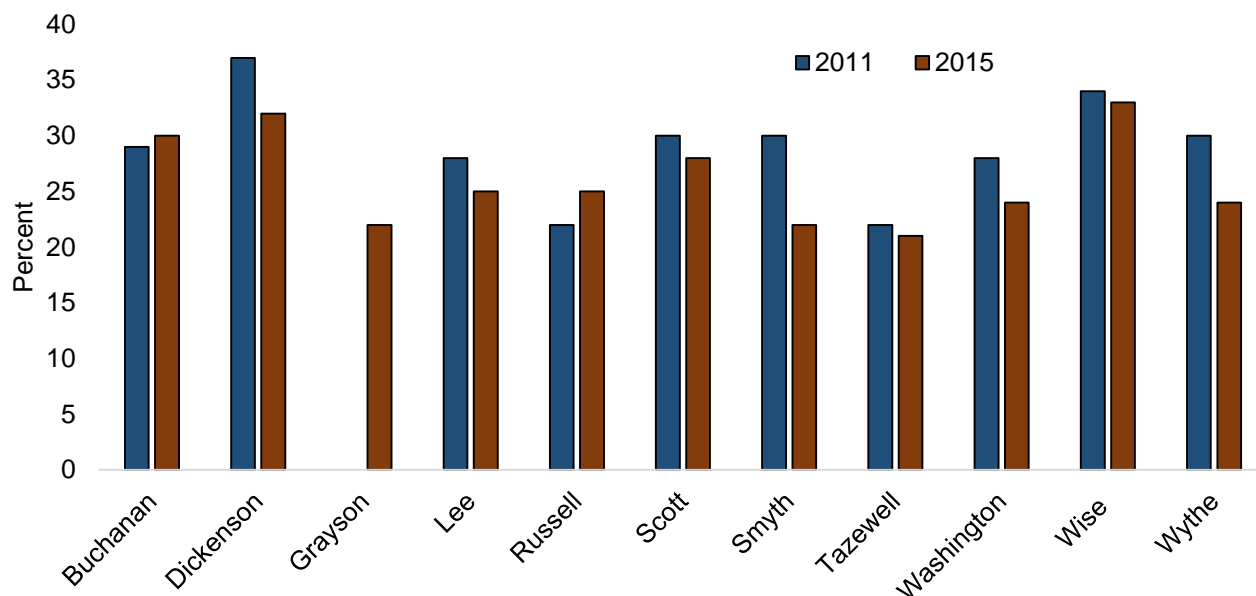
Figure 6. Adult smoking prevalence in Southwest Virginia, 2011 & 2015[2]

Tobacco use among youth and adolescents

It is estimated that over 80% of current adult smokers began before age 18.[3] Furthermore, 36.7% of adults reporting any lifetime use of cigarettes indicated their first experience to be at the age of 14 or younger.[3]

According to the national Youth Risk Behavior Survey (YRBS), smoking among youth has steadily declined since 1997.[4] In 2013, 15.7% of students reported smoking at least one cigarette in the past 30 days compared to 36.4% in 1997.[4] According to the YRBS, in 2013 15.4% of high school youth in Tennessee and 11.1% of high school youth in Virginia currently smoke. The national rate is 15.7%

In the same year, 6.2% of Tennessee high school youth and 3.5% in Virginia reported smoking on 20 or more of the past 30 days. The national average in this population is 5.6%.[4]

In 2013, the CDC reported that 13.3% of high school students in Tennessee and 8.3% in Virginia reported using smokeless tobacco products, compared to a national rate of 8.8%.

Tobacco use during pregnancy

In 2014, the national rate of women reporting having smoked at any time during pregnancy was 8.4%.[5] According to the Pregnancy Risk Assessment and Monitoring Survey (PRAMS) data from 2009, the pregnancy smoking rate in Tennessee was 14.9%.[6] The rate in Virginia was comparable to the national average at 8% for 2013.[6]

The data suggest a correlation between maternal age and likelihood of smoking during pregnancy. Of mothers aged 20 and under, 52.8% reported smoking during the three months before getting pregnant compared to 22.1% of women over age 35.[6] In addition, 46.3% of women who did not complete high school reported smoking during the three months prior to pregnancy compared to 45.4% of those who

did complete high school. Only 20.9% of women with some college report smoking immediately prior to pregnancy.

Higher rates of smoking during the last three months of pregnancy are reported among women who are younger and have less education. Among women under the age of 20, 65.7% reported not smoking at all during pregnancy, compared to 85.6% of women over 35.[6] Among women who had less than 12 years of education, 60% reported not smoking during the last three months of pregnancy compared to 91.1% of women who had 12 or more years of education.[6] Data collected in regional hospitals suggests that the smoking rate among pregnant women ranges between 15 and 40% (Figure 7).[7]

Hancock County had the highest reported rate of pregnancy smoking in 2014 at 38.8%.[8] The same data are not available for Southwest Virginia.
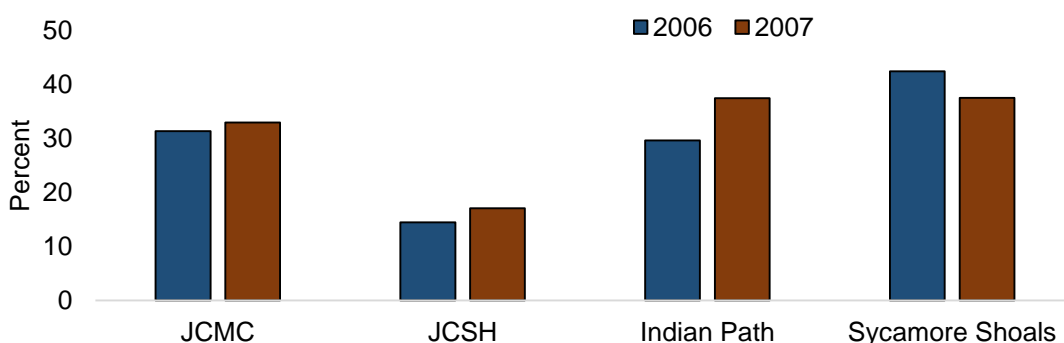
Figure 7. Pregnancy smoking rates by delivery hospital in Northeast Tennessee, 2006 & 2007[7]

Tobacco-related chronic disease

In 2013, the age-adjusted mortality rate from lung cancer was 70 per 100,000 residents in Northeast Tennessee and 60.1 per 100,000 in Southwest Virginia (Figure 8). Both regions had mortality rates higher than the rest of their respective states and the nation as a whole. Elevated mortality is also seen in the region associated with other smoking related disease such as Chronic Obstructive Pulmonary Disease (COPD) and heart disease.
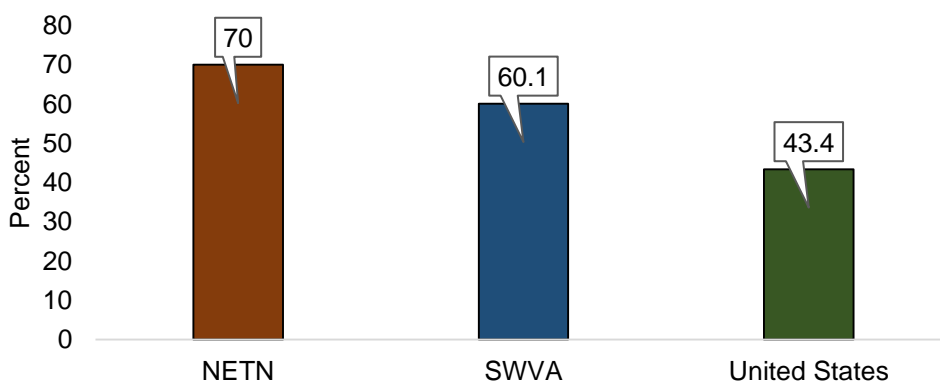
Figure 8. Lung cancer age-adjusted rates per 100,000, 2015[9]

Rates of heart disease mortality among males and females in Northeast Tennessee and Southwest Virginia are higher than gender-specific rates nationally (Figure 9). The burden of heart disease among males is much higher within both regions. Heart disease has many risk factors, however research has shown that smoking is the strongest. It is estimated that as much as 39% of heart disease incidence can be attributed to smoking in the population.[10]
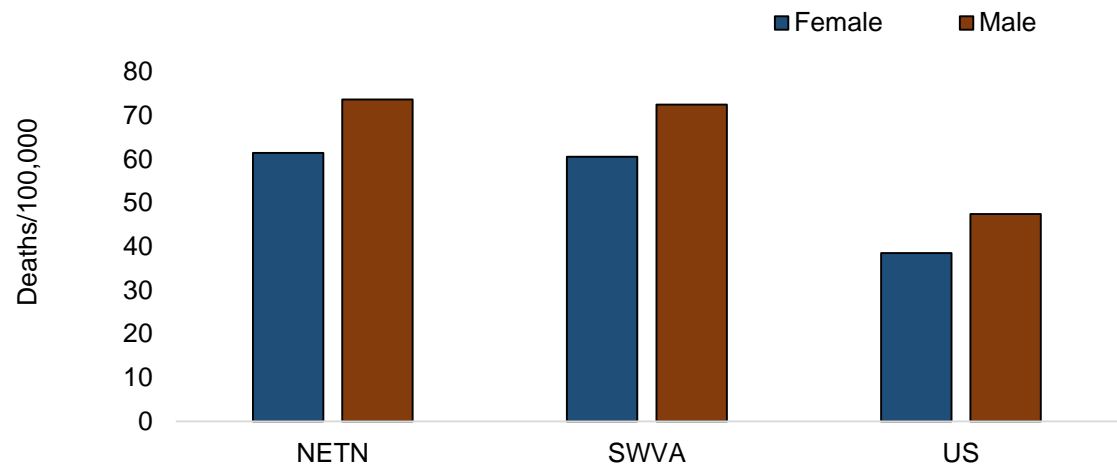
Figure 9. Age-adjusted heart disease mortality, by gender, 2013[9]

Age-adjusted mortality from COPD was higher among males and females in both Northeast Tennessee and Southwest Virginia compared to the rest of the country (Figure 10). COPD can develop due to chronic exposure to particulates either in the workplace or in the home. Age-adjusted mortality from COPD was higher among males and females in both Northeast Tennessee and Southwest Virginia compared to the rest of the country (Figure 10). COPD can develop due to chronic exposure to particulates either in the workplace or in the home. Passive cigarette smoke exposure is also responsible for a portion of the COPD in the population, however smoking is estimated to be associated with 80% of all COPD cases.[11]
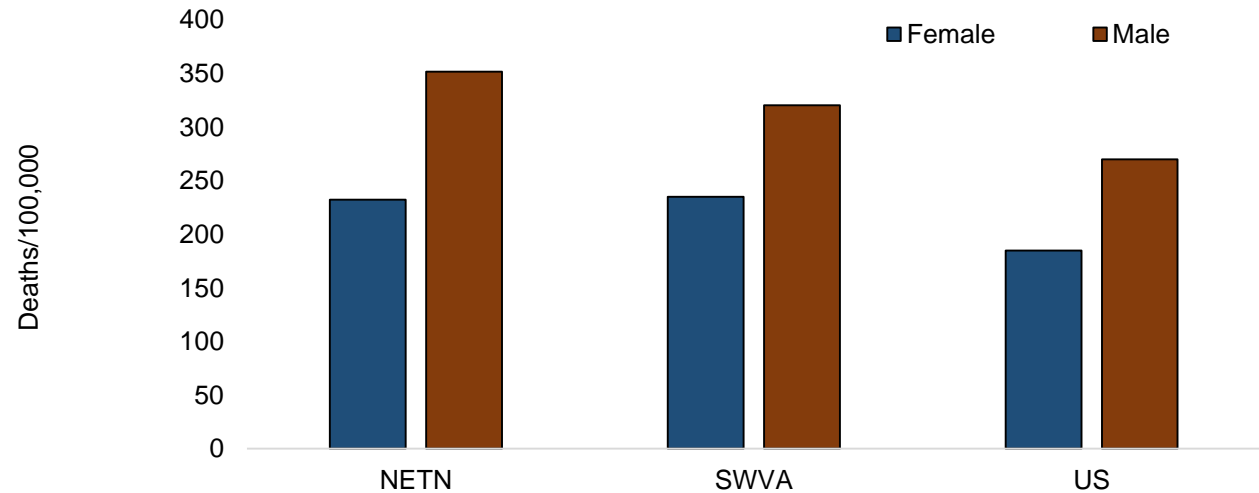
Figure 10. Age-adjusted COPD mortality, by gender, 2013[9]

References

1. Centers for Disease Control and Prevention: Division of Population Health. (2013). BRFSS prevalence & trends data. Retrieved Feb 25, 2016 from http://www.cdc.gov/brfss/brfssprevalence/.
2. University of Wisconsin Population Health Institute. (2015). County health rankings & roadmaps. Retrieved September 17, 2015 from http://www.countyhealthrankings.org/.
3. US Department of Health and Human Services. (2012). Preventing tobacco use among youth and young adults: A report of the surgeon general. Retrieved September 2015 from http://www.surgeongeneral.gov/library/reports/preventing-youth-tobacco-use/full-report.pdf.
4. Centers for Disease Control and Prevention. (2013). Youth risk behavior survey. Retrieved from https://nccd.cdc.gov/youthonline/App/Default.aspx.
5. Sally C. Curtin, M.A., and T.J. Mathews, M.S. (2014). Smoking prevalence and cessation before and during pregnancy: Data from the birth certificate. Retrieved form http://www.cdc.gov/nchs/data/nvsr/nvsr65/nvsr65_01.pdf.
6. Centers for Disease Control and Prevention. (2009). Pregnancy risk assessment and monitoring survey. Retrieved from http://www.cdc.gov/prams/pramstat/.
7. Bailey, B. (2012). The effects of pregnancy smoking in northeast Tennessee: findings and potential solutions [PowerPoint slides]. Retrieved Match 2016 from https://www.etsu.edu/tips/progress/GrandRoundsPedsPsychCollabFINAL2012.pdf.
8. KIDS COUNT Data Center. (2015). Tennessee data. Retrieved March 16, 2016 from http://datacenter.kidscount.org/data#TN/2/0/char/0.
9. Centers for Disease Control and Prevention. (2015). CDC wonder-detailed mortality. Retrieved March 2016, from http://wonder.cdc.gov/.
10. Centers for Disease Control and Prevention. (2016). Tips from former smokers. Retrieved March 2016, from http://www.cdc.gov/tobacco/campaign/tips/diseases/copd.html.
11. Parmet S., Lynm C., Glass R.M. (2003). Chronic obstructive pulmonary disease. JAMA. 290(17), 2362.

Healthy aging

In 2013, Tennessee adults 65 years and older comprised 14.7% of the population compared to 13.4% in Virginia.[1] In Northeast Tennessee and Southwest Virginia, there is a higher percentage of people over the age of 65 in the population than either state averages. Within the 21-county region, Grayson County, in Southwest Virginia, had the highest percentage of adults over 65 in the population at 23.3% (Figure 1). Even the counties with the lowest percentages of adults over age 65 still exceed the averages for each state.[1]
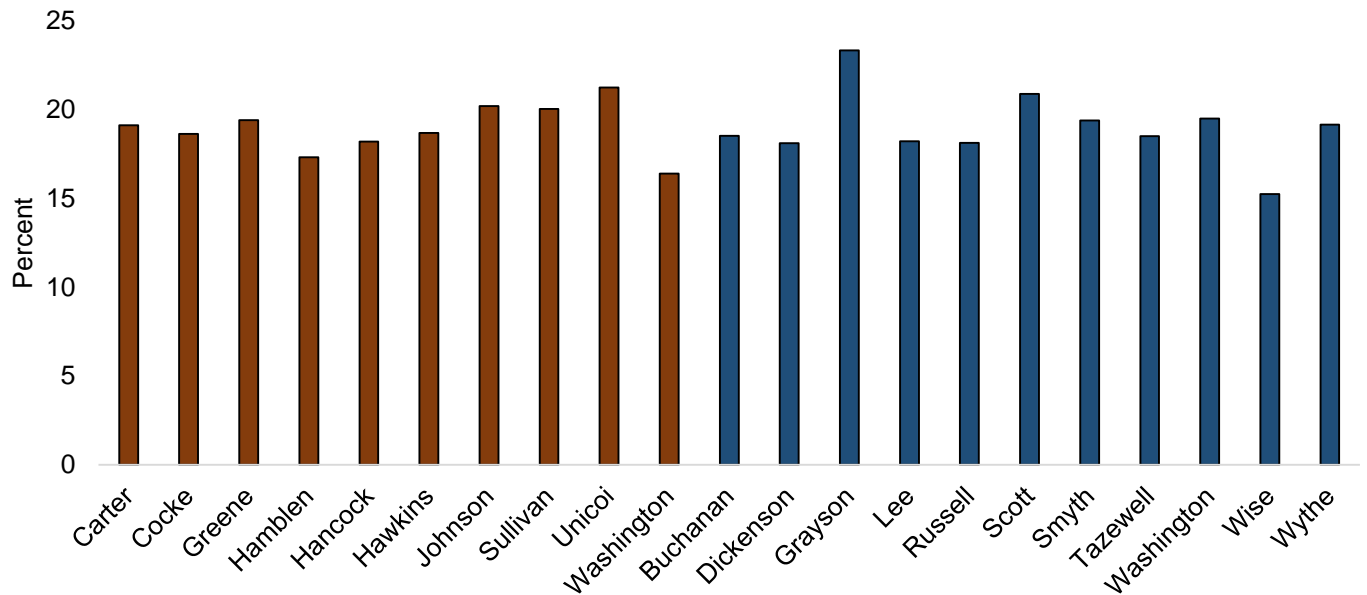
Figure 1. Adults 65 and Over, 2013[1]

Adults age 65 and older are also the fastest growing sub-population in both states. The percentage of adults age 65 and older is expected to increase to 19.4% in Tennessee and 18.8% in Virginia by the year 2030. (Figure 2).
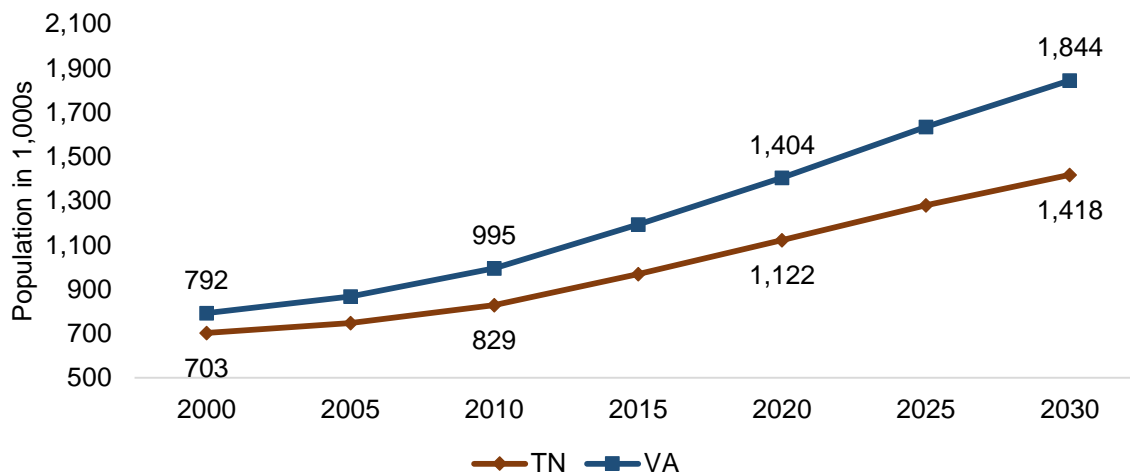
Figure 2. Projections for Number of Persons 65 and Older[2]

Many seniors in Northeast Tennessee and Southwest Virginia are considered at-risk due to health-related social factors such as low educational attainment, poverty, lack of transportation, and isolation within rural areas.

Nationally, 78.9% of seniors have a high school education while, in Northeast Tennessee, only 64% of seniors have graduated high school. This percentage is even lower in Southwest Virginia at 56% (Figure 3).[3] The national average for seniors with a bachelor's degree or higher is 21.3%.[4] In Tennessee and Virginia, statewide, the percentages are16.2 and 24.8%, respectively.[3]
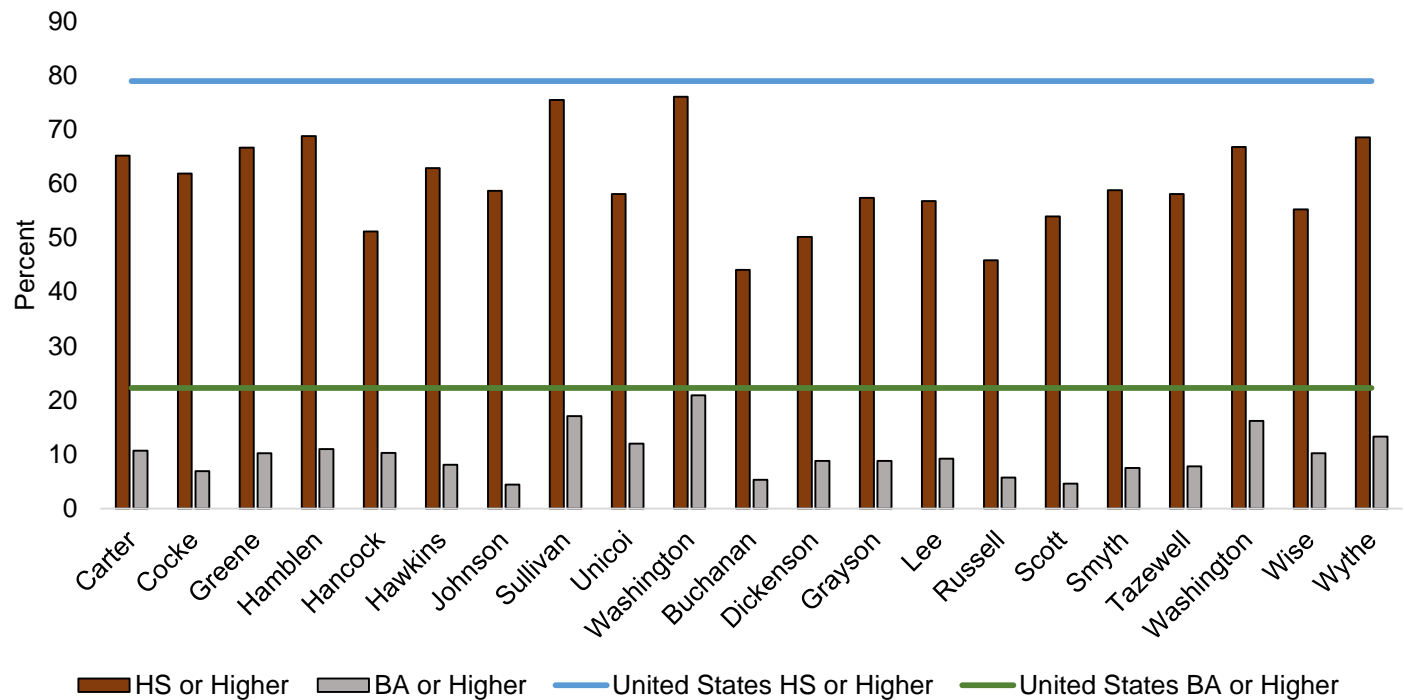
Figure 3. Educational attainment for seniors, 2010[3,4]

In 2010, Washington County had the highest percentage of seniors in Northeast Tennessee who graduated high school at 76.1% and Hancock County had the lowest percentage at 51.2% (Figure 3). In Southwest Virginia, Wythe County had the highest percentage of seniors who graduated high school at 68.6% and Buchanan County had the lowest at 44.1%.

Lower levels of educational attainment are associated with higher rates of poverty among seniors in Northeast Tennessee and Southwest Virginia. According to America's Health Rankings in 2014, the percentage of seniors in poverty across the United States was 9.5%. Tennessee was above the national average at 10.2% and Virginia was lower than the United States, reporting 7.6% of seniors in poverty.[5] However, in both Northeast Tennessee and Southwest Virginia, the percentage of seniors living in poverty is higher than both the nation and state averages at 12% and 11% respectively.[3]

In Northeast Tennessee and Southwest Virginia, not only are older adults at risk for poor health outcomes because they are largely uneducated and living in poverty, they also may be socially and

geographically isolated from social support and healthcare resources. In Tennessee and Virginia, the percentage of seniors living in a rural area is much higher than the national average (Figure 4).[3]
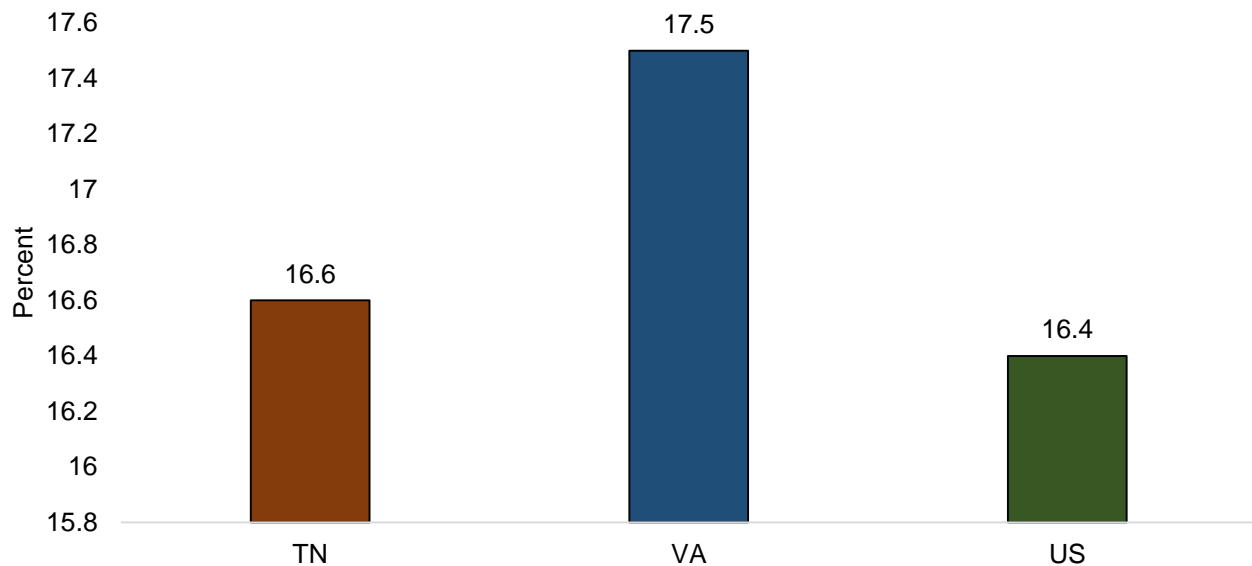
Figure 4. Persons 60 and over living in rural areas, 2014[3]

In Northeast Tennessee 39% of seniors live alone; 38% in Southwest Virginia.[3] Living alone and being geographically isolated can contribute to food insecurity among seniors in the 21-county region. There are several counties in the Northeast Tennessee region that have poor access to grocery stores.[6] Sullivan, Hamblen, Carter, and Grayson all have percentages of their senior population with low access to grocery stores exceeding the national rate of 3.9% (Figure 5).[6]
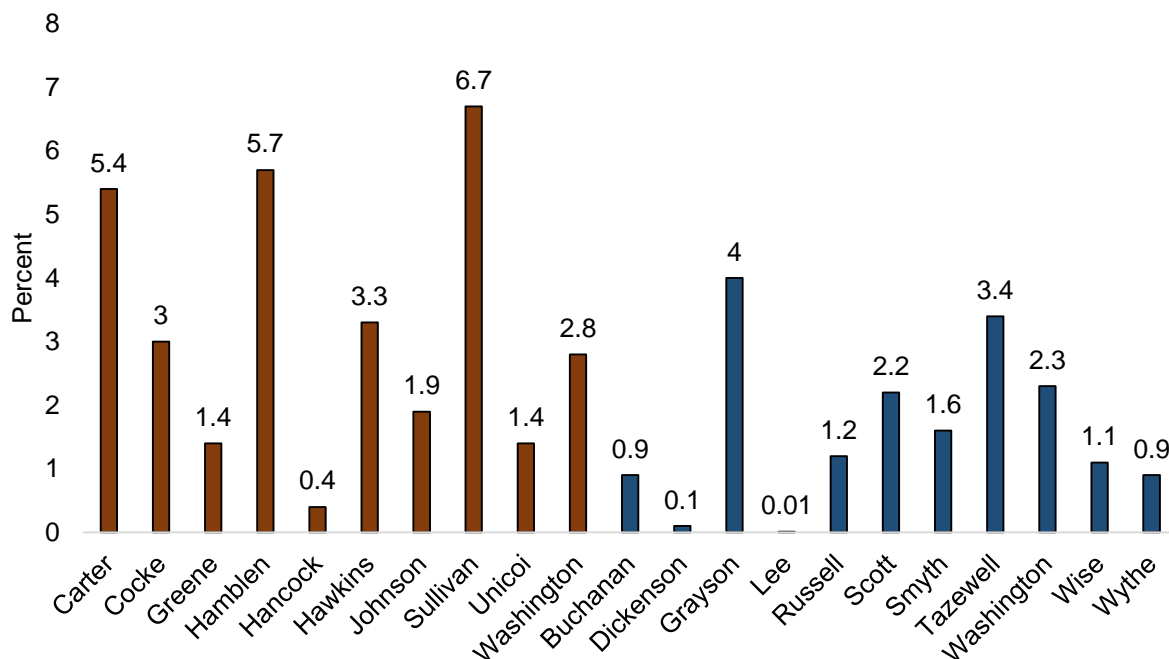
Figure 5. Seniors with low access to grocery stores, 2010[6]

Isolation and poverty can impact directly both mental and physical health. Poverty, combined with geographic isolation, can make seniors in Northeast Tennessee and Southwest Virginia a particularly vulnerable population.

When asked if they had ever been told they had a form of depression, 15% of seniors in Tennessee and 14.1% of seniors in Virginia said yes.[5] Not only are seniors at risk for poor mental health, they also have high rates of physical inactivity which can exacerbate mental health problems and put them at risk for injury. According to America's Health Rankings, the percent of seniors who are physically inactive in Tennessee increased from 32.2% in 2014 to 41.7% in 2015, ranking Tennessee 48th (third worst) out of 50 states. In Virginia, the percent of seniors who are physically inactive also increased from 28.6% in 2014 to 34.6% in 2015, ranking Virginia 34th out of 50 states.[5]

Another issue that makes the senior population in our region vulnerable is disability. Northeast Tennessee and Southwest Virginia have similar rates of disability among seniors at 46.2 and 49.5% respectively.[5] These rates are above the national average of 36.5%. Almost 60% of seniors in Russell County are disabled, followed closely by Dickenson, Buchanan, and Hancock Counties (Figure 6).[3]
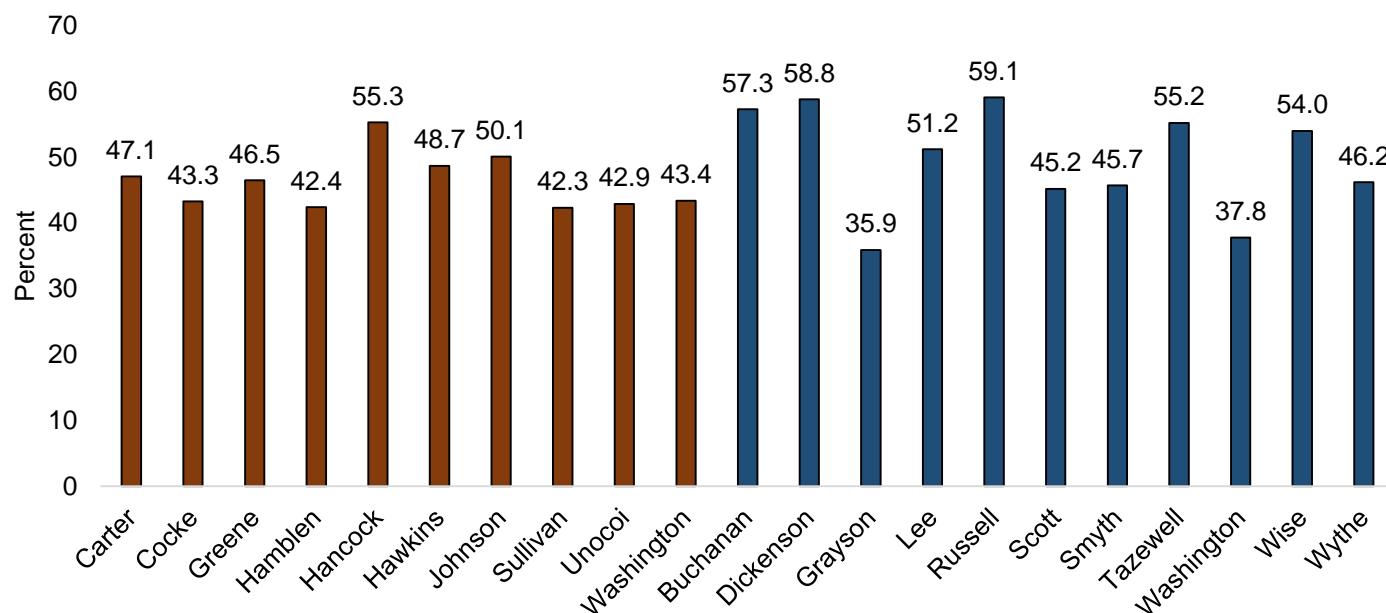
Figure 6. Adults 65 and over with a disability, 2014[3]

Despite the high prevalence of social and environmental risk factors for seniors, the number of home health care workers in Tennessee decreased 11% from 72.9 to 64.8 per 1,000 adults aged 75 and older in 2015. Virginia increased the home health care workforce 18% from 86.0 to 101.3 home health care workers per 1000 adults aged 75 and older in 2015.[5]

References

1. University of Wisconsin Population Health Institute. (2015). County health rankings & roadmaps. Retrieved September 17, 2015 from http://www.countyhealthrankings.org/.
2. U.S. Department of Health and Human Services. (2015). Administration on aging: Populations by state 2005-2030. Retrieved from http://www.aoa.acl.gov/aging_statistics/future_growth/future_growth.aspx.
3. U.S. Census Bureau. (2014). American community survey. Retrieved from http://factfinder.census.gov/faces/nav/jsf/pages/index.xhtml#none.
4. U.S. Census Bureau. (2010). State & county quick facts. Retrieved February 1, 2016 from http://www.census.gov/hhes/socdemo/education/.
5. United Health Foundation: America's Health Rankings. (2015). Senior report. Retrieved March 2016 from http://www.americashealthrankings.org/Senior/ALL.
6. U.S. Department of Agriculture (2010). Food environment research atlas. Retrieved from http://www.ers.usda.gov/data-products/food-environment-atlas/go-to-the-atlas.aspx.

Mental health and addictions

Adult mental health

In Northeast Tennessee the average percent of adults with any mental illness was 21.9% in 2012, which is slightly higher than the rest of the state as well as the US average (18.5%).[1,2]

Results from the 2013 Behavioral Risk Factor Surveillance System (BRFSS) survey indicated that approximately 21% of adults in Southwest Virginia have been told they have a depressive disorder (i.e. depression, major depression, dysthymia, or minor depression.)[3]

The average reported number of poor mental health days in both Southwest Virginia and Northeast Tennessee is higher than the national average (Figure 1).
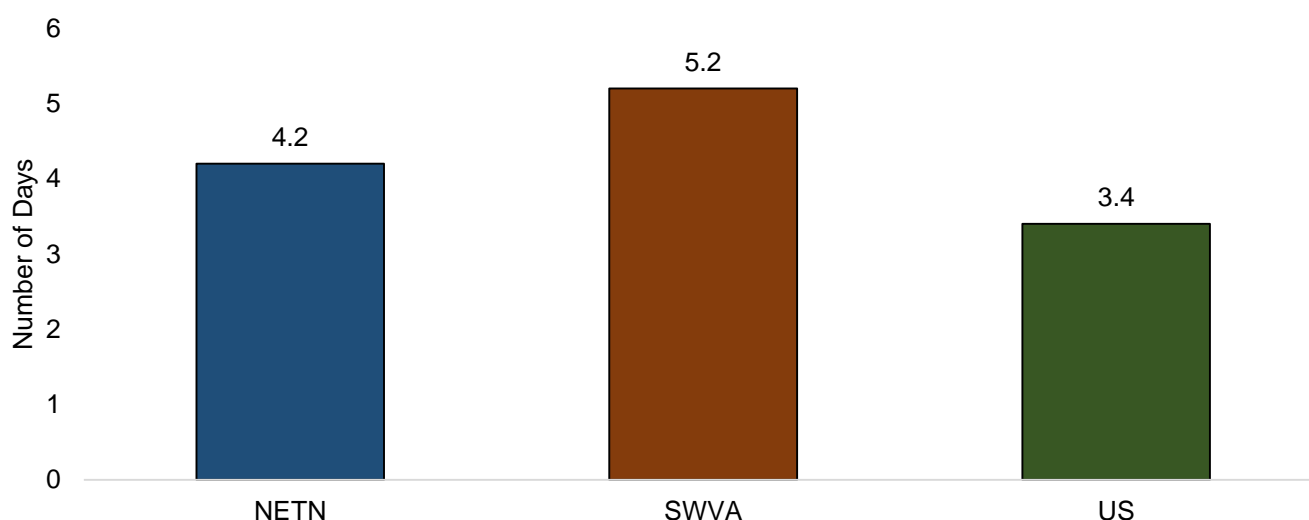
Figure 1. Average reported poor mental health days in the last 30 days[4]

In 2013, adults in Tennessee ranked in the bottom 10 states with regard to populations reporting limited activities due to physical, mental, or emotional problems.[5]

In 2013-2014, the percentage of adults with a serious mental illness (SMI) was 4.7% in Tennessee, 3.8% in Virginia, and 4.2% in the United States.[5,6]

In Tennessee, about 4.4% of adults had serious thoughts of suicide in 2014, a proportion that has not changed significantly since last measured in 2010–11.[5]

In 2014, the estimated percent of people with any mental illness in Northeast Tennessee was 22.11% (Figure 2). Between 2010 and 2012, the estimated percent of adults over the age of 18 with a serious mental illness in Northeast Tennessee was 4.4%.

Figure 2. Estimated number and percent of people over the age of 18 with any mental illness, 2014[1]

Data from the 2013 BRFSS survey indicated that 17.7% of adults in Southwest Virginia reported their mental health was not good for more than eight days out of the past month.[3]

Child and adolescent mental health

The Substance Abuse and Mental Health Services Administration (SAMHSA) reports three-quarters of mental illnesses appear by the age of 24, yet less than half of children with diagnosable mental health problems receive treatment.[5,6]

In 2013, 9.4% of Tennessee adolescents (ages 12-17) had at least one major depressive episode; 11% in Virginia, and 10.7% nationally.[5,6]

According to the Regional Behavioral Health Estimates, 9.1% of youth ages 12-17 in Northeast Tennessee have had one major depressive episode in the past year in Northeast Tennessee.[7]

In Southwest Virginia, 17.3% of middle schoolers and 15.3% of high schoolers have seriously thought about committing suicide, with the majority of those being female.[8]

Treatment

Tables 1 and 2 list the licensed bed capacity for mental health and alcohol and drug abuse residential treatment sites in Northeast Tennessee.[1]

Table 1. Licensed bed capacity of mental health residential[1]

		2012	2013	2014
MH Region	County	Bed Capacity	Bed Capacity	Bed Capacity
1	Johnson	60	68	47
1	Washington	25	25	32
2	Hamblen	13	13	13

Table 2. Licensed bed capacity of alcohol and drug abuse residential treatment sites for children and youth.[1]

		2012	2013	2014
MH Region	County	Bed Capacity	Bed Capacity	Bed Capacity
1	Johnson	0	0	25
1	Sullivan	12	12	12
2	Hamblen	2	2	2

The licensed bed capacity for mental health adult supportive residential sites, mental health psychosocial rehabilitation program sites, and Alcohol and Drug (A&D) residential rehabilitation treatment in Northeast Tennessee are shown in tables 3, 4, and 5 below.[1]

Table 3. Licensed bed capacity of mental health adult supportive residential sites

		2012	2013	2014
MH Region	County	Bed Capacity	Bed Capacity	Bed Capacity
1	Washington	18	18	34
1	Greene	10	10	10
1	Sullivan	30	30	30

Table 4. Number of licensed mental health psychosocial rehabilitation program sites[1]

		2012	2013	2014
MH Region	County	Sites	Sites	Sites
1	Greene	1	1	1
1	Sullivan	2	2	2
1	Washington	1	1	1

Table 5. A&D residential rehabilitation treatment licensed bed capacity[1]

		2012	2013	2014
MH Region	County	Bed Capacity	Bed Capacity	Bed Capacity
1	Sullivan	39	39	39
1	Washington	22	22	22
2	Cocke	10	0	0

Despite high rates of mental illness, in Virginia only 48.2% of adults with any mental illness in 2009–2013 received mental health treatment or counseling. In Tennessee, this percentage was 43.1% (Figure 3).[5,6]
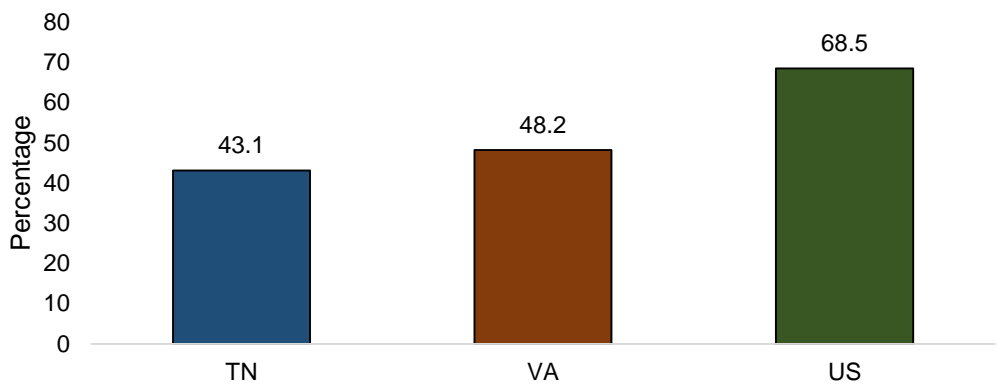
Figure 3. Percentage of Adults with any Mental Illness who Receive Treatment or Counseling[5,6]

In 2013-2014, 7.4% of Tennessee and Virginia adolescents reported using illicit drugs within the past 30-days, compared to 9.1% nationally.[5,6] Binge drinking among individuals 12-20 in Tennessee and Virginia was below the national average (14%) at 11.5% and 13.4% respectively.[5,6] Regional data are limited, but areas of Northeast Tennessee and Southwest Virginia where large enough samples were drawn, the percentage of binge drinking among adults aged 18 and older ranged from 3 to 11% in 2012.[4]

In Northeast Tennessee, the percentage of youth (12-17) identified as having a dependence or abuse of illicit drugs or alcohol was estimated at 8.53% in 2006-2008, declining to 7.17% by 2010-12 (Figure 4).

The Youth Risk Behavior Surveillance System (YRBSS) reported 4% of middle school students and 16% of high school students have taken prescription drugs without a prescription in Southwest Virginia.[8] This includes but is not limited to OxyContin, Percocet, Vicodin, Adderall, Ritalin, and Xanax. Furthermore, 22.6% of middle schoolers reported having drank alcohol at least once, and 31% of high schoolers had one or more drink of alcohol in the past 30 days.[8]

Figure 4. Estimated number and percent of youth between the ages of 12 to 17 with a dependence on or abuse of illicit drugs or alcohol in the past year.[1]

In Tennessee, 5.4% of individuals aged 12 or older in 2013–2014 were dependent on or abused alcohol, and 2.3% were dependent on or abused illicit drugs.[5] Among individuals aged 12 or older in Tennessee with a dependence on or abuse of illicit drugs, an average of 9.8% received treatment between 2010 and 2014.[5] Approximately 2.5% of individuals in Virginia aged 12 and older between 2009 and 2013 were dependent on or abused illicit drugs.[6] Approximately 12.4% of those individuals received treatment for their illicit drug use between 2007 and 2014.[6]

Reported substance of abuse in Tennessee for 2013-2014 was predominantly opioids other than heroin. This accounted for 30.4% of treatment admissions in 2014 (Figure 5).[9] Virginia differed qualitatively from Tennessee during the same time period with marijuana and alcohol leading as reported substances of abuse (Figure 6).[9] Virginia's profile of reported substances of abuse at treatment admission more closely resembles the national profile.
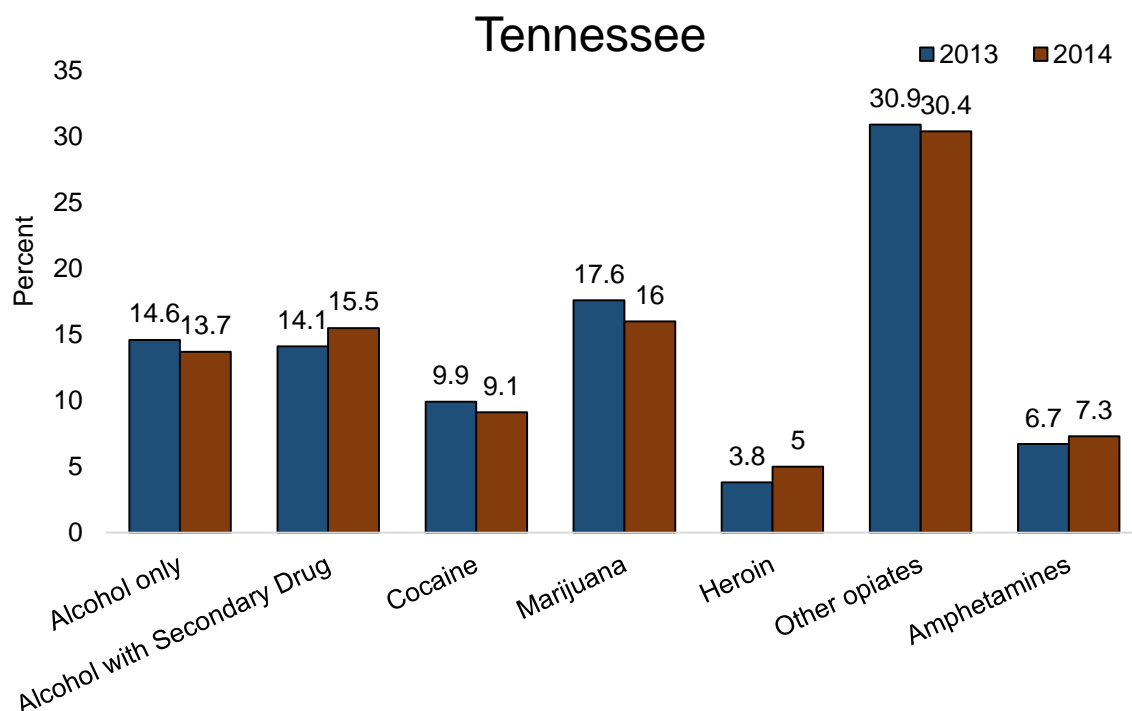
Figure 5. Percentage of admissions aged 12 or older by primary substance of abuse: Tennessee, 2013-2014[9]
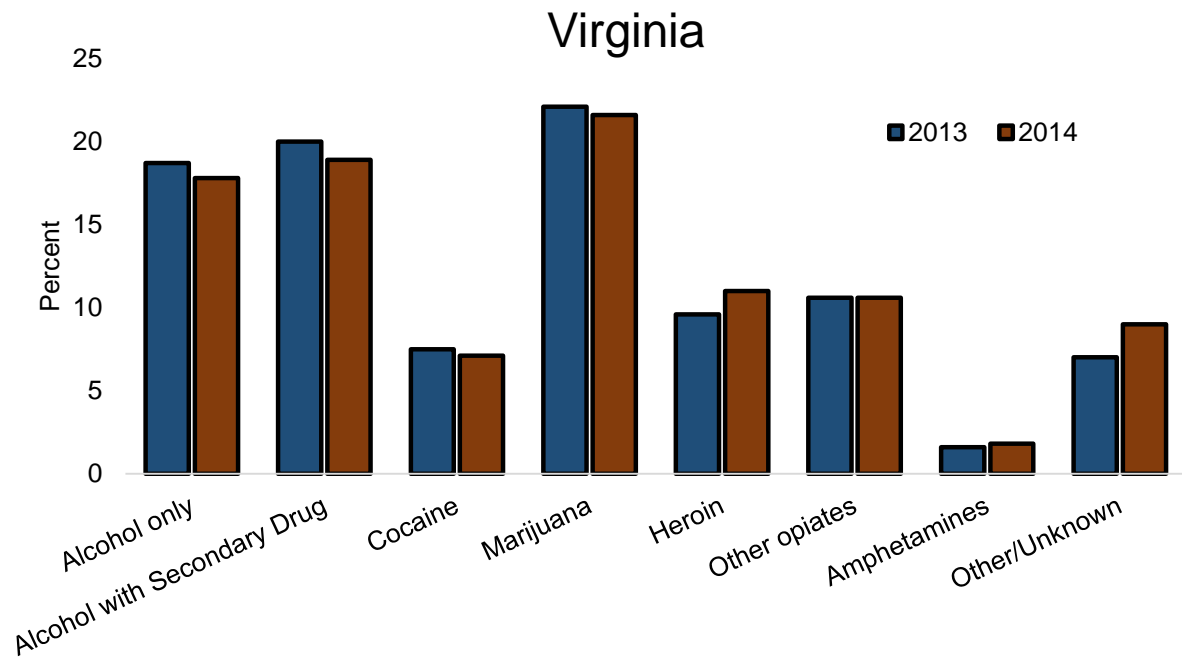
Virginia

Figure 6. Percentage of admissions aged 12 or older by primary substance of abuse: Virginia, 2013-2014[9]

Drug-related deaths have increased 41 percent in Western Virginia from 2007 to 2011. This increase in drug-related mortality continued in Virginia from 2013 to 2014 at a rate of 14.1%.[10] In 2010 fentanyl, hydrocodone, methadone, and oxycodone (all prescription opioids) were found to be involved in 53.8% of drug deaths in Virginia (Figure 7).[11] It is believed that the majority of these drug-related deaths are unintentional deaths as opposed to suicides.
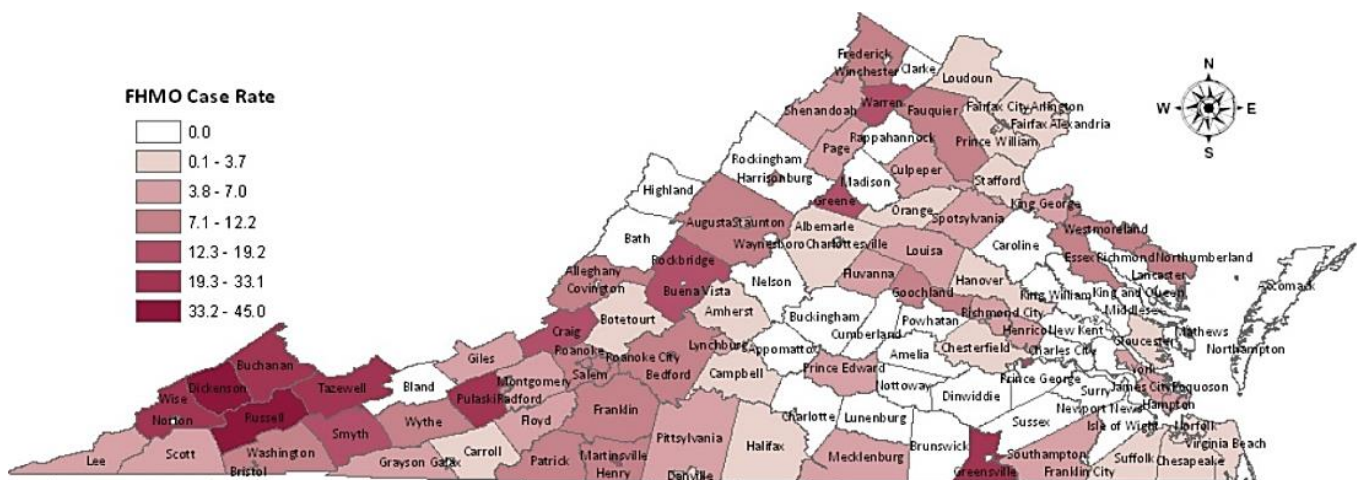
Figure 7. FHMO - Fentanyl, hydrocodone, methadone and oxycodone accidental death rates by county 2010[11]

Tennessee was above the 50th percentile of drug overdose rates for 2013 at 18.1 per 100,000 population.[10] Age-adjusted overdose mortality increased 7.7% in Tennessee to 19.5 per 100,000 population between 2013 and 2014.[10]

References

1. Tennessee Department of Mental Health and Substance Abuse Service. (2014). Tennessee behavioral health county data book. Retrieved September 17, 2015 from https://tn.gov/assets/entities/behavioral-health/p-r-f/attachments/2014_County_Data_Book_FINAL_11-7-2014_edit_6-10-2015.pdf.
2. National Institute of Mental Health (NIMH). (2014). Adults with any mental illness (AMI). Retrieved March 2016 from http://www.nimh.nih.gov/health/statistics/prevalence/any-mental-illness-ami-among-us-adults.shtml.
3. Virginia Department of Health. (2013). Behavioral risk factor surveillance system. Retrieved September 17, 2015 from http://166.67.66.226/livewell/data/surveys/brfss/content/data.html.
4. University of Wisconsin Population Health Institute. (2015). County health rankings & roadmaps. Retrieved September 17, 2015 from http://www.countyhealthrankings.org/.
5. Substance Abuse and Mental Health Services Administration. (2015). Behavioral health barometer Tennessee. Retrieved September 17, 2015 from http://www.samhsa.gov/data/sites/default/files/State_BHBarometers_2014_2/BHBarometer-TN.pdf.
6. Substance Abuse and Mental Health Services Administration. (2015). Behavioral health barometer Virginia. Retrieved September 17, 2015 from http://www.samhsa.gov/data/sites/default/files/State_BHBarometers_2014_2/BHBarometer-VA.pdf.
7. Tennessee Department of Health. (2015). Regional behavioral health prevalence estimates. Retrieved March 31, 2016 from https://www.tn.gov/behavioral-health/article/regional-behavioral-health-prevalence-estimates.
8. Virginia Department of Health. (2013). Youth risk behavior survey results. Retrieved September 17, 2015 from http://www.vdh.virginia.gov/livewell/data/surveys/youthsurvey/documents/31_2013VACH%20Graphs.pdf.
9. Substance Abuse and Mental Health Services Administration. (2015). Treatment episode data set (TEDS) 2001-2011. Retrieved September 17, 2015 from http://archive.samhsa.gov/data/2k13/TEDS2011/TEDS2011N.pdf.
10. Centers for Disease Control and Prevention. (2015). Injury prevention and control: Opioid overdose. Retrieved March 2016 from http://www.cdc.gov/drugoverdose/data/statedeaths.html.
11. U.S. Attorney's Office. (2012). Prescription drug abuse in southwest Virginia. Retrieved September 17, 2015 from http://approject.org/reports/summit%20report_final20130417.pdf.

COMMUNITY HEALTH ROUNDTABLE MEETINGS

COMMUNITY HEALTH ROUNDTABLE MEETINGS

As stated in the executive summary, one of the first steps in the effort to identify interventions to most effectively improve the health status of people living in the region was to use community input and expert deliberation to identify which challenges represent the greatest threats to health in the region. The following sections discuss the methodology and results of engaging with the community and the content experts in various fields associated with health.

Methods

In order to engage the community in a discussion about health in the region, the project team selected 10 sites in Northeast Tennessee and Southwest Virginia to hold meetings (Figure 1). The goal of these meetings was to get the community's input on the local health priorities and what can be done to address them. These community health roundtable meetings allowed attendees to have their voices
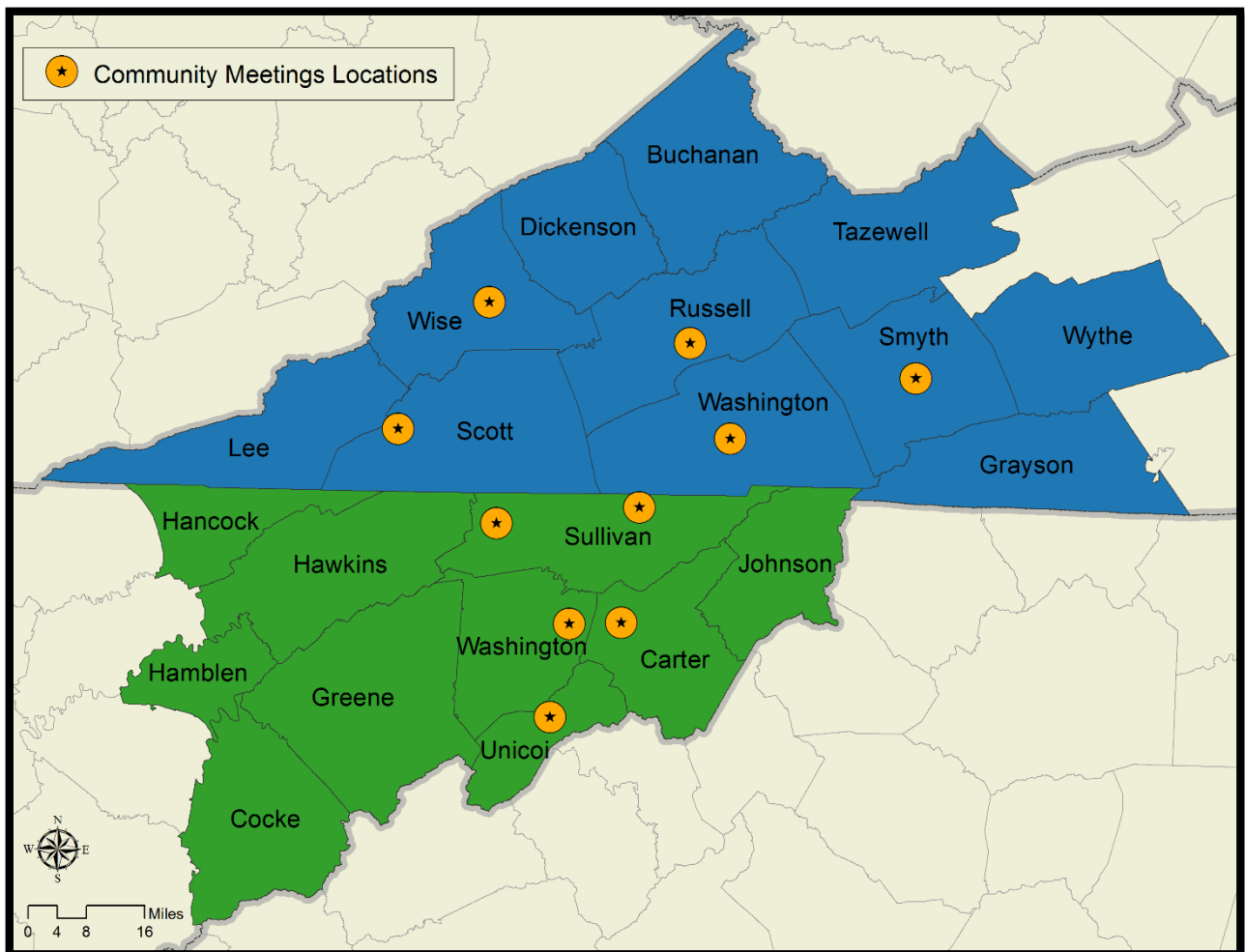
Figure 1. Community health roundtable meeting locations

heard and learn from other members of the community. These meetings were advertised heavily and open to members of the public 18 years of age and older.

The meetings were held from August to October in 2015. Each meeting began with a brief overview of the proposed merger, which was followed by a presentation on the overall health status of the region and factors that contribute to poor health.

Data was captured using the World Café approach to large group discussion, which yields a set of notes taken by table moderators during small group discussions occurring over multiple rounds. For the purpose of the meetings, participants were asked to address in their conversations the question, "**What can you do to improve health in the community?**"

At the end of two rounds of small group discussion, notes were collected from the table moderators, or "table hosts," to be used for a final large group discussion to allow for further comment and clarification. These notes have been collated and analyzed with the results presented below.

Data collected from the meetings was collated and analyzed for emerging themes. Major categories were identified and response frequencies generated to assess the relative importance placed on each by the community. To add further detail and to maintain precision in the results, sub-categories were developed with the major themes that were then analyzed as described.

The results of this approach to community engagement were broad reaching. Perhaps the most valuable outcome was in beginning discussions around health in the community among those most affected. This is the first step toward a shared value of health necessary to effect real change within the community. The direct output of the meetings was bigger than the question asked about improving health. What came out included identification of social factors at play in the region, as well as economic and infrastructure challenges. The majority of comments from the community meetings overlapped with the steering committee recommendations, but some elements such as tobacco use, interestingly, did not. Steering committee members recognized tobacco use as a health priority in the region, but this issue rarely surfaced during community discussions.

The Format

- The meetings began with a welcome and a brief update on the status of the proposed merger.
- Dr. Randy Wykoff then provided a brief summary of the health status of the region and a description of both the major behavioral and social factors that impact health.
- Participants sat in groups of four or five people.
- Held two 15-20 minute rounds of conversation around **what the community can do to improve health.**
- Each table was provided large yellow pads for recording their ideas.
- One person at the table acted as the host, taking notes during the conversation.
- Upon completing the initial round of conversation, the host remained at the table while the others moved to new tables for the second round.
- Table hosts welcomed the new guests and briefly shared the main ideas, themes, and questions of the previous conversation around **what the community can do to improve health**.
- Guests were encouraged to link and connect ideas coming from their previous table conversations—listening carefully and building on each other's contributions. By providing

opportunities for people to move in several rounds of conversation, ideas, questions, and themes begin to link and connect.

- At the end of the second round, all of the tables or conversation clusters in the room were cross-pollinated with insights from prior conversations.
- A period of sharing discoveries and insights in a whole group conversation then occurred.
- It is in these community meeting-style conversations that patterns can be identified, collective knowledge grows, and possibilities for action emerge.

The Question

The discussion centered on a simple yet open-ended prompt that encouraged participants to draw on their personal experience and understanding to contribute to the ideas and concepts generated. For these events the topic of discussion which was presented to the group was: **What can the community do to improve health?**

The Host

Table hosts were embedded within each small group discussion where they could act as facilitators, moderators, and secretaries to guide and capture the conversations as they developed. Each table host volunteered for the role at the beginning of the meeting. Each host was given a large pad and marker to make note of key ideas and concepts that came up during the discussion. At the beginning of each round, the table hosts welcomed his/her new guests and shared the important points of the previous conversation at that table. The new group then discussed **what the community can do to improve health** incorporating ideas from their other conversations into the new one.

Key roles of table hosts:

- Help note or draw (along with others at the table) key connections, insights, discoveries, and deeper questions as they emerge.
- Stay behind to welcome the travelers from other tables.
- Briefly share the key insights from the prior conversation around **what the community can do to improve health** so others can link and build on ideas from their respective conversations.
- Facilitate the discussion, keeping group members on the topic of **what the community can do to improve health** as best as possible while maintaining an atmosphere of open dialogue where participants feel free to speak their minds.

<u>Results</u>

At the community health roundtable meetings, there were a total of 225 attendees at 10 meetings. As can be seen in figure 2 below, the highest attendance was in Elizabethton, followed by Abingdon. The Lebanon meeting had the third highest number of participants, which was not expected since the population of Russell County is small compared to the counties in which Elizabethton and Abingdon are found. This relatively high attendance was due to the influence of local champions who had become engaged with the project. The effect of local champion participation in the process seen here is illustrative of the need for community participation in efforts moving forward.
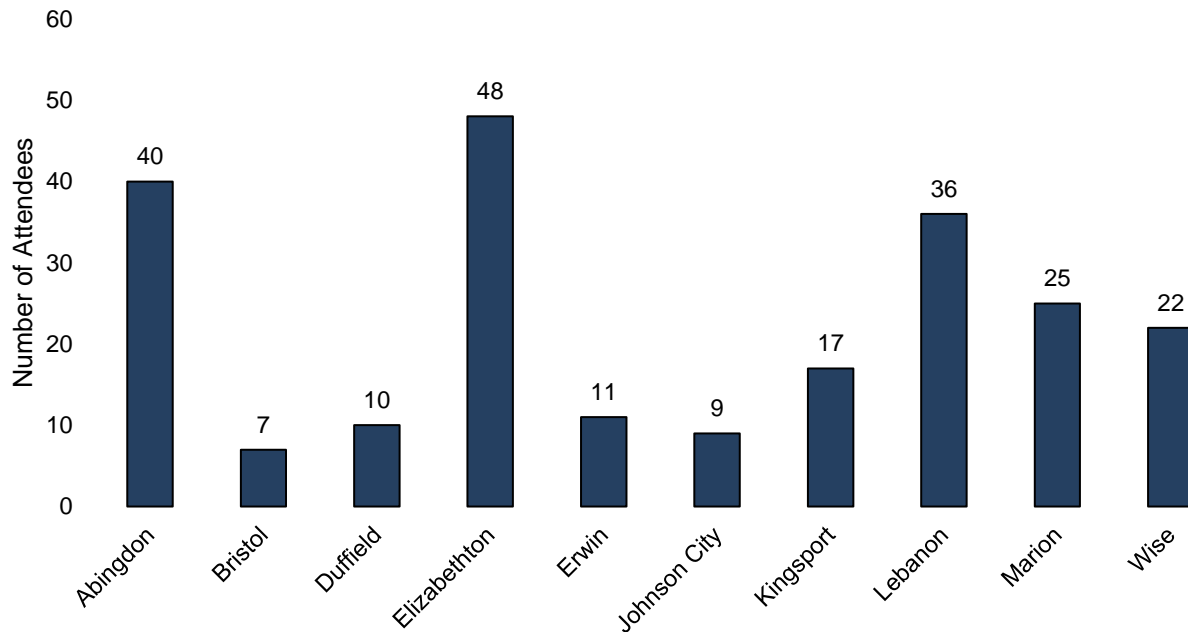
Figure 2. Attendance at Community Health Roundtable Meetings, By Location

Community representation at these meetings was good, including participants from multiple community sectors. The largest number of attendees came from the health care sector, which was likely due to their connections within Mountain States and Wellmont, the organizers of these events (Figure 3). Some sectors, such as anti-drug coalitions and the school systems were not engaged as well as perhaps they should have been. Future efforts should focus on these sectors in order to secure their input and program involvement.
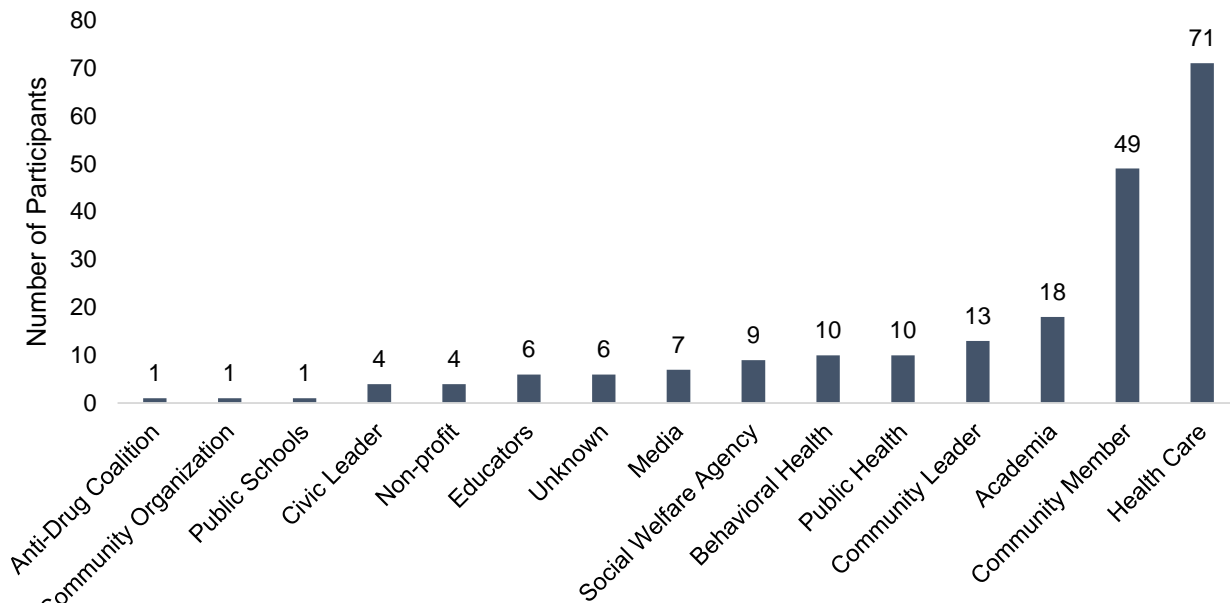
Figure 3. Sectors Represented at Community Health Roundtable Meetings

The ETSU project team identified eight major themes that emerged from the discussions at the Community Health Roundtable Meetings. They were:

- Community Development
- Access to Services
- Substance Abuse
- Education
- Physical Activity and Nutrition
- Mental Health
- Maternal and Child Health
- Seniors

Community Development was the most cited avenue for improving health in the region. Discussions within this sphere included comments on cultural norms, economic development, increased collaboration among social welfare organizations, walkable streets, and transportation services. Meeting participants expressed a need for strategic focus on what's tearing down the community and work towards a community wellness model.

Access to Services was an issue cited across nearly every major discussion topic (i.e. substance abuse, mental health, maternal and child health, etc.), but it was also mentioned often as a standalone issue that is affecting community health more generally. Specific items mentioned under access to services were healthcare education, transportation services, collaboration among health systems, increasing rural access, and oral health services. Bringing services to underserved communities in the region is an important step, but it must be done in conjunction with efforts to support the population's utilization of those services (e.g. health coaches, chronic disease self-management programs, transportation, etc.).
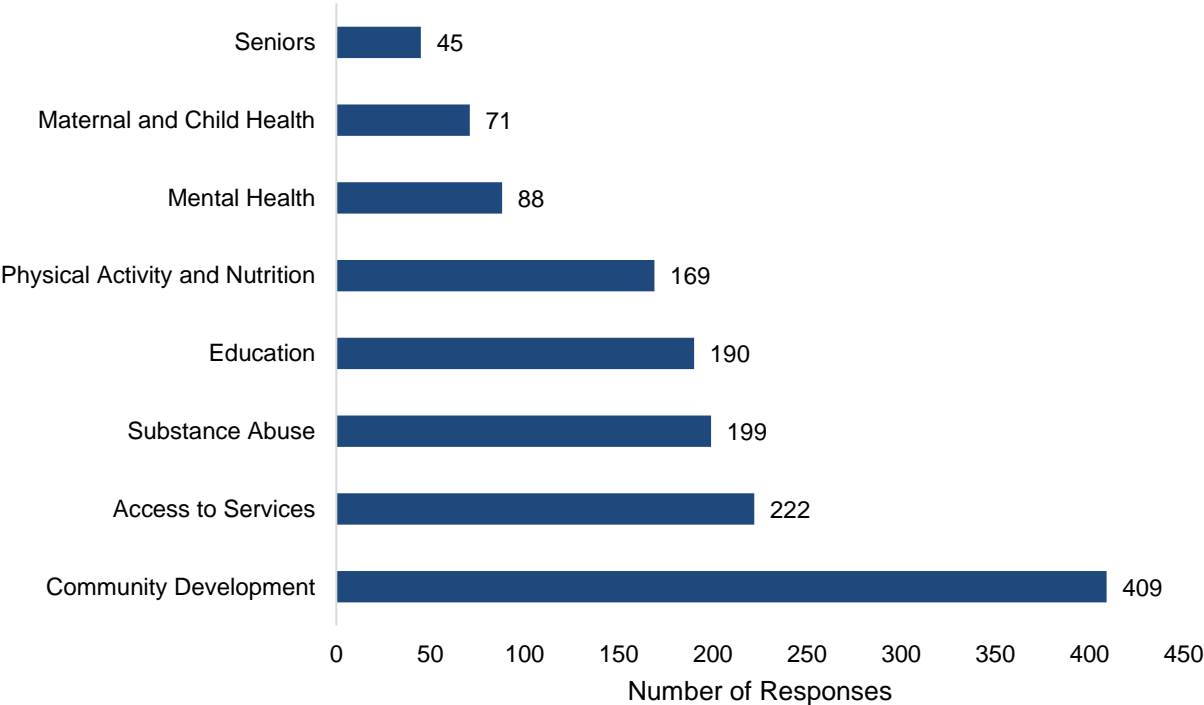
Figure 4. Major Categories of Discussion

Substance Abuse was the third most common health concern among meeting attendees, and included tobacco use, access to prevention and treatment resources, stigma reduction, and safe prescribing practices. Prescription drug abuse in Southwest Virginia and Northeast Tennessee is well above the national average and continues to rise. In order to impact the abuse of prescription and illicit drugs, interventions must be made at the community, individual, and intergenerational level. Among other things, there is a dire need for education to reduce stigma around drug abuse to help people get treated and break the cycle.

Education was recognized by all meeting attendees as a key element to improving health in the region. Specific educational areas cited were nutrition and physical activity, substance abuse, family health, sexual health, community health, and healthcare access education. General comments were made regarding the lack of health education in schools and the community.

Nutrition and Physical Activity was a prominent concern among the meeting participants as it relates directly to the high prevalence of obesity in the region. Specific comments included the need for health education in the schools, opportunities for exercise, promotion of farmer's markets, and decreasing food insecurity. Healthy eating and active lifestyles must be encouraged as of value in the community. It is not enough to provide the opportunity for communities to participate in healthy choices, but interventions must include education and social norm change.

Mental Health was an issue predominantly centered around an agreed-upon general lack of services in the region, specifically pediatric/school services, prevention and early intervention, home health, and education programs. Stigma around mental illness is a significant barrier to the utilization of prevention, treatment and recovery services. Misconceptions and norms around mental health must be addressed at the family and community level in order to positively impact mental health in the region.

Maternal and Child Health discussions were centered in large part around a need for services and education in the community about risky behaviors associated with poor birth outcomes. Specific points of concern were the lack of family structure, neonatal abstinence syndrome, parental drug use, the need for birthing centers, breastfeeding rates, and child nutrition. Support systems for families and children are lacking in many communities across the region and must be developed in order to improve health.

Seniors and the idea of healthy aging, while not the center of most discussions, were nevertheless mentioned at every meeting. The main concern from the attendees in this area was getting services to elderly and veterans, recreational activity opportunities, and the availability of long-term care. The older adult population is substantial in the region and is only expected to increase in the coming years. It is important that health programming support this population especially in the rural areas where isolation and mental health are a concern.

Southwest 2020 Summit

During the Southwest 2020 Summit held in Abingdon, Virginia, on October 22, 65 attendees participated in a World Café style discussion around the question, "**What can you do to improve health in the community?**" Results from this meeting are presented separately, as the participant population was potentially different form the other meetings held for the project. The individuals present at the summit were professionals in a health-related field who were invited to attend. The make-up of the meeting was more similar to the project steering committees than the community meetings, therefore the results should be considered supplemental to the project overall.

As can be seen in figure 5, many of the same themes were identified from the discussions held, though physical activity and nutrition seemed to come to surface more often than other issues, which was not the case at the community meetings. This could be an effect of the types of attendees at the meeting, many of whom work directly with the community addressing prominent health concerns, of which obesity is one of the greatest.
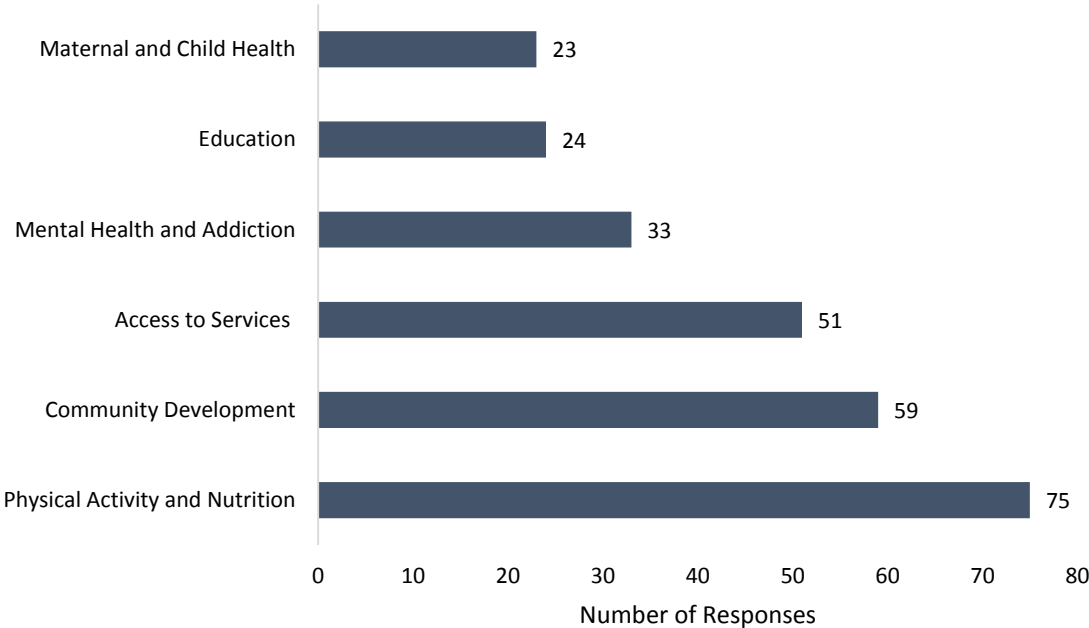
Figure 5. Major Topics of Discussion at the Southwest 2020 Summit

Conclusions

As mentioned in the introduction to this section, the effects of this effort are far reaching and multi-faceted. If nothing else was gained through the process but the engagement of community members in the process of improving health in the region, then the meetings would have been a success. This of course is not the case, as the information gathered is very informative and can help guide the development of programs that are likely to be acceptable to the community.

As part of the larger project, the community meetings add context and validation for the topics identified in the steering committee meetings. It is important moving forward that the community continue to be part of the process, and that even more rigorous efforts be undertaken to identify local champions to serve as project leaders in the cities, townships, and counties of Northeast Tennessee and Southwest Virginia.

Steering Committee Reports

Mental Health and Addictions Steering Committee

Chairs

Dr. Teresa Kidd, President and CEO, Frontier Health

Eric Greene, Senior Vice President of Virginia Services, Frontier Health

Mental Health and Addictions Steering Committee Members

Last Name	First Name	Organization	Title
Abner	Dr. John Paul	Milligan	Professor of OT & Psychology
Bailey	Marlene	Woodridge Hospital	Director, Behavioral Health Programs
Bangle	Rev. Jim	Retired Lutheran pastor, LCSW, Law Enforcement Chaplain	
Benedetto	Kathy	Frontier Health	SVP, Children & Youth Services
Bowen	Diane	Frontier Health	Director of Compliance and Performance Improvement
Chase	Anna	Mount Rogers CSB	Director of Youth and Family Services
Collins	Margie	City of Bristol, VA Circuit Court	Drug Court Coordinator
Fox	Jeff	Highlands Community Services	Executive Director
Goodkin	Dr. Karl	ETSU	Chair, Dept. of Psychiatry
Greene	Eric	Frontier Health	Senior VP
Hagy	John	Russell County Medical Center	Director of Clearview
Holmes	Rebecca	Highlands Community Services	Clinical Director
Jessee	Dr. Randy	Frontier Health	Senior VP, Specialty Services
Jones	Kristie	Cumberland Mountain CSB	Director of MH Services
Keen	Doug	Wellmont Health System	Program Manager Department of Psychiatry
Ketron	Chris	NE State Community College	Adjunct Faculty
Kidd	Dr. Teresa	Frontier Health	President and CEO
Larsen	Mark	Mount Rogers CSB	Director of Adult Behavioral Health Services
Lindenbusch	Sue	Wellmont Health System	SVP, oncology & behavioral health
Loyd	Dr. Stephen	VA Mountain Home	Associate Chief of Staff
McClaskey	Cynthia	SW VA Mental Health Institute	Director
Melton	Dr. Sarah	Gatton College of Pharmacy at ETSU	Associate Professor of Pharmacy Practice
Melton	Dr. Hughes	Mountain States Health Alliance	Director of GME Program
Mills	Dr. Lori	Milligan College	Professor of Psychology
Moore	Elliott	Mountain States Health Alliance	VP, Government Relations
Moser	Dr. Michele	ETSU	Psychologist
Mullins-Potter	Karrie	Frontier Health	Peer Specialist, VA Operations
O'Dell	Sandy	Planning District One	Executive Director
Pack	Dr. Rob	ETSU	Assoc. Dean Academic Affairs
Page	Joe	Frontier Health	Senior VP, Outpt Services
Plummer	Dr. Robert (Bob)	ETSU	AVP, University Advancement
Rainey	Alice	SAGE	SAGE examines needs and service gaps for seniors
Rice	Dr. Judy	ETSU College of Nursing	Interim Director, Graduate Programs
Richards	Scott	Emory & Henry College, School of Health Sciences	Department Chair
Robshaw	Shannon	Technical Assistance Network for Children's Behavioral Health, University of Maryland	Consultant
Ross	Hon. Todd	Hawkins County, TN	Judge

Last Name	First Name	Organization	Title
Taylor	Ken	Frontier Health	Division Director, VA Child & Family Services
Testerman	Brenda	Frontier Health	Peer Specialist, VA Operations, MH Recovery Coach
Werth	James	Stone Mountain Health Services	Behavioral Health & Wellness Services Director
White	Lindy	Franklin Woods Community Hospital /Woodridge Hospital	CEO

EXECUTIVE SUMMARY

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Mental Health and Addictions Steering Committee

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The Mental Health and Addictions steering committee was tasked with evaluating the current state of services for adults and children in the region with the goal of reducing the prevalence and consequences of substance abuse and mental health problems in Northeast Tennessee and Southwest Virginia. The committee identified three aspects of an effective mental health and addiction prevention and treatment system of services. These are:

- 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

As is described in earlier sections of this report, Northeast Tennessee and Southwest Virginia are experiencing high rates of substance abuse, especially the abuse of prescription medications. When asked what the health priorities in the region are, community members overwhelmingly identified substance abuse as one of the top issues, with access to intensive and/or specialized treatment services as a main factor. This result, along with the committee's expert assessment of the regional needs, suggests that efforts to improve and expand the delivery of prevention and certain specialized or intensive treatment services for mental health and substance use disorders is a vital component to any plan to improve health in the region.

Recognizing this, the committee worked tirelessly to identify the gaps and to conceptualize how professionals across sectors can coordinate to fill them. Many of the ideas, such as payment reform, included in this report are quite broad and require an investment of resources at the regional, state, and national level to accomplish. The committee felt it was important to discuss these elements so they remain a part of the conversation as essential to making real change in the region.

Other aspects of the report describe the great need for collaboration and innovation in order to reach and serve populations who may be currently unable to receive education or treatment for their mental health or addiction. The partnerships proposed herein are the bedrock upon which an effective system of services is built. Without them, at-risk and vulnerable groups within communities across the region will remain unserved and thus at the mercy of their illness. Care must be coordinated and include support for all health-related social needs (e.g. housing, transportation, food insecurity, etc.) to reduce the prevalence and consequences of substance abuse and mental health problems in Northeast Tennessee and Southwest Virginia.

The report provided herein attempts to summarize the ideas and wealth of information that was generated during the committee meetings. For a more detailed account of the meeting discussions, please refer to Appendix II.

Priority areas

The committee held five meetings between August 20 and November 19, 2015. The goal of the first meeting was to review the charter, break into sub-committees (adult mental health, child and adolescent, addiction and co-occurring disorders), and start the process of identifying gaps in the region with regard to services. Subsequent meetings focused on possibilities for collaboration across sectors, integration of care and proposed opportunities for the new health system to facilitate the committee's objectives. After all meetings were held, a subcommittee was formed to develop an overarching set of priorities from the body of input provided by all members of the committee. The priorities are listed below.

Mental Health and Addictions Priority Areas

I. **Capacity building:** Identify needs (e.g. specialties, services, beds, etc.) recruit and retain needed professionals in order to build capacity for serving population

II. **Payment reform:** Increase reimbursement for effective prevention, treatment, and recovery services.

III. **Active collaboration across sectors in both TN and VA:** Consistency in model delivery as well as coordination of resources between Northeast Tennessee and Southwest Virginia.
   1. Care Coordination: coordination and collaboration for all services needed to address behavioral health issues - "no wrong door"
      a. Integration of behavioral health and primary care: Intensive care coordination and integration
         - Uses primary care setting to detect behavioral health concerns
         - Integration of services that focus on access improves use of services
         - Reduces stigma by acknowledging the role of behavioral health in physical well-being
      b. Integration of social welfare and behavioral health services: Integration of social services with behavioral health to build on the delivery of individual health related social needs (e.g. housing, food insecurity, utility needs, interpersonal violence, transportation, etc.).
   2. Data integration and sharing: There needs to be availability of a minimum data set (MDS) regarding availability of services and referrals
      o Interoperability
      o Information on the availability of live data to know what is available in the region
      o Would facilitate consistency across both states in public behavioral health
      o Would improve and accelerate coordination of services and access

IV. **Community education:** Educational initiatives in the community and clinical settings should be instituted to reduce stigma around mental health and substance use disorder prevention, treatment, and recovery.

Recommended approaches

The committee members identified four main approaches to establish a system of services in the region that is responsive to early signs of substance abuse and mental health problems. This system provides effective prevention, early intervention, and treatment services regardless of gender, race, age, or class and successfully integrates treatment and recovery within the community throughout the process.

- Capacity building
- Payment reform
- Active collaboration across sectors in both TN and VA
- Community education

The committee agrees that these elements must be addressed for region to see a reduction in the prevalence and consequences of substance abuse and mental health problems.

I. Capacity building

The committee members agreed the region's capacity to prevent, identify, and treat mental health and substance use disorders must be developed through a multi-faceted approach that includes: increasing bed capacity for inpatient and residential addiction treatment services; recruitment and retention of specialists; and innovation of service delivery. These efforts, in conjunction with the development of a collaborative network, will effectively increase the capacity of the region's providers to serve the community.

As identified by the committee members through their discussions, the region suffers from a lack of specialized treatment services, especially for children and youth including:
- Crisis stabilization
- Inpatient
- Psychiatry
- Autism spectrum disorders treatment
- Eating disorders treatment

Additionally, there is a general need for more inpatient bed capacity for adults, youth, and children as the region has a great need and limited resources. A review of the inpatient bed map illustrates that there may be a sufficient number of adult inpatient beds; however, two potential difficulties exist with the current beds that on occasion render the number inadequate. The first issue has to do with the given inpatient facility's ability to handle high acuity or co-occurring and/or co-morbid conditions, which is happening much more frequently. The second complicating factor for adult inpatient psychiatric beds is some units are only available for certain populations, such as a geriatric population. Oftentimes individuals needing inpatient services who are high acuity, or who have co-morbid or co-occurring conditions, have to wait until a bed is located (sometimes out of the region) while regional beds sit empty because the facility cannot handle the high acuity individual. Although there is a need for specialized geriatric beds, there are times when these beds sit empty while other non-geriatric adults in need of psychiatric inpatient services either have long waits in emergency rooms to access a bed, or are transported out of region.

The committee was universally in agreement that an even greater need than inpatient beds for adults in the region is the need for additional and longer term residential treatment and medically monitored residential detoxification services. Although the inpatient psychiatric beds for adults could be restructured to meet the need, there simply is not sufficient availability of residential treatment for substance dependence in our region.

The capacity issue for children and youth is different than for adults. Where we may have an adequate "number" of beds for adults, especially if they were restructured or if the units were able to handle a higher acuity patient, there are truly an insufficient number of beds for children and adolescents in the region. One option to adding inpatient beds for this population would be the development of an adolescent Crisis Stabilization Unit (CSU). Adult CSUs, one of which is in Johnson City and operated by Frontier Health, have been very successful in deferring individuals from inpatient to less costly CSU placement. In some cases, CSUs help individuals shorten their inpatient level of care by being able to step down to the CSU. The addition of a specialized CSU for children and adolescents in the region could help increase the capacity for a higher level of care for youth, and may be more appropriate than adding more inpatient beds. Although most CSU models involve a 3 to 5-day stay, and operate with a full medical model, there is another, less-intensive model operating currently at Highlands Community Services Board for children and adolescents that offers a day program. This model, in addition to a 24-7 higher intensity CSU, would enhance the continuum of care for children and adolescents in our region.

The addition of residential treatment services for substance dependence, the addition of a children and adolescent 24-7 crisis stabilization unit (CSU), and improved training and recruitment of specialized professionals can effectively increase capacity for higher-acuity adults who need inpatient care using the current bed availability. Figure 1 displays the location and capacity of inpatient treatment facilities in the region. Table 1 lists the residential alcohol and drug residential treatment facilities available.

The recruitment and retention of professionals and specialists (specifically psychiatrists) is a challenge making innovative service delivery methods such as telemedicine attractive as a viable option.
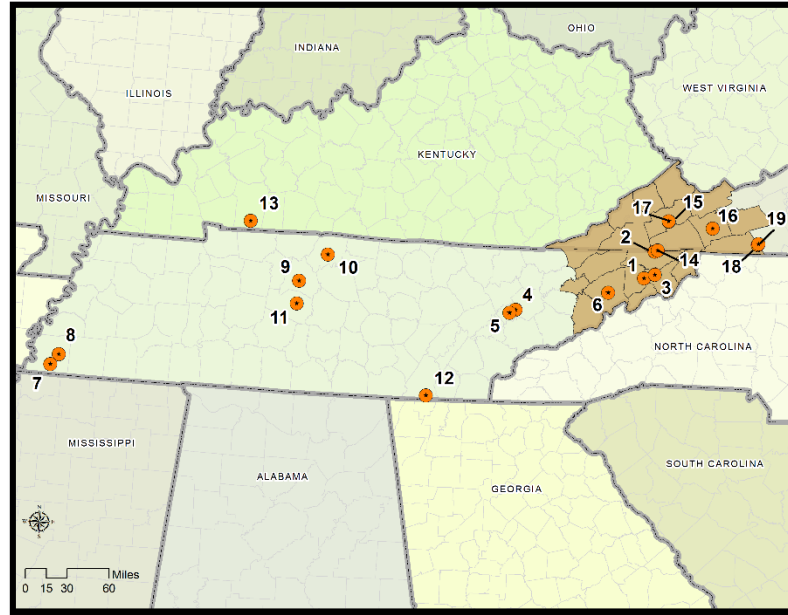
ID Number	Facility Name	City	Potential Adult Psych	Potential Gero Psych	Children Psych	Detox
1	Woodridge	Johnson City	70	14	12	0
2	5 East/Reflections (Bristol Reg. Hospital)	Bristol	0	16	0	0
3	New Leaf (Sycamore Shoals)	Elizabethton	0	12	0	0
4	Peninsula Hospital	Knoxville	120	0	16	0
5	Parkwest Senior Behavioral Health	Knoxville	16	0	0	0
6	Takoma Senior Care	Greeneville	9	0	0	0
7	Lakeside Behavioral Health	Memphis	0	0	55	0
8	St. Francis Hospital	Memphis	0	0	34	0
9	Vanderbilt University	Nashville	0	0	26	0
10	Skyline Medical Center	Nashville	0	0	21	0
11	Rolling Hills	Franklin	0	0	20	0
12	Parkridge Valley	Chattanooga	0	0	108	0
13	Cumberland Hall	Hopkinsville	0	0	34	0
14	Ridgeview Pavilion	Bristol	21	0	0	0
15	Clearview Center	Lebanon	20	0	0	0
16	Southwest VA Mental Health Institute	Marion	138	41	0	0
17	The Laurels	Lebanon	6	0	0	10
18	The Life Center of Galax	Galax	0	0	0	60
19	Twin County Regional Behavior Health	Galax	10	0	0	0

Figure 1. In-patient Mental Health and Addictions Facilities in the Region, with Bed Type and Capacity

Table 1. Other residential beds in the region, 2016

Type	Name	Location	Treatment Population	Bed Capacity		
				Medically Monitored Detox	Co-occurring Treatment	Total
Crisis Stabilization Unit	Frontier Health	Johnson City	Adult	-	-	15
Residential A&D	Magnolia Ridge	Johnson City	Adult	8	11	19
Residential A&D	Willow Ridge	Johnson City	Women	-	12	12
Residential A&D	Residential Alcohol and Drug Comprehensive Community Services (CCS)	Kingsport	Adult	-	43	55
			Adolescent	-	12	
Crisis Stabilization Unit	Cornerstone	Wytheville	Adult	-	-	6
Crisis Stabilization Unit	New Horizons	Blacksburg	Adult	-	-	6

Telemedicine

Telemedicine is the exchange of medical information via electronic communication such as two-way video, email, smartphones, and other forms of telecommunications software. Telemedicine may help providers overcome barriers associated with treatment delivery in rural areas where there typically is a dearth of specialists and mental health professionals to support the community. There are several case studies that illustrate the potential for implementing telehealth practices for psychiatry in various populations. The use of technology to educate providers and render direct services is a promising approach to expand access to behavioral health services in rural communities.

Studies have shown telemedicine is effective specifically for treating patients who experience social anxiety, agoraphobia, claustrophobia, post-traumatic stress disorder, obsessive compulsive disorder, and substance

abuse disorders.[1] In a recent series of case studies, investigators learned that children with social anxiety or certain forms of autism may experience better outcomes through videoconferencing compared to face-to-face treatment due to the nature of their mental health disorder.[2] In adult populations, research has shown cognitive behavioral therapy received via telemedicine has been effective at reducing the severity of mental health problems, and reduces the number of unnecessary emergency department visits and hospitalizations for mental health related issues.[3]

Telemedicine may also be applicable in rural populations where patients experience a dearth of providers, (particularly medical and behavioral specialists) and other barriers to access, such as lack of transportation and financial resources. In rural settings the mental health needs of patients typically fall on primary care providers who may not have specialized mental health and substance use disorders training.[4] In addition, providers also have to battle against stigma associated with mental illness and substance use disorder. Unfortunately this cluster of factors contributes to patients often not seeking help until their mental illness is advanced.[3]

Telehealth can help to remove some of these barriers both for patients and providers. In the Telepsychiatry Consultation Model for instance, a primary care provider refers a patient to a psychiatrist who conducts an evaluation via video conferencing. Through this model, primary care providers can be advised on course of treatment for their patient that may include medication and/or other psychotherapeutic approaches. This model has been particularly effective in rural populations where primary care providers have established relationships with their patients.[4]

It is important to note that the use of telemedicine is relatively new and has generally outpaced thorough and large-scale scientific research.[1] Other barriers to setting up telemedicine programs include: a lack of understanding among physicians about the value and operational implementation of telemedicine; poor advertising of new services; and lack of IT support.[4] Patients also often have concerns related to confidentiality of information when transmitted electronically, so all telemedicine programs must be in strict compliance with the Health Insurance Portability and Accountability Act (HIPAA).[1] Another substantial barrier relates to reimbursement for telemedical services. It is essential to address insurer reimbursement before program implementation so patients will be able to access necessary services.

There are several case studies that illustrate the effective implementation of telemedicine practices to enhance positive health outcomes for patients. In 2008, a coalition was formed between the University of Alabama School of Medicine and department of Psychiatry and Behavioral Neurobiology, along with regional non-profit mental health prevention and treatment organizations, the Alabama Department of Mental Health, and the Alabama chapter of the National Alliance on Mental Illness (NAMI). The goal of this collaboration was to reduce stigma and support the health of people living with mental illness in rural Alabama. Psychiatrists were solicited from the school of medicine for the provision of telepsychiatry services to patients within the partner non-profit mental health treatment facility.

This effort focused on children, as there was a lack of services provided in the area specifically for youth. The "setup cost" for this program was approximately $2,000 for equipment plus $350 per month for operation, plus psychiatrist and physician salary costs. The cost was the greatest challenge to this project since the reimbursements for physicians and psychiatrists remained the same as face-to-face consultations, and there was no additional funding for the setup fees. Steps identified by the project to improve their model are more effective and rigorous data collection, and an evaluation of specific models aimed at generating specific outcomes.[3]

Project ECHO (Extension for Community Healthcare Outcomes) was developed by Dr. Sanjeev Arora in Albuquerque as a method for connecting healthcare specialists with providers in remote areas to bring the best care to patients with chronic conditions. Dr. Arora was driven to develop Project ECHO in response to thousands of New Mexicans experiencing complications from Hepatitis C who lived in remote locations and did not have access to specialty care.[5]

The model encourages partnership between primary care physicians and specialists who are available to support the primary care physician many times during the patient's course of treatment. In addition to Hepatitis C, physicians working with Project ECHO also treat complicated conditions such as asthma, diabetes, HIV/AIDS, pediatric obesity, chronic pain, substance use disorders, cardiovascular conditions, mental illness, and rheumatoid arthritis.[6] For primary care physicians who are treating patients with mental illness, an integrated addictions and psychiatry (IAP) clinic is available on a weekly basis that provides feedback from mental health specialists about specific cases and gives them access to presentations related to mental illness.[7]

Project ECHO also benefits patient by helping healthcare providers provide a treatment plan based on the most current research available. In rural communities where health care professionals are often isolated from their colleagues, Project ECHO connects care providers through a professional network that enables them to use innovative treatments faster. Project ECHO not only benefits patients, but also there is evidence to suggest that the program benefits the practitioners. In rural areas where healthcare

providers are often isolated and do not have ready access to professional development opportunities, Project ECHO connects them to other practitioners and helps them to develop their skills. This could help with retention of healthcare providers in rural communities that often experience high turnover rates of medical professionals.[6]

While the application of Project ECHO to behavioral health is currently limited, the model allows for the expansion of services to include the coordination of specialists with rural providers for the expansion of services within their patient populations

School-based services

Access to mental health services for children can also be increased by making them available where children spend most of their day – in school. A combination of funding for prevention and early intervention, along with treatment, is most effective in balancing the needs of the school system and serving children who may not make it in to a treatment center.

Some school-based service delivery models that have been implemented effectively in the Northeast region of TN include:

The **School Based Liaison for At-Risk Youth** program (SBL-ARY) is a grant program jointly funded through both TN State Department of Mental Health and Substance Abuse Services and the TN State Department of Education. The main purpose is to provide face-to-face consultation to classroom teachers to enhance the learning environment for students who are at-risk or already facing the challenges of substance abuse, learning disabilities, behavior difficulties, and serious emotional disturbance. The SBL-ARY provides liaison services between families and the school to increase communication and collaboration necessary for at-risk students. This program is currently available in three counties in the region and could be replicated with additional funding.

Project BASIC (Better Attitudes and Skills In Children) is a school-based mental health early intervention and prevention program that seeks to equip students with life's basics – a positive self-concept, a healthy self-esteem, and social skills. While Project BASIC targets elementary students, it also benefits school personnel and parents. Child Development Specialists (CDS) work within each school to help teachers, administrators, and parents develop an environment that fosters a positive self-concept, and recognizes students in need of early mental health intervention The goal is to enhance awareness of mental health issues and support school personnel to meet the mental health needs of the children by conducting appropriate presentations in every K-3 classroom on self-esteem, personal safety, and self-care. Presentations may include issues such as coping with divorce or with a death in the family, or building coping skills following a local disaster, which are tailored to the community. The Current Project BASIC sites are funded through federal block grant funding through TDMHSAS.

The Helping Everyone Reach Optimum Excellence and Success (HEROES) project in Johnson City Schools is a school-based mental health service delivery model that was sustained from a federal *Safe Schools/Healthy Students* grant through blended funding streams. Child development staff, case managers, and therapists are placed in all schools with to provide prevention and early intervention described in the programs above, along with the credentialed staff who can provide direct service delivery on-site within the school when needed. This program provides significant parent intervention and serves as a liaison to child psychiatry services within the traditional clinic model. This program has demonstrated that early intervention and access to care contributes to improved achievement scores. This service could be replicated in other systems with additional resources.

In Virginia's system, Medicaid funds school-based mental health treatment services to school-age children who meet the criteria for serious emotional disturbance (SED) or at-risk of SED (At-Risk). Therapeutic Day Treatment (TDT) is a service that may be provided in either a separate specialized classroom model (i.e., "a carve-out" model) or an integrated classroom model, which allows the child to remain in the normal educational milieu with treatment staff present in the classroom to help. The most frequent iteration of TDT is the integrated classroom model which places a qualified mental health professional (QMHP) with the child throughout the school day. Providers of this service operate from a distinct treatment plan that functions in conjunction with mental health case management and other services. To receive TDT, children must be screened into the program via a clinical assessment from the case management provider which determines the medical necessity for TDT, based in part on the lack of success in less-intensive treatment modalities. Although this has been viewed by as a successful model, it is a service which is only available for Medicaid recipients or through private pay arrangement.

Regardless of which school based model of intervention is used, one of the elements that is critical in rendering school based services is to include parental involvement. Children and adolescents need their caretakers to be involved with them in therapy services. Although school based services can be extremely effective, adding a component of clinic-based services to include the parent(s)/ caregivers, or in-home intervention can strengthen the impact of school-based interventions.

II. Payment reform

Payment reform was at the forefront of the discussions about improving access and delivery of effective mental health and substance abuse services across the region. The scope of payment reform as discussed in the committee included parity and fee-for-service versus pay-for-performance management models.

The Mental Health Parity and Addiction Equity Act of 2008 (MHPAEA) requires group health plans to make the financial requirements and treatment limitations for mental health and substance use disorder benefits comparable to those associated with medical and surgical benefits. The law applies to private and public sector employers with 50 or more employees, making mental health and addiction services more accessible to millions of Americans.[8] This effort was further advanced with the passing of the Patient Protection and Affordable Care Act in 2010, which required most individual and small business plans along with the Medicaid Alternative Benefit Plans to offer coverage for mental health and substance use disorders. In addition to treatment services, plans are required to cover some prevention services including depression screening for adults and behavioral assessments for children.[9]

Insurance company compliance with the parity law, however, is not yet widespread, making it difficult for consumers to find a plan to cover their mental health and addiction treatment needs. In addition, although mental health and addiction treatment may be covered in some plans, the reimbursement rates or provider eligibility requirements often act as barriers to the ability of many providers to render the services in a cost-effective manner.

Currently, most behavioral health services are reimbursed within a fee-for-service arena, with prices negotiated or set by a variety of managed care organizations. Often the rates themselves pale in comparison to rates established for primary care, or carry with them high co-pays (behavioral health is viewed as "a specialty service," which carries higher co-pays in many plans), which also may be barriers to treatment.

Even when the fee-for-service reimbursement is sufficient to cover the cost of rendering services, fee-for-service models are quantity-based rather than outcomes focused. Fee-for-service arrangements fail to reward providers who strive for more integrated, coordinated care or those who provide excellent primary or secondary prevention. As can be seen in other parts of this report, the committee identified effective prevention, early intervention, and coordinated, integrated service delivery within the community throughout the treatment and recovery process as key elements to develop an effective system of behavioral health care in our community. And these types of services and collaborations are not recognized or reimbursed in a traditional fee for service arrangement. Therefore, a critical element to improve the mental health and addiction delivery service will be pay-for-performance arrangements that are outcome based, rather than driven by quantity of service, and that allow for flexibility and creativity to improve health outcomes for an at-risk population.

Transitioning to outcome-based payment is a national trend that encourages innovative and flexible service delivery promoting prevention, coordination of care, and effective treatment of chronic conditions, with the goal of improving the healthcare outcomes of those we serve. There are a handful of payment programs nationwide that currently offer incentives for meeting performance-based targets. These range from a few hundred dollars per provider to several thousand dollars for provider groups, and recognition of excellence.

Many barriers exist that currently prevent widespread application of performance-based payment. These include:[10]

- Lack of consensus on behavioral health quality improvement strategies
- Public-sector payment programs that are non-responsive to market pressure for quality improvement
- Cash payers for many types of care limit evaluation of quality due to lack of market pressures
- Many types of licensed providers make it difficult find to consensus on performance measures
- Relatively few established behavioral health databases making quality measurement difficult
- Concerns over the applicability and validity of performance measures
- Burdensome data collection methodology

In general, behavioral health performance measurement, reporting, and feedback mechanisms are much less developed compared to physical healthcare. Focused efforts must be made to facilitate the uptake of this payment model by payers and providers if it is to gain traction. Establishing a regional consortium of behavioral health providers, community support partners, and civic leaders will improve the delivery of services and lead to consensus on quality measurement that can be communicated to health plan providers.

As the number one cause of disability and mortality among women and second among men, mental and substance use disorders are considered a priority health issue nationally. The prevalence of behavioral health disorders in Northeast Tennessee and Southwest Virginia is higher than the national average, making the need to attend to these conditions of utmost importance to improving the health of the region. Payment reform that brings high-quality behavioral health services to at-risk populations will be a significant step forward for the regional community.

III. Active collaboration across sectors in both TN and VA

The goal of this effort is to bring about consistency in model delivery and coordination of resources between Northeast Tennessee and Southwest Virginia. Committee members cited the great need for coordination across states so that beds can be utilized that might otherwise sit empty despite the regional need for inpatient capacity. In addition, developing consensus regarding modality of treatment across provider organizations, which benefits the patient population by facilitating continuity of care, is achieved only through coordination across the region.

Care coordination / Integrated care

The committee recognizes the need for coordination and collaboration among all services available to address behavioral health issues in the region. Integrated care benefits patients and improves outcomes by providing treatment for physical and behavioral issues in tandem. This approach has a synergistic effect that can prevent the development and exacerbation of future health conditions, thus lowering healthcare cost and improving quality of life for patients. Integrated care involves an inter-professional team of providers (e.g. physicians, case managers, mental health specialists, etc.) working with a patient to achieve optimal health.[11]

Coordinated care approaches prevent the "silo effect," in which patients communicate with multiple health professionals who rarely communicate with each other, thus fragmenting care and making it less effective, and potentially hazardous, to the patient's health. This approach also reduces stigma regarding mental health disorders by encouraging professional collaboration and communication between medical and behavioral health providers.[12]

There are several organizations that have established guidelines for best practices regarding collaborative care. It is essential for any collaborative care program to adopt a "no wrong door" policy, meaning no matter how a patient enters the healthcare system, all of their physical and mental health needs should be met within that system. Another broad goal of the collaborative care approach relates to a patient-centered care model that is shared among all providers. Rather than asking the patient to seek services outside of the healthcare system, the onus is on the practitioners to collaborate and communicate with each other to provide optimal treatment for a patient's physical and mental health needs.[13] Several promising approaches used by state Medicaid programs, health insurance plans, and providers are outlined in the five stages of the integration continuum below.

Universal screenings	Patients should be screened for mental health and substance use disorders when they receive health care. There are several screeners available for use in primary care settings including the patient health questionnaire (PHQ-9) for depression (widely used), the mood disorders questionnaire (MDQ), the suicide behavior questionnaire (SBQ-R), the generalized anxiety disorders questionnaire (GAD-7), the life event checklist (LEC) which screens for trauma, and the Screening, Brief Intervention, Referral to Treatment (SBIRT) tool which is useful to identify substance use issues. These and other screening tools can be offered in a wide variety of settings including primary care centers, trauma centers, emergency rooms, and community settings.
Navigators	Navigators in a healthcare system can assist individuals seeking services for behavioral or mental health conditions with a wide range of tasks.

Depending on their training, they can help the patient make appointments and advocate for certain treatment plans, social services, or medical procedures. Navigators can be nurses, mental health case managers, therapists, or trained "peer specialists" who may have experience in the behavioral health system.

Co-location

This concept relates to offering both primary, specialty, and mental health services in the same location for patients. This is particularly important for patients who may have mobility issues due to mental health status, socioeconomic status, or age.

Health homes

Health homes are a sophisticated approach to collaborative care and have been adopted by Medicaid in 19 states and the District of Columbia. A Behavioral Health Home is a **model of service delivery** for individuals who have a serious mental illness or emotional disturbance. It promotes a cost-effective way to facilitate access to an array of behavioral health, medical care, and community-based social services and supports. The purpose of a behavioral health home is to help individuals with chronic conditions access treatment, foster joint decision making across behavioral and medical health care providers, and instill awareness of the interaction of behavioral and physical health needs in a population with a chronic condition, to include quality and cost impact.

System-level integration

This model illustrates the highest level of integrated care. Physicians, mental health providers, and social workers have an established network of communication and information sharing. No matter which person or organization provides the first point of contact for a patient, they immediately have access to all needed services.

System-level Integration approach can sometimes utilize the expertise of behavioral health consultants (BHC) to work alongside primary care physicians. The primary care provider acts as the team leader and can screen patients for mental health issues, conduct a medical evaluation, prescribe, and monitor patients. The BHC's role is to provide prevention education to patients on a wide range of topics (e.g. self-care, hygiene, stress reduction, etc.), help the patient learn self-management skills, and help the patient set goals or overcome personal obstacles. In order to be successful, BHCs must possess knowledge of evidence-based treatments, have well-developed communication skills, a working knowledge of pharmacology, and a basic understanding of medicine.

For health systems looking to adopt collaborative care models, there are initial steps they can take to make this a reality. First, behavioral health screening must be adopted into all primary care practice (e.g. PHQ-9 and the SBIRT). Second, health systems should use evidence-based and/or best practice methods for care management, supervision, support, and evaluation that are shared by all practitioners throughout the healthcare system. Finally, health administrators should work to improve and refine the skills of all practitioners within the system to make sure they are able to screen and treat patients for a wide variety of health issues.[12]

Integrated care models have been well-researched and show promising results for affecting positive patient outcomes. A 2012 Cochrane Review found that collaborative approaches are better than routine care for improving symptoms of depression and anxiety.[11] The review also found that patients who

have access to collaborative care are more likely to take their medication consistently and report higher overall satisfaction with their treatment.[11]

In addition to establishing a model of integrated care delivery, the committee recommends coordinated efforts be made to build a system of care that is capable of prevention and early intervention with treatment and recovery services integrated in the community. This requires engaging with local government, hospitals, physicians, social service providers, public schools, colleges and universities, libraries, law enforcement, community organizations, and faith-based organizations to build a network that is person-centered, responsive, and effective from prevention to recovery.[14]

Several communities across the country have built similar networks, either in response to specific health concerns or changing health laws. Structures supporting these networks vary and include centralized non-profit organizations, those led by a single bridge organization, and decentralized coalitions of providers.[14] The recommended structure for a network to serve the 21-county region of Northeast Tennessee and Southwest Virginia is not yet clear and would be part of the initial strategic planning process.

The mission of the proposed collaborative must be clear and concise. Because rural health is of great concern in the region, the network may choose to focus its mission of developing partnerships for the effective delivery of prevention, early intervention, treatment, and recovery services in the rural communities of Southern Appalachia. The mission should be responsive to the needs of the target community and framed to attract and include needed agencies and providers to the organization.

Deliberate efforts should be made to establish a supportive, egalitarian environment for providers to encourage collaborative rather than competitive relationships between them. The goal of the network is to create synergies that are greater than the sum of their parts by bringing together capable and complementary agencies. Outputs from a successful collaboration include quality improvement, support for evidence-based and/or best practice programming, increased community awareness, increased prevention efforts, greater continuity of care, and community-based recovery.

Community engagement is the bedrock for a provider network in the region whose mission it is to decrease the prevalence of mental health and substance abuse disorders. The stigma associated with these disorders is prohibitive to the provision of effective prevention and treatment. The community must play an active role within the network so that members can be responsive to changing needs within the community, as well as gain access to community resources needed to ensure successful recovery.

Data integration and sharing

One of the significant limitations to the provision of consistent, efficient, and effective mental health and substance abuse treatment services is the difficulty to ascertain what is available and for whom. Northeast Tennessee and Southwest Virginia covers a large area, and coordination of services is complicated by state-line issues and the mountainous terrain. Related jurisdictional issues preclude people from receiving services they need, even if providers are available mere miles away. In addition, the lack of a centralized resource documenting services means each organization must develop its own network for referrals and call each place every time a need arises.

An interactive, searchable database that is updated in real time would help agencies and individuals know what services are available or what the wait time might be for the receipt of services. Such a database would need to be developed using an interoperable system that would interface across organizations, or at least be easy enough to learn that staff across agencies would be able to monitor and update it without significant additional training.

Currently one of the significant complications for the receipt of services is hard-and-fast service line demarcations. Some people who live near a state border may not be able to access services at a facility near them (but across the state line) because of insurance-company imposed limits. Therefore, instead of travelling only a few miles to receive care, they may have to drive many hours the opposite direction. Similarly, boundaries between public service agencies (e.g., based on county lines) mean that neighbors may have access to widely different types of services. Elimination of these artificial boundaries, or the development of additional resources so that all citizens in all counties of both states have equal access to the same services, would be crucial to the success of any newly formed system; otherwise, knowing that services are available elsewhere but are only available to residents of that locale is more frustrating than helpful.

IV. Community education

Educational initiatives in the community and clinical settings should be instituted to reduce stigma around mental health and substance use disorder prevention, treatment, and recovery. As described in the previous section, the community's role to develop an effective system of care is vital and must be a priority.

Social and structural (i.e. laws and institutional procedures) stigma has a significant impact on the likelihood of individuals with mental health and substance abuse disorders accessing available services. In 2012, respondents to the Behavioral Risk Factor Surveillance System (BRFSS) were asked to indicate their level of agreement with the following statements: "Treatment can help people with mental illness lead normal lives" and "People are generally caring and sympathetic to people with mental illness."[15] In Tennessee, 22% of adults with serious psychological distress strongly disagreed with the statement that people are caring and sympathetic to people with mental illness. That number dropped to 19% in Virginia. These results prompted the CDC to develop general guidelines for engaging community stakeholders and policymakers in reducing stigma associated with mental illness. These guidelines include:[15]

- Continued monitoring of mental health status within communities
- Implement evidence-based and culturally competent programs across subgroups within the community
- Encourage local media to incorporate positive messages related to mental health
- Avoid labeling someone as their illness (e.g. rather than saying, "she's bipolar", say, "she has a bipolar disorder")
- Support people in the community with mental illness by showing compassion and increasing available resources.

The general public's view about mental illness and substance use disorders can be modified through basic educational efforts aimed at dispelling misconceptions and stereotypes. However, presentations and interaction by and with those who have been battling these disorders and are successful in their recovery efforts are an even more successful means of dispelling stigma. Programs such as "In Our Own Voice" is one program where individuals who have a mental illness and/or substance use disorder tell their own story of recovery. .These types of initiatives have been used to demonstrate how recovery is possible with treatment and support. Being able to interact directly with individuals recovering from mental illness and addiction has been shown to be the most impactful way of dispelling myths and stigma.[16]

Another important way to decrease the stigma associated with mental illness and addiction is to encourage local and national law makers to prioritize funding for prevention and treatment services. Funding cuts and even stagnant funding year after year for prevention and intervention subtly promotes mental illness and addiction services as less important than other expenditures, even though the mental health well-being of any region plays an extremely important role in our overall health, education, and employment success. According to the National Institutes of Health, for every dollar spent on mental health, substance use disorders, or co-occurring treatment, seven dollars is saved in community costs through decreased hospitalization, decreased unemployment and training costs, decreased incarceration, and most importantly, decreased deaths.[17]

Measuring success

The metrics below are expected outcomes from the work described above. There are likely to be other benefits associated with addressing the Mental Health and Addictions steering committee's priorities, but what is included here is what the committee feels are representative of the positive outcomes that are expected.

Metric	Data Source
Overdose incidence and deaths decline	County Health Rankings
Fewer overdose-related ED visits	Hospital Admissions Data
Fewer drug-related hospitalizations	Hospital Admissions Data
Fewer alcohol-related MVA	Tennessee Department of Safety and Homeland Security Virginia Department of Motor Vehicles
Fewer DUI Incidences	TN-MADD VA-MADD, VDMV CDC
Less HIV and HCV associated with Injection Drug Use	Tennessee Department of Health Virginia Department of Health County Health Rankings AIDSVU (CDC)
Lower foster care need	KidsCount (Department of Child Services) KidsCount (Virginia Department of Social Services)
Less child abuse and neglect	KidsCount:(Department of Children's Services) KidsCount (Virginia Department of Social Services)
Fewer prison/jails stays	Tennessee Department of Corrections Virginia Department of Corrections
Lower drug initiation rates	YRBS
Increased employment	County Health Rankings
Increased stimulation of partnerships across regions/sectors	Pending/Unknown
Increased funding cross-sector collaborations	Pending/Unknown
Reduced rates of NAS	Mountain States/Wellmont inpatient hospitalization data Tennessee Department of Health Virginia Department of Health

References

1. Aboujaoude, E., Salame, W. & Naim, L. (2015). Telemental health: A status update. *World Psychiatry*, *14*(2).
2. Pakyurek M, Yellowlees P, Hilty D. (2010). The child and adolescent telepsychiatry consultation: can it be a more effective clinical process for certain patients than conventional practice? *Telemedicine and E-Health*, *16*(3), 289-92.
3. Ulzen, T., Williamson, L., Foster, P.P. & Parris-Barnes, K. (2013). The evolution of a community-based telepsychiatry program in rural Alabama: lessons learned—a brief report. *Community Mental Health Journal*, *49*(1), 101-5.
4. Jacob, M.K., Larson, J.C. & Craighead, W.E. (2012). Establishing a telepsychiatry consultation practice in rural Georgia for primary care physicians: A feasibility report. *Clinical Pediatrics*, *51*(11), 1041-7.
5. Project Echo. (2016). Project ECHO: A revolution in medical education and care delivery. *University of New Mexico*. Retrieved from http://echo.unm.edu.
6. Sanjeev, A., Summers, K., Dion, D., Som, D., Thornton, K., et al. (2011). Partnering urban academic medical centers and rural primary care clinicians to provide complex chronic disease care. *Health Affairs*, *30*(6).
7. Project Echo. (2016). Integrated addiction and psychiatry. *University of New Mexico*. Retrieved from http://echo.unm.edu/nm-teleecho-clinics/integrated-addiction-and-psychiatry-clinic/.
8. US Department of Labor. The mental health parity and addictions equity act of 2008 (MHPAEA) fact sheet. Retrieved March 2016 from http://www.dol.gov/ebsa/newsroom/fsmhpaea.html.
9. US Department of Health and Human Services. Health insurance and mental health services. Retrieved March 2016 from http://www.mentalhealth.gov/get-help/health-insurance/.
10. Bremer, R. W., Scholle, S. H., Keyser, D., Knox Houtsinger, J. V., & Pincus, H. A. (2008). Pay for performance in behavioral health. *Ps, 59*(12), 1419-1429.
11. Archer, J., Bower, P., Gilbody, S., Lovell, K., Richards, D., Gask, L., Coventry, P. (2012). Collaborative care for depression and anxiety problems. *Cochrane Database of Systematic Reviews.*
12. Patel, V., Belkin, G.S., Chockalingam, A., Cooper, J., Saxena, S. & Unützer, J. (2013). Grand challenges: Integrating mental health services into priority health care platforms. *PLOS One, 10*(5).
13. Nardone, M., Snyder, S. & Paradise, J. (2014). Integrating physical and behavioral health care: Promising Medicaid models. *Kaiser Family Foundation*. Retrieved from http://kff.org/report-section/integrating-physical-and-behavioral-health-care-promising-medicaid-models-issue-brief/.
14. Substance Abuse and Mental Health Services Administration. (2009). Prevention, treatment, and recovery systems: Provider networks and impact on workforce. Retrieved March 2016 from http://www.naadac.org/assets/1959/saas_provider_networks_report.pdf.
15. Centers for Disease Control and Prevention. (2012). Attitudes toward mental illness: Results from the behavioral risk factor surveillance system (BRFSS). Retrieved from http://www.cdc.gov/hrqol/Mental_Health_Reports/pdf/BRFSS_Report_InsidePages.pdf.
16. Corrigan, P.W.,Morris, S.B., Michaels, P.J., Rafacz, J.D. & Rüsch, N. (2012). Challenging the public stigma of mental illness: A meta-analysis of outcome studies. *Psychiatric Services*, *63*(10), 963-73.

Population Health and Healthy Communities Steering Committee

Chairs

Dr. Randy Wykoff, Dean of Public Health, East Tennessee State University

Lori Hamilton, Health Educator, K-VA-T Food City

Population Health and Healthy Communities Steering Committee

Last Name	First Name	Organization	Title
Belcher	Phil	Eastman Chemical Company	Health and Welfare Manager
Bishop	Marilyn	Mountain States Medical Group	Medical Director Occupational Medicine
Blackwelder	Reid	American Academy of Family Physicians	
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Cantrell	Sue	SWVA Health Authority	LENOWISCO Health Director and Vice Chairman
Cook	Heather	Healthy Kingsport	Director
Counts	Melody	Cumberland Plateau Health District	District Health Director
Domst	Ronald	Johnston Memorial Hospital	Retired, Volunteer
Eastridge	Dr. Wesley	Mountain Region Family Medicine	Physician
English	Rebekah	NE TN Regional Health Department	Regional Director
Everhart	Aubrey	Appalachian Mountain Project Access	Executive Director
Farmer	Barbara	Pleasant View UMC; Wesley Clinic	Associate Pastor; Volunteer
Franko	Dr. John	ETSU	Family Medicine
Gail	Dick	AEP	Retired plant manager
Glass	Charlie	Greater Kingsport Family YMCA	Executive Director/CEO
Hamilton	Lori	K-VA-T Food City	Health Educator
Hammonds	Kristie	Frontier Health	SVP, Operations
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Kent	Martin	United Company	President
Mayes	Gary	Sullivan County Health Department	Regional Director
Michael	Dr. Gary	Clinch River Health Services, Inc	Family Practice Physician
Morgan	Ed	City of Abingdon	Mayor
Moulton	Dr. David	State of Franklin Healthcare Assoc.	
Nehring	Dr. Wendy	ETSU	College of Nursing
Perkins	James	Wellmont Health System	HVMC/BRMC Diabetes Treatment Center
Purdue	Malcolm	Stone Mt Health Services (FQHC)	Executive Director
Seligman	Dr. Morris	MSHA	EVP, CMO
Sensibaugh	David	Integrated Solutions Health Network	VP, integrated health management
Snodgrass	Dr. Jeff	Milligan College	Chair, Department of Occupational Therapy
Wiley	Mary	Wellmont Hancock County Hospital	RN
Wykoff	Dr. Randy	ETSU College of Public Health	Dean

EXECUTIVE SUMMARY

The overarching goal of the Population Health and Healthy Communities steering committee was to identify a small number of high impact interventions that the merged system, its partners, and the region could pursue to most effectively improve the health status of people living across the region. The goal of these high impact interventions is to reduce preventable disease prevalence, create a culture of health, and ultimately break the cycle of inter-generational poor health. Meeting these objectives requires a long-term vision and rigorous planning to accomplish, but most importantly to be successful, champions from multiple sectors with a stake in the health of every community in the region must be engaged in the process.

While "population health" can have many definitions, the committee sought to identify any factor or behavior that was impacting the overall health status of the people of the region.

Historically, the 200 or so counties of central Appalachia, including the counties of Northeast Tennessee and Southwest Virginia, have been burdened with some of the highest chronic disease rates in the nation, most of which can be attributed to high prevalence of behaviors such as smoking, physical inactivity, poor nutrition, alcohol and drug abuse, and other behaviors. To impact the inter-generational health of the region, it is important to address these behaviors as they already exist in the region, and also to identify those underlying factors which predict these behaviors in future generations. Successful change in the region's communities, especially the rural communities, requires working closely with local leaders and stakeholders from the beginning. Not only do these individuals provide access to community support personnel that can inform and deliver prevention programming, but they also bring the deep understanding of each unique community that is necessary for meaningful community engagement and ownership.

Developing a culture of health in the region will require dedicated leadership both within the health system and its partner agencies, and the cooperation and collaboration of a wide-range of regional partners. Establishing cross-sector buy-in allows for the coordination of efforts, the joint identification of priorities, the sharing of resources, the coordination of service delivery, and the mapping of services onto the communities that need them. What is presented below is an outline of the regional population health priorities as they were identified through a series of committee meetings. These priorities have been cross-walked with potential health metrics and their sources. It is important to point out that this outline is not a summary of every program that is needed in the region, nor a comprehensive summary of every intervention that might be beneficial. It is, rather, the work group's best effort to identify the "high impact interventions" that could have the greatest impact on improving health in the region.

Priority areas

The committee held five meetings between August 24, 2015 and January 18, 2016. The goal of the first meeting was to identify a small set of priorities for the group to focus on when developing recommendations for improving health in the region. Before the meeting, a short survey was administered via email asking for committee members to provide input on the following items:

- From your perspective, what are the most important health challenges in the region that could be addressed by one or more coordinated community-based actions?
- If you could implement ONLY one program to improve health in the region, what would it be?
- What steps should be taken to increase community awareness of our regional health challenges?
- What steps should be taken to encourage and support individuals and families in our region to make better behavioral choices?
- How could we most effectively involve businesses, churches, and schools in promoting health in our region?

Responses to these questions (Appendix II) were then used as a basis for the priority setting discussion at the meeting. The result of the discussion was a set of five priorities for the region:

- Tobacco use and pulmonary health
- Physical activity and nutrition
- Healthy aging
- Behavioral health
- Children's health

It was decided that behavioral health and children's health should be the purview of the Mental Health and Addictions steering committee and Healthy Children and Families steering committee, respectively, so would not be part of the Population Health and Healthy Communities work. Over the next four meetings, support staff presented regional data along with best practices and evidence-based approaches to addressing the three health priorities (tobacco use and pulmonary health, physical activity and nutrition, and healthy aging) for the committee's consideration. The result of these meetings was a set of items, or focus areas, under each priority. These are described below.

Tobacco use and pulmonary health

Based on consideration of national, regional, and local data, the committee felt the following focus areas would most appropriately address tobacco use and pulmonary health in Northeast Tennessee and Southwest Virginia:

- Adolescent smoking prevention
- Pregnancy smoking cessation
- Adult smoking cessation

Physical activity and nutrition

Based on consideration of national, regional, and local data, the committee felt the following focus areas would most appropriately address physical activity and nutrition in Northeast Tennessee and Southwest Virginia:

- School-based physical activity policy and programming
- Worksite-based educational and support programs
- Comprehensive community-based programming

Healthy aging

The committee identified five focus areas to ensure the regional community has access to resources that make it possible for the aging population to maintain health for as long as possible. Those resources include health education, health service navigation, case management, and coordinated care.

- Community support systems
- Coordinated care/case management
- End of life support programs
- Chronic disease self-management programs
- Patient-centered medical homes

Recommended approaches

Through careful review of the program evaluation literature, research staff were able to identify approaches that have either been shown to improve outcomes in the three priority areas or represent current best practices. These approaches were presented to the committee for review and discussion. The resulting set of programs and solutions presented below constitute the recommended strategies for meeting the priorities of the committee.

Through the process of identifying evidence-based approaches that map onto the committee's priorities for population health, it was decided that strategic planning efforts would be better served by developing a set of program components that are supported by the research rather than by selecting specific programs to include in the report. The result of this work is a regionally relevant rubric by which funders (e.g. health systems, state and federal agencies, etc.) can select programs to support for implementation in the communities of Southwest Virginia and Northeast Tennessee. Higher success and greater impact is expected if only programs are selected that employ the following approaches to affecting tobacco use and pulmonary health, physical activity and nutrition, and healthy aging.

The committee expects that the result of their work will not only help meet the goal of interrupting the cycle of inter-generational poor health in the region, but will have economic benefits achieved by encouraging efficient spending toward only evidence-based prevention programs. The following set of evidence-based methods will best be utilized in conjunction with rigorous program evaluation and outcome measurement to ensure a flexible and dynamic approach to prevention in the region's communities.

Tobacco use and pulmonary health

The committee recommends programs that prevent tobacco use initiation in the adolescent population, adult cessation, and pregnancy smoking cessation efforts. The first two are part of the CDC's recommendations for comprehensive tobacco control, while the third was identified as a regional priority due to high prevalence of tobacco usage in pregnant women. In the following sections, approaches supported by the research are described under each of the tobacco and pulmonary health priorities.

I.   Adolescent smoking prevention

    A. K-12 school-based, evidence-based smoking prevention education
    B. Media campaign targeting youth smoking prevention and current smokers

II. Adult smoking cessation

    A. Smoke-free legislation – local ordinances, local businesses becoming smoke free
    B. Increase price of cigarettes - at county, city and state level
    C. Smoking cessation counseling referrals offered by primary care physicians

III. Pregnancy smoking cessation

    A. Clinician assisted cessation through referral
    B. Media campaign targeting pregnant smokers
    C. Prenatal and antenatal interventions

I.   Adolescent smoking prevention

In order to prevent smoking in adults it is vital to implement programming that targets youth and adolescent populations. This is supported by research showing that nearly 9 out of 10 current daily smokers report trying their first cigarette before age 18, and that only 1% report starting after the age of 26.[1]

A. K-12 school-based, evidence-based smoking prevention education[2]

Effective school-based smoking prevention programs that employ social reinforcement, developmental, and social norms interventions have been proven effective in reducing smoking initiation. These programs are often peer-led and focus on the development of skills to resist social pressures as well as the immediate social and physical consequences of tobacco use. Components of school-based prevention programs can include:

- Group discussion
- Behavioral modeling
- Role playing
- Public commitment not to use tobacco

When developing school-based interventions careful assessment of primary behavioral, normative, and control beliefs must be conducted in order to tailor the approach to the needs of the target audience.[2]

B. Media campaign targeting youth smoking prevention and current smokers

According to the U.S. Surgeon General, mass media campaigns are valuable for advising the public, including youth, about the hazards of smoking and at encouraging specific cessation actions and services.[3]

The National Cancer Institute's has stated that mass media campaigns can:[4]

- Discourage youth from starting to smoke
- Encourage adults to quit
- Change attitudes about tobacco use
- Work against tobacco marketing to reduce consumption
- Increase population/political support for tobacco policy change

These campaigns are best done as part of comprehensive tobacco control program. Among media vehicles, there is strongest evidence supporting the effectiveness of television. These interventions can change knowledge, beliefs, attitudes, and behaviors around tobacco use. Economic evidence shows mass-reach health communication interventions are cost effective, and savings from averted healthcare costs exceed intervention costs.[5,6]

In addition to mass-reach health communication, mobile phone-based cessation interventions have been shown to be effective. These use interactive features to deliver evidence-based information, strategies, and behavioral support directly to tobacco users

interested in quitting. Typically, participants receive text messages that support their quit attempt, with the message content changing over the course of the intervention. With this type of program, the content can be tailored to the population and may include text responses provided on demand to participants encountering the urge to smoke. This can be implemented in conjunction with internet-based cessation services and/or provision of medications.[5]

II. Adult smoking cessation

A. Smoke-free legislation – local ordinances, local businesses becoming smoke-free

Smoke-free policies are recommended as effective strategies for reducing:

- Exposure to secondhand smoke
- Population prevalence of tobacco use
- Initiation of tobacco use among young people
- Healthcare costs
- Tobacco-related morbidity and mortality

Perhaps most dramatic is the evidence linking smoke-free legislation with a decrease in both preterm births and hospital admissions for asthma.[7] These policies have also been shown to not have a negative financial impact on affected businesses, including bars and restaurants. As of 2012, 26 U.S. states plus Washington, D.C. have enacted comprehensive 100% smoke-free indoor air laws covering restaurants, bars, government and private worksites. However, twelve states, including Tennessee and Virginia, have laws or court decisions pre-empting local smoke-free air laws in government or private worksites or restaurant settings that are more restrictive than statewide ordinances.[5]

B. Increase price of cigarettes – at county, city and state level

Increasing the unit price of tobacco products has been effective in decreasing tobacco use and can be done at the federal, state, or local level. To implement tax on tobacco products, the most common policy approach is legislative which involves imposing fees on tobacco products at the point of sale. Studies on the impact of raising the unit price for tobacco products has shown that a 20% price increase can decrease total consumption of tobacco products by 10.4%, prevalence of adult tobacco use by 3.6%, and initiation of tobacco use by young people by 8.6%.[5]

C. Smoking cessation counseling referrals offered by primary care physicians

The five A's framework (ask, assess, advise, assist, arrange) can be used by physicians to encourage smoking cessation.[8]

- **A**sk patients about tobacco use.
- **A**ssess for patient motivation to quit at each appointment.
- **A**dvise patients to quit smoking by using motivational interviewing practices for patients who are not yet ready to stop smoking.

- Pharmacological **A**ssistance is also recommended and should be offered to aid in quitting.
- **A**rrange for follow-up to provide positive reinforcement.

Each contact with the patients should encourage him or her by highlighting the rewards and significance of quitting, as well as the risks of smoking and expected obstacles to quitting.

III. Pregnancy smoking cessation

The rate of mothers reporting they smoked during pregnancy in the region ranged from approximately 20% to 38% in 2014.[9] The outcomes associated with tobacco use during pregnancy can be dire for newborns, making this issue of utmost importance for the region.

A. Clinician assisted cessation through referral

The five A' framework (ask, assess, advise, assist, arrange) described in the previous section can be effective in encouraging pregnant women to quit smoking. Implementation of the framework can be aided through the establishment of a few standard protocols:

- Programming reminders in the EMR system to screen for tobacco use
- Having a standardized multiple-choice question to ask patients about smoking status
- Recording smoking status as a vital sign for each patient

Providers can also educate patients about the health benefits of quitting smoking, assist them with choosing a quit date, and/or write a "prescription to quit". A referral to a cessation program such as a quit line or another resource can assist in this type of intervention. Patients and providers should also discuss the development of a quitting contract as well as talking points for interacting with patients' friends and family.[10]

B. Media campaigns targeting pregnant smokers

According to a report by the U.S. Centers for Disease Control and Prevention, media messaging targeted at pregnant women should focus on the health risks to the unborn child, a life that is highly valued by the mother and those around her.[11] Effective programs recognize the stress that pregnant women are under and create compassionate messages that support them in their quit efforts rather than shaming them or utilizing fear tactics.[11]

C. Prenatal and antenatal interventions

Population-based strategies for tobacco control are needed to reduce smoking initiation among women of child-bearing age. Some approaches include:

- Increasing unit price of tobacco
- Preventing sales of tobacco to young people
- Developing policies to ban smoking in public places

- Workplace smoking cessation programs
- Bans on tobacco sponsorship

When developing interventions, it is important to avoid stigmatization by focusing broadly on parents rather than depicting mothers who smoke as irresponsibly harming their infants. The objective is to assist women in developing alternative coping strategies to deal with living in difficult circumstances.[12] Research has shown that psychosocial interventions can effectively support women as they attempt to stop smoking during pregnancy by improving their psychological well-being.[12] Any psychosocial support should include multiple or tailored intervention components such as incentives, positive feedback, and peer support. Incentives in particular have a significant impact on cessation, but only when provided in conjunction with counseling and social support interventions.[12]

Physical activity and nutrition

Both Northeast Tennessee and Southwest Virginia are experiencing high prevalence of obesity and obesity-related health outcomes (e.g. high blood pressure, stroke, cardio-vascular disease, diabetes, etc.). This, of course, is a national epidemic requiring concerted and comprehensive approaches. Described below are the committee's recommendations for increasing physical activity and improving nutrition in the region's population.

I.   School-based physical activity policy and programming

    A. K-12 education about diet, exercise and overall health
    B. Mandatory physical education (PE) in schools for students grades K-12
    C. Professional development/capacity building for teachers and school administrators

II.   Worksite-based physical activity and nutrition support programs

    A. Structured educational and support programs related to diet and exercise offered to employees
    B. Individually-adapted health behavior programs

III.   Community-based physical activity and nutrition programming

    A. Media campaigns to promote consistent messages related to importance of physical activity and nutrition
    B. Point-of-Decision prompts
    C. Built environment to promote physical activity

I. School-based physical activity policy and programming

School systems in the region struggle to meet recommended, and in some cases, legislatively mandated requirement for physical activity in the schools. Delivering physical activity programming in the schools can be highly effective due primarily to their access to the entire youth population.

A. K-12 education: diet, exercise and overall health[5]

For K-12 education, program changes should include developing and executing a well-designed PE curriculum and providing teachers with appropriate training. Programs may be combined with other school and community-based interventions such as health education activities that foster family involvement and community partnerships to increase opportunities for physical activity.

Suggested targets for successful programming:

- Enhance school curricula to include physical activity, nutrition, and body image education.
- Increase opportunities for physical activity and development of movement skills during school time.
- Improve nutritional quality of food in schools.
- Create a culture that promotes healthier foods choices and being active during the day.
- Implement professional development and capacity building activities for teachers and staff.
- Give more attention to parent support and at-home activities that encourage children to be more active, eat more nutritious foods and spend less time in screen-based activities.

Interventions to reduce obesity may vary in effect depending on the age of the child, due to differences in metabolism, nutritional needs, physical maturation, and psychosocial development.

B. Mandatory PE in schools for students grades K-12

Meeting recommended benchmarks for school-based physical education (PE) requires curricular and practice-based efforts that increase the amount of time that K-12 students engage in moderate or vigorous-intensity physical activity. Tennessee's physical activity law requires students to receive at least 90 minutes per week of physical activity during the school day.[13] Virginia regulations require at least 150 minutes of physical activity per week on average during the school year.[14] Physical activity programs can include any combination of:

- Physical education classes
- Extracurricular athletics
- Other programs and physical activities deemed appropriate by the local school board

During the 2013-14 school year, 85% of all Tennessee school systems reported to the Office of Coordinated School Health that they were compliant with the 90-Minute

Physical Activity law for all students. Only 56% of all school districts, however, reported physical activity other than walking between classes in their middle schools. This rate was 30% in high schools.[13,14] Concern that physical education programs will take away from time spent on academic endeavors is not supported by the research that shows small improvements in overall school achievement, improved mathematics and memory test scores, and improved 'problem-solving' thinking skills among students who engage in recommended daily physical activity during school.[5]

C. Professional development for teachers and school administrators

When implementing school-based interventions, it is important to provide teachers with appropriate training, support, and evaluation feedback. Well-designed professional development can help PE teachers increase the amount of time students spend in physical activity, and decrease the amount of time spent on administrative and classroom management tasks. Training teachers on methods to reduce time spent on classroom management, transitions, and administrative tasks can free up time for physical activity. Mentorship of younger PE teachers by more seasoned instructors can provide vital consultation and feedback opportunities to teachers as they develop strategies to increase physical activity during class.[15]

II. Worksite-based physical activity and nutrition support programs

Worksite programs that support physical activity and good nutrition help to create a culture of health within the workplace. These efforts can be highly effective to improve the health of employees and often their families as well.

A. *Structured educational and support programs related to diet and exercise offered to employees*

The U.S. Department of Health and Human Services' Community Preventive Services Task Force recommends that worksite diet and exercise programs include three main components (Figure 1).
- Environmental changes and policy: Modify physical or organizational structures
- Informational messages: Build the knowledge and attitudes needed to inform positive health practices
- Behavioral and social skills approaches: Target individual awareness, self-efficacy, perceived support, intentions, etc. believed to mediate behavior changes
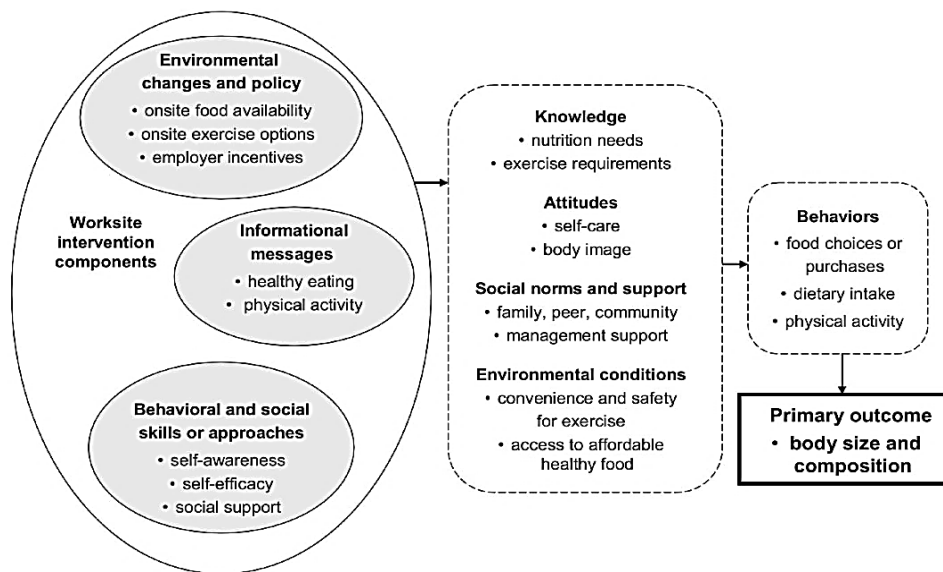
Figure 1. Task Force on Community Preventive Services systematic review of worksite nutrition and physical activity programs, 2009[5]

Worksite programs must be accessible, and require minimal effort to participate, if they are to be successful. The great value of worksite diet and exercise programs is that the population is relatively stable and policies can be much more easily mandated and enforced compared to community-based appraoches.[5] Implemented in conjunction with clinical and community-based interventions, worksite programs can have an impact on overweight and obesity prevalence among employees and the population.

B. *Individually adapted health behavior programs*

Individually-adapted physical activity programs teach behavioral skills that can help participants incorporate physical activity into their daily routines. They are tailored to an individual's specific interests, preferences, and readiness to change. Effective programs focus on goal-setting, self-monitoring, building social support, behavioral reinforcement, and structured problem solving. Research has shown that these programs increase exercise and improve weight status in children and adults within a variety of settings.[16] Programs that combine professional guidance and self-direction appear to be more effective than programs that do not have professional guidance. Programs can be implemented as independent programs or combined with other interventions.[16]

III. Community-based physical activity and nutrition programming

Community-based diet and exercise promotion, combined with school-based and worksite efforts, can help address the health consequences of obesity in the community. Described below is a short list of recommended methods for impacting the community's health.

A. *Media campaigns promote physical activity and nutrition*

Mass media campaigns, as part of multi-component interventions that incorporate individually oriented health behavior change, develop social support networks, and instigate environmental and/or policy changes, can promote physical activity. Media campaigns specifically about the benefits of physical activity and behaviors associated with physical activity can include:

- Consistent messages that promote physical activity through TV, radio, newspaper, direct mail, billboards, posters, trailers in movie theaters, etc.
- Self-help groups, physical activity counseling, risk factor screening at worksites and schools, community health fairs, community events, and creation of walking/biking trails

In addition to increasing levels of physical activity which promotes individual health, communities benefit from the newly generated collective motivation to exercise through the development or strengthening of social networks.[5] Some challenges that must be considered are coordination among organizations, staff training, and the need for resources. Communities need considerable exposure to consistent messaging in order to change behavior.

B. *Point-of-decision prompts*

Point-of-decision prompts use the routines engaged in by the community to encourage physical activity. For example, a city may build stairs that are inviting and attractive to pedestrians by piping in music, or commissioning an artist to paint a mural on them. In this way, people may choose to walk the stairs rather than take the escalator or elevator. Signage that provides health education around the benefits of weight loss and reminds the community to be more active may be included in the program.[5] Point-of-decision prompts have been shown to be effective across a range of settings to increase physical activity in the community.

C. Built environment to promote physical activity

Creation of, or enhancing access to, places for physical activity combined with informational outreach activities is strongly recommended.[5] Community-scale urban design that promotes physical activity requires the efforts of urban planners, architects, engineers, developers, and public health professionals. Such changes may include:

- Creating walking trails
- Building exercise facilities
- Providing access to existing nearby facilities

To effectively promote physical activity, the built environment should focus on continuity and connectivity of sidewalks, safe and appealing streets, and green spaces within the urban and suburban setting.[5]

Healthy aging

As many of the residents in the region live in rural areas where access to services (healthcare and otherwise) is limited, the committee deemed it important to provide recommendations on how to ensure that communities provide adequate support as people age. Described below is a set of approaches to ensuring healthy aging that account for the living environment, care-coordination, and end of life management.

I.   Community support systems

    A. Aging in place
    B. Supportive services and participation in community
    C. Increased health literacy for elderly adults
    D. Increased housing options for elderly adults

II.   Chronic disease self-management programs

III.   End of life

IV.   Coordinated care/case management

V.   Patient-centered medical homes

I. Community support systems

In order to ensure healthy aging in the region, it is important to first understand the characteristics of what is referred to as a "livable community." The American Association of Retired Persons (AARP) has developed a set of indicators that together create a composite measure they call the Livability Index. The measures included in the index are:[17]

- Housing: accessibility and affordability
- Neighborhood: shopping, parks, mixed use, crime, jobs, etc.
- Transportation: public transit, safe streets, accessibility of transit
- Environment: water and air quality
- Health: access and quality of prevention and clinical services
- Engagement: civic and social involvement
- Opportunity: employment, education, age, diversity

The Grantmakers in Aging group has developed a framework for making movement toward the livable community and ensuring age-friendly communities. The five steps of the framework are:[18]

- Build public will: Identify champions and foster citizen commitment
- Engage across sectors: Be inclusive and engage with a variety of organizations
- Utilize metrics: Make work compelling by identifying and measuring metrics
- Secure resources: Identify "backbone" organization and seek diverse funding opportunities
- Advance age-friendly public policies, practice, and funding

A. Aging in place

Aging in place means people are able to live in their home or community of their choice as they age. The most successful aging in place strategies recognize and build on integrated health and social services, and incorporate community and housing design features that help achieve "livable communities" for older adults. They also increase availability of alternative modes of transportation and opportunities for safe, regular physical activity. Aging in place requires design features in new home construction to increase accessibility, usability, and safety for all household members.[19] Figure 2 below was developed by the Stanford Center on Aging and MetLife to illustrate how characteristics of a livable community can contribute to an individual's ability to age in place.
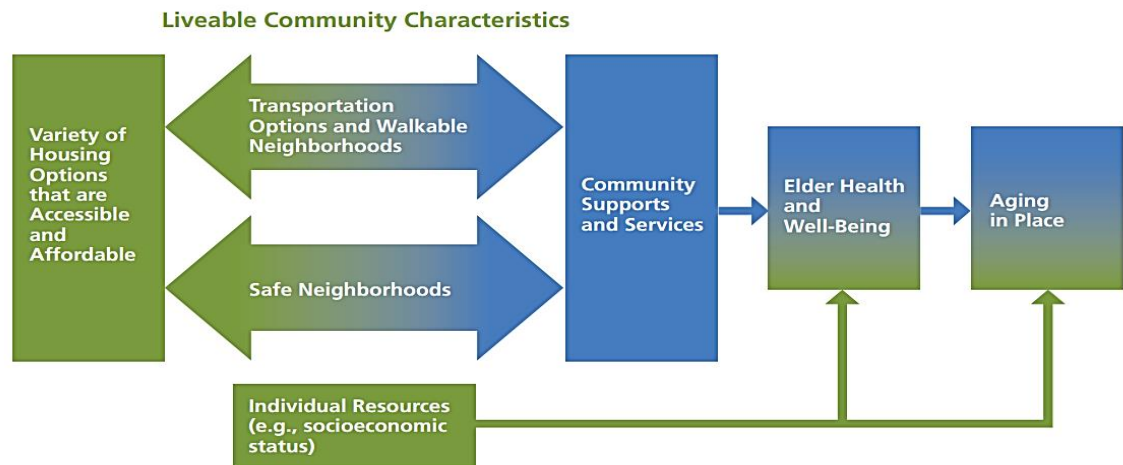
Figure 2. Aging in place and livable communities[19]

Community support, such as home repairs and other chores, home health aides, home-delivered meals, and age-friendly transportation, is essential for aging adults to continue living in their own homes. Limited income, mobility, and shopping opportunities can make it difficult for older adults to get proper nutrition. Community gardens, rideshares to grocery stores, home-delivered meals, and efforts to reduce food insecurity make communities more age-friendly.[19]

B. *Supportive services and participation in community*

Older adults who know about the availability of supportive services are more likely to be able to age in place. Some example of services to be incorporated for healthy aging support include the presence of home-and community-based services such as home health care, meals on wheels, and adult day care. Community participation is an important aspect to life as people age. The existence of activities and events that promote inter-generational contact such as places of worship, community centers, social organizations, libraries, museums, and colleges/universities have been beneficial in increasing participation in the community. Volunteer opportunities like tutoring, mentoring, foster grand-parenting, inter-generational programs, social advocacy, and volunteering in schools and religious, community, and nonprofit organizations also help keep older adults engaged, while the community benefits from their experience.[19]

Regular exercise lowers the risk of disease and illness in adults over 65. Age-friendly walking and exercise groups in the community can get older people up and moving. To encourage physical activity in the older population, communities must consider elements of walkability which can include longer crossing signal times, better curb cuts, good sidewalk repair, and safe places to stop mid-crossing. One indicator of walkability is whether the city or town planning and/or public works department has approved Complete Streets policies and infrastructure changes. Complete Streets policies typically include three principles:

- Reduce vehicle travel speed;
- Improve the physical layout of streets; and
- Enhance visual cues and information for drivers and pedestrians.

One senior physical activity program is the Senior Olympics, which promotes healthy lifestyles for seniors through fitness, sports, and an active involvement in life.[20] Events that seniors are able to compete in for the Olympics include:

- Basketball
- Bowling
- Golf
- Horseshoes
- Pickleball
- Shuffleboard
- Swimming
- Table Tennis
- Tennis
- 5K running

Tennessee and Virginia both have licensed Senior Olympics organizations that compete regionally and nationally.[20,21]

C. *Increased health literacy for elderly adults*

Health literacy is the ability of an individual to acquire, process, and comprehend basic health information in order to make appropriate health decisions. Elderly and low-income populations are the most at-risk for low health literacy. Nearly 9 of 10 adults have trouble using everyday health information. Low health literacy is associated with being more likely to skip necessary medical tests, end up in the emergency room more often, and have a difficult time managing chronic diseases. Methods for improving health literacy include streamlining health education materials (written, video, audio, and computer formats), refining patient-provider communication, and improving overall literacy. Evidence suggests that successful health literacy programs include group-based education programs in primary care settings, classes that teach participants how to access health information on the Internet, and increasing self-efficacy in health information seeking.[22]

D. *Increased housing options for elderly adults*

Housing that is accessible, affordable, and adaptable to changing needs over the life span is a critical component of a livable community. Forty percent of older adult households report struggling with the cost of their housing.[19] Age-friendly alternatives include "Golden Girls" home sharing, multigenerational housing, and subsidized senior housing with supportive services.

The common housing unit in the U.S. does not contain age-friendly physical features (e.g. zero-step entrance, wider doors and wider hallways, bathroom on the ground floor, etc.) that improve accessibility and/or visibility. Making age-friendly home modifications can prevent depression and fear of accidents, back injuries, falls and caregiver stress, as well as decrease Medicare expenditures by having a positive effect on physical health.[19]

II. Chronic disease self-management programs

Evidence-based chronic disease self-management programs (CDSMP) are community-based approaches that provide education and support around topics including:

- Coping skills for:
    - Frustration
    - Fatigue
    - Pain
    - Isolation
- Physical education for improving strength, flexibility and endurance
- Appropriate use of medications
- Nutrition
- Decision making
- How to evaluate new treatments

The program can involve meetings lasting 2 ½ hours per week for six weeks in small group settings that are held in senior centers, churches, libraries, and hospitals. These workshops are often facilitated by two trained leaders, one or both of whom are non-health professionals with chronic diseases themselves. Participants in one CDSMP showed increased exercise, cognitive symptom management, communication with physicians, and self-reported general health, as well as lowered health distress, fatigue, disability, and social/role activities limitations.[23]

The Tennessee Department of Health offers a program called Living Well with Chronic Conditions, similar to the program described above, in Carter and Johnson counties, among others. According to the Stanford Patient Education Research Center, there are currently 25 master-level trainers in Tennessee and 55 master-level trainers in Virginia.[24]

III. End of life

End of life is defined as a stage of life when an individual is living with an illness that will continually worsen and ultimately cause death. In order to meet the physical, psychological, social, and practical needs of patients and caregivers at the end of life, palliative care is provided, focusing on preventing suffering and improving quality of life. When working with patients at the end of life, clinicians frequently assess and treat for pain, shortness of breath, and depression. For patients with cancer, this may include several types of pharmacological interventions and/or psychosocial interventions. Clinicians should confirm that advance care planning, including completion of advance directives, occurs for all patients with serious illness.[25]

IV.　Patient-centered medical homes

The patient-centered medical home (PCMH) is best described as a model or philosophy of primary care that is comprehensive, team-based, coordinated, accessible, and focused on quality and safety. It has become a widely accepted model for how primary care should be organized and delivered throughout the health care system, and is a philosophy of health care delivery that encourages providers and care teams to meet patients where they are. Studies have shown a PCMH provides better support and communication, creates stronger relationship with providers, and saves time for the patient.

The National Committee for Quality Assurance has six broad standards for a PCMH:[26]

Standard 1: Enhance patient access and continuity
Standard 2: Identify and manage patient populations
Standard 3: Plan and manage care
Standard 4: Provide patient self-care support and community resources
Standard 5: Track and coordinate care
Standard 6: Measure and improve performance

V. Coordinated Care - Case Management

Care coordination and case management programs serve patients across different settings, encouraging communication and interaction among an interdisciplinary team, the patient, and informal caregivers. Effective care coordination programs integrate significant in-person interaction with patients and their caregiver, preferably where the patient lives. Considerations when creating a care coordination plan include ready access by the interdisciplinary team to timely care delivery data, especially in regard to hospital admissions. This yields the greatest quality of care enhancement and reduced cost.[27]

Case management most importantly includes a comprehensive assessment of the client's health and psychosocial needs, including health literacy status, and uses this information to develop a care plan collaboratively with the client, family, and/or caregiver. The majority of case management is planning, facilitating coordination, and educating the client, family, and members of the health care delivery team about all aspects of the management plan. This includes treatment, insurance, quality of care improvement, and cost-effectiveness.[28]

Measuring success

The metrics below are expected outcomes from the work described above. There are likely to be other benefits associated with addressing the Population Health and Healthy Communities steering committee priorities, but what is included here is what the committee feels represent the positive outcomes that are expected.

Tobacco use and pulmonary health

Focus Area	Selected Interventions	Metric	Source
Adolescent Smoking Prevention	K-12 Evidence-based Smoking Prevention Programming	Reduction in Incidence and Prevalence of Youth Smokers	YRBSS
	Mass Media Campaign	Youth Smoking Rates Decreased Number of Youth Who Ever Tried Smoking	YRBSS
	Smoke-free Legislation – Local Ordinances, Local Businesses are Smoke Free	Decreased Asthma Rates	BRFSS
Adult Smoking Cessation	Smoke-free Legislation – Local Ordinances, Local Businesses are Smoke Free	Reduction in Prevalence of Smoking	Survey of Legislation
	Increased Price of Cigarettes	Increased Tax Rates for Cigarettes	Survey of Cigarette Prices
	Smoking Cessation Counseling Referrals Offered by Primary Care Physicians	Decreased Chronic Conditions such as COPD, Lung Cancer, CVD	BRFSS
	Mass Media Campaign	Decreased Adult Smoking Rates	County Health Rankings
Pregnancy Smoking Cessation	Pregnant Smokers Will be Identified by Their Healthcare Providers and Referred to Smoking Cessation Programs.	Births to Mothers Who Smoked During Pregnancy (Kids Count Data) Reduced low birth weight babies (Kids Count Data)	Kids Count Data
	Media Campaign Targeting Pregnant Smokers.		Survey of Local Media

Physical activity and nutrition

Focus Area	Selected Intervention	Metric	Source
School-based	K-12 Education re: Diet, Exercise and Overall Health	Increased Number of Children Consuming Fruit and Vegetables	YRBSS
		Decreased Percentage of Children Who have a BMI greater than 25	YRBSS
			YRBSS
	Mandatory PE in Schools for Students Grades K-12	Increased Number of Children Participating in 60 Minutes of Physical Activity per day	YRBSS
		(TN state law only requires 90 minutes per week)	
	Professional Development/Capacity Building for Teachers and School Administrators		Number of professional development trainings related to diet/exercise
Worksite-based	Structured Educational and Support Programs Related to Diet and Exercise Offered to Employees	Decreased Adult Obesity Rates	County Health Rankings
		Decreased Physical Inactivity	
	Individually-Adapted Health Behavior Programs	Decreased Diabetes Rates	County Health Rankings
Community-based	Media Campaign Promotes Consistent Message Related to Importance of Physical Activity and Nutrition	Increase Physical Activity Among Adults	BRFSS
	Point of Decision Prompts	Increased Number of People who are Consuming Five Fruits and Vegetables Each Day and Making Better Food Choices	BRFSS
	Infrastructure to Promote Physical Activity	Increased Access to Exercise Opportunities	County Health Rankings
	Community Social Support Interventions	Decreased Number of Adults who have a BMI of 25 or Higher	BRFSS
		Reduction in Obesity Related Deaths (Region)	CDC Wonder

Healthy aging

Focus Area	Selected Intervention	Metric	Source
Chronic Disease Management	Elderly Adults will be Identified by Primary Care Providers and Offered a Chronic Disease Management Program.	Decreased Preventable Hospital Stays	State-Senior Health Rankings
Transportation	Expanding Services	Increased Vaccination Rates for Elderly	State-Senior Health Rankings
Community Engagement	Increased Activity Programs and Resources for Elderly Adults (e.g. Senior Olympics, AARP Walkable Communities)	Increased Exercise for Persons over 65	State-Senior Health Rankings
		Increased Access to Grocery Stores for Elderly	USDA
Case Management	Increased Health Literacy for Elderly Adults re: Utilizing Resources	Decreased Hospital Admissions (State)	State-Senior Health Rankings
	Increased Housing Options for Elderly Adults		

References

1. Centers for Disease Control and Prevention. (2015). Smoking and tobacco use. Retrieved March 7, 2016 from http://www.cdc.gov/tobacco/data_statistics/fact_sheets/youth_data/tobacco_use/index.htm.
2. Bruvold, W. H. (1993). A meta-analysis of adolescent smoking prevention programs. *American Journal of Public Health*, *83*(6), 872-880.
3. Centers for Disease Control and Prevention. (2000). Reducing tobacco use: A report of the surgeon general. Retrieved March 21, 2016 from http://www.cdc.gov/mmwr/preview/mmwrhtml/rr4916a1.htm.
4. US Department of Health and Human Services. (2008). National Cancer Institute monograph series 19: The role of the media in promoting and reducing tobacco use. Retrieved March 7, 2016 from http://cancercontrol.cancer.gov/brp/tcrb/monographs/19/m19_complete.pdf.
5. Community Preventive Services Task Force. (2015). The guide to community preventive services (The Community Guide). Retrieved March 2, 2016 from http://www.thecommunityguide.org/index.html.
6. American Cancer Society. (2011). Evidence supporting the effectiveness of mass media public education campaigns as part of comprehensive tobacco control programs. Retrieved March 6, 2016 from http://www.cancer.org/acs/groups/content/@internationalaffairs/documents/document/acspc-034156.pdf.
7. Brown, N., Luckett, T., Davidson, P. M., DiGiacomo, M. (2015). Interventions to reduce harm from smoking with families in infancy and early childhood: a systematic review. *International Journal of Environmental Research and Public Health*, *12*(3), 3091-3119.
8. Larzelere M. (March 2012). Promoting smoking cessation. *American Family Physician*, *85*(6), 591-598.
9. KIDS COUNT Data Center. (2014). Births to mothers who smoked during pregnancy. Retrieved March 21, 2016 from http://datacenter.kidscount.org/.
10. American College of Obstetricians and Gynecologists. (2010). Smoking cessation during pregnancy. Retrieved March 9, 2016 from http://www.acog.org/Resources-And-Publications/Committee-Opinions/Committee-on-Health-Care-for-Underserved-Women/Smoking-Cessation-During-Pregnancy.
11. Centers for Disease Control and Prevention. (2011). Smoking cessation media campaigns from around the world: Recommendations from lessons learned. Retrieved March 9, 2016 from http://apps.who.int/iris/bitstream/10665/108529/1/E74523.pdf.
12. Chamberlain, C., O'Mara-Eves, A., Oliver, S., Caird, J., Perlen, S., Eades, S., & Thomas, J. (1994). Psychosocial interventions for supporting women to stop smoking in pregnancy. *Cochrane Database of Systematic Reviews*, (10).
13. Tennessee Department of Education Office of Coordinated School Health. (2015). Physical activity/physical education annual report. Retrieved March 9, 2016 from https://www.tn.gov/assets/entities/education/attachments/csh_pe-pa_annual_report_2013-14.pdf.
14. Virginia Board of Education. (2012). Physical education program guidelines for public elementary and middle Schools. Retrieved March 9, 2016 from http://www.doe.virginia.gov/instruction/physed/physed_guidelines_elem_middle.pdf.
15. U.S. Department of Health and Human Services. (2014). Strategies to improve the quality of physical education. Retrieved March 9, 2016 from http://www.cdc.gov/healthyyouth/physicalactivity/pdf/quality_pe.pdf.

16. County Health Rankings & Roadmaps. (2014). Individually-adapted physical activity programs. Retrieved March 9, 2016 from http://www.countyhealthrankings.org/policies/individually-adapted-physical-activity-programs.
17. American Association of Retired Persons: Public Policy Institute. (2015). Livability index. Retrieved March 21, 2016 from https://livabilityindex.aarp.org/.
18. The Pfizer Foundation: Grantmakers in Aging. (2015). Guiding principles for the sustainability of age-friendly community efforts. Retrieved March 10, 2016 from http://www.giaging.org/documents/160107__Sustainability_Principles.pdf.
19. Stanford Center on Longevity. MetLife Mature Market Institute. (2013). Livable community indicators for sustainable aging in place. Retrieved March 10, 2016 from http://longevity3.stanford.edu/indicators-for-successful-aging-in-place/.
20. Tennessee Senior Olympics. (2016). Retrieved March 10, 2016 from http://tnseniorolympics.com/main_page.html.
21. VSG Virginia Senior Games. (2016). Retrieved March 10, 2106 from http://www.vrps.com/EducationEvents/VSGVirginiaSeniorGames.aspx.
22. County Health Rankings & Roadmaps. (2016). Health literacy interventions. Retrieved March 10, 2016 from http://www.countyhealthrankings.org/policies/health-literacy-interventions.
23. Stanford University. Patient Education. (2016). Better choices, better health. Retrieved March 21, 2106 from http://patienteducation.stanford.edu/programs/cdsmp.html.
24. NCOA. (2014). Chronic disease self-management program (CDSMP). Retrieved March 14, 2106 from https://www.ncoa.org/healthy-aging/chronic-disease/chronic-disease-self-management-program/.
25. Qaseem, A., Snow, V., Shekelle, P., Casey, D.E., Cross, J.T., Owens, D.K., et al. (2008). Evidence-based interventions to improve the palliative care of pain, dyspnea, and depression at the end of life: A clinical practice guideline from the American college of physicians. *Annals of Internal Medicine*, *148*(2), 141-146.
26. American Society on Aging. (2014). Patient centered medical homes for older adults. Retrieved March 10, 2016 from http://www.asaging.org/blog/patient-centered-medical-homes-older-adults.
27. Elder Workforce Alliance. (2010). Care coordination & older adults issue brief. Retrieved March 10, 2016 from http://www.eldercareworkforce.org/research/issue-briefs/research:care-coordination-brief/.
28. Case Management Society of America. (2010). Standards of practice for case management. Retrieved March 10, 2016 from http://www.cmsa.org/portals/0/pdf/memberonly/StandardsOfPractice.pdf.

Healthy Children and Families
Steering Committee

Chairs

Dr. David Wood, Chair of Pediatrics, East Tennessee State University

Travis Staton, CEO, United Way of Southwest Virginia

Healthy Children and Families Steering Committee

Last Name	First Name	Organization	Title
Angelopoulos	Dr. Theodore (Ted)	Emory & Henry School of Health Sciences	Professor
Bailey	Dr. Beth	ETSU, Dept. of Family Medicine	Professor and Director of Research
Baker	Dr. Katie	ETSU, Dept. of Community & Behavioral Health	Assistant Professor
Beilharz	Lisa	Boys and Girls Club of Kingsport	Chief Professional Officer
Carter	Lisa	Niswonger Children's Hospital	CNO, Interim CEO
Casteel	Tommy	Virginia Department of Social Services	Regional Director
Castro	Dr. Sandra	Niswonger Children's Hospital	Pediatric Emergency Physician
Collins	Dr. Melinda	Milligan, School of Sciences & Allied Health	Associate Dean
DeVoe	Dr. Michael	ETSU Pediatrics	Director, Neonatology Professor and Vice Chair
Feierabend	Margaret	Bristol Promise; Bristol City Council Member	Chairman (Bristol Promise)
Gouge	Dr. Natasha	MSMG Pediatrics	PhD Licensed Clinical Psychologist
Hale	Dr. Kim	ETSU, College of Education	Associate Dean/ Early Childhood Education
Kozinetz	Dr. Claudia	ETSU, Public Health	Professor and Chair, Department of Biostatistics and Epidemiology
Mabrey	Gary	Washington County/ Johnson City/ Jonesborough Chamber of Commerce	President & CEO
Midgett	Linda	People Incorporated of Virginia	Director, Community Services
Montgomery	Paul	Northeast State	VP, Access & Development
Myers	Dr. Pam	Highlands Pediatrics	Pediatrician
Perry	Tim	Frontier Health	Director, Children's Outpatient Services
Polaha	Dr. Jodi	ETSU	Associate Professor Family Medicine
Powers	Catherine	ETSU	Professor of Nursing
Ratliff	Dr. Brian C.	Washington County Virginia Schools	Superintendent of Schools
Rhinehart	Beth	Bristol Chamber of Commerce	President /CEO
Schetzina	Dr. Karen	ETSU	Associate Professor, Pediatrics
Skinner	Glen "Skip"	LENOWISCO Planning District Commission	Executive Director
Smith	Dr. Michael	ETSU, Dept. of Social Work	Department Chair
Staton	Travis	United Way of Southwest Virginia	CEO
Stephens	Stephanie	Appalachian Association for the Education of Young Children	President
Teague	Donna	Johnson County Community Hospital	LPN
Terry	Kathlyn	Appalachian Sustainable Development	Executive Director
Thomas	Cynthia	TN Department of Health	Assistant Medical Director
Tipton	Lisa	Families Free	Executive Director
Wood	Dr. David	ETSU	Chair, Department of Pediatrics

EXECUTIVE SUMMARY

As one of the largest steering committees out of the four assembled for this project, the Healthy Children and Families Committee worked diligently and passionately toward setting priorities for improving the health of families in the region. The goal of the committee's work was to advocate for programs and services to support a resilient and healthy family environment in order to positively impact the life course of children. Specific objectives selected by the committee were to identify and promote effective programming to:

- Promote positive birth outcomes
- Optimize early childhood and school aged child development and school performance.
- Assure youth achieve their maximum potential and transition to post high-school education and work.

The committee recognized that the health of children and families are inseparable, and in order to ensure a healthy life course for children, health-related social needs must be addressed. These social needs include parental employment with a living wage, stable and adequate housing, access to transportation, and access to affordable healthy food, and safety from violence. The committee strongly felt that any model of regional health improvement and development should provide adequate supports for healthy family functioning, healthy child development, and promote optimal mental health in both children and their parents. To this end, we must promote widely child developmental, behavioral, and parental mental health screening, intervention, treatment, and recovery services, must be developed and implemented in local communities across the region.

Many of the families served by representative agencies on the committee live in economically depressed rural areas in which social factors such as poverty, unemployment, low educational attainment, and substance abuse are highly prevalent. Providing support services for high risk rural communities, as well as high risk urban communities, will require cross-sector collaborative approaches that are built on a foundation of local engagement and leadership. Associated with poverty and other measures of disadvantage, counties in Northeast Tennessee and Southwest Virginia have been burdened with some of the highest chronic disease rates in the nation, such as obesity, hypertension, drug addition, cardiovascular disease, and cancer. In adulthood these diseases are largely related to the unhealthy behaviors common in our region such as: smoking, physical inactivity, poor nutrition, and alcohol/prescription drug use. These behaviors and health conditions, however, share common upstream causes rooted in children's adverse physical and emotional environment and subsequent social, emotional, and intellectual development.

To impact the generational health of the region, it is important to prevent the upstream causes by providing healthy and enriching environments for families and their children where they can be born, grow up, go to school, survive adolescence and enter the workplace. Simultaneously we have to offer evidenced-based programs that improve the health of children, youth, and families, and reduce unhealthy behaviors that exist in the region. What is presented herein is a set of priorities and evidence-based approaches to promote healthy child development and promote optimal outcomes for families in the region.

Priority areas

The committee held five meetings between September 8, 2015, and January 12, 2016, during which the focus was on developing a set of workable priorities that could be included as recommendations for improving health in the region. The committee went through a rigorous prioritization process to get down to a manageable set of items. The first step was to capture all possible priorities committee members felt should be included. Using an online survey tool, each member's ranked priority list was plugged into a calculation of the committee's priority ranking. The result of the process was a set of priority areas with specified processes and outcomes under each (43 in total) that represented the committee's priority for affecting child and family health (See Appendix II).

Using a weighting system to evaluate committee responses, individual rankings were applied to each of the 43 items to tease out the importance of each. Appendix II displays a graphic organizing these priority areas and prioritized outcomes. Once rankings were established, further discussion developed an operational framework that could address the priorities and ensure the committee's recommendations would be useful and comprehensive. It was decided to seat the priorities in the life course model as it relates to families and children. The result was three main categories listed below:

I.   Healthy start:

    A. Increase access to high-quality prenatal and postnatal care including new models of supportive prenatal care such as CenteringPregnancy
    B. Increase delivery of services to prevent alcohol, drug, and tobacco use in women of childbearing age
    C. Increase support for breastfeeding initiation and continuation

II.   Ready to learn:

    A. Improve educational and social readiness of children under 5 in preparation to enter kindergarten through community wide measurement and interventions
    B. Increase access to affordable, high quality early education for all children including those with special needs
    C. Actively screen all children and families for psychosocial needs and provide accessible, family-based interventions
    D. Promote family strengths with increased access to in-home services that support child development and parenting
    E. Increase access to comprehensive and multi-specialty services for children with chronic conditions
    F. Increase access to dental screening and dental preventive care and restorative care
    G. Reduce hunger and food insecurity among expecting mothers and children.

III.   Supported and empowered youth:

    A. Reduce teen pregnancy through increased access to evidenced-based pregnancy prevention education and long acting reversible contraception methods
    B. Increase the number of high school graduates pursuing postsecondary education or career training
    C. Provide services to reduce teen suicide and teen suicide attempts

Recommended approaches

In order to address each objective, priorities were selected to serve as metrics or measures of success based on four criteria. Selected measures must meet the following criteria:

- Supported by best available evidence
- Top priority for the committee
- Aligned with Virginia and Tennessee state priorities
- Measurable

Below is a description of each of those measures of success along with contextual information regarding supporting evidence and regional practices if available. The committee agrees that these approaches are essential to ensure the health of children and families in the region.

I. Healthy Start

The following objectives were developed to meet the goal of encouraging positive birth outcomes and early childhood development.

A. *Increase access to high-quality prenatal and postnatal care including new models of supportive prenatal care such as CenteringPregnancy*

Problem Statement: Traditional prenatal care has not fully addressed the psychosocial needs of pregnant women. Innovative approaches are needed to help women have healthy pregnancies that result in optimum birth outcomes.

Evidence Statement: High quality prenatal care provides mothers the opportunity to ask questions about how they can maximize their own health and the health of their fetus throughout pregnancy. A recent study of innovative strategies to increase the quality of prenatal care in under resourced areas examined three dimensions: strategies to increase access to timely prenatal care, strategies to improve the content of prenatal care, and strategies to enhance the organization and delivery of prenatal care.[1]

Researchers determined the following elements must be part of any effort to ensure access and utilization of quality prenatal care:

- Medicaid expansion for low-income women
- Data sharing to identify at-risk mothers
- Continuous quality improvement
- Implementation of "wraparound" prenatal services
- Rigorous program evaluation

One program that has shown promise is CenteringPregnancy, which takes patient-centered care a step further by bringing together groups of 6 to 10 women of similar gestational stage to meet for approximately two hours over the course of ten visits during their pregnancy and afterwards. Each session includes an individual health assessment (weight, blood pressure, etc.). The individual session is then followed by peer discussion covering various topics related to pregnancy and parenting.[2] Program impact and

outcomes are measured through a data collection tool offered to providers called CenteringCounts. Private OB/Gyn practices and hospitals can be certified as CenteringPregnancy centers which requires specific training in curriculum design and group facilitation. Currently there are no certified CenteringPregnancy locations in Northeast Tennessee or Southwest Virginia. There are official CenteringPregnancy locations at the Lisa Ross Birth & Women's Center in Knoxville and the Cherokee Health Systems in Talbott, TN.

Some study has been done around CenteringPregnancy and its application in rural Appalachia, with mixed results. One study involving 29 women who declined to enroll in the program at a local birthing center suggested some potential barriers to uptake in this population.[3] The clinic in this study was primarily utilized for low-risk pregnancies, but many women in the community used it as a point of access for prenatal care. The most common reason given by women for not participating in the CenteringPregnancy program was fear of exposure through the group meetings. Women did not want to discuss their private issues in public.

Women also identified inconvenient meeting times, transportation, and needs of existing children as barriers to participation. These results indicate that implementation of the CenteringPregnancy program must include great emphasis on privacy. Program staff should also take care to separate the program from any association with mandatory counseling or drug rehab programs which also use the word "group" in reference to their meetings. Other barriers identified in the study (i.e. meeting hours, transportation and childcare) must be considered when choosing to implement the program.

Recommendation: Locally adapt and disseminate high quality prenatal and postnatal care including new models of supportive prenatal care such as CenteringPregnancy

B. *Increase delivery of services to prevent or reduce alcohol, drug, and tobacco use in women of childbearing age*

Problem statement: Alcohol and drug use among women of childbearing age is a major cause of birth defects and other poor birth outcomes including Neonatal Abstinence Syndrome (NAS).

Evidence Statement: To prevent alcohol and drug abuse in women of childbearing age (ages 15-45), the evidence indicates that prevention should start early, before 15 years of age. This approach helps children to make healthier choices and, therefore, have better health outcomes. In addition, the positive economic effects are supported by research that indicates for each dollar invested in evidence-based substance abuse prevention education, there is a return of approximately $18.90.[4] Primary prevention of substance abuse during adolescence lowers the risk of developing substance use disorder in adulthood. Nearly half of adults who report trying alcohol before age 14 become alcohol dependent later in life compared to 7-9% of those who wait until age 21 to drink.[5]

Best practices in substance abuse prevention suggest the most effective way to prevent drug abuse in communities is to offer consistent messaging from multiple arenas including schools, family, and community leaders.[6] No matter where the program takes

place, who or what should be culturally competent, developmentally appropriate, and focused on early intervention. Programs targeting elementary school-aged children should focus primarily on the following issues:[6]

- Self-control
- Emotional awareness
- Communication
- Social problem-solving
- Academic support

Programs for middle and high-school students should build on the curriculum offered in K-5 to additionally cover:[6]

- Peer relationships
- Self-efficacy and assertiveness
- Drug resistance skills
- Reinforcement of anti-drug attitudes
- Strengthening of personal commitments against drug abuse

On a larger scale, community programs typically focus on policy development and mass media campaigns. These programs can often be very effective when delivered during key "transition" points such as the transition from elementary to middle school. Guidelines targeting specific at-risk populations also benefit the entire community by creating an anti-drug culture and reduce stigma, thereby reducing overall drug and alcohol use and "shifting the population mean" on this behavior.

In addition to primary prevention efforts to reduce the prevalence of substance use disorder in the population, other methods that increase population screening and brief interventions in the adult population should also be considered in a comprehensive prevention strategy. The Screening, Brief Intervention, and Referral to Treatment (SBIRT) system is used to prevent substance use disorder by assessing individual risk and offering education on how to mitigate it. SBIRT can be used at emergency room or primary care visits or in other settings (workplace wellness, schools, etc.) by asking a short set of screening questions that are an assessment of risk. A brief intervention by a physician or other personnel can follow with a referral to treatment for those willing to accept a referral.[7]

While SBIRT can serve to inform adults of their risk for substance use disorder based on their current use, there are some limitations associated with it. The success of referral depends on the availability of treatment options in proximity to the primary care facility. Uptake of the SBRT tool by physicians and hospitals can be negatively affected by the lack of referral service so it will be important to focus on the regional behavioral health infrastructure when planning for the application of early intervention approaches in the adult population.

Recommendation: Increase delivery of services to prevent or reduce alcohol, drug, and tobacco use in children and women of childbearing age by focusing efforts on community wide media efforts, school-aged child focused prevention, and broader dissemination of evidenced based SBIRT programs.

c. Increase support for breastfeeding initiation and continuation

Problem Statement: Although breastfeeding is widely accepted as a best practice for new mothers, the prevalence in some areas remains quite low. In 2011 only 79.2% of mothers in the United States reported ever breastfeeding and only 49.4% reported breastfeeding until the recommended six month time point.[8] The American Academy of Pediatrics recommends that infants should breastfeed exclusively until six months of age and should continue to breastfeed for a year and for as long as is mutually desired by the mother and baby.[9] Tennessee lagged behind the national average in all measures including ever breastfeeding, breastfeeding at six months, breastfeeding at one year, and exclusively breastfeeding. Virginia was above the national average on most measures (Table 1).

Table 1. Percentage of mothers breastfeeding in the United States, 2011[9]

	Ever	**@ 6 months**	**@ 12 months**	**Exclusive @ 3 months**	**Exclusive @ 6 months**
United States	79.2	49.4	26.7	40.7	18.8
TN	74.9	40.7	20.9	39.1	15.4
VA	80.5	53.7	27.4	38.3	22.9

Evidence Statement: Infants who are breastfed on average experience lower rates of diarrhea, ear infections, lower respiratory tract infections, and are at lower risk of sudden infant death syndrome.[10] As they grow older, breastfed babies have long term positive health effects such as reduced rates of diabetes, obesity, and behavioral health disorders. In addition to the benefits for baby, breastfeeding has also been shown to be a protective factor for women against breast cancer, ovarian cancer, and diabetes.[10]

Healthy People 2020 has cited breastfeeding as an important issue and four out of the five goals related to infant care are related to breastfeeding. The five goals are:[11]

- Increase the proportion of infants who are put to sleep on their backs
- Increase the proportion of infants who are breastfed
- increase the proportion of employers that have worksite lactation support programs
- Reduce the proportion of breastfed newborns who receive formula supplementation with the first two days of life
- Increase the proportion of live births that occur in facilities that provide recommended care for lactating mothers and their babies

The state of Tennessee has also specifically identified four objectives related to breastfeeding in the 2010-2015 Nutrition and Physical Activity Plan including:[12]

- Promoting new and existing laws that support and protect breastfeeding both at work and in public
- Encouraging the adoption of activities that create breastfeeding-friendly communities like peer counseling and supporting the Loving Support WIC program
- Using media, social marketing resources, and public education to promote breastfeeding

- Researching and evaluating breastfeeding outcomes, quality of care, and best practices

Increasing breastfeeding initiation and continuation until the recommended time requires a multi-pronged approach.[13] There is significant evidence to support the importance of competent and accessible clinical care and the initiation of breastfeeding. In 1991, the World Health Organization partnered with the United Nations Children's Fund (UNICEF) to create the Baby-Friendly Hospital Initiative. The initiative outlined ten concrete steps hospitals can take to optimize breastfeeding initiation and continuation among their patients. Research shows that implementation of these steps within hospitals and birthing facilities increases the rates of breastfeeding in the patient population.[14,15,16] The ten steps to successful breastfeeding are:[17]

1) Have a written breastfeeding policy that is routinely communicated to all healthcare staff
2) Train all healthcare staff in skills necessary to implement this policy
3) Inform all pregnant women about the benefits and management of breastfeeding
4) Help mothers initiate breastfeeding within one hour of birth
5) Show mothers how to breastfeed and how to maintain lactation, even if they are separated from their infants
6) Give newborn infants no food or drink other than breastmilk, unless medically indicated
7) Practice "rooming in"—allow mothers and infants to remain together 24 hours a day
8) Encourage breastfeeding on demand
9) Give no pacifiers or artificial nipples to breastfeeding infants
10) Foster the establishment of breastfeeding support groups and refer mothers to them upon discharge from the hospital or clinic.

Although there are hospitals in Tennessee and Virginia that have the Baby-Friendly designation, none are located in the Northeast Tennessee or Southwest Virginia region.[18]

With regard to continued support for breastfeeding mothers, peer support programs have been widely researched and shown to be effective at helping mothers continue breastfeeding until the recommended time. A 2012 Cochrane review examined whether providing extra support for breastfeeding mothers from professionals, trained lay workers, or both, could help mothers to continue breastfeeding.[9] The research showed that support from health professionals and lay workers helped women continue breastfeeding. The findings also revealed that face-to-face interventions as opposed to telephone interventions appeared to be more effective to help women continue breastfeeding.

Programs that required the new mother to seek support were not as effective, rather ongoing and regularly scheduled visits or meetings to support breastfeeding helped women to continue longer.[9] Peer support is a cost-effective approach and among groups with low breastfeeding rates, presents a way to break down barriers to support women and their infants.[13] Many programs that incorporate individuals inside a woman's social network, such as the fathers and perhaps grandmothers, have also shown to help encourage women to breastfeed.[13]

Recommendation: Increase support for breastfeeding initiation and continuation through a multipronged approach that includes peer support, baby-friendly hospital initiatives, and social marketing.

Ready to Learn

The following objectives were developed to meet the goal of preparing children for success in school and supporting families of preschool and school aged children to provide a healthy school and family environment.

A. Improve educational and social readiness of children under 5 in preparation to enter kindergarten through community-wide measurement and interventions

> **Problem Statement:** The environments in which children learn and develop, as well as the quality of their interactions with adults, have a significant impact on their cognitive, social, and emotional development. Children living in poverty enter kindergarten at risk for developmental delays and persistent academic failure.

> **Evidence Statement:** Developmental screenings administered during early childhood years can describe how children are developing and predict educational, social, and health outcomes. Using data from developmental screenings to identify communities with children not ready for kindergarten enables community partners to match children and families to interventions through community engagement strategies. This community approach has been shown as a catalyst to improve developmental and social outcomes for children, including the most vulnerable children. Transforming Early Childhood Community Systems (TECCS) is one such program whose goal is to improve the physical well-being, social and emotional competence, and cognitive functioning of young children throughout a region by using developmental assessments of young children at a population level and mapping the accessibility of community services within the community.[19] TECCS is a national partnership between the UCLA Center for Healthier Children, Families and Communities and the United Way Worldwide. TECCS uses the early development instrument (EDI) to assess five areas of child development that impact academic success, including: physical health; social competence; emotional maturity; language and cognitive development; communication skills; and general knowledge.[19] EDI results are then reported out to inform community stakeholders identifying the need to enhance the quality and availability of services for young children and families in the communities where they are needed most.

> **Recommendation:** Institute a developmental assessment program in all kindergarten classes in Northeast Tennessee and Southwest Virginia, and use data to determine community need for evidence based interventions to improve the social, emotional, cognitive, and health outcomes for children such as parenting education, home visiting programs, early literacy and math activities, and access to high quality child care and pre-kindergarten school.

B. Increase access to affordable, high-quality early education for all children including those with special needs

> **Problem Statement:** A minority of poor or at-risk families with young children (0-5 years of age) in Northeast Tennessee and Southwest Virginia have access to high-quality early childhood education services.

Evidence Statement: Head Start is a federal program offered to low-income children from birth to age five. Short-term outcomes of children who participate in Head Start indicate improved test scores, language and literacy development, social-emotional development, health outcomes (due to availability of health insurance), and parent-child relationships.[20] Longer-term study of the Head Start program has found that there are sustained academic and social emotional benefits in adolescence and beyond.[21] High-school students who participated in Head Start as children were less likely to be held back a grade, commit a crime, or become pregnant.[22] In addition, adults who were participants in the Head Start program tend to have fewer convictions for crimes, higher high school (or equivalent) graduation rates, and higher GPA throughout schooling.

Studies have shown that access to high-quality early childhood education services can have a significantly positive impact on the cognitive and social development of children, improving academic performance in both early childhood through adolescence, and can reduce or eliminate the effect of socioeconomic disadvantage or inequity.[23] It appears the effect on brain development and subsequent academic performance is positive for any number of hours per week children spend in quality non-parental child care, but the impact is greatest in children spending 35 hours or more per week in child care. Equally important for infants and young children is the need to educate, mentor, and support families to provide safe and stimulating environments in the home through programs such as Nurturing Parenting, Family Works, Parenting Wisely, Reach out and Read, ReadNPlay, and Positive Parenting.[24]

Agreement on the indicators of quality child care is not universal, nor are standards of licensure between states. The National Association for the Education of Young Children (NAEYC) suggests the following standards as a measure of quality in early childhood programs:

- positive relationships among all children and adults, and the establishment of collaborative relationships with families
- curriculum promoting learning and development in the areas of social and emotional functioning, gross and fine motor skills, language, and cognition
- teaching strategies that are developmentally, culturally, and linguistically appropriate and enhance children's learning
- developmental assessment of a child's growth, learning, and development
- quality environment which promotes nutrition, health, and safety of the child
- qualified teaching staff with educational qualifications, knowledge, and skills in child development and early childhood education

Offering high-quality early childhood education can be a challenge, particularly in rural communities across the US. Rural grantees of Head Start funding often struggle to meet stringent Head Start program performance standards (HSPPS) due to lack of transportation and required medical, dental and mental health referral options for enrolled children. Due to lack of transportation, many Head Start centers also often lack the minimum enrollment required to offer Head Start services to the community. There is a dearth of professional development opportunities for licensed Head Start teachers, and many people trained in rural areas will then migrate to metro areas in search of higher salaries once they are licensed.

Spurred on by constraints in funding Head Start programs for transportation, some rural programs have built creative partnerships with other organizations in their area to overcome this challenge.[25] In order to meet the need for healthcare referrals, a Head Start grantee in Coffeyville, Kansas, collaborated with a local Federally Qualified Health Center (FQHC) to provide access to health services. The FQHC offers a portable dental clinic which helps the Head Start center to meet the requirements for dental health.[25] This type of collaboration between community-based entities and Head Start programs is essential in rural locations so they can meet the HSPPS requirements for their enrolled children.

Despite the challenges associated with being in rural locations, there are several Head Start programs throughout Northeast Tennessee and Southwest Virginia. The Upper East Tennessee Human Development Agency in Northeast Tennessee serves more than 1,000 children in eight counties including Hawkins, Johnson, Washington, Greene, Sullivan, Unicoi, Carter, and Hancock. In Southwest Virginia, Head Start programs are offered through public agencies (e.g. Lee County Public Schools) as well as nonprofit organizations (e.g. Kids Central, Inc.) in the following counties: Buchanan, Tazewell, Wise, Dickenson, Lee, Smyth, Wythe, Washington, Russell, Grayson, and Scott. However, despite the presence of these programs only a minority of children who need them are enrolled.

The Tennessee Department of Human Services applies similar measures in its rating of child care providers in the state. The state's Child Care Certificate program, which is funded through the federal Child Care and Development act, provides assistance to low-income families in need of child care services.[26] In Virginia, the CommonHelp assistance program, which provides eligible families with support for food security, child care, housing, and cash assistance, functions in much the same through funding from the Child Care and Development Act. Increased funding for these programs will make child care available to more families in the region, but transportation issues will have to be addressed as well if utilization is to increase.

The Healthy Start Tennessee program targets families at high risk of child abuse and/or neglect, as measured by the Kempe Family Stress Checklist. Healthy Start is currently offered in 20 counties through seven community-based agencies. Funding to support this program comes from the State of Tennessee with an annual cost per child of $2,984. When compared to statewide populations, participants of Healthy Start do better in many important outcome measures (Tables 2, 3, and 4).

Recommendation: Provide universal access to high-quality early childhood education and child care for all families whose children are at risk for poor school readiness and school failure.

C. Actively screen all children and families for psychosocial needs and provide accessible, family-based interventions

Problem Statement: The presence of psychosocial concerns in childhood are demonstrated risk factors for a series of poor outcomes in late childhood, adolescence, and adulthood including poor academic performance, depression, antisocial behavior, and substance abuse.[27] These concerns are of growing societal significance, with rates of adolescent mental health problems, especially conduct disorders and depression,

increasing across recent decades in Western societies.[28] In a cross-temporal analysis of the MMPI, Twenge et al. showed young adult psychopathology has increased by one standard deviation in most problem scores over the past 70 years.[29]

Over the last four decades, evidence-based treatments (EBTs) have been developed that can disrupt or prevent consequences associated with early psychosocial concerns.[29,30] However, these treatments are not reaching many of the children who need them. First, significant barriers to care such as cost, provider shortages, and long waiting lists for services have been identified. Estimates show 4 out of 5 children ages 6-17 with psychosocial problems do not receive any help.[31] Secondly, even when families do access mental health services, they are not likely to get an EBT.[32,33] Several studies have shown community-based mental health clinicians have not adopted EBTs into their practice, relying on clinical judgment instead.[34,35,36] Finally, studies of consumer demand for evidence-based parenting programs show low response and attendance rates,[37] suggesting these lengthy and often inflexible interventions are not well received.

These issues have particular significance in rural Appalachia, where children and families struggle with a number of health disparities[38] and unhealthy behaviors[39] associated with poorer mental health.[40] Regional data show rates of psychosocial concerns presenting in pediatric primary care are higher in Southern Appalachia than rates reported in studies of national samples using the same methods.[41] There are a number of unique challenges for patients seeking mental health services in rural areas.[42] Polaha et al. demonstrated that, even when these barriers are taken into account, parents who perceive stigma around getting help for their child express less willingness to seek in a traditional community mental health setting.[43] In fact, there is evidence that people in rural Appalachia access mental health less than a comparison group outside the region.[44]

Evidence Statement: Identifying psychosocial needs through screening and providing *accessible* interventions is essential to mitigating poor outcomes. Behavioral science offers a range of long-standing, evidence-based screening and treatment strategies that can be deployed in community-based settings where families are likely to seek or accept help. Two of the strongest pathways that have been explored are school and primary care settings. Each of these two settings has its respective strengths in terms of accessibility, feasibility (for screening and intervention), and cost-effectiveness. A review of the evidence around the merits of each are outside of this review; it is sufficient to point out that both are well-supported. If screening and treatment for psychosocial concerns in children were available in both settings, accessibility would be optimized. An evidence statement focused on each setting in turn follows.

Screening in Primary Care. The benefits of integrating behavioral health into primary care are widely acknowledged.[45] One recent meta-analysis of 31 randomized controlled trials showed a significant effect for integrated over usual primary care for children and adolescents, especially when the collaborative services focused on a specific, evidence-based treatment.[46] Integrated primary care models have established screening and treatment pathways for children with psychosocial concerns, and local evidence shows these have high provider adoption and penetration into the at-risk population.

While there are a number of screening tools that can be deployed, the Pediatric Symptom Checklist (PSC) is supported by the American Academy of Pediatrics and reimbursed by third-party payers. The PSC is a frequently used measure and has strong

reliability and validity. In local studies, approximately 15% of parents in pediatric clinic waiting rooms rated their child as having clinically significant concerns on the PSC.[46]

School Based Mental Health. A growing body of literature supports the integration of mental health services into the schools.[47] Like the integrated primary care model, this delivery mechanism relies on an effective screening process that identifies at-risk families and then provides them with accessible treatment.

One universal tool that can be used to implement a screening process in schools is the Behavioral and Emotional Screening System (BESS). The BESS is designed to be completed in less than five minutes per student, with no training required for administrators. The instrument is intended to identify various behavioral and emotional strengths and weaknesses, and identify children as having "normal," "elevated," or "extremely elevated" levels of risk. This tool can be utilized as an initial universal assessment to identify students in need of further evaluation.[64]

Using the Youth Risk Behavior Survey (YRBS), created by the Centers for Disease Control and Prevention, can also provide schools with important data about the mental health and prevalence of risk factors in their student population. The CDC provides guidelines for schools on how to administer the survey, analyze the results, and report the findings to community members.[65] This universal method for screening allows school administrators to identify common risk behaviors among students. However, because the surveys are anonymous students struggling specifically with mental health issues are not be able to be identified for follow-up care. Reducing stigma around mental health must be a primary goal if service delivery is to be effective within the youth population. Currently it is difficult to begin discussions within communities and schools about potential mental health issues children may be experiencing, which creates a barrier to prevention.

The Systematic Screening for Behavioral Disorders (SSBD) is a school-based screening system that collects diagnostic measures to identify children in need of special education services. Information collected from parents/teachers and direct observations is utilized to determine the specific Individualized Education Plan (IEP) for the child.[66] Adoption of evidence-based practices from Specialized Education Services Inc.(SESI) schools that have shown success would greatly benefit special needs children in Northeast Tennessee and Southwest Virginia. Some practices utilized include:[67]

- Comprehensive support network
- Positive reinforcement
- Reward-based incentives
- Mutual respect
- Strong therapeutic approach

Evidence-based and accessible treatment. Over the past 50 years, the field of behavioral science has developed a strong evidence base for a number of interventions for children with psychosocial concerns, mostly focused on parent-training approaches. In recent decades, the core components of those interventions have been adapted to family-oriented model of care that is brief and intended for deployment in more accessible settings such as primary care and schools. This intervention, the Family Check-Up (FCU), is recognized as an evidence-based prevention program by Blueprints for Healthy Youth Development,[48] and is one of seven programs designated by the

Agency for Children Youth and Family's HomVEE program,[48] SAMSHA's National Registry of Evidence-Based Programs and Practices (NREPP),[49] Crime Solutions,[50] and NIDA Red Book.[51]

The FCU is a family-centered, secondary prevention program typically referred to as *parent training*.[52,53] The FCU, a tailored, adaptive approach to intervention,[54] has been tested in multiple randomized prevention trials with ethnically diverse families and in diverse service delivery contexts, including public middle school environments[54-57]; the Special Supplement Nutrition Program for Women, Infants, and Children[58]; and community mental health agencies.[59] Randomized prevention trials of the FCU in childhood and adolescence consistently indicate that families most in need of family intervention (e.g., single parents, high-conflict homes) have higher rates of engagement.[60] When families receiving services in community mental health agencies participated in the FCU, they engaged in significantly more treatment sessions than did families receiving treatment as usual.[59] Further, race/ethnicity and gender have not been related to FCU outcomes and the FCU has been successfully applied to various culturally diverse groups with intervention effects on parenting skills and youth outcomes.[61] In addition to English, FCU services have been delivered in Spanish and all materials have been professionally translated. The NIDA, NIAAA, NICHD, CDC, and IES have provided support for these trials.

Recommendation: Screen all children and their parents regularly for emotional and behavior problems and provide timely, evidence-based, family-centered interventions to promote healthy psychosocial development.

D. Promote family strengths with increased access to in-home services that support child development and parenting

Problem Statement: Family stress, which undermines the ability to provide supportive and stimulating environment for children, can have long-term effects on the health and development of children, youth, and adults.

Evidence Statement: Home visiting programs, which are now supported through both federal and state initiatives, are an important strategy for disseminating education, support, resources, and evidence-based parenting practices to families. A range of home visiting programs have been established with varying evidence, child and family participants, and targeted outcomes. This review of engaged programming and outcomes highlights primary examples.

Early Intervention. Home visiting programs targeting early intervention are available to all families who are high risk or who qualify for these services. Tennessee and Virginia have regional entry points connecting families upon referral from healthcare professionals, or by a direct request by parents. The Tennessee Early Intervention System aims to begin programming with families in the home within 30 days of consent. In the Northeast sector, the percent of families who receive services in this timeframe is 97.66% which is marginally higher than the state average. The percent of families receiving services in the home is 10% lower than the state at 70.93%.[48] By all outcome

measures including positive social-emotional skills and cognitive skill building, the Northeast region is comparable or higher performing that the rest of the state.[48]

The Virginia Department of Education provides the same early intervention services in every sector of the state, coordinated through central entry points. Data for the Southeast region are not available, but trend data for the state suggest improvements in timely delivery of services. In 2013, 98% of families began to receive services in a "timely manner," which was up from 72% in 2005.[49] Positive impacts of the program and cognitive, social, and emotional development are comparable to Tennessee's data. Increased funding for services, referral infrastructure, and measurement can better ensure the population of children with disabilities in the region is being adequately supported. As mentioned in previous sections, transportation services will be essential to the success of any early intervention program.

Pregnancy and Infancy. The Nurse Home Visitor program seeks to improve pregnancy outcomes, child health and development, as well as the economic self-sufficiency of the family. Visiting nurses accomplish this by helping parents develop goal setting skills, plan future pregnancies, obtain additional education, and find jobs. In 2014 this program served 154 low-income, first-time mothers from 28 weeks of pregnancy through two years after giving birth. Funding is provided by the state of Tennessee with an annual cost per child of $4,168. The program outcomes reveal participants in the Nurse Home Visitor program exceed Tennessee state averages on measures including child abuse and neglect, child immunizations, infants who get screened for developmental issues, and mothers who do not smoke during pregnancy (Tables 2 and 3).

Table 2. Tennessee Healthy Start program outcomes, 2014.[62]

Outcome Measure	Healthy Start Participants	TN Population at Large	HP 2020 Target
CHILD OUTCOMES			
Children are free of abuse and neglect	98.4%	99.57%	99.15%
Children are up to date with immunization by 2nd grade	94.3%	75.4%	89%
Children receive periodic developmental screening	100%	38.3%	Comparable national target not available
MATERNAL OUTCOMES			
Mothers receive early and consistent prenatal care	96.1%	71.1%	77.9%
Mothers delay a subsequent pregnancy for at least 12 months after the birth of the previous child	96.1%	93%	Comparable national target not available

Table 3. Tennessee Nurse Home Visitor Program, 2014.[62]

Outcome Measure	Healthy Start Participants	TN Population at Large	HP 2020 Target
CHILD OUTCOMES			
Children are free of abuse and neglect	100%	99.57%	99.15%
Children are up to date with immunization by 2nd grade	95%	75.4%	80%
Children receive periodic developmental screening	100%	38.3%	Comparable national target not available
Infants are born to mothers who did not smoke during pregnancy	93%	83.3%	98.6%

Prevention of Abuse and Neglect. The Child Health and Development (CHAD) program is designed to enhance the physical, social, emotional, and intellectual development of children, to educate parents in positive parenting skills, and to prevent child abuse and neglect. This program is currently offered in 22 counties in Northeast and East Tennessee through local public health departments from birth to 6 years old. Funds to support this program come from the State of Tennessee with a current cost of $1,023 per family. While 90% of children are "free of child abuse and neglect" compared to 99.57% in the state of Tennessee, 86% of children enrolled in the CHAD program are up to date with their immunizations by age two compared to only 75.4% of children in the state as a whole (Table 4).

Table 4. Tennessee CHAD program outcomes, 2014.[62]

Outcome Measure	Healthy Start Participants	TN Population at Large	HP 2020 Target
CHILD OUTCOMES			
Children are free of abuse and neglect	90%	99.57%	99.15%
Children are up to date with immunization by 2nd grade	86%	75.4%	80%

Broad Home Visiting Programming Coordinating Services. In Virginia, federal grants for home visiting programs allowed workers to make 16,542 home visits in 27 of Virginia's 95 counties offering services to 1,245 families.[62] Federal funding, however, is a limited measure of the total expenditures for serving families in the state. The Virginia Home Visiting Consortium (HVC) utilizes funding from many sources (e.g. Early Intervention, Project LINK, Medicaid, and state funds) to work with programs across the state to ensure quality programming, train staff, leverage resources, and coordinate programs for greatest impact.[63] Member organizations offer the a number of models across the state, including CHIP of Virginia, Early Head Start, Healthy Families, Healthy Start/Loving Steps, Nurse Family Partnership, Parents as Teachers, and Resource Mothers. Statewide, the HVC boasts 9,066 families served by 450 full-time home visitors in 110 communities, meeting 7.5% of need through $34 million public and private investment.[63] In Southwest Virginia the HVC partners with 14 agencies providing home visitation services to families in the region. Services include:

- Increasing access to health care for low-income families
- Case management for pregnant, parenting, and at-risk women of childbearing age
- Prenatal education services
- Homemaker services
- Substance abuse treatment services
- Parenting education
- Assistance with child care access
- Service coordination for children with disabilities
- Providing books for children to read
- Child development education
- Connecting families for social outlet
- Transportation services
- Smoking cessation programming
- Encouragement for children to receive immunizations
- Planned pregnancy

Outcomes information is not specifically available for the state of Virginia, but Healthy Families America evaluation results that include more than 20 states and over 12 randomized control trials indicate positive outcomes for families participating in home visits including: reduced child maltreatment, improved child health, improved parent-child interaction, improved school readiness, improved family self-sufficiency, and improved coordination of services and referrals.[63]

The State of Tennessee Home Visiting report for 2013-2014 reported that evidence-based home visiting programs are currently available in 50 of Tennessee's 95 counties. These programs served 3,700 families in fiscal year 2014.[62]

Recommendation: All families at risk for poor child outcomes should be offered in-home supports to help them provide an optimal environment for child safety, health, and development

E. Increase access to comprehensive and multi-specialty services for children with chronic diseases

Problem Statement: Children with chronic disease in Northeast Tennessee and Southwest Virginia have limited access to high-quality specialty care. As a result, they suffer worse outcomes that have lifelong significance in their function, quality of life, and life expectancy.

Evidence statement. Serious chronic diseases in children are increasing in prevalence due to improved medical treatment for diseases such as disorders of development, seizures, asthma, type I and II diabetes, cystic fibrosis, cerebral palsy, and mental and behavioral disorders among others. The life expectancy for children with certain serious chronic conditions has increased substantially in the last 40 years. For example, the current life expectancy for children with cystic fibrosis is 50 years of age. For most serious chronic conditions, children need a multi-disciplinary approach that includes specialty pediatricians, allied health, social work, nutritionists, and psychologists. Unfortunately, in Northeast Tennessee and Southwest Virginia there are serious gaps in technical expertise to treat many childhood chronic diseases. For example, the closest specialists or programs to treat cystic fibrosis are at least two hours away. Integrated services for children with cerebral palsy do not exist in the area. Until recently the Tri-Cities area lacked critical specialists such as pediatric endocrinologists, gastroenterologists, and neurologists. Integrated services for children with chronic disease are also very limited. Moreover, many families in Northeast Tennessee and Southwest Virginia are also challenged by food insecurity, poor housing, poverty, and lack of transportation limiting access to treatment services and other health-related social services. While many of these services are available outside the region, the majority of families struggle to access these services due to the above challenges. Many rural areas in the region experience a clustering of risk factors, resulting in gaps in care and high rates of serious preventable morbidity and mortality of children with chronic disease. The lack of care and the increased rates of preventable suffering creates enormous stress for families of children with special healthcare needs.

Evidenced-based approaches to increase access to services for children living with chronic disease exist, including: care coordination, medical home, inter-disciplinary teams, and telemedicine, as described in this committee's report and that of the Mental

Health and Addictions Steering Committee. These programs can be developed to cut across multiple specialty areas sectors. To implement these approaches will require an investment of resources to hire pediatric specialists and develop coordinated approaches to care for the children of this region. Given the geographic and transportation barriers in the region, outreach and telemedicine approaches should be developed so care for children with serious chronic disease can be delivered as close to home as possible.

Recommendation: Attract additional pediatric specialists and pediatric allied health providers to the region, build interdisciplinary teams, and develop outreach services utilizing telehealth and other technologies, with the end result being a comprehensive system of care for children and youth with chronic disease.

F. *Increase access to dental screening and dental preventive care and restorative care*

Problem Statement: Poor dental health is the most common chronic condition affecting children in the region. Many rural Appalachian communities lack fluoridation of the tap water due to geographic barriers and the reliance on well water. The lack of fluoridation in drinking water can disproportionately affect children in poor and minority communities who are not as likely to receive preventative interventions, which increases morbidity and cost of dental health care.[68] Access to dental services is one of the major challenges to the region; not only because of the tremendous need, but also because of an inability to recruit practitioners to the area. Affordable dental care is unavailable for many people across the region, limiting them to the utilization of program like the Remote Area Medical (RAM) Volunteer Corps which holds a handful of events to provide free dental, vision, and health care to communities in Tennessee and Virginia. In 2015, RAM held four events in Appalachia. At each one thousands of people were served, with 80-90% of those seen were for dental concerns.[69] Unfortunately RAM does not meet the needs of the region with regard to ongoing and non-episodic dental care, but only sees a small portion of the population; often at a point when the only option is tooth extraction.

Evidence Statement: Primary care and school-based dental sealant delivery programs in areas of low socioeconomic status are recommended to mitigate the effects of poor diet and untreated drinking water. Research has shown that these programs can significantly reduce the number of dental caries in children who receive sealants.[68] In conjunction with providing sealants to children, parents should be educated on how to provide and teach good dental hygiene to their children, using floridated toothpaste, and how to avoid sugar and other negatively impactful ingredients in their child's diet.

Recommendation: Increase access to dental varnish, water fluoridation, population-wide dental health education and other preventive dental services for all children in the region.

G. *Reduce hunger and food insecurity among expecting mothers and children*

Problem Statement: When establishing a good foundation for children, nutrition is key, particularly in the first three years of life. As food insecurity is harmful to individuals of all ages, it is particularly devastating among young children, as it increases their

vulnerability and likelihood of long-term consequences. In short, food insecurity threatens the creation of a solid foundation for children's future academic success, and mental and physical health.

Evidence Statement: According to Feeding America's food insecurity data, approximately 13.2% of individuals in Southwest Virginia, and 15.8% of individuals in Northeast Tennessee, are currently food insecure.[70] Infants and young children living in a food-insecure home have stunted development and are more vulnerable to poor health in the early stages of life.[71] Pregnant women who are food insecure are more likely to experience birth complications.[72] Food insecurity has also been shown to elevate the risk for low birth weight in infants.[73] In the first two years of life, food insecurity has been linked to learning difficulties and delayed development.[74] Research has shown that food insecurity creates health problems for children, hindering their ability to fully participate in school and function normally. These studies report that food insecure children are more likely to be hospitalized,[75] have a high risk for asthma and anemia,[76] and oral health problems. When looking at behavioral health in school, food insecure children have greater risks for social difficulties such as truancy and tardiness,[77] anxiety,[78] and mood swings.[79]

In order to combat food insecurity, Second Harvest Food Bank of Northeast Tennessee has implemented several food assistance programs created specifically for children in the region. The Food For Kids Backpack program provides children in need with an array of healthy snacks and easy-to-prepare meals on weekends, and is currently serving around 5,000 children.[80] Kids' Cafe provides food to children and youth programs where over half of the participants are under the poverty level, and serves an average of 636 children a month.[80] Tennessee also offers a Summer Food Service program that utilizes food vendors in the region and volunteers through the Corporation for National Community Service 'Summer VISTA' program to provide children with nutritious foods.[80] The most successful and cost-effective approaches target children while they are in school, because food can be distributed to a significant amount of children in a short time without traveling from house to house in a given community. Second Harvest Food Bank also operates the Mobile Food Pantry every week, which currently serves about 50 sites within the region and distributed 1.5 million pounds of food to over 55,000 individuals in FY14, the highest distribution of any direct service Food Bank Program.[80]

Feeding America Southwest Virginia is the food assistance program for the 9th congressional district of Virginia. The organization manages the gather and delivery of more than $31 million worth of food donations in the region through its partnership with 373 feeding programs.[81] Children who participate in feeding programs can show marked improvement in school attendance, test scores, behavior, and health. Food is an essential building block for anyone, especially to a hungry child.

Recommendation: Increase access and participation among children and families in public and private feeding programs to reduce food insecurity.

III. Supported and Empowered Youth

The following objectives were developed to meet the goal of maximizing youth potential and their transition to post high-school education and work.

Problem Statement: In Tennessee and Virginia, according to anonymous high school surveys (Youth Risk Behavior Survey conducted in all 50 states annually), by high school graduation half of high-schoolers have had sex and 15% have had multiple (> 4) partners since becoming sexually active. The teen birthrates in many Northeast Tennessee and Southwest Virginia counties are 50% to 100% higher than in their respective states or in the nation. Teen pregnancy is associated with multiple untoward outcomes including failing to graduate from high school, increased abortion rates, poverty in adulthood, and repeat pregnancies. Fewer than half of teen mothers graduate from high school and only 2% obtain a college degree by the time they are 30 years of age.

Evidence Statement: Reducing teen pregnancy should be a high priority for future community initiatives because: a) there are evidenced based approaches to successfully prevent teen pregnancies; and b) the lifelong benefits greatly exceed the cost of the programs. As a first step, comprehensive, evidenced-based sexual health education should be made available to all teens. This would result in the reduction of unwanted or unplanned pregnancies and reduce unsafe sexual practices and prevent the spread of sexually-transmitted infections, including HIV. Comprehensive sexual health education curriculum includes elements relating to:[82]

- Human development
- Relationships
- Decision making
- Abstinence
- Availability of comprehensive contraception options, including LARCs
- Disease prevention

These programs have been shown to significantly reduce the risk of early sexual initiation, having multiple sexual partners, and inconsistent condom and contraceptive use.[83]

Although almost all sexually active adolescents report having used some method of contraception during their lifetimes, they rarely select the most effective methods. Adolescents most commonly use contraceptive methods with relatively higher failure/misuse rates such as condoms, withdrawal, or oral contraceptive pills. Nonuse, inconsistent use, and use of methods with higher failure/misuse rates in sexually active teens result in the high rate of unintended adolescent pregnancies. Over 80% of adolescent pregnancies are unplanned. The most effective forms of birth control are LARCs, which include the implant Nexplanon and two new intra-uterine devices (Mirena and Skyla), both of which can be used in teens and other women who have never given birth. Both methods may remain in place for at least three years, are highly effective and require no ongoing effort by users. The implant is inserted into the inside of the upper arm in a 15 minute procedure by a clinician who has completed the requisite training. Implants are ideal for adolescents who prefer a method that does not require regularly scheduled adherence and who desire an extended length of protection. Similarly, the

IUD methods can be inserted in a brief procedure by providers trained in the method. Despite past concerns, IUDs are now known to be safe for adolescents who have never given birth. These contraceptive methods have the highest rate of success and satisfaction of all reversible methods with typical and perfect use failure rates of less than 1%--improving the effectiveness of contraception compared to other methods by 20 times.[84] Community programs to increase access to LARCs substantially reduced pregnancy rates compared to U.S. teens. Under the Affordable Care Act, these methods of contraception are covered under all insurances.[85]

Recommendation: Increase access to evidenced-based pregnancy prevention programs and promote the use of LARCs for teens in Northeast Tennessee and Southwest Virginia

B. *Increase the number of high-school graduates pursuing post-secondary education or career training*

Problem Statement: Northeast Tennessee and Southwest Virginia are below the national and state averages for engagement by youth in post high-school education or vocational training.

Evidence Statement: Early intervention in high schools to increase likelihood and ability to transition into a college or vocational program begins with identifying students who do not learn at the same pace, or struggle with certain courses, and addressing their needs. Disadvantaged students that live in a low socioeconomic status household may not be given the same opportunities as others. The more frustration and lack of confidence students have in their learning ability, the less likely they are to continue seeking education past a GED. Many students do not realize that a four year university isn't the only option, and that vocational/community colleges are great ways to develop a career. Partnerships with local community colleges and employers can offer students traineeships and job shadowing to give them a perspective of what career they want to pursue.[85] Tech prep is an example of an intervention that combines two years of secondary education along with two years of post-secondary education that integrates academic, vocational, and technical instruction.[86]

Educational attainment has become more important to our economic success than ever before. Far more jobs are requiring more education and credentialing, and individuals with only a high school diploma are finding it increasingly difficult to enter the workforce. Today the number of jobs that require post-secondary education has doubled over the last 40 years.[87]

Academic achievement by 8th grade is one of the largest predictors of college readiness. Research has shown that the higher the level of academic achievement by 8th grade, the greater impact on college and career readiness.[88] In order to increase this achievement, interventions that provide summer enrichment programs and college visits among middle and high-school students can help students understand post-secondary pathways.

Recommendation: Increase early-intervention programs using evidence-based models that identify students early and follow them through high school and college, providing a

suite of student supports to prepare them for college or work, including tutoring, mentoring, college visits, summer programs, career and technical education, and scholarship funding.

C. *Provide services to reduce teen suicide and teen suicide attempts*

Problem Statement: In 2013, suicide was the second leading cause of death in people age 12-18.[89] The Youth Risk Behavior Survey data demonstrate that 8-9% of youth have attempted suicide and double that number have planned a suicide attempt in the past 12 months.

Evidence Statement: Young people's suicides often follow a crisis. For over one in three, the police or medical examiner noted that a crisis such as an argument with a parent or relationship break-up occurred the same day as the suicide. Adolescent boys 15 to 19 years old had a suicide rate that was six times greater than that of their female counterparts, whereas the rate of suicide attempts was twice as high among girls as among boys.[90] The ratio of attempted suicides to completed suicides among adolescents is estimated to be 50:1 to 100:1. Thirty to forty percent of teens who die by suicide have made a prior attempt. Youth-friendly suicide hotlines have been effective in substantially reducing suicide attempts.

Screening is an important tool needed to identify the many risk factors that may lead a teenager to suicide, such as depression, experiencing bullying, and social isolation.[91] Once identified, the community can work to create environments for at-risk teens that are socially accepting, safe, and inclusive to prevent suicide. Validated screening tools exist that can be used in schools, healthcare provider offices, or emergency rooms.[92] Columbia Health Screen, and other screening programs, identify suicidal risk factors early in teenagers and can notify parents of the potential risk to help teens access mental health services in their area.[93] The program places emphasis on prevention by identifying risk factors as early as possible to keep teenagers safe and out of trouble. A school-based prevention program called "Stop a Suicide Today!" educates individuals to be aware of the behaviors of friends and family members, and to advocate for them to seek help when needed.[94]

Recommendation: Implement universal teen screening for antecedents to suicide attempts and provide community wide, accessible, youth-friendly, and evidence-based suicide prevention and mental health programs.

Measuring Success

The metrics below are expected outcomes from the work described above. There are likely to be other benefits associated with addressing the Healthy Children and Families priorities, but what is included here is what the committee feels are representative of the positive outcomes that are expected.

Focus Area	HCF Specific Priority	Metric	Source
Healthy Start	Increase access to high quality prenatal and postnatal care including new models of supportive prenatal care such as Centering Pregnancy	Reduced infant mortality	Vital records
		Reduced low birthweight rates	Vital records
	Increase delivery of services to prevent alcohol, drug, and tobacco use in women of child-bearing age	Reduced NAS	TN NAS Surveillance
		Increased percentage of new mothers reporting no alcohol, tobacco, or drug use in the last three months of pregnancy*	Pregnancy Risk Assessment Monitoring System (PRAMS)
	Increase support for breastfeeding initiation and continuation	Increased percentage of mothers who report currently breastfeeding or feeding pumped milk to baby	
Ready To Learn	Promote family strengths with increased access to in-home services that support parenting	Increased funding for Head Start programs	Early Childhood Learning and Knowledge Center (ECLKC)
	Actively screen all children and families for psychosocial and parenting needs	Family checkup	Data pending
	Improve educational and social readiness of children under 5 in preparation to enter kindergarten through community-wide measurement and interventions	Increased percentage of prekindergarten children ages 3-5 who participate in home literacy activities with a family member three or more times in the preceding week	National Center for Educational Statistics (NCES)
		Percentage of 3- to 4-year-old children and 5-year-old children in preprimary programs attending full-day programs	National Center for Educational Statistics (NCES)
		VA and TN status of securely linking child-level early care and education (ECE) data across ECE programs – linked across all programs	Early Childhood Data Collective
	Increase access to affordable, high-quality early education for children with special needs (atypically developing children)	Increased funding allocation for children with disabilities with Head Start programs	Early Childhood Learning and Knowledge Center (ECLKC)
	Increase access to comprehensive and multi-specialty services for children with chronic conditions	Lower chronic disease mortality in children and adolescent population	CDC Wonder
	Increase access to dental screening and dental preventive care and restorative care	Lower rate of dental caries in children and adults	State Oral Health Survey (Not Currently Active)

Focus Area	HCF Specific Priority	Metric	Source
	Reduce hunger and food insecurity among expecting mothers and children.	Families can meet their basic needs for food, clothing, shelter, and transportation.	USDA Food Environment Index
Supported and Empowered Youth	Provide services to reduce teen suicide and suicide attempts	Reduced teen suicides completed	CDC Fatal Injury Reports TN Suicide Prevention Network VA Performs
	Reduce teen pregnancy through increased access to evidenced-based pregnancy prevention education and Long Acting Reversible Contraception methods.	Fewer teen pregnancies and births	KidsCount Data Center
	Increase the number of high school graduates pursuing postsecondary education or career training.	Improve post HS outcomes	YRBS; Proposed Quillen College of Medicine Survey of High School Students

References

1. Lu, M. C., Kotelchuck, M., Hogan, V.K., Johnson, K. & Reyes, C. (2010.) Innovative strategies to reduce disparities in the quality of prenatal care in underresourced settings. *Medical Care Research Review*, *67*(5), 198S-230S.
2. Centering Healthcare Institute. (2016). Centering pregnancy. Retrieved from
3. https://www.centeringhealthcare.org/what-we-do/centering-pregnancy.
4. Phillippi, J.C., Myers, C.R. (2013). Reasons women in Appalachia decline CenteringPregnancy Care. *Journal of Midwifery and Women's Health, 58*(5), 516-22
5. Miller, T. & Hendrie, D. (2008). Substance abuse prevention dollars and cents: a cost-benefit analysis.. Retrieved from http://www.samhsa.gov/sites/default/files/cost-benefits-prevention.pdf.
6. Hingso, R.W., Heeren, T. & Winter, M.L. (2006). Age at drinking onset and alcohol dependence. *Archives of Pediatrics & Adolescent Medicine*, *160*(7), 739-746.
7. National Institute on Drug Abuse. (2003). Preventing drug abuse among adolescents and children: A research-based guide. *U.S. Department of Health and Human Services.* Retrieved from https://www.drugabuse.gov/sites/default/files/preventingdruguse_2.pdf.
8. Substance Abuse and Mental Health Services Administration. Screening, brief intervention, and referral to treatment. Retrieved March 2016 from http://www.samhsa.gov/sbirt.
9. Centers for Disease Control and Prevention. (2014). Breastfeeding report card: United states 2014. Retrieved from http://www.cdc.gov/breastfeeding/pdf/2014breastfeedingreportcard.pdf.
10. Centers for Disease Control and Prevention. (2013). Strategies to prevent obesity and other chronic diseases: The CDC guide to strategies to support breastfeeding mothers and babies. Retrieved from http://www.cdc.gov/breastfeeding/pdf/BF-Guide-508.PDF.
11. U.S. Department of Health and Human Services, Office of Disease Prevention and Promotion. Healthy People 2020. Retrieved from https://www.healthypeople.gov/2020/topics-objectives/topic/maternal-infant-and-child-health/objectives.
12. Tennessee Department of Health. (2010). Tennessee statewide physical activity and nutrition plan, 2010-2015: Breastfeeding initiation and duration. Retrieved from https://www.tn.gov/assets/entities/education/attachments/343047_doh_nutrition_phys_activity_plan.pdf.
13. Renfrew M.J., McCormick, F.M., Wade, A., Quinn, B. & Dowswell, T. (2012). Support for healthy breastfeeding mothers with healthy term babies [review]. *Cochrane Review*. Retrieved from http://onlinelibrary.wiley.com/doi/10.1002/14651858.CD001141.pub4/epdf.
14. Philipp, B.L., Merewood, A., Miller, L.W., et al. (2001). Baby-friendly hospital initiative improves breastfeeding initiation rates in a US hospital setting. *Pediatrics*, 108(3), 677-81.
15. Rosenberg, K.D., Stull, J.D., Adler, M.R., Kasehagen, L.J. & Crivelli-Kovach, A. (2008). Impact of hospital policies on breastfeeding outcomes. *Breastfeed Med*, *3*(2), 110-6.
16. DiGirolamo, A., Grummer Strawn, L. & Fein, S. (2008). Effect of maternity-care practices on breastfeeding. *Pediatrics*, *122* Suppl 2, S43-9.
17. WHO/UNICEF Joint Statement. (1990). Protecting, promoting and supporting breastfeeding: the special role of maternity services. *International Journal of Gynecology and Obstetrics*, *31* Suppl 1.
18. Baby Friendly USA. (2016). Find facilities. Retrieved from https://www.babyfriendlyusa.org.
19. Transforming Early Childhood Communication Systems. (2015). Retrieved from http://teccs.net.
20. Office of Planning Research and Evaluation. (2012). Third grade follow up to the Head Start Impact Study: Executive summary. Retrieved from http://www.acf.hhs.gov/sites/default/files/opre/head_start_executive_summary.pdf.
21. Vandell, D.L., Belsky, J., Burchinal, M., Steinberg, L. & Vandergrift, N. (2010). Do effects of early child care extend to age 15 years? Results from the NICHD study of early child care and youth development. *Child Development*, *81*(3).

22. Richmond, M.D., J. B. (1988). Early Education. *Bulletin of the New York Academy of Medicine*, *65*(3), 307-317.
23. Laurin, JC, Geoffroy, MC, Boivin, M, Japel, C, Reynault, MF, Trembley, RE, Cote, MS. (2015). Child Care Services, Socioeconomic Inequalities, and Academic Performance. *Pediatrics, 136*(6).
24. Shriver, M. D. & Allen, K. D. (2008). *Working with Parents of Noncompliant Children.* Washington DC: APA.
25. Health Resources and Services Administration. (2012). Challenges to Head Start and early childhood development programs in rural communities [Policy Brief]. Retrieved from http://www.hrsa.gov/advisorycommittees/rural/publications/headstartearlychildhood2012.pdf.
26. Tennessee Department of Human Services. Child care certificate program. Retrieved March 2016, from https://www.tn.gov/humanservices/article/child-care-certificate-program.
27. Coie, J. D. & Dodge, K. A. (1997). Aggression and antisocial behavior. Damon, W. & Eisenberg, N. (5th ed.), *Handbook of Child Psychology, Vol. 3: Social, emotional and personality development.* Hoboken, NJ: John Wiley & Sons, Inc.
28. Collishaw, S., Maughan, B., Goodman, R., & Pickles, A. (2004). Time trends in adolescent mental health. *Journal of Child Psychology and psychiatry, 45*(8), 1350-1362.
29. Twenge, J. M., Gentile, B., De Wall, C. N., Lacefield, K., & Schurtz, D. R. (2010). Birth cohort increases in psychopathology among young Americans 1938-2007: A cross-temporal meta-analysis of the MMPI. *Clinical Psychology Review, 30*(2), 145-154.
30. Eyberg, S., Nelson, M., & Boggs, S. (2008). Evidence-based psychological treatments for children and adolescents with disruptive behavior. *Journal of Clinical Child and Adolescent Psychology, 37*(1), 215-237.
31. Soni, A. (2009). The Five Most Costly Children's Conditions, 2006: Estimates for the US Civilian Noninstitutionalized Children, Ages 0-17. *Agency for Healthcare Research and Quality.*
32. Aarons, G. A. (2005). Measuring provider attitudes toward evidence-based practice: Consideration of organizational context and individual differences. *Child and Adolescent Psychiatric Clinics of North America, 14*(2), 255-271.
33. Haine-Schlagel, R., Fettes, D. L., Garcia, A. R., Brookman-Frazee, L., & Garland, A. F. (2014). Consistency with evidence-based treatments and perceived effectiveness of children's community-based care. *Community Mental Health Journal, 50*(2), 158-163.
34. Raine, R., Sanderson, C., Hutchings, A., Carter, S., Larkin, K., & Black, N. (2004). An experimental study of determinants of group judgments in clinical guideline development. *Lancet, 364*(9432), 429-437.
35. Stewart, R. E., & Chambless, D. L. (2007). Does psychotherapy research inform treatment decisions in private practice?. *Journal of Clinical Psychology, 63*(3), 267-282.
36. Weisz, J.R., & Kazdin, A. E. (2010). *Evidence-based psychotherapy for children and adolescents* (2nd ed.). New York, NY: The Guilford Press.
37. Baker, C.N., Arnold, D.H., & Meagher, S. (2011). Enrollment and attendance in a parent training prevention program for conduct problems*. Prevention Science*, *12*(2), 126-38.
38. Ernst, P., & Cormier, Y. (2000). Relative scarcity of asthma and atopy among rural adolescents raised on a farm. *American Journal of Respiratory Critical Care Medicine, 161*(5), 1563-1566.
39. Crooks, D. L. (2000). Food consumption, activity, and overweight among elementary school children in an Appalachian Kentucky community. *American Journal of Physiological Anthropology, 112*(2), 159–170.
40. Bilfield, S., Wildman, B. G., & Karazsia, B. T. (2006). Brief report: The relationship between chronic illness and identification and management of psychosocial problems in pediatric primary care. *Journal of Pediatric Psychology, 31*(8)*,* 813-817.
41. Polaha, J., Dalton, W. T., III, & Allen, S. (2011). The prevalence of psychosocial concerns in pediatric primary care serving rural children. *Jounal of Pediatric Psychology Special Edition in Rural Children's Health, 36,* 652-660.

42. Jameson, J. P. & Blank, M. B. (2007). The role of clinical psychology in rural mental health services: Defining problems and developing solutions. *Clinical Psychology: Science and Practice, 14*(3), 283–298.
43. Polaha, J., Williams, S. L., Heflinger, C. A., & Studts, C. R. (2015). The perceived stigma of mental health services among rural parents of children with psychosocial concerns. *Journal of Pediatric Psychology, 40*(10), 1095-1104.
44. Zhang, Z., Infante, A., Meit, M., English, N., Dunn, M., & Bowers, K. (2008). An analysis of mental health and substance abuse disparities & access to treatment services in the Appalachian region. *Final report. Washington: Appalachian Regional Commission.*
45. Asarnow, J. R., Rozenman, M., Wiblin, J., & Zeltzer, L. (2015). Integrated medical-behavioral care compared with usual primary care for child and adolescent behavioral health: A meta-analysis. *JAMA Pediatrics, 169*(10), 929-937.
46. Baird, M., Blount, A., Brungardt, S., Dickinson, P., Dietrick, A., Epperly, T., & Seymour, D. (2014). Joint principles integrated behavioral health care into the patient-centered medical home. *The Annals of Family Medicine, 12*(2), 183-185.
47. Rones, M. & Hoagwood, K. (2000). School-based mental health services: A research review. *Clinical Child and Family Psychology Review, 3*, 223-241.
48. Paulsell D, Avellar S, Sama Martin E, Del Grosso P. (2010). Home visiting evidence of effectiveness review: Executive summary. (No.5254a2ab30e146ce900220dbc4f41900). *Mathematica Policy Research.*
49. Substance Abuse and Mental Health Administration. (2015). National registry of evidence-based programs and practices. Retreived March 9, 2016 from http://www.nrepp.samhsa.gov/.
50. National Institute of Justice Office of Justice Programs. (2015). Crime solutions. Retreived March 9, 2015 from http://www.crimesolutions.gov/.
51. Robertson, E. B., David, S. L., & Rao, S. A. (2003). Preventing drug use among children and adolescents: A research-based guide form parents, educators, and community leaders. *Diane Publishing.* Retrieved March 9, 2016 from https://www.drugabuse.gov/sites/default/files/preventingdruguse_2.pdf
52. Forgatch, M. S., Patterson, G. R. (2010). Parent management training-Oregon model: An intervention for antisocial behavior in children and adolescents. *Evidence-based psychotherapies for children and adolescents, 2*,159–178.
53. Kazdin, A. E. (1997). Parent management training: Evidence, outcomes, and issues. *Journal of the American Academy of Child & Adolescent Psychiatry, 36*(10), 1349–1356.
54. Stormshak, E. A., Connell, A., Dishion, T.J. (2009). An adaptive approach to family-centered intervention in schools: Linking intervention engagement to academic outcomes in middle and high school. *Prevention Science, 10*(3), 221-235.
55. Dishion, T.J., Kavanagh, K., Schneiger, A., Nelson, S. E., Kaufman, N. (2002). Preventing early adolescent substance use: A family-centered strategy for public middle school. *Prevention Science, 3*(3), 191-201.
56. Stormshak, E. A., Dishion, T. J., Light, J., & Yasui, M. (2005). Implementing family-centered interventions within the public middle school: Linking service delivery to change in student problem behavior. *Journal of Abnormal Child Psychology, 33*(6), 723-733.
57. Stormshak, E. A., Fosco, G. M., & Dishion, T. J. (2010). Implementing interventions with families in schools to increase youth school engagement: The family check-up model. *School Mental Health, 2*(2), 82-92.
58. Shaw, D. S., Dishion, T. J., Supplee, L., Gardner, F. E. M., Arnds, K. (2006). Randomized trial of a family-centered approach to prevention of early conduct problems: 2-year effects of the Family Check-Up in early childhood. *Journal of Consulting and Clinical Psychology, 74*(1), 1-9.
59. Smith, J. D., Stormshak, E. A., Kavanagh, K. (2014). Results of a pragmatic effectiveness-implementation hybrid trial of the Family Check–Up in community mental health agencies. *Administration and Policy in Mental Health and Mental Health Services Research, 42*(3), 265-278.

60. Dishion, T. J. Brennan, L. M. Shaw, D. S., McEAchern, A. D., Wilson, M. N., & Jo, B. (2013). Prevention of problem behavior through annual family check-ups in early childhood: Intervention effects from home to early elementary school. *Journal of Abnormal Childr Psychology, 42*(3), 343-54.

61. Smith, J. D., Knoble, N., Zerr, A. A., Dishion. T. J., Stormshak, E. A. (2014). Multicultural competence and the Family Check-Up: Indirect effect on adolescent antisocial behavior through family conflict. *Journal of Clinical Child & Adolescent Psychology, 43*(3), 400-414.

62. Tennessee Department of Health. (2014). Tennessee home visiting programs annual report. Retrieved March 2016 from https://tn.gov/assets/entities/health/attachments/HomeVisiting_AnnualReport_2014.pdf.

63. Cooley, W. C., McAllister, J. W., Sherrieb, K., & Kuhlthau, K. (2009). Improved outcomes associated with medical home implementation in pediatric primary care. *Pediatrics, 124*(1), 358–364.

64. Dowdy, E., Ritchey, K., & Kamphaus, R.W. (2010). School-based screening: A population-based approach to inform and monitor children's mental health needs. *School Mental Health*, *2*(4), 166-176.

65. Centers for Disease Control and Prevention. (2014). A guide to conducting your own youth risk behavior survey. Retrieved from http://www.cdc.gov/healthyyouth/data/yrbs/pdf/yrbs_conducting_your_own.pdf.

66. Southeastern Regional Education Service Center. (2016). Systematic Screening for Behavioral Disorders. Retrieved from http://www.nhcebis.seresc.net/universal_ssbd.

67. Specialized Education Services, Inc. (2016). Behavior Program. Retrieved from http://www.sesi-schools.com/emotional-disabilities/ED-about-the-program/ED-behavior-program/.

68. Mouradian WE, Wehr E, Crall JJ. (2000). Disparities in children's oral health and access to dental care. *JAMA. 284*(20), 2625-2631.

69. Remote Area Medical Services. (2015). Post op reports. Retrieved from https://ramusa.org/.

70. Gundersen, C., A. Satoh, A. Dewey, M. Kato & E. Engelhard. (2015). Map the meal gap: Food insecurity and child food insecurity estimates at the county level. *Feeding America*.

71. Heinig, M.J., & Dewey, K.G. (1996). Health advantages of breastfeeding for infants: A critical review. *Nutrition Research Review, 9*, 89-110.

72. Laraia, B.A., Siega-Riz, A., & Gundersen, C. (2010). Gestational weight gain, and pregnancy complications. *Journal of the American Dietetic Association, 110*, 692-701.

73. Borders, A.E.B., Grobman, W.A., Amsden, L.B., & Holl, J.L. (2007). Chronic stress and low birth weight neonates in a low-income population of women. *Obstetrics and Gynecology, 109*, 331-338.

74. Zaslow, M., Bronte-Tinkew J., Capps R., Horowitz A., Moore K.A., and Weinstein D. (2008). Food security during infancy: Implications for attachment and mental proficiency in toddlerhood. *Maternal and Child Health Journal*, *13*(1), 66-80.

75. Cook, J., Frank, D., Leveson, S., Neault, N., Heeren, T., Black, M., Berkowitz, C., Casey, P., Meyers, A., Cutts, D., &Chilton, M. (2006). Child food insecurity increases risks posed by household food insecurity to young children's health. *Journal of Nutrition*, *136,* 1073-1076.

76. Kirkpatrick, S., McIntyre, L., & Potestio, M. (2010). Child hunger and long-term adverse consequences for health. *Archive of Pediatric Adolescent Medicine, 164*(8), 754-762.

77. Murphy, J.M., Wehler, C.A., Pagano, M.E., Little, M., Kleinman, R.E. & Jellinek, M.S. (1998). Relationship between hunger and psychosocial functioning in low-income American children. *Journal of American Academy of Child and Adolescent Psychiatry*, *37*(2), 163-170.

78. Whitaker, R., Phillips, S., & Orzol, S. (2006). Food insecurity and the risks of depression and anxiety in mothers and behavior problems in their pre-school-aged children. *Pediatrics, 118*, e859–e868.

79. Slopen, N., Fitzmaurice, G., Williams, D.R., & Gilman, S.E. (2010). Poverty, food insecurity, and the behavior of childhood internalizing and externalizing disorders. *Journal of the American Academy of Child and Adolescent Psychiatry, 49*, 444-452.

80. Second Harvest Food Bank of Northeast Tennessee. Food programs. Retrieved from http://www.netfoodbank.org/HowWeWork/FoodPrograms.aspx.
81. Feeding America. (2015). Hunger and poverty statistics. Retrieved from http://www.feedingamerica.org/hunger-in-america/impact-of-hunger/hunger-and-poverty/hunger-and-poverty-fact-sheet.html.
82. Sexuality Information and Education Council of the United States. (2009). What the research says: Comprehensive sexual health education. Retrieved from http://www.siecus.org/index.cfm?fuseaction=Page.ViewPage&PageID=1193.
83. Kirby, D. (2007). Sex and HIV programs: Their impact on sexual behaviors of young people throughout the world. *Journal of Adolescent Health*, *40*(3) 206 –217.
84. Winner B, et. Al. (2012). Effectiveness of long-acting reversible contraception. *NEJM*, *366*, 1998-2007.
85. Secura G., et. Al. (2014). Provision of no-cost, long-acting contraception and teenage pregnancy. *NEJM, 371*, 1316-23.
86. Specialized Education Services, Inc. (2016). Behavior program. Retrieved from http://www.sesi-schools.com/emotional-disabilities/ED-about-the-program/ED-behavior-program/.
87. Carnevale, A., Smith, N., & Strohl, J. (2010). Help wanted: Projections of jobs and education requirements through 2018," *Georgetown University Center on Education and the Workforce*.
88. ACT. (2008). The forgotten middle: Ensuring that all students are on target for college and career readiness before high school. Retrieved from http://www.act.org/research/policymakers/pdf/ForgottenMiddle.pdf.
89. Parent Resource Program: The Jason Foundation. (2013). Youth suicide statistics. Retrieved from http://jasonfoundation.com/prp/facts/youth-suicide-statistics/.
90. American Academy of Pediatrics. (2007). Suicide and suicide attempts in adolescents. *Pediatrics, 120,* 669-676.
91. Hallfours, D, et. Al. (2006). Feasibility of screening adolescents for suicide risk in "real-world" high school settings. *Am J Public Health*, *96*, 282–287.
92. National Institute of Mental Health. (2011). Tools for screening and assessment of suicide risk. Retrieved from http://www.nimh.nih.gov/news/science-news/2011/widely-used-screening-tool-shown-to-successfully-predict-suicide-attempts.shtml.
93. Columbia University Medical Center. Columbia-suicide severity rating scale. Retrieve from http://cssrs.columbia.edu/about_cssrs.html.
94. American Psychology Association. (2016). Teen suicide is preventable. Retrieved from http://www.apa.org/research/action/suicide.aspx.

Research and Academics Steering Committee

Chairs

Dr. Wilsie Bishop, Vice President of Health Affairs and COO, East Tennessee State University

Jake Schrum, President, Emory & Henry College

Research and Academics Steering Committee

Last Name	First Name	Organization	Title
Bishop	Dr. Wilsie	East Tennessee State University	VP for Health Affairs and COO
Calvert	Linda	Northeast State	Director, WIA Grant & Bridge
Campbell	John	AccelNow	Executive Director
Campbell	Dr. Steve	Northeast State	VP for Business Affairs
Carmack	Duffy	Southwest VA Higher Ed Center	CFO/ Interim Director
Clark	Dr. Andy	ETSU	Professor of Clinical Nutrition, Associate Dean of Research and Clinical Practice
Collins	Dr. Cathie	UVA Wise	Chair, Dept. of Nursing
Dawson	Dr. B. James	Lincoln Memorial University	President
Dishner	Dr. Nancy	Niswonger Foundation	President & CEO
Drinnon	Dr. Joy	Milligan College	Director of Undergraduate Research/Professor of Psychology
Duncan	Dr. Bill	ETSU	Research & Sponsored Programs
Ehret	Charlene	James H. Quillen Vets Administration Medical Ctr	Director
Fincher	Dr. Lou	Emory & Henry	Dean, School of Health Sciences
Fowlkes	Rachel	Southwest VA Higher Ed Center	Retiring Director
Gilliam	Dr. Janice	Northeast State Community College	President
Grandy	Joe (William)	Ferguson	General Manager
Greer	Dr. Bill	Milligan College	President & CEO
Henderson	Rebecca	Strategic Priorities Consulting	Consultant
Henry	Donna	UVA Wise	Chancellor
Kendall	Martha	Johnston Memorial Hospital	Speech / Language Pathologist
Khoury	Dr. Amal	ETSU – Public Health	Chair, Dept of Health Svcs Mgt & Policy
Linville	Dr. David	ETSU	Associate Dean for GME
Lugo	Dr. Ralph	Gatton College of Pharmacy ETSU	Professor and Chair of Pharmacy Practice
Lura	Dr. Richard (Dick)	Milligan College	Professor of Chemistry
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Means	Dr. Robert (Bob)	ETSU, Quillen College of Medicine	Dean
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Moody	Dr. Nancy	Tusculum College	President
Moorman	Dr. Jon	ETSU	Vice Chair, Research & Scholarship/Residency Program Director
Nida	Dr. Maurice	Wellmont Health System	Head of family medicine residency program with LMU
Phillips	Dr. Kenneth	ETSU	Interim Assoc. Dean, Research
Pope	Pat	QSource (Quality Improvement Network for State of TN)	Practice Solution Advisor
Prill	Dr. Sue	Wellmont Cancer Center	Medical Director, Breast Center
Ray	Dr. Richard	King University	Interim President
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Last Name	First Name	Organization	Title
Schrum	Jake	Emory & Henry	President
Shipley	Lindsey	ETSU Quillen College of Medicine	Student (Joint MD/MPH program)
Stepanov	Dr. Nonna	Mountain States Health Alliance	Director of Research
Tillman	Dr. Ken	ETSU - College of Nursing	Associate Dean of Academic Programs
Tooke-Rawlins	Dr. Dixie	Via College of Osteopathic Medicine	
Walker	Clay	NETWORKS Sullivan Partnership	CEO

EXECUTIVE SUMMARY

The Research and Academics Steering Committee focused its energies primarily on exploring collaborative opportunities to help maximize the impact of the proposed regional health system "Newco" on health and economic growth in Northeast Tennessee and Southwest Virginia. The committee concluded that a unified healthcare system working collaboratively with the regional academic institutions offers a unique and unprecedented opportunity to impact the health and economic well-being of the region by: 1) bolstering the academic training and supply of qualified health professionals; and 2) supporting research programs that enhance healthcare services and community interventions targeting priority health issues. The Committee's overall objective was to propose a research and academics partnering strategy between Newco and regional academic institutions that facilitates collaboration and ultimately leads to improved population health, access to health care services, and economic gains in Northeast Tennessee and Southwest Virginia. To meet this objective, committee members worked to:

- Identify **opportunities and challenges** for collaboration between the proposed regional health system and academic institutions to further research and health professions education
- Identify **existing institutional strengths** to address identified population health workforce needs of the region
- Develop an **organizational structure** to facilitate an integrated research and academic enterprise between the proposed regional health system and the region's academic institutions

The target region for the committee's work was the 21-county catchment of Mountain States Health Alliance and Wellmont Health System, which serves a population of over a million. Many of the counties in the region are designated rural/non-core, meaning they are sparsely populated and not near the center of a metropolitan area. Health-related social factors such as poverty, food insecurity, transportation challenges, and housing insecurity are more prevalent in rural populations, which makes serving these communities uniquely challenging to health systems. In their Certificate of Public Advantage / Cooperative Agreement Pre-Submission Report to Tennessee and Virginiga release in January of 2016, Mountain States and Wellmont committed to making the proposed merged system "a national model for rural healthcare delivery and rural access to care."

The committee determined that a collaborative infrastructure that recognizes area institutions with health science programs can vastly improve efforts to meet the health needs of the region through education, research, and training. To that end, the committee proposes separate research and academic oversight councils (Health Education and Training Council and Research Institute) populated with representatives from member institutions. These bodies will be coordinated by a joint Research and Academic Coordinating Council that will provide input and guidance by interfacing with the health system and other funding organizations. The outcomes of this approach will include fewer programmatic redundancies across institutions, better coordination of student flow through clinical and non-clinical training sites, greater efficiency in meeting the region's health workforce needs, and coordination of research efforts to improve the health of the region.

A major area of focus for the committee was assuring that the region provided the variety and complexity of health training programs to meet the workforce needs of the region. The development of a program inventory along with an understanding of how the two health systems currently work with educational programs provided a basis for discussions of ways to facilitate collaboration and coordination of programming going forward.

The second area of focus was identification of strategies to respond to the population health research needs of the region and identifying an infrastructure to do so. It was recognized that the other steering committees would be identifying specific areas of research focus, so this committee discussed how to structure the research endeavor in a way that would seek maximum synergy from the existing two health systems while drawing on the research areas of strength of ETSU and the other institutions in the region. A focus on establishing research centers provides a way to bring together existing resources, be competitive in securing federal and other research dollars, and focus on efforts within local communities to prevent and treat poor health outcomes.

As the proposed merger should bring about a reduction in the duplication of services and provide a more cost-effective healthcare delivery system, the recommendations from this steering committee project an infrastructure to facilitate collaboration and synergy in the delivery of education and training, as well as offer a model for translational research and clinical trials endeavors that will provide opportunities for growth and improvement to the health and well-being of our local communities.

Opportunities and challenges for collaboration between the proposed regional health system and academic institutions

In order to allocate funds to develop and grow academic and research opportunities, support post-graduate healthcare training, and strengthen the pipeline of nurses and allied health professionals, the committee agreed that a collaborative organizational structure must be conceived to facilitate communication and the coordination of efforts. Members identified barriers and opportunities to the development of this collaboration so they may be part of the strategic planning process moving forward.

Opportunities

Through the process of exploring opportunities for new research and academic partnerships between the proposed merged health system and regional academic institutions, the first steps toward collaboration were taken by the deans, presidents, and other academic leaders interested in improving and building academic health sciences in Appalachia. This informal network, developed over the course of the six months in which meetings were held, will serve as the basis for a collaborative structure between these institutions and the proposed merged health system. The result will be greater opportunity for innovations in health sciences research and academics to benefit surrounding communities for generations to come.

The proposed merged health system represents opportunities for improved coordination and quality of health services in the region through the development of a large health information database, as well as formal mechanisms for collaboration with academic partners providing health science training. Public documents released to date confirm the committee's expectations that the proposed merger will result in the generation of new resources and commitments for education and research. This commitment will increase the ability of academic institutions to meet training needs by partnering more efficiently with facilities within the new health system.

A single large health system can help align the workforce geographically to better provide health care to surrounding communities. In addition to aligning resources for improved program efficiency, the availability of large databases within a single system will facilitate opportunities for training in health services research, healthcare economics, healthcare policy research, and outcomes research. The quality of education within each individual program will be improved through partnership with the new system by more effectively engaging different disciplines for synergy in training, and creating opportunities for academic partners to share teaching resources (for example, simulation labs and technical support).

The region has a rich diversity of educational programs and institutional characteristics that currently attract large volumes of applicants, demonstrating a high level of interest in health care as a profession. Better training coordination and student flow through practice sites, which is an expected outcome of the proposed merger, should encourage recruitment and retention of graduates to work in the region. The region is at the fore of inter-professional health sciences education nationally, making it an attractive option for prospective students from across the country and elsewhere. With a merged health system serving such a large rural population, combined with the expertise of its higher education institutions, the area is poised to become a national hub for training, innovation, and cross-discipline professional development.

The region has benefited from a high level of investment and dedication from various stakeholders toward the health and well-being of area communities. With the proposed merger there will be enhanced opportunities to benefit from both Tennessee and Virginia state governments' interest in investment for novel approaches to regional health challenges. Existing efforts toward cross-sector collaboration with academic partners in the region (e.g., Healthy Appalachia Institute at UVA-Wise; Tennessee Institute for Public Health, Academic Health Departments, and Tennessee Public Health Training Center at ETSU) can serve as seeds for coordinated and more inclusive collaboration between the new health system and academic institutions.

Through increased efficiency and diversity of programming, the academic partnership across institutions and within the health system can help retain the large number of individuals interested in pursuing healthcare careers in the region post-graduation. Development of a unified strong message promoting the region to prospective health science students and faculty can be achieved through consensus building and work toward a common agenda. Academic programs can then be grown and developed in conjunction with efforts to map training onto identified community needs.

Challenges

There is no doubt that many challenges face the hospital systems and their academic partners as each attempts to innovate the existing system for health sciences training in the region. Planning, infrastructure building, implementation, and surveillance efforts will require collaborative input from all parties involved on an ongoing basis if they are to be successful.

Currently the regional healthcare institutions are not able to accommodate the large number of applicants for healthcare training positions. One contributing factor is the challenges faced in recruiting high-level faculty and clinical specialists to the region, due in part to the lack of employment opportunities for applicant spouses. Development of a shared human resources job database aimed at facilitating spousal employment could potentially address this issue and improve recruitment and retention of clinical providers and health science faculty within the region. Past experience suggests it is far easier to train professionals to live and work in the region than it is to recruit them.

Communication across institutions currently does not encourage sharing of resources to support the delivery of coordinated academic training or the execution of collaborative research. Improving communication between health science programs can prevent institutions from having to "reinvent the wheel" and allow them to draw on shared resources to support their programming. Each individual institution has limited resources, and the development of new and coordinated programs will require outside funding and effective management of that funding in a deliberate and rigorous manner. Due to regulatory considerations and institutional governance procedures, it takes time to transform educational programs.

The process of establishing partnerships across academic institutions, many of whom consider themselves in competition with each other, is fraught with barriers and challenges. Add in coordination with a new merged health system working to establish new infrastructures and protocol for the management of a large number of health facilities, and the process becomes more complex and tenuous. Strategic planning must include leadership from academic partner institutions, including those with the experience and ability to enter into agreements with outside entities. Initial planning should include a communication structure that explicitly states the routes of communication within a specified schedule, as well as a staffing structure to support such endeavors.

Institutional strengths to address identified population health workforce needs of the region

Fourteen regional institutions participated in discussions around collaboration with the proposed merged health system, representing over a hundred certificate and degrees programs, training more than 13,000 students in the region annually. Table 1 below lists these programs and their parent institutions along with enrollment.

Table 1. Health-related degree programs and enrollment within partner institutions

Regional Institution	Program	Enrollment	Academic Year
Appalachian College of Pharmacy	Doctorate in Pharmacy (3 year program) (75 students per year) (225 Total Students)	75	2015-16
Edward Via College of Osteopathic Medicine	Third Year Students	24	2015-16
	Third Year Students	30	2016-17
	Fourth Year Students	24	2015-16
	Fourth Year Students	30	2016-17
	Residency Programs in MSHS-Johnston M. (originally sponsored by VCOM)	7	2015-16
	Residency Programs in MSHS Johnston M.	19	2016-17
	Residency Programs in MSHS Johnston M.	31	2017-18
	Residency Programs in MSHS Johnston M.	36	2018-19
Emory and Henry College	Doctor of Physical Therapy (DPT)	32	2015-16
	Master of Occupational Therapy (MOT)	25	2016-17
	Master of Physician Assistant Studies (MPAS)	30	2016-17
East Tennessee State University	Social Work	329	2015-16
	Clinical Psych	25	2015-16
	Bachelor of Public Health (BS)	150	2015-16
	Master of Public Health (MPH)	131	2015-16
	Doctor of Public Health (DrPH)	27	2015-16
	PhD Environmental Health	3	2015-16
	MS Environmental Health	3	2015-16
	Nursing (BSN)	684	2015-16
	Pre-Nursing	512	2015-16
	Nursing (MSN)	328	2015-16
	Doctor of Nursing	104	2015-16
	Nursing BS (Pre-licensure students, RN to BSN)	473	2015-16
	Nursing RN to BSN	206	2015-16
	Doctorate in Pharmacy	76	2015-16
	BS in Pharmacy Studies	16	2015-16
	BS Health Sciences	270	2015-16

Regional Institution	Program	Enrollment	Academic Year
East Tennessee State University	BS Environmental Health	47	2015-16
	Graduate Certificate in Epidemiology	12	2015-16
	Health Care Management Certificate	21	2015-16
	Tennessee Students	277	2015-16
	Residency Programs	258	2015-16
	Research Center	55	2015-16
	Biomedical Sciences (PhD)	36	2015-16
	Cardiopulmonary Science (BS)	42	2015-16
	Radiography (BS)	64	2015-16
	Dental Hygiene (BS)	48	2015-16
	Nutrition and Foods (BS)	37	2015-16
	MS in nutrition	20	2015-16
	MS in Allied Health	26	2015-16
	Speech Pathology (MS)	59	2015-16
	Audiology (AuD)	35	2015-16
	Physical Therapy (DPT)	106	2015-16
King University	Nursing (BSN)	436	2015-16
	Nursing (MSN)	182	2015-16
	Doctoral Nursing Program	11	2015-16
Lincoln Memorial University	Nursing	571	2015-16
	Counseling	34	2015-16
	Veterinary Medicine	196	2015-16
	Social Work	9	2015-16
	Nurse Anesthesia Program	41	2015-16
	Doctor of Nursing Practice (DNP)	6	2015-16
	Master of Science Nursing (MSN)	148	2015-16
	Bachelor of Science Nursing (BSN)	213	2015-16
	Associate of Science Nursing (ASN)	358	2015-16
	Doctor of Osteopathic Medicine (DO)	893	2015-16
	Master of Medical Science in Physician Assistant Studies (MMS)	278	2015-16
Milligan College	Nursing (RN, BSN)	149	2015-16
	MS in Occupational Therapy	95	2015-16
	Master of Counseling	26	2015-16
	Bachelors of Social Work	5	2015-16
Mountain Empire Community College	Emergency Med. Serv.	18	2015-16
	Health Inf. Mgmt.	46	2015-16
	Nursing (AAS Degree)	126	2015-16
	Respiratory Therapy	33	2015-16

Regional Institution	Program	Enrollment	Academic Year
Mountain Empire Community College	Practical Nursing (Certificate)	59	2015-16
	EMT – Intermediate	30	2015-16
	EMT- Paramedic	4	2015-16
	Health Sciences	281	2015-16
	Nursing Assistant	57	2015-16
	Pharmacy Aide	48	2015-16
	Phlebotomy	33	2015-16
Northeast State Community College	Pre-Nursing	191	2015-16
	Pre-Occupational Therapy	16	2015-16
	Pre-Pharmacy	27	2015-16
	Pre-Radiography	127	2015-16
	Pre-Cardiopulmonary	10	2015-16
	Pre-Dental Hygiene	70	2015-16
	Pre-Med Tech	3	2015-16
	Dental Assisting	47	2015-16
	Med. Lab. Tech.	64	2015-16
	Surgical Tech.	52	2015-16
	Office Admin. Tech.	87	2015-16
	Cardiovascular Tech.	86	2015-16
	Nursing (AAS)	1,442	2015-16
	Pre-Occupational Therapy (AS-TTP)	13	2015-16
	Pre-Physical Therapy (AS-TTP)	86	2015-16
	Pre-Health Prof. (AS-TTP)	72	2015-16
	Dental Assisting	30	2015-16
	Emergency Med Tech (TCP)	27	2015-16
	EMT-Paramedic (TCP)	32	2015-16
Southwest Virginia Community College	Nursing (RN, AAS)	90	2015-16
	Allied Health Programs (LPN)	12	2015-16
	Paramedic 1st Year	22	2015-16
	Paramedic 2nd Year	5	2015-16
	EMT	7	2015-16
	Radiology Tech 1st Yr.	9	2015-16
	Radiology Tech 2nd Yr.	2	2015-16
	Occup. Therapy Asst. 1st Year	26	2015-16
	Occup. Therapy Asst. 2nd Year	26	2015-16
	CNA	31	2015-16
	Phlebotomy	13	2015-16
	Pharmacy Tech	12	2015-16
	AAS Mental Health Services, Substance Abuse	34	2015-16

Regional Institution	Program	Enrollment	Academic Year
Southwest Virginia Higher Education Center	BSN Nursing	29	2015-16
	MSN Nursing	12	2015-16
	CRNA	22	2015-16
	Doctorate Nursing Admin.	2	2015-16
	MLT	9	2015-16
	ICD Coding	15	2015-16
Tusculum College	BSN and RN to BSN	103	2015-16
University of Virginia's College at Wise	BSN Nursing	108	2015-16
	Pre-Medical/Dental/Veterinary	133	2015-16
Virginia Highlands Community College	Nursing (RN, AAS)	124	2015-16
	Radiology Tech	12	2015-16
	CNA	40	2015-16
	EMT/Paramedic	26	2015-16
	Occupational Therapy Assistant	16	2015-16
	Health Inf. Mgmt. Certif.	30	2015-16
	Electronic Health Records Certificate	5	2015-16

Collaborative Research and Academic Organizational Structure

The following section describes the structure and objectives of the proposed collaborative research and academic organizational structure. The committee recognizes this proposal is the beginning of a discussion on the best way for regional institutions to partner with each other and the proposed merged system. Successful collaboration will require ongoing communication and planning between partner institutions.

Mission/Summary

The Research and Academics Steering Committee concluded that a unified health system Newco, working collaboratively with the regional academic institutions, offers a unique and unprecedented opportunity to impact the health and economic well-being of our region by: 1) bolstering the academic training and supply of qualified health professionals and 2) supporting research programs that enhance health care services and community interventions targeting priority health issues. To maximize the impact of the proposed merged health system on health and economic growth in Northeast Tennessee and Southwest Virginia, the committee proposed a partnership strategy between Newco and regional academic institutions aimed at facilitating collaboration, ultimately leading to improved population health, access to health care services, and economic gains in the region.

The proposed partnership structure will be overseen by a Research and Academic Coordinating Council whose mission will be to improve health and health care in the NE Tennessee and SW Virginia region through provider training and the advancement of medical knowledge through patient and population oriented research targeting priority health needs. The Research and Academic Coordinating

Council will establish the strategic vision and plan for the partnership and will guide, coordinate, and support its two primary arms: the Health Education and Training Council and the Research Institute. **All proposed bodies will include representation from Newco and its academic and research partners.**

The Health Education and Training Council (HETC) will serve as the formal advisory board for Newco to help advance health professional training and student internships, leading to increased supply and diversity of the healthcare workforce in the region. The HETC will be responsible for coordinating student placements, identifying workforce needs and program development, and facilitating transition to employment with Newco. The HETC will include several academic subcommittees, each representing a major discipline and responsible for managing collaborative efforts, shared resources, and learner placement within that discipline. The academic subcommittees will represent nursing, medicine, pharmacy, public health, healthcare management, allied health, and any other discipline as deemed necessary.

The Research Institute (RI) will establish a robust collaborative research infrastructure between Newco and its research partners, leading to improvements in healthcare delivery, patient outcomes, and population health. The RI will be responsible for identifying and prioritizing research initiatives, identifying and seeking external funding, and assuring high-quality research performance and compliance. The RI will include several research subcommittees representing high priority research focus areas: clinical trials research, population health/community-based research, comparative effectiveness research, health services research, translational biomedical research, and health research training. The RI, through its subcommittees, will facilitate research that is highly relevant to the Appalachian region to enhance access to, and the effectiveness of, healthcare services, as well as to promote our understanding of the factors that impact our population's health and policies and to evaluate programs that can lead to significant and sustainable health improvements.

Research & Academic Coordinating Council
Includes representation from HETC, RI, and Newco

Research Institute (RI)

Research Subcommittees

- Clinical Trials Research
- Population Health/CBPR
- Translational Research
- Comparative Effectiveness Research (CER)
- Health Research Training
- Health Services

Research Advisory Board

Health Education and Training Council (HETC)

- Nursing
- Medicine
- Pharmacy
- Healthcare Management
- Allied Health
- Public Health
- Other?

Academic Subcommittees

Research & Academic Coordinating Council

Mission
To enhance health care in the region through provider training and the advancement of medical knowledge through patient and population oriented research.

Purpose
- To review and assess recommendations from HETC and RI
- To develop and implement benchmark performance metrics for HETC and RI members
- To establish overall strategic vision and plan for overall partnership

Research Institute (RI)

Mission
To establish a robust collaborative research effort between Newco and its regional academic partners, leading to improvements in health care delivery, patient outcomes, and population health

Purpose
- Identify and prioritize key research initiatives to address major health issues of the region.
- Identify and seek external funding opportunities
- Facilitate the funding requests and the receipt of funds between Newco and academic partners
- Facilitate development of interdisciplinary research collaboration between Newco and regional academic institutions.
- Maintain an administrative, legal and financial infrastructure assuring high quality research performance and compliance.

Health Education and Training Council (HETC)

Mission
To maximize the effective use of Newco resources to meet the health professional training needs of the region.

Purpose
- Facilitate communication between academic partners toward enhancing health training
- Act as liaison between academic partners and the R&A Coordinating Council
- Develop and implement coordinated system for placing students in training sites
- Develop and implement protocols for ensuring quality practice experience for students at training sites

Research & Academic Coordinating Council

The Research & Academic Coordinating Council shall provide oversight and guidance to the academic and research partnership formed between Newco and regional academic institutions. The Research & Academic Coordinating Council shall ensure mission alignment between Newco and academic/research efforts to improve health in the region.

Membership   The number of voting members of the Research & Academic Coordinating Council shall be thirteen (13) or such other number as may be designated by resolution of a majority of the members of the Research & Academic Coordinating Council, provided that the number of voting members shall not be more than fifteen (15) nor less than five (5).

Health Education and Training Council

The Health Education and Training Council will serve as the formal academic advisory board for Newco with representation to be determined from the academic institutions which place learners in the Newco system facilities. The Health Education and Training Council will be responsible for coordinating student placements, identifying workforce needs and program development, and facilitating transition to employment into the Newco system.

Membership   The number of voting members of the Health Education and Training Council shall be six (6) or such other number as may be designated by resolution of a majority of the members of the Health Education and Training Council, provided that the number of voting members shall not be more than nine (9) nor less than five (5).

Academic subcommittees

Academic subcommittees will be developed for a minimum of six disciplinary areas in order to manage specific learner placement and integration into Newco facilities. Those six areas include:

- Nursing
- Medicine
- Pharmacy
- Allied health
- Public health
- Healthcare management

Other academic health science subcommittees may be designated by resolution of a majority of the members of the Health Education and Training Council.

Membership   The number of voting members of each academic subcommittee shall be dictated by the number of programs actively training students in the partner institutions or such other number as may be designated by resolution of a majority of the members of the Health Education and Training Council, provided that the number of voting members shall not be more than seven (7) nor less than three (3).

Research Institute

The Research Institute shall establish a robust collaborative research network between Newco and its regional academic partners, leading to improvements in health care delivery, patient outcomes, and population health.

The RI will have a central office with a staff dedicated to providing administrative support to the institute. Such assistance is anticipated to include organizing and coordinating institute meetings; coordinating and facilitating progress reporting for the institute and institute researchers; disseminating information regarding research funding opportunities to researchers at Newco and academic partners; managing and assisting with research application flow to the institute; disseminating institute research findings to institute researchers, institute leadership, academic partners, and the community; coordinating educational events specifically linked to institute mission; providing monthly post-award accounting of grant balances to funded institute researchers; maintaining the institute's website; and developing and disseminating announcements to the media.

Health research training is anticipated to be of major importance to the overall mission of the RI. Researchers funded through RI mechanisms, as well as RI partners and advisors, will contribute to the education and training of graduate, pharmacy, medical, nursing, physical therapy, audiology, public health, and other health disciplines that are represented among the academic partners of the institute. The RI will advance the development of a diverse workforce that will engage in research dedicated to the mission of the institute and that is of critical importance to the region's health. The RI could additionally fund students and/or fellows specifically focused on health research issues deemed to be of high priority by the RI leadership and advisory council and could fund beginning/younger researchers on projects that are specifically focused on priority areas.

Membership | The number of voting members of the Research Institute shall be nine (9) or such other number as may be designated by resolution of a majority of the members of the Research Institute, provided that the number of voting members shall not be more than eleven (11) nor less than five (5).

Research Advisory Board

This body would be expected to include administrative and scientific leaders from Newco and the regional academic partners and leading medical science advisors external to the region. The Advisory Council would be responsible for providing assistance to identify the research priorities of the institute, and for assuring progress and productivity of funded researchers.

Membership | The number of voting members of the Research Advisory Board shall be six (6) or such other number as may be designated by resolution of a majority of the members of the Research Advisory Board, provided that the number of voting members shall not be more than nine (9) nor less than five (5).

Research subcommittees

The research subcommittees shall be responsible for the coordination of efforts across academic institutions in their respective areas of focus.

Membership   The number of voting members of the Health Education and Training Council shall be five (5) or such other number as may be designated by resolution of a majority of the members of the Health Education and Training Council, provided that the number of voting members shall not be more than seven (7) nor less than three (3).

Clinical trials research

The RI Clinical Trials Office (CTO) would provide a centralized clinical research support system to all interested investigators practicing at Newco, including faculty at ETSU and other associated academic centers, as well community physicians. The CTO would provide end-to-end professional services to investigators conducting clinical trials, including: identification of potential studies; support for contract and budget development and negotiation for industry-sponsored trials; clinical research associates to assist in the collection of protocol-specific documentation of patient information; clinical research coordinators and nurses to assist the investigator in conducting the trials; regulatory support, including filing documents with the FDA and IRB; and oversight of billing compliance.

Population health research

Population health research focuses on the health outcomes of groups of individuals, e.g., workers at a workplace, residents of a neighborhood, people sharing a common demographic or social status, or the population of a region (for example, those living in rural areas). Population health studies attempt to characterize the levels and distributions of health within and across populations; analyze the impact on health of different underlying factors, including biologic, genetic, behavioral, social, and environmental influences and their interactions among individuals and groups and across time and generations; and evaluate the effectiveness of community-based interventions. Access to the large patient population in the Newco healthcare system will enhance the potential of RI funded investigators to attract substantial research funding from federal and non-federal agencies with an interest in supporting research to improve population health, especially in a rural environment. Newco's collaboration with local public health agencies will further enhance community-based research leading to population health improvement.

Comparative effectiveness research

Comparative effectiveness research (CER) compares the benefits and harms of different strategies to prevent, diagnose, treat or monitor health conditions, and deliver health care in the "real world" settings. Newco will be one of the largest health care systems in Tennessee with more than 100,000 discharges/year and one of the largest academic health systems in a rural setting in the U.S., with three strong regional clinical research hubs – Johnson City Medical Center, Bristol Regional Medical Center, and Holston Valley Medical Center. Access to this large patient population will enhance the potential of RI funded investigators to attract substantial research funding from federal (AHRQ) and non-federal agencies (PCORI) with an interest in supporting research to improve health outcomes. Potential areas of RI support for CER are the identification of prevention, diagnosis and treatment options that work best to reduce the burden of disease in Appalachia (including addiction, diabetes and obesity, CVD, and cancer) and the development of new approaches to address disparities across patient populations to achieve best outcomes in each population.

Health services research

Health services research (HSR) uses health systems, as well as patient and population-level data, to better inform the delivery of health services, improve quality of care and patient outcomes, and support the creation and tuning of policies, processes, and management systems for health improvement. Examples of HSR include: assessing patterns of health service utilization and costs; identifying health system-level approaches to improving access and care coordination for vulnerable populations; identifying and implementing patient-centered, evidence-based interventions in clinical practice and adapting interventions according to population and setting; and evaluating how health policy and services impact patient outcomes and population health. Newco will offer a comprehensive electronic health record, administrative, and other real-time data to support HSR that directly impacts practice. The RI will enhance HSR through access to data, funding, and support for recruiting health services researchers to complement the available expertise at ETSU and other partners. Potential areas of RI support for HSR include: care coordination for multiple chronic illnesses; patient care transitions between hospitals, nursing homes and their own homes; impact of novel services (e.g. patient navigation, telehealth) on rural and high-risk population groups in Appalachia, innovative use of health information technology, and modeling policy and payment options in the region. RI funded researchers will be highly competitive for funding from NIH, AHRQ, PCORI, private foundations, and the industry.

Translational biomedical research

The RI will enhance translational biomedical research activities by providing support for the collection, preparation, and long-term storage of clinical samples as well as clinical data from patients at Newco facilities and physician offices throughout the region. The development of these valuable resources, which are currently rare in this region, can be used by basic biomedical researchers to support T_0 - T_1 discovery research. It is anticipated that the availability of these resources would greatly facilitate a transition of activities of regional biomedical scientists to research focused on clinical application. The field of sepsis is an example of an opportunity to pursue translational biomedical research between ETSU biomedical scientists and the clinical programs at Newco. Both hospital systems have strong clinical programs in the area of sepsis, and ETSU has three NIH basic biomedical grants to study sepsis that would benefit from increased access to patient samples and clinical data.

Health research training

Health research training is anticipated to be of major importance to the overall mission of the RI. Researchers funded through RI mechanisms, as well as RI partners and advisors, will contribute to the education and training of graduate, pharmacy, medical, nursing, physical therapy, audiology, public health, and other health disciplines that are represented among the academic partners of the institute. The RI will advance the development of a diverse workforce that will engage in research dedicated to the mission of the institute and that is of critical importance to the region's health. The RI could additionally fund students and/or fellows specifically focused on health research issues deemed to be of high priority by the RI leadership and advisory council and could fund beginning/younger researchers on projects that are specifically focused on priority areas.

Preliminary Thoughts on Next Steps

Partnering for the future

Collaboration was a major theme in every meeting held over the course of the project. Nearly every committee member and community member at some point voiced the need for multi-sector collaboration to address the health needs in the region.

Within the Mental Health and Addictions steering committee, the need for continuity of care prompted discussion about how to coordinate across schools, social services, employers, and prevention and treatment professionals to reduce the prevalence of mental health and substance use disorders in the region.

The Population Health and Healthy Communities steering committee identified approaches to meeting its priorities that require partnerships, coordination, and collaboration among multiple support agencies along with local government and healthcare providers.

The same is true for approaches from the Healthy Children and Families steering committee, which identified a wide-range of community partnerships necessary to support healthy starts for children, assure school readiness, and to empower youth.

The Research and Academics steering committee delivered a set of recommendations directly applicable to the establishment of partnerships across regional institutions and the proposed merged health system. The expected outcome of this collaboration is improved population health, access to health care services, and economic gains in Northeast Tennessee and Southwest Virginia.

Thinking in terms of Himmelman's Collaboration for Change model, the work done in the winter of 2015 represents the first step, **"Networking,"** toward true collaboration in the region.[1] The next three steps in the model are shown in Figure 1:
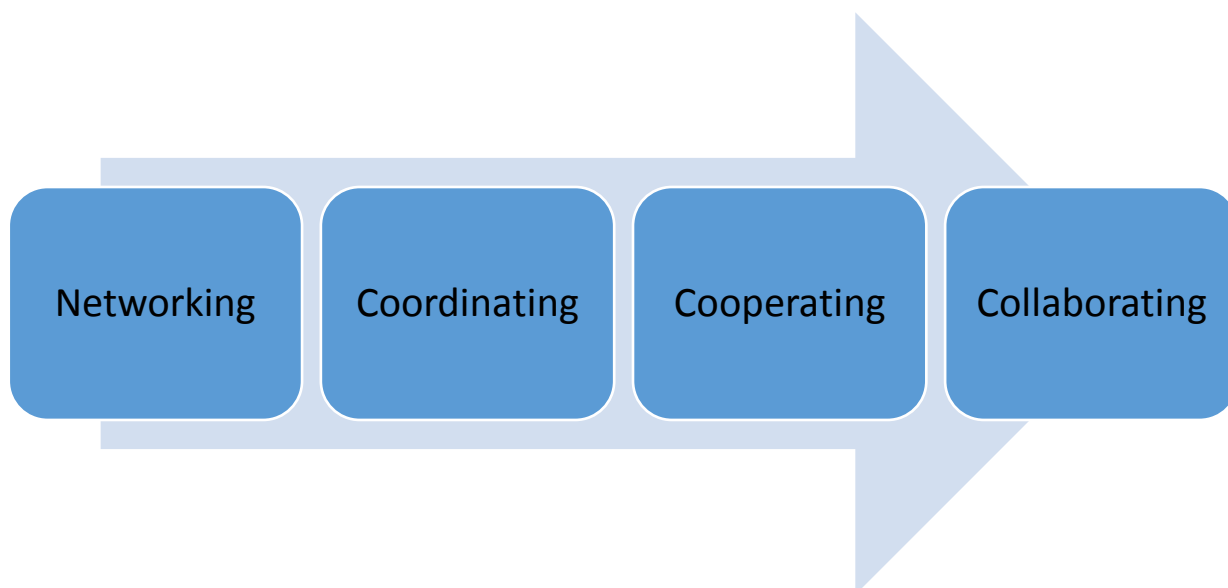
Figure 1. Himmelman's Collaboration for Change model[1]

The networking phase of the collaboration process as described by Himmelman is a trust building step that involves creating opportunity and space for agency leaders and organizations to open discussions. As carried out in the development of this report, these discussions were focused and topic specific and allowed participants to express their point of view for the benefit of the group as a whole.

The second step in the process toward true collaboration is **"Coordinating,"** which is the phase expected to occur after this report is reviewed by leaders in the community and begins to be used in the development of a ten-year health improvement plan for the region. Coordination is achieved when information exchange begins to alter activities of individual agencies and organizations toward achieving a common goal. This, of course, requires deliberate and consistent communication, along with the development of a strategic plan for including all parties who should be at the table. The process of identifying and selecting representative members should be based partially on their ability to complement and support others in the partnership.[13]

When agencies in the region begin **"Cooperating"** to meet a common set of objectives, this is the phase in which resources begin to be shared and the development of a shared set of measures is required. There are a number of challenges associated with reaching this step. For one, social support agencies, academic institutions, and healthcare systems all have different types of funders and accreditors that require them to measure success in idiosyncratic ways that can create a barrier to developing common indicators across organizations. The solution for many partner institutions is likely to be capturing additional measures on top of what is already required.

In order to cooperate effectively, partner organizations must engage in a rigorous exchange of information among one another. Historically competitive agencies must begin turning their attention away from the struggle for market share and begin working together. This effort could potentially eliminate redundancies as organizations begin altering their activities to support the common agenda.

Once the challenges of reaching a state of cooperation between partner agencies, the leap to **"Collaborating"** is not so daunting. What is actually required at this stage, and may be of most benefit to the health of the region, is a cultural change in the way individual organizations approach their work in the community. When partnerships reach the level of full collaboration, individual members see themselves as part of a larger "entity" to which they contribute for the benefit of other partners and the community. The infrastructure and goal of collective impact is embedded within the each partner organization's workplace culture, extending into everything employees do, thus supporting the collaborative infrastructure from the inside out.

There is another model, the collective impact model (Figure 2), which can provide a framework that can help groups of organizations work together.

Common Agenda	A shared understanding of the issue(s) and joint approaches agreed upon by all parties.
Shared Measurement Systems	Measurement and surveillance using a universal set of indicators.
Mutually Reinforcing Activities	Specific activities undertaken by collective impact partners to reinforce each agency's individual mission as well as the common agenda
Continuous Communication	Continuous learning and improvement can only be achieved when collective impact partners engage in frequent communication.
Backbone Structure	Supporting structure helping maintain alignment and coordination throughout collective impact partners.

Figure 2. The five conditions required for collective action[2]

The "common agenda" is represented in part by the committee reports included in this document. Over 140 professionals representing 84 agencies participated in discussions that were, at their core, an attempt to build a common agenda around the leading health challenges of the region. The committee reports certainly meet the goal of establishing a common agenda and establish the groundwork for further discussions. These discussions will then lead to the next steps toward collective action and likely take the form of an Accountable Care Community.

Elements of the collective impact model are important to keep in mind as the region moves into the next phase of this project. There is a great need for common measurement of processes and outcomes associated with health in the community. When the collaborative body is formed and health priorities are agreed upon (most, if not all, of which will come from this report) it will be necessary to identify metrics to measure success. This is important for aligning agendas and, most importantly, for assuring timely progress towards the region's goals.

Continuous communication is vital to the collective impact model, and to further progress in the region. Ongoing learning and improvement takes place most effectively in this type of model, and is the cornerstone of long-term collective action.

The remarkable efforts made during the winter of 2015 to identify priorities and solutions for improving health in Northeast Tennessee and Southwest Virginia have established a strong base for the development of collaborative approach in the region. Many agencies working in a range of health-related fields have opened a dialogue about health improvement that was previously absent. The region is remarkably well positioned to now develop a highly effective collaboration for collective action.

References

1. Himmelman, A.T. (2002). Collaboration for change. Retrieved March 2016 from https://depts.washington.edu/ccph/pdf_files/4achange.pdf
2. Kania J., Kramer, M. (2011). Collective impact. *Stanford Social Innovation Review*. Retrieved March 2016, from http://ssir.org/articles/entry/collective_impact.

Accountable Care Communities

The Accountable Care Community (ACC) model expands the Accountable Care Organization (ACO) concept to improve the health of entire communities through collaboration and integration of a wide range of community partners. The ACC, sometimes called an "Accountable Community for Health," is not dependent solely on the local healthcare system, but rather creates initiatives that involve clinical providers, business leaders, public health systems, faith leaders, and a broad cross-section of community stakeholders who work together to address a small number of high-priority health challenges. Each ACC is unique as it is tied to local resources and local needs. Although the reasons for instituting ACCs may vary, there are basic principles to which all ACCs adhere. Much can also be learned from case studies of ACC development, execution, and maintenance.[1]

The ACC model supports the Triple Aim Framework developed by the Institute for Healthcare Improvement with the goal of optimizing healthcare performance. The Triple Aim Framework helps healthcare organizations prioritize both individual care and the health of the population by focusing on the following three aspects simultaneously:[2]

- Reducing healthcare costs
- Improving patient experiences
- Improving population health

The ACC's role within the framework is in specific regard to population health improvement. Although ACCs are diverse and use various strategies to achieve different health outcomes based on the needs of their community, they all follow the same basic principles that are ancillary to the triple aims.[3]

- Bring together healthcare providers
- Focus on the entire population
- Incorporate partners outside of traditional healthcare
- Identify sustainable funding sources

For an ACC to be effective, it is essential that healthcare providers work as collaborators rather than competitors. The ACC must provide a structure where healthcare providers feel they are represented and supported. Rather than just working with primary care providers and hospitals, the ACC includes organizations and stakeholders from various community sectors to promote good health for the entire population. The ACC must identify funding sources and establish a structure whereby savings from prevention efforts, or reduction of healthcare costs, can be utilized and redirected back to the community.[2]

There are many healthcare/community partnerships that focus on strengthening services to individuals; however, some of these frameworks neglect to focus on environmental changes that help to prevent adverse health outcomes within a community. The ACC model addresses these environmental factors from within and outside of a clinical healthcare setting to improve quality of life for the community as a whole.

The Prevention Institute worked with the state of Vermont in 2015 to determine if ACCs were feasible in communities throughout the state. In order to prepare for state-specific interventions, the institute profiled five national case studies of ACCs that took various approaches to population health improvement.[3]

Evaluation of these case studies yielded nine core elements common to successful ACCs:[3]

- Mission
- Multi-sectoral partnership
- Integrator organization, governance
- Data and indicators
- Strategy and implementation

- Community member engagement
- Communications
- Sustainable financing

While these elements may vary depending on the needs of the population and the resources available, they help to provide a strategy for implementing an effective ACC in any community.

The mission of an ACC needs to provide a framework for organizing stakeholders around a common set of high priority goals and values. It is essential that the mission focus on improving the quality of life for all residents in a geographic region, rather than only focusing on those who may already participate in one of the member organizations. The language should be clear regarding the improvement of community health determinants such as education, unemployment, and poverty.

In order to create a sustainable ACC, all members of the community must work together to identify health concerns, issues, and potential solutions to achieve health equity for all residents. This report represents a strong first step in this process.

Membership within the ACC depends on the community, but organizations and professions that are typically represented include: physicians, nurses, allied health professionals, behavioral health specialists, private and public insurance plans, law enforcement, public health officials, civic leaders, community business owners, academic institutions, community leaders, consumer groups, educators, social service members, and community members.[3]

Figure 3 below displays the frequency of representation within the project steering committees based on the identified typical ACC member categories from the Prevention Institutes study. What is evident in these data is an overrepresentation of academic institutions, which is not surprising given the nature of the project.
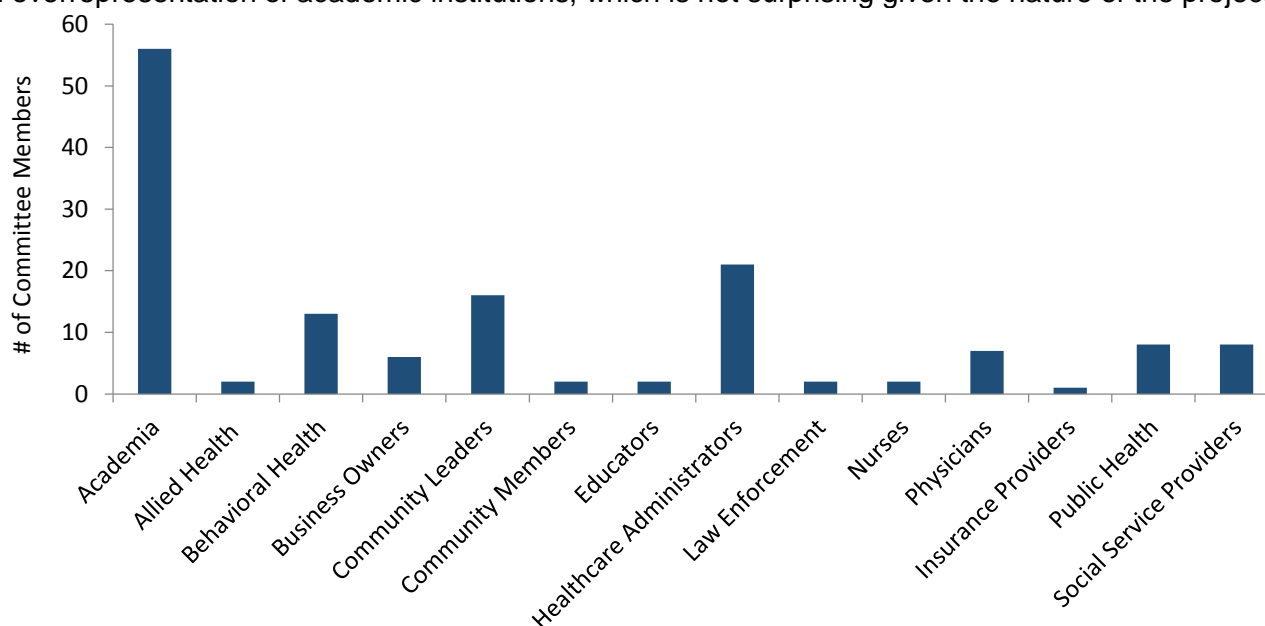
Figure 3. Steering committee representation of typical ACC member categories

Accountable Care Communities must have a structure that determines the roles and responsibilities of member organizations. Of the five ACCs studied by the Prevention Institute, governance types varied from strict formal structures to less structured, more informal approaches. Whatever the organizational structure, however, processes must be put in place to remove any conflicts when priority setting. One way this can be done is by setting priorities for health improvement activities within one committee or council while decisions regarding the allocation of funds to member agencies is made in another.[3]

Since the ACC is composed of so many different organizations across the community, it is essential to have a neutral, stable, and well-respected organization managing and facilitating the process. This organization, sometimes referred to as the integrator organization, should be responsible for upholding the mission of the ACC, helping to create a culture of accountability and collaboration among member organizations, promoting an equitable organizational culture, convening meetings, and organizing sub-committees if necessary. Organizations that have served as integrators in other ACC models have included county health departments, university departments, or nonprofit organizations that are established to serve as integrators.

Throughout the planning process, ACC member organizations work collaboratively to develop a strategic framework and implementation plan to guide the work of the coalition.

An emphasis must be placed on developing a high-functioning communication network throughout the recruitment, strategic planning, implementation, and evaluation processes. Effective communication creates transparency and accountability, which are key elements to building trust and facilitating buy-in from the community. As mentioned above, clear communication is essential for continued growth and development of the collaborative, and can have significant impacts on the efficient use of time and resources.

Adequate funding is required for an ACC to achieve its goals and be sustainable. In its evaluation of existing ACCs, the Prevention Institute could not identify an ideal funding source to support the development of an ACC; however, a handful of funding sources were cited as used by existing ACCs. These sources included:[3]

- Community development investments
- Taxes/fees related to products with a known health risk (tobacco, sugar-sweetened beverages, etc.)
- Taxes on high earners in the community
- Legal settlements
- Cost savings generated by improved collaboration in the ACC
- Grants

Effective data collection is necessary for healthcare providers, behavioral health specialists, and community organizations to understand and address patterns of illness and injury within the community. Reliable data aids the ACC in determining whether it is meeting specific outcome objectives. Ideally, both quantitative and qualitative data is collected to best understand the needs and resources within communities. The Prevention Institute observed that data sharing among ACC partners should be multi-directional. In other words, ACC partner organizations should both receive and provide data to the other members of the collaborative. Partner organizations can be incentivized to meet their outcome objectives by receiving funding for providing useable and beneficial data.[3]

As the community considers the most appropriate next steps to follow this report, an ACC model would seem to provide an approach that could combine Northeast Tennessee and Southwest Virginia into a single priority-based and data-drive partnership.

References

1. Tipirneni, R., Vickery, K. & Ehlinger, E. (2016). Accountable communities for health: Moving from providing accountable care to creating health. *Annals of Family Medicine*, *14*(1), 367-369. Retrieved from http://www.annfammed.org/content/13/4/367.full.
2. Institute for Healthcare Improvement. (2016). IHI triple aim initiative. Retrieved from http://www.ihi.org/engage/initiatives/tripleaim/Pages/default.aspx
3. Mikkelsen, L. & Haar, W.L. Prevention Institute. (2015). Accountable communities for health: Opportunities and recommendations. Retrieved from http://www.preventioninstitute.org/component/jlibrary/article/id-366/127.html.

Conclusions

CONCLUSIONS

The regions of Southwest Virginia and Northeast Tennessee, making up the 21-county catchment of the proposed merged health systems, benefit from a vibrant and dynamic community that is passionate about improving health. When the community was asked to participate in a project to develop a plan for interrupting the cycle of inter-generational poor health in the region, the response was overwhelming.

While there are certainly challenges in the region, such as poverty, unemployment, and geographic isolation, there is a remarkable will to invest in health. As mentioned in previous sections, over 140 professionals representing 84 agencies in the region were involved in developing this report. In addition, more than 220 community members were engaged and provided input to the process. An effort of this magnitude may be unprecedented in the region, or any similar region of the country.

Within each of the committee reports, there were priority areas identified along with approaches to addressing them. Each of the priorities is specific to the committee that selected them, but each is also cross-cutting in its effect on a system of health-related factors. What is represented within the committee reports addresses the spectrum of health intervention from prevention to recovery, providing guidance for community members and providers alike who are interested in improving health in their community.

What cannot be stressed enough is the thread of multi-sector collaboration underlying every aspect of each committee's recommendations. There was universal agreement that in order to truly impact health in the region, social support agencies, healthcare and behavioral health providers, local government, school officials, business leaders, and a broad cross-section of community members will have to carefully and deliberately plan to collaborate. The benefits of this approach include better healthcare with lower overall cost, improved outcomes, increased quality of life, lowered mental health and substance use disorders, more resilient families, and the list goes on. Collaboration across sectors and case-management approaches are the future of public health and health care alike.

While many hundreds of people contributed to the content of this report, the final document was compiled by: the Committee Chairs and by Dr. Billy Brooks, Dr. Randy Wykoff, Janet Stork, Kelsi West, Matt Coffey, Melissa Breck, Jocelyn Aibangbee, and Karen Spencer.

Appendices

Community Development
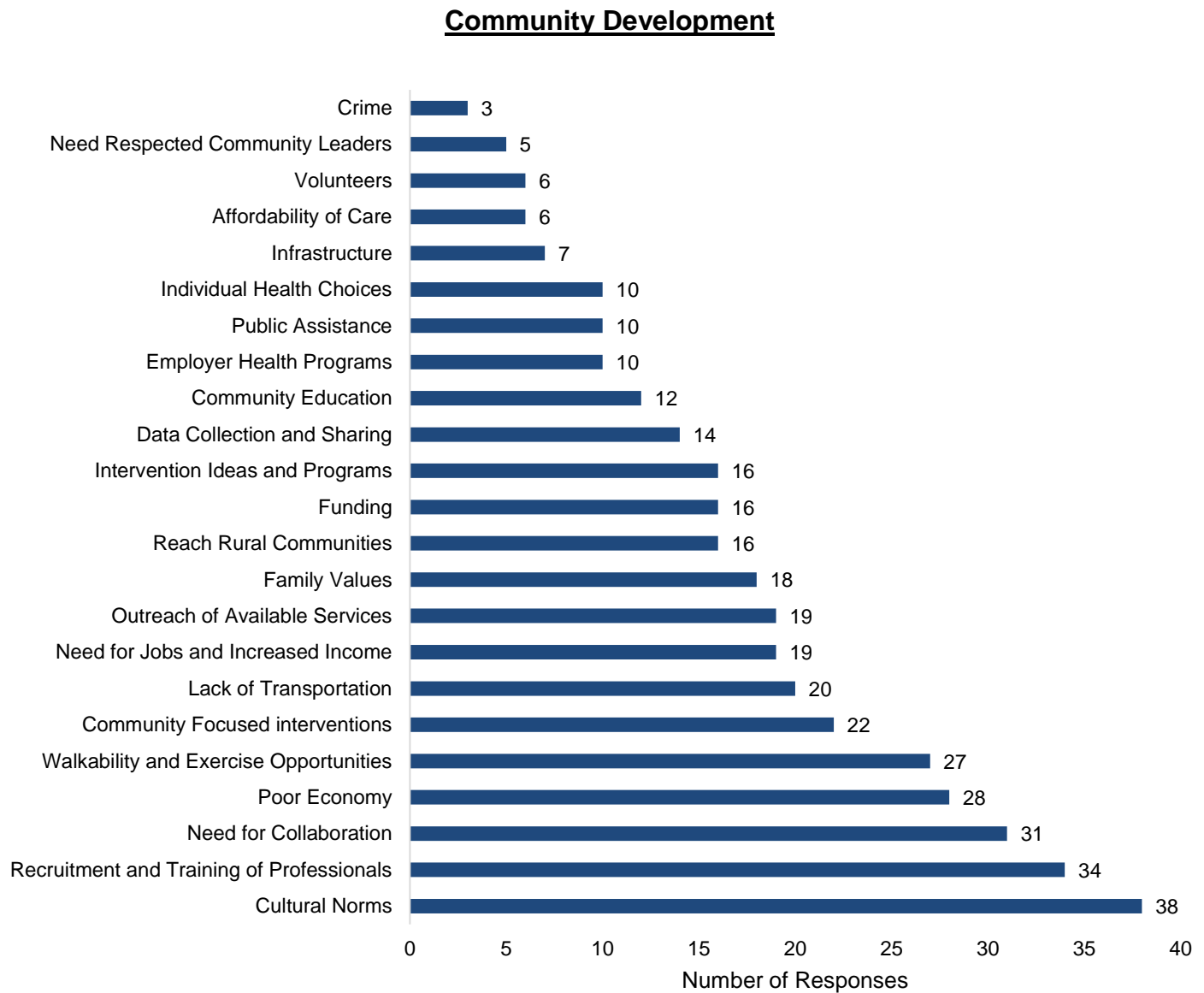
Figure 3. Community Development Topics, By Responses

"*Once we have better access to better health care then it will bring in more jobs- not only in healthcare but industries*"
"*Smaller groups need to communicate and coordinate so people are aware of what resources are available*"
"*Community no longer has pride*"

Substance Abuse
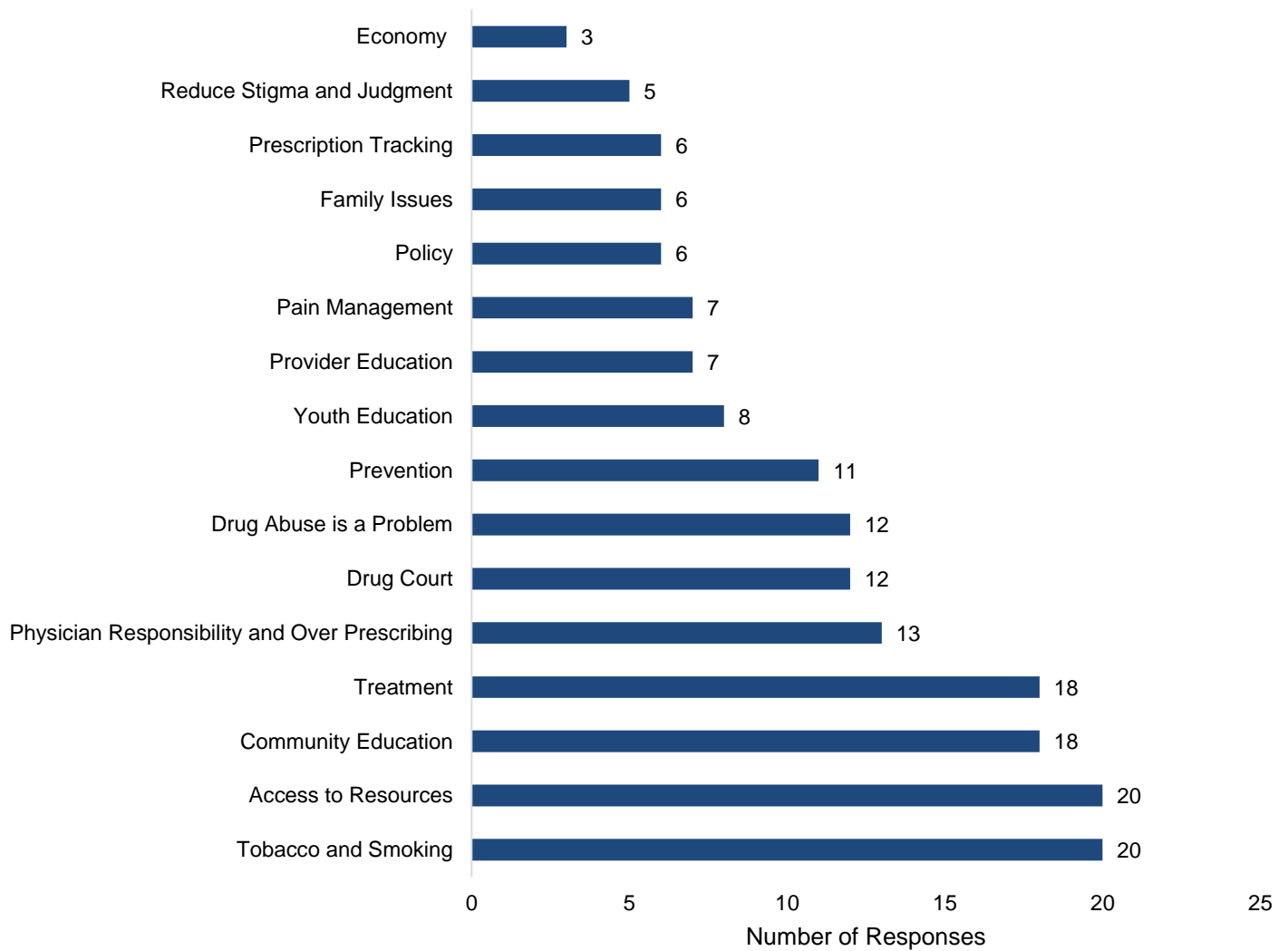
Figure 4. Substance Abuse Topics, By Responses

"*Prevention is the most important thing*"
"*We are in the process of losing a generation that should not be lost. We need drug treatment centers to protect the community*"
"*Most people who are substance abusers end up in jail, not treatment*"

Access to Services
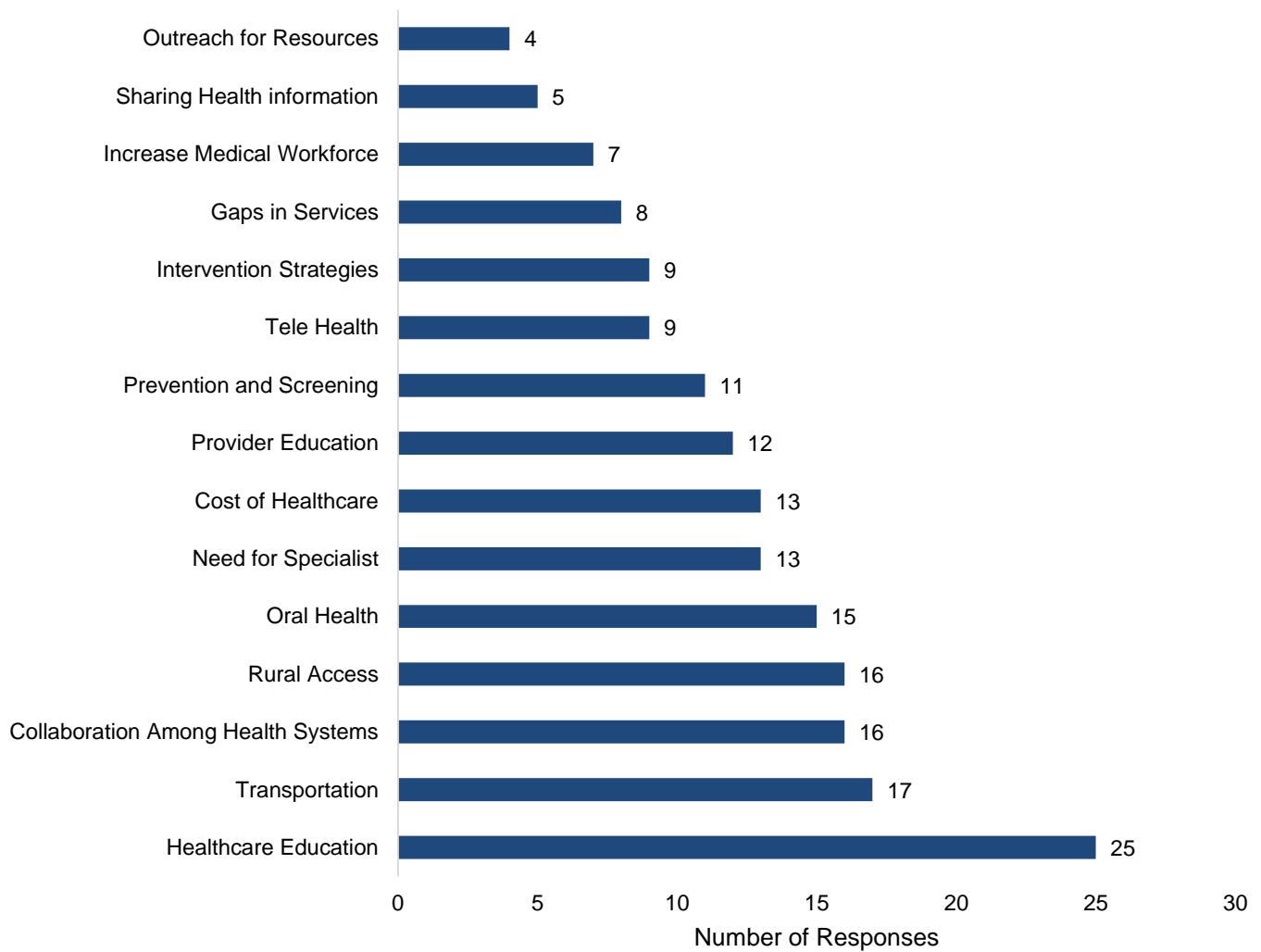
Figure 5. Access to Services Topics, By Responses

"*Cost of care/insurance is a real problem for a lot of population (choosing between medicine or food, shelter)*"
"*Lack of subspecialists in the region*"
"*Need professionals to break down barriers and cooperate*"
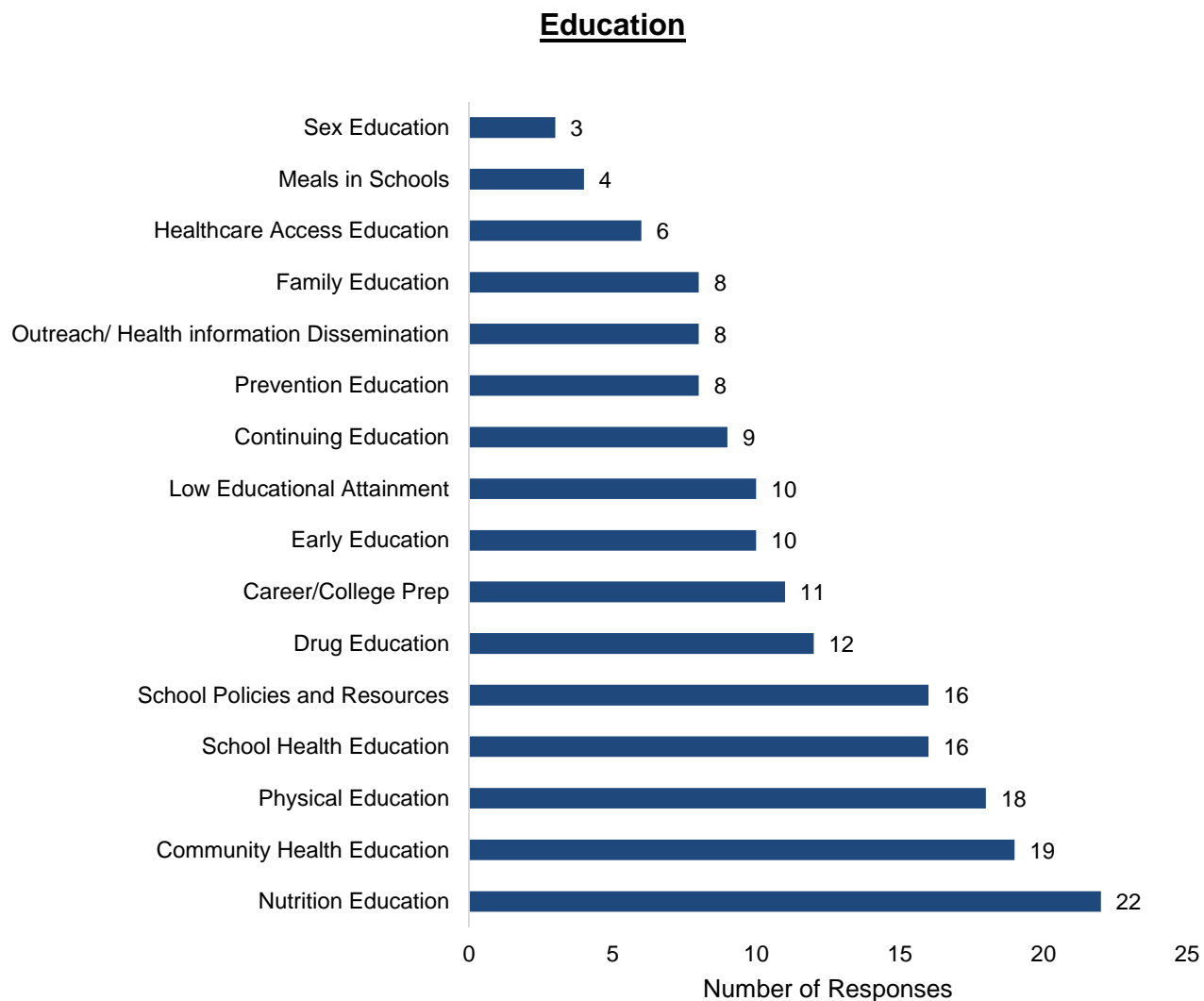
Education

Figure 6. Education Topics, By Responses

"*More effective education and nutrition in school and for parents*"
"*Educate adults on how to include children in physical activity, be active together*"
"*Need better education of what individuals can do to help themselves*"

Nutrition and Physical Activity
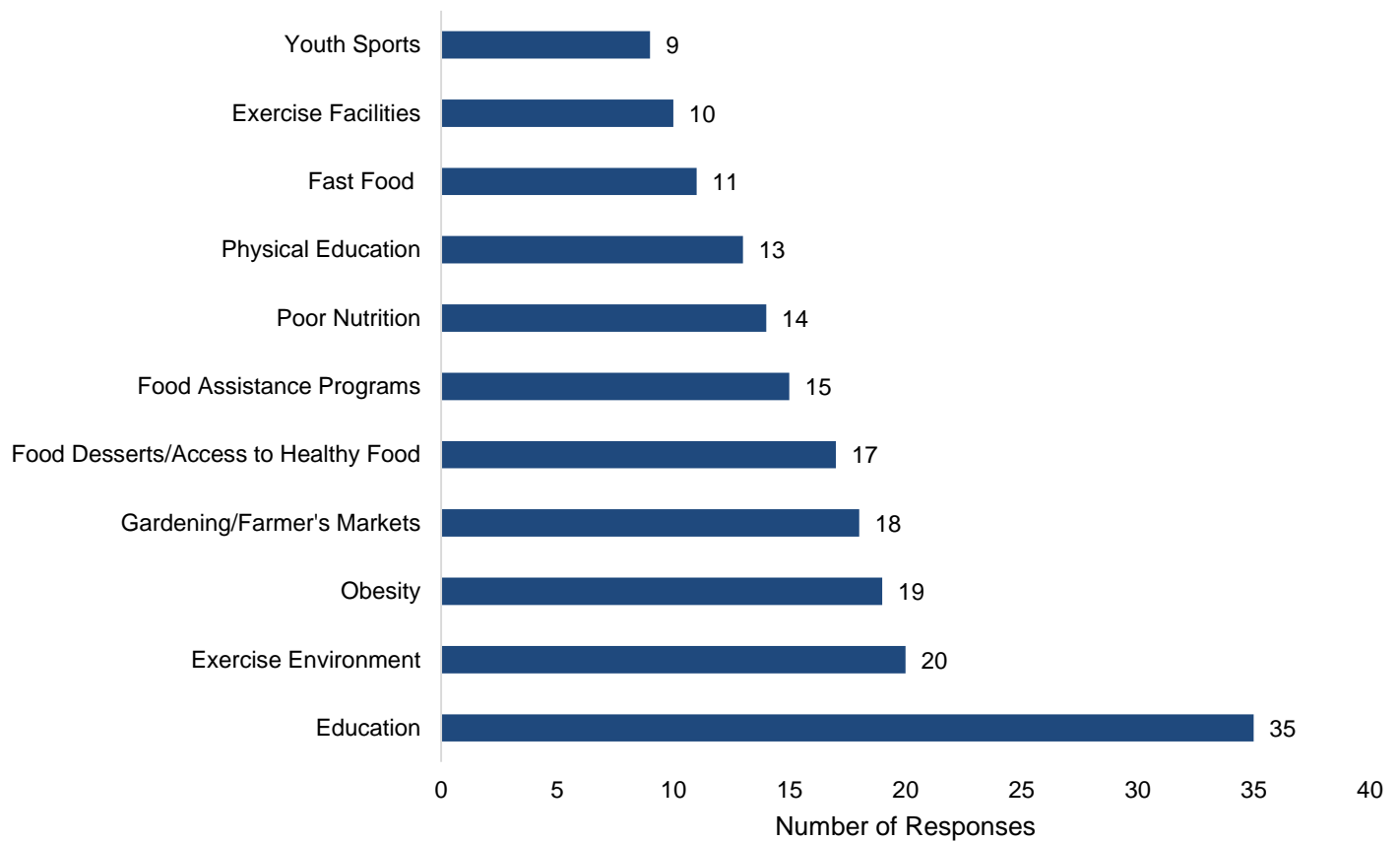
Figure 7. Nutrition and Physical Activity Topics, By Responses

"*Childhood initiatives need to include entire family to be impactful*"
"*More health facilities, walking trails*"
"*Employer Health Programs- Target Obesity*"

Mental Health
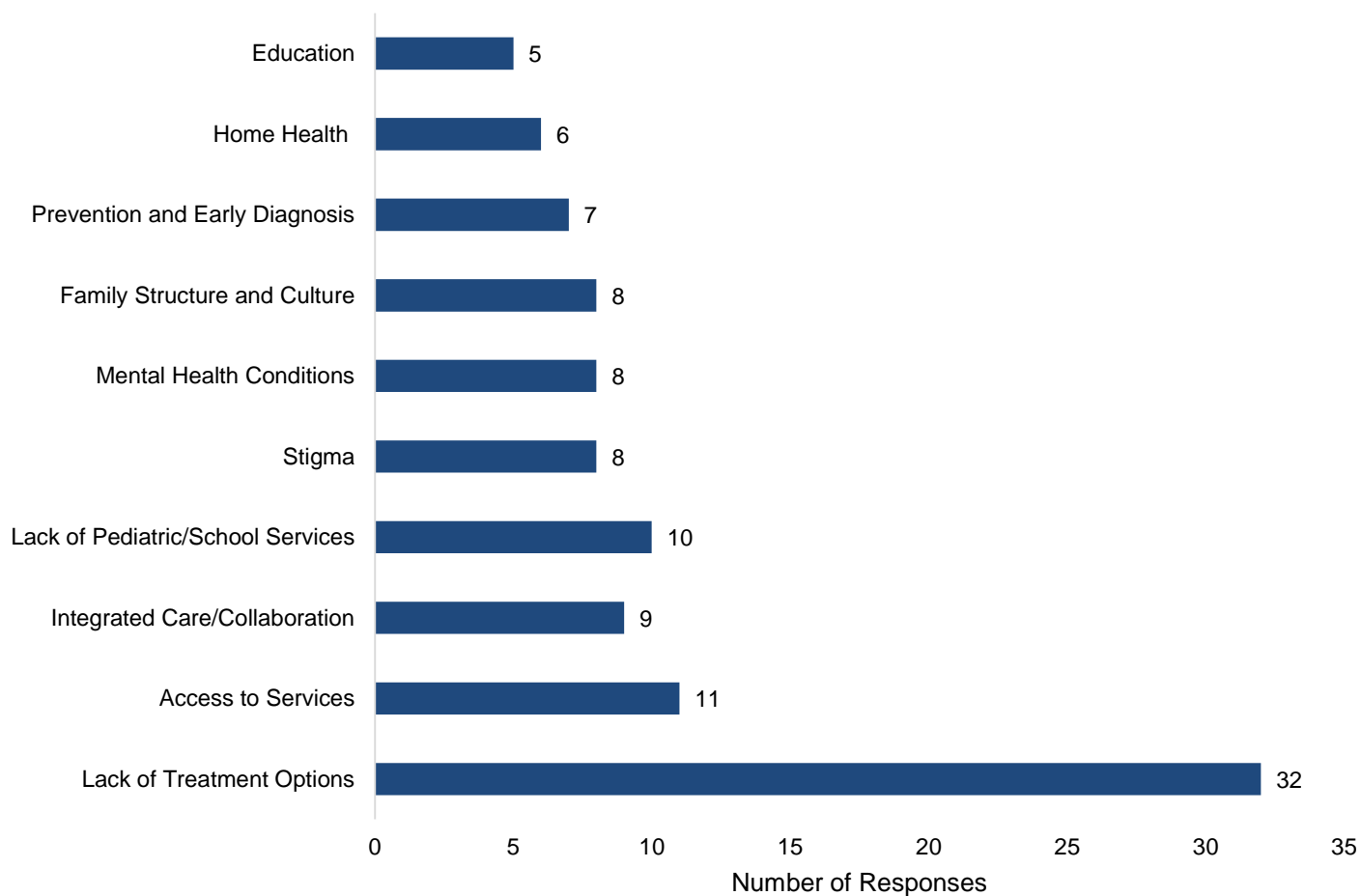
Figure 8. Mental Health Topics, By Responses

"*Lacking places and resources to improve the mental health overflow in hospitals*"
"*Increase mental health/behavioral in public schools starting young and for all families*"
"*Linking all providers together (DCS, Courts, MH providers, healthcare providers)*"

Maternal and Child Health

Topic	Number of Responses
Resources Available	2
Abuse	3
Need Pediatricians	4
Needed Resources	4
Grandparents Raising Children	4
Healthy Living Practices	5
Need for OB Services	6
Better Education at Early Age	6
Breastfeeding and Nutrition	6
Need for Birthing Centers and Resources	7
Parenting Styles	9
N.A.S. and Parental Drug Use	10
Lack of Family Structure	14
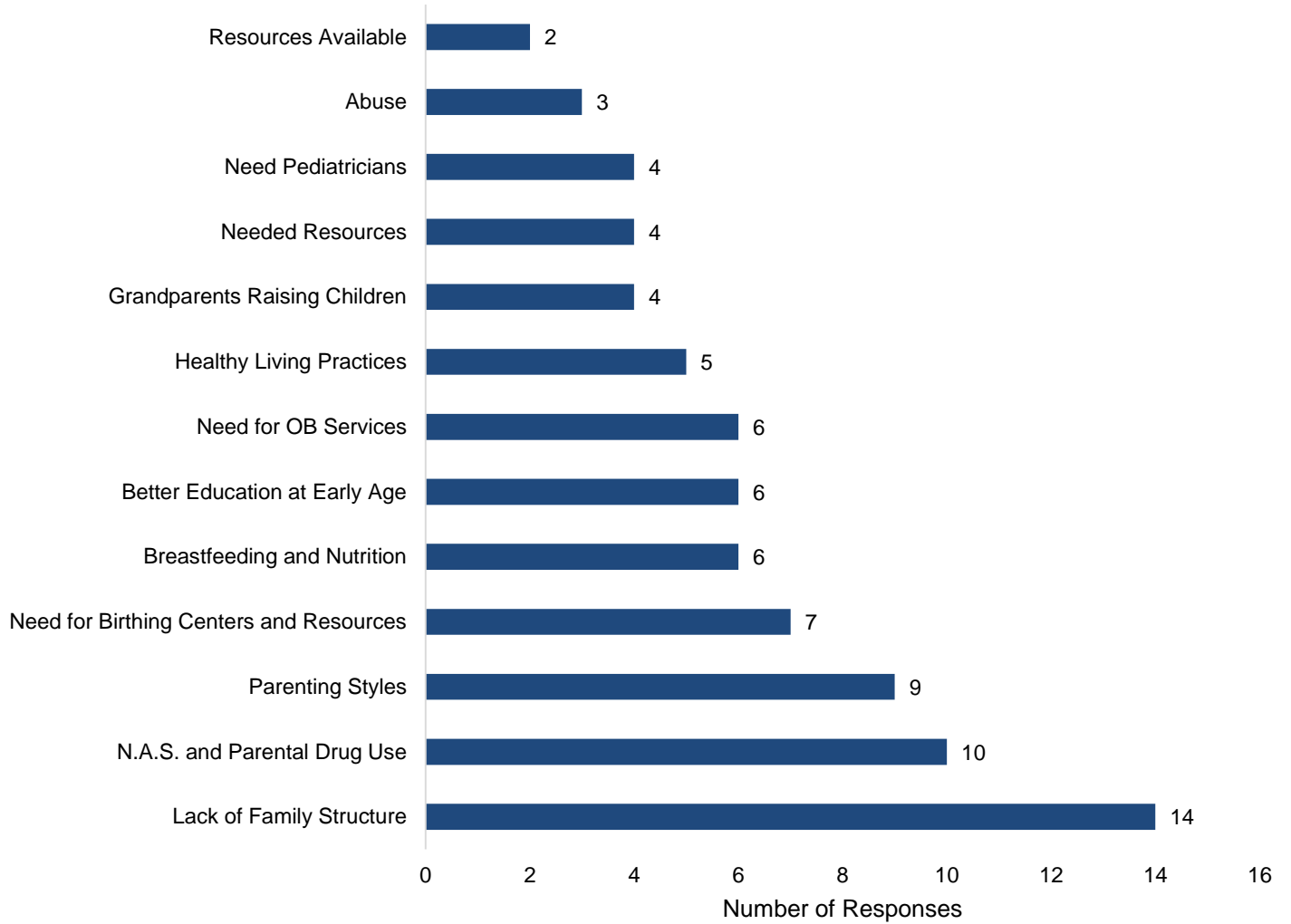
Figure 9. Maternal and Child Health Topics, By Responses

"*Lack of guidance and support in family*"
"*Kids need more responsibility and accountability*"
"*N.A.S.*"

Seniors
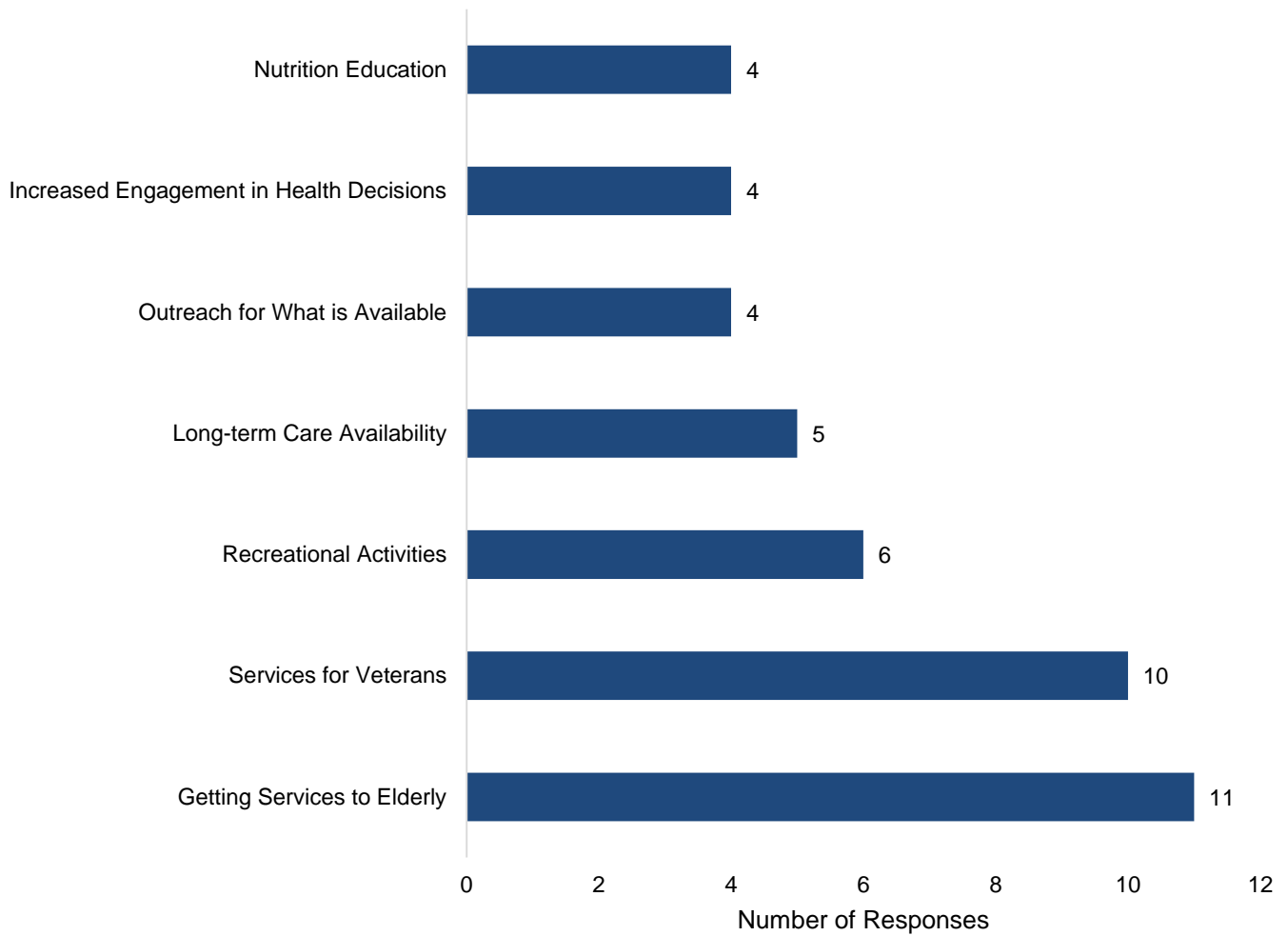
Figure 10. Senior Citizens Topics, By Responses

"*Transportation issues for older, rural, no drivers license and no money*"
"*No VA contracted nursing home in our area*"
"*Elderly being lost when care ends respite care (hospital stays), better support services after leaving hospitals*"

Mental Health and Addictions Minutes

MENTAL HEALTH & ADDICTIONS STEERING COMMITTEE MEETING

MEETING 1 MINUTES

Meeting Date: August 20, 2015

Meeting Location: Millennium Center, Johnson City, TN Location

ATTENDANCE

Name	Title	Organization
Greene, Eric	Senior VP	Frontier Health
Kidd, Dr. Teresa	President and CEO	Frontier Health
Bailey, Marlene	Director, Behavioral Health Programs	Woodridge Hospital
Benedetto, Kathy	SVP, Children & Youth Services	Frontier Health
Bowen, Diane	Director of Compliance and Performance Improvement	Frontier Health
Chase, Anna	Director of Youth and Family Services	Mount Rogers CSB
Collins, Margie	Drug Court Coordinator	City of Bristol, VA Circuit Court
Fox, Jeff	Executive Director	Highlands Community Services
Hagy, John	Director of Clearview	Russell County Medical Center
Jessee, Dr. Randy	Senior VP, Specialty Services	Frontier Health
Ketron, Chris	Adjunct Faculty	NE State Community College
Lindenbusch, Sue	SVP, oncology & behavioral health	Wellmont Health System
Loyd, Dr. Stephen	Associate Chief of Staff	VA Mountain Home
Mullins-Potter, Karrie	Peer Specialist, VA Operations	Frontier Health
O'Dell, Sandy	Executive Director	Planning District One
Pack, Dr. Rob	Assoc. Dean Academic Affairs	ETSU
Page, Joe	Senior VP, Outpt Services	Frontier Health
Rice, Dr. Judy	Interim Director, Graduate Programs	ETSU College of Nursing
Werth, James	Behavioral Health & Wellness Services Director	Stone Mountain Health Services

MEETING FORMAT

- Welcome and Introductions
- Review of Purpose and goals – Reference document in folder
    - Push the needle for and see how a merged system can help us provide services
    - The state has gotten a SIM grant to do some payment reform
    - Integrated care
        - Behavioral health homes
        - Patient Centered Medical Homes
    - Legal, medical, employment, housing – all these systems need to be coordinated
- If members cannot come please feel free to send a representative
- Moving forward as a large group – sub-groups
    - Adult mental health
    - Child and adolescent (4)
        - Will need to make sure this group is represented
    - Addiction and co-occurring disorders
- NAS can be represented in the child or the addictions
- Counted off by 3s to build subgroups
- Focus on today:
    - Existing resources
    - Existing gaps
    - And greatest regional challenges
- Group discussions (break-up session)
- Committee Members

    Members from diverse areas, psychologist, medical services, professors, program directors, children's services, behavioral health services, SW VA, judicial system, good geographical representation:

    - Marlene Bailey- Woodridge Psychiatric Hospital, Director Behavioral Health Programs

- Joe Page- Frontier Health, Sr. VP Adult Services
- Randy Jesse- Frontier Health, Sr. VP Specialty Services
- Dr. Stephen Lloyd – Mountain Home VA
- Sue Lindenbusch- Wellmont, Sr. VP Behavioral Health
- Jeff Fox – CEO Highlands CSB
- James Werth – Stone Mountain Health Services (FQHC), Director, Behavioral Health & Wellness
- Carrie Mullins-Potter, Frontier Health, Peer Specialist
- Diane Bowen, Frontier Health, Director of Compliance & Quality Assurance
- Anna Chase – Director of Youth & Family Services, Mount Rogers CSB

- Review of Purpose and goals –
  - Initial Purpose and Scope
    - Review of Binder, Initial purpose is to evaluate existing services for adults and children in our region, focus on resources, but as they also relate to gaps in service. Keep existing service array and gaps in mind when assessing greatest regional challenges. Gaps in access points, disabled populations, gaps in best practices, funding challenges.
  - Key Questions to be Answered
    - What are priority areas ~~are~~? Should have about 6-10.
    - How the proposed merger can best address these areas?
    - What are the best practices for treatment?
    - How can a merged entity help us get us where we need to be?
    - What are opportunities to integrate? 65 million dollar SIM grant for integrated care and payment reform with TENNCARE to advance coordination of care for those with serious mental health disorders and tie other entities like employment, social services and court systems for those persons. Opportunities for enhanced research and academics. Best practices research. Improve access and support despite SES. Lofty goals. Found addressed in charter.
    - If you can't come, send someone in your place and get information back, as long as your area is represented.

IDENTIFIED THEMES

- **Increased MH & SA Prevention and Early Intervention Efforts for Youth and Adults:**
  - How can our system be more effective in identifying at risk individuals, getting them into services early to prevent further deterioration?

- **A More Responsive System of Services which are Accessible, Acceptable, and Affordable** - treatment and wrap around services for all individuals, **regardless of payor**.
  - Transportation Barriers
  - Co-payment and deductible barriers
  - Licensed Staff/credentialing barriers

- **Building Capacity**
  - Intensive and specialized Children & Youth Resources
    - Crisis Stabilization
    - Inpatient
    - Child Psychiatry
    - Autism Spectrum Disorders
    - Eating Disorders

- Adult Inpatient Resources for High Acuity, Comorbid and Co-occurring Disordered individuals, including those with significant Eating Disorders
- Longer term, residential treatment for addiction and eating disorders
- Medication Assisted Treatment, supported by enhanced therapeutic interventions
- Focus on decreasing NAS in our region
- Recruitment / workforce development: How do we recruit and retain the needed professionals to the region , in order to build capacity for serving the needs of the population

– **Improvements in Integration of Care**
   - Between Behavioral Health and Primary Care
   - Between Behavioral Health and Social Systems to include, Judicial, Housing, Employment, Education

– **Data Management/ Collaboration:** How can we better share data across the region, in order to build an effective surveillance system for tracking mental health and substance abuse prevalence and outcomes?

– **Reduce stigma in the community:** What educational initiatives should be instituted to reduce public stigma around mental health and substance use disorder prevention, treatment, and recovery while simultaneously advocating for the need for adequate funding of a comprehensive system of care to improve the overall health status of our region.

– **How to Accomplish**
   - Subgroups as a Possibility- do it by interest area. Depending on where your interest lie.
   - Children & Youth Mental Health & Addiction
   - No enough people standing for interest in Children and adolescent so going to subdivide them out into other groups. Counting off by threes so children and adolescents are going to be sitting in on each committee to represent.
   - Adult Mental Health
   - Adult Addiction & Co-Occurring
   - Invitation of Regional Experts

DISCUSSIONS

Group 1

– **Matching Resources to Needs from the Beginning and Access**
   - Inpatient access both states to address high acuity and COD (co-occurring) individuals
   - Improved care coordination with judicial, housing, PCP, inpatient, transportation
   - Focus on 1st episode psychosis, depression, bipolar, etc. to intervene early to decrease substance abuse issues
   - Mental health and addiction services are not valued (stigma reduction)
   - We need to take advantage of values based contracting
   - Community based programs for prevention education
   - Longer term treatment for addictions – need for additional RTC capacity
   - Downstream medical impact of IV drug use: cost of medication and treatment

– **Opportunity from Merged Entity**
   - Can we use our combined talent and resources to impact payment reform to value mental health, addiction and wrap around services and fund them appropriately?
   - Become data driver – resources
   - Workforce development in mental health and addiction specialty

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- Leveraging academic institutions for workforce and data to demo outcomes
- Leverage power of merged hospitals to help mental health and substance abuse services to grow and improve

– **GRC**
  - Hard to prove prevention works (and treatment works)
  - Access to right treatment for substance abuse
  - Paying for what works
  - Getting people to work together – effective partnerships
  - Making mental health and substance abuse services attractive and desirable
  - *FRAMEWORK* Availability, Accessibility, Acceptability, Affordability
  - Payment reform driven by evidence and not payors
  - Education of legislators and politicians to impress upon NEED for adequate funding to impact mental health and addiction
  - MAT needs to be evidence based and intertwined with enhanced treatment and psychosocial supports
  -

– **Inpatient** – need in SW Virginia and NE Tennessee, especially for children, high acuity patients and those with co-morbidities and co-occurring disorders.

– **COD population**
  - First episode psychosis
    - High drug utilizers
  - Addiction Issues overshadowing mental health issues
  - Community divided by region
  - Lack of networking yields underutilization of beds
  - Co-morbidities create problems with accepting patients
  - State line becomes a challenge

– **High Acuity Population is the Need**
  - State line issues
  - Emergency Commitment and TDO Issues
  - Co-morbidity Issues
  - Inpatient capacity issues to handle the high acuity, co-morbid and COD individuals
  - Appropriate placement per acuity
  - VA lacks inpatient resources, especially for children and adolescents
  - Large gap for pediatric inpatient services, both states
  - Justice system does not address mental health needs
  - Transportation needs to be in place
  - Care Coordination for improved integration of care
  - Case Management for non TennCare population

– **Payment Reform**
  - Payors whittling down services
  - Meaningful care management and care coordination
  - Reallocation of money for wrap around services – peer support and coaching to decrease recidivism to inpatient services
  - Long term services for RT addictions

- MMD
- Residential Tx
- Payers need to understand the important role of psychosocial issues and prioritize them for payment and financial support

– **Gaps**
  – Workforce issues
    - Licensed mental health specialists
    - Psychiatrists
      - Children & Youth
      - General Adult
      - Addiction specialists
    - PNP
    - Wrap around services for all payers, including Medicare and private insurance
  – Affordable and Accessible Services for ALL
    - Middle class
    - Deductible issues
    - Staff Credentialing issues for private insurance
  – C & Y services
    - Early intervention and prevention
    - Autism spectrum
    - Inpatient care
    - CSU's (Crisis Stabilization Units) for kids
      - "Safety Zone"; 15-day program and respite (Highlands)

– **Role of MAT**
  – Needs to be evidence based and treatment enhanced

Group 2

Members
- **University of Maryland network representative**
- **Rob Pack**-prescription drug abuse, college of public health
- **Eric Green**-Frontier in VA, training as a counselor, manage operations and contract relations, covers infant to geriatric mental health and substance abuse is his issue
- **Sandy Odell**-Lee, Wise and Scott County, interaction with Frontier Health-every issue tied into community issue and it impacts mental health and addiction
- **Cinnamon-Judge Ross representative**. Drug Court Judge Ross has previous experience in counseling in family and marriage counseling. Orders a lot of treatment; very passionate about looking for rehabilitation, tight knit community but drugs are rampant. Need social services. She has experience in Social work, deeper issues than what is on the surface. Need more resources.
- **Judy Rice**-Interim director- Psych NP, ETSU, Homeless patients and without insurance, need detox beds for them. Group homes have so many needs,
- **Chris Kendrick**- Northeast state, Psych nursing, long-term care experience. Geriatric patients.
- **John Hagey-**Russel County, work with Frontier a lot. Worked in Nashville 13 years ago. Worked in Drug courts. His passions is with youth. Where would we send youth for treatment? Did needs assessment in VA. Biggest need for collaboration in schools and drug courts. Trying to build that in that area. Dual Diagnosis is needed.
- **Kathy Benedetto**-Frontier Health children services. Had grants that ~~are focused on~~ helped access through school based services. Seeing impact of addiction, for sure. More focus on trauma and Its impact with children. Frontier has had a focus on evidenced based practices and skills working with children who have had trauma
- **Margi Collins**-Criminal Justice. Working with adult population. Working with drug court in Bristol VA.

– **Existing Resources**
- Prevention in VA- well funded by the state. Transitioned from education. Prevention teams are really engaged. 8-10 coalitions focused on substance abuse. Typically work with alcohol. VA structure of coalition is a strong point. ASAC-Rick Greene-planning districts- all coalitions report up to ASAC Coalition. All have been grassroots
- Coalitions and Councils- VA-OneCare Coalition gets funding from CSB and Dept. of Social Services for each year. Blueprint for attacking substance abuse and mental health issues in VA form OneCare coalition. TN-Regionally planning councils in TN filtered to state level.
- In VA, Dept. of health professionals, with regard to drug abuse/prescription drugs, Data sharing is good.
- Prescription Drug Abuse/Misuse working group at ETSU has resources on ETSU website for Prescription drug abuse.
- Some EMDR service available. Have a few in the area listed from Highlands does services, Cumberland Mountain and two others in VA region.
- Nursing dept. ETSU-Psychiatric NP salary passed normal NP's. There are more students that are local pursuing that route.

– **Existing Gaps**
- Data- Management, Collaboration, Needs
- Why are we not able to access school assessment data? (from the Youth Risk Behavior Survey)
    - Need needs assessment from schools. Schools don't want to see what problems exist. Most recent one known of was 2003. That is a problem. Schools do not share them. School's that were more open and shared data and risk behavior data were better with programs.
    - Coordinated school health- that may be a gray area with sharing the data.

- What data is available for this region?
    - Mountain States and Wellmont did community health assessments but may not have asked all the relevant questions. (E.g. Child psychiatric services, mental health service, etc.)
- How can we better share data between states and organizations?
    - In VA- dept. of behavioral services- covers N.A.S. trying to push mandatory reporting, getting better about collecting data.
    - TN dept. of health and TN dept. of mental health and services- don't coordinate care for example like N.A.S. don't share data.
    - Community Health Rankings- there is no comparison in VA to TN. Need to have it as a region. Need standardized data systems in place. TEDS data can be behind. SW VA has highest rate per capita of HIV. TN has a very high rate of new cases. Hepatitis is also spreading in the region. Not known very well that it can be spread between drug works. Opana is being largely prescribed. 26 related Opana deaths in Hawkins County.
    - Need mass data that compare 2014 to before that in VA for transportation issues.
    - We need a clinician to collect data but it won't help because they have so much work already.
    - Need to participate in health information exchange. Regional entity needs to extrapolate that data.

- **Workforce and Workforce Development**

  - Why can we not recruit and retain psychiatrists?
    - ETSU center for excellence has been trying to recruit a child psychiatrist for 2 years. Can't do all the psychiatric care for every hospital and practice group. Fixable problem- need loan forgiveness.

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- We need to be able to attract people. Low spot in the line of psychiatrists. In a very bad spot, a lot of tele-psychiatrist instead of having them here in the region.
- Psych residency at Mountain States or Wellmont-need to rain our own to keep them in our area.
- Inter-professional need for education-social work, nursing, psychiatry. Structure that could be wrap around services on campus and off campus.
- Paying off loans after residency to give them a job and to keep them to stay in our area
- What is the Kellogg Program? Does it apply to our region?

- **In-Home and Mobile Crisis Units**

  - Is there any mobile crisis unit?
    - To prevent hospitalizations, crisis services. Bringing services to the person to avoided hospitalizations, other than just ambulatory. Shown to be pretty effective.
    - Medicaid in VA will fund intensive services in-home but the workforce is not enough. Majority of children, but cannot fund staff. Off hours. Crisis stabilization for kids- in SW VA got grant for. But it is 3 hours away from most people.
  - Should there be work done in the community versus needing a bed?
    - Adult crises stabilization unit and have been thinking about doing a children's unit. In home services some of the models, really dependent on funding from CSU. Middle TN did a model, waiting to see data. Case Management was being questioned for funding. Questioning on how much we are spending.

- **Evidence Based Programs and Prevention**

  - How do we apply evidenced based programs to our population?
    - Taking evidenced based but figuring out how to turn on adoption of the behaviors. How do we get the region to adopt these? REAIM-acronym.
    - Put together logic model or dashboard. Very specific things you can do to make it consumable. There are so many different approaches. We have to figure out which ones we can move forward.
  - What about adult prevention?
    - Adult prevention is missing. We really can't prevent in adult population it's all remedial.
    - Prevention councils exist but they are small grants, anti-drug collations, most are not funded. It was stated that funding for Coalitions comes and goes because social services don't have a way to make revenue.
    - Children are at school the majority of their time- so need to have more practice in schools. Have captive audience for education.
  - How can we fund evidence based programs and practices?
    - Prevention is key but if not funded, the evidence based practices are expensive.
    - But save dollars long term from keeping them from using other services.
    - People who want to do what is right for the patients-grassroots- but do not get a lot of support from legislation.
  - Is the merger going to create a foundation?
    - Need to manage these programs and support them.

- **Adult Services**

  - How many recovery services are there in the region?

- Recovery should not be left out and is third variable after prevention and treatment. Treatment can't go on forever.
- SW VA recovery services. Voluntary vs. Involuntary patients. Getting people in and through quick.
  - What is the appropriate way to care coordination? Case management?
    - People in the ED that are waiting 5 days for a bed for psychiatric.
    - Need Beds in psychiatric areas. For adults, need to contract with state hospital for inpatient care for psychiatry. They have to move to different hospitals until areas are full.
    - Not enough resources for adult trauma. Don't do a lot of focus on the pain and the trauma. Hard to find resources. Specialist are needed in those services.
    - Beds for Geriatric In patient.
  - Where can mental health and drug abuse patients find housing?
    - Housing is a huge issue. Misdemeanor's can't even get housing.
    - Magnolia Ridge-need more inpatient detox and 30 days at that facility. There is a long waiting list. Takes a while for access.

- **Transportation**

  - Can schools help with transportation?
    - Transportation huge issue. Schools have transportation but need to figure out how to help them and then get them back home. Huge issue in VA
    - Outpatient services did not have patients because they had no way of getting there. They wanted to come but could not find transportation.
    - TENNCARE can provide transportation with some. Retired person, volunteers, churches provide transportation. Provide other clients with gas vouchers if they give others a ride.
  - Is there a way to even find the data about transportation?
    - Seniors need help with transportation too.
    - Half of first appointments no show because of no ride
    - Recruiting employees won't help if we cannot get transportation for the children and adults to get to the appointments.

- **Child Psychiatric Services**

  - Prevention Services for mental health and substance abuse for children and adolescents is pretty sparse in frontier health. TN has a small prevention grant for schools in Hawkins and Sullivan but nothing in Washington and carter. School based project BASIC. Identify children early- not a treatment service.
  - Needs for beds- There are none of children and adolescent in Virginia in the region. Can't cross state lines to access those at Woodridge.

- **Environment/Social**

  - Urbanization - We are rural line the eastern sense of the word. Poverty is the root problem.
  - Health and income are woven together. Keeping track of schools, graduation, employment, social determinants of health.
  - More treatment of Addictions of affluence than for addictions of poverty.

Greatest Regional Challenges
- Social Determinates-Poverty

- Transportation
- Employment recruitment
- Funding for Coalitions and Grassroots
- Evidence-based program education
- Data Systems/ Regional Data and Management
- Beds for children, adults and for Geriatrics with Alzheimer's and Dementia
- Crisis Stabilization
- Addiction Treatment – longer term residential treatment

Group 3

Members
- Hughes Melton
- Scott Richards
- Rebecca Holmes
- Brenda Testerman
- Cynthia McClaskey
- Douglas Keen
- Michele Mosier
- Lori Mills
- Alice Rainey
- Karl Goodkin
- Bob Plummer

Should we bring VA faculty into workgroup?

- **Existing Resources**

  - Southwest Virginia mental health institution
    - Marion VA, Smith County
    - CSBs serve as outpatient facilities
    - Robust case management services
    - In-patient refers
    - CSBs follow-up with patients after they make contact with services

  - Mental Health In-patient
    - Virginia
      - Southwest Virginia Mental Health Institute has 170 beds
      - Bristol regional has 16 geriatric beds
      - Clearview has 20 (Russel County)
      - Twin county 10-20 beds
      - Dickinson County will be opening
      - 48 state adolescent beds in Stanton (all in the state of VA)

  - Tennessee
    - Kids are in ER beds
    - 12 -14 beds for child - adolescent in Woodridge
      - Hoping to reassume a number of beds for adolescents
      - Acute in-patient unit

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- Step down unit
- Virginia psych has inpatient units in Salem VA and JC

- Out-patient
  - Frontier health is the provider
  - More comprehensive service array for TennCare recipients
  - Managed care companies are in the region
  - Woodridge has out patient in department of psyche
  - Stone mountain has out patient
  - Mapping services
    - University of Chicago collaborating to apply mapping approach to VA population
  - What is the flow of patients in the region? Where are they going? Where are they coming from?
  - Several agencies have developed services around TennCare reimbursement within the Juvenile Courts
    - Camelot
    - Omni Behavioral Community Health
    - Health connect America
    - Each have developed their own niches based on the need of the individual communities the facilities are in
    - Their model is driven by perceived needs
    - Frontier health may not have as much coverage of staff in the juvenile courts as the other providers
  - How to build patient base and how to maintain the patient base?

- Training
  - Provides workforce for the future
  - In their training they provide services
  - Local Resources
    - 3 semester training in psychiatry in Southwest Virginia
    - ETSU Dept of Psychiatry
      - 20 slots
      - 5 in each of the four years of training
      - Has capacity to train more with the number of faculty
      - No child and adolescent fellowship
        - Previous attempt many years ago
        - If had fellowship then could produce a lot of new providers
    - Frontier health supports training
      - Internship program and 1 doc program
    - Emory and Henry training on integrated health
    - ETSU Nursing is a great resource

- Acute Stabilization
  - Highlands runs crisis stabilizations for adults
    - Pre-acute crisis
    - Insurance is not an issue in the area
  - The VA uses EPS as a crisis stabilization unit
  - Johnson City Stabilization Center
    - 15 beds
  - Psychiatry stabilization in the ED could help fill the gap as kids go to the ER for services

- Tele-psychiatry

    - What does the network look like for tele-psychiatry?
        - Training is not a barrier
        - Front in costs for technology is high
        - High quality interactions
        - Jodi Polaha; ETSU Psychology helps set up pediatric telemedicine around the country
    - Mosier
    - What are the barriers?
    - Why we haven't made any steps forward?

    - We need to be thinking outside the box for attracting psychiatric professionals.

Existing Gaps

- Psychiatric Services
    - Deficiencies in mental health services in all areas
    - Psychiatrists of any kind are hard to recruit
    - Training opportunities are limited for students
        - Need to assess what can be provided to fill gaps in workforce
    - Others filling role as psychiatrist in counties who do not have the formal training
    - Not enough room for all the patients
    - Have to discharge without any place to send them
    - Would need less beds if there were more support services
    - Could HUD provide housing for clientele?
        - HUD does not serve folks with any criminal record
        - Need supervised living
    - Need Addiction psychiatrists
    - Geriatric services lacking
    - Even if you have private insurance you may not be able to find services
    - Reimbursement is really difficult
    - Need to integrating behavioral health into primary care
        - Providers are siloed and not working together
    - Existing services are overwhelmed
    - All staff have other duties so they are not able to meet the needs
    - Need to increase outpatient services in order to lower in-patient population and suicide
    - Urban areas seem to be less collaborative than rural areas due to a perceived lack of need
    - Need for nurses in in-patient facilities
    - National shortage of pre-doctoral internships
    - Easier to recruit to urban area rather than rural area
    - In Tennessee more and more it's the nurse practitioners are seeing kids and prescribing

- Child and Adolescent Services
    - Lack of access to care in Southwest Virginia
        - Behavioral services
        - There may be a plan to map out services in the region.
    - Child psychiatry is a huge lack of access
        - Better if you have if you have Medicaid or TennCare
        - Limited availability for private insurance clients

- No private practice child psychiatrist working in Northeast TN
- Kids from NE TN are going to Chat, Knoxville, Memphis, Nashville to access a child psychiatrist in private practice (and for inpatient treatment)
- Kids with autism

- Data- Management, Collaboration, Needs
  - Communication between areas/ counties is a problem because folks in practice may not know who is working in other areas
    - Northeast region looked at this problem
    - Social services has a booklet of resources
  - Could communication back to in-patient facilities by CSBs about clients 'utilization of services help increase benefit of services?
  - Agencies providing services across East TN are all uncoordinated so prevents collaborative care

- Access and Affordability
  - What types of insurance do the facilities take?
    - State hospitals get a piece of state monies
    - Not enough
    - Money runs out halfway through year

- Acute Stabilization
  - Crisis workers in VA need to be more mobile
    - Referral is typically to ERs
  - Crisis stabilization is not available for children

MENTAL HEALTH & ADDICTIONS STEERING COMMITTEE MEETING

MEETING 2 MINUTES

Meeting Date: September 17, 2015

Meeting Location: Higher Ed Center, Abingdon, VA Location

ATTENDANCE

Name	Title	Organization
Greene, Eric	Senior VP	Frontier Health
Kidd, Dr. Teresa	President and CEO	Frontier Health
Bailey, Marlene	Director, Behavioral Health Programs	Woodridge Hospital
Bowen, Diane	Director of Compliance and Performance Improvement	Frontier Health
Collins, Margie	Drug Court Coordinator	City of Bristol, VA Circuit Court
Fox, Jeff	Executive Director	Highlands Community Services
Hagy, John	Director of Clearview	Russell County Medical Center
Holmes, Rebecca	Clinical Director	Highlands Community Services
Jessee, Dr. Randy	Senior VP, Specialty Services	Frontier Health
Jones, Kristie	Director of MH Services	Cumberland Mountain CSB
Keen, Doug	Program Manager Department of Psychiatry	Wellmont Health System
Ketron, Chris	Adjunct Faculty	NE State Community College
Lindenbusch, Sue	SVP, oncology & behavioral health	Wellmont Health System
McClaskey, Cynthia	Director	SW VA Mental Health Institute
Moore, Elliott	VP, Government Relations	Mountain States Health Alliance
Mullins-Potter, Karrie	Peer Specialist, VA Operations	Frontier Health
Pack, Dr. Rob	Assoc. Dean Academic Affairs	ETSU
Page, Joe	Senior VP, Outpt Services	Frontier Health
Rainey, Alice	SAGE examines needs and service gaps for seniors	SAGE
Richards, Scott	Department Chair	Emory & Henry College, School of Health Sciences
Robshaw, Shannon	Consultant	Technical Assistance Network for Children's Behavioral Health, University of Maryland
Ross, Hon. Todd	Judge	Hawkins County, TN
Taylor, Ken	Division Director, VA Child & Family Services	Frontier Health
Testerman, Brenda	Peer Specialist, VA Operations, MH Recovery Coach	Frontier Health
Werth, James	Behavioral Health & Wellness Services Director	Stone Mountain Health Services
White, Lindy	CEO	Franklin Woods Community Hospital / Woodridge Hospital

MEETING FORMAT
- Review of Themes from Previous Steering Committee - ALL
- Group discussions (break up sessions)

DISCUSSIONS
Do you think we captured the theme? Do we have any additions to what was captured?
- Increasing mental health and substance abuse prevention and early intervention efforts for youth and adults and how our system could be more effective at identifying at risk individuals and getting them into services early to prevent deterioration.
- A more responsive system of services which are affordable, accessible and acceptable – treatment and wrap around services for all individuals regardless of payer source - barrier of our payers – wraparound services - transportation, copayment and deductible barriers, and licensed staff.
- Building capacity – common theme- specialized children resources – crisis stabilization services at Highlands – lack of inpatient resources for children in the area – we have beds but limited and they can't cross state lines, etc. – inability to recruit child psychiatrists to the area – autism spectrum disorders– eating disorders – have outpatient services only- nothing that specializes in eating disorders – disconnect between what we have and what we can do (beds available at times but not knowing where they are or what they are for, crossing state lines) – recurring theme across all three areas- longer term residential treatment for addictions and eating disorders needed – medication assisted treatment supported by

enhanced therapeutic interventions – recruitment in workforce development - Community Based/Evidence Based Practices were needed.

- Improvements of Care **-** Integration of care – colocation - care coordination (spend more time talking about that next time we meet).
- Add law enforcement to the social systems (re: $30 million case management budget cuts refunded with help of legal system and sheriff's dept.)
- Data management and collaboration - mental health management – data sharing **-** How mental health services are not valued by our payers and need to get better data to support what we are doing and data sharing in reference to substance abuse and mental health prevalence in our area.
- Reducing stigma in the community – what educational initiatives should be introduced to reduce public stigma around mental health and substance abuse disorder prevention, treatment and recovery while advocating for funding for a comprehensive system of care for our area.
- Help patients know about educational programs out there led my families in recovery (Bridges program; Family to Family) and let patients know how to get access to these programs.
- Employment Initiatives (ABT) to hire people in recovery and also Child Welfare issues discussed in reference to integration of care.
- Specialized needs of the elderly were addressed as well.

Small Group Questions
- What would we propose to newly merged system ("Newco") so that they can facilitate meeting our identified objectives?
- What questions would you have for the representatives of Newco regarding how they would facilitate meeting these goals?
- Are there other partnerships to explore?
- Are there other Specialty Services Gaps and if so what are they?

Dr. Jesse Group Discussion

- **Maintaining the collaboration effort** and competition for resources.
    - 10 year plan – **long lasting plan for wellness**.   Partnering with universities to teach students evidence based practices and specific areas such as treating trauma.
    - Navigating different systems of care how behavior and medical and those organizations together and how do we travel back and forth.
    - Getting patient perspective and also collaboration for staff recruitment and staff training is crucial.
    - Asking organizations to be partners
        - Collaborative training programs for staff
        - Sharing in meeting community needs, **resource management and coordination of various activities** between organizations and participants; businesses and individuals.
    - What is each present system doing that they want to retain into the future?

- **Establishment of some form of care standards and actions**
        - Levels of care
        - Placement – to provide positive outcome.
        - Clinical pathways that help to develop some of the process.
            - Ex. Center for Healthy Children and Families
    - Sense of Urgency and sustained focus to make sure progress is happening and the need to leverage the work that has already been performed.
    - All the relationships already started are very valuable
    - The payer model is broken.

- How can we collaborate across state lines in regard to mental health issues
- Meeting the patient where they are - location.
- Integration and collaboration so that we are speaking the same language when we are meeting with the patients.
- Don't want to get confused and have false hopes about what Newco can do and what all can be accomplished
    - We all need to be on the same page.
- Needing to use our resources wisely.
    - Very important that the system we build will serve the unemployed, homeless, undereducated, etc.
- Who do we need partnerships with?
    - Partnerships need to be with businesses, schools, churches and community groups.
- Need to educate community and leaders of Newco about what is mental health and what is addiction and reducing the stigma around that and create a strategy about it becoming common place to be able to discuss mental health concerns openly and that there is open dialogue and removing fear associated with that and that it can be part of a normal conversation.
- How we can use technology to look at best practices and not reinvent the wheel.
    - How can we leverage to get the best of the best outside of our state, etc.
- Special services needed – ETSU can be helping to educate in some of the subspecialty areas needed.
- What to propose to Newco for facilitating our needs?

- We need to them to help us for better screening for every patient for depression and trauma
- The committee needs to partner to:
    - determine/ help to identify the issues that we can impact and help coordinate existing resources
    - helping to fill the gaps and the resources we need to keep things going
        - sustainable interventions
    - recruiting highly qualified behavioral health staff and broadening of the services for everyone
- Need to know what we don't know
    - can we learn from other mergers to see what worked from other mergers that have happened
    - partner with ETSU with studies looking at that
    - conversation about focus on:
        - the demonstration of impact of the merger
        - decreasing suicide
        - decreasing blood-born pathogens
        - improved risk assessment
        - getting into services quickly
- Can this system find a way to:
    - draw in highly qualified folks and expand grass root coalitions
    - expand data collections
    - find better ways to meet the demand for specialized services
- Need Newco to be an agent for change
    - Can you help us get work force development grants, physician assistants, etc.

Dr. Brooks Group Discussion

- **What would we propose to newly merged system ("Newco") so that they can facilitate meeting our identified objectives?**
    - We need "champions" - some type of organized council to keep the progress going and evaluate.

- These issues are urgent and our patients can't wait. Even though there will be a lot work to be done with the merger itself, mental health addictions needs to be one of the first orders of business.
- Continue to foster relationships with legislators. We need to educate them about the importance of the issue, get them on our side and make sure they keep making changes that are going to best serve the mental health needs of our community.
- Legislators need to give us latitude to create non-traditional treatment options.
- Integrated care is one of the top things on the list. The merger gives us a unique opportunity to make this happen.
- Payer structures need to be improved.
    - Service needs to be available for everyone regardless of their ability to pay.
    - The state line should not affect people's access to treatment.
    - Care system needs to include the uninsured and underinsured. If we don't tackle this group of people, we are not going to get any traction on solving problems on a community level.
- Need media outreach and education to reduce the stigma around mental health and addictions. People are sometimes in denial, but addiction and mental health crosses all [socioeconomic, racial, age, gender, etc.] barriers.
    - We need to talk about this issue. People are reluctant, but it should not be any different than talking about other illnesses like heart disease or diabetes.
    - We need high quality public service announcements. We only hear about mental health and addiction when something bad happens.
- Newco has a responsibility and will be held accountable for improving treatment options and prevention efforts for mental health and addictions. Newco needs to be a resource for people suffering from these issues.
- Newco needs to structure their technology plan to promote better care.
    - BH professionals don't even know all of the resources that are available. There is a need for more structured data sharing among professionals. Professionals need to collaborate, not compete.
    - There needs to be more awareness for patients about what is available to them.
    - Improved technology will help professionals and clients be responsible for breaking cycles of recidivism.
- Need to build the workforce: psychiatrist, nurses, etc.
    - ETSU needs to produce high quality professionals in these areas. Employers in the area need to focus on retaining field placement interns and residents to recruit them to work after they graduate.
- We need to use telehealth models to collaborate with specialist in and outside of our region. For example, can we collaborate with providers like Betty Ford through telehealth since we will not be able to recruit those professionals to our region?
- Newco needs to mitigate issues around the state line.
    - Payers in other areas do not have as many issues around the state lines so why do we?
    - We need to have a normalization of laws around VA and TN so they get on the same page regarding legal issues around mental health and addictions.

- **What questions would you have for the representatives of Newco regarding how they would facilitate meeting these new goals?**
- What is your timeline for establishing improved mental health and addiction services in the region?
- How will you build on existing relationships with legislators to help make the necessary changes?
- How will you work to improve the payer structure so all patients regardless of their background or location will have equal access to treatment options?

- What types of media outreach will you implement to improve patients' access to services and education about mental health and addictions?
- What type of technologies will you implement to improve the quality of care for clients in the region? In other words, how will you help organizations and professionals across the health services spectrum collaborate and communicate better?
- How will you mitigate legal issues around the state line? We need collaboration between VA and TN and also need to make sure payers will cover patients regardless of where they receive their treatment.

- **Are there other partnerships to explore?**
  - We need to build partnerships with businesses to hire patients.
  - Dept. of corrections are so huge we need to get people out of prison system.
  - Need integrated communication system between judicial system, schools, MH resources, etc.
  - We need to involve the consumers themselves - make sure it's user friendly
  - Hire recovering addicts as peer health educators/mentors.
  - Need to do lots of outreach - the people who need services might not have TV or internet access. We need to go to them.
  - Schools
  - The VA
  - Employers
  - Need to be realistic about expenses involved in care and prioritizing

- **Are there other Specialty Services Gaps and if so what are they?**
  - Eating disorders
  - Targeting neonatal population & pregnant women
  - Autism services
  - For seniors, we need to build facilities to emulate what their home life is but in a safe environment - not a hospital
  - Medication assisted treatments
  - Harm-reduction models - are they accepted here? Needle exchange is not widely accepted in the region.
  - Training police officers and other emergency personnel to deal with these issues
  - Co-morbidities - developmental disability and mental illness
  - Need partnership with post-acute care facilities. We don't have anywhere to send them.
  - Need collaboration between clinical care and mental health services.
  - Longer term residential programs
  - We need to work with legislature so facilities will take patients back after they have been discharged
  - Need observation services so patients don't go to the ED.
  - We need short-term stabilization - IOP/day treatment services.
  - We need a crisis stabilization unit
  - We need more for adolescents and children
  - We need a mobile unit with SW, counselors, medical professionals. Transportation provided for patients to acute care.
  - Lots of talk about the CSTAR program in MO. Could this be a model that TN/VA follows?

Dr. Kidd Group Discussion

- **What would we propose to newly merged system ("Newco") so that they can facilitate meeting our identified objectives?**
  - Better screening for SA, depression and trauma
  - Facilitate development of key partnerships with the new system
  - Help identify the issues we can impact
  - Help coordinate existing resources
  - Bring a strategic leaderships group together with ID and fill in the effort to fill the gaps
  - Help ID best practice and measures
  - Help make the interventions sustainable - high fidelity
  - Help us recruit highly qualified BH specialists
  - We need to know what we don't know
  - Colin Chesney
  - Co-morbidity; co-occurrences; high acuity; C&Y; eating disorders; geriatric; veterans
  - Exemplar: Be an agent for change for improving MAT to a national level demo project – set the standard of care, educate and implement
  - Root cause prevention
  - Focus on Demonstration of Impact:
    - Suicide
    - NAS
    - ODs
    - Prevention
    - Hepatitis C and other blood borne pathogens
      - (Look for measurable indicators)
  - Improved Risk Assessment to identify violent behavior early and or to access services early
  - Help us with the HPSA scores

- **What questions would you have for the representatives of Newco regarding how they would facilitate meeting these new goals?**
  - Can the new system impact value based contracting which could broaden the services?
  - Can you learn from other mergers to see what worked?
  - Can Newco evaluate the array of inpatient Behavioral Health services and restructure the beds on the NE Tennessee and SW Virginia region to better meet the new demand for specialized services (and recruit needed processionals)?

- **Are there other partnerships to explore?**
  - Can you partner with higher education to bring in specialized fellowships?
    - GME; Psych; Social Work
    - Role for PAs? PNPs?
  - Can Newco partner with both states to improve and expand grass roots coalition?
  - Can Newco expand the data collection (i.e. One Care; Center for Healthy Children & Families)?
  - Can Newco help us get some workforce development grants?

- **Are there other Specialty Services Gaps and if so what are they?**
  - **What Would We Propose To Newly Merged System ("Newco") So That They Can Facilitate Meeting Our Identified Objectives?**
    - Involve the communities
    - Identification with screening individuals that are at risk with substance abuse and professionals that give the screening
      - Improve screening for every patient

- Access to care for individuals irrespective of location
- Let Newco know what their role is, areas they need to facilitate and new resources they would give or help to improve existing resources
- Help identify the issues we can really impact services with specificities in Virginia and Tennessee.
- Provide resources to incorporate regional leadership
- Strategy in identifying and filling gap priorities of this region
- Use best practices and making sure they are correctly disseminated
- Make interventions that would be sustainable in the community with high degree of fidelity to evidence-based practices
- Availability of work force to carry out evidence-based practices
- Make the new health care service impact Medicare and help recruit professionals
- Decreasing neonatal abstinence syndrome, suicide and mental breakdown
- Improve services and increase practitioners to do risk assessment to know who is at risk of violent behaviors
- Preventing Hepatitis C and other blood pathogens because treatment is expensive
- They need to help us know what we don't know
- Help impact effective value-based contract with social services
- Facilitate development of key partnerships to identify service impact
- Help coordinate resources
- Evaluate current services provided especially inpatient service and staffing capacities
- Funding of coalition that can be real boost on the ground for activities with communities for good evidence-based actions

- **What Questions Would You Have For the Representatives of Newco Regarding How They Would Facilitate Meeting These Goals?**
    - How would inpatient services be improved and what would the services look like?
    - How would the inpatient services be restructured and utilized?
    - How would they decrease the shortage of staffing mostly nurses and other professionals?
    - How will standard of care increase in the health care system?
    - What would be the outcomes of services (health, social services) in our communities?

- **Are There Other Partnerships to Explore?**
    - Partnership with the state primary prevention and substance abuse prevention coalition
    - Partnership with local government and communities
    - Partnership with educational institutions like ETSU
    - Partnership with social services, social work
    - Partnership with organizations
    - Partnership with training programs and fellowship e.g. PA fellowships Psychiatric Nursing Practioners' services (PNP programs)

MENTAL HEALTH & ADDICTIONS
STEERING COMMITTEE MEETING
MEETING 3 MINUTES

Meeting Date: October 21, 2015

Meeting Location: Millennium Center, Johnson City, TN Location

ATTENDANCE

Name	Title	Organization
Greene, Eric	Senior VP	Frontier Health
Kidd, Dr. Teresa	President and CEO	Frontier Health
Abner, Dr. John Paul	Professor of OT & Psychology	Milligan
Benedetto, Kathy	SVP, Children & Youth Services	Frontier Health
Bowen, Diane	Director of Compliance and Performance Improvement	Frontier Health
Goodkin, Dr. Karl	Chair, Dept. of Psychiatry	ETSU
Gonder, Karen		
Hagy, John	Director of Clearview	Russell County Medical Center
Holmes, Rebecca	Clinical Director	Highlands Community Services
Jessee, Dr. Randy	Senior VP, Specialty Services	Frontier Health
Jones, Kristie	Director of MH Services	Cumberland Mountain CSB
Ketron, Chris	Adjunct Faculty	NE State Community College
Larsen, Mark	Director of Adult Behavioral Health Services	Mount Rogers CSB
McClaskey, Cynthia	Director	SW VA Mental Health Institute
Melton, Dr. Sarah	Associate Professor of Pharmacy Practice	Gatton College of Pharmacy at ETSU
Mills, Dr. Lori	Professor of Psychology	Milligan College
Moore, Elliott	VP, Government Relations	Mountain States Health Alliance
Moser, Dr. Michele	Psychologist	ETSU
Mullins-Potter, Karrie	Peer Specialist, VA Operations	Frontier Health
O'Dell, Sandy	Executive Director	Planning District One
Pack, Dr. Rob	Assoc. Dean Academic Affairs	ETSU
Page, Joe	Senior VP, Outpt Services	Frontier Health
Plummer, Dr. Robert (Bob)	AVP, University Advancement	ETSU
Rainey, Alice	SAGE examines needs and service gaps for seniors	SAGE
Taylor, Ken	Division Director, VA Child & Family Services	Frontier Health
Werth, James	Behavioral Health & Wellness Services Director	Stone Mountain Health Services

MEETING FORMAT

– Introduction
– Group discussions (break up sessions)

DISCUSSIONS

Group 1

– **C & Y Services**
- Protection
- Good awareness and training about resources and requirement in each state re: reporting and service maturation
- Consistent collection of tri / indicator to alert to high risk
- Need convergence of data and indicators to help improve triage
- IPO; life safety
- Need more resources and consistency to identify at risk youth
- Strengthening Families (EBP)
- Framework for promoting resilience and mental health wellness (well known SAMHSA EBP) - also need a way to build in other best practices
- Early childhood incentives
- RIP; PCIT; nurturing parenting; TFCBT
- Birth education – prenatal program
- Targeting at risk parents for programs like Nurturing Parents; Motivational Enhancement, etc. in a location where they would come

- Hospital system could identify moms at risk and provide space for early EB intervention incentives and home recovery (therapeutic home visit)
    - Mobile mental health unit at schools
    - Coordination of care across systems
- Ken – motivational interviewing
- OB/Gyns – helping them and PCPs convert people to best practices in early intervention strategies
- Support "Warm Handoffs" from each system to the other system
    - Development of helpful patient wellness protocols that include some mental health screening questions and then links to resources
- Can we model the successes of not leaving the hospital without a child safety seat? Will they help with mental health wellness initiatives?
- TN Young Child Wellness Council
    - Strategic plan
    - They can help drive and support these values
    - Care-giver/child paradigm
- Improve child mental health wellness literacy
- Effective campaign for mental health wellness
- **Workforce Development**
    - Child psychiatrists
    - Licensed therapists
- Practice to Expand in our Region
    - Strengthening Families
    - Nurturing Parents
    - RIP; PCIT
    - TF CBT
    - ARC

    - Helping the community support the collaborative needed to support EBP
    - Can NewCo influence the development of incentivized reimbursement for EBP?
    - SBIRT screenings in ALL pediatrician offices and PCPs with parent-friendly referral and easy access
    - ABA – need more specialists and infrastructure
    - Eating Disorder treatment and interventions for young teens – need comprehensive care treatment
    - Can a NewCo bring together a collaboration to promote a system of care for children and families?
    - Employer-based services – education about resources
    - EBT "Coping Cat"
        - Promotion of emotional social development of infants and early childhood
    - EBT Child-Parent Psychotherapy
        - Expensive but effective
        - NewCo to drag resources above Knoxville below Richmond

- **H/E**
    - How can NewCo facilitate awareness and training of first engagers to identify trigger and risk factors
        - Promote socio-emotional wellness
    - Public Health Model of Children's Mental Health

    - Messages/Most Important
        - Promotion/Education of early intervention and access at prenatal and infancy to promote emotional and social development and delivery of services in natural environment
        - Help develop workforce and social collaboration to initiative and sustain a framework for family resiliency (parent, family caregivers, other caregivers)
            - Payment Issues to support EBT delivery
            - EBTs here

- Inclusion of "warm handoffs" in OB/Gyn, PCP, ERs, and pediatrician offices to promote integrated care and improved access to the other services. Support for C&Y specialists.
- Support behavioral health presence in school systems in NE TN and SW VA and help establish schools as an access point for mental health education and intervention
- Develop H/E for health care and behavioral health
- Inter-state training and education about CON/ER/safety reporting issues
- Support increased screening and identification and referral knowledge among physicians in your system
- Promote mental health wellness education; parenting effectively and screening for potential problems
    - Wellness Portal
    - Kid Trials
    - Kid Central
    - PA officials
- Advocacy for behavioral health and wellness for children and families – use your strength to
    - Promote effective payment reform
    - Promote framework for wellness

Group 2
- **What is the role of NewCo?**
    - Driving the use of EBP through the system of providers
        - (Ex. anxiety and depression to primary care docs)
        - Suicide:
            - Ask the question; educate PCP/EDs; they need to know interventions/treatments; need to know referral sources (BCB, ECO/TDO, other providers); National Suicide Prevention hotline - regional location in Bristol; "Just Checking" program
        - First episode psychosis - is an EBP; need payment reform
    - A Center of Education
    - Workforce Issues <u>Again</u>
        - Shortages of psychiatrist/psych NPs; pay scale can't' compete with VA salaries; increase contact with students earlier in career; loan repayment programs; residencies; specialty programs (child/Geri co-occurring)
    - EHR - share info across systems - "Carespark-esque"
        - Prioritize critical info on referral; V.A. example
        - Embed behavioral health into primary care as one model
    - Push for payment reform for best practices
        - Transportation
        - BP for "No Shows"
    - Behavioral referral sources-network
    - Reducing stigma so referral and made and person follows up
        - "Stop the Stigma" campaign
    - Prescription Drug Database across state lines
        - Stateline Issues - transportation; prescription drug database; commitments; culture; payor sources
    - Geriatric Population Needs
        - Prescribing issues; care management not paid by Medicare but can improve outcomes and reduce cost; need payment reform to do what's needed
    - Cultural linguistic needs

- Assume awareness; access cultural competency; health literacy - proactive at diversity
- Form connections with community partners
  - A ARP, NAMI, DSS, LE/support groups

Group 3

- **Language**
  - Best practices (more of what we need) v. Evidence-based (systematic reviews/meta-analyses)
  - Motivational interviewing
  - Metrics model/matrix model
  - Trauma recovery
  - SAMSHA guidelines - NREP >350 programs
  - Challenge - using in this region without resources
  - High fidelity implementation - very difficult
  - Adaptations occur for our audiences - best practice
  - "Real World"
  - Dynamic Adaptation - keep track of changes, communicate with stakeholders to make sure acceptable
  - Should definition be - What is affordable for us to do? - best practices

- **Needs**
  - Systems to track the interventions/ outcomes we put into place
  - Are there EPT that we can look at region wide that we CAN do and implement with fidelity?
    - MRT (Moral Reconation Therapy - to reform)
    - MAT (Medication Assistance Treatment - Cochrane)
    - SBIRT (ED, output offices - screening, brief intervention, referral to treatment)
    - Motivational Interviewing (empathy)
    - ED protocols - 3-day limit of opioids
      - All EDs in our region working from same protocol
    - Community involvement (Project Lazarus)
    - Living in balance
      - Time for treatment (i.e. 90 days)
  - Seeking safety
  - Linkage with law enforcement (need drug courts in every part of our region; funding mechanisms)
  - EMDR
  - Recovery support
  - Naloxone distribution/training
  - Trauma informed care network

- **What are we missing?**
  - Other addictions – gambling, eating
  - Residential – long-term
  - Housing and transportation
  - Childcare
  - Partnerships across the board – imperative for holistic care, evaluation of sustainability
  - Accountable Care model
  - Mechanism to track and quantify outcomes reliably

- No concrete partnerships with prevention and treatment
- Environmental strategies
- Social determinants (esp. poverty)
    - Bridges out of Poverty program
    - Circles
- Healthier families/peers
- Intensive case management – financial savings generated
- EBP for prevention – pre-risk age; goal = lower the high risk group
-

Prevention	Support Services
Seattle (NREP site)	Housing
Supply	Transportation
Demand	Childcare
Environmental strategies	Employment training
School-based programs	Benefits analysis
Social determinants	

Recovery-oriented System of Care

Accountable Care

Law Enforcement	Treatment
Drug courts	MAT
Multisystem intercept	Residential (long-term)
CIT focused SA (assessment centers)	Intensive care management
Naloxone	Motivational intervening
	Seeking safety
	Detox services

Outcomes

- Overdoes incidence and deaths decline

- Fewer ED visits

- Fewer hospitalizations for drug-related conditions

- Fewer accidents

- Fewer DUI D incidences

- Less HIV and Hep C

- Lower foster care need

- Less child abuse and neglect

- Fewer prison/jail stays – more $ for housing

- Fewer initiation rates

- Increased stimulation of partnerships across region/sectors

- Increased funding cross-sector collaborations

- Increased employment – workforce development

MENTAL HEALTH & ADDICTIONS

STEERING COMMITTEE MEETING

MEETING 4 MINUTES

Meeting Date: November 17, 2015
Meeting Location: Higher Ed Center, Abingdon, VA Location

ATTENDANCE

Name	Title	Organization
Greene, Eric	Senior VP	Frontier Health
Kidd, Dr. Teresa	President and CEO	Frontier Health
Abner, Dr. John Paul	Professor of OT & Psychology	Milligan
Benedetto, Kathy	SVP, Children & Youth Services	Frontier Health
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Moser, Dr. Michele	Psychologist	ETSU
Mullins-Potter, Karrie	Peer Specialist, VA Operations	Frontier Health
O'Dell, Sandy	Executive Director	Planning District One
Pack, Dr. Rob	Assoc. Dean Academic Affairs	ETSU
Page, Joe	Senior VP, Outpt Services	Frontier Health
Plummer, Dr. Robert (Bob)	AVP, University Advancement	ETSU
Rainey, Alice	SAGE examines needs and service gaps for seniors	SAGE
Taylor, Ken	Division Director, VA Child & Family Services	Frontier Health
Werth, James	Behavioral Health & Wellness Services Director	Stone Mountain Health Services

MEETING FORMAT

- Dr. Kidd
  - Review of schedule for this meeting
  - Tennessee: SIM Grants
- Eric Greene
  - Virginia: DSRIP, Delivery System Reform Incentive Payment

  The four steering committees need to be aware that there is a lot going on around us that may help with initiatives and recommendations that will give to the NewCo.

  If anything want to be added to last meetings notes just let Dr. Kidd know

  -Topic for today: Integration of care
  - How can this fit with the ACC?
  - How can integration and prevention relate?
- Group discussions (break up sessions)

DISCUSSIONS

Group 1

Opportunities for Integration of Care and how can Newco help?

- Consistency across both states in public behavioral health/ Integrating reform to meet needs of this region:
    - How much can we get the efforts to be uniform and similar? Then develop a model to be applied to VIP partnerships to have uniform constituencies.
    - We need to figure out where the private sectors need to fill in gaps. The integrated care should have different category for kids not just for adults alone. Parents are not bringing their kids for behavioral health care.
    - Primary care is fractured into groups which are different from each other compared to the behavioral health care. How much is Newco going to do to with putting primary care together to have a similar delivery?

- Physical health network to integrate with behavioral health:
    - We can enter a VIP agreement on partnerships. Physical health networks to integrate into behavioral health. There should be a linkage between services of physical health care and behavioral health care.
- Newco assistance with warm handoffs:
    - Newco should assists with warm handoffs with primary care, schools, courts (drug).There should be that warm hand-offs whether for school systems or health systems. Every system need to have capability and access to one particular uniform system. There should be opportunities for system such as schools to get services and access should not be a problem
- Funding:
    - There should be funding to make behavioral health programs available. There should be access to primary care groups to have access to behavioral health services which will depend on funds.
    - For instance, Frontier Health helps with adults' assessments and residential treatment but Frontier needs to be expanded. Few mental health people cause so much amount of money. The expansion would have many services that could be managed but funds are limited.
- Availability of Minimum Data Set (MDS):
    - Information on the availability of live data to know what is available in the region. There should be minimum data set (MDS) as a platform, on where information is exchanged and reviewed for referral purposes. This would help in acceleration and coordination of programs
- Underserved behavioral health needs of the commercially insured:
    - It is necessary for people to have information on what they need, where and how without going through stress. What is found with HMG is that most people are underserved.
    - Medicare and Medicaid are limited and they won't do so many services. The behavioral health system really wants to offer treatment for individuals but it is not really effective due to missed appointments and it is also expensive.
- Improved Understanding of wellness, integration of both physical and behavioral health:
    - General treatment of the whole person in the physical health arena as well as behavioral health. Primary care providers are making referral and passing out information but not helping with the information on services they need to receive.
- Opportunities to develop peer support, parent support:
    - Helping a person navigate through the system constantly and meeting them personally would give support. Parents should come with children for treatment which can help and support them.
- Wellness portals to include Behavioral Health measures:
    - In physical health care, assessments are not really thorough enough for adults' assessment. There is a need to understand people holistically. Primary care sees the need but they don't have access to behavioral health care.

- We don't really do well on primary care and primary does not really do well in improving behavioral health care.
- Care coordination has expertise in systems/services that need coordination. "No wrong door":
    - The entities for care coordination have expertise on what systems or services to be taken care of whether case management or care management. There should be no wrong door approach, so that anything reported can be taken care of. For every service, there has to be a reimbursement.
    - The risks they get in primary care may not be equal to the pay compared to mental health care. Recovery service and case- management services are two different kind of services. A collaborative care would help but it needs to be brought into the Medicaid.
- Literacy – usable health education, region specific health literacy:
    - There should be health literacy materials to educate people and know the contacts for health issues. Giving information about services to patients is not filling the gaps between the services that are offered. Even when the gaps and groups are there but they cannot be identified, whether it is self-help or smoking cessation.
- Filling gaps in wellness efforts:
    - With integration, there should be affiliation and shared data too. There should be a general health and nutrition in the care. Manage care spends a lot of money but the services are not enough. Medical services are not so good at providing case management service
- Improve access/ compliance with primary care:
    - How many people are gotten to the primary care for the checkups / screenings and other disease related to the screenings? Adults really have a lot of physical issues which can be done with assessment but this is different from kids. Kids need a different kind of service which is more on behavioral health service and social services. Coordination and structure are needed to help take care of both services. Getting kids for checkups was the gap closed by Blue care.
- Higher level A.D/ resources access for court referral patients/ payer source of addiction treatment:
    - When passing information or messages across people, it should be easy to comprehend. People should be able to build trust in the information passed. There are a lot of jobs on screenings but there is nothing to impact the outcomes. There should be more treatment for inpatient care for addiction. Resources should be made available for inpatient services even in court services and the higher resources are not there
- Improved Opioids follow-up for uninsured post hospitalization:
    - Newco should play a role in the big system by helping with safety and general psychiatric care of the uninsured. Many people with substance abuse disorder don't have Medicaid and so the individuals don't get services.
- Regional behavioral health benefits coordinator:
    - There is someone needed to screen some people in the Emergency Room for gap to be closed. There should be a player to Navigate between systems. Co-locators in regions where people can be reached.
- Infant Mental Health Development (NAS babies) specialized health home:
    - What Newco can do for infant (NAS babies) mental health because they do not fit in any category (mother and child category)? There should be a linkage to have facilities (healthy home) for both mother and infant treatment together. There should be an opportunity for mother and infant treatment in residential setting.

Group 2 Notes

Outline

Integration of Care
- What we currently have
    - Various community Coalitions and faith based partnerships

- Silos vs. integrate
- SW 20/20
- Take a village-ACC is not a new concept
- What are the barriers?
    - Turf, philosophies, Awareness, funding concerns
    - Nee to create an environment
- Barrier
    - Funding-Current funding models prohibit delivery of services based on what person needs
- Need
    - Coordinator
    - Cast as wide of a net as possible
    - ED's communication and system obstacles
    - BH
- What types of integration do we need BH into..?
    - Care coordination
    - Co-location
- What would oversee the integrated processes?
    - MCO's- no
- Court System Programs
    - Has liaisons, CM's
    - Recovery Court
    - Focus on communication with judges and detention centers
    - Housing, transportation and state funds support this
    - Can use this model to expand to other programs
- Need
    - Funding, invested stakeholders, CM and communication
        - PCP, kids in schools, churches, VA, court system, housing system, employers, EMR connections
- Start Collective Impact Framework
    - Learn from this framework-include training, education and priority and patient population
    - Vision
    - Clearly defining roles
    - Collecting data-analytics
    - Technology-real time info and data
    - EMR Connectivity –IT programs
    - Care Coordination
    - Shared measures/ Outcomes
    - Shared Accountability
    - Seek Assistance from back bone organization
    - Collectiveimpact.org

Notes

- **So what were some of the main points form ACC and how it is relevant to this discussion?**
    - It takes a village. It's bigger than behavioral health and primary care and it's about extending out the community to other organizations like churches. It is a larger beast than just service providers. This includes nonprofits, employers, and people being held personally responsible for health.
    - They promoted picking an area that is a disparity in your area. Start doing something to move the needle. San Diego-lessons learned-keep it simple and then broaden.

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- Sounds like it's a coalition model- but what the social and societal things that impact that?
    - People are looking at what you can do for them and we need more than just a primary care provider and how we are all tied together. We need a big Collaborative model.
- It wasn't always about money. It is about collaboration and people willing to come together, rather than put money behind it. There should be focus on trying to get the move started.
- Did this come across as a revelation?
    - For some people outside of our group, it may have. It was a big revelation.
- SWVA-we have groups that have this very similar idea, vision, mission and have had for years. Maybe not as big as a scale as what NewCo is trying to do. OneCare is an example. You have had various collations at the community level such as topics around substance abuse and also have had some faith based group coalitions. When talking about ACC; this is similar to all stakeholders around the table and focusing on specific issue.
- Is that talking from a silo standpoint? Do you get all these groups together working or just as individuals groups?
    - Groups come together from different stakeholders.
- So what has been the biggest stumbling block to thrive and move to having these go forward?
    - One may be the hesitancy of people working together and turf issues. Some of it is philosophical and maybe down to not having the same vision.
    - Same problems existed with mental health and substance abuse providers. Finally they realized it had to happen and the pressure being pushed by the provider organizations and departments. They created more of a creative environment where it was okay to choose these right things, not forcing folks but watching people be successful. People were afraid they were going to lose funding if they didn't focus on only what they were doing. Gradually the barriers were being dropped because the fears around funding was addressed. If you achieved advanced level of treatment, then you got enhanced rank. Equal opportunity allowed it to became more inviting and open.
    - Turf issues are grounded in funding. You are fighting over resources. There is no funding for anything to happen even if you get all of these people together.
    - Local barriers, funding and how reimbursement happens is a bigger issue.
- Need a capacitive rate that would work for the whole system. Funding out about that process could be beneficial. How do we get paid to do some for these things? It has limitations but how is that going to happen? Who is going to make it happen? What is the next thing?
- There needs to be a unified director. NewCo is that organizing entity. Where does the funding come from with initiating and sustaining for the first twelve months?
    - The savings from Medicaid is recognized, those are redirected back to those groups.
- How wide is the net you're willing to cast? What is our priority?
    - We think about bringing care together. But we are really talking about social, academic, educational, etc. We're willing to sacrifice our organizations bringing in so much money if we can support this. But you got to put your money where your mouth is. Are we going to make this work long term and move the momentum?
- What happens in an emergency department by behavioral health patients?
    - 8-10 sitting in ED right now. We find out what the obstacles are and look at some planning processes. Let's create a plan and we can talk and a place to move from ED to Emergency behavioral care unit. We have no options and people may stay there for over a week. Emergency physicians are giving kick back; just get patients out of the hospitals. When you start dealing with behavioral health outcomes we need to value performance and integration.

- We can be as innovative as we might want to solve these problems but how we going to pay for all of that?
    - NewCo: this has never been done before with this project and there is a lot of accountability to do it right.
    - State tries to put it in a box and patients are not in a box. I don't think it is impossible. Get rid of the middle man. It has been done in other states. But I think that is the only way to get rid of the gate keeper. When your managed care company takes their portion of it, it is wrong because that money needs to go right back into patient care. Let us come back as a community and create an ACC and give us the money. I think if we don't at least ask for it, this is a once in a lifetime chance. This is newer different vision. Not enough money in Medicaid no matter what. Dual eligible's are unique and utilize the most care.
- The funding prevents us from true care integration. What kind of integrated services can be developed from this? What kind of things would promote health in our region through integrated care?
- Where do we need integration and where we have pockets of it? How do we make sure that we have access and integrate behavioral health into these other systems so that we promote and improve healthcare?
- It's care coordination. Some systems have been successful in colocation-can be very effective. There are other models. Who would over view this integration of care?
    - Not the MCO's. They only worry about the bottom line. We are trying to create this system to promote overall wellness. I think the investment that they have in it is to decrease the costs. When the cost savings are visible, then the providers have to get the money reinvested. If the system doesn't get that opportunity, there is no incentive.
- Where the ACC county collaborative driven projects? The hospital probably promoted it.
    - I get that funding shouldn't be a barrier but at the end of the day it is all about funding.
    - There are things that we could do now and do little things today.
    - This is one of the hardest regions to recruit health professionals. ETSU and Milligan have lots of programs for therapists but not for psychiatrist NPs.
- Frontier health can't be all things to all people. What are things that we have today that we can use?
    - There was a relationship with JMH where we had in-house consultation for all physicians and nursing staff so that if they ended up having an induvial that would benefit from a mental health consul, we would be there. But the doctors never bought in to that. The nurses loved it but the doctors were the ones to have to prescribe it. It wasn't costing the organizations, but they didn't adapt to the program.
    - Working with Court systems- Probation follow up with several processes. We started a system that was titled "Community Justice". We had a liaison for separate regions and case managers that would work with the courts. First we did was education; getting all of the justice system together and seeing if they wanted to be involved. Once a person was out of incarceration, they would help them get the housing and other services. This was all based on communication and they told us their needs and we gave them our services. Huge amount of communication and remains so on an ongoing bases. The liaison communicates with them on a weekly basis. This impacts people in detention centers and people coming out back into the community. The state is investing in it and then we contribute our own work which is more than what they thought they would get.
- Collective Impact Model
    - It is essential for an initial funding source and a backbone group that has the scaffolding for people to come together and organize things. Care Coordination and case management and communication are key and the backbone organization does that.

- Shared vision and shared data set: That idea is effectively globally that the community wants to tackle it.
- Collective impact: Clearly defined role for each of the players, specific goals on what they want to achieve and data to measure outcomes.
- For traction it really is going to take technology like we have not used it before. Integrated information network that everyone can act on it.
- In the VA, electronic health records notify physicians and they are responsible for it but this needs to be across entities.
    - People can get around HIPPA with a signature. In certain communities they have made this happen with veterans. All sectors have IT scaffolding, and navigated the HIPPA stuff and it real time, immediate access to sharing information and care coordination really flows.
    - Access to information need to happen or care coordinate will fail.
    - The Framework: Applying to ACC that will be formed, make sure there is a backbone such as NewCo and initial vesting of funding to get it up and going and a focus on care coordination.
    - Need to come together in multiple ways for an IT program. IT is a systematic approach to complex issues at macro and micro level. –Collective impact framework.
    - All data driven and the accountability is important. We usually wait for the annual or quarterly report to come out, it is too long. Need instant reports.
    - When we talk about IT infrastructure, people think they can't get around it. But it has been done in other areas.
    - Our state regions have the same health issues, so the data sets and the targets are going to very similar. Everyone will reporting back to the larger backbone but everyone is looking at the same data.
- Care coronation system that is virtual can be possible but also housed in any entity is also a possibility.
- Make sure your money is well spent. Have to have the people that have personal relationship with people they are serving; no large caseloads because they cannot have the relationship they need. Navigator systems may be useful.
- Successful collective impact initiatives all share a common agenda, shared measurement system, reinforcing activities and backbone support organizations.
- www.Collectiveimpactforum.org has a wealth of free material such as webinars and additional sources.
- Summary-Groups report out
- **Next meeting is on December 18th- Nancy Hale, Executive Director of Project Unite.**

POPULATION HEALTH & HEALTHY COMMUNITIES STEERING COMMITTEE MEETING

MEETING MINUTES 1

Meeting Date: August 24, 2015

Meeting Location: SWVA Higher Ed. Ctr., Abingdon, VA Location

ATTENDANCE

Name	Title	Organization
Wykoff, Dr. Randy	Dean	ETSU College of Public Health
Hamilton, Lori	Health Educator	K-VA-T Food City
Bishop, Marilyn	Medical Director Occupational Medicine	Mountain States Medical Group
Brillhart, Catherine	Councilwoman	City of Bristol
Cook, Heather	Director	Healthy Kingsport
Domst, Ronald	Retired, Volunteer	Johnston Memorial Hospital
English, Rebekah	Regional Director	NE TN Regional Health Department
Everhart, Aubrey	Executive Director	Appalachian Mountain Project Access
Farmer, Barbara	Associate Pastor; Volunteer	Pleasant View UMC; Wesley Clinic
Gail, Dick	Retired plant manager	AEP
Glass, Charlie	Executive Director/CEO	Greater Kingsport Family YMCA
Hammonds, Kristie	SVP, Operations	Frontier Health
Harris, Matthew	Physical Therapist, Athletic Trainer	Mountain States Rehabilitation – JMH
Johnson, Stan	Owner	Great Body Company
Kent, Martin	President	United Company
Mayes, Gary	Regional Director	Sullivan County Health Department
Nehring, Dr. Wendy	College of Nursing	ETSU
Perkins , James	HVMC/BRMC Diabetes Treatment Center	Wellmont Health System
Seligman, Dr. Morris	EVP, CMO	Mountain States
Sensibaugh, David	VP, integrated health management	Integrated Solutions Health Network

Meeting Format
– Introductions
– Review of Tasks for the meeting
– Presentation of survey respondents list of health issues
– Identification of top 5 Health issues
– Division for small group discussions

DISCUSSION

Identification of Top 5 Health Issues:
– Identify health issues of greatest regional concern
– Identify underlying "root" causes
– Identify what has worked in other places
– Inventory existing/past regional efforts
– Review and recommend potential interventions

Review of Pre-survey:
- Health issues of greatest concern: obesity, substance abuse, smoking, access to health care, physical inactivity, diabetes, dental, food insecurity, aging
- Missing from this list:

- Mental Health/Behavioral Health issues
- Cardiovascular disease
- Depression
- Rx medication
- Pulmonary Diseases
- Type 2 diabetes
- Childcare/community support

Clarifying Terms:

Mental/Behavioral Health: Mental health issues are on the rise. Diseases related to stress and anxiety is increasing. By mental health, we are including issues like undiagnosed depression and also socioeconomic and community factors that contribute to whether or not someone can do their job and how well they can function.

Obesity: We can combine a few of the identified issues by discussing factors related to diet and exercise.

Aging: Some adults need to help their older family members find care which can put mental and financial stress on families. Other issues include musculoskeletal challenges, access to health care (transportation, outpatient care post-surgery, not covered by insurance), rising costs of health care as a person ages. Many young people are leaving the region to find jobs which results is a disproportionately older population in the Tri-Cities.

Small Group Discussion

- Mental Health/Behavioral Health
- Diet and Exercise
- Children's Health and Well-being
- Aging
- Tobacco Use/Pulmonary diseases

Root Causes and Possible Interventions

	Gaps/Needs/Issues	Root Causes	Interventions/ Solutions
Mental Health/Behavioral	- Community Support	- Economic factors/poverty - Poor access to mental health care - Stigma associated with mental health issues - Lack of education - Culture of social isolation - Historical regional acceptance of tobacco	- Collaboration with faith-based institutions
Nutrition/Physical Activity	- Cheap and easy food, especially processed food - Over-eating/portion control	- Poverty - Poor educational achievement - Culture - Technology/Screen time - Lack of neighborhood safety - Lack of access to healthy food	- Education
Children's Health	- Need sustainable, ongoing actions - Don't rely on government - Don't overuse educational system	- Parental mental health - Nutrition - Lack of exercise - Lack of parental involvement	- Collaborate with faith-based communities - Collaborate with community organizations (Boys and Girls clubs) - Need a public education campaign
Aging	- Increased need for medical care (falls, other health issues) - Try to prevent health problems - Increased community involvement - Increase patient involvement in their health care	Lack of access to care - Lack of resources/money - Poor transportation - Lack of community support - Lack of retirement plans for manual laborers - Increasing prices for those on fixed incomes - No residential options - Poor self esteem - Don't have access to/know how to use technology - Low health literacy - Lack of coordinated care - Poly-pharmacy/poly-physician - No community activities - Historical "way of life"	- Education on how to navigate the system - Increase education - Collaborate with faith-based communities
Tobacco/Pulmonary Disease—includes smoking, e-cigarettes, smokeless tobacco and air quality issues		- Historical importance of tobacco to the region - Government subsidies - Socially acceptable/"cool" for some demographics - Tobacco seen as a way of reducing stress - Tobacco seen as a way to lose weight - Lack of appreciation of health challenges of 2nd hand smoke - Effective cigarette/tobacco marketing – Conflicting messages (e.g. Walgreen's sells "health" and cigarettes)	- Policies: Smoke-free ordinances - Possibly test athletes for tobacco - Education/re-training - Start anti-smoking education at a younger age - Employers test before hiring

MEMBER SURVEY

1. **From your perspective, what are the most important health challenges in the region that could be addressed by one or more coordinated community-based actions?**
    – Metabolic syndrome or lifestyle disease
    – The region has a great problem with substance abuse (smoking) and weight problems; obesity (especially childhood), physical inactivity, tobacco use and substance abuse
    – Food insecurity and Accessibility to healthy foods
    – Aging, bad health habits and education.
    – Medication and illicit drug use
    – Patient perception that they are not responsible for their health.
    – Prevention, especially pre-diabetes
    – Access to healthcare (my special interest is event coverage), and prescription drug abuse as it relates to pain management
    – Drug abuse, obesity, sedentary lifestyle, smoking, lack of preventive care, dental care, uninsured people - difficult access to general healthcare
    – Diabetes in general and the opportunity to identify younger members of our community with this disease
    – Growing obesity, Increasing co-morbidities, aging population, and increasing cost associated with health care

2. **If you could implement ONLY one program to improve health in the region, what would it be?**
    – Educating individuals and families on a small start of just moving in order to start addressing metabolic syndrome as a lifestyle disease. Work on controlling obesity and exercise.
    – Accessibility to healthy foods
    – Educate on the seriousness of obesity
    – A program targeting increasing physical activity by walking, biking, running, etc.
    – Integrate a marketing project utilizing the media, University Art department, Gyms, Schools, and regional health care facilities to promote "self-responsibility" of health, diet, activity level, self-care such as taking medication, alcohol abuse, and drug abuse.
    – The YMCA Diabetes Prevention Program. It's the most successful behavioral change program I have been connected with. It's targeted at a specific high risk group
    – A program that focused on expanding the on-field coverage and early management of athletic injuries as well as injury prevention techniques. Specific interest related to this is orthopedic injury prevention and concussion management.
    – Universal access to basic healthcare
    – Diabetes education and prevention as well as adolescent DM discovery. Family commitment to care
    – An overall wellness strategy aimed at keeping healthy people healthy and increasing health in those more challenged

3. **What steps should be taken to increase community awareness of our regional health challenges?**
    – I think the community awareness can be increased however, educating individuals and families on how they can start moving without intimidation is the key.
    – Work with the media to get information to the people.
    – Coordination of Community Partners working for toward the common goal with consistent messaging.

- Communication through many routes
- Free seminars, coordinated by health care insurance companies in conjunction with health care entities.
- Utilize the marketing project mentioned above. Each community has certain keys which attract and keep attention. Such as colors, interests, philosophies and these need to be identified in order to develop an effective approach to catching the attention of the community.
- Physicians should talk more about prevention of obesity, diabetes, etc. in their visits with patients as well as promote community resources that are available to individuals. Also, office nurses and administrative staff should be knowledgeable as well
- I think in general most people are aware that there are a lot of health challenges in the area, but perhaps do not know to what severity. I believe that a successful awareness campaign needs to be multipronged – aiming both at "officials" (health care professionals / health department / town-government agencies, etc.) and also the general public. The "officials" will be easier to reach – conferences/town hall meetings/established meetings. I believe gaining general public awareness will be much more challenging and will need to be focused on where these people are already (TV, newspaper, Facebook, public gatherings – fairs, schools).
- Coordinated effort, shared goals, consistent messaging. Align efforts, I.e., Collective Impact model.
- Realization of the problems, steps to alleviate and education to prevent. Increased community awareness of resources
- Social media, PSA's, community forums/town hall meetings.
- Strategy to ensure that folks hear the same message at every entry point- whether that be Pharmacy, PCP, Specialist, community event

4. **What steps should be taken to encourage and support individuals and families in our region to make better behavioral choices?**
    - It can start with educating the local physicians on their role.
    - It starts with preventative referrals and educating physicians on the options they have available. We know that a referral from physician for even exercise increases the chances of that individual going to exercise increases by 75%. We also have to start meeting these individuals where they are in life and not assuming if they have the ability to follow a program and be successful. We have to have qualified individuals that can bridge the gap between healthcare and wellness.
    - Support of people's friends and families.
    - Be the advocate, listening to barriers
    - Role modelling through classes, information and demonstrations in grocery stores, community gardens, access to fruits and vegetables, etc.
    - Educate
    - Working with the area suppliers to make it more affordable for people to eat correctly and increase access to fresh foods.
    - Have physicians and employers promote community programs and resources
    - I believe that if appropriate resources are provided, people should take personal responsibility to make these choices. On the other hand, I am also realistic to know that this will not always be the case for various reasons. My personal opinion on this would be to provide the appropriate education on the importance of making appropriate individual choices, provide appropriate assistance as needed to allow people to follow through with these choices and then hold people accountable for their decisions. I strive to help those in need, but am not a big fan on some of our current entitlement programs.
    - Align messaging, align with Healthier TN, all community organizations should be reinforcing the same messages and focused on the same goals. Small steps.

- Give workers incentives to be healthy as many businesses now do. Give others meaningful jobs and good things to apply themselves to, rather than pleasure seeking
- Increase pride in "doing the right things for yourself and family. Some for incentive to create additional value when making changes
- It would be different for each behavioral choice.
  - Education for all with a consistent message
  - Access to needed services within a timely manner
  - Joint efforts to support incentives to the community for making better behavior choices.

5. **How could we most effectively involve businesses, churches, and schools in promoting health in our region?**
   - Medical wellness programs that can be implemented into these entities and coordinated with the local healthcare facilities.
   - Businesses, churches, and schools have captive audiences; so if information can be distributed to these organizations they could get it to their members.
   - Designation of individuals of passionate about the changing of our health.
   - Community meetings and committees to carry out activities and evaluations.
   - Through weekly health tips, school and business screenings and home health visits.
   - Share data on health and COST impact of the area today with a RIO as partnering produces positive effects. Need to determine what is important on RIO for each partner. Business want fewer absent days, fewer medical bills, fewer on job injuries. Schools want fewer medications in the school. Churches want more members participating at church, attending church so need more of mind & body teaching to return people to church.
   - Work through Healthier TN.
   - I believe that a lot of the current health improvement programs in my area have already been generated by these groups, and feel as if there are already some good programs in place. I would like to investigate some of these established programs and as able provide additional resources to impact larger populations.
   - Align with Healthier TN and everyone get on the same page. That effort is in place. If we have a regional "Backbone Organization," to lead in a large scale Collective Impact model for our region, we could make real headway. Keep it simple, but consistent.
   - continue and enlarge cooperative programs
   - Involve individuals on a worker level to be part of the solution. Nice slogan may be "its time to step up to the plate". This is a little play off the Plate Method campaign Wellmont is now doing for patients, family members and employees
     - Create robust worksite wellness programs as a place to start. Then reach out to the community as a whole.
     - Get their buy-in, provide value, listen to their needs

POPULATION HEALTH & HEALTHY COMMUNITIES STEERING COMMITTEE MEETING

MEETING 2 MINUTES

Meeting Date: September 28, 2015

Meeting Location: Millennium Center, Johnson City

ATTENDANCE

Name	Title	Organization
Wykoff, Dr. Randy	Dean	ETSU College of Public Health
Hamilton, Lori	Health Educator	K-VA-T Food City
Bishop, Marilyn	Medical Director Occupational Medicine	Mountain States Medical Group
Brillhart, Catherine	Councilwoman	City of Bristol
Brock, Jenny	Commissioner	City of Johnson City
Cantrell, Sue	LENOWISCO Health Director and Vice Chairman	SWVA Health Authority
Cook, Heather	Director	Healthy Kingsport
Domst, Ronald	Retired, Volunteer	Johnston Memorial Hospital
Everhart, Aubrey	Executive Director	Appalachian Mountain Project Access
Farmer, Barbara	Associate Pastor; Volunteer	Pleasant View UMC; Wesley Clinic
Gail, Dick	Retired plant manager	AEP
Glass, Charlie	Executive Director/CEO	Greater Kingsport Family YMCA
Hammonds, Kristie	SVP, Operations	Frontier Health
Harris, Matthew	Physical Therapist, Athletic Trainer	Mountain States Rehabilitation – JMH
Johnson, Stan	Owner	Great Body Company
Kent, Martin	President	United Company
Nehring, Dr. Wendy	College of Nursing	ETSU
Perkins , James	HVMC/BRMC Diabetes Treatment Center	Wellmont Health System
Seligman, Dr. Morris	EVP, CMO	Mountain States
Sensibaugh, David	VP, integrated health management	Integrated Solutions Health Network

MEETING FORMAT
- Discussion of future directions
- Presentation and Discussion - Tobacco and Pulmonary Health Identification of top 5 Health issues
- Group discussions (break-up session)

DISCUSSIONS

Discussion of future directions
- At the last meeting, 5 priority areas were identified:
    - Aging
    - Children's Health
    - Mental and Behavioral Health,
    - Nutrition and Physical Activity/Obesity
    - Tobacco and Pulmonary Health
- The steering committee decided to focus on those three areas (Aging, Nutrition and Physical Activity/Obesity, and Tobacco and Pulmonary Health) for which there is not another steering committee addressing the issue.   and   Tentatively, the following schedule was accepted:
    - September 28th – tobacco
    - October 26th – Aging
    - November 16th – Nutrition and Physical Activity (this meeting will also include a presentation about Accountable Care Communities)

Discussion:

- The co-chair suggested that the group should attempt to identify interventions that affect tobacco use but that could also impact more than one health issue. We want to come back to the question: What will interrupt the cycles of poor health?
- A committee member asked for clarification as to what would be done with these recommendations. It was pointed out:
    - The merged systems would like to focus on improving the overall health of the community, and these recommendations will provide guidance as to how to most effectively accomplish this task; These recommendations may also help to identify opportunities for collaborative efforts to receive additional outside funding;
    - This could position the region to have sustained and ongoing interventions;
    - Once the systems are merged, we are in a great position to get 3rd party funding
- There was discussion about the potential impact of creating an Accountable Care Communities. Accountable Care Organizations where providers join together to invest in the health of the community are important but the ACC takes the idea one step further. The entire community is connected and has a set of common goals. The focus is not just on improving care for people who are sick, but works to affect the social determinants of health.
- This approach is most effective if others who affect health in our community need to be part of the plan. As we look at population health, we need to focus on key populations: high risk; rising risk and low risk. Right now, we focus on working with people who are already sick. We need to target interventions towards those who are at low use but high risk. If we shift resources towards this group, the results could be phenomenal.
- It was pointed out that we need to include the public schools, and regional parks and recreation in our planning.

Presentation - Tobacco and Pulmonary Health

- National and regional trends
- Risk factors
- Evidence-based prevention frameworks
    - Dr. Brooks provided an in-depth discussion about national and regional trends in tobacco use, known risk factors, and a brief over view of evidence-based prevention frameworks.

Discussion:

- The Steering Committee discussed the presentation, and suggested:
    - We need to see data broken down by age/gender/etc. For instance, do we have higher rates of smoking in women with childbearing age?
- We need to take a step back and discuss the idea of intentional parenting. We need to separate out belief systems with public health issues. Young people are having sex and getting pregnant. Talking about sex education and the availability of birth control is important and that might resolve a lot of these issues.
- When we look at statistics, we need to consider the difference between teen pregnancy rates and teen birthrates. Teenage girls in Southwest Virginia have similar pregnancy rates to Northern Virginia, but the birthrate is much higher because they do not have access to abortion services.
- We need to consider best practices we need to look at policy. This is a conservative area and nobody wants regulation.
- How can we raise cost of cigarettes? There are political barriers and counties in Virginia can't add a tax; it needs to be done at the state level. A high tax on tobacco has been proven to reduce adolescent consumption
- Affecting legislation is not out of our reach. The governor of TN is focusing on tobacco use and we should start lobbying for changes to make our community healthier. If we raise taxes, it will allow us to implement interventions.
- Do we have an inventory of what is happening in the community?
- Smoking is addressed in public schools in health classes but to what extent? We need to make sure time and attention is being focused on issues

- Tobacco use is down compared to decades ago but it is still a critical issue. Which programs have been most successful in getting it to come down?
- VA Foundation for Healthy Youth collects lots of data and have proven programs that have worked in public schools.
- www.countyhealthranking.com - road maps

Small Group Questions and Discussion
- The steering committee then broke into three groups, charged with answering the question:
    - What information would you like to have for the next meeting to begin talking about interventions?
- The small groups identified the following items:
    - Laws and legislation
    - Price of cigarettes correlation with smoking
    - Poverty and smoking rates and pricing
    - Children and adolescents
        - Graphics effects on rates
        - Visual approach
    - Prenatal aspect
    - Adults
    - Cessation programs
        - Cost of programs
    - Inventory of programs
- Can't leave legislators off of the table
    - The committee will have a powerful voice
- Business leaders
    - Health rankings are negatively impactful on business
- Target populations
    - What programs for each target group
    - Trying to reach younger people
        - Apps
        - Future health may not be helpful
- Should we enhance what's already been done or establish new services

POPULATION HEALTH & HEALTHY COMMUNITIES
STEERING COMMITTEE MEETING
MEETING 3 MINUTES

Meeting Date: October 26, 2015

Meeting Location: SWVA Higher Ed. Ctr., Abingdon,VA Location

ATTENDANCE

Name	Title	Organization
Wykoff, Dr. Randy	Dean	ETSU College of Public Health
Hamilton, Lori	Health Educator	K-VA-T Food City
Bishop, Marilyn	Medical Director Occupational Medicine	Mountain States Medical Group
Brillhart, Catherine	Councilwoman	City of Bristol
Brock, Jenny	Commissioner	City of Johnson City
Cantrell, Sue	LENOWISCO Health Director and Vice Chairman	SWVA Health Authority
Cook, Heather	Director	Healthy Kingsport
Domst, Ronald	Retired, Volunteer	Johnston Memorial Hospital
Everhart, Aubrey	Executive Director	Appalachian Mountain Project Access
Farmer, Barbara	Associate Pastor; Volunteer	Pleasant View UMC; Wesley Clinic
Gail, Dick	Retired plant manager	AEP
Glass, Charlie	Executive Director/CEO	Greater Kingsport Family YMCA
Hammonds, Kristie	SVP, Operations	Frontier Health
Harris, Matthew	Physical Therapist, Athletic Trainer	Mountain States Rehabilitation – JMH
Johnson, Stan	Owner	Great Body Company
Kent, Martin	President	United Company
Nehring, Dr. Wendy	College of Nursing	ETSU
Perkins , James	HVMC/BRMC Diabetes Treatment Center	Wellmont Health System
Seligman, Dr. Morris	EVP, CMO	Mountain States
Sensibaugh, David	VP, integrated health management	Integrated Solutions Health Network

MEETING FORMAT
– Presentation and Discussion - Tobacco Statistics – Dr. Wykoff and Regional Tobacco Use/ Intervention Data – Dr. Brooks
– Group discussions (break-up session)

DISCUSSIONS

Presentation on Tobacco statistics
Prevalence:
– 17.8% of Americans currently smoke cigarettes
– 9 out of 10 smokers start smoking before the age of 18. Smoking should be considered a pediatric disease.
– High School - 25% use tobacco products (a high percentage use e-cigs). We do not know what will happen to children who use e-cigarettes. Will they switch to a different tobacco product? This is a worrisome trend. Kids may be getting the message that cigarettes and cigars are dangerous, but e-cigarettes may be thought of as "less unsafe".
– Smoking is a major issue in our region.

Mortality:
– If there is no change in the current use pattern, 5.6 million children under 18 will die of tobacco-related illness.
– It is important we do not minimize the impact of tobacco when we have so many other health issues to focus on.

Regional Tobacco Use/Intervention Data

1) **Which sub-populations have the highest rates of smoking in our region?**
   – This information comes from BRFS data, but at the regional level this data can be problematic because of the sample size
   – Smoking rates in our region are higher than the national average: 28% TN and 26% VA
   – SW VA characteristics of smokers: less than high school education; income below $15000; male; ages 25-34
   – Tobacco use increases from grades 6 to 12
   – If we put in efforts towards tobacco prevention during adolescence, we might lower prevalence in the population

2) **Which programs are most effective to prevent and reduce smoking among youth?**
   – Risk Factors: Individual factors, family, family/school engagement
   – Cochrane Collaborative - gold standard for intervention research
   – The most effective programs involve social reinforcement rather than just knowledge about the dangers of smoking. Students need to learn refusal and healthy decision making skills.
   – Programs that train peers can also have a big impact on tobacco prevention

3) **Programs are most effective to reduce smoking rates among pregnant women**
   – Characteristics of women who smoke during pregnancy: low income; single; low levels of social support; limited education
   – Smoking rates among pregnant women are quite high in our region: 12.8% National; 7.4% VA; 22.2% TN
   – The chance of women "Spontaneously Quitting" increase during pregnancy. Cessation programming needs to focus on helping mothers stay abstinent postpartum.
   – Cessation approaches should include counseling, incentives and social support
   – Question: For incentive based programs, do they actually test women who are pregnant or is it self-reported? Women were tested.
   – Two regional programs: Baby and Me and TIPS are both successful.
   – Baby and Me - takes place in OB offices and in the health departments. Exists in over 40 counties in TN and growing. Partners and other adults living with the infants are also invited to be part of the program. Participants are given incentives (diaper vouchers).
   – **Question**: What would a normal abstinence rate be postpartum without interventions?
   – **Question**: How accurate is CO_2 monitoring in not picking up second hand smoke? A false positive from second hand smoke is very unlikely.

4) **Incorporate mass media and/or social media to reduce smoking rates**
   – Tips from Former Smokers - CDC
   – Negative v. positive messaging - which is more effective? The research is lacking.
      – TN has a new set of media materials called "Unsmokeable Me" that are positive. They have built partnerships with ETSU and local health organizations.
      – You need to be careful with advertising because smoking is perceived as "counter culture". Some prevention ads in the 1990s actually increased smoking prevalence. We need to make sure we evaluate strategies before we implement.
      – We have a fairly unique population here so we need to be careful with our strategies around advertising - highly rural and white. Which subgroups respond better to positive or negative? How can we get the most "bang for our buck"?
      – We could recommend a broad approach that incorporated positive and negative messaging. We could collaborate with the Research & Academics committees to develop some strategies.

5) **How can we work to raise the cost of cigarettes?**

−   For cigarette price per pack, TN ranks 38th and VA ranks 49th in the country.
  - −   How can we raise the price of cigarettes at the local level? What are the legal restrictions?
  - −   There are groups in TN working to get tobacco legislation away from Agricultural Committee and into the Health Committee at the state level

Additional Information:
How does pharmacotherapy affect cessation?
- − Combined with counseling/support there is an 82% increase in tobacco cessation
- − Participants selected from health care setting 53% higher success rate, but this could be skewed because smokers might be more motivated to quit after a diagnosis of smoking-related illness.

How does tobacco use related to other substance abuse?
- − 74-88% of substance abusers use tobacco products
- − Do we try to affect tobacco use in that population? If we are treating people to stop using illegal substances but still losing them to smoking, has their treatment really been effective?

Small Group Discussions: World - Cafe
Question: Based on the evidence, how should the committee prioritize approaches to reduce the burden of tobacco use in the region?

Policy/Advocacy:
- − The most successful interventions at the population level are those that increase taxes and developing policies that prohibit smoking. We need to "eliminate the opportunity" for people to smoke.
- − State and private colleges should enforce smoking bans on campus
- − It is a balancing act because not selling cigarettes reduces revenue. Due to this, some communities might not want to implement these strategies. However, it will save communities money in the long run.
- − How do we enforce smoking bans? We would need to increase law enforcement. Taxation has an advantage because it's "built-in" enforcement. If people can't afford to smoke, they will be less likely to.
- − How might one approach legislators who promised not to raise any taxes when they ran for office? Make it a local issue; people might change their mind once they're in office; people might be more inclined if local revenue increases
- − What is the purpose of the tax? Education, childcare, prevention programs?
- − We want to regionalize the tobacco tax so the revenue stays in the region
- − If this issue was on our city council agenda, we would need public health professionals to come and support it.
- − VA has been introduced to make it a crime to smoke in a car with a child restrained in a car seat. We don't think the legislation ever made it out of committee.
- − Will there be "downhill damage"? - smokers could continue to smoke and this will affect the family. Will parents decide to forego necessary expenses (food, utilities, etc.) to buy cigarettes?

Employer Prevention/Cessation Interventions:
- − Employee health incentives include non-smokers paying less in premiums
- − We need to encourage employers to adopt strict anti-smoking hiring policies
- − We need to educate not just large employers, but small business owners about what they can do to help their employees stop smoking. Talk about health plan cost savings.
- − Need consistent funding for NRT - it's effective but very expensive

Youth Prevention/Cessation Interventions:
- − Getting schools to give up class time might be difficult in some areas.
- − TAR Wars is a program with residents/students and they bring in resources and staff to teach the program in schools.

- Making prevention education programs financially sustainable is a challenge
- We should target elementary-aged students and create surveys or focus groups to see what strategies will work best
- Is two years of tobacco prevention education enough in schools? We need high quality and consistent K-12 education.
- DARE program - needed at high school levels
- Identify "high risk" and address these students
- "Peer champions"
- Target messaging to those kids that look up to peers
- Use age-appropriate strategies: social media & peers
- We need to focus on preventing kids from every starting to smoke
- Target media to appropriate sources (e.g. Disney channel)

Clinical Prevention/Cessation Interventions:
- Pediatricians/doctors treating pregnant women need to talk about second hand smoke
- People need to be motivated to quit. We need to utilize opportunities like pregnancy, a negative health diagnosis or acute hospital stay to help with cessation.
- Coordination between doctors and local programs (county) - a prescription form from doctor to the county program with incentives. People might be more likely to follow a "doctor's orders" rather than seek a program on their own.
- Make sure money is available as systems come together to be able to fund acute hospitalization
    - Need a mixture of trained and volunteers
    - Patient navigators
- Partner with community businesses on agencies - new system becomes a support center

Community Prevention/Cessation Interventions:
- Many programs have been around for a long time and we still have a high prevalence of smoking
- We need to structure peer support for cessation similar to AA or NA
- We need to continue incentives and support once former smokers "graduate" from a program to keep them abstinent.
- Funding - high cost for low participation
- Medicare/Medicaid/insurance - poor reimbursement rates
- What motivates people to quit? What are the barriers to quitting?
- Is there a way to de-incentivize people for smoking if on any government assistance?

Media:
- There is a commercial that compares soda to cigarette smoking on in TN. Funded by the Public Good Projects. Is this sending the right message?
- We need to take advantage of opportunities to deliver consistent messaging about tobacco throughout the region
- Healthier TN - one of the major issues is tobacco. There is an app Streaks for Small Starts that works to help people adopt healthy lifestyle behaviors including not smoking.
- Combination of positive and shock strategies
- We need to focus on a particular population
- Youth focus groups

- What are the long-term effects of ads? What are the pros and cons? Do they help without education?

Committee Strategy/Questions:
- If we are deciding where to put our dollars, we need to focus on prevention rather than cessation.
- Smoking is already on the decline on a national level. Should we focus our time and energy on issues where the incidence is increasing (e.g. obesity)?
- We don't want to duplicate programming or start from scratch.
- We need to go above what is already happening - more than just "check-off"
- Tiered focus:
    - Children
    - Pregnant Women
    - Adults

POPULATION HEALTH & HEALTHY COMMUNITIES STEERING COMMITTEE MEETING
MEETING 4 MINUTES

Meeting Date: November 16, 2015
Meeting Location: Millennium Center, Johnson City, TN Location

ATTENDANCE

MEETING FORMAT

− Presentation – Dr. Brooks

Name	Title	Organization
Wykoff, Dr. Randy	Dean	ETSU College of Public Health
Hamilton, Lori	Health Educator	K-VA-T Food City
Bishop, Marilyn	Medical Director Occupational Medicine	Mountain States Medical Group
Blankenbeebeeler, Nora		Mountain Empire Community College
Brillhart, Catherine	Councilwoman	City of Bristol
Brock, Jenny	Commissioner	City of Johnson City
Domst, Ronald	Retired, Volunteer	Johnston Memorial Hospital
Farmer, Barbara	Associate Pastor; Volunteer	Pleasant View UMC; Wesley Clinic
Fish, Lee		Wellmont Health System
Glass, Charlie	Executive Director/CEO	Greater Kingsport Family YMCA
Hammonds, Kristie	SVP, Operations	Frontier Health
Harris, Matthew	Physical Therapist, Athletic Trainer	Mountain States Rehabilitation – JMH
Johnson, Stan	Owner	Great Body Company
Kent, Martin	President	United Company
Perkins , James	HVMC/BRMC Diabetes Treatment Center	Wellmont Health System
Sensibaugh, David	VP, integrated health management	Integrated Solutions Health Network
Snodgrass, Dr. Jeff	Chair, Department of Occupational Therapy	Milligan College
Ward, Sabrina		Mountain Empire Community College
Woznak, Jim		Wellmont Health System

− **Data Highlights: Obesity in the Region**
  - High risk age group 45-64 is the same in VA and TN
  - SWVA higher than state obesity average; NETN is consistent with state average
  - Projections for 2030: Virginia 50%; Tennessee 63%
  - Connection between SES and education with obesity but this does not mean that people who are in living in poverty will be obese. Rates are still significant in higher education and SES populations
− General discussion (no break-up session)

DISCUSSIONS

Built-In Environment:

− How can we increase usability of existing opportunities for physical activity in the region? Is there a way to increase levels of physical activity among people without having to build new infrastructure? We could work to create default choices to make more opportunities for physical activity (e.g. making parking garages further away from stores). We need to change way we get information to people to help them access more opportunities for physical activity.

− Johnson City Example: Water sewer lines are going to be replaced and instead of covering them up, we are going to compact that surface to create a walking trail. Doesn't cost too much more to do that. How can we convert our urban planning and repairing infrastructure to create more green activity spaces for residents? We can collaborate with power companies to create walking trails. We need to collect data to do Health Impact Assessments when we make improvements like this to continue to learn from our developments.

− We should give county and city governments some tools to make these evaluations and help create changes. A potential outcome of this committee could be to create a useful template for cities and

counties in the region related to this. We should also reach out to employers to develop walking trails to increase physical activity during the day.

Physical Activity In Schools:

– We need to work with public schools to make high impact physical activity mandatory during the school day for all grades. We need to to focus not just on team sports but on inspiring a lifelong commitment to an active lifestyle. We need to make sure sports are accessible to all levels of athletes. We need to look at states who have done it right and copy their policies.

– We need to tie physical activity to productivity and employment to support change in public schools and employers. Will the hospital system have enough power to push this up through to the state level? Need big employers involved to step up and put pressure on the state government of TN to increase funding for education so they have a more capable workforce.

– Coordinated School Health (CSH) model is successful now and needs financial support. As a region we have an opportunity to compare CSH in TN and VA to measure success.

– Can we work with ETSU as they are educating future teachers to incorporate how to work physical education into the school day. There needs to be a way for us to challenge all of our local school systems to improve health.

– Healthy Hunger Free Kids Act has changed the federal law for schools that get funding for free and reduced lunch funding. They will have to submit a self-assessment in 2016 that could be useful data for us.

Future Work:

– We have a lot more data to share with the committee and need to figure out a way to get that to everyone in between meetings.

– We also need to add another meeting or two to the calendar. The target date to finish the report is by the end of March 2016. This is a preliminary report that will give the hospital what they need for their COPA but we will have the opportunity to continue to work on it. Even after the report is submitted, we hope to continue this coalition and have regular meetings. It's up to the non-hospital entities in the region to embrace this and make it sustainable.

POPULATION HEALTH & HEALTHY COMMUNITIES
STEERING COMMITTEE MEETING
MEETING 5 MINUTES

Meeting Date: January 18, 2016

Meeting Location: SWVA Higher Ed. Ctr., Abingdon,VA Location

ATTENDANCE

No attendance sheet for this meeting

MEETING FORMAT

- Introduction
- Presentation on Healthy Aging – Dr. Brooks
- General discussion (no break-up session)

DISCUSSIONS

Introduction on Aging:

- The spending for healthcare in the population is significantly higher than that of 5 or 6 years old. Compared to young population, age 64 and above constitute 34% of healthcare spending. The population of elderly is projected to increase and Tri-cities area is one of the old areas with seniors. Among the population are mostly found cancer and circulatory disease and the region is slightly above the national average. Inputs from community meetings were provided to support the needs for healthy aging. These inputs are needed for discussion leading to healthy aging and briefing on tobacco, physical activity and obesity prevention.

Funding:

- Community supports has a measure on calculations on the health for seniors. On the spending for seniors, Tennessee and Virginia spend below the national average. If federal funding is coming to the state why is there a variation effects in the spending on elderly? It all depends on how the state disseminates the funds gotten from the federal government or maybe in the county of the state. If the money is added to the state's money it may not reflect actual spending. Sometimes the money awarded to the state by the federal government is lower when compared with other states. Tennessee has been really underfunded due to political administration. From the department of HHS, Tennessee is ranked low when it comes to money awarded. On Per capital population (PCP), Tennessee is 41st and Virginia is 42nd.

Lack of data:

- There is also a problem with getting data regionally. For Virginia, the numbers are so small so they are reported statewide due to skewness since we are just working on Southwest Virginia. There is no clarity if the spending includes local spending/ state based insurance Medicare and Medicaid. We need to spend money on community supports mostly in rural areas.

Lack of access to rural areas:

- More spending is needed in the rural areas to support accessibility to health care through transportation services, education and other support services at home for seniors living in the rural areas which is reflected from data in this presentation. Most challenges can be seen in the rural areas where we don't really have infrastructure. Even if there is availability of infrastructure it will be expensive due to the population density. In community meetings in the various counties, people spoke about these services needed in their location and some people are not aware that some of these services are available to them.

Engaging older adults:

- Creating housing options for older adults and make homes more accessible. Developing safe mobility and friendly environments which is a challenge because some parks and lands are federally managed lands. Quality roads and transportation, walking program long distant walk, fitness club, providing rides would assist aging population. These impacts would reduce preventable mortality and improve nursing home care facilities. Promoting healthy aging is all about communication using the media and games like senior Olympic Games (awareness of games in Kingsport). There is an overlap between healthy aging and the existence of ARP which is promoting concepts of walkable communities and healthy initiative for communities, so recommendations need to be well structured. If it is possible, there should create initiative with hiring retirees and encouragement of the states to provide volunteer programs in parks.

Health, case management and transportation:

- 90% of adults has trouble using health information. 65 and older population which is the smallest percentage are less proficient with health literacy skills. So these older populations are more likely to skip health screenings, end up in Emergency room and having hard time managing chronic diseases. Utilization of Transportation is a challenge and there should be investment of navigation and coordination of health appointments. Case managers would be needed to help manage and coordinate care of the elderly.

Preventive services and social services:

- Insurance coverage, statewide management program on chronic diseases prevention, adult immunization rate, good access to health care, prevention focus for geriatric are needed to have healthy aging. Stanford has a model TOH adopted and some counties have some preventive services in place (description and briefing of model). End of life and quality of life should be incorporated into such models. Aging and place is recommended mostly for social services.
- Availability Index scores of particular areas; The index comprises of things on the community like housing, social engagement among others.

End of presentation and general discussions.

HEALTHY CHILDREN AND FAMILIES
STEERING COMMITTEE MEETING
MEETING 1 MINUTES

Meeting Date: September 8, 2015

Meeting Location: Higher Ed Center, Abingdon, VA Location

ATTENDANCE

Name	Title	Organization
Bailey, Dr. Beth	Professor and Director of Research	ETSU, Dept. of Family Medicine
Collins, Dr. Melinda	Associate Dean	Milligan, School of Sciences & Allied Health
Counts, Dr. Melody	District Director	Virginia Department of Health, Cumberland Plateau District
Everhart, Aubrey	Executive Director	Appalachian Mountain Project Access
Feierabend, Margaret	Chairman (Bristol Promise)	Bristol Promise; Bristol City Council Member
Gouge, Dr. Natasha	PhD Licensed Clinical Psychologist	MSMG Pediatrics
Hale, Dr. Kim	Associate Dean/ Early Childhood Education	ETSU, College of Education
Kozinetz, Dr. Claudia	Professor and Chair, Department of Biostatistics and Epidemiology	ETSU, Public Health
Mabrey, Gary	President & CEO	Washington County/ Johnson City/ Jonesborough Chamber of Commerce
Midgett, Linda	Director, Community Services	People Incorporated of Virginia
Montgomery, Paul	VP, Access & Development	Northeast State
Perkins, James	System Director Wellmont Diabetes Treatment Centers	Wellmont/Healthways
Perry, Tim	Director, Children's Outpatient Services	Frontier Health
Polaha, Dr. Jodi	Associate Professor Family Medicine	ETSU
Ratliff, Dr. Brian C.	Superintendent of Schools	Washington County Virginia Schools
Smith, Dr. Michael	Department Chair	ETSU, Dept. of Social Work
Teague, Donna	LPN	Johnson County Community Hospital
Terry, Kathlyn	Executive Director	Appalachian Sustainable Development
Tipton, Lisa	Executive Director	Families Free
Werth, James	Behavioral Health and Wellness Services Director	Stone Mountain Health Services, FQHC

MEETING FORMAT

- Introduction
- Review of Charter
- Group Discussions (Breakout sessions)

DISCUSSIONS

- **Review of Charter**
  - Working Group Plan and Directions of Discussions
  - Travis- Explaining the charter; What we will be working toward is a 10 years comprehensive health improvement plan, it will be the plan for the new company and also how the evaluation for the merger and how they are serving communities and how they will be monitored by regulating authorities in each state.

  - Deliverables: Produce an inventory and gap analysis of programs and initiatives; Identify best evidence based practices; Look at opportunities that exist and prioritize improvement goals.

  - Dr. Wood - Four particular areas of interest:
    - Physical health and well-being
    - Family social well-being
    - Perinatal health
    - Education success of children

  - These are overlapping areas and mental health is not mentioned because there is another committee addressing those issues (co-chaired by Dr. Kidd). We encourage you to bring them up

but the other committee will be working with them as well. In the next series of meetings, we may have experts bring in data about the region and create opportunities and evidence for intervention.

- Travis- 3 Questions: What are the greatest issues challenges that affect these subtopics? What are the causes of these issues? What can be done about these issues and challenges? Focus these questions on each of the Subtopics.

- Sub-Group: SWOT ANALYSIS (Strengths; Weaknesses; Opportunities; Threats)

Group 1

- **Participants**
- Beth Bailey - ETSU, Dept. of Family Medicine
- Aubrey Everhart - Appalachian Mountain Project Access
- Margaret Feierabend - Bristol Promise; Bristol City Council Member
- Claudia Kozinetz – ETSU College of Public Health
- Gary Mabrey - Washington County/ Johnson City/ Jonesborough Chamber of Commerce
- Michael Smith - ETSU, Dept. of Social Work
- Kethlyn Terry - Appalachian Sustainable Development

- **Challenges**
    - Poverty - Poverty cuts across education, social health, secondary and higher education. No access to education both secondary and higher education
        - Behavioral health strategies and history
        - Occupational and economic development provides access and helps to bring equity
        - Access to Education- which includes perceived access to education
            - We have a strong availability of secondary education
            - Access is a challenge
                - Folks who are at higher risk lack access
                - Technical training and other education can be transformative and change the trajectory of a life
                - Family perspective
                - Both actual access and perceived access barriers
                - Would ETSU be willing to provide free childcare
                    - Cost of childcare is expensive
                - Childcare and transportation are the biggest barriers
    - Transportation both in rural and urban areas
    - Understanding the root causes of poverty -This includes living wages, school lunches, and policies.
        - Policy can help shape infrastructure
        - Behavioral health services for children not available at times that are convenient
    - Early emergence of chronic conditions during childhood
    - Trust issues - The involvement of outsiders to enlighten communities of problems
        - Family reliance
        - Much more tendency to turn to the family rather than working with others of different backgrounds
        - Even economic opportunities are viewed skeptically
        - We underestimate the influence of our community organizations
            - People are treated as sub-human by the agencies providing services
    - Physical environment is not walkable
        - The absence of side walks

- - Access to safe places that are close
  - Emotional survival - Child care is so expensive for low income
  - Recession - Still coming out of recession

- **Causes**
  - Increasing cost of child care - Child care can be costly and also higher education
  - Early childhood development. (Early emergence of chronic conditions during childhood)
    - Nutrition
    - Exposure to substances (smoking/drugs)
    - Health literacy
    - Physical activity
    - Access to healthcare
  - Trust – Historical Appalachia independence, not trusting help onto individuals (outsiders)
    - Some is legitimate from a historical perspective
    - Appalachia is known for its independence
    - "We can do it ourselves"
    - People can be poor and proud
      - Protective of the environment
      - More than in urban areas
      - Need a green economic development initiative
  - Lack of physical environment caused by politics and funding
    - Policy and lack of money for side-walks
  - Policies and Funding
  - Lack of respect of persons – The ways some people treat some individuals as less human
  - Resistance – resisting change due to some norms/ cultural values
  - Poor communication – Not effectively getting the message out

- **Solutions**
- Family approach (Early childhood development)
  - Support for families can strengthen the families
    - Provide resources for mother and baby to strengthen health
    - Create a healthful environment for the whole family
  - Early Intervention – Preconception/pregnancy
  - Planned families (Poverty)
    - Sex education
    - Related to the transgenerational cycle
- Resources and Economic/occupational opportunities
- Vocational Education
    - Adult GED and Technical training while child tutoring is done
- Trust
  - Place-based
    - Respective their values
    - Use the institutions – schools and churches
      - faith-based by involving churches
    - To help, we need to be a part of the community
    - Need to recruit indigenous leaders to help inform the process
    - Serious skepticism until long process of building trust
    - People don't go to formal meeting

- Need to hold informal meeting
  - Intimidation of speaking in a room with experts
    - Structure it so that they are regarded as the experts
- Informal meetings – the use of informal meetings to get people informed, communicate and get feedback from the community not a formal one
- Community involvement - Build relationships/trust by recruiting indigenous leaders
  - Become part of the community by engaging community workers and empowering them
- Business community partnering to education (high school programs) to keep leaders in the regions and also mentor the communities
- Information sharing – Business partnerships to community-based organizations to share information and enhance communication
- Using grant to make education available to get information passed across to individuals
- Investments – Health system investing to Business and Business re-investing back to the communities
- Regional leadership
- Changing methods for providing help – helping methods should not be forced on individuals
  - Reaching out – Going out to where people are e.g. workplaces to provide education and training
  - Empowering the community to help itself
  - We are the community!
  - Health Promotion - health promotion at the work sites making workers live healthy
  - Developing relationships is going to be key to the process
  - Change in Models – Need different models for the communities. "not same size fits all"

Group 2

- **Participants:**
- Jodi Polaha - ETSU
- Natasha Gouge - MS Medical Group Pediatrics
- James Werth - Stone Mountain Health Services
- James Perkins - Wellmont/Healthways
- Paul Montgomery - NE State Community College
- Kim Hale - ETSU College of Education
- Lisa Tipton - Families Free

- **Physical Health & Well-being**
- **Challenges:**
  - Obesity is the primary challenge in our region
  - Parents do not always follow through with medical recommendations for children - they are given the discharge summary and often do not follow through. Families sometimes reject offers of services at their home. There are several programs out there but people are opting out.
  - Parents who have Rx or other substance addiction have impaired judgment and may not prioritize their child's health.
  - Sometimes pediatricians are not informed of family situation (e.g. physicians are not informed when DCS becomes involved)
  - Lack of coordinated care - It's a full time job to just stay on top of families to make sure they show up for appointments
  - Criminal justice involvement
  - Lack of coordination across state lines

- Lack of centralized information -one stop for navigating health care and other health and social resources for community
- Access to specialty health care (providers and accessibility of care)
- Hours of service - many families have been fired for keeping doctors appointments

- **Causes:**
    - Trauma
    - Lack of education
    - Poverty
    - Low income
    - Mistrust of the systems - due to the complicated nature of the system?
    - Transportation is difficult to navigate; it is not as simple as just providing it. People need to be taught how to access transportation
    - The needs overwhelms the resources
    - What is the driver of poverty here? - substance abuse; low education; low cognitive functioning; employment - low wage jobs and lack of job opportunities; third generational public housing as a way of life
    - Cultural commitment to poverty - "there is now way out" mentality
    - The most lucrative long-term way to care for your family where you are not at risk for getting fired is getting on public assistance. There is a fear that if you get a job, you will lose your services.
    - Disability has become the new welfare - many children are eligible for disability because the diagnostic requirements vary.

- **Solutions:**
    - Increased access via innovative programming (Telehealth)
    - Distance clinics; outreach clinics - bringing services closer to communities
    - 2-11 system (although that has existed in the region before without much success)
    - Health and resource awareness campaigns
    - Using peer mentoring programs - lots of different options
    - Children need life skills: how to cook, how to balance a checkbook, financial literacy, how credit cards work. We should be teaching children these skills at school.
    - Substance abuse prevention programs
    - Need greater care coordination - integrated systems; address duplication; point of access across many places including home based
    - Services offered in the homes or in a community setting during nontraditional hours (family centered/based services)
    - Strengths-based approach - increase parental capacity (5 protective factors; FAST program)
    - We really need to enhance community engagement
    - Change needs to come from the family and communities themselves
    - Diversionary courts; recovery court; family court; infant mental health court
    - We need a cultural story shift about the region that would redefine how people live here feel about themselves - place a high value on parenting; take pride in cultural heritage

- **Family/Social Well-being:**
- **Challenges:**
    - Poverty makes it harder to be a good parent and get access to resources
    - There are limited supports for families

- We do have "safety nets" but we need "springboards"!
- We need to pull in the marginalized family groups - we need to get information and resources to people when they show up in drug courts, in jail or the NICU. "No wrong door" approach.
- Children can't have afterschool programming because of lack of transportation back home after the school day
- Grandparents raising grandchildren - this puts emotional and economic strain on them
- Getting too "high" - families are not supportive of improving education and health because it means that kids might leave. This is a real fear due to emigration of young, educated population.
- **Causes:**
    - Lack of hope
    - Geographic isolation
    - Families are living in low-income housing and it makes it difficult to break the patterns and have healthier habits because others in their community are using drugs, have poor health, etc.

    Solutions:
    - Coordinated care - need to coordinate across the various systems (medical, judicial, social service) not just for health care
    - Faith-based organizations - we need to include these communities in the process. Faith is a strength in our region. The spiritual and secular groups need to come together to build trust and find places where they can agree on how to best serve the community.
    - Identify high risk areas in the region
    - In primary care - how can we identify the "super utilizers"?
    - "Hot Spotting" approach (there is a good program in NJ and other places) to help communities make changes in the culture about how we discuss health
    - (Chris Johnson at Dept of Children Services is the person who keeps the data in the region)
    - Hire caseworkers and mental health professionals; access to preventive services
    - Bring more jobs to the region to help stop emigration of educated young people
    - Reach out to employers so they know how to support community health; employers could offer lunch time education or allow time off to be at school
    - We need more employers to provide better care for their employees - healthy workplace that is family friendly; this also builds community
    - Pick a subgroup who is willing to change and focus on them in the hope that the other groups will follow.
    - Attract progressive employers like Google or ask local employers to adopt more progressive, employee-centered business models to increase community health (and workplace productivity!)

- **Educational Success of Children**
- **Challenges:**
    - Lack of evidence-based programs in schools
    - Schools struggle with implementing best practices because there is a disconnect between educational policy and societal needs
    - Behavioral policies in place at the schools that further marginalize children who work with DSS - lack of resources to build the skills or give staff.
    - Teachers do not get good training on working with behavior management
    - Creates mistrust when kids are punished and don't get to participate due to behavioral issues but there is not treatment offered

- Students of parents who were not successful in schools; community doesn't value education
- We prioritize the cognitive piece rather than the holistic growth of children
- Parents don't feel connected to schools
- Teachers are not trained on cultural competency
- Priority on academic performance on tests at the expense of what is best for social and emotional growth of kids

- **Causes:**
    - Funding disparity between school systems is huge
    - Previous generation have a history of academic failure (and being failed by the academic system)

Group 3

- **Participants**
- Kim Hale - ETSU, College of Education
- Natasha Gouge - MSMG Pediatrics
- Paul Montgomery – Northeast State
- James Perkins – Wellmont/ Healthways
- Jodi Polaha – ETSU
- Lisa Tipton – Families Free
- Cynthia Thomas – TN Department of Health

- Culture Issues-They think it is not appropriate-don't need preventative care.
- Poverty
- Transportation
- Isolation-Geographical
- Culture Beliefs-"If it ain't broke don't fix it"
- There is tremendous overlap with root causes for all of the issues
- Stigma of mental health issues
- Places for children to play like parks and needed sidewalks and walking trails.
- Those children would participate in after school but have no transportation to get there and back to home
- Can't learn backyard play because there are no other kids in the area that they live in
- Parents are afraid to let their kids out and play
- Parents do not play with the children because they are tired from their own jobs
- Lack of community effort to minimally fund or support the quality they expect in schools

- **Solutions:**
    - If kids didn't have homework it might help because parents would be less intimidated. The structure of homework can change - based more on holistic growth and family connection rather than academics
    - Promote cultural competence among teachers
    - Increase pay/incentives for teachers to attract them to the region
    - Need affordable, high quality childcare - after school and infant/toddler/preschool
    - Increasing diversity among the teacher and administrator workforce
    - Start school later in the day
    - Funding is an issue. Additional time has to be committed for Physical Education but nobody will pay for it and pay for staffing
    - Consolidation of Schools

- **Solutions:**
  - Public awareness campaigns
  - Drawing attention to what issues are
  - Funding and get them the exercise
  - Tele school and Tele health (Johnson, Carter and some other counties do it)
  - Technology would increase access
  - Doctors need to make house calls
  - Taking the services to where they are-Mobile trucks and buses
  - School based integration of health care programs
  - If we would make a commitment to teach empathy skills to children- domestic violence issues
  - Need to know resolution skills-too much technology, need responsible use.

- **Family Social Well-being**
- **Challenges:**
  - Domestic Violence
  - Substance Abuse
  - Isolation
  - Working Parents and Childcare
  - Poverty
  - Children need supervision-children being alone at a different ages
  - Need to empower families to take care of the families
  - Grandparents raising children
  - Single parents and isolation from community
  - Decreased support and access to biological families
  - Role models
  - Nothing to maintain quality of relationships- Families without education of knowing how important family commitment is
  - Isolation through technology
  - Mental health of parents- lots of parents with very little cognitive ability and the ability to understand medical instructions and other things to comprehend
  - Intergenerational incest and that could lead to limited cognitive ability, very limited in ability to understand

  - **Causes:**
    - Isolation in geographical region
    - Substance abuse/ Self-medicating
    - Role modeling - What the parents do, the children do - children are looking for direction
    - Parenting Skills
    - Mental Illness
    - Employment-Financial
    - SES persons feeling excluded
    - Victims of a lower SES status, victimized and treated differently and how social perceptions
    - Gaps with affluent and influent
    - Segregated with haves and have nots- opportunity gap
    - Systems can create that as well-people do not have jobs that allow them to take children to appointments

- **Solutions:**
  - Decrease barriers and make them more available; how services are timed
  - Knowledge and awareness of resources for families and children
  - Parental Education attainment (could be awareness, adult literacy and education)-patterns of poverty
  - Bringing back senses of community and bringing back that
  - Decline in participation of church, no church family need to build that in a new way
  - Building hope in a new way because they have lost their faith-no connectedness

- **Perinatal Health**
- **Challenges:**
    - Nutrition-Drinking mountain dew and eating fast food

- **Causes:**
    - Community Education of Health
    - Child Supervision
    - Parenting Skills and Education level
    - Nutrition-Poverty, lack of education, lack of access
    - WIC-lack of knowledge of availability, decreases enrollment

- **Solutions:**
    - Education and Support Groups
    - Encouraging Education
    - Supervision of teens and increasing activities
    - Increase access to prenatal care
    - Community access to perinatal care

- **Educational Success of Children**
- **Challenges:**
    - Cultural Value- Parents didn't go to college and don't see a need for children
    - Children will get above parents and parents don't want kids to look down on them
    - Role models
    - Abuse/Neglect
    - Lack of access to school based mental health services
    - Helping children that don't show as much as potential and helping them
    - Opportunity Gaps for children-lack of equity framework in communities
    - Seeing the value in education
    - Education for parents and adults-different mindset for some parents who encourage kids to go to school and other parents who are forced to make kids go (or they will go to court)
    - Mindset of investment vs. Obligation
    - View Education as an obligation as opposed as an opportunity to invest
    - Children with less education are more likely to end up in jail
    - Need help filling out SAT and Financial Aid

- **Causes:**
    - Decreased Parental Education
    - Poverty
    - Stigma
    - Funding

- **Solutions:**
    - Increase perceptions and understanding of education
    - Increase access of mental health services in schools
    - Increase hope and value of education

HEALTHY CHILDREN AND FAMILIES

STEERING COMMITTEE MEETING

MEETING 2 MINUTES

Meeting Date: October 13, 2015
Meeting Location: Millennium Center, Johnson City, TN Location

ATTENDANCE

Name	Title	Organization
Staton, Travis	CEO	United Way of Southwest Virginia
Wood, Dr. David	Chair, Department of Pediatrics / CMO	ETSU / Niswonger Children's Hospital
Angelopoulos, Dr. Theodore (Ted)	Professor	Emory & Henry School of Health Sciences
Baker, Dr. Katie	Assistant Professor	ETSU, Dept. of Community & Behavioral Health
Carter, Lisa	CNO, Interim CEO	Niswonger Children's Hospital
Casteel, Tommy	Regional Director	Virginia Department of Social Services
Castro, Dr. Sandra	Pediatric Emergency Physician	Niswonger Children's Hospital
Collins, Dr. Melinda	Associate Dean	Milligan, School of Sciences & Allied Health
Everhart, Aubrey	Executive Director	Appalachian Mountain Project Access
Feierabend, Margaret	Chairman (Bristol Promise)	Bristol Promise; Bristol City Council Member
Hale, Dr. Kim	Associate Dean/ Early Childhood Education	ETSU, College of Education
Holloway, Paula		Frontier Health (Tim Perry)
Kozinetz, Dr. Claudia	Professor and Chair, Department of Biostatistics and Epidemiology	ETSU, Public Health
Mabrey, Gary	President & CEO	Washington County/ Johnson City/ Jonesborough Chamber of Commerce
Midgett, Linda	Director, Community Services	People Incorporated of Virginia
Perry, Tim	Director, Children's Outpatient Services	Frontier Health
Polaha, Dr. Jodi	Associate Professor Family Medicine	ETSU
Powers, Catherine	Professor of Nursing	ETSU
Rhinehart, Beth	President /CEO	Bristol Chamber of Commerce
Smith, Dr. Michael	Department Chair	ETSU, Dept. of Social Work
Stephens, Stephanie	President	Appalachian Association for the Education of Young Children
Teague, Donna	LPN	Johnson County Community Hospital
Wiley, Mary	RN	Wellmont Hancock County Hospital

MEETING FORMAT

- Introduction
- Project Update – Dr. Brooks
- Presentation – Dr. Wood on Data
- Presentation of Evidence Based Program - Early Child Readiness by Kim Hale
- Discussions

DISCUSSIONS

Project Update - Billy Brooks

- We are reaching what can be considered a mid-way point with these meetings and our efforts to put together a report or proposal to the hospitals on addressing health issues in the region. We are working on an effort to coordinate between these groups.

- **Update on other committees and how this group fits in to the process**
  - **Mental Health Committee-** 2 meetings. Working on developing a responsive system for treatment and identify folks early and coordinating across state lines. Focusing on treatment and

secondary prevention and screening, lack of adolescent psychiatry. Talk about recruiting psychiatrist to the area that involves other committees.

- **Population Health Committee** – 2 meetings. They have identify priority areas tobacco, nutrition and physical activity children's health, aging, mental health. They are waiting on children's health and behavioral health to see what these committees come up with. Started working on tobacco cessation and prevention ideas. It looks like we will be working with some potential perinatal efforts because of high pregnancy smoking in our region.
- **Research and Academics Committee**- 1 meeting. Lag behind the other groups in response to work force needs and meet the identified needs that come from these groups. Focusing on gaps in the workforce with regard to health systems, working toward coordinating between academic institutions to provide programs needed.

− We have had 7 community meetings and have 3 left: Johnson City, Wise and Bristol. Summary reports form these meetings are on becomingbettertogether.org and provide snapshots of what is being discussed. Community development is the biggest topic with ideas around cultural norms and economic development.

− We need to focus our efforts to reduce redundancy.

Data Presentation – Dr. Wood
− How are we going to sue data to drill down and look at variation and need within our communities to create target programs?
− Review of data
- Population of children (ages 0-17). We are below US average and below the two states averages for proportion of data. Need Bristol and Norton Data, not included in the counties.
- Data based on child's residence – Census data
- Proportion of families with children- County Households. We are below the state average. We could eventually drill down and see where exactly the families and children are
- Percent of population under the age of 18 in poverty. NETN has higher proportion than the state and SWVA has higher than the state.
- Percent Free/Reduced Lunch Eligible- Close to the Medicaid level. Two-thirds in NETN and the same in SWVA, much higher than state average. Lots of schools have over 80% of student are low income.
- Percentage of Households with no motor vehicle, in NETN lower than state average but Hamblen is much higher.
- Infant Mortality is the rate (per 1,000). Rates in our region are all over the map. Some of our counties are above the state and national average. Is this where the infant dies or where the infant resides? It is attributed to the person that dies and their address.
- Teen Birthrate- Similar in TN to the US average but in SWVA is higher than state average.
- Starting to think about the highest priorities- perinatal and birth outcomes like smoking and drug use during pregnancy.

- Margret F.- Children's education and health are tied to maternal education and health, in our country women are underpaid and education is low. That could be one of our root causes; the education on maternal health.

- Jodi Polaha- Surveyed moms in this region, rates of psychosocial concern for their children. Higher than national average. Rural did not matter, but mom's education mattered and showed correlation.

- Dr. Wood-Literature search on maternal education and child outcomes and major factor predicting children's health issues. Some of the data we may look at for relationships may to be from our area but there may be good literature substantiating this research.

- Dr. Staton- Review of Problems and Needs from last meeting and from community meetings

Major Topics
- **Perinatal Health-** high teen pregnancy rates, substance and tobacco use during pregnancy, breastfeeding (information we can obtain? From birth certificate and sustained breast feeding)

- Dr. Wood-This document does not get into causes as much as it does solutions. But we are trying to discuss those today and prioritize these things. There are so many issues and challenges, it is impossible for us to tackle all of them. Really looking on how these tie into one another.
- Katie Baker-Adding a policy item to relate to these topics-Tennessee is the only state that mandates family life education based on the counties pregnancy rate but if any community member takes issue with the family education they can opt out and it not be comprehensive.
- Dr. Wood-People really want more education-but may not know how they want it delivered to them.
    - Virginia- Teen birth and teen pregnancy rates are different in Northern Virginia than Southwest Virginia counties. This relates to termination services and low educational attainment. Higher educational attainment tends to have people move out of the region.
    - All these issues are complicated. Where are the points that where we can intervene and make a difference?
    - Virginia has a great initiative for breastfeeding in the businesses. Doesn't just stop with government but with local organizations.
    - This is a huge opportunity for leadership to come together and continue this program past the hospitals initiatives.
    - Accountable Care Communities-What are the other institutions and organizations that can be brought in?
- Accountable Care Communities Meeting on November 16th at 9AM.

- Points added
    - Withholding contraception as a measure of abuse
- **Educational attainment-**Child stimulation for education before kindergarten, access to quality education, culture may not support seeking, inequity of higher education and funding, Post-secondary education drop out is high.
    - Points added
        - Access to quality programs for children under 5 years old with special needs in Tennessee
        - Access to quality and affordability for infants and toddlers- 66% of calls for referrals are for care of infants,
        - Lack of education and training for infant and toddler teachers
        - Policy-areas of focus that merge into areas that need to be prioritized and then funded. These are state and federal funding issues.
        - Children who may have emotional and behavioral difficulties there isn't much of a focus on those children developing skills or having resources. Some type of activities for K-12 who don't fall into classic sports, music lessons who children who are in alternative schools and children in poverty. Lack of transportation is an issue to get children there. This relates to teen pregnancy rates because children have nothing to do.

- Improve teacher training around classroom management. Teachers don't get good training on management a child's behavior and children have to sit through that.
- Parents feeling connected to the school- Increase community engagement
- Career pathways- besides 4 year institutions
- Local match for funding

- **Poverty-** health literacy, lack of jobs, public assistance
  - Points added
    - This is the central issue and every single thing relates to poverty and they all stem from this.
    - Not working to build our workforce.
    - We can preach on how to eat and exercise but food prices are going up but poverty is the gas that is pushing all these problems.
    - Employment. Education/Training. Transportation.
    - Use of collapsing distances through modern technology-need to educate them on those things
    - Tele-health could be useful
    - Residual culture-Lose so many people that could vitalize this region.
    - How can we build on the strengths we have as a culture instead of being a negative?
    - Intergenerational approach- Hancock County, Afraid of educated adolescent would leave to pursue education/employment somewhere else. Offered two year degree and G.E.D. to parents as well and fathers were able to complete while children completed
    - Lending services- Pay day loans; vulnerable population.
    - Financial literacy

- **Obesity-** prevention and treatment programs, community development, walkable communities, access to healthy foods
- Points added
  - Education on preparation of healthy foods, low cost nutritious meal
  - High schools eliminating culinary and home economics
  - Develop strategies to target high risk groups-both parents obesity, etc.
  - Family education, school systems get involved in the battle against obesity
  - Safe neighborhoods
- **Children with chronic health conditions**-access to services, poor coordination of care, limited access

- **Behavioral health**-access to early diagnosis, substance abuse prevention and treatment, domestic violence
- Points added
  - Mental health for teens is an issue, don't want to talk about child's specific health but they are quick to bring up the topic and need education and resources
  - Parents with children with psychosocial issues- don't know where to look for resources, rating scales of resources, don't necessarily want to get services where everyone else does, help you determine if you have a problem
  - Portfolio of delivery sources- treatments are available in a wide range of settings; biblio-therapy, peer mediated, self-management, etc.
  - School setting mental health systems- many areas got cut in funding
  - Stigma of receiving services for mental health
  - Looking at ACE's when identifying children and implementing prevention strategies
  - Building up the internal capacity of the parents and building resiliency skills to reach out and having home-based services

- Looking at good national models

– **Oral Health an issue that was not addressed but is a big issue.**
  - Regardless of age, oral health is the start of downward spiral.
  - RAM Clinics are important
  - Dentist are the hardest to recruit for serving underprivileged. Specialty care is easier to recruit, but not dentists.

– **Affordable Housing**

– **Discussion of Multi-Voting**

Presentation of Evidence Based Program- Early Child Readiness by Kim Hale
  – www.teccs.net -Transforming early childhood comprehensive systems
  – Building this holistic capacity- Talked about all of our experiences and in my mind we think we know what the issues are but how do we across our region create an organized systematic method building that holistic capacity?
    - This model started in Canada and now is in UCLA. They use an assessment of hundred questions for each kindergarten student.
    - It has been validated and looking into the Halo effect from teachers filling this out.
    - Chattanooga is interested but hasn't started data collection
  – This assessment information is taken and geo-mapped and looks at five different areas; physical health, social competence, maturity, language and cognition, community skills and general knowledge.
  – From that they get a ranking of children who are vulnerable.
    - If you have that information from your schools and overlay on top of poverty rates, you see children with higher vulnerabilities.
    - You'll see that there is not an exact correlation between poverty and high risk children.
    - Also mapping overlay of licensed childcare centers, and what access of care they have.
  – This has really helped in California for Communities to systematically look to identify areas and families and place strategically their interventions.
    - They are doing this every 3 years in California and tracking changes and that is giving them feedback. Each community decides the intervention on their own.
    - This allows specific data over top of each other and this leads to prioritize issues and interventions.
  – Nice outcome measure to see impact of intervention. There are 300 kindergarten classes in NETN and they said that was feasible. One goal might be to seek outside funding.
  – Population health measure, not individual child education planning.

Discussion
  – Will this still apply to rural communities?
    - It's important to know what we already have and where is it.
    - School systems like it. They reiterated that. Helps school systems build support for what they are working with.
    - Premature- identify our variables to make sure that this measure can be sued to actually see changes in the interventions or programs we choose.
    - Data is needed. Data sharing comes into play when we choose these priorities.

- There are a lot of things out there but there is not one place to keep getting.
- We are on a timeline and dealing with complex systems. What do you think is most crucial for us to measure as an outcome for our community and how we are going to track that over time?

Healthy Children and Families Prioritization Table

Family Behavioral/ Mental Health	Actively screen all children and families for risk factors associated with poor behavioral and mental health functioning—do so with an integrated care model that involves primary care, the schools	4.958333
Perinatal	Increase services to prevent and treat drug and tobacco use in women of child-bearing age	5
Family Behavioral/ Mental Health	Increase access to early diagnosis and treatment for child behavioral and mental health conditions in a wide range of settings and with a wide range of approaches (peer, church based, primary care based; parenting, family counseling)	5.208333
Poverty	Address hunger, food insecurity and access to healthy food	5.761905
Perinatal	Increase access to high quality prenatal and postnatal care	5.904762
Perinatal	Increase access to pregnancy prevention education and contraception; educate to reduce cultural biases against contraception for women	6.2
Family Behavioral/ Mental Health	Building family strengths with increased access to in-home services that support parenting	6.208333
Family Behavioral/ Mental Health	Increase access to substance abuse prevention and treatment services	6.4
Family Behavioral/ Mental Health	Increase services in the schools for children with or at high risk for severe emotional and behavioral disorders	6.625
Childrens Physical Health	Focus on prevention, early intervention in families of young children using a mtulti-dimensional, multi-sectorial approach (school, public health, health system, other sectors)	6.75
Childrens Physical Health	Increase access to healthy foods; creating a culture of health; fitness centers; school nutrition programs; food insecurity programs	7.058824
Poverty	Increase opportunities for employment	7.142857
Educational Attainment	Improve educational and social readiness of children -5 in preparation to enter Kindergarten	7.166667
Perinatal	Increase support for breastfeeding initiation and continuation	7.227273
Childrens Physical Health	Increase access to services for children with chronic conditions (recruit specialists, create inter-disciplinary programs for specific populations that lack access locally, conduct outreach clinics to bring care locally)	7.375
Poverty	Increase access to affordable housing	7.952381

Educational Attainment	Enhance the quality of early childhood education through measurement and training programs	8.157895
Poverty	Increase general literacy and health literacy—adult literacy programs	8.181818
Childrens Physical Health	Increase screening of children early across all providers (both education and healthcare providers) for children's medical and dental health.	8.333333
Childrens Physical Health	Increase access to obesity/healthy living prevention and treatment programs that include education on healthy diets, activity, training in food preparation	8.470588
Educational Attainment	Increase Access to high quality child care for infants and toddlers	8.5
Poverty	Eliminate predatory lending—payday loans; rent to own	8.529412
Educational Attainment	Change the culture in the community towards early childhood education, preparation for Kindergarten, and higher education	8.555556
Family Behavioral/ Mental Health	Increase access to resources for parents on child mental health; self-assessment;	8.583333
Perinatal	Promoting preconception and inter-conception health for women	8.736842
Educational Attainment	Increase engagement of communities/parents in schools	8.75
Childrens Physical Health	Improve coordination of care across and provide transportation to families of children with special needs	8.8
Poverty	Build on strengths of the culture in Appalachia (Family bonds and supports to social capital through community investment using an intergenerational approach	9.454545
Childrens Physical Health	Increase access to preventive dental services and curative dental services	9.470588
Family Behavioral/ Mental Health	Increase access to domestic violence and child abuse prevention and treatment services	9.5
Poverty	Organize communities to improve safety	9.590909
Educational Attainment	Increase the quality of K-12 education	9.789474
Educational Attainment	Increase access to vocational training, alternatives to 4 year track	10.33333
Educational Attainment	Increase access to affordable, high quality early education for children with special needs (atypically developing children)	10.47368

Educational Attainment	Make transportation for afterschool activities universally accessible	10.52632
Educational Attainment	Improve teacher training on classroom and behavior management	10.55556
Poverty	Increase Financial literacy	10.72727
Poverty	Prevent the Brain drain—do not have opportunities to keep people here	10.77273
Educational Attainment	Change state allocation for school funding (the match) to increase the allocation to low income communities	10.8
Family Behavioral/ Mental Health	Institute adolescent suicide prevention services across our communities	11.82609
Poverty	Promote a living wage for all employees;	11.95
Childrens Physical Health	Invest in structural Community Development--walkable physical environment (Parks, sidewalks);	13.13333
Childrens Physical Health	Increase access to fluoride	15.85714

HEALTHY CHILDREN AND FAMILIES STEERING COMMITTEE MEETING
MEETING 3 MINUTES

Meeting Date: November 10, 2015

Meeting Location: Higher Ed Center, Abingdon, VA Location

ATTENDANCE

Name	Title	Organization
Staton, Travis	CEO	United Way of Southwest Virginia
Wood, Dr. David	Chair, Department of Pediatrics / CMO	ETSU / Niswonger Children's Hospital
Angelopoulos, Dr. Theodore (Ted)	Professor	Emory & Henry School of Health Sciences
Bailey, Dr. Beth	Professor and Director of Research	ETSU, Dept. of Family Medicine
Casteel, Tommy	Regional Director	Virginia Department of Social Services
Collins, Dr. Melinda	Associate Dean	Milligan, School of Sciences & Allied Health
Feierabend, Margaret	Chairman (Bristol Promise)	Bristol Promise; Bristol City Council Member
Gouge, Dr. Natasha	PhD Licensed Clinical Psychologist	MSMG Pediatrics
Hale, Dr. Kim	Associate Dean/ Early Childhood Education	ETSU, College of Education
Kozinetz, Dr. Claudia	Professor and Chair, Department of Biostatistics and Epidemiology	ETSU, Public Health
Mabrey, Gary	President & CEO	Washington County/ Johnson City/ Jonesborough Chamber of Commerce
Midgett, Linda	Director, Community Services	People Incorporated of Virginia
Myers, Dr. Pam	Pediatrician	Highlands Pediatrics
Perkins, James	System Director Wellmont Diabetes Treatment Centers	Wellmont/Healthways
Perry, Tim	Director, Children's Outpatient Services	Frontier Health
Polaha, Dr. Jodi	Associate Professor Family Medicine	ETSU
Powers, Catherine	Professor of Nursing	ETSU
Rhinehart, Beth	President /CEO	Bristol Chamber of Commerce
Skinner, Glen "Skip"	Executive Director	LENOWISCO Planning District Commission
Smith, Dr. Michael	Department Chair	ETSU, Dept. of Social Work
Teague, Donna	LPN	Johnson County Community Hospital
Terry, Kathlyn	Executive Director	Appalachian Sustainable Development
Tipton, Lisa	Executive Director	Families Free
Thomas, Cynthia	Assistant Medical Director	TN Department of Health
Werth, James	Behavioral Health and Wellness Services Director	Stone Mountain Health Services, FQHC

MEETING FORMAT

- Introduction
- Survey process
- General Discussions

DISCUSSIONS

Welcome & Introductions

- Our initiative is to set some target goals in order to find evidence-based interventions for healthy children and families. The final product of our work will be a prioritized report for the new hospital system ("Newco") so they can invest in the interventions we have recommended.
- Newco is in the process of submitting COPA to demonstrate there is an overall advantage to the public if the hospital systems merge.
- Our recommendations may not be educational, but may suggest sustainable financial sources to support interventions. We may also work to continue building coalitions.
- Last meeting we identified 5 topic areas: perinatal, educational attainment, poverty, children's physical health, child and family mental/behavioral health. We surveyed the group to determine which areas were highest priority.

Survey Process

- Most people supported the way the survey was administered. There were limitations to this survey in that there are many sub-categories within each broad category. We took the survey results and ranked specific strategies related to each overall topic. The issues were weighted by priority designation. For instance, if you ranked perinatal health as a second priority, it got a weight of "2" that was applied to all of the rankings within the category. It is important to remember that this information is a tool and not an outcome.

Major Findings

- Child and family mental health and drug abuse issues are a top priority. The Mental Health Committee is more focused on adult mental health/substance issues in general. There are opportunities for collaboration with them related to child and family health. Overall, the Mental Health Committee is more focused on treatment and clinical care. Our focus so far has been more on family support and prevention.

- Two major questions we need to answer before we send our report to Newco:
  - What more do you need to know about this issue in order to have a better understanding in order to make specific recommendations?
  - We need to review evidence-based programs and find communities that have had a successful approach to these issues to see what they have done.

Large Group Discussion

Process

- 9 out of the top 10 issues in the table could be categorized as "service oriented" rather than "educational and or structural" orientation. Do we really want to emphasize a service strategy to impact the population or should we think about broad interventions designed to <u>complement</u> service-oriented strategies?
- One aspect that the survey does not show is that so many of these issues can be addressed through primary, secondary, tertiary prevention. How do we decide <u>when</u> to intervene? We should focus on identifying those families who need support/resources as early as possible to help prevent multi-generational poor health outcomes.
- These categories (i.e. perinatal care, poverty, children's physical health, etc.) are all interrelated and we can't separate them out anymore. We should be using evidence-based programs that have an effect on multiple outcomes.
- Our purpose is to help at-risk families and also address prevention.
- If we choose one of these categories, it is a very generalized approach and Newco is going to have to translate that into achievable goals. How does what we talk about in our meetings get translated back to Newco? Do they want to focus on immediate benefits or are they looking for long term strategies to address "upstream issues"?
- Newco wants us to determine broad structural issues that affect health outcomes (i.e. perinatal interventions as opposed to providing a service that would give an immediate benefit). The report goes from our hands to the Integration Council but there will be opportunities for them to provide feedback and for us to continue refining our interventions.
- How does the work we are doing in this committee become valuable to the new hospital system? When we submit our proposal, will our work be for nothing if the recommendations are too expensive?

- "One man's process is another man's outcome". It's possible for us to come up with intermediary goals on the way to our ultimate desired outcome.

Screening/Data Collection/Assessment

- An issue we need to address is one of accessibility. For instance, we may have an abundance of pediatricians in a geographic area but if people are not able to access those services (due to cost, transportation, child care, etc.) they are not effective. We need to determine if we truly lack healthcare and social services in an area or if it is an issue of access.
- If we target an outcome we can measure early in this process (e.g. 3rd grade reading ability) by conducting a health assessment early in the child's life, we can determine necessary interventions. We need assessment at a critical stage to prevent "upstream" issues.
- DCS uses a survey instrument called "Fast 2.0" that is effective at identifying the needs within families.
- Virginia does community needs assessments at the local level and in Tennessee it's more sporadic.
- Regular community assessment would allow us to critique programs for efficacy and possibly give us an opportunity to reallocate funding towards more effective programs.

Intervention Ideas
- **General Comments**
    - We need to look at evidence-based: home visiting programs; community case management coordination models; integrative care models; and early detection and screening programs for children and families.
    - We might want to focus more on the structure of how we collaborate rather than creating interventions for these topics.
    - We should work on strategies to help medical providers interact more effectively with patients. We need some way to make sure patients are getting the information they need in a way they can understand.
    - We should not just target families with problems. We need to monitor successful families because this will give us data on what *is* working. This strategy will help to reduce stigma and might offer mentoring possibilities among families.
    - Should we send out another survey about where these interventions should take place? We will send out a survey about existing resources to address these issues.
    - We need to make sure we have input from the public when we develop interventions. We don't want to fund and spend time and money creating something the community doesn't value.
    - We can impact all of the identified priority areas by implementing better screening, case management, care coordination, data collection, creating a learning community and possibly providing some direct services.
    - We need to market our region as a healthy place to draw investors and businesses here.
    - We need more mental health providers. We don't have enough for tertiary, let alone secondary and primary prevention.
    - Trying to get staff move towards trauma vs. practice model. Issue of using psychotropic medication for children of foster care. Just in NE TN there are 900 kids who need homes and 125 homes available. We are not meeting the needs of those children whatsoever.
    - In the transition from pediatric to adult mental health care, there is a gap. The benefit of integrated care is that mental health providers can treat anyone associated with that child.

- We need to have a prepared and drug free workforce. Many children or adults with substance and mental health issues never even make it to becoming potentially employed. Eastman has collaborated with schools to help prepare the workforce by establishing some career technical training programs.

Healthy Pregnancy & Parenting
- One issue that has a major impact on child health is maternal depression. Children need to be emotionally and behaviorally prepared to succeed in school and this is compromised if the mother and caregivers suffer from depression.

Coordinated Care
- We have good "vertical view" but we are lacking a "horizontal view" of community needs. Families are being identified but there is a lack of a clear plan for engagement and how to coordinate care.
- An integrated government model for healthcare might not work in our region since it will have to cross several state borders. We could create a system of "internal advocates". They could be jointly funded positions between the hospital and partnering organizations. These people could provide "super case management" to advocate for eligibility and services to address family needs. This position used to exist and was called the "Family Services Coordinator". They worked with families served by 2+ agencies and maintained a database so we could track outcomes to look at strategies that worked and didn't work. The program was defunded.

Professional Collaboration & Development
- Creating learning organizations/communities. Part of the strategy we recommend could relate to identifying a "feedback loop" that would be designed to identify resource gaps and needs. We should work to build a mechanism to identify community needs so we can support those gaps with appropriate and targeted interventions.
- We need to be better informed professionals so we can make appropriate referrals. There is a lack of communication and awareness of available programs and services within our field. We need some kind of listserv or regular meetings so we can be up to date on what is available for our clients/patients.
- 2-11 does exist in TN and VA, but difficult to use. It is run by volunteers and their services areas are so broad that they are not always up to date.
- Newco could be the "glue" to connect professionals with data and resources for the community.
- There is repetition of services which is wasteful. We are "silo"-ing and need better coordination to improve patient care. This can be a challenge because specific grants and program require different things.

Home Visitation
- We need integrated care to move communities forward. Home visiting programs improve our professional understanding of what people need. We need help the wider community understand the value of home visitation programs since the value right now is only seen by families who are participating. How can we advertise and bring people on board with the idea of home visiting? This could be offered to every new parent, not just those identified as high risk. (See "Welcome Home, Baby" below.)
- We have failed to fund public health in this country. We need to get back to basic services and make this available to every single newborn. We could use this time to do assessments.

- There may be opportunities to incorporate lay workers as well as professionals in a home visitation program.
- Prenatal case management is needed because if we wait until kindergarten to identify children or families who need support, we are letting 5 years go by and it will be hard to catch up.

Education
- We need to be working to teach families financial literacy also. People, Inc. is working on this.

Existing programs & resources

- HUGS program in TN visits pregnant women up to when the child turns 5. This is a voluntary, home visitation program. We need to identify mothers as soon as possible. It's striking how we spend $1M to save a baby's life but then we send them home to inadequate housing and with parents who need some skill development. In Hancock County we have seen an increase in home visiting service needs. This suggests improvement because people want help.
- The "Welcome Home, Baby" in Washington county visited every family - there were no income requirements. It was presented like a "Welcome Wagon!" not punitive. The funding was lost.
- We are seeing a downward trend in WIC across both TN and VA. Why is this happening if the economy remains poor and the need has not been met? It could be because individuals in community are getting increased SNAP benefits from DHS so they might not need WIC. We try to do everything we can for WIC patients while they are in the healthcare setting. We want to capture them when we can to make sure they are getting primary care, family planning, immunizations and other services they may qualify for.
- Many people have access to programs but they are not effective for one reason or another (i.e. women eligible for WIC are not using it). How can we identify why those programs are not appealing to them?
- ETSU students (working with Michael Smith) are working on a regional resource directory. It doesn't quite cover the scope of Newco's territory, but it would be a good start.
- Head Start also has a federal mandate to provide families with resource guides.
- Services are used up by Tenncare patients. Patients with private plans and who are motivated can't get in because they can't afford services. It is much easier to make referrals for Tenncare patients.
- We need to figure out a recipe for what makes kids succeed. Bristol's Promise has 5 strategies: caring adults; safe places; a healthy start; marketable skills; and opportunities to serve.

Financial sustainability
- MIECHV grant could be a good source of funding for home visitation programs for new mothers.
- Our work in this committee can also make us eligible for federal funding outside of the hospital system. Combining systems might make us more attractive because it increases our numbers.
- How can we highlight existing resources?
- We need an internal group of experts focused on financial sustainable funding for interventions. We don't just want to add more programs that will be defunded in 2 years.

Subsequent Meetings - Dates and Locations

December 8th, 9:30-12:00   Millennium Center Room 120

Schedule Additional Meeting

HEALTHY CHILDREN AND FAMILIES

STEERING COMMITTEE MEETING

MEETING 4 MINUTES

Meeting Date: December 8, 2015

Meeting Location: Millennium Center, Johnson City, TN Location

ATTENDANCE

Name	Title	Organization
Staton, Travis	CEO	United Way of Southwest Virginia
Wood, Dr. David	Chair, Department of Pediatrics / CMO	ETSU / Niswonger Children's Hospital
Angelopoulos, Dr. Theodore (Ted)	Professor	Emory & Henry School of Health Sciences
Beilharz, Lisa	Chief Professional Officer	Boys and Girls Club of Kingsport
Casteel, Tommy	Regional Director	Virginia Department of Social Services
Chadwell, Tara		Niswonger Children's Hospital
Collins, Dr. Melinda	Associate Dean	Milligan, School of Sciences & Allied Health
Dugan, Angie		
Gouge, Dr. Natasha	PhD Licensed Clinical Psychologist	MSMG Pediatrics
Hale, Dr. Kim	Associate Dean/ Early Childhood Education	ETSU, College of Education
Holloway, Paula		Frontier Health (Tim Perry)
Johnson, Kiana		ETSU, Pediatrics
Kozinetz, Dr. Claudia	Professor and Chair, Department of Biostatistics and Epidemiology	ETSU, Public Health
Kuang, Kammy		ETSU, Pediatrics
Midgett, Linda	Director, Community Services	People Incorporated of Virginia
Montgomery, Paul	VP, Access & Development	Northeast State
Perkins, James	System Director Wellmont Diabetes Treatment Centers	Wellmont/Healthways
Perry, Tim	Director, Children's Outpatient Services	Frontier Health
Polaha, Dr. Jodi	Associate Professor Family Medicine	ETSU
Schetzina, Karen	College of Medicine	ETSU
Smith, Dr. Michael	Department Chair	ETSU, Dept. of Social Work
Teague, Donna	LPN	Johnson County Community Hospital
Terry, Kathlyn	Executive Director	Appalachian Sustainable Development
Thomas, Cynthia	Assistant Medical Director	TN Department of Health
Tipton, Lisa	Executive Director	Families Free
Wells, Connie	Patient/Family Driven Care Mgr	Mountain States Health Alliance
Werth, James		Stone Mountain Health Services
Wiley, Mary	RN	Wellmont Hancock County Hospital
Wood, Julie	RN	

MEETING FORMAT

– Introduction
– Review of Interventions
– Presentation - Dr. Wood
– Special Presentations
  - <u>Family Check-Up Model</u> – **Jodi Polaha**, Associate Professor, Psychology East Tennessee State University
  - <u>Home Visiting Model </u>- **Linda Midgett**, Director of Community Services, People Incorporated
– Breakouts – Logic model discussions
– Report outs & Discussion on Logic model

DISCUSSIONS

Review of Dr. Wood's presentation
  - ACC model and structure
  - Broad categories of measurement for evaluation
  - CDC Health Impact Pyramid

- How do these effect the life-course?
- Priority Areas and Outcomes
- Interventions to Impact Key Health Outcomes in Children and Families

Group Discussion about Presentation
- How unrealistic this is- how can we come up with 3 things to cover all of these different areas-setting up a lot of pitting things against each other. How do we find something that balances out meeting the need of folks without boxing us in?
- Compare with the state's Title V plan
- Encourage partnerships with local regional governments to try to align basic health and social initiative we might find a synergism with NewCo will choose and what we will find government encouraging
- Look at what we have in pace and highlight them and if we see one area that does not have a lot going on-then that is what we look at making a focus-someway to just narrow
- Building capacity for families to do a lot of these services for themselves
- Lots of points of entry that are underutilized with family services
- Be more proactive than reactive
- If come across too abstract, we may miss the opportunity to receive these funds. But for the purpose of what is due in March, we need to specifically pick programs that they will fund
- Looking at the Community Meetings dad to make sure our needs match up with what the community wants- becomingbettertogether.org

Discussion:
- The creation of a logic model. A logic model layout would give an idea on what is to be done and the outcome. ACC- is a process that seem to be endorsed using this framework and what is implied by the work group. This is the approach will be used to develop what will be available in the community. Briefing about ACC model on the power point presentation.

- For endorsement of some programs, there should be thoughts on the impact and measurement of such program. Our goal is to work through these groups with evidence based programs that have worked in other places. What kind of programs, where are we going to do it and which population are we going to impact? Taking steps towards operating our top most priority areas. Logic framework will help frame out what we are going to do with the outcome

- NewCo would like to see this committee recommend what is to be seen in priority areas. Consensus should be reached with 2 or 3 approaches with what should be done. We need to have background information about the intervention. Existence of the program, where the intervention has been used and the population it has been successful on. Being focused on just 3 priority areas for intervention would be unrealistic because it is like putting groups against each other. Is suicide more important than drug court? How do we want to balance out everything and what NewCo would want to support? Before we make decision let us understand what the implications are.

- We need to suggest an updated plan, because we have unique issues in Northeast which is different from every other place in state even accessing resources. We need to partner with the government on different levels, local state, regional and commissioners to align with health matters. There would be synergism between NewCo and the government. The focus should not be only on perinatal but one point that can affect all. Look at what we have in place and highlights on either expanding them or putting new things in place that we don't have. There is lack of family in these interventions. Parents need to be supported.

- We need to be more proactive and not reactive. There is a commonality between perinatal and adolescents is family. Community engagement is adequate but the program should be family driven. Timeline is of importance and we are in the dark about what the hospitals want to fund. We need to take responsibility out and know what the hospitals want to fund. We need to have a report out in March. The hospitals take work group to identify priorities and programs. One of the ideas is to focus on upstream having a lasting impact which will include family. This is what NewCo and community benefit

program will invest. This is an opportunity to leverage funds and we need to have data on what the community wants so that we don't give them what they don't need.

- On community data from various community notes held at different counties, community development including job opportunities and culture of health were most priority. Other areas like substance abuse and other issues were brought up too. There were other categories but community development was the key area. Tobacco did not come out as an issue even if it is one of the priority for preventable cause of disease in population health committee. We need to be careful on the kind of people that came for the meeting and what is wanted because there could be some bias. Professionals that are interested in the health of the community were pulled together to attend community meetings. There maybe a little bias but it a good foundation to start something on

Jodi Polaha Presentation - Family Check-Up Model
- Top Concerns Identified by the Committee
- The Family Check-Up Intervention – Brief and Flexible; Prevention approach, Guidance approach; Impacts wide ranging outcome
    - Downstream effect of children
    - Common Risk Architecture-poor behavioral, parenting struggles in early childhood and ongoing
    - Primary Components-Initial contact, Ecological family assessment and feedback to caregivers
    - Summary of FCU Prevention Trail Effects
        - Positive behavioral support, improves maternal depression, decreases obesity
        - Decrease family conflict, improving parental monitoring and improved school achievement
- Selected Registries and Federal Funders
- Flexibility
- Barriers and What it's not

Linda Midgett Presentation - Home Visiting Model
- Parents at Teachers Model Theory of Change
- Overview and Components
    - Personal Visits, Group Connections, Screening, Resource Network
- Family Centered Assessment and Goal Setting
- Screening
- Personal Visits
    - Developmental Centered Parenting, Family/Child Interaction, Family/Well Being
- Group Connections
- Resource Network
- Nurse

Breakouts- Logic Model Discussions
- Logic Model processes is not the best way to look at this now
- Macro (e.g. Breastfeeding, smoking), Meso (counties) and Micro (strengthen families)
- What does NewCo want? – We don't know. We need to ask for more specifics
- We need to figure out how to collaborate across agencies to deliver these priorities that we are talking about
- Working group to work in between meetings and start this conversation on how we are to move forward outside of what the hospital funds
- Getting the group more guidance on the resources available and more focus
- NewCo is looking at us to give them priorities
- Do a better service to our community by knowing our restraints

Collective Impact Framework
- Common Agenda, Shared Measurement, Mutually Reinforcing Activities, Continues Communication, Backbone Support
- The biggest thing we are struggling with is the common agenda

- How are we going to work together and what is the common agenda? That is where we are struggling
- How can we hone in on a big picture that we can do as NETN and SWVA to improve our communities?
- What are the outcomes we are looking for and working our way backwards to find the common agenda?

− Small work group will be meeting in between regular scheduled meetings to work on:
  - Getting the Title V from Tennessee and Virginia to compare and coordinate
  - Getting the investment and how the see this being rolled out

HEALTHY CHILDREN AND FAMILIES STEERING COMMITTEE MEETING

MEETING 5 MINUTES

Meeting Date: January 12, 2016

Meeting Location: Higher Ed Center, Abingdon, VA Location

ATTENDANCE

Name	Title	Organization
Staton, Travis	CEO	United Way of Southwest VA
Angelopoulos , Dr. Theodore (Ted)	Professor	Emory & Henry School of Health Sciences
Casteel, Tommy	Regional Director	Virginia Department of Social Services
DeVoe, Dr. Michael	Director, Neonatology Professor and Vice Chair	ETSU Pediatrics
Hale, Dr. Kim	Associate Dean/ Early Childhood Education	ETSU, College of Education
Johnson, Kiana		ETSU, Pediatrics
Kozinetz, Dr. Claudia	Professor and Chair, Department of Biostatistics and Epidemiology	ETSU, Public Health
Mabrey, Gary	President & CEO	Washington County/Johnson City/Jonesborough Chamber of Commerce
Perkins, James	System Director Wellmont Diabetes Treatment Centers	Wellmont/Healthways
Polaha, Dr. Jodi	Associate Professor Family Medicine	ETSU
Teague, Donna	LPN	Johnson County Community Hospital
Thomas, Cynthia	Assistant Medical Director	TN Department of Health
Wells, Connie	Patient/Family Driven Care Mgr	Mountain States Health Alliance
Werth, James		Stone Mountain Health Services

MEETING FORMAT

- Introduction
- Review of subcommittee meeting
- Presentations by Tommy Casteel on Collective impact model and Dr. DeVoe on Data
- Discussions

DISCUSSIONS

- **Review Subcommittee Meeting**
  - Last week we had a group of individuals that came together to hone in on our broad conversation and we looked at several different things and taking several pieces of data
  - Looking at Tennessee and Virginia and Health Departments as well as looking at what areas of focus the government are focusing on
  - We do have a spreadsheet that narrows down our focus a little bit
  - In addition to that we have had this conversation on how we will work together and how we will achieve that work
  - The Collective Impact model is used when multiple jurisdictions and areas have combined

- **Tommy Casteel Presentation-Collective Impact Model**
  - Collective Impact is a commitment of a group of important actors from different sectors to a common agenda for solving a specific social problem
  - Usually an isolated approach is taken and we don't necessarily work together
  - Our problems and issues have required us to collaborate more than other areas but we are talking about moving beyond just collaboration to cross sector collaboration
  - There are several factors in the Collective Impact Model: Common Agenda, shared measurement system, mutually reinforcing activities, communication, and a backbone operation.
  - Backbone Organization has a project manager, data manager, and facilitator. This is really the heart of the organization.

- Phases of Collective Impact
- We have done a lot of the work in phase 1
- We are hoping to solidify ideas today and getting on the same page and finding a common agenda.
- "Start with the end in mind."- Move backwards with the vision to the present

– **Dr. DeVoe Presentation on Data**
- Virginia Perinatal Statistics include: Infant mortality rate, Non-Married, Neonatal Deaths, Teen Pregnancies, Low birth weight, and very low birthweight
- If you are trying to impact infant mortality rates, we need to separate it to neonatal and infant mortality into different metrics to measure
    - This provides baseline data to track if there are changes from our programs
- Given that these are measurable data, does the metrics that we have match up with this? Do we need to add these metrics? Do these metrics match up with the measures we want to achieve?
    - Overall indicators of the bigger picture but also looking at the small things.
- Evaluate our resources at the Tennessee and Virginia Department of Health and working towards a common goal.
    - If you need more specific data, both states are very willing to share data.
- Everyone has expressed the need for data and having it on time, which relies on the work and how the work is done and the collective impact.

– **Review of Proposed Common Agenda Handout**
- If we want healthy resilient children and families there are three main priorities that the subcommittee has put on the table; healthy start, ready to learn, supported and empowered youth
- We want to talk about the metrics and how we will measure this outcomes and that we will measure these things in the same way
- We want to make sure we can receive this metrics in a timely manner
- "It would be helpful to define Healthy, Ready to Learn, Supported and Empowered. If we are going to measure something, we need to have what constitutes that. It may be helpful to look at Healthy Persons 2020 and how they defined each of these."
- Review of Common Goal
- Does the Goal captures our overall goal?
    - "I think that captures the overall, but what point are we getting back to the specifics like diabetes?"
    - This is not the end product but that is what we are attempting to do if we agree on our common agenda and objectives then moving through that to the specificity. The subcommittee talked about meeting both of the universal necessities and specificity.

- **Healthy Start**
    - That they are born healthy
    - Working with expecting mothers, and having their basic needs met to make sure their baby is born healthy. Making sure that we get things earlier than later and have stable families.
    - "There are more people that provide care for children besides families. So that term should be changed to possibly caregiver or families."
        - We will change that to families.
    - "It is also important to be violence free. That would be in the metric to be measures with child abuse and neglect. The ACE (Adverse Childhood Experience) would be a good metric as well."
    - "Just because the child is born with special needs, they are still healthy. So they would be born free of preventable birth defects."

- Inserting preventable in several places in this table is needed
- "Empowered is hard to measure. Just say families provide a stable and healthy environment. I would look for a different word."
  - It is about ability.
  - Families can demonstrate…
  - Are the parents availing themselves of available resources? And the utilization.
  - "… and they access available resources."
  - "Families access available resources.. Would be a better way to state it but it would fit in all three areas and not sure what to do about that."
  - It is about access and utilization to those services. We may find gaps in services and those may be down because of transportation or other measures.
  - Say there are services that can be provided but the families can not accessible.

- **Ready to Learn**
  - There is a duplicate with metric 1 and 3.
  - "This section is the most nebulous, especially looking at metrics."
  - "It is fuzzy on how we are going to capture that information. Is that linking people to existing resources or having some sort of method for providing that? I'm not sure how we are going to capture and responds to needs in this category."
    - We first agree on this agenda and then go back and look at what areas of priorities need to be focused on to achieve those things.
  - What is the problem that currently exists with families?
    - Children's resources center is developing surveys for this and may help with this measure.
  - This item will be expanded on so that we are rigorous in identifying what that means. I don't know how we would address those items but if we engage local government we have to acknowledge that employment, housing, etc. affect all of these things.

- **Supported and Empowered Youth**
  - "Supported and powered youth feel very nebulous to me. I don't even know what youth means. It needs to be more defined. Possibly have actual age groups. Are these really the terms that capture what we are trying to do?"
  - "Supportive Healthy Youth framework address multiple things that are being discussed with these things and is aligned with. Positive youth development. Merging in to adulthood. Healthy youth is 12-20."
    - Just define youth and if it is accepted in the field.
  - I think we are getting the spectrum from birth to adulthood.
    - You're going to have to look at how data that is already collected and how that defines these points and where can find the common data that matches these metrics. We're going to have to fit our definition in data that is already collected.
  - A dashboard of data on how we are doing, but that takes time and it doesn't mean that these items are all inclusive and there is other items underneath them.
  - Absenteeism should be included and connectedness within the schools (bullying) for social and competence and family function.
    - This is being measured nationally on different surveys.
  - A survey with Hopkins says attendance, times in the office and their core course- if those three areas are bad then they are so much more likely to not finish high school or go on to post-secondary education.
  - Also preventable disease and injury with this age group would be important to add. Like STI's.

– **Comparing Common Agenda with List of Top 40 Priorities**
  - "Things on the far right our indicators, is that the list? Or is it just examples of indicators?"
    - The far right is where would like to spend most of our conversation.
    - "What is the overlap with the things on the far right and the list of 40 things that we voted on?"
  - "Mental health needs were on that list and I do not see overlap with what the group's top items were on the list. "
    - "How is that going to be edited?"
    - That is one of the challenges is that some things are not easily measured.
    - We want to synthesize that with what others think are important and choosing early projects that create early success.
    - I wouldn't expect the far right column to exactly represent our list but we need to have a group work on that. Looking at this I don't know if they are going to be included in this common agenda.
    - Also make sure it is align with state government priorities.
  - There is still work to be done on the far right column. There may be a need for a justification column for why we are choosing these items.
  - Figuring out where we are weak and finding items to improve upon.

– **Overall Response to the Common Agenda**
  - It has to be multiple sectors. It's got to be chewable and sellable to them. Ultimately, even talking about the other work groups, what were are all looking toward is a stable family that is self-sufficient.
  - It would be better to define each of these objectives.
  - I think these are very good. These areas are very adequate

RESEARCH AND ACADEMICS STEERING COMMITTEE MEETING

MEETING 1 MINUTES

Meeting Date: September 24, 2015
Meeting Location: Millennium Center, Johnson City, TN Location

ATTENDANCE

Name	Title	Organization
Bishop, Dr. Wilsie	VP for Health Affairs and COO	East Tennessee State University
Schrum, Jake	President	Emory & Henry
Angelopoulos, Dr. Theodore (Ted)	Professor, Director of Research School, Health Sciences	Emory & Henry School of Health Sciences
Calvert, Linda	Executive Director, Grant Development	Northeast State
Campbell, John	Executive Director	AccelNow
Campbell, Dr. Steve	VP for Business Affairs, Chief Financial Officer	Northeast State
Carmack, Duffy	CFO/ Interim Director	Southwest VA Higher Ed Center
Clark, Dr. Andy	Professor of Clinical Nutrition	ETSU
	Associate Dean of Research and Clinical Practice	
Davis, Dr. Mary Lee	Senior Advisor to the Dean and Professor of Family & Community Medicine-emerita	Michigan State University, College of Osteopathic Medicine
Dawson, Dr. B. James	President	Lincoln Memorial University
Dishner, Dr. Nancy	President & CEO	Niswonger Foundation
Drinnon, Dr. Joy	Director of Undergraduate Research/Professor of Psychology	Milligan College
Duncan, Dr. Bill	Research & Sponsored Programs	ETSU
Ehret, Charlene	Director	James H. Quillen Veterans Administration Medical Center
Fincher, Dr. Lou	Dean, School of Health Sciences	Emory & Henry College
Fowlkes, Rachel	Retiring Director	Southwest VA Higher Ed Center
Gilliam, Dr. Janice	President	Northeast State Community College
Grandy, Joe (William)	General Manager	Ferguson
Greer, Dr. Bill	President & CEO	Milligan College
Henderson, Rebecca	Consultant	Strategic Priorities Consulting
Henry, Dr. Donna	Chancellor	UVa - Wise
Khoury, Dr. Amal	Chair, Dept of Health Svcs Mgt & Policy, Associate Dean for Quality & Planning	ETSU – Public Health
Linville, Dr. David	Associate Dean for GME	ETSU
Lugo, Dr. Ralph	Professor and Chair of Pharmacy Practice	Gatton College of Pharmacy ETSU
Lura, Dr. Richard (Dick)	Professor of Chemistry	Milligan College
Mitchell, Dr. Kathy	Dean, Nursing & Allied Health	Virginia Highlands Community College
Moody, Dr. Nancy	President	Tusculum College
Nida, Dr. Maurice	Head of family medicine residency program with LMU	Wellmont Health System
Niday, Pat	Chief Learning Officer	Mountain States Health Alliance
Phillips, Dr. Kenneth	Interim Assoc. Dean, Research	ETSU
Pope, Pat	Practice Solution Advisor	QSource (Quality Improvement Network for State of TN)
Prill, Dr. Sue	Medical Director, Breast Center	Wellmont Cancer Center
Ray, Dr. Richard	Interim President	King University
Shipley, Lindsey	Student (Joint MD/MPH program)	ETSU Quillen College of Medicine
Stepanov, Dr. Nonna	Director of Research	Mountain States Health Alliance
Tillman, Dr. Ken	Associate Dean of Academic Programs	ETSU - College of Nursing
Walker, Clay	CEO	NETWORKS Sullivan Partnership

MEETING FORMAT
- Introduction
- Review of Charter
- Group Discussions (Breakout sessions)

DISCUSSIONS
- The meeting began with an overview of the Work Group Process and Strategies and an update on the proposed merger between Wellmont Health System and Mountain States Health Alliance provided by Mountain States CEO, Alan Levine.

- This Steering Committee is charged with the responsibility of assessing health workforce needs and available academic programs for the region, as well as long-term strategic research initiatives and infrastructure to meet identified community needs and enhance faculty recruitment and economic growth of the region.

- After a review of the Charge to the Steering Committee, those in attendance introduced themselves and areas of expertise.

- In order to respond to the deliverables identified in the Charter for our steering committee, those in attendance broke into four work groups. Groups were asked to identify a Facilitator who will provide leadership of the sub-committee throughout the process. Groups were provided questions to begin discussion and asked to consider if these are the right questions and to identify other questions that may help address the charge to their sub-committee. Each group was asked to explore what needs to be done to produce the deliverable/meet the charge assigned to their sub-committee. (**Members who were not present will be asked to join groups that most closely match their areas of expertise.)**

- Sub-committees reported key highlights of their discussion at the conclusion of the meeting; identified sub-committee "homework" and will be prepared for further discussion at our October 28th meeting which will be held at the Southwest Virginia Higher Education Center in Abingdon, Virginia from 9:30 a.m. until noon.

- A summary of the group discussions follows:

Group 1
- Identify fields in which academic institutions, in particular ETSU, can make superior contributions in research and medical education by collaborating with Newco and other community partners

- **Consider an inventory of existing health science training programs that serve the needs of the region:**
  - What regional programs exist?
  - To what extent do graduates of these programs remain in the region?

- Are there obvious short-falls in the ability of existing programs to meet regional employment needs?
- Is there excess capacity or redundancy in these programs?

Members:
- **Lou Fincher, Facilitator**
- James B. Dawson
- Nancy Dishner
- Bill Greer
- Richard Lura
- Nancy Moody
- Maurice Nida
- Richard Ray
- Dixie Tooke-Rawlins
- David Linville

- **What Are The Resources And Health Care Programs That Are Available?**
  - What healthcare and academic programs in Northeast Tennessee and Southwest Virginia that would be available to Newco?
  - To identify the existing programs-there are redundancies, medicine and nursing and allied health at multiple institutions but there are multiple jobs going unfilled so redundancy doesn't seem to be a problem.
  - **Emory & Henry College** – Physical Therapy (DPT) Adding Occupational Therapy In 2016 and Physician Assistant in 2017
  - **Milligan College** - Nursing (RN, BSN), MS in Occupational Therapy, Masters in Counseling, Bachelors in Social Work. Adding PA program which is scheduled to begin in 2017.
  - **Lincoln Memorial University** –medical students at Lonesome pine, Norton, and Indian Path, nursing, veterinary medicine, counseling, social work, nurse anesthesia program, sponsored residency programs at Norton, Lonesome pine, and Wellmont ortho program.
  - **Edward Via College of Osteopathic Medicine (VCOM)** – 3rd and 4th year medical students at JMH, Marion, and Lebanon and sponsored the Internal Medicine and Family Medicine Residency Programs with JMH
  - **King University**– nursing (BSN, MSN, Doctoral nursing program), starting a social work program
  - **Northeast State Community College** – Associate degrees in nursing and health related professions, prepare students for 4 year schools, MLT program
  - Tusculum College – Initiated BSN and RN-BSN programs with their first graduating class in May 2015; MSN program with three tracks to prepare graduates to sit for Family Nurse Practitioner certification; and on the ARC-PA list to initiate a PA program in 2018.
  - **Niswonger Foundation** - Direct work with many areas of education connected with 17 school systems in NE TN. Strongly tied to the work of K-12 educators. Have a college and career counseling program for 31 high schools in NE TN. Have partnership with Milligan and ETSU. Strong tie with Tusculum College and located on their campus. Niswonger Children's Hospital. Strong partnerships with Tennessee Institute for Public Health (ETSU).
  - **ETSU** – Social work, clinical psych, college of public health (BA, MPH, DrPH), college of pharmacy, nursing (BA, MA, Dr of Nursing), medicine (15 residency/fellowship programs),

certificate programs for CT, MRI, radiography, speech-language, audiology, physical therapy, communicative disorders and others. Over 3000 students in the academic health sciences center at ETSU.

- **Wellmont** – SWVA – Has a residency program and an orthopedic residency at Wellmont. No connection to ETSU. Norton Community Hospital has an internal medicine osteopathic program. Train medical students from LMU. Community nursing programs in SWVA. Provide clinical rotations for nurse practitioners.
- **Mountain States** - Abingdon, VA – started family medicine program (18 residents this year) at Johnson Memorial Hospital (JMH) and train medical students from VCOM at the JMH, Russell County, and Marion hospitals.
- **Mountain Empire Community College –** Nursing (RN-Associate Degree) and articulation agreements with B.S.N. schools around the nation. LPN, Radiology Tech, Respiratory Therapy Tech, Paramedic, CNA.
- **Virginia Highlands Community College**-Nursing (RN-Associate Degree); articulation agreements with B.S.N. schools around the nation. Radiology Tech, CNA. State of the art simulation lab with high-fidelity manikins in a hospital-like environment available to agencies outside VHCC.
- **Southwest Virginia Community College** - Nursing (RN-Associate Degree). Articulation agreements with B.S.N. schools around the nation. LPN, Paramedic, Radiology Tech, Occupational Therapy Assistant, CNA, AAS in Mental Health Services for entry-level workers in substance abuse and mental health.

- **Barriers to collaboration and needs for the future:**
  - The biggest challenge is establishing enough clinical sites for students. Coordination and collaboration is needed among programs
  - Recruitment is a challenge for some places in our region
  - Different models might be more effective than others related to paying for residency programs
  - Inter-professional Education: We need to put together models where we educate a team for all levels of medical care – this is the new direction in medical education. We need to put PT, OT, PA, Nursing and MD students in a team and teach them to practice together. We should try to build across institutions rather than just inter-professional health care within an institution
  - At some level a trainee becomes more useful – a medical or nursing student slows you down. A resident or fellow is more efficient at seeing patients. A hospital has to be large to meet accreditation standards and provide a residency program.
  - Funding for residents is a challenge
  - People who do residency training are more likely to stay in the area. Being able to grow your own "pipeline" is critical. Considering the geographic location of where we are, we have done a great job. Our challenge is pushing students out into more rural areas away from Johnson City.
  - About 50% of residents stay in the area and for MDs it is a little bit lower
  - Seek funding to create centers to give a place for faculty to work and students to practice – free rural clinics
  - We need to seek non-traditional placements to help students. Is there a clearinghouse? How can we identify those facilities that have placements available?
  - Rules of Medicare affect how we can transfer residents. Establishing a new program is expensive.
  - We should take a more thorough inventory – what programs are running? How many are staying in state or in the region after they have completed their residency? We need this for all healthcare professions, not just MDs.

- Huge community need for dentistry but there is an issue getting students into residency programs in our region.

- **Summary**

  - To identify the existing programs-there are redundancies, medicine and nursing and allied health at multiple institutions but there are multiple jobs going unfilled so redundancy does not appear to be a problem.
  - What is the retention of graduates to practice in NE Tennessee and SWVA? How do we define our region?
  - Need to send a survey to deans and program directors to more fully identify existing and planned programs.
  - Shortage in subspecialist, primary care and nursing- the most prevalent in dentistry. The cost of the programs no one can develop a program but should be collaborative program.
  - Mental health has a gap - some people aren't aware of programs. How do educational institutions make the practitioners aware of what is available?
  - Can we come together at the president's level and dean level-how do we collaborate for clinical sites and for developing/running different medical programs?

Group 2

– Evaluate any institutional changes needed for ETSU and other academic institutions to support the collaborative opportunity with Newco to bolster academics and research:

- **Consider a survey of employers regarding perceived workforce needs**
  - To what extent are current training programs able to respond to the changing needs and expectations of regional employers over time?
  - What new or revised training programs do employers anticipate over the next ten years?
  - What ongoing/continuing educational or re-training needs exist for regional employers, and how can academic institutions best meet these needs?

Members
  – **Bob Means, Facilitator**
  – Ken Tillman
  – Hughes Melton
  – Amal Khoury
  – Donna Henry
  – Lindsey Shipley
  – Rachel Fowlkes
  – Janice Gillam
  – Pat Niday
  – Kathy Mitchell
  – Ralph Lugo

- **Summary of Institution and Education Programs**

- **Quillen College of Medicine**-280 students are from TN and vast are from East TN. Out of state are adjacent regions or military veterans. Also have residency program for internal and family medicine, psychiatry, surgery, gynecology, and pathology. Have some in pulmonary, oncology, gastroenterology, infectious disease and cardiology. Small but active research program for infectious disease in community. Also have a P.H.D in Biomedical Sciences.
- **ETSU, College of Nursing**-BS in Nursing-3 student groups: Pre-licensure students, R.N. to B.S.N. and accelerated program for students with non-nursing first bachelors. In the traditional and accelerated there are 300-400 students in clinical courses. 200 students in R.N. to B.S.N. Graduate programs have M.S. in Nursing Regions program, online program we have family nurse Practitioner and executive leadership in nursing 500 students. People drop out for a year and then come back so we graduate 40-60 a year. On-ground D.N.P. Family nurse, adult-gerontology, psych, and executive leadership and then have also have a P.H.D.
- **ETSU, College of Pharmacy**- Work with Appalachian college of pharmacy. In NETN have 7-10 pharmacy students doing rotations. Not nearly as many in NW. ACP are involved somewhat. Physician assistant primary partner in NW is Lincoln Memorial University MOUNTAIN STATES. In NETN we have Emory and Henry with a PA program. There are 25 third year medical students. Johnson memorial Virginian College of osteopathic medicine have third year and fourth year students. Graduate program- 26 residents. Six of them hired into Mountain States. In NETN just started family medicine with 6 interns. Internal medicine-AOA programs, start with 5 interns. ER fellowship as well.
- **ETSU, College of Public Health**- train administrators, researchers, epidemiologists, and statisticians to make sure the health system is functioning as healthy as possible. B.S. degree in public health for health administration and community health. B.S. degree in Health Sciences in microbiology and community health to prepare for medical degree. B.S. in Environmental degree. At graduate level we have M.P.H. in Health Administration, Epidemiology, Biostatistics, Environmental Health, and Community Health. Dr.P.H. in Epidemiology, and Environmental Health and Community Health.
- **UVA Wise**- Have undergraduate B.S.N. program; 150 students, 25 students graduate in a year. Just beginning to offer certification course online. Have professional programs for dental, medical and veterinary school. House GMEC and help to recruit medical people to SWVA. Healthy Appalachia is a community outreach organization medical program for people in SWVA and sometimes broadly Appalachia.
- **Southwest Virginia Higher Education Center**- collaborative organization to work with different institutions, V. Tech, BCU, Old Dominion, Emory and Henry, UVA Wise, etc. We work specifically with employers to see the needs are in hospitals and provider and go out to community and get partners to bring the program to Abingdon or close by. CRNA- graduating N.P. ETSU is strong part of our program. Get faculty from ETSU with us. MLT program lab technician and get certification. Doctoral level with Old Dominion. ICD 10 coding courses.
- **Emory and Henry**- Doctorate of physical therapy program, strong undergraduate program preparing people for medical school. Methodist hospital research in Houston; starting talks and want to partner with us to provide a master's degree in medical translation.
- **Northeast State Community College**-400 students in health programs- dental assistant, paramedics, technicians, etc. 200 students in nursing. Pre-health majors that are transfers or getting into one of our six programs
- **Mountain States Organizational Development-**9,000 team members and responsible for learning program and orientation. Bring any 50-100 people to train new employees. And then have facility specific orientation. Take a nursing residency and focus on interaction between preceptor, intern and professor. Provide professional development. Offer certification programs to our staff and make available to community. CME committee with ETSU. 3900 students across all domains. Medical

students have liaison that manages them and work closely together. Training for physicians also run a CNA program. 250 CNAs graduate per year.

- **Virginia Highlands**-Respiratory therapist, radiology, occupational therapy, have a fabulous simulation lab by the tobacco commission. Partnering with JMH and King University for simulation lab. Have articulation agreements with B.S.N. school around the nation.
- **Pharmacy Program**-Entry level Pharm.D. program - which is 6 year. 75% students from the region. Pharmacy has changed in the last 40 years, 28 faculty we only have two trained community pharmacists, others are trained in specialties like infectious disease, pediatrics, family medicine, internal medicine. Most of our faculty do not dispense drugs in the practical sense. Thinking about furthering inter-professional education and leveraging resources with the health system to improve patient care and education and optimization.
- **Edward Via College of Osteopathic Medicine (VCOM)** – medical students from the Virginia and South Carolina campuses train primarily in the JMH, Russell County, and Marion hospitals (20 third year and 20 4th year students) and VCOM sponsored the creation of the residency programs at JMH, (financially and for accreditation purposes).
- **Lincoln Memorial University LMU** – medical students train in Wellmont, Norton Community, and Lonesome pine hospitals. LMUDCOM sponsored residency development in Wellmont (orthopedics) and sponsor the current IM residency in Norton and FM residency in Lonesome pine. School of Allied Health: Athletic Training (BS), Medical Laboratory Science (BS), Veterinary Health, Science and Veterinary Medical Technology (AS and BS). Caylor School of Nursing: Doctor of Nursing Practice (DNP), Master of Science in Nursing (MSN), Bachelor of Science in Nursing (BSN), Associate of Science in Nursing (ASN). DeBusk College of Osteopathic Medicine: Doctor of Osteopathic Medicine (DO), Master of Medical Science in Physician Assistant Studies (MMS), Doctor of Medical Science (DMS) – PENDING APPROVAL. College of Veterinary Medicine: Doctor of Veterinary Medicine (DVM).

o **Mountain States Medical Education NE and NW Regions**- Sixty medical students from partner schools. 33 family and internal medicine residents currently with 70 expected by 2017. 20 pharmacy students. Programs are specifically focused on addressing the work force needs of NETN and SWVA and integrally engaged with quality and performance improvement projects at Mountain States. Therefore, plan to develop a psychiatry residency as well as fellowships in geriatric and palliative care medicine.

o **Mountain Empire Community College –** Virginia Appalachian Tricollege Nursing Program (Approximately 50 graduates/yr. from MECC, RN-Associate Degree), Articulation agreements with B.S.N. schools around the nation. Allied health programs include LPN, Radiology Tech, Respiratory Therapy Tech, Paramedic, and CNA.

o **Virginia Highlands Community College**-Virginia Appalachian Tricollege Nursing Program (Approximately 70 graduates/yr. from VHCC, RN-Associate Degree). Articulation agreements with B.S.N. schools around the nation. ~~Respiratory therapist~~, Allied health program include Radiology Tech, Paramedic, and CNA. VHCC houses a high-facility simulation lab in a hospital-like environment with multiple patient care areas. This lab is available to agencies outside VHCC.

o **Southwest Virginia Community College** – Virginia Appalachian Tricollege Nursing Program (Approximately 35 graduates/yr. from SWCC, RN-Associate Degree), Articulation agreements with B.S.N. schools around the nation. Allied health programs include LPN, Paramedic, Radiology Tech, Occupational Therapy Assistant, and CNA. AAS in Mental Health Services for entry-level workers in substance abuse and mental health.

- **Survey**

- Dealing not only with inter-professional activities in the real practice of medicine and all the health sciences in and leveraging resources.
- Surveying employers on workforce training needs-is that a worthwhile thing to do?
- **Employers include-** the healthcare field such as hospital systems, mental health facilities, community health centers, home health, laboratories, long term care, pharmacies, addiction agencies, outpatient addiction programs, privacy groups, private practice, schools, public health agencies, higher education, Community support agencies, advocacy groups, non-profits, professional organizations.
- Lack of community resource network. Transportation is a huge issue.
- If we are saying, "What are the needs?" Do you have ideas or solutions on how to fix them? What are you trying to do and what would you like to do for the problem? Then, what need is still not being met? What are the gaps in outcomes?
- How to maintain optimal health when they go home? We don't have good data about what that is. We look at people coming back from a readmission, but we don't have good data on what that is. That hurts when applying for grants.
- Free-lance work groups, independent contractors there are a lot more of those. Local person might travel from one person to another to take care of them after they get home from the hospital.
- Sort it by discipline/field
- Still need to identify current gaps, even if we think we know them.
- Nursing- we think we have so many programs, we think we should be fine, but that is not the case. The movement of the people that graduate and they move away and we have a diverse population.
- So many people think they need to have a degree but employers are sometimes looking at stackable credentials. But you need a stackable credential saying you are really good in one field. Sometimes in degree programs we leave the credentials by the way side. Need to figure out how to do more stackable credentials. Continuing education job creating where the testing centers are becoming busier because of the thousands of tests to get another credential.
- Are programs able to respond to needs? This will be found out in the survey and focus back on the charges in developing collaborative opportunities?

- **Questions**
  - What are the unmet needs in education and training?
  - What are the gaps; current, perceived future, transitions?
  - Breakdown by fields in gaps; nurses, pharmacists, physicians
  - Can these gaps be filled by adding new degree programs? Or additional credentialing programs?

  - **Homework**
  - What are the programs we as leaders would like to develop? Then we will test those against what we learn in the survey.
  - What are our resources in continuing education and inter-professional resources?

Group 3
- Identify institutional changes needed or structures required at Newco to support new and expanded research and undergraduate and graduate medical education opportunities with ETSU and other academic institutions:

- **Consider identifying innovative models for building research collaborations between health systems and academic institutions.**

- How can health systems and academic institutions most effectively collaborate to conduct and support "regionally-relevant" research and/or establish collaborative "centers" focused on the region's leading health challenges?
- How can health systems and academic institutions most effectively collaborate to maximize existing research-related resources?
- How can we most effectively collaborate to seek and obtain external funding?

Members (*Note members are needed for this group)*)
- **Nonna Stepanov** (Facilitator)
- Linda Calvert
- Andy Clark
- Duffy Carmack
- Kenneth Phillips
- Sue Prill

- **Motivation for Research**
  - The need of training space, educational program to develop research talents
  - Create access to institutions for research areas; not all institutions are involved in research
  - Increase in need of Preventive services such as genetic testing, smoking cessation programs, mammogram screening and others. Example: Mammogram screening is not well utilized in this region which would help in clinical trials and oncology research. We need to offer patients what they go out to get
  - Collaboration between educational institutions like ETSU with Newco and IRB to have a regional kind of IRB to obtain a timely but comprehensive IRB support

- **Expanding Infrastructure Research**
  - Bringing people from different areas of expertise to expand a spectrum and complexity of research; collaboration with various institutions
  - Making research a requirement for our educational programs through funding and employment contracts
  - 2 Models Proposed:
    - Collaboration among ourselves to bring existing resources, faculty and funding together as a team and assign roles in the process to facilitate research (still separate infrastructures, budget, contracts, resources with advantage of providing supportive service and sharing ideas).
    - Create a whole new structure/Research Consortium/CRO
      - Coming together as a region to find funding for research as well as equip the research teams to figure out health problems affecting the region
      - Looking at health problems from different areas and prioritize them to be well focused and have an extensive research on particular health problems
      - Grant and funding: applying for grant as a team from state
   - Advantage: Single well-developed infrastructure, common funds, resources, standard legal agreements
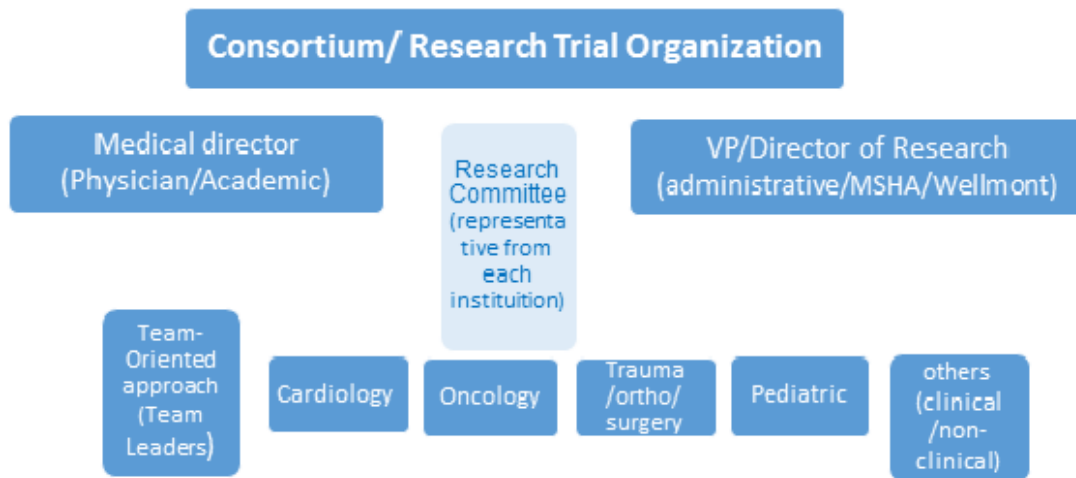
- **Regional Health Related Challenges**
  - Cancer: treatment and prevention
  - Obesity and Type 2 diabetes: physical education to be taken to schools to make schools more active
  - Metabolic syndrome
  - Osteoporosis
  - Drug abuse/addiction
  - Poor nutrition: food supplement
  - Lack of exercise
  - Asthma/COPD
  - Women's health
  - Poverty is one of the drivers for these problems and also rural way of life.

- **What Is Needed**
  - We need to have programs in academic schools that support research and strong use of students from graduate and undergraduate programs
  - We need to have more preventive services
  - Having strong leaders with research profiles specialized in the health problem for a particular research
  - Data Collection: We need physicians that can tell what is being observed, and identify problems for the recent trend of a particular health problem: more proactive approach to address community health issues
  - Health community participation/ involvement: Involving epidemiologists to get data on the common trend of problems reported by physicians and having survey on it
  - Having representatives in each institutions and coming together to create a logic model either short term or long term for the health problem
  - Set up measurable outcomes ($, community benefits, etc.)
  - Create strong portfolio to become more presentable for potential sponsors (federal, NIH, pharma)
  - Continuous Leadership support from all participating institutions
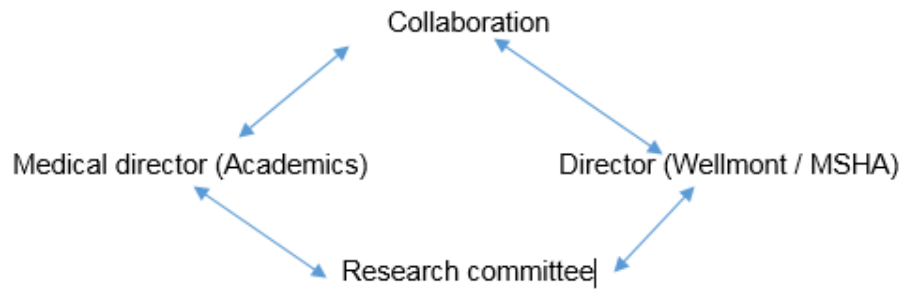
Group 4

– Identify potential long-term strategic research initiatives for Newco, ETSU, other academic institutions, and community collaboratives and estimate ways in which these research initiatives would enhance faculty recruitment and economic growth of the region (see also deliverable #5 in Charter)

- **Consider developing a strategic research plan that builds upon identified community needs and areas of research and mission strength within Newco and partner institutions.**
    • Considering the social determinants of health and the needs identified by the other work groups, what are the five most pressing regional needs that would benefit from a collaborative research effort?
    • What Institutes, Centers, and areas of research strength currently exist in the region?
    • From a national perspective, what research initiatives will most likely be competitive for federal funding and meet the needs of the region?
    • Could research initiatives increase the level of specialty care available in the region through Newco?
    • What infrastructure is needed to use the benefit of research to assist with the priorities identified in the accountable care community model

Members
– **Bill Duncan, Facilitator**
– Martha Kendall
– Mark Eason (for Charlene Ehret)
– Joe Grandy
– John Campbell
– Mary Lee Davis
– Rebecca Henderson
– Joy Drinnon
– Ted Angelopoulos
– Clay Walker
– Pat Pope

- **What the Needs Are**
    • We have a large number of patients and one of the biggest rural based healthcare systems in the country.
    • How do we take advantage of our "laboratory of rural health"? The results of our research should translate to other rural populations in the US and the world.
    • We should identify the key opportunities for growth and expansion of our research programs.

- We might consider the need for a center for clinical research for speech pathology research and swallowing disorders that deals with lifestyle and diet. We could get funding from states and NIH.
- There is a problem with the lack of research funding at the JHQVAMC. There is talent here and the clinicians want to conduct research studies, but sufficient funding is not currently available. The VA has the population of patients that reflect the disease process in Appalachia.
- VA has a large database of medical records and there should be more research done utilizing this important resource.
- From the county government and economic development perspective, there are workforce development needs with work readiness and drug abuse issues. It is critical that we have workers that show up and be confident in their skills.
- Education is important and should also focus on the rural population.
- Looking at some of the major health issues in our region that everyone is concerned about, including drug dependency and mental health, we should seek additional research resources from all available funding agencies, such as the National Institutes of Health and organizations like the Kellogg Foundation.
- We need to be involved with Accountable Care Communities. We need focuses on disease prevention.
- Healthy workforce is important and we need drug prevention and education.

- **Discussion**
  - Considering the social determinants for health and the needs identified by the other work groups, what are the five most pressing regional needs that would benefit from a collaborative research effort?
    - Prescription Drug Abuse/ IV drug use and the associated infectious diseases such as Hep C and HIV/AIDS
    - Cardiovascular disease
    - Diabetes and Childhood obesity
    - Outcomes Research
  - It was agreed that the benefit of a robust collaborative research effort addressing the major health needs of the region would identify opportunities for improving the health outcomes in our region and would enhance the development of a healthy workforce, which is an important factor in recruiting new businesses and enhancing economic growth.
  - We need to identify our top research priorities and ensure that any investment in research infrastructure addresses important health needs of our community. We need to show a return on investment, have clear deliverables and measurable outcomes.
1. What institutes, center and areas of research strength currently exist in the region?

- ETSU has developed a new Strategic plan for Academic Research.
- We need to find out what the other institutions offer and identify the existing centers, research expertise and determine what research areas need further development. .
- Consider developing a center for Patient Centered Outcomes Research (PCOR).
- Inter-professional collaboration is important for developing a robust clinical research agenda.
- We need to involve the clinicians that actually practice in the community in the process of identifying the key regional needs that would benefit from a collaborative research effort.
- We need to identify clinicians that are interested in participating in research – providing the access to patients and clinical samples required for translational research.

- The JHQVAMC has a research program. If our research priorities are applicable and impact the care of veterans, then JHQVAMC may be interested in participating...
- We need to pursue access to the large EMR database at the VA to address key research questions relevant to our region. Recruiting basic biomedical scientists and clinical researchers has been difficult due to our inability to provide competitive start-up packages.

- **From a national perspective, what research initiatives will most likely be competitive for federal funding and meet the needs of the region?**
  - Cardiovascular disease - what are the optimal regimens for treating this disease in a rural environment? – a priority of the National Heart, Lung and Blood Institute (NHLBI), National Institutes of Health (NIH)
  - Patient Centered Outcomes Research (PCOR) or Clinical Effectiveness Research (CER) – an initiative focusing on CER in a predominantly rural population should be well received by funding agencies, such as the Agency for Healthcare Research and Quality (AHRQ) and PCORI; would need to recruit additional expertise in the areas of outcomes research and health economics
  - Substance abuse and prevention research – this is a major priority of the National Institute of Drug Abuse (NIDA), NIH
  - Prevention and treatment of type-2 diabetes – a major priority of the National Institute of Digestive and Kidney Disease (NIDDK), NIH
  - Translational research – this a major priority of all the Institutes at the NIH
  - Robert Wood Johnson Foundation – provides supports communities to pursue "a culture of health". We could be one of those communities.
  - We concluded that in order to improve our competitiveness in these proposed research areas, we need to recruit research faculty with high potential for obtaining research funds from federal agencies. To be successful in recruiting research faculty, significant resources must be identified to support faculty salaries and provide ample start-up packages for new programs, data analysts, and computing resources for large data bases.

2. **Could research initiatives increase the level of specialty care available in the region through NewCo?**
   - The group agreed that increased research activity and new research initiatives would enhance the ability to recruit clinical specialist to our region. We need to find supporting evidence and indicate the types of specialties.

3. **What infrastructure is needed to use the benefit of research to assist with the priorities identified in the accountable care communities' model?**
   - We should consider surveying the physicians in the community to obtain their view of the most important health problems and what additional research they believe is needed to address these health issues. We need their buy-in from the beginning. We need to identify an infrastructure that brings the community together, especially the ACO's, to assist in identifying research priorities and implement the important findings of our research studies. This is an important requirement as we consider applying for PCOR grants where we must identify how we plan to disseminate the results or our studies, with the goal of improving the health and well-being of our community.

RESEARCH AND ACADEMICS
STEERING COMMITTEE MEETING
MEETING MINUTES 2

Meeting Date: October 28, 2015

Meeting Location: Higher Ed Center, Abingdon, VA Location

ATTENDANCE

No attendance report for this meeting

MEETING FORMAT
- Introduction
- Review of Meeting 1
- Group Discussions (Breakout sessions)

DISCUSSIONS

Groups 1 and 2

- Identifying collaboration and institutional changes to facilitate collaboration with starting to identify some of the challenges and thinking out of the box

Focusing on creating new sites for residencies and students and how we can best meet the needs of the community

- Inaccuracies and oversights in the summary being recorded
  - What is the difference between summaries and minutes?
  - What went into prioritizing what went into the summary?
  - Each group member should have a chance to edit and then that would be the final
  - Making sure each facility and organization is accurately captured
  - Minutes Revision
    - Revisions for institutions contributions to healthcare training in the area
    - General categories on where edits need to be
    - Limited to two bullet items for each section or 50 words

- **Review of Meeting 1**

- Our goal today is a SWOT Analysis with reviewing workforce needs
- Meeting the needs of NewCo and not just community and workforce

- Strengths:
  - A single entity will allow coordination of services.
  - A single system will allow the development of large databases of health information.
  - Diversity of educational programs and institutional characteristics will provide opportunities for collaboration at multiple levels.
  - The high level of investment/dedication of various stakeholders in the health and well-being of the community and region
  - There will be enhanced opportunities to benefit from the state government interest in investing in novel approaches to regional health challenges.
  - The volume of applicants to the programs of the academic partners demonstrates the high level of interest in healthcare opportunities in this region.
  - The creation of a new entity has the potential to generate new resources and commitments for education and research.
  - Existing units of the academic partners (such as various programs focused on regional health disparities, e.g., Healthy Appalachia Institute at UVA-Wise; Tennessee Institute for Public Health, Academic Health Departments, and Tennessee Public Health Training Center at ETSU) can contribute to the strength of potential partnerships.
  - Collaboration should help with coordination in the service area
  - The ability for institutions to meet training needs and partnering with facilities
  - Level of investment of the stakeholders in our community

- Economy of our region is creating healthcare needs and jobs
- The larger the database we can access the shifting of resources and efficiency of programs
- Have resources such as simulation lab and sharing those and not duplicating
- Expand outreach for Healthy Appalachia
- There should be resources available for this work with the formation of NewCo and a commitment to resource the recommendations that come out of a work group
- Inter-professional Education

- Weakness:
  - While a single entity will have more discharges than many large academic systems, not all of these discharges will occur in a teaching setting.
  - While there are a large number of applicants for healthcare training positions in the region, the educational institutions of the region are unable to fully accommodate these.
  - The distribution of the workforce in healthcare does not align geographically with healthcare needs.
  - There is no "database" of technological resources available to support academics.
  - There is no established organizational structure for coordinated delivery of academic and research resources across the region.
  - There is a paucity of doctoral-level training programs in health services research, health policy and management, and other such areas to support the health services research needs of the new system and the region.
  - There are challenges in recruiting high-level faculty to this region.
  - RN programs have a waiting list
  - Workforce distribution doesn't match needs
  - Communication about what others are doing; not reinventing the wheel
  - Also need to take the diversity of each discipline and morph those together in the NewCo
  - Who are the conveners of all the stakeholders?
  - How is the system going to handle all the students that rotate through the NewCo a year?
  - No training in research for health services and health policy and health outcomes research
  - Recruiting qualified faculty for specific programs
  - Support systems need to be put into place for recruitment
  - Spouses do not have opportunities

- Opportunity:
  - A new entity can expand opportunities for training.
  - A single large healthcare system can help align the workforce geographically with the workforce needs.
  - Technology can be employed to more effectively share teaching resources.
  - New organizational structures can more effectively engage different disciplines for synergy in training (inter-professional training).
  - Opportunities will be created for the academic partners to share teaching resources (e.g. simulation labs) and particularly technological support for teaching activities at multiple sites.
  - The availability of large databases and a single system will facilitate opportunities for training in health services research, health care economics, healthcare policy research, and outcomes research.
  - The large number of individuals interested in pursuing healthcare careers in the region can be retained in the region.
  - Development of a unified strong message to promote the region to health science students and faculty
  - Development of a shared Human Resources job database aimed at facilitating spousal employment as a means of recruiting and retaining providers and health science faculty into the region.
  - Collaborate across institutions for growing programs for healthcare needs
  - Assist with providing healthcare workforce to communities in need
  - Mapping the needs to see geographical location of services

- Developing communication among NewCo and academics

- Threat:
  - Each individual institution has limited resources, and development of new and coordinated programs will require outside funding and effective management of that outside funding in a coordinated manner.
  - Due to regulatory considerations and institutional governance procedures, it takes time to transform educational programs.
  - To the extent that opportunities are dependent upon the creation of a large regional health care system, the failure of such a system to be created would limit or eliminate these opportunities.
  - There is a possibility of "unhealthy" competition between institutions pursuing the same resources.
  - Aging faculty in nursing programs
  - Anything that permits the merger to not happen
  - Harder to recruit than grow our own
  - How to keep people we train and educate in our area

Group 3
- Combining research and population health from each health system
- Offer our patient's a lot more by combining
- Prove to the COPA and legislature that we are going to improve population

- Model Choice
  - Taking the best practice approach and thinking about efficiency, Model 2 makes the most sense.
  - Outcome of discussion captured in SWOT Analysis charts for Model 1 and Model 2 (attached)

- Challenges to overcome for creating a CTO
  - Developing legal infrastructures
    - Go to higher administration and making sure we have support
  - What's going to happen to projects inside of each health system such as PhD projects? Will NewCO deal with these or Academic institutions?
    - One of two people working who would manage those inside their own organization.
  - Funding based on amount of research being done by academics must be assigned to that specific department
    - Clinical research bank and Divide it out by groups. Each group have subaccounts
  - Who will apply for the grants?
    - Better chance to get for reputation and size, but maybe want to keep within smaller organization or academic department

- Positives
  - ETSU IRB has improved its service in the past couple of years
  - Wellmont and Mountain States have updated IRB processes
  - More education, grants or clinical trials
  - The ability to get money from other sources

- Topics for future discussion and development
  - Need to evaluate our resources and where a particular group would function
    - Creating team leaders for each department within NewCo
    - Need to be an academic center of excellence and need to be competitive
    - Database that no one else has
    - Cross training all of the coordinators-also need for flexibility and motility
    - Would they have enough trials to stay busy?
      - Combining things that we have got already going on

- What projects can be combined or CTO will bring forward to discussion and P.I. may be assigned?
    - Communication will be sent to entire group of P.I.'s and Co-P.I.s
    - Compensation for P.I.s?
    - Continue working on prioritizing the list of the selected research/therapeutic areas (developed at meeting #1)

New business opportunity: Model 1
Main idea: collaborative utilization of the existing resources without major restructuring

Criteria examples	**Strengths**	**Weaknesses**	Criteria examples
Advantages of proposition? Capabilities? Competitive advantages? USP's (unique selling points)? Resources, Assets, People? Experience, knowledge, data? Financial reserves, likely returns? Marketing - reach, distribution, awareness? Innovative aspects? Location and geographical? Price, value, quality? Accreditations, qualifications, certifications? Processes, systems, IT, communications? Cultural, attitudinal, behavioural? Management cover, succession? Philosophy and values?	Local control Trust Legal protection (specific) Better changes for grant application Education	Lack of inventory for resources of participants Multilevel approvals Different IRB Multiple redistribution of payments (small portions) Lack of common data bank Common name on grant applications (?) Still separate geographical coverage entitled to each organization No common accreditation	Disadvantages of proposition? Gaps in capabilities? Lack of competitive strength? Reputation, presence and reach? Financials? Own known vulnerabilities? Timescales, deadlines and pressures? Cashflow, start-up cash-drain? Continuity, supply chain robustness? Effects on core activities, distraction? Reliability of data, plan predictability? Morale, commitment, leadership? Accreditations, etc? Processes and systems, etc? Management cover, succession?
Criteria examples	**Opportunities**	**Threats**	Criteria examples
Market developments? Competitors' vulnerabilities? Industry or lifestyle trends? Technology development and innovation? Community influences? New markets? Geographical, patient flow? New USP's? Tactics: eg, surprise, major contracts? Business and product development? Information and research? Partnerships, agencies, distribution? Volumes, production, economies?	Better coordination Communication Same technology (especially EMR) Education Revise academic curriculum Modification of investigator employment contract	Legal differences Lack of admin support Loss of investigator interest Lack of common management	Political effects? Legislative effects? Environmental effects? IT developments? Competitor intentions - various? Market demand? New technologies, services, ideas? Vital contracts and partners? Sustaining internal capabilities? Obstacles faced? Insurmountable weaknesses? Loss of key staff? Sustainable financial backing? Economy - home, abroad?

New business opportunity: Model 2
Main idea: development of the Research Consortium (Clinical Research Organization); collaborative

Criteria examples	Strengths	Weaknesses	Criteria examples
Advantages of proposition? Capabilities? Competitive advantages? USP's (unique selling points)? Resources, Assets, People? Experience, knowledge, data? Financial reserves, likely returns? Marketing - reach, distribution, awareness? Innovative aspects? Location and geographical? Price, value, quality? Accreditations, qualifications, certifications? Processes, systems, IT, communications? Cultural, attitudinal, behavioural? Management cover, succession? Philosophy and values?	Control on larger scale More competitive Strong expertise Unify legal approach Unify financial approach Robust Extended resources: localized and in-and easy reach (participating organizations) Reputation Efficiency Large data size/pt's pool Improved IRB service Education Collaborative grants Potential Grants access	Culture toward to research Presence of recognized, experienced investigators Academic curriculum Prediction of upcoming trial> financial planning Time-commitment Understanding of distribution of funds/PI compensation Grant apply process	Disadvantages of proposition? Gaps in capabilities? Lack of competitive strength? Reputation, presence and reach? Financials? Own known vulnerabilities? Timescales, deadlines and pressures? Cashflow, start-up cash-drain? Continuity, supply chain robustness? Effects on core activities, distraction? Reliability of data, plan predictability? Morale, commitment, leadership? Accreditations, etc? Processes and systems, etc? Management cover, succession?
Criteria examples	Opportunities	Threats	Criteria examples
Market developments? Competitors' vulnerabilities? Industry or lifestyle trends? Technology development and innovation? Community influences? New markets? Geographical, patient flow? New USP's? Tactics: eg, surprise, major contracts? Business and product development? Information and research? Partnerships, agencies, distribution? Volumes, production, economies?	Large market Offer local studies to community New settings/technology Visionary business development Multi-disciplinary partnership Leadership Groups	Lack of admin support Initial capital New budget structure/flow New contracts Lack of studies at the beginning Sustain investigator's interest Resistance due to unknown (eg. Moving existing resources=organization loss)	Political effects? Legislative effects? Environmental effects? IT developments? Competitor intentions - various? Market demand? New technologies, services, ideas? Vital contracts and partners? Sustaining internal capabilities? Obstacles faced? Loss of key staff? Sustainable financial backing? Economy - home, abroad?

Group 4

- Review of first meeting
  - Establishing where this group stands and prepare a SWOT Analysis for December 2nd

- Most Pressing Health Needs for Research
  - First question to consider is in relation to the social determinants for health, what are the most pressing needs for collaboration and research?

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- CVD/Stroke, obesity/childhood, Type II diabetes/chronic conditions, Substance abuse, Prescription drugs/IV drug use, mental wellness and mental health

The data presented on workforce outlook doesn't take into account counties or Medicaid or Medicare patients.

- Focus on developing a Mental Health Center that needs to be collaborative
- Another focus should be quality workforce not on drugs
    - Frontier Health is collaborative and working across state lines

- Preventative Education with Law enforcement
    - Needle Exchange is effective but not very widely accepted
    - Need a comprehensive program for drug prevention and educating pharmacists and doctors

- Dedicating funding to effective research
    - How do you show these stakeholders that these programs pay off in the long run?
    - Focusing on rural communities and not just inner-city communities with grant funding

- Competing in research nationally
    - We can really compete in the outcomes with clinical effectiveness research
    - Health outcomes research
    - We have different aspects to research since we are a rural population
    - Need expertise
    - Timing of the merger and in the country with rural communities
    - We can lead if we choose to do that and position ourselves to be leaders
    - How do you get a rural community to access a clinic with stigma associated

- What institute centers for research exist?
    - What centers are you considering developing?
    - Need the ability to track students, doctors, etc.
    - Need a person directing the health outcomes research in the universities
    - Seeking it for recruitment-you will be able to do research and health outcomes research

- Research Strengths
    - Good health services, public health, policy and nursing research
    - Infectious disease and pharmacy outcomes
    - Various colleges are involved
    - Utilizing private sector for research

- Institutions Involved
    - Milligan
        - Strong nursing and lots of interested students and faculty in research
    - Emory & Henry
        -
        - Educational offerings in Health Sciences(DPT, OT, PA)
        -

- What initiatives where most likely to be competitive in?
    - Patient centered outcomes research
    - HRQ funding
    - PCoRP
    - Clinical effectiveness research
    - Substance abuse and prevention

- Clinical trials need to be a priority but need training and time to make them happen
- Looking for a center of excellence for out hospitals, schools and private researchers

Did not get to SWOT Analysis

Large Group Discussion-Summary

- Focus on December meeting and the end goal
- Overcome barriers and develop infrastructure support systems to support academic research endeavors in the NewCo system

Are we going to be ready to talk about this in the December Meeting?

- Haven't identified recommendations but have identified SWOT and it will be informed by the other steering committees

Suggest that we come back with proposed solutions and each person can put two out there so we can come back with things to talk about.

- Revision of Minutes
- Common understanding of our meeting in December to expect the minutes to be out in two weeks and people to comment on them in within a week

Groups 1 & 2
We think we will be ready to discuss on December 2nd but we will have communication in between to discuss SWOT.
Items identified in primary SWOT Analysis:

- Strengths:
  - Post-merger world where we are dealing with only one major healthcare provider
  - Collaboration should help with coordination in the service area
  - The diversity of education programs in our region
  - The ability for institutions to meet training needs and partnering with facilities
  - Level of investment of the stakeholders in our community
  - Economy of our region is creating healthcare needs and jobs
  - The larger the database we can access the shifting of resources and efficiency of programs
  - Have resources such as simulation lab and sharing those and not duplicating
  - Expand outreach for Healthy Appalachia
  - There should be resources available for this work with the formation of NewCo and a commitment to resource the recommendations that come out of a work group
  - Inter-professional Education

- Weakness:
  - This will be a system that will have twice as many discharges. Not all the discharges are coming from teaching beds, How to integrate academics throughout NewCo?
  - RN programs have a waiting list
  - Need a database of technologies used at different organizations
  - Workforce distribution doesn't match needs
  - Communication about what others are doing; not reinventing the wheel
  - Also need to take the diversity of each discipline and morph those together in the NewCo
  - Who are the conveners of all the stakeholders?
  - How is the system going to handle all the students that rotate through the NewCo a year?
  - No training in research for health services and health policy and health outcomes research
  - Recruiting qualified faculty for specific programs

- Support systems need to be put into place for recruitment
- Spouses do not have opportunities

– Threat
  - Aging faculty in nursing programs
  - Time it takes higher education to prepare NewCo with new employees and Healthcare looks elsewhere to fill job positions
  - Anything that permits the merger to not happen
  - Engaging in competition that is not healthy
  - Harder to recruit than grow our own
  - How to keep people we train and educate in our area

– Opportunity:
  - Collaborate across institutions for growing programs for healthcare needs
  - Assist with providing healthcare workforce to communities in need
  - Mapping the needs to see geographical location of services
  - Look at new and innovative ways for identifying clinical sites through technology
  - Developing communication among NewCo and academics

Group 3
Last meeting we proposed two different models last meeting for what a collaborative research group would look like.

Model 2:
- Provide better efficiency and serve our community better and not duplicate services
- Larger data size and pool of patients
- Achieve better improvement
- more power to apply for grants
- Advancement in study deigns
- Create more local centers based on geography based on where physician and researcher is located and patents are located
- Better utilization of existing resources and cross train our staff to get better support

Challenges:
- Work in legal infrastructure for the new CTO to be supported financially
- Losing or gaining control over projects
- More control over finances
  o less control over managing research projects and may feel like losing control
- Need to develop infrastructure to support researchers
- Change the culture to new research Organization and have enough projects to support this

- This model will give us a huge data population that can be used for any of these projects. The clinical trial organization is not new and has been used many times.
- If you have a doctoral program to do research in one facility you can do that but other departments can use large database for population health such as cardiology and oncology groups. We can justify using that whole groups and pull from a large population.
- We need to be able to bring academics into this because we are competing against UT and Vanderbilt.
- Assigning FTE's to each research interest
- We recognize that we need to be flexible and moving staff or creating staff to help.
- How are we going to manage funding of our teams and P.I.s? Create research accounts for each group and subaccounts in each group
- We will continue working on this model.
- Managing the database would cost but NewCo needs to be invested in that.

- EMR would be different than this CTO?
- There is work being done on HIEs.
- An Umbrella structure is needed for this organization

Group 4
We should focus on the kinds of research initiatives that would be unique to our region.
- Build on strengths in the region to come together to address
- We identified six areas of most pressing: CVD/Stroke, obesity/childhood, Type II diabetes/chronic conditions, Substance abuse, Prescription drugs/IV drug use, mental wellness and mental health
- Focus on outcomes research and all of these fit in that area
- Difficulty of patients and having access to prevention and treatment and stigmas associated with that
- We could have providers in rural areas but may not been seen well in the community

- What are the strengths in our academic centers?
    - o Have a wonderful new center of inflammation, infectious disease and immunity
    - o Bringing investigators
    - o Forming centers that address the major needs

- In development
    - Patient center outcome research centers and having experts to address those issues
    - Substance abuse and treatment

- Institutions
    - Milligan: Nursing and interested in research
    - Emory and Henry: Obesity center and research being done

From a national perspective, what is competitive and where is the money nationally?
What are the barriers that we have?
- Clinical effectiveness research and improve outcomes
- Our laboratory being a rural health environment and that being a gap in this national and we can be a strong competitor
- Substance abuse and prevention
    - o go for more money and link back to infectious diseases
- Type II diabetes
- Behavioral Sciences
- Medicine with genetics and health and outcomes. We can collaborate with institutions on this

- Successful in obtaining funding
    - o Develop strong partnerships between NewCO and private sectors and academia
    - o Often difficult to get access to samples, getting local providers involved
    - o Recruit physicians and researchers find ways to develop resources to being them in
    - o Comparing data form doctors and nurses to compare to what we think the needs are
    - o Needs to be going on a continual process

Overall Group Discussion and Questions

- Minutes
Is there a chance to correct the minutes?
- Submit them to Billy Brooks with a word limit of 50 words
- If something is missing you can add one or two bullet points for each institution

- Questions and Suggestions
  - Are we willing to contribute to that as education institutions for recruiting employees, to make the best research consortium?

- Data
  - Would it be possible to bring the data down to neighborhood level?
  - Do not have the data available but could be able to get that from EHR and do hotspot analysis for areas with greatest need
  - While some issues may be high risk, they don't contribute to the overall problem as much
  - VA is useful for data.
  - The ability to build the database. County level is more convenient but less helpful in implementing interventions
  - Abstracting data from records is very time consuming
    - Having one statistician for the new CTO

- Next meeting
  December 2nd, Millennium Center

- Where do we think we are for the December meeting?
  - Really look at structural issues that might help us accomplish and support academic programs and collaboration among institutions
  - Support research activities and addressing health care needs and clinical trials
  - Not trying to rush the dialogue but we do need to develop a product to be put into a report
  - It will be part of a single report that has been pushed to the end of January
  - We could have a framework that needs to be filled in but we may not have it all filled in
  - There will be a period of synthesis and spending time in the spring reflecting on the outputs

RESEARCH AND ACADEMICS
STEERING COMMITTEE MEETING
MEETING MINUTES 3

Meeting Date: December 2, 2015

Meeting Location: Millennium Center, Johnson City, TN Location

ATTENDANCE

No attendance report for this meeting

MEETING FORMAT

– Introduction
– Group Discussions (Breakout sessions)

DISCUSSIONS

Group A

– **Formal Advisory Membership:**
  • Discipline representation
  • Balanced by School and Facility

– **Recommendation:**
A formal academic Advisory Board would be created. Representation on this Board would include a minimum of these 6 areas:
  1. Nursing
  2. Medicine
  3. Pharmacy
  4. Allied Health
  5. Advanced practice
  6. Academic areas not requiring clinical training
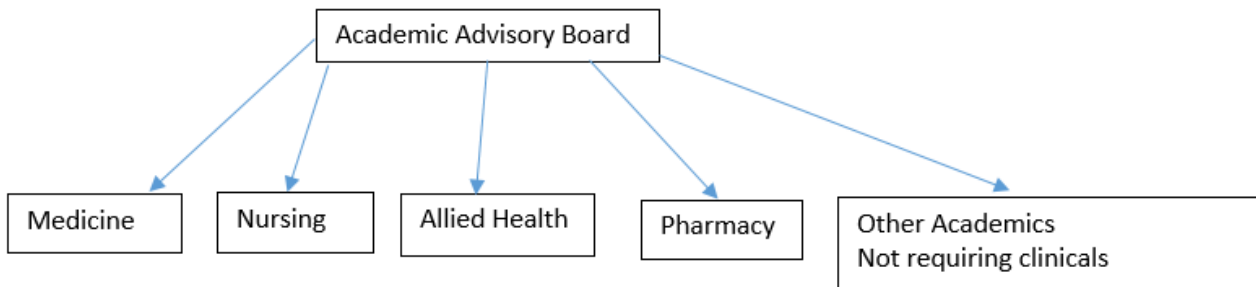
- Each of these areas would have "Councils". Councils would have representation from each College (School) and from the facility providing the education
- The exact numbers of council representatives to the Board is yet to be determined and should begin with the council recommendation
– Should there be a formal advisory board?
  - One for each discipline?
  - One larger advisory board with representatives from the disciplines and school and facilities
Different levels within a discipline
  - Does each discipline committee deal with this or do we need subcommittee
  - Membership
  - Role/Functions
      - Agenda setting
      - Policy setting
   - Governance recommendations

- **Notes**
  - We need to recommend organizational structure for the academic enterprise within NewCo.
  - We need to develop 1-2 recommendations.
  - Could be things that need to be hardwired or more "advisory" in nature.
  - Should there be some kind of formal advisory board?
  - We are focusing on academics and not research.

- It would make sense to have a board for each of the specific areas/discipline focused.
  - Needs in different disciplines.
  - Should we have chairs of those boards and they can form their own group?
- There are unique things to each hospital. How do you create institutional representation?
- Nursing: we work together - it really is an equitable way of what we do and we also ask for new ideas
- We need to capture the facility and school at that level - membership
- An office of academic disciplines with divisions reporting to the person who is heading it. There is more formalized paid additional support that is needed to improve this.
  - Different levels within the discipline - student, resident; under, grad, advanced nursing. Is each discipline committee going to address this or will it be sub committees?

- We need to think about what we already have rather than what we don't have.
  - What would a formal advisory board do?
  - Who is an advisor? Is this an attempt to advise how we establish some overall agenda and what education looks like for the entire region? That there is somehow cooperation among all folks that are able?

- Is this a group that is going to set direction?
  - The higher level board would focus more on policy and coordination.
  - Discipline would focus on granularity.
- Medicine (students, residents), Pharmacy, Allied Health - RT, PT, RTPT, OT, Nursing (under grad, grad, AP).
- Where do public health and health services fit in?
- Where do PA programs reside?
- How many sub=disciplined committees being formed and how many going to an advisory board? The representation to the higher level advisory board needs to be at the big box level and not the small box level.

- All 4 and the non-clinical health workers.
- How do we get representation by facility and school
- Need to find balance between hospital, school and discipline
- Need equitable representation
- Why is the formal advisory board reporting to - Newco?

- Advisory board: 2 tiers
- Solution to emerging and unique nature of advanced practice providers (they would be a separate category)
  - Nursing already exists and could provide a model for us
  - Right now, nursing is managing public health, nursing, allied health, etc.

Group B

Research Institute /Education

↳ Encompass all programs

- o All labs (sim and other) under one roof open 24/7, shared by all
- o Collaborate to receive more funding – easier to accomplish under one institute
- o Some way to bridge Educational pieces – maybe under same kind of "Academy"
- o Sponsoring institutions – Discuss GME
- o Educational Advisory Group – break into individual groups and address nursing, med etc.
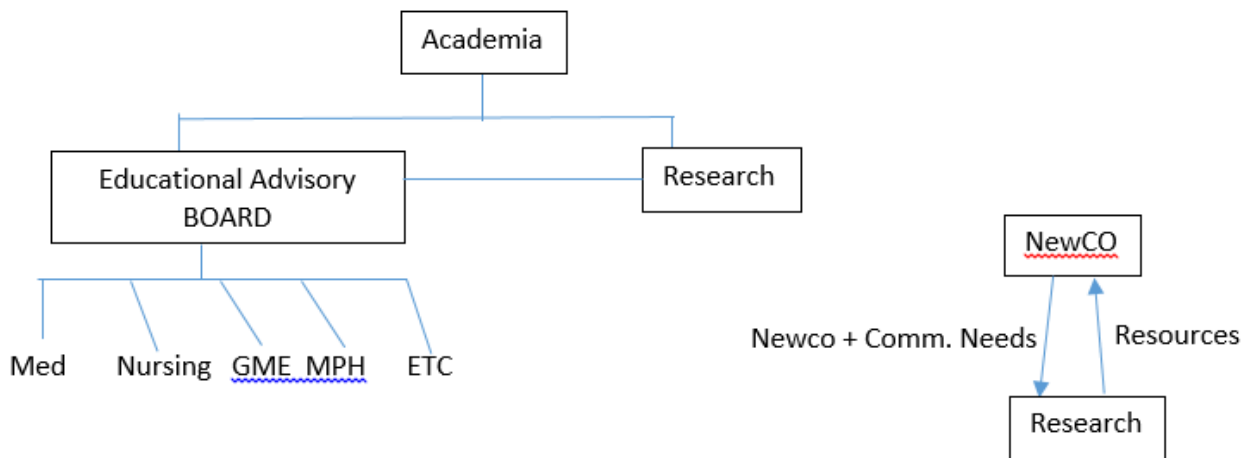
- • Need hospital more involved financially and in programs on FRONT END
- • Provide a better connection between Educational and business side
- • Supporting scholarships

– **Notes**
  - - Informal and formal? Group or advisory?
  - - What would we want to recommend?
  - - What do we see other institutions doing?
- • Like a larger health system who doesn't necessarily have just schools, but all of the community working together.

– In Houston, they created the Methodist Hospital Research institute-7th in the world.
  - o They are not connected to any medical school, doing it on their own. They started with zero Nobel prize researchers, now have 5.

– Create a research institute
  - o Create a research institute and education. It seems to be working there.
  - o It should be one to continue the structure that both organizations have and one organization to coordinate all of the students and have different academics within those such as nursing, pharmacy, etc. Then get these stakeholders together to share resources and ideas.
  - o
– The SIM lab in Virginia was created that the tri-college nursing would all participate-and they do.
  - • This lab space is limited for the particular institution's funds. If we had a way were all of these labs could be available, we also have our CRNA program, another lab for medical lamb sciences-if all under one facility for 24/7.
  - • You need to have training and lab places available-get out of institutions and share with everybody and not be vulnerable to budget issues.

- Could collaborate and get more funding to operate and build those facilities.
- You could do interdisciplinary education when all under one roof.
- Most funders are looking for collaborative relationships that are longer standing.
- You could run simple outpatient services-just to do simple tests that they have to do in their process and could do at a very affordable rate for people. That would also give hands on experience.
- It prevents you from competing against each other. When schools compete for grants it doesn't bode well.

- Have an advisory group that can communicate across disciplines
  - May be still at too high of a level to operate, turning it over to Dean's may not be able to function as well
  - some way to bridge the educational pieces across disciplines

- There are three big groups of learners:
  - Pharmacy, nursing, PA, residency
  - Ancillary services-CNAs, resp. therapy, etc.
  - Administration clinical-leadership and masters of health sciences.

- Within each group they need to coordination amongst each other
  - Don't need too many learners at one site.
  - Examples would be a department of academic affairs at Kaiser.

- Having a structure within NewCo would be important for any discipline.
  - You would have to have some type of educational advisory group.

- The umbrella group would try to identify key themes that NewCO would want on everybody's agenda and the details filtered down to each of the groups.
  - If NewCo says, "Our key themes is our ER department"- What is the structure there? What is the structure of rotations? How can we support NewCo to improve the ER delivery and patient care experience? Each subgroup would work on that and then report up to NewCo.

- Those can be subdivided into smaller groups of people who would actually be reporting up. Education umbrella organization
  - That provides opportunity for input for all levels.

- Hybrids of contractual models.
  - NewCo felt like they need 30 physical therapists and they contract with Emory and Henry to be the PT providers and they support Emory and henry and they provide good students. When all of us are doing the same thing and have a budget, it is many way counterintuitive because we are expecting the hospital to do all of this clinical work but then pick and choose.

- The hospital can be more financially and programmatically involved at the front end rather than the back end and this would help institutions hone in on what they are going to do.
  - The collaborative board would be able to provide a better connection between the academic education side and the business side in terms of what they are doing in providing care.

- The educational institution doesn't get credit for the work that they have done that is impacting care delivery.

- That is one of the advantages to the partners. It formalizes that process of NewCo and educationalist do the work to impact that then it is a very direct appreciation.

- Supporting scholarships for folks that have already been in hospital system so that they can go to school.
  - It is very difficult to graduate financial aid for mid-level programs.

- With NewCo you would have that inherent that could bring together Virginia and Tennessee. Where regionally everyone could meet together.

Group C

NEWCO REPRESENTATION
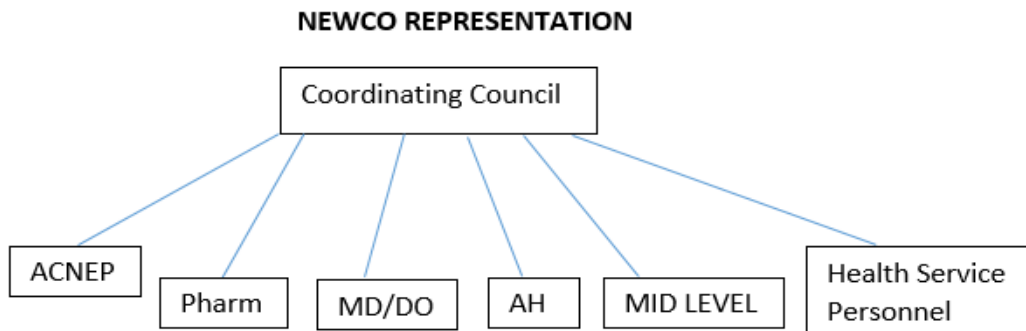
Notes

- Multiple advisory groups by discipline

- Formal structure being more institutionalized and ongoing.
  - An advisory structure would work because all of the partners have high stakes in this issue and willing to be committed to it.
  - Generally people shy away from an advisory structure, but in this case because it is so crucial in our educational structures.
  Don't like the word informal.

- Having ACNEP or MD/DO have their own coordinating group.
  - Then there would be a coordinating board over that. So that if a system like Wellmont made a change it would be reported up there and then dispersed to the rest of the groups.

- Want our students to be in placements that are inter-professional.
  - How do we make sure the placements aren't just single professionals? This can be covered by the larger group and they can show the possibilities.
  - The Kellogg program-there were doctors, public health, nursing and another field and were all trained together. This provided training to all of these fields at once. Educated together and work better together.

- The parent group could be NewCO administrators or institutions?
  - Probably both.
  - All of these would have one person that would communicate with the bigger group.
  - That would ensure the representation and communication.

- There would also be a mid-level for advance practice and then another for allied health.
- Do we need one for non-clinical people?
  - Like public health, epidemiologist health educators, social worker, Healthcare administration. This could be called "Health Services".

- One would report up from each of these groups.
  - And this would become the Council at the top.
  - This council would be called "Coordinating Council"

- Stakeholders would have to be at the table.
  - This is not NewCo, but these groups were already servicing but NewCo would have representatives as well as one representative from the discipline specific groups.

- Who would this council report up to? What if there was a Vice President for Health Education?
  - VP for Academic Affairs or VP for Health Education
  - NewCo uses the term Academics
- Don't want just isolation of students, want to encourage continuing Ed

Group D
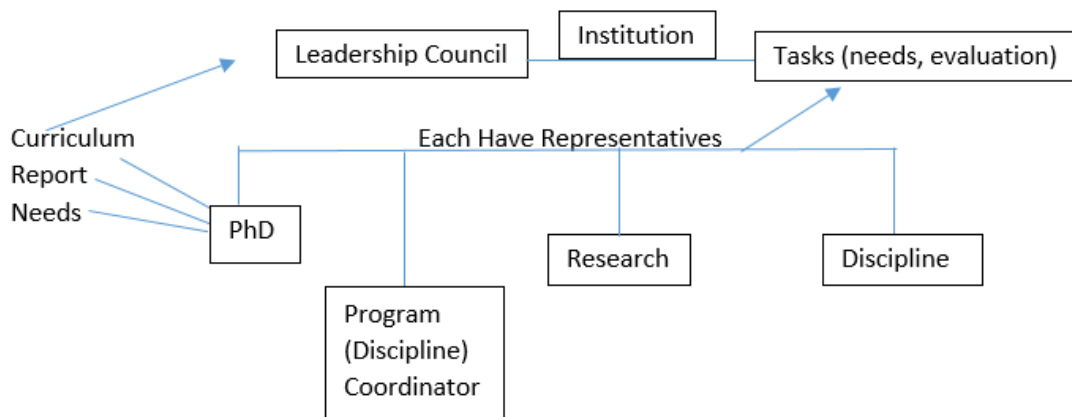
Notes

- How do we organize all of these groups?
  - One leader group for academics - composed of the deans
    - Under that have different (med students, nursing, PAs, MPHs, CMAs, etc.)
- If you have a PHD candidate that wants to do a rotation at NewCo -
  - Problem is going from the bottom to the top.
  - To have that one number to start at the top and it will guide you for where you need to be.
- Who makes up the top group?
  - Need administrative assistant to control all of the scheduling and if they are spread evenly.

- Sometimes students are left with not enough to do because there are so many students and they are poorly distributed.

- Top Group
    - Educational Leadership group

- Infrastructure support group
    - Agnostic; needs to not be affiliated with any institution

- All hospitals have educational coordinators;
    - Wouldn't they be the people who make up the group at the "top"?
    - Leader group should be director of Med Education, dean, director of research

- Every student's experience needs to be standardized "A through Z" no matter which institution you are part of.

- Hospitals can say if they are low on NPs for example; also reflect need in the community.
    - It needs to come back to a master committee of some type that knows everything.

- The "opti" - a consortium that says for us to train your students in your hospital system, we require a $x payment for every student. It is paid to support the education scheme.

- What is the task or assignment for each group?
    - Identify needs; curriculum

- The top group might not want to do anything with curriculum but they can deliver it.

- They need to report back to the master committee; somebody evaluates and sends the message back.

- Each group should put "needs".

- Both the needs of healthcare and education system. How do we marry those two to make sure both partners are happy?

- 80% of where you train them stay within 100 miles (not for med schools, but for other health professions)
    - Create a combined structure to get all of the schools united under one group "Institution/Discipline Group - inclusive"
    -
- If you write a check, you get a seat at the leadership table. You write it based upon your number of students. $x per student/year. This committee does a lot of administrative work that schools are now doing separately.

RESEARCH AND ACADEMICSSTEERING STEERING COMMITTEE MEETING

MEETING MINUTES 4

Meeting Date: January 13, 2016

Meeting Location: Higher Ed Center, Abingdon, VA Location

ATTENDANCE

Name	Title	Organization
Bishop, Dr. Wilsie	VP for Health Affairs & COO	East Tennessee State University
Angelopoulos, Dr. Theodore (Ted)	Professor, Director of Research School, Health Sciences	Emory & Henry School of Health Sciences
Campbell, John	Executive Director	AccelNow
Campbell, Dr. Steve	VP for Business Affairs, Chief Financial Officer	Northeast State
Clark, Dr. Andy	Professor of Clinical Nutrition Associate Dean of Research and Clinical Practice	ETSU
Davis, Dr. Mary Lee	Senior Advisor to the Dean and	Michigan State University, College of Osteopathic Medicine
Dishner, Dr. Nancy	President & CEO	Niswonger Foundation
Drinnon, Dr. Joy	Director of Undergraduate Research/Professor of Psychology	Milligan College
Duncan, Dr. Bill	Research & Sponsored Programs	ETSU
Fincher, Dr. Lou	Dean, School of Health Sciences	Emory & Henry College
Henderson, Rebecca	Consultant	Strategic Priorities Consulting
Kessler, Brian		
Khoury, Dr. Amal	Chair, Dept of Health Svcs Mgt & Policy, Associate Dean for Quality and Planning	ETSU – Public Health
Lugo, Dr. Ralph	Professor and Chair of Pharmacy Practice	Gatton College of Pharmacy ETSU
Means, Dr. Robert (Bob)	Dean	ETSU, Quillen College of Medicine
Melton, Dr. Hughes	VP, Medical Education, NE & NW Regions Mountain States	Mountain States Health Alliance
Moody, Dr. Nancy	President	Tusculum College
Niday, Pat	Chief Learning Officer	Mountain States Health Alliance
Phillips, Dr. Kenneth	Interim Assoc. Dean, Research	ETSU
Prill, Dr. Sue	Medical Director, Breast Center	Wellmont Cancer Center
Ray, Dr. Richard	Interim President	King University
Seligman, Dr. Morris	EVP, CMO	Mountain States Health Alliance
Shipley, Lindsey	Student (Joint MD/MPH program)	ETSU Quillen College of Medicine
Stepanov,Dr. Nonna	Director of Research	Mountain States Health Alliance
Tillman, Dr. Ken	Associate Dean of Academic Programs	ETSU – College of Nursing

MEETING FORMAT
– Introduction
– COPA Update
– Presentations
– Group Discussions (Breakout sessions)

DISCUSSIONS
– COPA Update, Tony Keck
– Pre-submission report is an executive summary of the COPA and can be found online (http://becomingbettertogether.org/wp-content/uploads/2016/01/Full-PSR-Report-1-7-16-FINAL.pdf)

Document focuses on 6 key areas (each with subcategories)

- Improve Community Health - $75 million
- Enhance Health Care Services - $140 million
- Expand Access & Choice
- Improve Healthcare Value - $150 million
- Expand Health Research & Graduate Medical Education - $85 million
- Attract & Retain a Strong Workforce
- Strong emphasis on community collaboration. Want NewCo's spending to be as effective as possible.
- NewCo wants the environment to remain competitive.
- NewCo's strategy is not to buy up more physician practices. Rather, NewCo plans to recruit more physicians to the area.
- We need to improve access in the region by improving a "homegrown" workforce

Questions:
- Will this be a grant system where people submit applications for projects?
  - There are permanent sub-committees within the board related to public health/social responsibility and workforce development. The board will control of spending and NewCo needs to create a new internal infrastructure for managing money. NewCo is in the process of figuring this out and wants input from this committee. NewCo could possibly set up a grant making foundation or a contracting and RFP system.

  - Given the targeted outcomes, are the funds mostly for translational research / implementation science rather than basic research?
    - The idea behind the research relates more to how NewCo can improve. NewCo hopes to attract additional outside investment from state governments, foundations and private employers that might fund additional research.

Presentations:

(Detailed Information Available in Attached Slides)

- **Wellmont Health Systems - IRB & Research**
  - Information about structure and current trials in slides
  - Question: Do you anticipate the common rule will change the way your IRB operates? Not at the moment.
- **MOUNTAIN STATES Corporate Department of Research**
  - Overview of Research Program structure, scope of responsibilities, corporate management structure
  - Has a streamlined process for working with ETSU IRB
  - Research focus is mostly on clinical trials

- **ETSU Research**
  - Several centers for different research topics
  - Detailed information about research grant structure and IRB process in slides
  - ETSU does not do many clinical trials, but they are involved in some
  - ETSU has 2 IRBs (Medical and Social Science/Behavioral)

Small Group Discussion:

What kind of organizational structure(s), either formal (hardwired) or information (advisory), should be recommended to facilitate the research enterprise within NewCo?

Group 1: Duncan

- Facilitate Collaboration
- Research Institute (Collaborative institute between universities and healthcare) to manage collaboration and monitor outcomes (financial, research).
- Not only clinical trials
- Define administrative needs by category
  - Clinical Trials (phase 1,2,3)
  - Translational Research
  - Federally Funded Trials related to change in community health (NIH, NSF, HRSA)
  - Integrate areas of research across a particular research area? (i.e. pediatric obesity)
- Hear the "voice" of the community
- Investment from NewCo in R&D should be "seed money" to create grant proposals to state, institutions
- How do you get practitioners to become involved in research? Find mechanisms, training, incentives
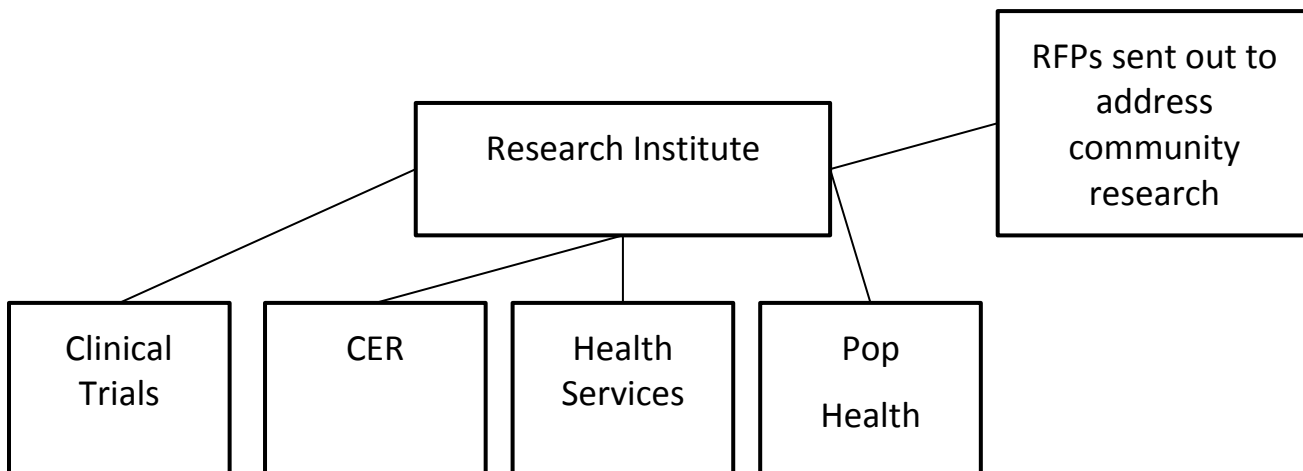
- Advisory Board: detached from process to review process and progress
- Best way to address the research question with resources in the community?
- Measure outcomes over time to see impact of change
- Research institute facilitates brainstorming and best research team to go for additional funding.

Group 2: Stepanov

- Development of a Research Culture
  - Organizations outside of Mountain States, Wellmont and ETSU should participate in the new research structure.
  - The synergy around other research centers in the United States (Duke, Mayo, etc.) is something we should emulate although we are different due to our rural geography. Successful healthcare organizations collaborate with the business community and are highly focused on organizational performance.

- Complex Structure

- In past meetings, there have been two strategies that have been discussed. First, all organizations could keep all of their internal structure and work on collaborating. Second, they could create a new organization that involves collaboration.
- If there were a hardwired oversight group, would outside organizations have a role in that or would they have an advisory role?
- Need a common understanding of cost structure - initial investment, incremental costs, capital rate
- Need a strong primary and secondary workforce including statisticians, support staff, graduate students, etc.
- Should we duplicate positions across institutions or centralize?
- We do need a centralized research entity but does need input from other advisory or sub-committees. Without a centralized organizational structure at the top, the process will be fragmented, collaboration falls apart and the outcomes will be negatively impacted.

- Place - hospitals, community, lab
  - A lot of the research we are looking into does not take place in the lab. It takes place at the population level in a rural setting we need manpower to make it happen.

- Database/Reporting: need a central database to ensure individual entities are not duplicating services or projects. (Example from Ohio State University.)
- Access to Eligible Patient Data/Big Data - need to create an easy for patients to give their consent to having their anonymous data used for research purposes.
- Clear Goal/Continuous Evaluation and Measure of Success with Metrics
  - How do we translate this research into a successful business model? Some of the research that will be conducted will benefit NewCo from a business standpoint. It needs to be innovative to keep the research sustainable.

Conclusion:
- The next and last meeting (**FEBRUARY 4**) of the R&A committee will be devoted to discussion.
- Looking for volunteers to be part of a small committee that will continue to advise through the proposal process. Billy will send an email today to ask for interested participants.
- ETSU is working to compile recommendations from all committees and will submit the report in March.

RESEARCH AND ACADEMICS
STEERING COMMITTEE MEETING
MEETING MINUTES 5

Meeting Date: February 4, 2016
Meeting Location: Millennium Center, Johnson City, TN Location

ATTENDANCE

Name	Title	Organization
Schrum, Jake	President	Emory & Henry
Angelopoulos, Dr. Theodore (Ted)	Professor, Director of Research School, Health Sciences	Emory & Henry School of Health Sciences
Campbell, John	Executive Director	AccelNow
Carmack, Duffy	CFO/Interim Director	Southwest VA Higher Ed Center
Clark, Dr. Andy	Professor of Clinical Nutrition Associate Dean of Research and Clinical Practice	ETSU
Davis, Dr. Mary Lee	Senior Advisor to the Dean and Professor of Family & Community Medicine-emerita	Michigan State University, College of Osteopathic Medicine
Duncan, Dr. Bill	Research & Sponsored Programs	ETSU
Fincher, Dr. Lou	Dean, School of Health Sciences	Emory & Henry College
Kessler, Brian		
Khoury, Dr. Amal	Chair, Dept of Health Svcs Mgt & Policy, Associate Dean for Quality and Planning	ETSU – Public Health
Means, Dr. Robert (Bob)	Dean	ETSU, Quillen College of Medicine
Melton, Dr. Hughes	VP, Medical Education, NE & NW Regions Mountain States	Mountain States Health Alliance
Niday, Pat	Chief Learning Officer D6	Mountain States Health Alliance
Seligman, Dr. Morris	EVP, CMO	Mountain States Health Alliance
Stepanov, Dr. Nonna	Director of Research	Mountain States Health Alliance

MEETING FORMAT
– Introduction
– General Discussions

DISCUSSIONS
- Developing the infrastructure to continue collaboration among institutions, exchange of ideas, decrease redundancy and increase efficiency
- Deeper dive into research, examine existing research structure
- Goal for today: Final Recommendation
- Proposed collaborative academics and research network
- Need input on the structure of the coordinating council, how to populate these categories
- Collaboration between academic health council and research institute
- research advisory board responsible for examining priorities, performance, and effectiveness of research, including outside individuals (i.e. community stakeholders) to determine if key issues are being addressed
- Addition of non-clinical, already have strong clinical infrastructure
- Nonclinical academic health sciences does not represent its own body, need to better depict
- Public health can be seen as clinical as well as non-clinical
- Subcommittees such as medicine, nursing, allied health not disseminated through each other, equal divisions of academic health council
- Medical placement at midlevel
- removal of non-clinical academic health sciences category, connect public health and healthcare management directly to AHC

- **Coordinating Council**
  - Where do we want our recommendations to go in NewCo leadership? Decision and commitment making authority? Senior level or board level leadership
  - Need council to bring academic institutions and new co together to enable actions to be taken
  - Include community and board member representation need to get community members involved
  - Needs to be small, but big enough to give equal representation of major stakeholders
  - 6 from Mountain States, 6 from Wellmont, 3 from Newco? Cochairs? 15? 24? Size for adequate representation and good discussion
  - Operations group separate from strategic development council
  - Accountability

- Community members input on coordinating council, strengthens community to get everyone in line with NewCo

- Need rationale for recommendations, not just description

- AHC
  - Need representative on subcommittee that keeps track of learners at NewCo
  - Meet the needs of different groups of healthcare (pharmacy, PT, Nursing) with different approaches by subcommittees, as well as someone who can represent all groups to coordinate placement at NewCo
  - Need representation from each individual program (allied health, primary care) and someone from NewCo to determine areas of need
  - Developing and presenting strategic components of plan to Coordinating Council
  - Academic structure should mirror hierarchy design of research
  - Leave "other" box to show not inclusive
  - List major stakeholders to AHC

- **Research Institute**
  - Come up with approaches how funding opportunities can facilitate research in the area
  - sets stage of expectations for delivery, short and long term outcomes, prove that the investment being made will have positive measurable health outcomes
  - Internal and external evaluation, performance review of outcomes
  - Focus on taking advantage of infrastructure available, utilize it to bring people together
  - need to interest physicians in research and make connection with them
  - Building and improving infrastructure
  - Research efforts are made to advance health outcomes in the region, vested interest in the area, not just for academic advancement
  - What can we offer and give patients to make them healthier, access to medicine and health information. Effort to keep patients in the area, instead of traveling to seek medical care at outside institutions
  - increased research opportunities may attract clinicians to the area, increase motivation to conduct research
  - need community input on RAB to discuss economic development
  - Paucity of sub specialists that migrate out of the area to practice, need to attract top tier clinicians
  - Will benefit the region greatly overall

- **Research Focus Areas**
  - Research needs to be specific, if it is too blatant or generalized will be negatively received

- Attract entrepreneurs that bring expertise to the region (i.e. biomedical sciences)
- Focus on outcomes specific to the area, population health can be too broad
- Population health/Community based outcomes research
- Must be able to convey to the federal government that NewCo will be beneficial to the community and allow a reduction in medical competition.
- Show that we have a solution to medically underserved area
- Diagram that shows three main categories with main bullet points
- SBIR- Small Business Innovation Research (federal funding) & STTR could be outcome

Appendix III: Best Practices and Evidence-Based Programs

Mental Health and Substance Abuse

Project ACHIEVE

Objective: To promote mental health in children and adolescents by improving students' academic, behavioral and social skills through behavioral support systems and community involvement.
Delivery Setting: School and home
Target Population: Children and adolescents; age 6-17
http://projectachieve.info/

All Stars

Objective: To prevent substance abuse and promote mental by preventing high risk behaviors through developing positive ideals, strong personal commitments, and bonding with school and family.
Delivery Setting: School
Target Population: Children and adolescent; age 6-17
http://www.allstarsprevention.com

Brief Strategic Family Therapy

Objective: To prevent, reduce, and treat adolescent behavior problems by improving social behavior and family functioning through family counseling sessions.
Delivery Setting: Home, clinical
Target population: Children and adolescents; age 6-17
http://www.essentiallearning.com/CourseResources/Courses/EL-TMEBP-BH-NKI/2.pdf

Incredible Years

Objective: To create an interwoven set of programs that build upon one another for the child, parent, and teacher to work jointly to promote emotional and social competence and to prevent, reduce, and treat behavioral and emotional problems in young children.
Delivery Setting: Clinical, school, home, or community
Target Population: Any
http://incredibleyears.com/programs/

Project ECHO

Objective: To share knowledge among medical practitioners so patients with complex or chronic conditions can stay in their own communities and be treated by their own physicians.
Delivery Setting: Telemedicine
Target Population: Physicians treating patients with mental illness or substance abuse disorders
http://echo.unm.edu/

HealthChoices HealthConnections

Objective: Design and implement an innovative model to better integrate physical and behavioral health care for the identified population and reduce healthcare costs.
Delivery Setting: Clinical
Target Population: Medicaid recipients with severe mental illness (SMI)
http://www.chcs.org/media/hchc_report_community_2011.pdf
http://www.chcs.org/media/HCHC-CaseStudy.pdf

What A Difference A Friend Makes

Objective: To support and maintain social connections for individuals living with mental illness.
Delivery Setting: One-on-one support
Target Population: Friends of individuals living with mental illness.
http://mhaac.org/uploads/documents/What%20A%20Difference-ENG.pdf

Across Ages

Objective: To prevent substance abuse in children and adolescents by pairing youth with older adult mentors and engaging in community service, recreational activity and social competence training.
Delivery Setting: School and community
Target Population: Children and adolescents; age 6-18
http://acrossages.org/

Project ALERT

Objective: To prevent substance abuse in adolescents by motivating them to avoid using drugs through teaching them skills to understand and resist social influences.
Delivery Setting: School-based
Target Population: Adolescents; age 13-17
http://www.projectalert.com/

Creating Lasting Family Connections

Objective: To increase resiliency in young adults and reduce frequency of alcohol and other drug use.
Delivery Setting: Community
Target Population: Children and adolescents; age 9-17
http://www.copes.org/clfc-program.php

DARE To Be You (DTBY)

Objective: To improve parenting skills that contribute to youth resiliency such as parental self-efficacy, effective child rearing, social support, and problem-solving skills.
Delivery Setting: Community
Target Population: Families with children 2-5 years of age
http://www.coopext.colostate.edu/DTBY/

Early Risers "Skills for Success"

Objective: Create a multicomponent, developmentally focused, competency-enhancement program that targets elementary school students who are at high risk for early development of conduct problems, including substance use.
Delivery Setting: Home, school, or community
Target Population: Elementary school students 6-12 years of age
https://www.crimesolutions.gov/ProgramDetails.aspx?ID=140

Keep a Clear Mind (KACM)

Objective: To use weekly lessons based on a social skills model to help children develop specific skills to refuse and avoid use of "gateway drugs".
Delivery Setting: School, home
Target Population: Elementary school students; age 9-11
http://www.keepaclearmind.com/keep_a_clear_mind.php

Lifeskills Training (LST)

Objective: To prevent alcohol, tobacco, and marijuana use and violence by targeting the major social and psychological factors that promote the initiation of substance use and other risky behaviors.
Delivery Setting: School
Target Population: Elementary, middle, and high school students; age 13-17
http://www.blueprintsprograms.com/factsheet/lifeskills-training-lst

Multisystemic Therapy for Juvenile Offenders

Objective: To decrease rates of antisocial behavior and other clinical problems, improve functioning (e.g., family relations, school performance), and achieve these outcomes at a cost savings by reducing the use of out-of-home placements such as incarceration, residential treatment, and hospitalization.
Delivery Setting: Home, Clinical
Target Population: Children and adolescents; age 6-17
http://mstservices.com/

Project Northland

Objective: Involving students, peers, parents, and community in programs designed to delay the age at which adolescents begin drinking, reduce alcohol use among those already drinking, and limit the number of alcohol-related problems among young drinkers.
Delivery Setting: School
Target Population: Children and adolescents; age 6-17
http://www.blueprintsprograms.com/factsheet/project-northland

Reconnecting Youth

Objective: Targets youth who demonstrate poor school achievement and high potential for school dropout, and teaches skills to build resiliency against risk factors and control early signs of substance abuse and emotional distress.
Delivery Setting: School
Target Population: Children and adolescents; age 14-19
http://www.reconnectingyouth.com/programs/

Residential Student Assistant Program

Objective: To prevent and reduce alcohol and other drug (AOD) use among high-risk multi-problem youth who have been placed voluntarily or involuntarily in a residential child care facility (e.g., foster care facility, treatment center for adolescents with mental health problems, juvenile correctional facility).
Delivery Setting: Community, home, correctional
Target Population: Children and adolescents; age 12-18
https://www.crimesolutions.gov/ProgramDetails.aspx?ID=330

Schools and Families Educating Children (SAFEChildren)

Objective: To increase academic achievement and decrease risk for later drug abuse and associated problems such as aggression, school failure, and low social competence.
Delivery Setting: School, community
Target Population: 1st grade students and their families living in inner-cities
http://www.healthysanbernardinocounty.org/index.php?controller=index&module=PromisePractice&action=view&pid=972

Second Step

Objective: Teaches children to identify and understand their own and others' emotions, reduce impulsiveness and choose positive goals, and manage their emotional reactions and decision making process when emotionally aroused.

Delivery Setting: School
Target Population: Children and adolescents; age 6-12
http://www.cfchildren.org/second-step

Strengthening Families Program

Objective: To increase resilience and reduce risk factors for behavioral, emotional, academic, and social problems in children.
Delivery Setting: School, home
Target Population. Children and adolescents; age 3-16
http://www.cssp.org/reform/strengtheningfamilies/about

Students Managing Anger and Resolution Together (SMARTeam)

Objective: Use software modules and interactive interviews to teach conflict resolution skills in three categories: anger management, dispute resolution, and perspective-taking.
Delivery Setting: School
Target Population: Children and adolescents; age 11-15
https://www.crimesolutions.gov/ProgramDetails.aspx?ID=288

Steps To Respect

Objective: To prevent bullying behavior and counter the personal and social effects of bullying where it occurs by promoting a positive school climate.
Delivery Setting: School
Target Population: Children and adolescents; age 6-12
http://www.blueprintsprograms.com/factsheet/steps-to-respect

Schools Using Coordinated Community Efforts to Strengthen Students (SUCCESS)

Objective: To prevent and reduce substance abuse among high risk students.
Delivery Setting: School
Target Population: Children and adolescents; age 12-18
http://www.theathenaforum.org/sites/default/files/Project%20SUCCESS%204-5-12.pdf

Too Good for Drugs (TGFD)

Objective: Teach students how to be socially competent and autonomous problem solvers by developing personal and interpersonal skills to resist peer pressures, goal setting, decision making, bonding with others, having respect for self and others, managing emotions, effective communication, and social
Interactions.
Delivery Setting: School
Target Population: Children and adolescents; age 6-17
http://ies.ed.gov/ncee/wwc/interventionreport.aspx?sid=516

Project Toward No Drug Abuse

Objective: To help students develop self-control and communication skills, acquire resources that help them resist drug use, improve decision making strategies, and develop the motivation to not use drugs.
Delivery Setting: School
Target Population: Adolescent and young adults; age 13-25
http://tnd.usc.edu/

Tobacco Use and Pulmonary Health

Social Reinforcement for Smoking, Alcohol and Drug Abuse Prevention

Objective: To decrease youth initiation of tobacco, alcohol, and other drug use through developing abilities to resist social pressure to use drugs.
Delivery Setting: School-based
Target Population: School-aged children
https://www.researchgate.net/publication/15811809_Pilot_Study_of_Smoking_Alcohol_and_Drug_Abuse_Prevention

Project SHOUT (Students Helping Others Understand Tobacco)

Objective: To prevent tobacco use in school-aged children by utilizing a multifaceted approach, emphasizing the social influences model, social skills training, media influences, and norm perceptions.
Delivery Setting: School-based
Target Population: Adolescents (11-18 years)
http://rtips.cancer.gov/rtips/programDetails.do?programId=298450

"Big T" Media Campaign Targeting Youth Smoking Prevention and Cessation

Objective: To reduce youth tobacco use in Virginia by empowering Virginia youth to choose a healthy lifestyle through television commercials and radio ads.
Delivery Setting: Media-based; primarily television
Target Population: Youth and young adults
http://nccd.cdc.gov/MCRC/Apps/ExploreCampaignDetails.aspx?CampaignID=152

"Don't Be a Butthead" Media Campaign Targeting Smoking Prevention

Objective: To prevent tobacco use in youth and young adults by making smoking appear socially unacceptable and/or unattractive through television commercials and print ads.
Delivery Setting: Media-based; print and television
Target Population: Pregnant Women, youth, and young adults
http://nccd.cdc.gov/MCRC/Apps/ExploreCampaignDetails.aspx?CampaignID=45

"It's Never Too Late To Quit" Media Campaigns Targeting Current Smokers

Objective: To increase smoking cessation in adults by promoting the message that it is never too late to quit smoking, regardless of age or previous quit attempts through television and print-based ads.
Delivery Setting: Media-based; print and television
Target Population: Adults and older adults
http://nccd.cdc.gov/MCRC/Apps/ExploreCampaignDetails.aspx?CampaignID=16

"TXT-2-QUIT" Text Message Delivered Smoking Cessation Intervention

Objective: To increase smoking cessation by delivering information, strategies, and behavioral support directly to tobacco users through text messages that support quit attempts and provide additional support.
Delivery Setting: Mobile-phone based, community-based
Target Population: Young adults and adults
http://mhealth.jmir.org/2013/2/e17/

Smoke-free Legislation – Local Ordinances, Local Businesses Go Smoke Free

Objective: To decrease secondhand smoke exposure and tobacco use through smoke-free legislation by enacting a comprehensive smoking ban to prohibit smoking indoors, including in bars and restaurants.
Delivery Setting: Community-based and worksite-based
Target Population: Any
http://onlinelibrary.wiley.com/doi/10.1002/14651858.CD005992.pub3/references

Increase Price of Cigarettes - At County, City and State Level

Objective: To reduce initiation and usage of tobacco by increasing the unit price of tobacco products through tobacco excise taxes.
Delivery Setting: Community-based
Target Population: Any
http://tobaccocontrol.bmj.com/content/21/2/172.full.pdf+html

"The QuitLink" Primary Care Smoking-Cessation Support with Quitlines

Objective: To increase tobacco cessation for adults by utilizing the 5A's framework through a primary-care setting with a partnership with a quitline.
Delivery Setting: Clinical; primary-care
Target Population: Adults
http://www.sciencedirect.com/science/article/pii/S0749379710000553

The Modification of Maternal Smoking (M.O.M.S.) Project

Objective: To promote smoking cessation and prevent smoking relapse among pregnant women through pediatrician-delivered education of adverse health effects of secondhand, environmental tobacco smoke on newborns.
Delivery Setting: Clinical
Target Population: Pregnant Women
http://rtips.cancer.gov/rtips/programDetails.do?programId=312630

"EX - Re-learn Life Without Cigarettes" Media Campaign Targeting Pregnant Smokers

Objective: To decrease tobacco use and addiction by delivering messages about techniques and programs available to assist current smokers who would previously turn to smoking as a way to cope with stress and triggers for tobacco use.
Delivery Setting: Media-based; print, radio, and television
Target Population: Adults, pregnant women, and parents
http://nccd.cdc.gov/MCRC/Apps/ExploreCampaignDetails.aspx?CampaignID=136

"Pregnant Women Media Campaign" Targeting Pregnant Smokers

Objective: To decrease tobacco use in pregnant women by delivering messages about risks and dangers of smoking during pregnancy.
Delivery Setting: Media-based; radio
Target Population: Pregnant women and females
http://nccd.cdc.gov/MCRC/Apps/ExploreCampaignDetails.aspx?CampaignID=24

Physical Activity and Nutrition

CATCH (Coordinated Approach to Child Health)
Objective: To prevent childhood obesity and encourage healthier lifestyles by establishing healthy behaviors during childhood with focus on nutrition, physical activity, and classroom environment.
Delivery Setting: School-based and early childcare
Target Population: School-aged; Pre-K-8th grade
http://catchinfo.org/about/

5-2-1-0 Let's Go!
Objective: To decrease childhood obesity in children by maintaining and improving school's healthy food choices and physical activity opportunities.
Delivery Setting: School-based, community-based and clinical
Target Population: School-aged: Pre-K-12th grade
http://www.letsgo.org/

Eat Well & Keep Moving
Objective: To decrease childhood obesity in children by increasing physical activity throughout various learning environments while focusing on education about nutrition and healthy habits.
Delivery Setting: School-based
Target Population: School-aged; elementary
http://www.eatwellandkeepmoving.org/

Go Noodle!
Objective: To increase physical activity and student performance by providing exercise breaks in the classroom through an interactive activity program.
Delivery Setting: School-based
Target Population: School-aged; elementary
https://www.gonoodle.com/

School Health Policies and Practices Study: Professional Development for Teachers
Objective: To increase physical education standards in schools by educating administrators and teachers on how to align curriculum, instruction, or student assessment with integrating physical activity into their classroom.
Delivery Setting: School-based
Target Population: Teachers, administrators and school staff
http://www.cdc.gov/healthyyouth/shpps/2012/pdf/shpps-results_2012.pdf

ALIVE!
Objective: To promote healthy dietary habits and increase physical activity in employees through tailored computerized program delivered entirely by email.
Delivery Setting: Worksite-based
Target Population: Employees; young adults and adults
http://rtips.cancer.gov/rtips/programDetails.do?programId=557543

The Treatwell 5-a-Day Program

Objective: To increase fruit and vegetable consumption in employees through a health promotion program by building support for behavior change from coworkers, household members, and the worksite environment.
Delivery Setting: Worksite-based
Target Population: Employees; young adults and adults
http://www.ncbi.nlm.nih.gov/pubmed/10345908

Promoting Healthy Living: Assessing More Effects (PHLAME)

Objective: To reduce obesity in employees by increasing physical activity and promote healthy dietary habits through a team-centered curriculum and individually-centered counseling.
Delivery Setting: Worksite-based
Target Population: Employees; young adults and adults
http://rtips.cancer.gov/rtips/programDetails.do?programId=288026

Keep It Off

Objective: To reduce obesity in adults by promoting healthy dietary habits and physical activity through telephone-based weight loss maintenance coaching.
Delivery Setting: Home-based
Target Population: Young adults, adults and older adults
http://rtips.cancer.gov/rtips/programDetails.do?programId=16899086

Patient-Centered Assessment and Counseling for Exercise (PACE)

Objective: To increase physical activity among sedentary individuals by working with their provider to emphasize social support, self-efficacy, and awareness of benefits of physical activity.
Delivery Setting: Clinical
Target Population: Young adults and adults
http://www.paceproject.org/

Strong Women - Healthy Hearts

Objective: To reduce obesity in women through nutrition education and physical activity classes.
Delivery Setting: Community-based
Target Population: Women; age 40+
http://www.strongwomen.com/strongwomen-programs/strongwomen-healthy-hearts-coming-soon/

Building Healthy Families

Objective: To reduce obesity in adults and children by promoting healthy dietary habits through education on food budgeting and food preparation to parents of limited-resource families.
Delivery Setting: Community-based
Target Population: Adults
http://rtips.cancer.gov/rtips/programDetails.do?programId=2646469#Program

5 A Day—for Better Health!

Objective: To reduce obesity by promoting educational messages about nutrition and physical activity through media-based sources and community development.
Delivery Setting: Community-based and media-based
Target Population: Any
http://www.cdc.gov/nccdphp/dnpa/nutrition/health_professionals/programs/5aday_works.pdf

B.C. Walks and Wheeling Walks

Objective: To increase physical activity in adults by delivering messages about the recommendations for daily physical activity through print, television and radio ads.
Delivery Setting: Media-based; print, television, and radio
Target Population: Adults
http://www.bcwalks.com/ and http://www.wheelingwalks.org/WW_TrainingManual/TM_index.asp

CDC's StairWELL to Better Health Program

Objective: To increase physical activity in adults by promoting stair usage through motivational signs and improved stairwell appearance.
Delivery Setting: Community-based and worksite-based
Target Population: Young adults, adults, and older adults
http://www.cdc.gov/nccdphp/dnpao/hwi/toolkits/stairwell/

Development and Promotion of Walking Trails

Objective: To increase physical activity in rural communities through the creation of walking trails and increasing interpersonal activities and social support.
Delivery Setting: Community-based
Target Population: Any
http://www.sciencedirect.com/science/article/pii/S0749379704000595

Complete Streets

Objective: To increase physical activity and community access by planning, designing, and constructing Complete Streets to provide quality access to resources, safer streets and promote walkability.
Delivery Setting: Community-based
Target Population: Any
http://www.smartgrowthamerica.org/documents/cs-local-policy-workbook.pdf

Healthy Aging

Senior Reach

Objective: To reduce social isolation, poor health and neglect in seniors through training members of the community to identify, offer outreach services to, and refer at-risk independent older adults.
Delivery Setting: Community-based
Target Population: Older adults; age 55+
http://legacy.nreppadmin.net/ViewIntervention.aspx?id=330

EnhanceWellness

Objective: To assist older adults manage their illnesses and minimize related problems such as unnecessary use of prescription psychoactive medications, physical inactivity, depression, and social isolation through tailored service delivery from health car providers and community locations.
Delivery Setting: Clinical and community-based
Target Population: Older adults; age 55+
http://legacy.nreppadmin.net/ViewIntervention.aspx?id=188

Program of All-Inclusive Care for the Elderly (PACE)

> Objective: To prevent nursing home admission by improving seamless service delivery system and integrate Medicare and Medicaid financing through an array of coordinated services.
> Delivery Setting: Clinical and home-based
> Target Population: Older adults; age 55+
> http://legacy.nreppadmin.net/ViewIntervention.aspx?id=316

Better Choices, Better Health Workshop- Chronic Disease Self-Management Program

> Objective: To assist older adults with managing chronic conditions by providing workshops and education on pain management, exercise and appropriate use of medications.
> Delivery Setting: Community-based
> Target Population: Older adults; age 55+
> http://patienteducation.stanford.edu/programs/cdsmp.html

Physically Active for Life (PAL)

> Objective: To increase physical activity among older adults by providing an exercise prescription from their providers through an office-based physical activity counseling.
> Delivery Setting: Clinical and community-based
> Target Population: Older adults; age 50+
> http://www.activeforlife.info/about_the_program/about_the_program.html

CHAMPS (Community Healthy Activities Model Program For Seniors)

> Objective: To increase physical activity among sedentary older adults by encouraging participants to create a physical activity regimen based on their preferences, health, ability, and resources through education and counseling.
> Delivery Setting: Community-based
> Target Population: Older adults; age 65+
> http://dne2.ucsf.edu/public/champs/

More than Words: Promoting Health Literacy in Older Adults

> Objective: To increase health literacy in older adults through age-appropriate teaching strategies that providers can implement.
> Delivery Setting: Clinical
> Target Population: Older adults
> http://www.nursingworld.org/MainMenuCategories/ANAMarketplace/ANAPeriodicals/OJIN/TableofContents/Vol142009/No3Sept09/Health-Literacy-in-Older-Adults.html

Hearth-Ending Elder Homelessness

> Objective: To prevent homelessness among older adults by discharge planning and providing more avenues for managing health problems through permanent supportive housing.
> Delivery Setting: Clinical and community-based
> Target Population: Older adults
> http://www.csh.org/wp-content/uploads/2012/01/Report_EndingHomelessnessAmongOlderAdultsandSeniorsThroughSupportiveHousing_112.pdf

EPEC-Education in Palliative and End-of-life Care

Objective: To educate health care providers on the knowledge and skills needed to provide palliative interventions for patients with physical and psychosocial distress related to cancer.
Delivery Setting: Clinical
Target Population: Health care providers
http://epec.net/

Intervention to Improve Care at Life's End in Inpatient Settings: The BEACON Trial

Objective: To improve end of life care for older adults by providing staff training that focuses on identifying actively dying patients while concentrating on home-based hospice care.
Delivery Setting: Clinical
Target Population: Older adults
http://link.springer.com/article/10.1007/s11606-013-2724-6

Coping with Chemotherapy

Objective: To improve the quality of life of individuals prior to experiencing chemotherapy through self-administered stress management training.
Delivery Setting: Clinical
Target Population: Adults
http://www.ncbi.nlm.nih.gov/pubmed?Db=PubMed&Cmd=ShowDetailView&TermToSearch=12065562

HealthPartners Medical Group BestCare PCMH Model

Objective: To provide better care coordination for older adults in the primary care medical home by providing proactive chronic disease management and convenient access to primary care.
Delivery Setting: Clinical
Target Population: Older adults
http://www.ihi.org/engage/initiatives/TripleAim/Documents/IHITripleAimHealthPartnersSummaryofSuccessJul09v2.pdf

Intermountain Healthcare Medical Group Care Management Plus PCMH Model

Objective: To enhance primary care-based care coordination of high-risk elders by inserting care managers in primary care practices and improving chronic care and care coordination.
Delivery Setting: Clinical
Target Population: Older adults
http://forwww.pcpcc.net/files/evidence_outcomes_in_pcmh_2010.pdf

Visiting Nurse Service of New York Choice Health Plans

Objective: To improve access to appropriate care, care coordination and promote independent living through comprehensive assessments, patient and family education and enhanced transitional care.
Delivery Setting: Home-base and clinical
Target Population: Older adults
http://www.commonwealthfund.org/~/media/files/publications/case-study/2013/jan/1659_mccarthy_care_transitions_vnsny_case_study_v2.pdf

A Managed Care Approach to High-Risk Screening and Case Management in the Elderly

Objective: To identify elderly persons who have declining health status through risk screening and provide subsequent case management to promote better health outcomes.
Delivery Setting: Clinical
Target Population: Older adults
http://ecp.acponline.org/octnov98/elderly.pdf

Healthy Children and Families

Centering Pregnancy

Objective: Provide patient-centered prenatal care in a group setting to decrease preterm and low birthweight babies, increase breastfeeding initiation rates, and eliminate racial disparities
Delivery Setting: Clinical
Target Population: Mothers
https://www.centeringhealthcare.org/

Project Link

Objective: An interagency, community-based collaborative program designed to coordinate and enhance existing services to meet needs of women and their children affected by substance use.
Delivery Setting: Community
Target Population: Substance abusing mothers and pregnant women
http://www.cmcsb.com/files/ProjectLinkBrochure.pdf

Nurse Home Visitor Program

Objective: Seeks to improve pregnancy outcomes, improve child health and development and improve the economic self-sufficiency of the family by helping parents develop a vision for their own future, plan future pregnancies, continue their education and find work.
Delivery Setting: Home
Target Population: Low income first time mothers
http://www.rwjf.org/content/dam/farm/books/books/2002/rwjf37783

Nurse Family Partnership

Objective: Improve prenatal health, reduce childhood injuries, reduce subsequent pregnancies, increase maternal employment and school readiness for children.
Delivery Setting: Home
Target Population: First time, low-income mothers
http://www.nursefamilypartnership.org/proven-results

Baby-Friendly Hospital Initiative

Objective: Outline ten steps that optimize breastfeeding initiation and continuation among patients.
Delivery Setting: Clinical
Target Population: Expectant mothers
https://www.babyfriendlyusa.org/about-us/baby-friendly-hospital-initiative

Head Start

Objective: To improve language and literacy, social-emotional development, test scores and health outcomes in disadvantaged children, as well as help parents with job training and employment
Delivery Setting: School or Home
Target Population: Low income children up to age 5 and their families

Child Health and Development (CHAD)

Objective: To enhance physical, social, emotional, and intellectual development of the child, educate parents in positive parenting skills, prevent child abuse and neglect
Delivery Setting: Home
Target Population: Children from birth to 6 years of age
http://tn.gov/assets/entities/health/attachments/HomeVisiting_AnnualReport_2014.pdf

Healthy Start

Objective: To reduce or prevent child abuse and neglect.
Delivery Setting: Home
Target Population: Low income families
http://tn.gov/assets/entities/health/attachments/HomeVisiting_AnnualReport_2014.pdf

Behavior and Emotional Screening System (BESS) and Behavior Assessment Screening System for Children (BASC-2)

Objective: Use a two-tier survey to identify specific behavioral and emotional strengths and weaknesses in school age children.
Delivery Setting: Schools
Target population: 2nd-12th grade students
http://www.ncbi.nlm.nih.gov/pmc/articles/PMC2957575/

Transforming Early Childhood Community Systems (TECCS)

Objective: Improve school readiness in young children with implementation of Early Development Instrument (EDI) to measure five key areas of child development: physical health; social competence; emotional maturity; language and cognitive development; communication skills and general knowledge.
Delivery Setting: School
Target Population: school age children?
http://www.healthychild.ucla.edu/ourwork/teccs/

Family-Centered Advance Care Planning for Teens with Cancer (FACE-TC)

Objective: To aid adolescent and young adult cancer patients and their families engage in advance care planning discussions to prepare for future health care decisions, including end-of-life care.
Delivery Setting: Clinical or Home
Target Population: Cancer patients age 14-21
http://rtips.cancer.gov/rtips/programDetails.do?programId=17054015

Surviving Cancer Competently Intervention Program (SCCIP)

Objective: To combine cognitive-behavioral and family therapy approaches to reduce posttraumatic stress symptoms (e.g., intrusive memories, avoidance, hypervigilance) related to the cancer experience in adolescent cancer survivors and their families.

Delivery Setting: Clinical or community health center

Target Population: Cancer survivors age 11-18

http://rtips.cancer.gov/rtips/programDetails.do?programId=102875

School Based Dental Sealant Delivery Programs

Objective: Reduce and prevent dental caries (tooth decay) in children.

Delivery Setting: School

Target population: 5-16 year old students

http://www.thecommunityguide.org/oral/schoolsealants.html

http://www.astdd.org/bestpractices/DES04006AZsealantprogram_11_2013.pdf

Tenant-Based Rental Assistance Programs

Objective: To subsidize rental costs of low income families in order to reduce social disorder and household victimization.

Delivery Setting: Community

Target population: Low income families

http://www.thecommunityguide.org/healthequity/housing/tenantrental.html

http://www.thecommunityguide.org/social/Social-Environment.pdf

Family Self-Sufficiency

Objective: To enable HUD-assisted families to increase their earned income and reduce their dependency on welfare assistance and rental subsidies.

Delivery setting: Community

Target population: Low income families

http://portal.hud.gov/hudportal/HUD?src=/program_offices/public_indian_housing/programs/hcv/fss

REACH Virginia (Resources Enabling Affordable Community Housing)

Objective: To provide affordable housing for low income households, accessible housing that meets the needs of seniors and people with disabilities, expand housing options for minorities and diverse cultures, and revitalize older urban areas and preserve small towns and pastoral communities.

Delivery setting; Community

Target population: Low income families

http://www.vhda.com/BusinessPartners/GovandNon-Profits/CommunityOutreach/REACHVirginia/Pages/REACH.aspx#.VvGwWWQrl1I

Evidence-Based Strategies to Build Community Food Security

Objective: To reduce community food insecurity through transitioning food systems and redesigning food systems for sustainability.

Delivery Setting: Community-based

Population: Any

http://www.andjrnl.org/article/S0002-8223(04)01973-X/pdf

Community Food Security and Nutrition Educators

Objective: To reduce community food insecurity through nutrition educators by placing them at various access points in the community to educate, advocate, and assist with community projects associated with nutrition and food access.

Delivery Setting: Community-based

Population: Any
http://www.sciencedirect.com/science/article/pii/S1499404606603254

Comprehensive Health Investment Project

Objective: Uses holistic family approach to increase children's health outcomes, and create opportunities for parents to improve their lives by helping them earn a GED, search for jobs, get a driver's license, and attend community college or vocational school.
Delivery Setting: Home
Target Population: Low income families
http://www.aecf.org/m/resourcedoc/aecf-CreatingOpportunityforFamilies-2014.pdf

Tech Prep

Objective: Combines a minimum of 2 years of secondary education with a minimum of 2 years of postsecondary education in a non duplicative, sequential course of study to integrate academic, vocational, and technical instruction, and uses work-based and worksite learning where appropriate. Leads to an associate or baccalaureate degree in a specific career field
Delivery Setting: School
Target Population: High School students
http://www.mdrc.org/sites/default/files/PreparingHSStudentsforTransition_073108.pdf

TRIO

Objective: To provide educational opportunity outreach programs, including Upward Bound and Talent Search, designed to motivate, support, and prepare students from disadvantaged backgrounds for college
Delivery Setting: School
Target population: High School students
http://www2.ed.gov/about/offices/list/ope/trio/index.html

TeenScreen

Objective: To identify possible suicidal and behavioral risk factors, notify parents if necessary, and aid families in seeking proper mental evaluation.
Delivery Setting: School
Target Population: Middle and High School students
http://tspn.org/teenscreen

Systematic Screening for Behavioral Disorders (SSBD)

Objective: Uses a 3 stage process to identify factors that could diagnose a child for need of special education services by: nomination for screening from teacher, completion of behavioral checklist, and direct observation to determine need and formulate IEP.
Delivery Setting: School
Target Population: School-age children
http://www.nhcebis.seresc.net/universal_ssbd