COMMUNITY HEALTH ASSESSMENT

Fredericksburg City, Virginia | 2017

Acknowledgment

On behalf of Rappahannock Area Health District, our profound gratitude goes to all the stakeholders for their support and participation in the 2017 Fredericksburg City Community Health Assessment. Special thanks also goes to Central Rappahannock Area Regional Library, Fredericksburg Police Department and Fredericksburg Health Department for providing free meeting rooms.

2017 Fredericksburg City Community Health Assessment Team

Angela Freeman | City of Fredericksburg
Bonnie Newcomb | Fredericksburg Department of Social Services
Brian Layton | Fredericksburg Police Department
Christen Gallik | Fredericksburg Department of Social Services
Chuck Ellis | Micah Ecumenical Ministries Dina Vales, Fredericksburg Sport and Health Club
Donna Powell | Fredericksburg Area HIV/AIDS Support Services
Dr. Richard Finkelstein | University of Mary Washington
Dr. Thomas Tomsak | Rappahannock Area Health District
First Sergeant Chris Anderson | Germanna Police Department
Forrest A. Parker, Sr. | Boys & Girls Club of the Rappahannock Region
Glena Jenkins | Fredericksburg Regional Transit
Jamia Crockett | Mary Washington Healthcare
Jane Yaun | Rappahannock Area Community Services Board
Janelle Castle | Fredericksburg Health Department
Janelle Donahue | Rappahannock United Way
Jessica Martien | Thurman Brisben Center
Jillian Franklin | Fredericksburg Parks, Recreation and Events
Karen Dulaney | Lloyd F. Moss Free Clinic Kathie Bramlette, Nurse at Hazel Hill Nurse
Kaye Pegelow | Home and Heart Health
Kim Lally | Thurman Brisben Center
Kim Smart | Mary Washington Foundation
Linwood Thomas, King George County
Lorrie Andrew-Spear | Virginia Department of Health
Mark Whitley | City of Fredericksburg
Marva Moore | Community Wellness Coalition
Mary Catherine Greenlaw | City of Fredericksburg
Meghann Cotter | Micah Ecumenical Ministries
Michael Clark | Spotsylvania Regional Medical Center
Michelle McGinnis | Spotsylvania County

Michelle Wagman | Rappahannock Area Community Service Board
Naomie Murdock | Rappahannock Area YMCA
Pamela Steinkoenig | Fredericksburg City Public Schools
Peg Larose | St. Mary's Catholic Ministry
Philip Brown | Mary Washington Healthcare
Renee Edwards | Fredericksburg Health Department
Rich Gaudio | Physical Therapist, Fusion Physical Therapy
Rita Girard | Mental Health America of Fredericksburg
Sam Shoukas | George Washington Regional Commission
Sarah Walsh | Rappahannock United Way
Shelly B. Shipman | Thurman Brisben Center
Sheri Wikert | Fredericksburg Regional Chamber of Commerce
Susanna R. Finn | City of Fredericksburg
Terry Brosche | Virginia Board of Health, RMRC
Tim Ware | George Washington Regional Commission
Whitney Watts | Fredericksburg Regional Chamber of Commerce
Windy Kimball | Fredericksburg Regional Transit
Xavier Richardson | Mary Washington Healthcare

2017 Fredericksburg City CHA Steering Committee

Susanna Finn | Fredericksburg City Government
Karen Delaney | Moss Fee Clinic
Tim Ware | George Washington Regional Commission
Jamia Crockett | Mary Washington Healthcare
Christen Gallik | Fredericksburg Department of Social Services
Jane Yaun | Rappahannock Area Community Services Board
Pam Steinkoeing | Fredericksburg City Schools
Meghann Cotter | MICAH Ecumenical Ministry
Whitney Watts | Fredericksburg Chamber of Commerce
Sarah Walsh | Rappahannock United Way
Sid Dallas | Rappahannock Area Health District
Brooke Rossheim | Rappahannock Area Health District
Dr. Richard Finkelstein | University of Mary Washington
Renee Edwards | Fredericksburg Health Department
Forest Parker | Boys and Girls Club of the Rappahannock Region

2017 Fredericksburg City CHA Workgroups

Community Health Themes and Strengths Assessment Workgroup

Forest Parker | Boys and Girls Club of the Rappahannock Region
Lorrie Andrew-Spear | Virginia Department of Health
Susanna R. Finn | City of Fredericksburg
Sarah Walsh | Rappahannock United Way
Renee Edwards | Fredericksburg Health Department
Donna Powell | Fredericksburg Area HIV/AIDS Support Services
Jordan Zarone | Rappahannock Area Health District
Dr. Leslie Martin | University of Mary Washington
Sarah Walsh | Rappahannock United Way
Sid Dallas | Rappahannock Area Health

Community Health Status Assessment Workgroup

Kaye Pegelow | Home & Heart Health
Terry Brosche | Virginia Board of Health
Dr. Chris McBride | University of Mary Washington
Stephanie Goodman | Rappahannock Area Health District

Rappahannock Area Health District Staff

Brent McCord, Environmental Health Manager
Brooke Rossheim, Health District Director
Jamie Pritchett, Admin and Office Spec
Jennifer Gill, Business Manager
Jordan Zarone, Emergency Coordinator
Kate Dailey, Program Admin Specialist
Pam Bosch, Executive Secretary
Stephanie Goodman, Epidemiologist
Sid Dallas, Registered Nurse Manger

Fredericksburg City Community Health Assessment Vision Statement

An inclusive community which will work collaboratively to provide physical and mental health resources, safe and secure housing, educational opportunities, healthy food choices and space for recreational activities to all its residents.

Table of Contents

Executive Summary

Rappahannock Area Health District (RAHD), along with its partners and with a technical support from Virginia Department of Health (VDH), planned and conducted this Community Health Assessment in 2016/2017. A community health assessment is a systematic examination of health status indicators of a given population used to identify critical assets and health needs of a community. Rappahannock Area Health District serves the City of Fredericksburg, Caroline, King George, Spotsylvania, and Stafford counties in Virginia. The geographical focus of this assessment is Fredericksburg City. The assessment was conducted using the Mobilized for Action through Planning and Partnership (MAPP) tool, which provides steps for evaluating and action planning to improve community health services and outcomes. Guided by the tool, the assessment was planned in late 2016 and conducted in 2017. At the beginning of the assessment, more than 50 stakeholders were identified, oriented about the process and trained on the assessment tool. Following this, a general CHA team, steering committee, and workgroups were formed. Before launching the assessment, the CHA team developed a vision statement. During the assessment phase, both quantitative and qualitative data were collected, forces of change were examined, and the performance of the local public health system was assessed. Data collected from all types of assessments were analyzed and presented to the CHA steering committee. The committee was able to review the gathered data in three meetings and has identified five priority strategic health issues.

1. Food Insecurity: How can our community improve food security for Fredericksburg City residents?
2. Child Health: How can our community improve access to quality physical and mental health care, educational, food, and safe environment for children?
3. Access to Medical and Mental Health Care: How can our community improve access to primary and mental health services, including different types of subspecialty physicians?
4. Disparity in Neighborhood Quality: How can our community ensure that all neighborhoods have access to resources, recreational activities transportation services, housing quality and have safe neighborhoods?
5. Population Growth: How can our community provide all kinds of resources to meet needs of the increasing population?

Community Health Assessment (CHA)

This Community Health Assessment (CHA) is a collaborative effort which involved community members and community partners in identifying significant health issues, causes, risk factors and available resources in Fredericksburg City. The process provides a snapshot of the health gaps and resources in the community which will fundamentally be used to develop a Community Health Improvement Plan (CHIP). Rappahannock Area Health District (RAHD), along with its community partners, conducted this CHA in 2017.

Rappahannock Area Health District

The Rappahannock Area Health District (RAHD) is located between Richmond, VA, and Washington, D.C. The geographic area of RAHD is 1,413 square miles. The Health District (HD) provides medical, environmental and public health services to residents of the City of Fredericksburg, as well as Caroline, King George, Spotsylvania, and Stafford counties in Virginia. The HD has 80 full-time employees (vacancies not included) serving these localities and has a total operating budget of $7,571,385. Fredericksburg Health Department has 17 full-time employees (vacancies not included) and an operating budget of $414,280 which is contributed by the city. The focus area for this Community Health Assessment (CHA) is Fredericksburg City.

Fredericksburg City, Virginia

The City of Fredericksburg was established by an act of the Virginia General Assembly in 1728. It is an independent city located one-hour south of Washington D.C. and 45 minutes north of Richmond. Fredericksburg City is a small town, only 10 square miles of distinctive neighborhoods, which many are historical. The city runs along the Rappahannock River, offering historical sites and number of residential areas. Known for its colonial and civil war history, it is the resting place for thousands of Union soldiers.

Method

Mobilized for Action through Planning and Partnership (MAPP) tool was used to complete the Fredericksburg City CHA. The tool outlines six phases; organizing, visioning, assessment, strategic issues, goals/strategies and action cycle. The Fredericksburg City CHA has completed each phase and has conducted four types of assessments to have a complete understanding of the health status of the community, gaps and available resources:

1. Community Themes and Strengths Assessment (CTSA)
2. Community Health Status Assessment (CHSA)
3. Forces of Change assessment (FOCA)
4. Local Public Health System Assessment (LPHSA)

Figure 1. MAPP

Community Health Status Assessment

Overall Demographics

In 2016, the total population of Fredericksburg City was recorded as 28,297. According to the US Census Annual Population Estimate, the total population of Fredericksburg City has rapidly been increasing in the past 6 years (see figure 2). The 2017 Weldon Cooper projection predicted that the total population of the city would increase to 32,038 in 2025, and to 40,944 in 2040.

The Rate of Natural Increase (RNI) for the city is 1,387, while the Net Migration Rate (NMR) is 1,352. The life expectancy for both male and female is higher than the state. Females have the highest life expectancy of age 79.2 as compared to males (73.3). The residents of the city have a Disability-Free Life Expectancy (DFLE) of age 71.2[1].

Rate of Natural Increase (RNI): is the crude birth rate minus the crude death rate of a population.
Net Migration Rate (NMR): is the difference of immigrants and emigrants of an area in a period of time, usually divided by 1,000 inhabitants.
Disability-Free Life Expectancy (DFLE): is the average number of years an individual is expected to live free of disability if current patterns of mortality and disability continue to apply.

Table 1. Total Population Estimate[2]

Cooper Center Estimates				
April 2010	July 2016	Numeric Change	Rate of Natural Increase	Net Migration
24,286	27,025	2,739	1,387	1,352

[1] Virginia Department of Health DFLE, 2013

[2] University of Virginia, Weldon Cooper Center for Public Services, 2016

Figure 2. US Census Annual Population Estimate[3]

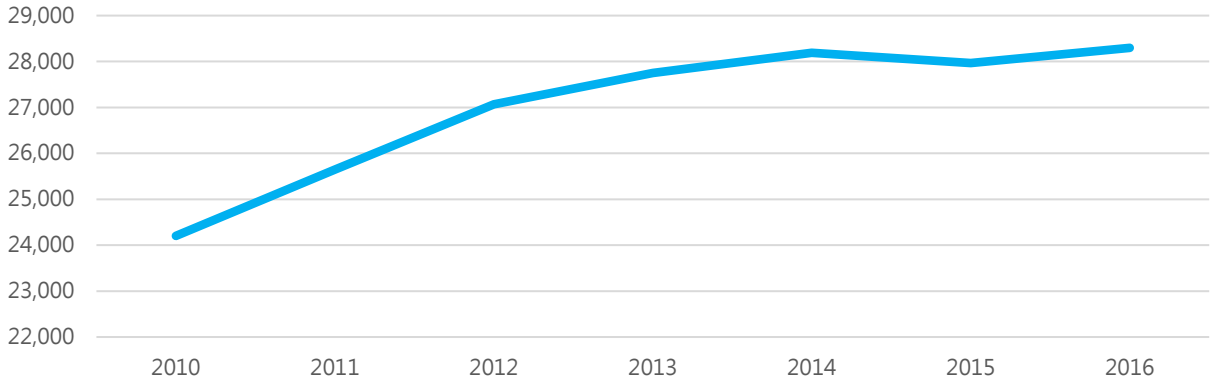
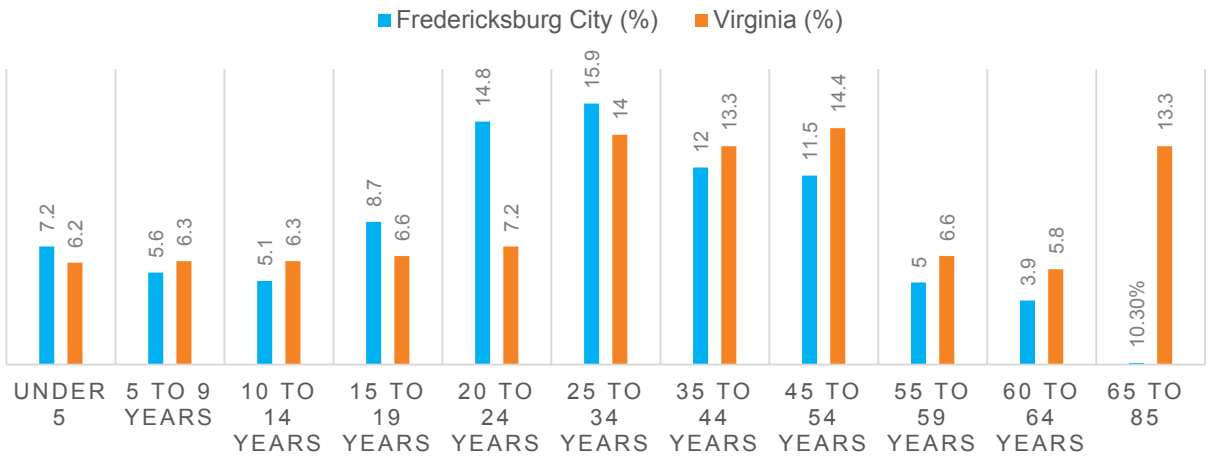


Table 1.1. Life Expectancy[4]

Life Expectancy	Fredericksburg City	Virginia
Female	81.1	81.2
Male	77.1	77.1

Figure 3 illustrates that 67.9% of the city's population is from age 15 to 59. Figure 4 breaks down the race and ethnicity distribution of Fredericksburg City. The highest number of ethnic/race is white, followed by black or African American and Hispanic or Latino.

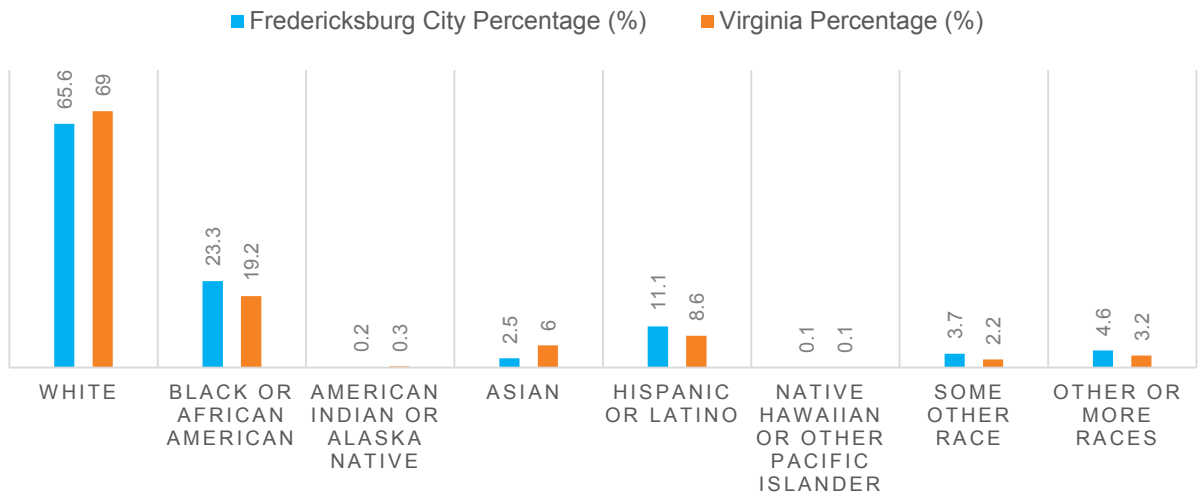
Figure 3. Population by age group[4]



[3] US Census Annual Population Estimate

[4] American Community Survey, 2015

Figure 4. Race and Ethnicity Distribution[4]



Socioeconomic Characteristics

Healthy People 2020

Health begins in our homes, schools, workplaces, neighborhoods, and communities. Staying active, not smoking, getting the recommended immunizations and screening, and seeing a doctor when we are sick influences our health. Health is also determined in part by access to social and economic opportunities such as safe, walkable and bikeable neighborhoods, cleanliness of our water, food, and air, quality of education, employment opportunities, and level of income (Healthy People 2020).

Social determinants of health are complex, integrated, and overlap with social structure and economic systems that are responsible for most health inequalities. Financial stability, education, social and community context, health and health care, and neighborhood and built environment (human made space where people work, play and live) are the five key determinants of health developed by Healthy People 2020. Examining data in these key areas helps us understand the existing health disparities and causes of health issues in a community.

Figure 5. Social Determinants of Health

Socioeconomic characteristics include measures that have been shown to affect health statuses, such as income, education, and employment.

Unemployment

The rate of unemployment in the Fredericksburg City has decreased since 2009 but is higher than the state rate. The median income in the City of Fredericksburg is $51,762 which is lower than the state's median income. As shown in Table 2, the city has a higher Homeowner Vacancy Rate than the state. This rate is usually used as a primary indicator of the housing market. Table 2.1 shows the poverty level by race and marital status in the city. The level of poverty in all races is higher for single female-headed households. Sixteen percent of the total population in Fredericksburg lives below poverty level.

> **Homeowner Vacancy Rate:** is the proportion of property that is vacant 'for sale'. It is computed by dividing the number of vacant units 'for sale only' and vacant units that have been sold but not yet occupied.

Table 2. Socioeconomic Measures

Socioeconomic Measures	Fredericksburg City	Virginia (%)
Percent unemployed[5] (2016)	4.7%	4.0%
Median household income[4]	$51.762	$65,015
Renters spending 30% or more of household income on rent[4]	50.8%	54.5%
Homeowner Vacancy Rate[4]	5.0	2.6

[5] Virginia Employment Commission, 2017

Table 2.1. Poverty Status in Twelve Months by Race in 2015 [4]

Percent of Age Group Below Poverty Level	All Families(%)	Married Couple Families (%)	Female Householder (%)
White alone	9.8	4.0	27.8
Black or African American Alone	17.5	12.8	20.6
American Indian and Alaska Native alone	-(no or too few sample)	-(no or too few sample)	-(no or too few sample)
Asian alone	0.0	0.0	
Native Hawaiian and Other Pacific Islander alone	0.0	0.0	-(no or too few sample)
Some other race alone	42.3	0.0	55.7
Two or more races	28.1	19.0	38.8

Education

Ninety-one percent of the city's population are high school graduates or higher as compared to 88.3% of the population in the state. Figure 6 shows education attainment by race. Native Hawaiian and other Pacific Islander alone make up a lower percentage of the population with high school and bachelor's degree. As illustrated in Figure 7, the percentage of the population who report higher educational attainment also report a higher income. The figure also shows income disparity between males and females despite similar education attainment.

Figure 6. Educational Attainment by Race[4]

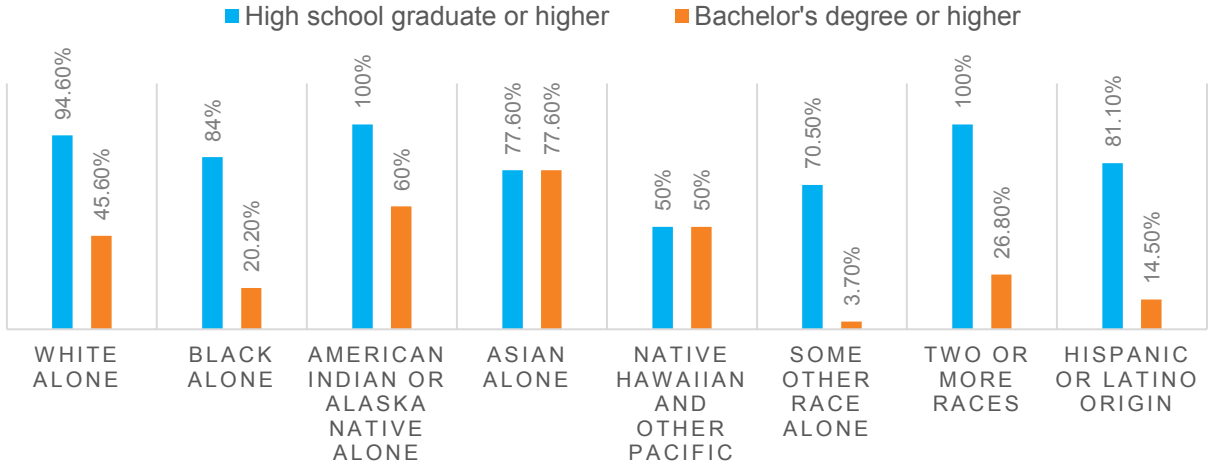
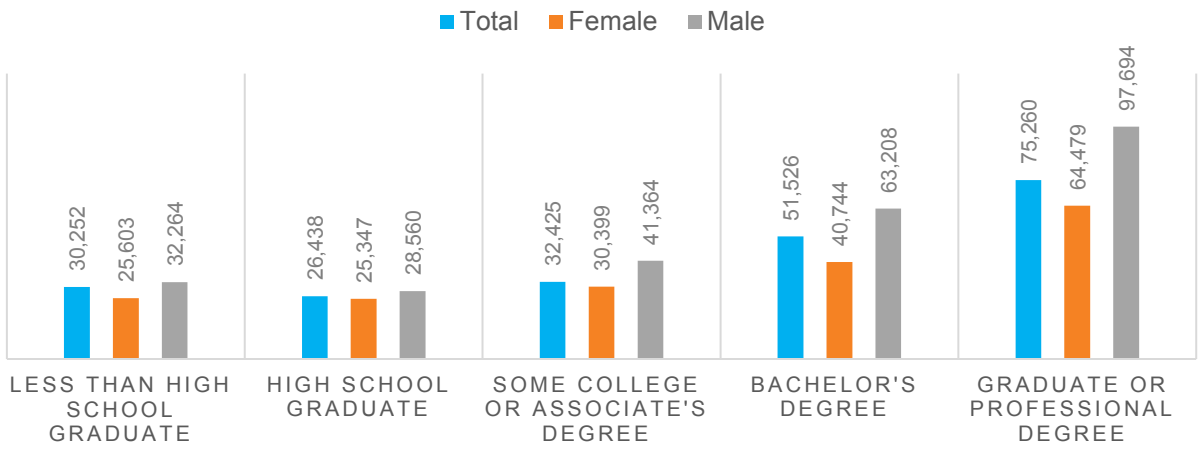


Figure 7. Median Income Earnings by Education Attainment and Gender[4]



Commute

Studies from the American Journal of Preventive Medicine shows that long commutes can lead to a number of health issues such as obesity, anxiety, headaches and increased blood pressure. According to the ACS, the average American's commute to work is 25.5 minutes, while the average in Fredericksburg is 25.9 minutes. 39% of the working population worked in their place of residence and 60.6% reported working outside their city of residence. Table 2.2 shows the number of workers, 16 years and over, and their means of transportation to commute to work. Car, truck or van have the most extensive usage while public transportation is only used by 3.9% of the working population.

Table 2.2. Commuting to Work[4]

Commuting to Work	
Number of workers 16 years and over	13,282
Car, truck or van – drove alone	71.0%
Car, truck or van – carpooled	12.6%
Public transportation (excluding taxicab)	3.9%
Walked	5.%
Worked at home	5.8%

Language and Communication

The Centers for Disease Control and Prevention (CDC) states that the way individuals communicate and understand health knowledge reflects their culture. Designing health communication messages that recognize different cultures and languages can minimize miscommunication. Foreign-born residents account for 8.2% of the total population in the city, and 11.5% of residents do not speak English.

Table 2.3. Special Population[4]

Special Population	Fredericksburg City (%)	Virginia (%)
Foreign born Persons	8.2	11.7
Homeless persons	1	0.0007451
Non-English Speaking persons	11.5	15.9
Single parent families	26	28

Crime

Neighborhood safety can limit the choices of a healthy life. For instance, an individual's motive to exercise is constrained when living in an unsafe neighborhood. In a report released by the Fredericksburg City Police Department, since 2012, the highest number of crime in the city has been larceny. It remained the highest in 2016 followed by burglary/breaking and entering and aggravated assault.

Table 2.4 Year-by-Year Comparison of Crime in Fredericksburg City[6]

Crime	2012	2013	2014	2015	2016
Larceny	922	1038	1093	1061	945
Aggravated Assault*	86	80	94	82	72
Burglary/Breaking and Entering	88	66	77	80	60
Motor Vehicle Theft	20	32	39	36	36
Robbery	19	29	24	21	19
Forcible Rape*	1	3	7	9	4
Murder/Non-Negligent Homicide*	2	1	0	7	2
Total	**1138**	**1249**	**1334**	**1296**	**1138**

*Count by number of victims, not by number of incidence

Healthcare Resources

Access to Resources and Providers

Healthy People 2020 underlines the importance of access to comprehensive, quality care services for promoting and maintaining health and preventing and managing diseases. Fredericksburg City is served by the largest provider in the market, Mary Washington Healthcare (MWH), and the largest regional medical center, Mary Washington Hospital. Other major healthcare providers in the city include HealthSouth Rehabilitation Hospital of Fredericksburg, Sentra Pratt Medical Center, and Moss Free Clinic.

Access to Insurance

According to the National Center for Health Statistics (NCHS) health insurance coverage is an important determinant of access to health care. Uninsured children and adults are less likely to have a usual source of health care or a recent health care visit than those who are insured. The uninsured population in the city is 13.5%, which is higher than the state. According to DATAUSA, in 2014 the number of Medicare enrollees in the city were 2,244. The number has increased from 2013 by 3.9%.

Access to Physicians

The County Health Rankings and Roadmaps reported that the ratio of population to primary care physicians is 690 to 1. Primary care physicians include non-federal practicing physicians under age 75 specializing in general practice medicine, family medicine, internal medicine, and pediatrics. The ratio of population to dentist in the city is 520 to 1.

Mental health providers include psychiatrists, psychologist, licensed clinical social workers, counselors, marriage and family therapists, mental health providers that treat alcohol and other drug abuse and advanced practice nurses specializing in mental health care. The ratio of population to mental health providers in Fredericksburg is 190:1. This measure also includes marriage and family therapists and mental health providers that treat alcohol and other drug abuse.

[6] Fredericksburg City Police Department, 2016

Table 3. Healthcare Resources

Healthcare Resources	Fredericksburg City	Virginia
Persons **without** health insurance[7]	13.5%	11.4%
Children **with** health insurance[8]	94.7%	95.0%
Primary care physicians[7]	690:1	1,320:1
Dentists[7]	520:1	1,530:1
Mental health providers[7]	190:1	730:1

Health-Related Quality of Life

CDC has defined Health-Related Quality of Life (HRQOL) as "an individual's or group's perceived physical and mental health over time." HRQOL at the community level includes resources, policies, and practices that influence population's health perceptions and functional status.

Recreation

Residents of the city reported an average of 3.6 days of poor physical health and 3.5 days of poor mental health. Both average days are higher than the state. Fredericksburg Parks, Recreation, and Events operates and maintains 21 outdoor spaces (walking trails, playgrounds, swimming pool and the Rappahannock River) that provide community members the opportunity to exercise and relax. In 2012 the rate of recreation fitness facilities in the city was 0.15 per 1000 population.

Access to Food

Studies have associated healthy lifestyle with access to grocery stores. In Fredericksburg, 26.3% of the population has low access to grocery stores. The density of liquors stores in the city is higher than the state. High density of liquor stores in neighborhoods have been associated with higher rates of violence, injuries, and death.

[7] County Health Rankings and Roadmaps, 2016

[8] Kaiser Family Foundation, 2017

Table 4. Quality of Life Measures

Quality of Life Measures	Fredericksburg City	Virginia
Poor physical health days[7]	3.6	3.2
Poor mental health days[7]	3.5	3.3
Number of licensed child day care centers[9]	7	2595
Number of short-term child day care centers[9]	0	71
Percent of voters who voted in 2016[10]	63%	75%
Voter turnout (2016)[10]	65.2%	72.2%
Household without a Vehicle[11]	10.7%	6.4%
People with low access to a grocery store (2010)[11]	26.3%	-
Liquor store density per 100,000 population (2015)[11]	17.8	5.5

Food Desert in Fredericksburg City

The US Department of Agriculture (USDA) defines food deserts as areas where there is lack of access to fresh fruit, vegetables, and other healthy foods. The communities in these areas are low-income in which residents do not live near affordable food retailers that offer diverse and healthy food options. Distance to stores or number of stores in the area, household income or vehicle availability, and average income of neighborhood or availability of public transportation are some of the indicators that can be used to measure the prevalence of food deserts in communities.

The USDA's Food Access Research Atlas map uses census tracts to show areas that are low income, low access grocery stores, and have no access to a vehicle in households. A census tract is identified as low income if 1) it has a poverty rate of 20% or greater, 2) if the median family income is less than or equal to 80% of the state-wide median family income, 3) if the tract is in a metropolitan area and has a median family income less than, or 4) equal to 80% of the metropolitan area's median family income.

For the purpose of creating the map in Figure 3, low access is determined by the presence of a

9 Virginia Department of Social Services, 2016

10 Virginia Department of Elections, 2015

11 MWH, Community Health Information Resource (CHIR), 2016

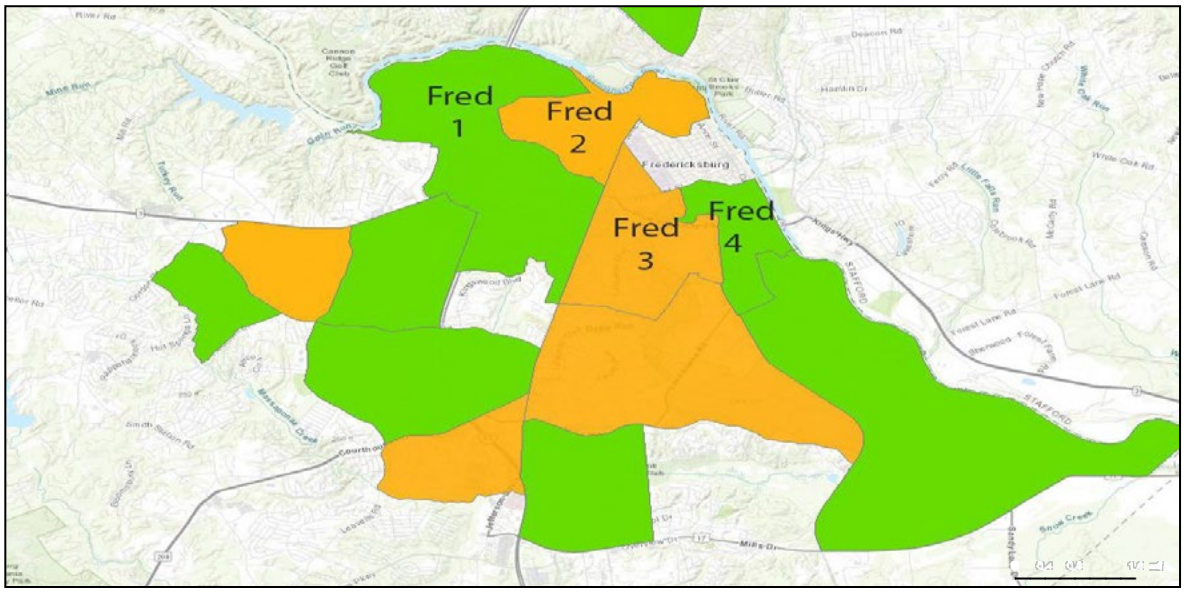
significant number (at least 500 people) or significant portion (at least 33%) of the population living greater than a 1/2 mile or 1 mile from the nearest supermarket, supercenter, or large grocery store for an urban area.

Vehicle access is used to indicate the number of households far from a supermarket with no access to a vehicle. Under this measure, a tract is considered low access if at least 100 households are more than 1/2 mile from the nearest supermarket and have no access to a vehicle. In Figure 3, Fred stands for Fredericksburg. Fred 2 and 3 have residents with low income and access, living a 1/2 mile away from a supermarket. Fred 1 and 4 have residents living 1 mile away from a supermarket.

A census tract is labeled as having a high number of households without a vehicle' when it has more than 100 households without a vehicle. Based on this measure, Fred 1 does not have a relatively high number of households without a vehicle (69 out of 2140 households). Fred 2 has a relatively high number of households without a vehicle (161 out of 2543 households). Fred 3 does not have a relatively high number of households without a vehicle (51 out of 1917 households). Fred 4 has a relatively high number of households without a vehicle (216 out of 1267 households).

Figure 8. Food Access Atlas in Fredericksburg City[12]

Low Income and Low Access at 1 miles (urban) and 10 miles (rural)
Low Income and Low Access at ½ miles (urban) and 10 miles (rural)



[12] US Department of Agriculture, Economic Research Service, 2015

Food Insecurity in Fredericksburg City

In 2010, the White House Task Force on Childhood Obesity found that limited access to healthy choices can lead to poor diets and higher levels of obesity and other diet-related diseases. Moreover, limited access to affordable food choices can lead to higher levels of food insecurity. The USDA defines food insecurity as a limited or uncertain availability of nutritionally adequate foods or uncertain ability to acquire foods in socially acceptable ways. Table 4.1 shows that both the child food insecurity and the food insecurity rate in the city are higher than the state. The city also has a high percentage of food-insecure children likely ineligible for assistance. The indicator shows children in households with income above 185% of the federal poverty level who are likely not income-eligible for federal nutrition assistance.

Table 4.1. Nutrition and Weight [11]

Population	Fredericksburg (%)	Virginia (%)
Adults 20+ who are obese	28.8	27.7
Child food insecurity	16.1	14.4
Food insecure children likely ineligible for assistance	26	34
Food insecurity	16.0	11.3
Low-income preschool obesity	16.8	16.7

Behavioral Risk Factor

Behavioral Risk Factor is any particular behavior which strongly affects health. It increases the chance of developing a disease, disability or syndrome. Table 5 shows Small Area Estimation data of specific behavioral risk factor indicators by locality. All localities are service areas of the Rappahannock Area Health District. Significant areas of needed improvement for the city include binge drinking, breast cancer and cervical cancer screening, no doctor due to cost, flu vaccination, and no physical activity in the past month.

Table 5. Behavior Risk Factors[13]

Behavior risk factor	Fredericksburg (%)	King George (%)	Caroline (%)	Spotsylvania (%)	Stafford (%)
Binge drinking	21.6	22.6	11.7	16.7	16.5
Breast Cancer screening	75.5	76.0	73.0	67.4	82.2
Cervical Cancer screening	82.3	86.2	86.6	84.4	83.1
No doctor due to cost	17.9	13.7	15.2	10.7	10.3
No physical activity in the past month	80.4	78.8	74.3	79.4	81.9
Flu vaccination	40.8	44.1	51.1	45.1	43.5

Environmental Health Indicators

The physical environment directly impacts health and quality of life. Clean air water, as well as safely prepared food, are essential to physical and mental well-being. According to US Environmental Protection Agency (EPA), exposure to environmental substances such as lead or hazardous waste increases the risk for preventable diseases.

Clean Water

Clean water is an indicator of well-being for a locality and/or population. The US EPA's, water assessment summary for Fredericksburg City shows an assessment result of forty-nine streams within five miles. Lower Rappahannock River is reported as an impaired stream, and the cause of impairment is Polychlorinated Biphenyls (PCB) in fish tissue.

Clean Air

The Clean Air Act Prohibits discharging Pollutants from a point source into a water of the United States except for those who obtained the National Pollutant Discharge Elimination System (NPDES) permit. In Fredericksburg, permitted discharge facilities are potential sources of contamination. There

[13] VDH, Small Area Estimate, 2017

are eight NPDES permitted facilities within 5 miles of the city. As displayed in Table 6, Fredericksburg has a high risk for radon gas. It also has a higher percentage of homes that were built before 1950 as compared to the state. These homes are more likely to contain lead.

Table 6. Environmental Health Indicator Measures

Environmental Health	Fredericksburg	Virginia
Air pollution particulate matter*[7] (National level is 12)	8.7 $PM_{2.5}$	8.7 $PM_{2.5}$
Air quality index**[14]	100%	89.9%
Annual rate of pesticide exposures per 100,000***[14]	41.9	41.9
Density of homes built pre 1950 that may contain Lead****[14]	31.9%	20%
Lead soil level*****[14]	25.084 ppm	29.640 ppm
Radon test[15]	2.5 pCi/L (EPA risk= high)	-
Recognized carcinogens released in air[14]	0	-

* Air Pollution - Particulate Matter is the average daily density of fine particulate matter in micrograms per cubic meter ($PM_{2.5}$) in a county. Fine particulate matter is defined as particles of air pollutants with an aerodynamic diameter less than 2.5 micrometers. These particles can be directly emitted from sources such as forest fires, or they can form when gases emitted from power plants, industries and automobiles react in the air (US EPA). **The Air Quality Index (AQI) is a metric that accounts for five different types of air pollution, including particulate matter pollution and ground ozone. The index ranges from 0-500, with 0-50 defined as "good," 50-100 as "moderate," and so on (US EPA). ***Pesticide exposures include exposures to herbicides, insecticides, fungicides, and more. Pesticide poisoning can result in nausea, vomiting, difficulty breathing, and fatigue (US EPA). ****Homes constructed during these time periods pose a drastically increased risk of containing lead paint and lead plumbing (US EPA). *****The USGS surveys soil and sediment samples across the country to track the risk of incidental exposure to dangerous heavy metals. Levels less than 200 ppm are considered "normal," and levels above 400 ppm are considered hazardous for play

Social and Mental Health

Social and mental health factors and conditions can, directly and indirectly, influence overall health status. Mental health, psychological well-being, and safety can be influenced by substance abuse and violence within the home and in the community (Healthy People 2020). In 2015, the rate of confirmed child death due to abuse or neglect in the city was 5.2 per 1000 children and death due to abuse was 5.2 per 1000 children. The city had a higher rate than the state in child abuse, homicide, suicide,

[14] Health Grove by GRAPHIQ, 2015

[15] Air Check, Inc, 2015

fatal drug/poison overdose, fatal Opioid and Fentanyl/Heroin overdose. In 2015, the percentage of Medicare population for both Depression and Alzheimer's were also reported higher than the state.

Table 7. Social and Mental Health Indicator Measures

Social and Mental Health Indicator	Fredericksburg City	Virginia
Rate of child abuse per 1000 children [16]	7.5	2.9
Rate of confirmed child death due to abuse or neglect per 1000 children[17]	5.2	3.3
Rate of homicide[17]	21.3	4.5
Rate of suicide[17]	17.8	12.6
Rate of fatal prescription Opioid overdose[17]	11.8	4.7
Rate of fatal Fentanyl and/or Heroin overdose[17]	21.3	5.6
Depression: Medicare Population[17]	17.2%	15.2%
Depression[13]	18.6%	-
Alzheimer's disease or Dementia: Medicare population[11]	13.6%	9.2%

Maternal and Child Health

Maternal care is correlated with birth outcomes. In Fredericksburg, mothers who received early prenatal care in 2013 were 82.3%. According to Center for Disease Control and Prevention (CDC), smoking during pregnancy increases the chances that a baby will be born early, have low birth weight and can double the risk of stillbirth. The rate of maternal smoking per 1000 live birth in the city is higher than the state. The rate of low birth weight and rate of teenage pregnancy in the city are also higher than the state (see figure 7).

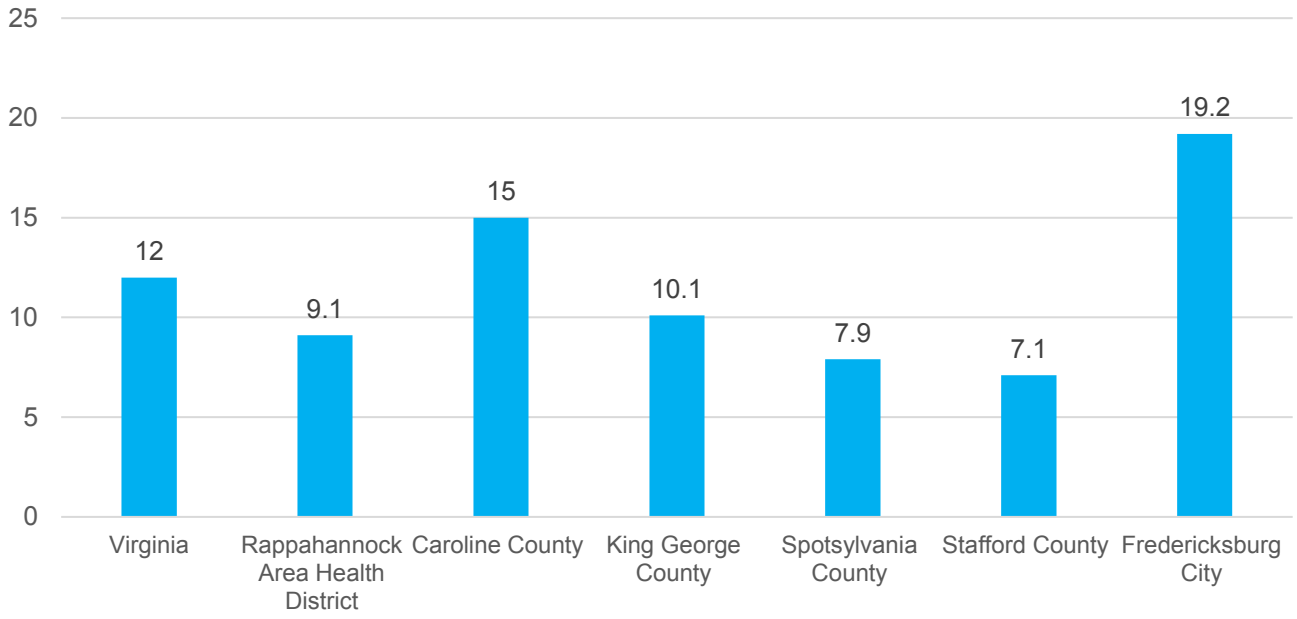
16 Virginia Department of Social Services, 2016

17 Office of the Chief Medical Examiner's Annual Report, 2015

Table 8. Maternal and Child Health

Maternal and Child Health	Fredericksburg City	Virginia
Total infant mortality (2013)[18]	7	600
Maternal smoking rate per 1000 live birth[11]	109.6	56.0
Very low birth weight (less than 1,500 grams)[11]	104.9 per 1000	77.5 per 1000
Mothers who received early prenatal care (2013)[11]	82.3%	82.9%

Figure 9. Teen Pregnancy (rates per 1000 female age 10 to 19)[19]



[18] VDH, Data Portal, 2016

[19] VDH, Health Statistics, 2015

Chronic Disease

Risk Behaviors Related to Chronic Disease

Health risk behaviors are unhealthy behaviors that can be changed. According to the Center for Disease Control (CDC), risky behaviors such as lack of physical activity, poor nutrition, tobacco use and over-consumption of alcohol are related to chronic diseases and conditions. Table 9 shows the leading causes of chronic disease hospitalization and their associated cost for Fredericksburg City.

Table 9. Chorionic Disease Hospitalizations[18]

Disease	Number of Hospitalizations	3-Year Rolling Rate	Total Hospitalization Charges $
Cardiovascular disease	382	216.0	18,455,321
Heart disease	262	146.8	13,498,053
Stroke	85	50.3	3,028,427
Chronic Obstructive Pulmonary disease	82	44.8	2,331,408
Arthritis	63	41.5	3,403,701
Diabetes	52	26.5	1,404,979
Hypertension	41	27.7	1,658,211
Asthma	39	22.3	855,443

Cancer

The American Cancer Society estimates a daily occurrence of 4,630 new cancer cases and 1,650 deaths in the U.S. in 2017.[20] The daily estimate for Virginia is 42,770 new cases and 14,870 deaths.[20] The three leading causes of cancer mortality in Fredericksburg City are Trachea, Bronchus and Lung, Colon and Rectum, and Pancreas cancer. Table 9.2 shows the leading cancer incidence rate for both female and male.

[20] American Cancer Society, 2017

Table 9.1. Causes of Cancer Morality[21]

Cancer	Count	Age Adjusted Death Rate (2005-2014)
Trachea, bronchus and lung	115	49.53
Colon and rectum	41	16.46
Pancreas	33	13.89
Prostate	23	9.07
Breast	19	9.25
Brain and other nervous system	17	7.63
Non-Hodgkin's Lymphoma	16	6.45

Table 9.2. Leading Cancer Incidence Rate for Female and Male

Cancer Site	Rate
Breast	93.2
Lung	78.8
Colorectal	35.4

Communicable Diseases

Table 10 shows the rate of communicable diseases for the city and state in descending order. The top three communicable diseases are Chlamydia, Hepatitis C, and Gonorrhea.

[21] VDH, 2014

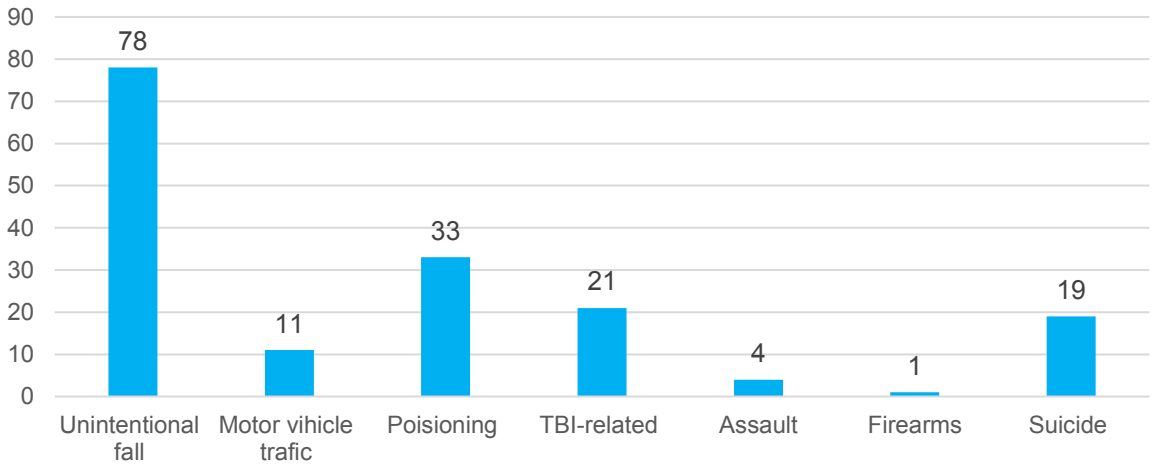
Table 10. Communicable Diseases[18]

2015	Fredericksburg (Rate)	Virginia (Rate)
Chlamydia	649	424.5
Hepatitis C, chronic	204.6	98.4
Gonorrhea	116.4	97.2
EBLL children <16	114	13.6
HIV	31.7	12.8
Lyme	24.7	18.5
Salmonella	24.7	14.2
Hepatitis B, chronic	17.6	22.5
Early Syphilis	17.6	8.9
Campylobacter	14.1	18.8
Giardia	7.1	3.2
H.Flu	3.5	1.5
Pertussis	3.5	4.4
RMSF	3.5	3.6
Group A Strep	3.5	2.7
TB	0	2.5
Hepatitis A	0	0.6
Chickenpox	0	4.3

Injury Hospitalizations

The leading causes of hospitalizations due to injury in Fredericksburg are unintentional falls, poisoning, and suicide.

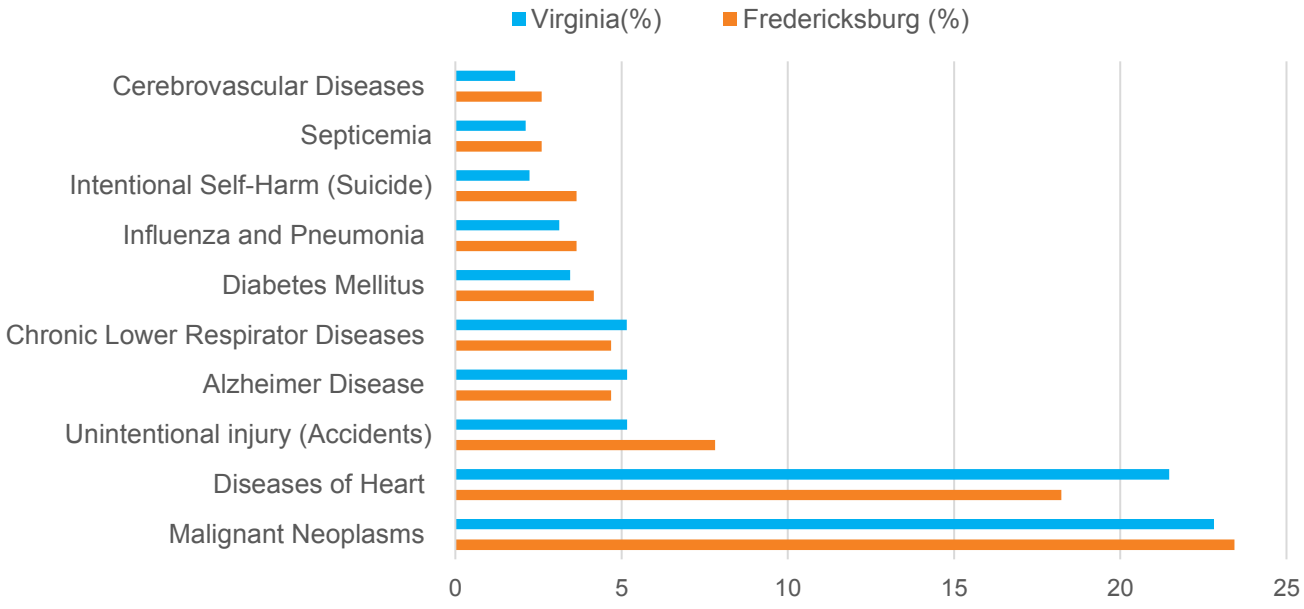
Figure 10. Injury Hospitalizations[18]



Leading Causes of Death

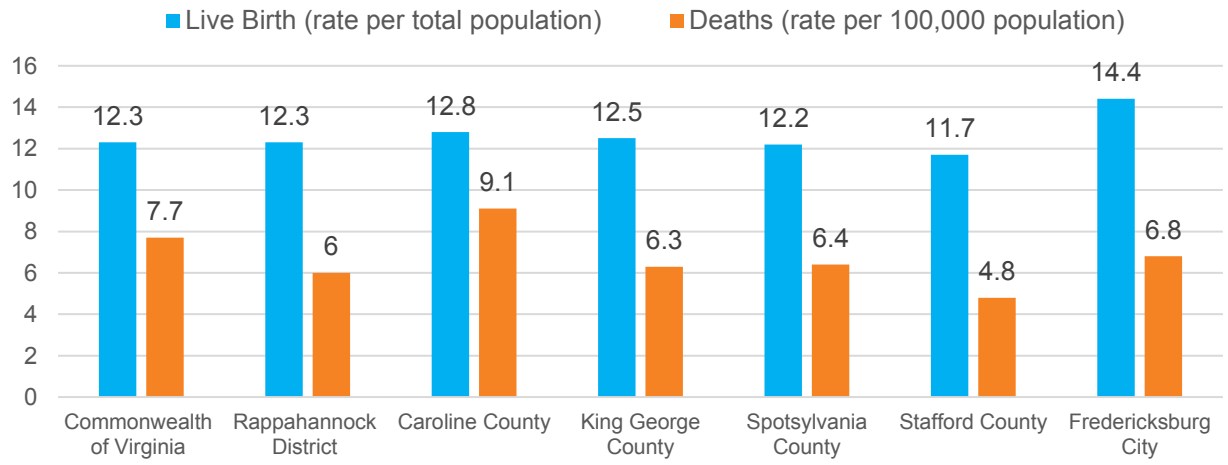
One of the measures of health status in a community is mortality (rates of death within a population). The ten leading causes of death in Fredericksburg City are shown in figure 11.

Figure 11. Ten Leading Causes of Death in 2015[19]



The birth rate for Fredericksburg City is higher than the neighboring counties and the state. However, the city has a lower death rate when compared to the state.

Figure 12. Vital Events in 2015[19]



Community Themes and Strengths Assessment (CTSA)

A Community Themes and Strengths Assessment (CTSA) is a process used to identify thoughts, opinions, and concerns that interest and engage the community, including insights about the quality of life and community assets that can be used to improve health. The CTSA in Fredericksburg City was conducted from March 2017 to July 2017. Information was gathered from the community members using a survey (see Appendix C). The survey was developed and reviewed by a CTSA workgroup. Survey items were designed to uncover respondents' perspectives about the community in which they live, availability of resources, major health issues, and needed improvements related to community health.

Method

The total population of the city is 28, 297. Based on this number, a sample size of 588 was calculated with a 95% confidence level and 4% margin error using SurveyMonkey. The CTSA survey was available in English and Spanish and was made accessible to the public both in paper and electronic copies. In addition, the survey was also distributed door to door in a number of neighborhoods, agencies, and events. A total of 594 residents of Fredericksburg City (Zip Code: 22401) completed the survey. Among the respondents, 364 (62%) identified as female and 170 (31.8%) as male.

Table 13. Gender of Survey Respondents

Value	Percent	Count
Female	68.2%	364
Male	31.8%	170
Total		**534**

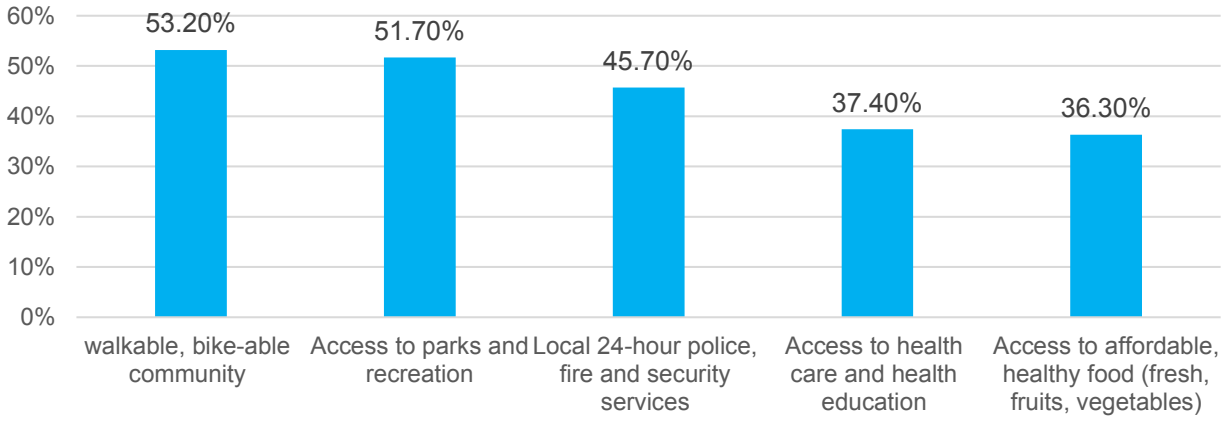
Findings

Strengths of the Community

Survey question: What are the greatest strengths of the community you live in?

The survey question included twenty possible choices and a blank space for respondents to indicate other strengths. Participants were asked to select five options from twenty items. Residents of Fredericksburg City identified walkability and bike-ability of their community as Fredericksburg City's top strength. Access to parks and recreation, local 24-hour police fire and security services, access to health care and health education, and access to affordable, healthy food were also identified as community strengths. See appendix D for a summary of other strengths of the community mentioned by respondents.

Figure 13. Top Five Strengths of the Community

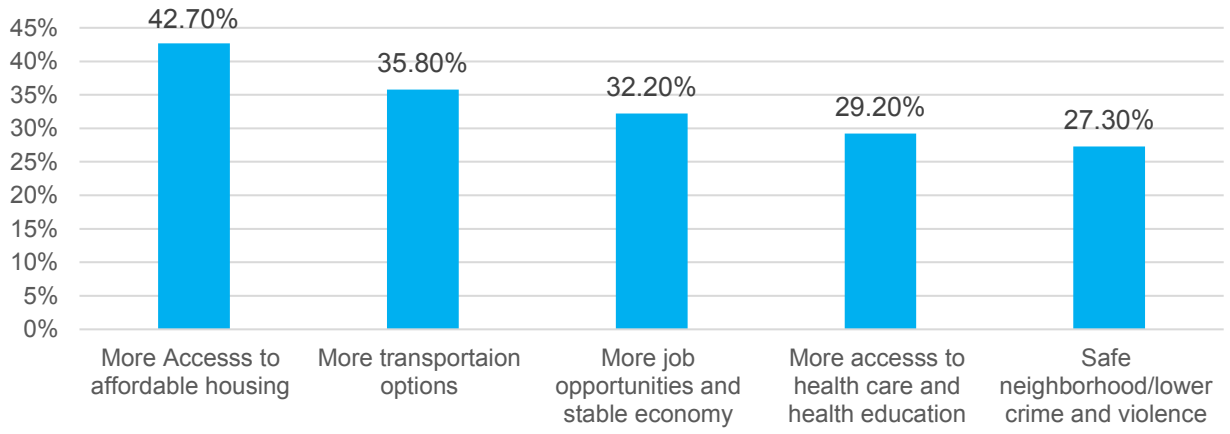


Quality of Life

Survey question: In your opinion, what changes in the community would most improve your quality of life?

A majority of the respondents identified access to affordable housing as the primary determinant for improving their quality of life in the community. More access to transportation options, more job opportunities and stable economy, more access to health care and health education, and safe neighborhood/lower crime and violence were also identified as important changes to improve quality of life. See Appendix D for a summary of other needed improvements listed by respondents.

Figure 14. Top Five Areas that Would Improve Quality of Life for the Community

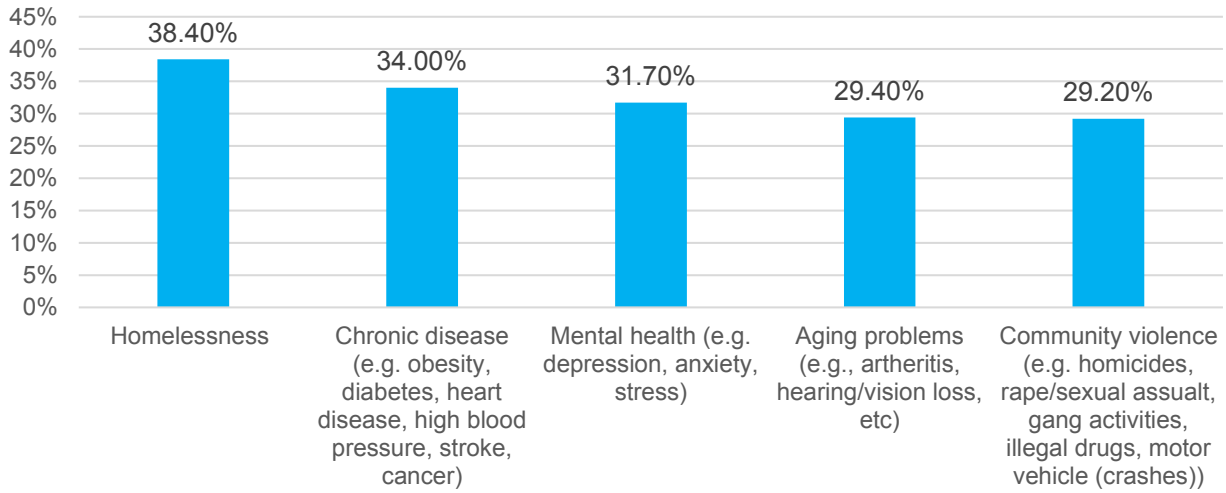


Important Health Related Issues

Survey question: What are the important health-related issues that affect the community you live in?

The primary health issues identified by the residents were homelessness, chronic disease, mental health, aging, and community violence. See Appendix D for a summary of other health issues listed by the respondents.

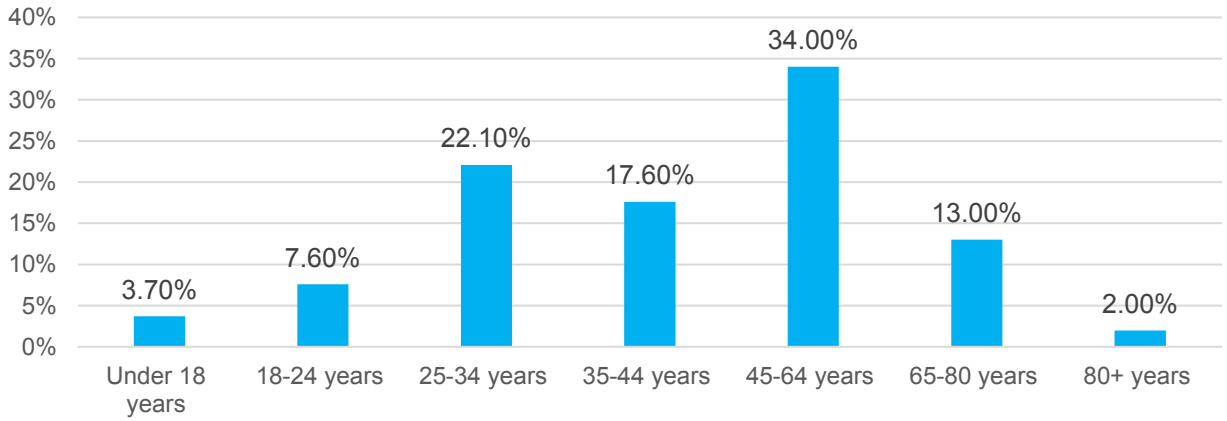
Figure 15. Top 5 Important Health Related Issues



Age

A majority of the respondents were between 45 to 65 years old, followed by those between 25 to 34 years old.

Figure 16. Age of Respondents



Race and Ethnicity

The sample size of race and ethnicity form the survey corresponded with the demographic composition of the city. A majority of the respondents identified as White/Caucasian followed by African American/Black and Hispanic/Latino.

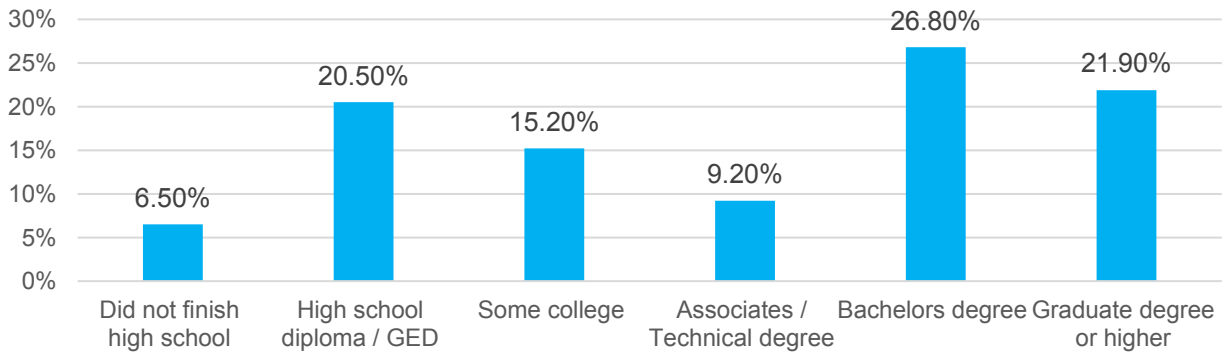
Table 14. Race and Ethnicity of Respondents

Value	Percent	Count
White / Caucasian	56.3%	326
African American / Black	26.6%	154
Hispanic / Latino	6.0%	35
Multiracial	3.8%	22
Asian / Pacific Islander	3.3%	19
Native American	0.5%	3
Total Count		**579**

Level of Education

As shown in figure 17, 26.8% of the respondents have bachelor's degree, 21.9% have a graduate degree or higher, and 20.5% have high school diploma/GED.

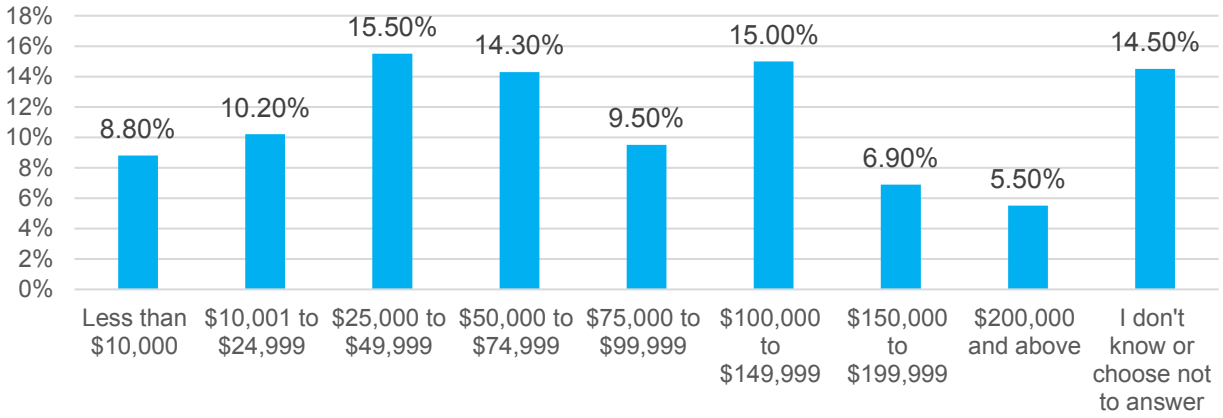
Figure 17. Education Level of Respondents



Annual Household Income

The annual household income of the respondents is illustrated in the diagram below. A high percentage of the respondents reported making from $25,000 to $49,999.

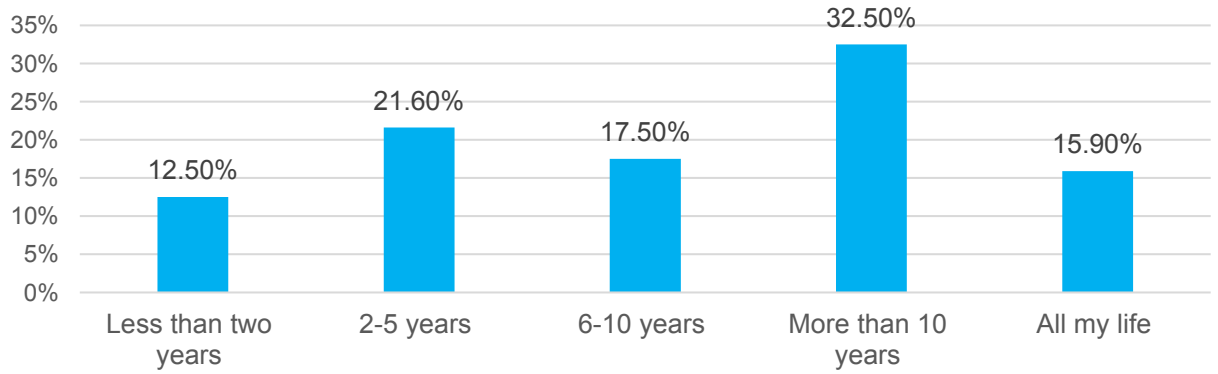
Figure 18. Annual Household Income of Respondents



Number of Years Lived in the Community

A high percentage of the respondents reported living in the city more than five years. A total of 65.9% of the respondents indicated that they lived in the city either six to ten years, more than ten years or all their lives.

Figure 19. Number of Years Lived in the Community

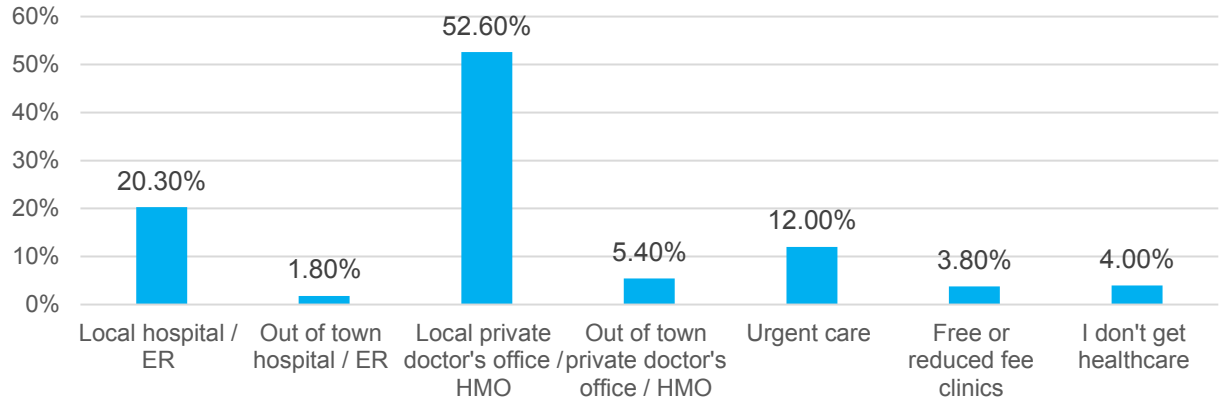


Health Care Utilization

Survey question: Where would you go for healthcare?

As displayed in figure 20, 52.5% of the population responded that they would go to local private doctor's office/HMO, while 19.8% have indicated they would go to local hospital/ER.

Figure 20. Health Care Utilization

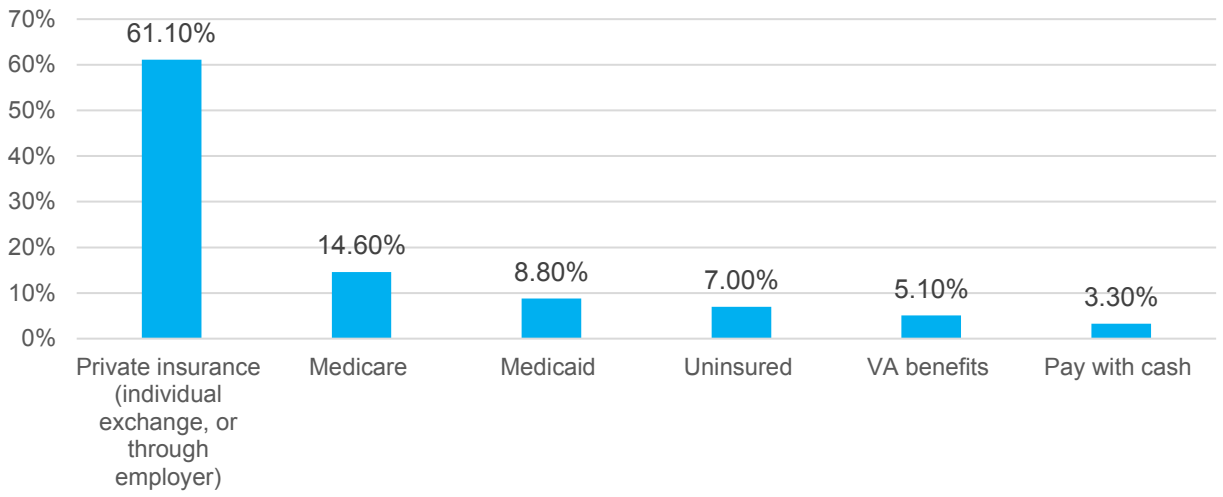


Payment Method for Healthcare

Survey question: How do you pay for healthcare services?

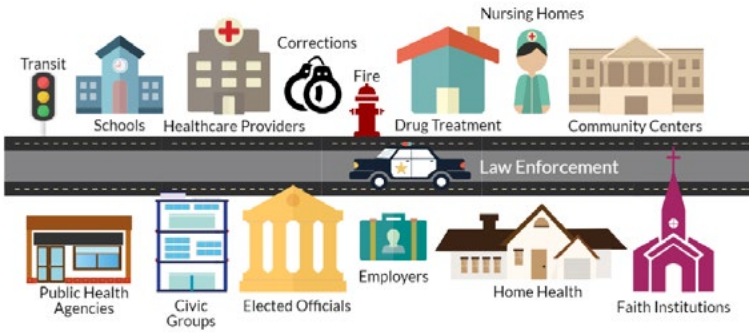
Figure 17 shows that 7% of the respondents are uninsured and 3.3% pay with cash. The highest percentage of respondents are insured through individual exchange or employer while 8.8% are insured by Medicaid and 14.6% by Medicare. A crosstab analysis of method of payment and health care utilization showed that none of the respondents without health insurance or paying out of pocket utilize the local or out-of-town hospital ER.

Figure 21. Method of Payment for Healthcare



Local Public Health System

Figure 22. Virginia Public Health



According to CDC, a Local Public Health System (LPHS) is defined as all public, private, and voluntary entities that contribute to the delivery of Essential Public Health Services within a jurisdiction. The public health system includes public health agencies, healthcare providers, public safety agencies, and organizations working on human service and charity, education and youth development, recreation and arts, economic development and environment. All of these entities contribute to the health and well-being of the community in some way.

Local Public Health System Assessment

The Local Public Health System Assessment (LPHSA) measures the capacity of the local public health system to deliver essential public health services. It brings together community members and organizations to discuss and evaluate how the public health system measures against the national performance standards. This type of assessment utilizes a systems perspective as its foundation to ensure the contributions of all entities are recognized in assessing the local delivery of essential services. Fredericksburg City completed its LPHS assessment in August 2017. The assessment was conducted using the National Public Health Performance Standards (NPHPS) Local Instrument (version 3.0).

National Public Health Performance Standards

The National Public Health Performance Standards (NPHPS) were developed under the leadership of Centers for Disease Control and Prevention, and its partner organizations (American Public Health Association, Association of State and Territorial Health Officials, National Association of County and City Health Officials, National Association of Local Boards of Health, National Network of Public Health Institutes and the Public Health Foundation). The overall purpose of the NPHPS Local Instrument is to improve public health system performance. This instrument is a tool based on the Performance Standards that is designed for use in evaluation of essential services in communities.

The instrument is constructed using the ten Essential Services as a framework. Each Essential Service includes between 2-4 Model Standards that describe the key aspects of an optimally performing public health system. Each Model Standard is followed by assessment questions that serve as measures of performance. Responses to these questions indicate how well the Model Standard – which portrays the highest level of performance or "gold standard" – is being met.

Overview of Essential Services, Model Standards and Performance Measures

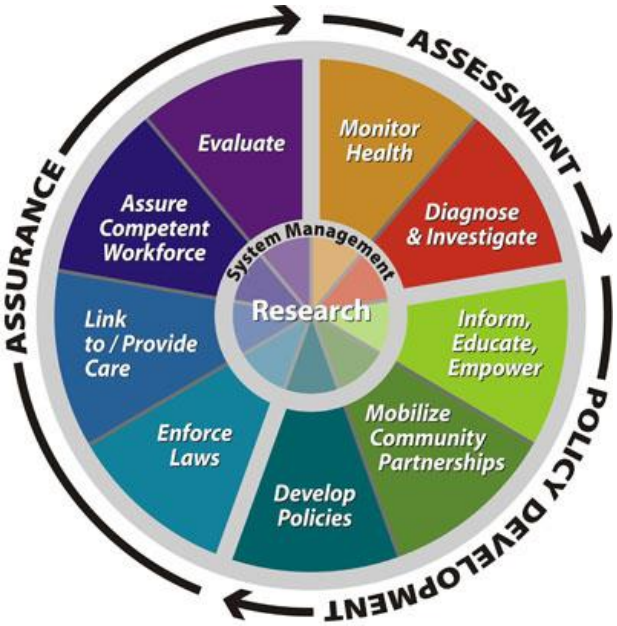
Essential Services

The Ten Essential Public Health Services provided the framework for the assessment by providing the public health activities that should be undertaken in all local communities.

The Ten Essential Services

1. Monitor health status to identify and solve community health problems.
2. Diagnose and investigate health problems and health hazards in the community.
3. Inform, educate, and empower people about health issues.
4. Mobilize community partnerships and action to identify and solve health problems.
5. Develop policies and plans that support individual and community health efforts.
6. Enforce laws and regulations that protect health and ensure safety.
7. Link people to needed personal health services and assure the provision of health care when otherwise unavailable.
8. Assure competent public and personal health care workforce.
9. Evaluate effectiveness, accessibility, and quality of personal and population based health services.
10. Research for new insights and innovative solution to health problems.

Figure 23. The Ten Essential Services



Model Standard

A Model Standards is the 'Gold Standard' that represents the major components or practice areas of the Essential Service. There are two to four Model Standards for each Essential Service.

Performance Measures

Performance Measures determine the level at which the system performs related to the Model Standard via a specific score that is based on LPHS partners' consensus. These measures are essentially the assessment questions to which participants respond. Each question is phrased as "At what level does the local public health system...." and then is scored by participants to assess the system's performance on a number of scale as illustrated in figure 24.

Figure 24. Scoring Guide

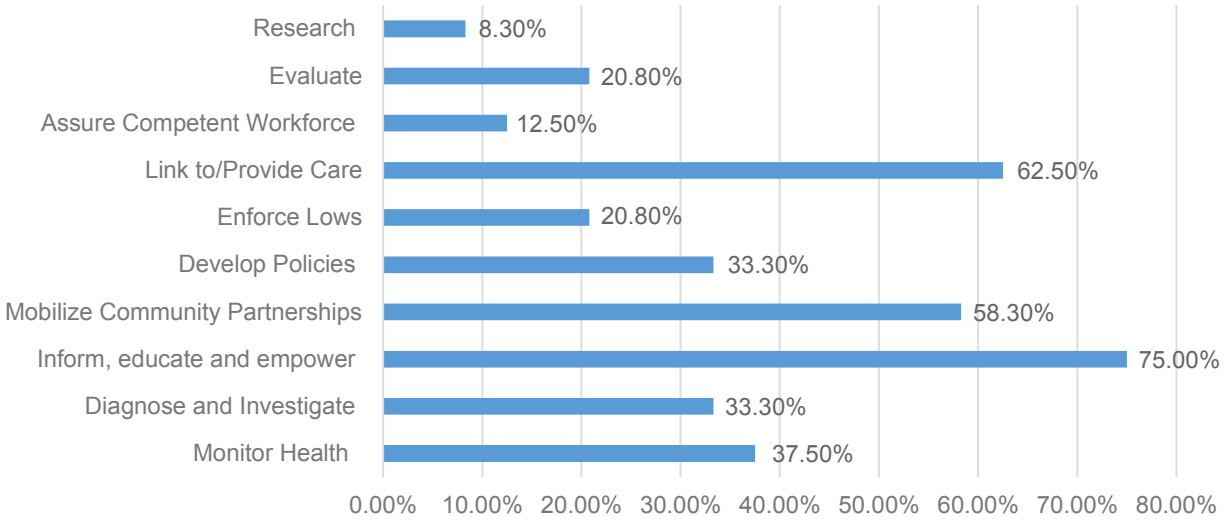
Optimal Activity (76-100%)	Greater than 75% of the activity described within the question is met.
Significant Activity (51-75%)	Greater than 50%, but no more than 75% of the activity described within the question is met.
Moderate Activity (26-50%)	Greater than 25%, but no more than 50% of the activity described within the question is met.
Minimal Activity (1-25%)	Greater than zero, but no more than 25% of the activity described within the question is met.
No Activity (0%)	0% or absolutely no activity.

Fredericksburg City Local Public Health System Assessment

The Rappahannock Area Health District facilitated the Fredericksburg City LPHSA using the NPHPS tool. The assessment was conducted to learn how well our local public health system is doing and to improve its performance.

The assessment was guided by the Ten Essential Public Health Services. A total of 19 attendees participated in the assessment. Before the day of the assessment, a survey was shared with the stakeholders to collect data on the type of Essential Service their organization provides. Figure 22 summarizes their responses.

Figure 25. Essential Services Provided by LPHSA Participating Organizations

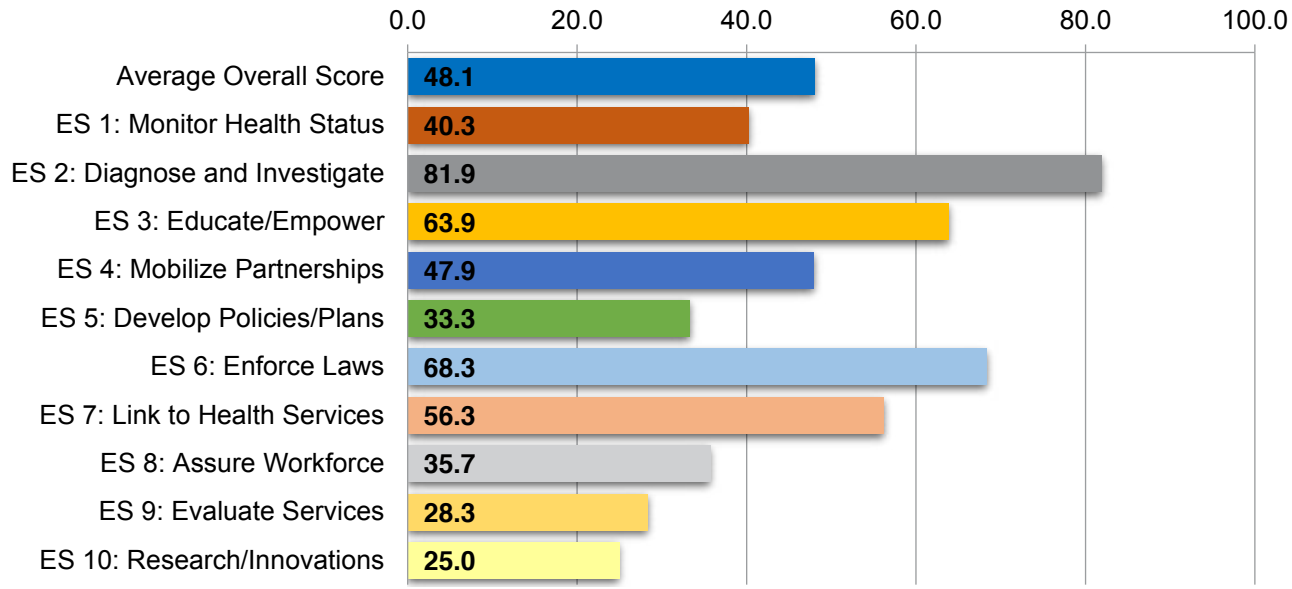


On the day of the assessment, the participants shared information about services provided to the community under each Essential Service and Model Standard. Following the discussion, the attendees scored each performance measure by majority vote. (see Appendix D for questions used during the assessment). Below is a report of the scores generated using the LPHSA score spreadsheet from CDC and a summarized discussion note.

Average Scores for the Ten Essential Public Health Services

The Figure below displays the average score for each Essential Service, along with an overall average assessment score across all Ten Essential Services.

Figure 26. Summary of Average Essential Public Health Service Performance Scores



The only Essential Service scored at an optimal performance level is Essential Service 2, Diagnose and Investigate. The lowest scored essential service is Essential Service 10, Research/Innovations. The average system performance score was 48.1%. This places the overall local public health system of Fredericksburg City in the moderate activity performance category for all essential services. The LPHS performance by score category is listed in table 15.

Table 15. Performance Score by Category

Performance Score	Essential Services
Optimal Activity (76-100%)	ES2 Diagnose and Investigate
Significant Activity (51-75%)	ES7 Link to Health Services ES3 Educate/Empower ES6 Enforce Laws
Moderate Activity (26-50%)	ES5 Develop Policies/Plans ES8 Assure Workforce ES1 Monitor Health Status ES4 Mobilize Partnership ES9 Evaluate Services
Minimal Activity (1-25%)	ES10 Research/Innovation

Model Standard Summary Overview

Below is an overview of scores by model standard, ranked from highest to lowest performance level. The only model standard scored as having an optimal performance level is Model Standard 2.3, Laboratories. This model standard falls under ES 2, Diagnose and Investigate. The lowest score was given to Model Standard 8.1, Workforce Assessment. This model standard was scored as having no activity.

Table 16. Model Standard Score Summary

Model Standard	Performance	Overall Score (%)
2.3 Laboratories	Optimal	100.0
2.1 Identification/Surveillance	Significant	75.0
2.2 Emergency Response	Significant	75.0
3.3 Risk Communication	Significant	75.0
6.1 Review Laws	Significant	75.0
6.2 Improve Laws	Significant	75.0
7.2 Assure Linkage	Significant	68.8
3.2 Health Communication	Significant	66.7
4.1 Constituency Development	Significant	62.5
3.1 Health Education/Promotion	Moderate	50.0
5.4 Emergency Plan	Moderate	50.0
8.3 Continuing Education	Moderate	50.0
9.1 Evaluation of Population Health	Moderate	50.0
7.1 Personal Health Service Needs	Moderate	43.8
10.1 Foster Innovation	Moderate	43.8
1.1 Community Health Assessment	Moderate	41.7
1.2 Current Technology	Moderate	41.7
5.1 Governmental Presence	Moderate	41.7
8.2 Workforce Standards	Moderate	41.7
6.3 Enforce Laws	Moderate	40.0
1.3 Registries	Moderate	37.5
9.2 Evaluation of Personal Health	Moderate	35.0
4.2 Community Partnerships	Moderate	33.3
5.2 Policy Development	Moderate	33.3
8.4 Leadership Development	Moderate	31.3
5.3 CHIP/Strategic Planning	Minimal	25.0
10.2 Academic Linkages	Minimal	25.0
9.3 Evaluation of LPHS	Minimal	6.3
10.3 Research Capacity	Minimal	6.3
8.1 Workforce Assessment	No Activity	0.0

Performance Measures

The final model standard score is an average of all the performance measures or the benchmark activity scoring. One hundred eight performance measures activities were assessed based on how well the activity was being met in the local public health system as a whole (see Appendix D for performance measure scores).

Strengths, Weakness and Opportunities for Improvement
During the assessment, participants identified the LPHS's strengths, weaknesses, and opportunities for improvement. Below are the highlights from the discussion (see Appendix D for a complete note).

Frequently Cited Strengths

- Community Health Needs Assessment, Needs Assessment, and Community Behavioral Assessments are frequently conducted
- Community Health Resource (CHR) tool, shows county-level health indicator data
- Virginia Department of Health data portal can be used as a resource for the city
- The city has a GIS system and is used by different agencies
- Data is continually gathered by many organizations
- Monitoring and surveillance activities are performed
- The city has an Emergency Coordinator
- After action reports are prepared by different agencies
- 24-hour State Public Health lab, labs owned by MWH, FBI and law enforcement are also available
- Fred-Alert system used for emergency communications
- Directories of community organizations available (see Appendix F)
- Up-to-date with current laws, regulations and ordinances

Frequently Citied Weaknesses

- Data sources are not user-friendly for lay community members
- Reported data is not made public on time
- Limited resources to maintain monitoring and surveillance activities
- No standard list to compile directory of community organizations
- Public health issue forums are created, but no action is taken to measure their effectiveness

Opportunities for Improvement

- Share an after-action report with the public
- Share information from ongoing analysis of community health status and provide related recommendation to policymakers
- Providing risk communication training for employees and volunteers
- Public health issues communication
- Efforts in establishing agency partnerships and strategic alliances to improve health in the community
- More outreach to policymakers and lobbying efforts
- Test the emergency preparedness plan through a regular drill at a city level
- Improve incentives for workforce training, such as tuition reimbursement, time off for class, and pay increases
- Provide continual training for the public health workforce to deliver services in a culturally competent manner and understand social determinants of health
- Collaboration with research institutes and universities

Forces of Change Assessment

The Forces of Change (FOC) Assessment was one of the four assessments conducted as recommended by the Mobilizing for Action through Planning and Partnerships (MAPP) tool, as part of the CHA for Fredericksburg City. The MAPP tool was used to guide the CHA conducted in the City. The FOCA helps to identify trends, factors, and events that would influence the health and quality of life of the community, or impact the work of the local public health system.

Trends: patterns over time, (e.g., Fredericksburg's growing population).
Factors: discrete elements, (e.g., Fredericksburg is a historic city).
Events: one-time occurrences, (e.g., natural disaster)

On June 2017, nineteen stakeholders and community members gathered and brainstormed in small groups to identify forces of change under eight categories; social, economic, political, demographic, technological, environmental, scientific, legal/legislative and ethical. The discussion was guided by the following two questions;

1. What is occurring or will occur over the next five years that impacts the health of Fredericksburg City?
2. What specific threats or opportunities are generated by these occurrences?

The participants also brainstormed to identify threats posed and opportunities created under each category. Notes were transcribed during the discussion and organized into the tables below.

Social Forces of Change

Table 17

Forces (Trend, Events, Factors)	Threats Posed	Opportunities Created
Mental health/behavioral health – increase in Emergency Custody Order and Temporary Detention Orders; opioid crisis	Lack of self-sufficiency leading to poverty, crime Increased cost to the community Greater burden on existing resources	Opportunities to work collaboratively, create linkages, incentivize provision of needed services – i.e. student loan repayment
Population increase, increased in number of documented /undocumented immigrants, language barriers, homelessness - shift in age group to a younger population, educational cost income disparity, crime rate	Greater burden on public safety and other public services, political and economic strain, access to care, inability to access most resources/education/etc. due to communication difficulties	Seek additional funding, facilities, resources to expand services to accommodate growing population, expand sphere of taught languages in school/training/workforce, growing population -> larger workforce if they acquire jobs in community

Economic Forces of Change

Table 18

Forces (Trend, Events, Factors)	Threats Posed	Opportunities Created
Affordable housing	Lack of affordable housing	Creation of programs that support financial health and access to home ownership; creation of price controlled housing; creation of housing authority
Transportation infrastructure	Less attraction of new businesses Public transportation options are decreasing Reduces family access to healthy food, healthcare, etc.	Find other creative means of leveraging existing transportation services (i.e. Uber, car service work shuttles)
Lack of employment opportunities; Outward migration of workers to jobs in Northern VA, other areas	Stress, environmental damage, lack of time/opportunity for self care, potential for people to move out of Fredericksburg to be closer to job	

Vulnerable populations unable to secure jobs at fair wage (i.e. felons, undocumented immigrants	Higher unemployment More people reliant on public programs and services	Revise regulations, incentivize hiring of vulnerable populations at fair wage
Lack of land for development	Lower ability to build new developments or business	
Income disparities Rising cost of housing	Threat to healthcare No opportunity for upward mobility/barrier to improvement Conflict and polarization Lack of affordable, healthy food	Sustainable wages and benefits Opportunity for farmers markets

Political/Legal Forces of Change

Table 19

Forces (Trend, Events, Factors)	Threats Posed	Opportunities Created
Change in local political structure, leadership, workforce	Loss of institutional knowledge	Opportunity for mentorship, knowledge sharing, passing down institutional information
Potential for changes to Affordable Care Act	Threat to health insurance for individuals reliant on ACA, as well as the financial situation of local hospital and healthcare providers	Opportunity to communicate impact to local politicians, increase political activism
Revision of state and local priorities	Reallocation of resources	
Criminalization of social problems Changes to federal housing and social programs Political issues surrounding	Over-incarceration Decrease in population productivity	Alternative/restorative programs in place of/in addition to current Empower individuals convicted of crime to know what resources are available to them

undocumented immigrants		
Certificate of Public Need (COPN)	Healthcare is changing and COPN is not keeping up with current state of affairs	
Regional collaboration	Competition	Access to federal (or other) funding for collaborative programs More resources/alignment for synergy Utilize GWRC and other existing resources

Technological Forces of Change

Table 20

Forces (Trend, Events, Factors)	Threats Posed	Opportunities Created
Misuse of technology	Misinformation Poor or dangerous communication among teens using technology	Communication with youth Use of peer-driven work Up-to-date community resource guide Improved 211 system
Lack of free and available Wi-Fi in the city	Barrier to productivity in tech-centric world	Creation of better network in the city
Increased use of technology	Disaster impact on continuity	Backup/redundant systems Tele health, online services
Lack of infrastructure to attract new industry	No tech industry in our area	Broadband
Technology education	Create more teleworkers, more online and tech based workers More online services, etc.	

Environmental Forces of Change

Table 21

Forces (Trend, Events, Factors)	Threats Posed	Opportunities Created
Increase in population Food Deserts	Impact on resources and services in the area Impact on water, air, land, pollution, etc.	
Loss of green space, noise and air pollution	Fewer opportunities for families, children, etc. to make use of green space Threat to social opportunities, health	
Lack of vested interest in our area	Jobs, activities, etc. pull residents to other areas	
Location	I-95, between DC and Richmond We are in the evacuation path for DC area residents (emergency preparedness)	MRC, CERT, other opportunities to engage in preparedness organizations Increase involvement with DC area entities, CSX, VDOT, etc.
Rappahannock River	Health issues (runoff, pollution, water safety, bacterial contamination)	Increase riverfront activity Dredging Opportunities to secure funding for water monitoring and treatment

Scientific Forces of Change

Table 22

Forces (Trend, Events, Factors)	Threats Posed	Opportunities Created
Scientific discoveries leading to longer life	Larger aging population with increased needs	
Shortage in healthcare infrastructure	Lack of providers for uninsured Citizens with fewer resources are less likely to receive high quality care	Incentivize service of uninsured
Lack of regional research and development	Obstacle to making Fredericksburg a medical hub	MWH to become level 1 trauma center Develop app for medical center Enhance research partnership

Ethical Forces of Change

Table 23

Forces (Trend, Events, Factors)	Threats Posed	Opportunities Created
Community response to refugee resettlement Response to opioid epidemic	Regional collaboration (across the board)	
Resources for vulnerable populations (illegal immigrants)	Worsening of crime, health status, poverty	Opportunity for community dialogue
Health disparities	ACA, potential cut to federal assistance	
Social issues	Racial issues Invisible population of LGBTQI individuals in city Fredericksburg has an area of poverty where minorities are disproportionately impacted	
State funding	Shift in priorities for funded programs Increased taxes	
Change in work force	Loss of knowledge	Mentorship

Fredericksburg City MAPP Strategic Issues

Following the completion of the assessment, the Fredericksburg City CHA steering committee convened three times to review and analyze the data collected throughout the CHA process. During the first two meetings, the committee discussed the data and recorded summary notes. During the third session, the steering committee was assigned into four groups to review final notes and slides from the previous two meetings. Each group was asked to select four strategic issues which summed to 12 items from the three groups. A majority of the teams identified issues with similar themes. Therefore, the 12 strategic issues were compressed into five strategic issues. After summarizing and grouping the MAPP strategic issues, the committee agreed to prioritize the issues based on an impact order technique, in which issues with the greatest potential for community impact are prioritized. This technique was selected with the belief that resolving easier issues first can build momentum, teamwork, and consensus. Below are the 5 Prioritized MAPP Strategic Issues for Fredericksburg City.

1. Access to healthy food: how can our community improve access to healthier food choices in the city?
2. Child health: how can our community improve access to quality physical and mental health care, educational, food and safe environment for children?
3. Access to medical and mental health care: how can our community improve access to primary and mental health services, including different types of subspecialty physicians?
4. Disparity in neighborhood quality: how can our community ensure that all neighborhoods have access to resources, recreational activities transportation services, housing quality and have safe neighborhoods?
5. Population growth: how can our community provide all kinds of resources to meet needs of the increasing population?

The Identification of the five strategic issues, lead to the completion of the fourth phase in the MAPP tool. The following task will be to formulate objectives, goals, and strategies to address the identified strategic issues. This process helps the community move from the current reality towards the CHA vision. The product of the fifth phase will be reported in a separate Community Health Improvement Plan (CHIP). The last phase of the MAPP tool is the action cycle which includes planning, implementing and evaluating health the improvement projects. The CHIP will be used as a framework for the action cycle.

Appendix A

Fredericksburg City profiles

1. County Health Rankings and Roadmaps: http://www.countyhealthrankings.org/app/virginia/2016/rankings/fredericksburg-city/county/outcomes/overall/snapshot
2. Community Health Status Indicators: https://wwwn.cdc.gov/CommunityHealth/profile/currentprofile/VA/Fredericksburg/
3. Environmental Public Health Tracking by —Info by location: https://ephtracking.cdc.gov/showInfoByLocationExt?&FIPS=51630
4. DATAUSA: https://datausa.io/profile/geo/fredericksburg-va/#health

Appendix B

2016 County Health Rankings and Roadmaps

The annual County Health Rankings and Roadmaps ranks the health of nearly every county in the nation and shows that much of what affects our health occurs outside of the doctor's office. Published by the University of Wisconsin Population Health Institute and Robert Wood Johnson Foundation, the Rankings help counties understand determinates of health, how healthy residents are and how long they will live. Counties are ranked based on two overall measures, Health Outcomes, and Health Factors. Health outcomes are used to indicate how healthy a county is now, and Health Factors are used to show how healthy a county will be in the future. The table below displays the rank of Fredericksburg City and Caroline County.

	Fredericksburg City—population (28,297)	Caroline County—Population (30,178)
Health Outcomes	**49**	**73**
Length of life	30	72
Quality of Life	70	77
Health Factors	**81**	**82**
Health Behaviors	76	84
Clinical Care	39	77
Social and Economic Factors	94	72
Physical Environment	45	124

The Health Opportunity Index

Rank of Fredericksburg City from 134 selected counties

Health Opportunity Index= 30 (high)
The Health Opportunity Index (HOI) is group of indicators that provide broad insight into the overall opportunity Virginians have to live long and healthy lives based on the Social Determinants of Health. It is a hierarchical index that allows users to examine social determinants of health at multiple levels of detail in Virginia. It is made up of over 30 variables, combined into 13 indicators, grouped into four profiles, which are aggregated into a single Health Opportunity Index. The HOI is reported at both the census tract and county/independent city level.

Economic Opportunity Profile= 89 (low)
The Economic Opportunity Profile is a measure of the economic opportunities available within a community. It includes the following indicators:
1. Employment Accessibility: A measure of the number of jobs accessible to members of the community. Accessibility is determined by distance: close jobs are more accessible than jobs farther away.
2. Income Inequality (GINI Coefficient): Measures whether the income earned within a community is distributed broadly or concentrated within the hands of small number of households.
3. Job Participation: The percentage of individuals 16-64 years of age active in the civilian labor force. It includes both those currently working and those seeking work.

Consumer opportunity Profile= 85 (low)
The Consumer Opportunity Profile is a measure of the consumer resources available within a community. It includes the following indicators:
1. Affordability: The proportion of a community's income spent on housing and transportation. This indicates how much income remains for other priorities, including food, health care and social activities.
2. Education: The average number of years of schooling among adults in the community. It can range from zero (those with no formal schooling) to 20 (those with a doctorate/professional degree).
3. Food Accessibility: A measure of access to food by low income people within a community. It measures the proportion of the low income community that has a large grocery store within 1 mile in urban areas or 10 miles in rural areas.
4. Towsend Material Deprivation Index: An index itself, it examines the private material resources available to households in a community. 4 indicators make up Towsend: overcrowding (>2 person per room), unemployment, % of persons no vehicle or car, and % of person who rent.

Community Environment Profile= 10 (very high)
The Community Environment Profile is an indicator of the natural, built and social environment of a community. It includes the following indicators:
1. Air Quality Index: Includes EPA measures of pollution, including on-road, non-road and non-point pollution, and EPA measures of neurological, cancer and respiration risk.
2. Population Churning: The amount of population turnover within a community. It measures the rate at which people both move into a community and move out of a community.
3. Population-weighted density: A measure of population density that takes into account the density levels most people in the community experience.
4. Walkability: A measure of how walkable a community is based on residential and employment density, land use (destination) diversity, street connectivity and public transit accessibility.

Wellness Disparity Profile= 101 (low)
The Wellness Disparity Profile is a measure of the disparate access to health services within a community. It includes the following indicators:
1. Access to Care: Whether community members have access to a primary care physician and the means to pay for care. It includes the proportion of uninsured residents and the number of physicians within 30 miles of the community.
2. Segregation Index: A measure of whether and how much people of different racial and ethnic backgrounds live together in diverse communities. It includes measures of both community diversity and the distance between communities with different racial or ethnic profiles.
Source: VDH: Virginia Health Opportunity Index

Appendix C

Community Themes and Strengths Assessment Survey

Fredericksburg City, VA

This survey can be taken online at http://www.vdh.virginia.gov/rappahannock/cha-survey/

—OR—

Please submit this survey no later than June 20, 2017 by fax: 540-785-3407; or mail: 1320 Central Park Blvd., Suite 300, Fredericksburg, VA 22401. For more information, please call 540-899-4797

This survey is being administered by the Fredericksburg City Community Health Assessment Team with the assistance of Rappahannock Area Health District and Virginia Department of Health. All residents of Fredericksburg City are welcome to participate in taking the survey. The purpose of this survey is to collect information about health issues that are important to you, resources that you have access to, and also to have an understanding of how you feel about the community you live in. Completing the survey will take 5 to 10 minutes. Your answers on this survey will be kept private. Reports about the results will not include any information that will make it possible to identify an individual.

1. Eligibility:

   Do you live in Fredericksburg City? ☐ Yes ☐ No

2. Home Zip Code _____

3. What are the greatest strengths of the community you live in? (please mark up to five)

- ☐ Access to health care and health education
- ☐ Access to affordable housing
- ☐ Access to parks and recreation
- ☐ Homeless services
- ☐ Walk-able, bike-able community
- ☐ Safe neighborhood/lower crime and violence
- ☐ Access to affordable, healthy food (fresh fruits, vegetables)
- ☐ Local 24-hour police, fire and security services
- ☐ Emergency preparedness
- ☐ Support for Veterans
- ☐ Service for disabled people
- ☐ Transportation options
- ☐ Social and cultural diversity is appreciated by community members
- ☐ Clean and healthy environment
- ☐ Job opportunities and stable economy
- ☐ Support for senior community
- ☐ Youth engaging activities
- ☐ Access to churches or other places of worship
- ☐ Maternal and child care options
- ☐ Road safety

Others (please specify)

4. In your opinion, what change in the community would most improve your quality of life? (please mark up to five)

- ☐ More access to health care and health education
- ☐ More access to affordable housing
- ☐ More access to parks and recreation
- ☐ More homeless services
- ☐ Walk-able, bike-able community
- ☐ Safe neighborhood/lower crime and violence
- ☐ More access to affordable, healthy food (fresh fruits, vegetables)
- ☐ Local 24-hour police, fire and secure services
- ☐ More preparedness for emergencies
- ☐ More support for Veterans
- ☐ More services for disabled people
- ☐ More transportation options
- ☐ More appreciation of social and cultural diversity by appreciation by community members
- ☐ Clean and healthy environment
- ☐ More job opportunities and stable economy
- ☐ More support for senior community
- ☐ More youth engaging activities
- ☐ More access to churches or other places of worship
- ☐ More maternal and child care options
- ☐ Improved road safety

Other (please specify)

_____

5. What are important health related issues that affect the community you live in? (please mark up to three)

- ☐ Aging problems (e.g., arthritis, hearing/vision loss, etc.)
- ☐ Community violence (e.g. homicides, rape/sexual assault, gang activities, illegal drugs, motor vehicle (crashes)
- ☐ Homelessness
- ☐ Infectious Disease (e.g. Hepatitis, TB, STDs, HIV)
- ☐ Chronic disease (e.g. obesity, diabetes, heart disease, high blood pressure, stroke, cancer)
- ☐ Immunizations (getting a vaccine or shot to prevent certain types of illnesses)
- ☐ Dental health
- ☐ Domestic violence
- ☐ Child abuse/neglect
- ☐ Alcohol and drug abuse
- ☐ Tobacco use
- ☐ Clean and healthy environment
- ☐ Mental health (e.g. depression, anxiety, stress)
- ☐ Lack of nutritious food
- ☐ Overweight/obesity
- ☐ Lack of exercise, fitness

Other (please specify)

_____

Please answer the following questions about yourself so that we can better understand how members of our diverse community feel about the issues listed above.

6. Gender: ☐ Female ☐ Male

7. Neighborhood: _____

8. Your age:
- ☐ Under 18 years
- ☐ 18 - 24 years
- ☐ 25 - 34 years
- ☐ 35 - 44 years
- ☐ 45 - 64 years
- ☐ 65 - 80 years
- ☐ 80+ years

9. Race / Ethnicity
- ☐ African American / Black
- ☐ Asian / Pacific Islander
- ☐ Hispanic / Latino
- ☐ Native American
- ☐ White / Caucasian
- ☐ Multiracial
- ☐ Other_____

10. Your highest level of education
- ☐ Did not finish high school
- ☐ High school diploma / GED
- ☐ Some college
- ☐ Associates / Technical degree
- ☐ Bachelors degree
- ☐ Graduate degree or higher

11. Annual Household Income
- ☐ Less than $10,000
- ☐ $10,001 to $24,999
- ☐ $25,000 to $49,999
- ☐ $50,000 to $74,999
- ☐ $75,000 to $99,999
- ☐ $100,000 to $149,999
- ☐ $150,000 to $199,999
- ☐ $200,000 and above
- ☐ I don't know or choose not to answer

12. How long have you been a member of the community?
- ☐ Less than two years
- ☐ 2 - 5 years
- ☐ 6 - 10 years
- ☐ More than 10 years
- ☐ All my life

13. Where do you usually go for healthcare?
- ☐ Local hospital / ER
- ☐ Out of town hospital / ER
- ☐ Local private doctor's office / HMO
- ☐ Out of town private doctor's office / HMO
- ☐ Urgent care
- ☐ Free or reduced fee clinics
- ☐ I don't get healthcare

14. How do you pay for health care services?
- ☐ Private insurance (individual exchange, or through employer)
- ☐ Medicare
- ☐ Medicaid
- ☐ VA benefits
- ☐ Indian Health Services
- ☐ Uninsured
- ☐ Pay with cash

Appendix D

CTSA Survey Response (other)
Question 3. Strength of the Community

A vibrant and interesting downtown, with plenty of shopping, dining and entertainment options.
Active art & music community
Cultural opportunities in downtown historic area.
Department of public works
Family-friendly town/town center
Fantastic library system
Good neighbors
Integrated public schools
Lots of people don't know what's available. Some questions are broad based , maybe break up by age?
Micah Ministries
Need Youth Engagement Programs
Reliable utility services
Rich history and preservation of buildings and homes
Riverfront and river access
The Rappahannock River
Transportation=Access to VRE
We need low houses rent
" Everything Good"
dog friendly
pediatric care
public school system
A vibrant and interesting downtown, with plenty of shopping, dining and entertainment options.

Question4. Areas of Improvement

55 and older community in downtown
ALA daycare
Ability to walk or bike safely to grocery stores. currently closest store is across 2 lanes of highway with no sidewalks or biking paths
Activities for couples
Again age categories would reveal more specific areas of need
Banning smokers from clustering in front of store & restaurants entrances
Better Hospital
Better city code enforcement
Better education offered
Better hospitals
Clean up river access
Commuter trains that go to DC on the weekends
Dirty restaurant! Environmental Health Inspectors that fully enforce safe food service preparation by following up on complaints and not favoring restaurant owners over consumers.
Dog friendly options
Drinking fountains along the canal path for access to clean water while exercising.
Economic Development
Economic development
Finding a less restrictive place for all the Homeless individuals (sober or not) that gives them a safe place to stay.
Fixing traffic issues
Happier neighbors
I think we should be able to put trash can in front of house. Putting it out back and carrying it through the house is not good.
Less traffic jams
Less traffic, better road options
Live near Celebrate Virginia, trash after concerts
Longer bus hours/more bus routes
Mental Health
More activities such as festivals and fairs, more things to do. Not much to do in FXBG.
More affordable leisure activities and attractions
More cultural arts / theatre/ studios

More parking spaces downtown
More/better access to mental health care, particularly for children and adolescents
Need convenience stores by the basketball courts in the neighborhood of gate street
No survey
Pickleball complex needed at Kenmore Park. This sport is being played by residents of all ages. The existing court is in need of repair. We need more stand-alone courts. These have been promised for 2 years. We are still waiting.
Please don't cut Medicaid services- I work in the school system and equipment/ the funds are used to help the children with specific needs receive the adaptations/services they need to better access their curriculum and school environment. Without support from Medicaid, the schools will be in trouble finding the funds needed to help these children.
Psychiatric care
Raised, lighted pedestrian crosswalks downtown on Caroline and Princess Anne streets.
Reduce the # of Homeless in Downtown(Old Town)
Roadways need better planning
Safer
Street lights
The I-95 dilemma is a negative for health-no easy answer
The "one way" road signs are TOO small!!
Traffic is terrible
Transportation for disabled and senior is not good. Support for senior community is poor, low job opportunities, more maternal and child care options for low income, more services for low income.
"Everything fine"
activities for teenagers
autism services
better transit options to DC
more activities for adults 20-40 (most activities seem to overwhelmingly be for young kids, full families, or senior citizens)
more availability hours for public transportation
more parking
more senior program
parking problems
speed bumps to slow people down
stop building on every little piece of land, respect the history of our community, be more environmental friendly: set up recycling in ALL the many townhome communities such as Bragg Hill
wages match the cost of living

Question 5. Major Health Issues

Children with pervasive intellectual and developmental disabilities
Commute by bicycle
Don't know much about neighborhood
Gun ownership issues
HD is doing a good job in controlling STD, HIV etc. (focus on young women is needed). More dental care for seniors and low income,
Jobs
Lack of affordable access to care. Virginia should have expanded Medicaid already!
Lack of child/kid friendly facilities
More black People CBPM memeber 1288
More kids activity
Need better hospital
None
None noted
Not involved in the Community, work nights
Nothing
Salvation Army trucks park right at the corner of Littlepage street and Lafayette Blvd, making making turns on to either street hazardous.
Senior Communities
Services for at risk youth-No psych help/crisis services when needed-6 month wait= Too late
Some of us are still uninsured involuntarily
This is a fairly healthy community. I have no issues.
bullying
discounts ie health issues like gyms etc.
hospitals that serve community
immunizations - not good
include sickle cell anemia diseases
lack of affordable quality housing
low income
none observed
people with guns
Totals

Appendix E

Below are the three public health core functions and the ten essential public health services. Under each essential services are major question that were used to assess how well the Fredericksburg City public health system is doing.

Assessment, the first core function, has two essential services:

ES 1: Monitor health status to identify community health problems

- What is going on in our community?
- How healthy are we?

ES 2: Diagnose and investigate health problems and health hazards in the community

- Are we ready to respond to the health problems in our community?

Policy Development, the second core function, has three essential services:

ES 3: Inform, educate, and empower people about health issues

- Are we ready to respond to the health problems in our community?

ES 4: Mobilize community partnerships to identify and solve health problems

- How well do we get our community engaged in local health issues?

ES 5: Develop policies and plans that support individual and community health efforts

- What policies in government and private sector – nonprofit and for profit – promote health in our community?
- How effective are we in setting health policies?

Assurance, the third core function, has four (4) essential services:

ES 6: Enforce laws and regulations that protect health and ensure safety

- When we as a system enforce laws and regulation, are we technically competent, fair, and effective?

ES 7: Link people to needed personal health services

- Are people in our community receiving the health care they need?

ES 8: Assure a competent public health and personal health care workforce

- Do we have a competent public health system staff?
- How can we be sure that our staff is current?

ES 9: Evaluate effectiveness, accessibility, and quality of personal and population health services

- Are we doing any good?
- Are we doing this right?
- Are we doing the right things?

The tenth essential service – Research – crosses all three core functions and the other nine services:

ES 10: Research for new insights and innovative solutions

- Are we discovering and using new ways to get the job done?

Appendix F

Fredericksburg City LPHSA Notes and Performance Measure Scores

ESSENTIAL SERVICE 1: Monitor Health Status to Identify Community Health Problems		
1.1	Model Standard: Population-Based Community Health Assessment (CHA) *At what level does the local public health system:*	
Discussion note		
Mary Washington Healthcare (MWH) conducts a Community Health Needs Assessment every 3 years- needs identified become a part of the Health Systems Strategic Plan. United Way recently conducted a Community Needs Assessment that had a health component. United Way used this Assessment to determine where they would focus-funding in the community. No need to conduct additional community assessment-(redundancy). This is the first time that a Community Health Assessment is being conducted in the City of Fredericksburg. Rappahannock Area Community Service Board (RCSB) conducts a community behavioral health assessment- on an ongoing basis.		
1.1.1	Conduct regular community health assessments?	3- 50%
1.1.2	Continuously update the community health assessment with current information?	3- 47%
1.1.3	Promote the use of the community health assessment among community members and partners?	2- 60%
1.2	Model Standard: Current Technology to Manage and Communicate Population Health Data *At what level does the local public health system:*	
Discussion note		

MWH hosts the Community Health Information Resource (CHIR) tool, provides county-level data.

Virginia Department of Health (VDH) has a data portal on its' external webpage. Data on the City of Fredericksburg can be retrieved.

VDBH is partnering with VDH to create a web portal- it is available in its infancy- to the public (it can graph and shows trends- around behavioral health & suicide).

Those of us that conduct research and have a know how about technology- we know-how to navigate agencies websites, to get health data- but the average resident in the city does not have access to data about the City of Fredericksburg. Some citizens do not have smart phones, and they do not know how to use technology, and some can not read.

The city has a robust GIS system; DSS uses this system to track areas with cases- so that prevention services can be provided to those neighborhoods. The Health department uses GIS data- for internal use only- (for communicable diseases). At the LHD- our data analysis is limited- but Central Office has capacity & resources available.

1.2.1	Use the best available technology and methods to display data on the public's health?	Tie between 2 & 3- 48% each; then 1 person who votes 4 Changed her vote to moderate. Final score 3- 52%
1.2.2	Analyze health data, including geographic information, to see where health problems exist?	2- 53%
1.2.3	Use computer software to create charts, graphs, and maps to display complex public health data (trends over time, sub-population analyses, etc.)?	3- 53%

Discussion note

The Health Department collects data, FAHAS-collects data and submits it to VDH, the RACSB-collects data & reports it, MWH collects data. However, there is an issue of time. It takes time to report the most recent data.
Private doctors' offices-may not always report data. They report what is required. There is a significant amount of data collected- but there is no universal data portal.

The health department does not get a lot of data requests from the general public. The general public may not know where to find health data.

1.3.1	Collect data on specific health concerns to provide the data to population health registries promptly, consistent with current standards?	3- 45%
1.3.2	Use information from population health registries in community health assessments or other analyses?	2-90%

ESSENTIAL SERVICE 2: Diagnose and Investigate Health Problems and Health Hazards		
2.1	Model Standard: Identification and Surveillance of Health Threats *At what level does the local public health system:*	
Discussion note		
Monitoring and surveillance activities are done by CSB, DSS, Health Department, City, MWH, Schools, Hospital Coalitions, Urgent Care Centers. The LPHS is doing it's best to maintain these activities with limited resources.		
2.1.1	Participate in a comprehensive surveillance system with national, state and local partners to identify, monitor, share information, and understand emerging health problems and threats?	4- 40%
2.1.2	Provide and collect timely and complete information on reportable diseases and potential disasters, emergencies and emerging threats (natural and manmade)?	4- 84% 5-16%
2.1.3	Assure that the best available resources are used to support surveillance systems and activities, including information technology, communication systems, and professional expertise?	4- 45%
2.2	Model Standard: Investigation and Response to Public Health Threats and Emergencies *At what level does the local public health system:*	
Discussion note		
The City of Fredericksburg has an Emergency Operations Plan; participants are not sure if it's known or maintained; RCSB has it as well. The City has an Emergency Coordinator. Police Department always does an after-action report, Health Department, Fire Department, and MWH- (safety, complaints, etc.) does as well. Improve information sharing with the community.		

2.2.1	Maintain written instructions on how to handle communicable disease outbreaks and toxic exposure incidents, including details about case finding, contact tracing, and source identification and containment?	4- 65%
2.2.2	Develop written rules to follow in the immediate investigation of public health threats and emergencies, including natural and intentional disasters?	4-95%
2.2.3	Designate a jurisdictional Emergency Response Coordinator?	5- 100%
2.2.4	Prepare to rapidly respond to public health emergencies according to emergency operations coordination guidelines?	1-47%
2.2.5	Identify personnel with the technical expertise to rapidly respond to possible biological, chemical, or and nuclear public health emergencies?	4-60%
2.2.6	Evaluate incidents of effectiveness and opportunities for improvement?	4-86%
2.3	Model Standard: Laboratory Support for Investigation of Health Threats *At what level does the local public health system:*	
Discussion note		
State Public Health Lab-open 24 hours in the case of emergency; a lab at MWH; law enforcement has a lab in Richmond; FBI in Quantico.		
2.3.1	Have ready access to laboratories that can meet routine public health needs for finding out what health problems are occurring?	5-55%
2.3.2	Maintain constant (24/7) access to laboratories that can meet public health needs during emergencies, threats, and other hazards?	5-94%
2.3.3	Use only licensed or credentialed laboratories?	5- 100%
2.3.4	Maintain a written list of rules related to laboratories, for handling samples (collecting, labeling, storing, transporting, and delivering), for determining who is in charge of the samples at what point, and for reporting the results?	5- 100%

ESSENTIAL SERVICE 3: Inform, Educate, and Empower People about Health Issues	
3.1	Model Standard: Health Education and Promotion *At what level does the local public health system:*
Discussion note	

Health District/Department provides information to the community to other organizations, to policy makers. Improvement needed in sharing information with policymakers We can do better with coordinating our efforts (local agencies); we can also do a better job with engaging the community		
3.1.1	Provide policymakers, stakeholders, and the public with ongoing analyses of community health status and related recommendations for health promotion policies?	3- 70%
3.1.2	Coordinate health promotion and health education activities to reach individual, interpersonal, community, and societal levels?	3- 65%
3.1.3	Engage the community throughout the process of setting priorities, developing plans and implementing health education and health promotion activities?	3-63%
3.2	Model Standard: Health Communication *At what level does the local public health system:*	
Discussion note		
Health District has a regional PIO. Each agency has their own including the city.		
3.2.1	Develop health communication plans for relating to media and the public and for sharing information among LPHS organizations?	4- 63%
3.2.2	Use relationships with different media providers (e.g., print, radio, television, and the internet) to share health information, matching the message with the target audience?	4-42%
3.2.3	Identify and train spokespersons on public health issues?	3-53%

3.3	Model Standard: Risk Communication *At what level does the local public health system:*	
Discussion note		
Fred-Alert System; VDH does this as well. VDH-provides reis communication training for employees and volunteers, no other organization does this. RACSB does employee training on risk management.		
3.3.1	Develop an emergency communications plan for each stage of an emergency to allow for the effective dissemination of information?	4-67%
3.3.2	Make sure resources are available for a rapid emergency communication response?	4- 88%
3.3.3	Provide risk communication training for employees and volunteers?	4-48%

ESSENTIAL SERVICE 4: Mobilize Community Partnerships to Identify and Solve Health Problems		
4.1	Model Standard: Constituency Development *At what level does the local public health system:*	
Discussion note		
CSB maintains a directory- wallet resource card by United Way, Community Collaborative is developing a community resource app, 211- State and Local Directory. This may be overdone, there is no standard list for the City. Agency key contacts may vary. Identifying key constituents depends on what the public health issue or concern is. CSB sends out info to their key constituents in the community. The city is starting to work on this with a leadership role of agencies such as VDH, MWH, CSB (e.g., opioid town hall). Agencies focus on different areas. The forums are created, but there is no evidence if they are effective. Communication is an issue.		
4.1.1	Maintain a complete and current directory of community organizations?	4-58%
4.1.2	Follow an established process for identifying key constituents related to overall public health interests and particular health concerns?	3-50%
4.1.3	Encourage constituents to participate in activities to improve community health?	3-53%
4.1.4	Create forums for communication of public health issues?	4- 45%

4.2	Model Standard: Community Partnerships *At what level does the local public health system:*	
Discussion note		
Efforts are made to establish community partnership with the leadership of organizations such as- RAHD, CSB, Mental Health America, Mika Ministries, however, there is still room for improvement. LPHS is at the beginning of trying to assess how well community partnerships and strategic alliances are working to improve community health.		
4.2.1	Establish community partnerships and strategic alliances to provide a comprehensive approach to improving health in the community?	3-67%
4.2.2	Establish a broad-based community health improvement committee?	2-75%
4.2.3	Assess how well community partnerships and strategic alliances are working to improve community health?	2-82%

ESSENTIAL SERVICE 5: Develop Policies and Plans that Support Individual and Community Health Efforts		
5.1	Model Standard: Governmental Presence at the Local Level *At what level does the local public health system:*	
Discussion note		
FAHAS provides the health department with referrals The Health District is conducting CHA for the firs time, and this is part of the accreditation process. Not everyone at the local level is familiar with this process. The city and MWH contribute funding to the Fredericksburg City Health Department. Communication is needed; agencies should come more together as a team- to serve the community.		
5.1.1	Support the work of a local health department dedicated to the public health to make sure the essential public health services are provided?	4-50%
5.1.2	See that the local health department is accredited through the national voluntary accreditation program?	2- 100%

5.1.3	Assure that the local health department has enough resources to do its part in providing essential public health services?	2-58%
5.2	Model Standard: Public Health Policy Development *At what level does the local public health system:*	

Discussion

Individual agencies –may lobby, but not together.

Suggestions for Improvement: More outreach to policymakers would be helpful

Health Department and other agencies review existing policies.

5.2.1	Contribute to public health policies by engaging in activities that inform the policy development process?	2-100%
5.2.2	Alert policymakers and the community of the possible public health impacts (both intended and unintended) from current and/or proposed policies?	2-100%
5.2.3	Review existing policies at least every three to five years?	3-86%
5.3	Model Standard: Community Health Improvement Process and Strategic Planning *At what level does the local public health system:*	
5.3.1	Establish a community health improvement process, with broad-based diverse participation, that uses information from both the community health assessment and the perceptions of community members?	2-100%
5.3.2	Develop strategies to achieve community health improvement objectives, including a description of organizations accountable for specific steps?	2-91%
5.3.3	Connect organizational strategic plans with the Community Health Improvement Plan?	1-100%
5.4	Model Standard: Plan for Public Health Emergencies *At what level does the local public health system:*	

Discussion note

VDH is involved with MWH, and Spotsylvania Regional Medical Center; Representatives from Fredericksburg City Fire, Police, etc. These organizations are working towards developing and maintaining preparedness and response plans.

There is a plan for emergency preparedness that has been developed and reviewed at the state and local level. The problem is that some of the local organizations do not know how they fit into it.

VDH tests the plan through a regular drill. DSS does not do this yet. Police and Fire Departments test their drills all the time. However, it has not been done at the city level yet.		
5.4.1	Support a workgroup to develop and maintain preparedness and response plans?	2-58%
5.4.2	Develop a plan that defines when it would be used, who would do what tasks, what standard operating procedures would be put in place, and what alert and evacuation protocols would be followed?	5-55%
5.4.3	Test the plan through regular drills and revise the plan as needed, at least every two years?	1-58%

ESSENTIAL SERVICE 6: Enforce Laws and Regulations that Protect Health and Ensure Safety		
6.1	Model Standard: Review and Evaluation of Laws, Regulations, and Ordinances *At what level does the local public health system:*	
Discussion note		
HD regularly receives updates on any changes in laws.		
6.1.1	Identify public health issues that can be addressed through laws, regulations, or ordinances?	3-79%
6.1.2	Stay up-to-date with current laws, regulations, and ordinances that prevent, promote, or protect public health on the federal, state, and local levels?	4- 50%
6.1.3	Review existing public health laws, regulations, and ordinances at least once every five years?	4-62%
6.1.4	Have access to legal counsel for technical assistance when reviewing laws, regulations, or ordinances?	5-62%
6.2	Model Standard: Involvement in the Improvement of Laws, Regulations, and Ordinances *At what level does the local public health system:*	
Discussion note		
Providing technical assistance in drafting the language for proposed changes or new laws, regulations, and ordinances is done by agencies-internally. It has not been done collaboratively in Fredericksburg City.		
6.2.1	Identify local public health issues that are inadequately addressed in existing laws, regulations, and ordinances?	3-75%

6.2.2	Participate in changing existing laws, regulations, and ordinances, and/or creating new laws, regulations, and ordinances to protect and promote the public health?	4-62%
6.2.3	Provide technical assistance in drafting the language for proposed changes or new laws, regulations, and ordinances? This is done by agencies-internally. We haven't done this together for Fred City	5-62%
6.3	Model Standard: Enforcement of Laws, Regulations, and Ordinances *At what level does the local public health system:*	
Discussion note		
Fredericksburg City Health Department is authorized by the State, via state code. Evaluating how well local organizations comply with public health laws is done at the State level; not the role of LHD.		
6.3.1	Identify organizations that have the authority to enforce public health laws, regulations, and ordinances?	1-70%
6.3.2	Assure that a local health department (or other governmental public health entity) has the authority to act in public health emergencies?	
6.3.3	Assure that all enforcement activities related to public health codes are done within the law?	2—100%
6.3.4	Educate individuals and organizations about relevant laws, regulations, and ordinances?	4-77%
6.3.5	Evaluate how well local organizations comply with public health laws? This is done at the State level; not the role of LHD?	3-67%

ESSENTIAL SERVICE 7: Link People to Needed Personal Health Services and Assure the Provision of Health Care when Otherwise Unavailable		
7.1	Model Standard: Identification of Personal Health Service Needs of Populations *At what level does the local public health system:*	
7.1.1	Identify groups of people in the community who have trouble accessing or connecting to personal health services?	2-82%
7.1.2	Identify all personal health service needs and unmet needs throughout the community?	3- 85%
7.1.3	Defines partner roles and responsibilities to respond to the unmet needs of the community?	2-82%
7.1.4	Understand the reasons that people do not get the care they need?	4-69%
7.2	Model Standard: Assuring the Linkage of People to Personal Health Services *At what level does the local public health system:*	
7.2.1	Connect (or link) people to organizations that can provide the personal health services they may need?	4-100%
7.2.2	Help people access personal health services, in a way that takes into account the unique needs of different populations?	4- 83%

7.2.3	Help people sign up for public benefits that are available to them (e.g., Medicaid or medical and prescription assistance programs)?	4-75%
7.2.4	Coordinate the delivery of personal health and social services so that everyone has access to the care they need?	3- 100%

ESSENTIAL SERVICE 8: Assure a Competent Public and Personal Health Care Workforce		
8.1	Model Standard: Workforce Assessment, Planning, and Development *At what level does the local public health system:*	
8.1.1	Set up a process and a schedule to track the numbers and types of LPHS jobs and the knowledge, skills, and abilities that they require whether those jobs are in the public or private sector?	1-91%
8.1.2	Review the information from the workforce assessment and use it to find and address gaps in the local public health workforce?	1-78%

8.1.3	Provide information from the workforce assessment to other community organizations and groups, including governing bodies and public and private agencies, for use in their organizational planning?	1-100%
8.2	Model Standard: Public Health Workforce Standards *At what level does the local public health system:*	
8.2.1	Make sure that all members of the public health workforce have the required certificates, licenses, and education needed to fulfill their job duties and meet the law?	3-100%
8.2.2	Develop and maintain job standards and position descriptions based on the core knowledge, skills, and abilities needed to provide the essential public health services?	3-60%
8.2.3	Base the hiring and performance review of members of the public health workforce in public health competencies?	4-75%
8.3	Model Standard: Life-Long Learning through Continuing Education, Training, and Mentoring *At what level does the local public health system:*	
Discussion		
Improve incentives for workforce training, such as tuition reimbursement, time off for class, and pay increases. There is an effort to continually train the public health workforce to deliver services in a culturally competent manner and understand social determinants of health. However, improvement is needed.		
8.3.1	Identify education and training needs and encourage the workforce to participate in available education and training?	3-78%

8.3.2	Provide ways for workers to develop core skills related to essential public health services?	3-89%
8.3.3	Develop incentives for workforce training, such as tuition reimbursement, time off for class, and pay increases?	1-88%
8.3.4	Create and support collaborations between organizations within the public health system for training and education?	3-89%
8.3.5	Continually train the public health workforce to deliver services in a culturally competent manner and understand social determinants of health?	3-88%
8.4	Model Standard: Public Health Leadership Development *At what level does the local public health system:*	
Discussion		
Creating a shared vision of community health and the public health system, welcoming all leaders and community members to work together a vision the Fredericksburg City LPHS working towards.		
8.4.1	Provide access to formal and informal leadership development opportunities for employees at all organizational levels?	3-56%
8.4.2	Create a shared vision of community health and the public health system, welcoming all leaders and community members to work together?	2-100%
8.4.3	Ensure that organizations and individuals have opportunities to provide leadership in areas where they have knowledge, skills, or access to resources?	2-100%
8.4.4	Provide opportunities for the development of leaders representative of the diversity within the community?	2-60%

ESSENTIAL SERVICE 9: Evaluate Effectiveness, Accessibility, and Quality of Personal and Population- Based Health Services		
9.1	Model Standard: Evaluation of Population-Based Health Services *At what level does the local public health system:*	
9.1.1	Evaluate how well population-based health services are working, including whether the goals that were set for programs were achieved?	3-100%
9.1.2	Assess whether community members, including those with a higher risk of having a health problem, are satisfied with the approaches to preventing disease, illness, and injury?	1-100%
9.1.3	Identify gaps in the provision of population-based health services?	3-100%
9.1.4	Use evaluation findings to improve plans and services?	3-67%

9.2	Model Standard: Evaluation of Personal Health Services *At what level does the local public health system:*	
Discussion note		
RAHD evaluate services being provided., we do not evaluate services outside of the health dept. Evaluate the accessibility, quality, and effectiveness of personal health services? These are done internally- at local agencies HD, and Moss- not done collectively for the Fred Community.		
9.2.1	Evaluate the accessibility, quality, and effectiveness of personal health services?	1-78%
9.2.2	Compare the quality of personal health services to established guidelines?	1-88%
9.2.3	Measure satisfaction with personal health services?	3-67%
9.2.4	Use technology, like the internet or electronic health records, to improve quality of care?	3- 71%
9.2.5	Use evaluation findings to improve services and program delivery?	4-85%
9.3	Model Standard: Evaluation of the Local Public Health System *At what level does the local public health system:*	
9.3.1	Identify all public, private, and voluntary organizations that provide essential public health services?	2-90%
9.3.2	Evaluate how well LPHS activities meet the needs of the community at least every five years, using guidelines that describe a model LPHS and involving all entities contributing to essential public health services?	1-100%
9.3.3	Assess how well the organizations in the LPHS are communicating, connecting, and coordinating services?	1-100%
9.3.4	Use results from the evaluation process to improve the LPHS?	1-100%

ESSENTIAL SERVICE 10: Research for New Insights and Innovative Solutions to Health Problems		
10.1	Model Standard: Fostering Innovation *At what level does the local public health system:*	
Discussion note		
MWH conducts a Community Needs Assessment to identify health issues. The CHIR tool does help keep up with information; the Community Coalition and the Health District share this information with partners and the general public		

10.1.1	Provide staff with the time and resources to pilot test or conduct studies to test new solutions to public health problems and see how well they actually work?	2-60%
10.1.2	Suggest ideas about what currently needs to be studied in public health to organizations that do research?	3-44%
10.1.3	Keep up with information from other agencies and organizations at the local, state, and national levels about current best practices in public health?	3- 39%
10.1.4	Encourage community participation in research, including deciding what will be studied, conducting research, and in sharing results?	3- 47%
10.2	Model Standard: Linkage with Institutions of Higher Learning and/or Research *At what level does the local public health system:*	
Discussion note		
Needs improvement		

10.2.1	Develop relationships with colleges, universities, or other research organizations, with a free flow of information?	3-55%
10.2.2	Partner with colleges, universities, or other research organizations to do public health research, including community-based participatory research?	1-63%
10.2.3	Encourage colleges, universities, and other research organizations to work together with LPHS organizations to develop projects, including field training and continuing education?	2-70%
10.3	Model Standard: Capacity to Initiate or Participate in Research *At what level does the local public health system:*	
10.3.1	Collaborate with researchers who offer the knowledge and skills to design and conduct health-related studies?	2-89%
10.3.2	Support research with the necessary infrastructure and resources, including facilities, equipment, databases, information technology, funding, and other resources?	1-100%
10.3.3	Share findings with public health colleagues and the community broadly, through journals, websites, community meetings, etc.?	1-62%
10.3.4	Evaluate public health systems research efforts throughout all stages of work from planning to impact on local public health practice?	1-84%

Appendix G

Community Resource Inventory Webpages
1. Rappahannock Area Community Service Board:
https://rappahannockareacsb.org/resources/
2. United Way: https://www.rappahannockunitedway.org/get-help/individualquickguide/
3. Mary Washington Healthcare, CHNA, Appendix C:
https://www.marywashingtonhealthcare.com/documents/MWHC_CH NA_2015_2016.pdf