A Community Health Needs Assessment

Prepared for Health Planning District 9

By Community Health Solutions

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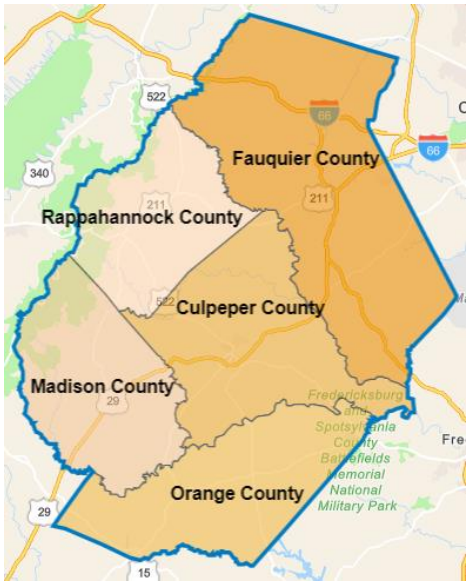
Table of Contents		Page
Executive Summary		1
Section 1. Insights from Community Residents		8
A	Survey Methods	8
B	Demographic Profile	9
C	Community Needs Related to COVID-19	11
D	Neighborhood and Community Environment	12
E	Health Care Service Needs	13
F	Community Services	14
G	In their Own Words – Insights from Community Residents	15
Section 2. Insights from Community Professionals		16
A	Survey Methods	16
B	Organizational Affiliation and Geographic Perspective	16
C	Community Needs Related to COVID-19	17
D	Community Health Concerns	18
E	Services and Supports that Need Strengthening	19
F	In their Own Words – Insights from Community Professionals	20
Section 3. Community Indicator Profiles		21
A	Health Factors: Community Demographics	22
B	Health Factors: Social Determinants of Health	23
C	Health Factors: Risk Behaviors for Adults	24
D	Health Factors: Risk Behaviors for Youth	25
E	Health Factors: Access to Health Care	26
F	Health Outcomes: Leading Causes of Death	28
G	Health Outcomes: Maternal and Infant Health	29
H	Health Outcomes: Cancer Incidence	30
I	Health Outcomes: Communicable Disease Incidence	31
J	Health Outcomes: Injury and Violence	32
K	Health Outcomes: Potentially Avoidable Hospitalizations	34
L	Health Outcomes: Mental Health and Substance Use	35
Section 4. Social Determinants of Health		39
A	Insights from Surveys of Community Residents and Community Professionals	39
B	Community Mapping of SDoH Indicators	40
Appendix A: Data Sources		45

Executive Summary

This report presents the results of a Community Health Needs Assessment (CHNA) for the five-county region encompassed by Planning District 9. The CHNA was guided by five regional organizations that decided to collaborate for community health assessment and improvement.[1]

As shown in the map below, the CHNA study is focused on Planning District 9 (PD9) which includes the counties of Fauquier, Rappahannock, Culpeper, Madison, and Orange. This region is home to more than 186,000 community members. The CHNA study was designed to provide insight about community health needs and opportunities for community health improvement. Research activities for the study included a survey of community residents, a survey of community professionals, and analysis of a variety of community health indicators.

The CHNA Study Region (Planning District 9)



2020 Population Estimates	
Total	**186,161**
Culpeper County	53,428
Fauquier County	73,383
Madison County	13,914
Orange County	37,934
Rappahannock County	7,502

This Executive Summary provides an overview of the study results. More detailed analysis is provided in the four sections that follow, including:

- Section 1. Insights from Community Residents
- Section 2. Insights from Community Professionals
- Section 3. Community Indicator Profiles
- Section 4. Social Determinants of Health

[1] Community Health Solutions provided research support, data analysis support, and drafting support for the CHNA.

Summary Insights from Community Residents (Section 1)

Section 1 of the report presents results from the survey of community residents. Insights were collected via surveys administered online (see Section 1 for more detail on the impact of COVID-19 on survey methods). Eight hundred and nine (809) community residents submitted a response (although not every respondent answered every question). The respondents provided rich insights about community health in the study region. The summary results are outlined below and presented in more detail in Section 1 of the report.

Demographic Profile	• 809 community residents completed the survey • Respondents were mostly white, female, middle aged (35-64), and at the upper income level
Community Needs Related to COVID-19	• 21% reported they or an immediate family member lost employment. • Eight respondents (1%) reported they or an immediate family member lost housing. • Groups identified as needing extra help due to COVID-19 include elderly; Hispanic; low income; children; isolated individuals; and people with disabilities. • Among the most identified personal difficulties were keeping good mental health; feeling lonely or isolated from others; and keeping good physical health.
Neighborhood and Community Environment Needs	• The leading neighborhood and community needs were affordable housing; jobs/healthy economy; and an environment more welcoming of diversity.
Health Care Service Needs	• The leading health care service needs were affordable health insurance; mental health services; and healthcare for the uninsured/underinsured.
Community Support Service Needs	• The leading community support service needs were after school programs; public transportation; and aging services.
Defining a Healthy Community	• Respondents defined a healthy community as one with access to healthcare services; access to community and social services; supports for healthy lifestyles; supports for people with disabilities; and supports for children.
Groups Who Need Help Obtaining Better Health	• The elderly population was mentioned by most respondents. Other vulnerable populations included low income; children; minority populations (Hispanic, immigrants, etc.); and people with behavioral health concerns.
New Health Issues	• Among the most commonly identified new issues were effects of COVID-19; behavioral health; access to healthcare; unhealthy lifestyles; and child health.
Health Resources	• Commonly mentioned community assets included healthcare services; community and social services; community engagement; and support for healthy equity.
Working Together for Community Health Improvement	• A wide range of ideas were provided by the respondents. Collaboration ideas included COVID-19 response; healthcare services; supports for children; and to support people with disabilities.
Ideas and Suggestions for Promoting Better Health	• Commonly mentioned ideas included community and social services; healthcare services; supports for children; supports for healthy lifestyles; and supports for people with disabilities.

Summary Insights from Community Professionals (Section 2)

Section 2 of the report presents results from the survey of community professionals. The survey was sent to 170 community professionals based on lists from the project partners. A total of 61 (36%) individuals submitted a response (although not every respondent answered every question). As with community residents, community professionals provided rich insights about community health needs and opportunities in the study region. The summary results are outlined below and presented in more detail in Section 2 of the report.

Organizational Affiliation	• 61 community professionals completed the survey • Respondents were affiliated with public health, healthcare safety net organizations, public safety; schools and local nonprofits.
Community Needs Related to COVID-19	• 82% reported an increase in clients/consumer who lost employment. • 37% reported an increase the number of clients/consumers who lost housing. • Groups identified as needing extra help due to COVID-19 include elderly; Hispanic; low income; children; immigrants; isolated individuals; people with disabilities; homeless; and those recovering from substance use. • Among the most identified difficulties were keeping good mental health; feeling lonely or isolated; experiencing overall financial hardship; getting childcare; managing schooling at home for children.
Community Health Concerns	• Among the most commonly identified concerns were depression; other mental health conditions; substance abuse of illegal and prescriptions drugs; adult obesity/overweight; domestic violence; childhood obesity/overweight; and diabetes.
Community Services that Need Strengthening	• The most commonly mentioned services that need strengthening include behavioral health services; transportation; job/vocational training; employment opportunity/workforce development; substance use services; healthcare for the uninsured; and homeless services.
Defining a Healthy Community	• Respondents defined a healthy community as one with access to healthcare; access to community and social services; supports for people with behavioral health concerns; healthy lifestyle supports and supports for people with disabilities.
Community Health Assets	• Commonly mentioned community assets were healthcare services; healthy lifestyle supports; community and social services; supports for the elderly and supports for children.

Vulnerable or At-Risk Populations

- Most commonly mentioned groups included the elderly population; low income population; minority population; people with behavioral health concerns; and people with disabilities.

New Health Issues

- Among the most commonly identified new issues were COVID-19; child health; behavioral health; disability-related issues and access to healthcare.

Working Together for Community Health Improvement

- Collaboration ideas included more community collaboration; healthcare services; community and social services; and healthy lifestyle supports.

Ideas and Suggestions for Promoting Better Health

- Commonly mentioned ideas included expanding healthcare services, community and social services; addressing health equity and supporting the low-income population.

Summary Insights from Community Indicator Profiles (Section 3)

Section 3 of the report provides a quantitative profile of the study region based on a wide array of community health indicators. To produce the profile, Community Health Solutions analyzed data from multiple sources. By design, the analysis does not include every possible indicator of community health. The analysis is focused on a set of indicators that provide broad insight into community health and for which there were readily available data sources. The summary results are outlined below and presented in more detail in Section 3 of the report.

Community Demographics

- The total population of PD9 is estmated at 186,161 people.
- Children age 0-17 represent 22% of the population.
- Seniors age 65+ represent 19% of the population.
- 10% percent of the population is Black/African American.
- 9% of the population is Hispanic.
- Counties vary in population size and percent distribution by age, race, and ethnicity.

Social Determinants of Health

- 7% of individual residents have incomes below poverty.
- 8% of households have incomes below poverty.
- 10% of the population age 25+ is without a high school diploma.
- 7% of the population may have concerns about food insecurity.
- 14% of households may be struggling with housing.

Health Risk Behaviors for Adults

- An estimated 145,211 adults age 18+ reside in PD9.
- Applying health district level survey data to the local population, an estimated:
  - 64% are overweight or obese.
  - 26% do not meet recommendations for physical activity.
  - 83% consume less than five servings of fruits and vegetables per day.
  - 20% are smokers.
  - 12% are at risk for binge drinking.

Health Risk Behaviors for High School Youth

- An estimated 13,669 youth age 14-19 reside in PD9.
- Applying health district level survey data to the local population, an estimated:
  - 36% are overweight or obese.
  - 29% have used tobacco or vapor products.
  - 58% do not meet recommendations for physical activity.

Access to Health Care

- An estimated 145,496 individuals age 0-64 lived in PD9 in 2018.
- According to health insurance estimates from the US Census Bureau, and estimated 11% of individuals age 0-64 were uninsured at any point in 2018.
- The uninsured rate increases as income drops, with an uninsured rate of 23% for those with income below 138% of poverty.
- As of 2020, all five counties within PD9 are fully or partly designated as medically underserved areas by the U.S. Health Resources and Services Administration.

Leading Causes of Death

- In 2018 the five leading causes of death in PD9 were malignant neoplasms (392), heart disease (353), accidents (118), chronic lower respiratory disease (82), and cerebrovascular disease (75).

Maternal and Infant Health

- In 2018 residents of PD9 had:
  - 2,265 total pregnancies and 2,063 live births.
  - 750 non-marital births and 75 births to teenage mothers.
  - 141 low weight births
  - 10 infant deaths

Cancer Incidence

- From 2013-2017, PD9 residents had 4,762 reported cases of cancer.
- The most frequent cancer types by site were breast (726), lung and bronchus (717), prostate (571), and colorectal (390).

Communicable Disease Incidence

- In 2018 the most common communicable diseases reported in PD9 were hepatitis C - chronic (219), Lyme disease (74), campylobacteriosis (47), salmonellosis (34), and spotted fever (30).

Injury and Violence

- In 2016 PD9 had 150 deaths related to injury or violence, with the leading causes of death being poison (59), overdoes due to drug poisoning (57), traumatic brain injury (49), motor vehicle traffic injury (28), and suicide (24).
- In 2018 PD9 residents had 789 inpatient hospitalizations for injury or violence-related incidents, with the leading causes being unintentional fall (223), firearm (156), traumatic brain injury (152), drug poisoning due to overdose (138), and self harm (72).

Potentially Avoidable Hospitalizations

- Some specifically-defined hospitalizations are potentially avoidable with adequate access to outpatient care and other health supports.
- In 2018 PD9 residents had 1,937 potentially avoidable hospitalizations.
- The leading diagnoses for these hospitalizations were congestive heart failure (617), COPD or asthma in older adults (417), community acquired pneumonia (393), diabetes (260), and urinary tract infection (175). Most of these hospitalizations were for residents age 65+.

Hospitalizations for Mental Health and Substance Use Diagnoses

- In 2018 PD9 residents had 1,007 hospitalizations for behavioral health conditions in Virginia community hospitals.
- The leading causes of hospitalization were major depressive disorder - recurrent (258), alcohol related disorders (165), bipolar disorder (151), major depressive disorder - single episode (111), and schizoaffective disorders (61).

Adult Mental Health and Substance Use: Incidence and Prevalence

- An estimated 145,211 adults age 18+ reside in PD9:
- An estimated 19% may have had any mental illness in the past year, and 4% may have had a serious mental illness in the past year.
- An estimated 6% may have had an alcohol use disorder in the past year, and 3% may have had an illicit drug use disorder in the past year.

Child and Youth Mental Health and Substance Use: Incidence and Prevalence

- An estimated 34,952 PD9 children and youth age 3-17 reside in PD9.
- An estimated 3-10% may have one or more or more of these conditions: ADD or ADHD, anxiety problems, depression, behavioral or conduct problems, or other cognitive or mental health conditions.
- Among an estimated 14,294 PD9 residents age 12-17, an estimated 4% may have had a substance use disorder in the past year.

Summary Insights on Social Determinants of Health (Section 4)

Section 4 presents community insights and data for exploring social determinants of health in the region. Social determinants of health (SDoH) have been defined as the conditions under which people are born, grow, live, work, and age, and include factors such as socioeconomic status, education, employment, social support networks, and neighborhood characteristics.[2] A growing body of research indicates that SDoH can be linked to a lack of opportunity and resources to protect, improve, and maintain health. The impacts of SDoH can be seen in disparities in health status and access to healthcare for individuals and populations.

Section 4 explores the results of the CHNA study from a SDoH perspective. Part A provides summary insights about SDoH from the survey of community residents and the survey of community professionals. Part B presents a set of maps that show where populations with SDoH risk reside within the counties and the regional overall. including low-income households. This type of geographic information can be helpful for planning efforts to reduce health disparities and increase health equity.

[2] American Academy of Family Physicians

Section 1. Insights from Community Residents

To generate community input for the community health needs assessment, a *Community Insight Survey* was conducted with community residents. Insights were collected via surveys administered online. Eight hundred and nine (809) community residents submitted a response (although not every respondent answered every question). The respondents provided rich insights about community health in the study region. This section describes the methods and results of the survey.

A. Survey Methods

The project partners began with a common aim to conduct an inclusive survey with insights from all demographic groups, including low-income and minority populations. The original plan was to accomplish this aim by conducting the survey using a two-pronged approach with online and paper surveys. Online surveys could be completed by community residents willing and able to do so. Paper surveys could be completed at various community sites where diverse people gather, including people with lower income and people from minority backgrounds.

The arrival of COVID-19 and the related protective measures made it impossible to conduct the survey on site at community locations. Consequently, all survey responses reported here were completed online. We recognize there could be many community members who would have completed a paper survey, including community members with lower income or lack of digital access. This is apparent in the survey results, which are under-representative of low-income and minority households relative to their overall proportion of the population. This occurred despite the project partners' extra efforts to reach out to members of these population segments. The project partners are committed to listening to and learning from these populations in a variety of ways as the community continues to open in the coming months.

It should also be noted that the surveys were conducted online using convenience sampling methods. Convenience sampling is a practical approach for obtaining insights from as many people as possible. It differs from probability sampling, which involves random selection of a smaller group of respondents that should be representative of the broader population. The results of a convenience sample are instructive for understanding the scope of issues and opportunities in a community; however, they are not necessarily representative of the entire community.

The survey results are presented in the following order:

B	Demographic Profile
C	Community Needs Related to COVID-19
D	Neighborhood and Community Environment
E	Health Care Service Needs
F	Community Services
G	In their Own Words – Insights from Community Residents

B. Demographic Profile

Community residents were asked to describe their demographic background. The resulting demographic profile of survey respondents is shown in **Exhibit 1.1**. (See notes in the survey overview regarding under-representation of low income and minority populations). Exhibit 1.2 shows the reported zip code of residence for survey respondents.

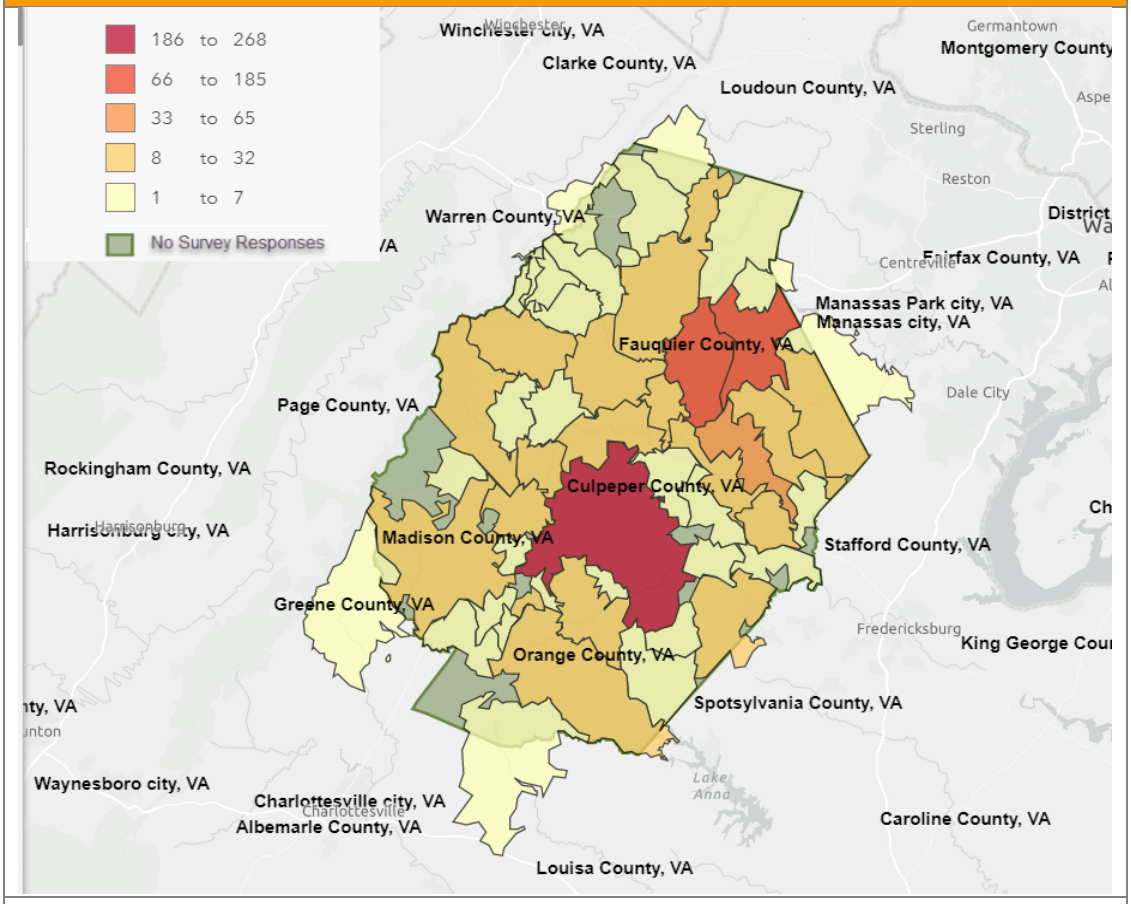
Exhibit 1.1
Demographic Profile
(n=809)

Category	Count	Percent
Age (n=809)		
18-24	21	3%
25-34	67	8%
35-44	161	20%
45-54	186	23%
55-64	178	22%
65-74	151	19%
75-84	42	5%
85+	3	0%
Race (n=805)		
Asian	8	1%
American Indian or Alaska Native	2	0%
Black or African American	40	5%
Multiple Race	19	2%
Pacific Islander	1	0%
White	719	89%
Other	16	2%
Ethnicity (n=798)		
Hispanic, Latino, or Spanish origin	32	4%
Non-Hispanic, Latino, or Spanish origin	766	96%
Gender (n=798)		
Female	647	81%
Male	149	19%
Unknown	2	0%
Income (n=797)		
Less than $25,000	26	3%
$25,000-$34,999	34	4%
$35,000-$49,999	65	8%
$50,000-$74,999	132	17%
$75,000+	499	63%
Don't Know/Not Sure	41	5%

Category	Count	Percent
Education (n=806)		
Less than High School	5	1%
High School or GED	58	7%
Some College	149	18%
Associate degree	81	10%
Bachelor's Degree	221	28%
Master's Degree	237	29%
Professional Degree	23	3%
Doctorate	32	4%
Household Size (n=809)		
1	89	11%
2	278	35%
3	122	15%
4	186	23%
5	82	10%
More Than 5	52	6%
School Aged Children in the Household (n=806)		
Yes	327	41%
No	479	59%
Sources of Health Information (n=803)		
Health Care Provider (Example: Physician, Nurse Practitioner)	740	92%
Online Resources (Example: WebMD)	434	54%
Family Member	184	23%
Urgent Care	156	19%
Friends	151	19%
Hospital Emergency Department	73	9%
Social Media Resources (Example: Facebook)	69	9%
Local Health Department	62	8%
Free Clinic	28	3%
Faith Based Organization	25	3%

Community residents were also asked to indicate the zip code where they live in Planning District 9. The map and table in **Exhibit 1.2** show the number of survey responses received from residents of each zip code. (Please note some zip codes overlap county boundaries.)

Exhibit 1.2
Zip Code of Residence
(n=809)



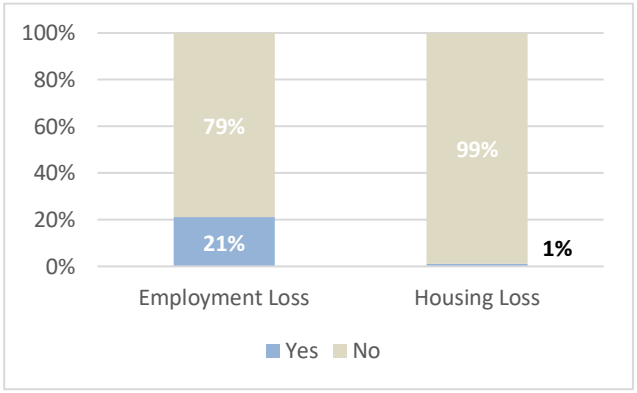
Top 20 Zip Codes	Count	Percent
22701 (Culpeper County)	268	33%
20186 (Culpeper County)	103	13%
20187 (Fauquier County)	89	11%
22712 (Fauquier County)	42	5%
20115 (Fauquier County)	24	3%
20106 (Culpeper County)	19	2%
22727 (Madison County)	16	2%
22737 (Culpeper County)	15	2%
22747 (Rappahannock County)	15	2%
22713 (Culpeper County)	13	2%
22728 (Fauquier County)	13	2%
22733 (Culpeper County)	13	2%
22960 (Madison County)	13	2%
20119 (Fauquier County)	12	1%
22508 (Orange County)	12	1%
22724 (Culpeper County)	11	1%
22734 (Culpeper County)	11	1%
22735 (Culpeper County)	11	1%
22740 (Culpeper County)	10	1%
22742 (Fauquier County)	9	1%

C. Community Needs Related to COVID-19

Community residents were asked to share their insights on community needs specifically related to COVID-19. The results are shown in **Exhibit 1.3**. Twenty-one percent (21%) said they or an immediate family member lost employment due to COVID-19, and eight respondents (1%) reported they or a family member lost housing. Survey respondents identified multiple groups that need extra help due to COVID.19. They also shared their experiences of personal difficulty as shown in the bottom panel.

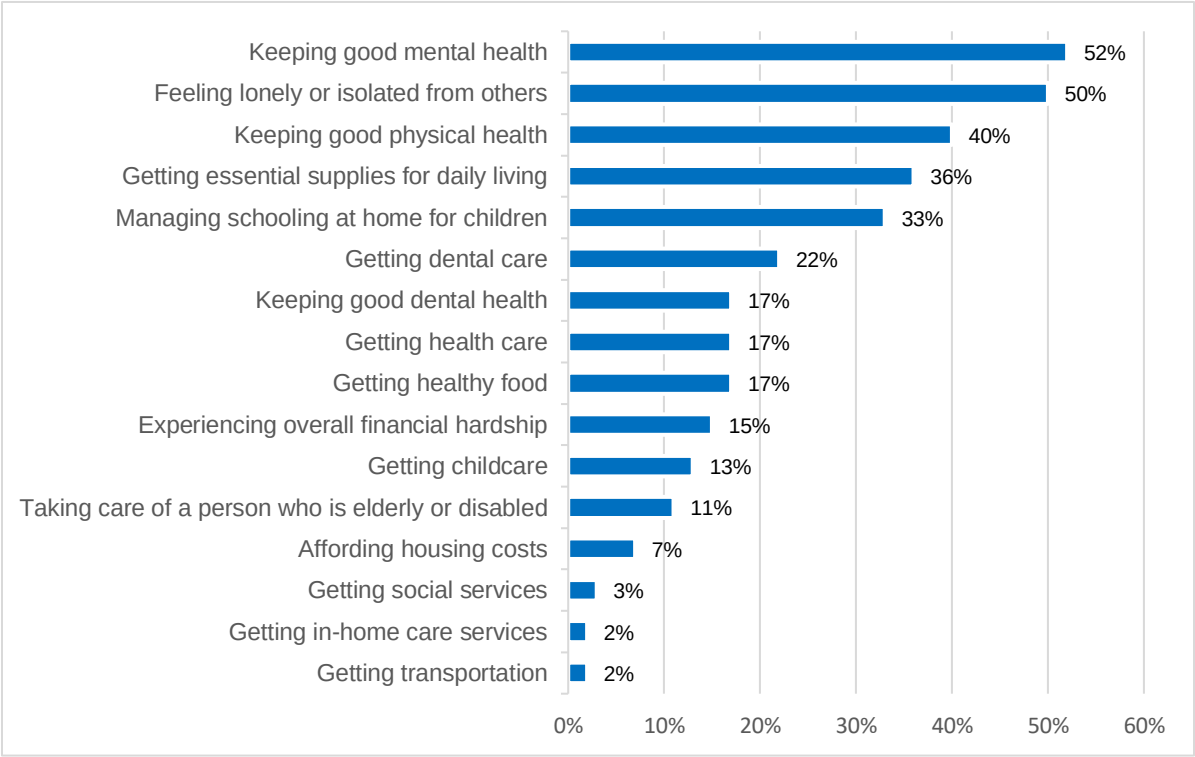
Exhibit 1.3
Community Needs Related to COVID-19

Household/Personal Employment (n=809) or Housing Loss (n=807)



Groups Who Need Extra Help (n=432)

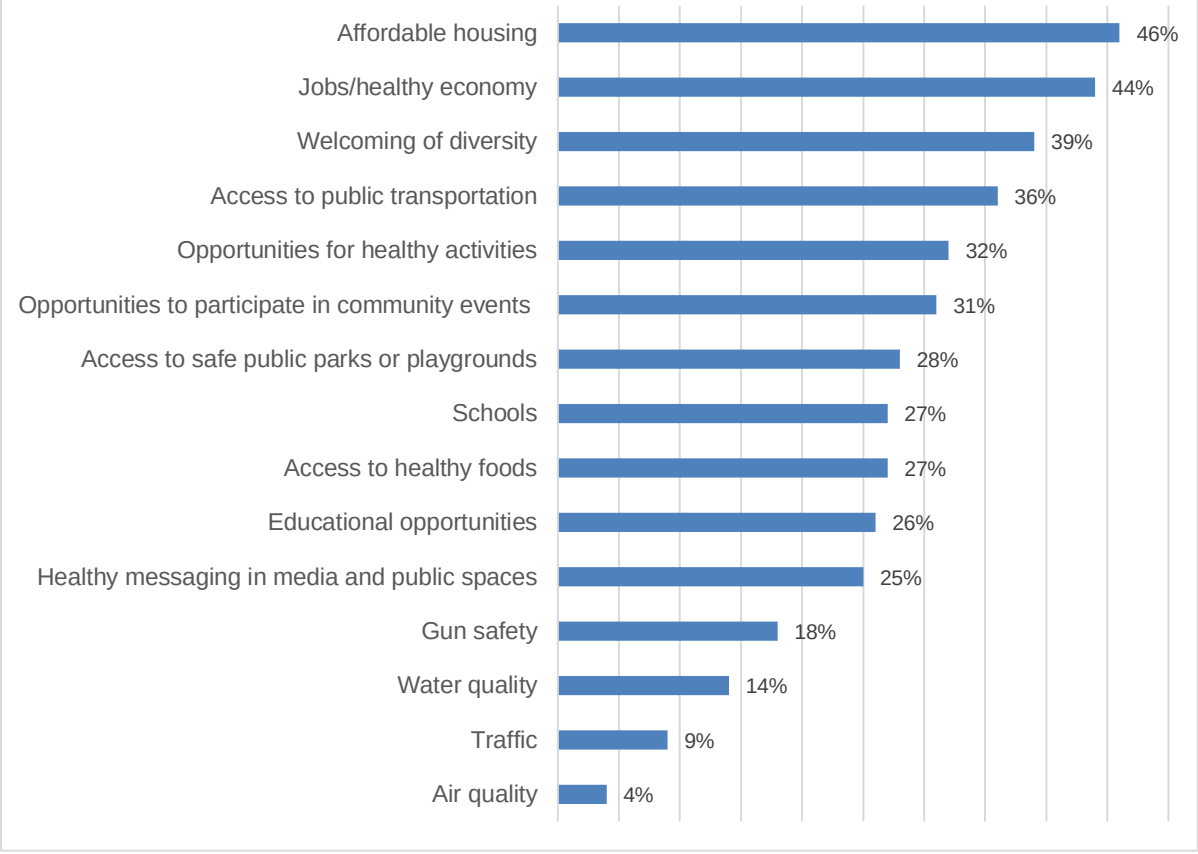
Experiences of Personal Difficulty during COVID-19 (n=627)



D. Neighborhood and Community Environment

Widening the perspective beyond those issues directly related to COVID-19, community residents were asked to review a list of common community health needs and concerns and identify which of these needs are present in their community. The results are shown in **Exhibit 1.4**.

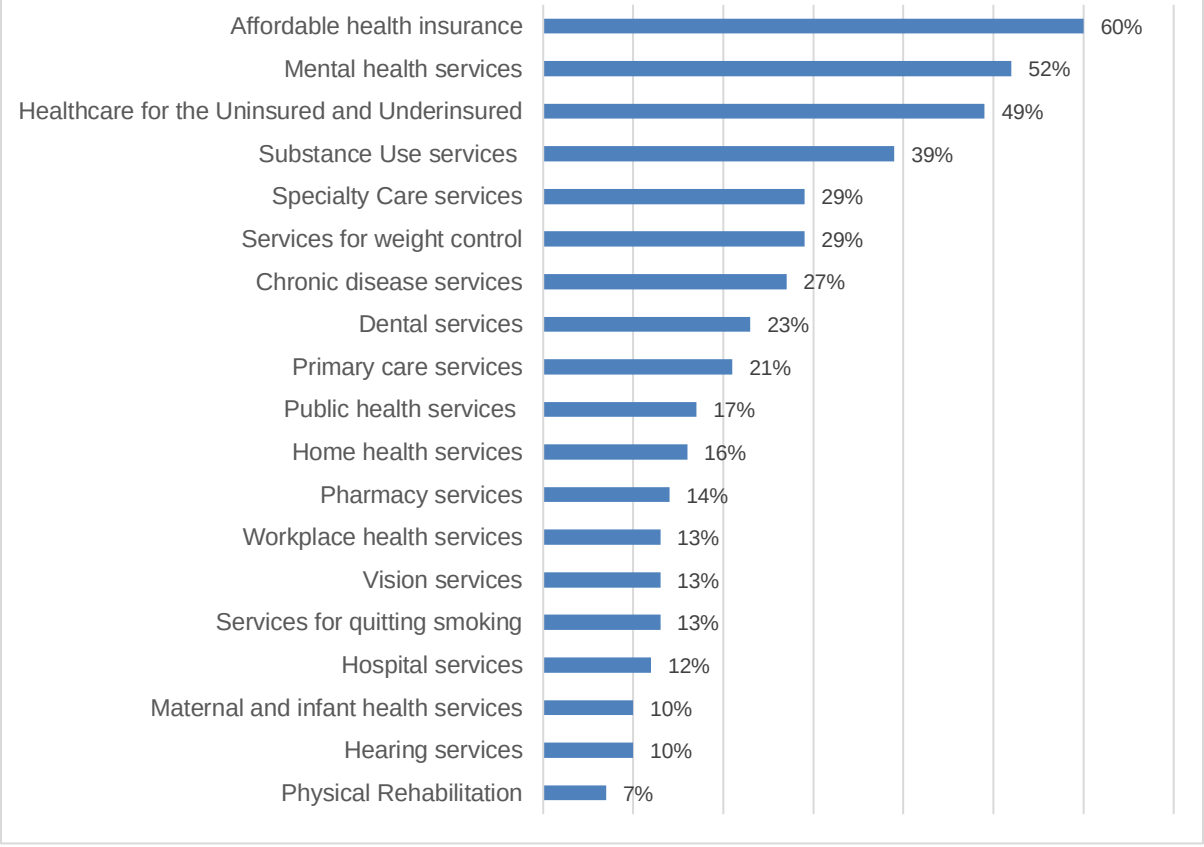
Exhibit 1.4
Neighborhood and Community Environment (n=659)



E. Health Care Service Needs

Community residents were asked to review a list of common health services, and identify which services need strengthening in their community. The results are shown in **Exhibit 1.5**.

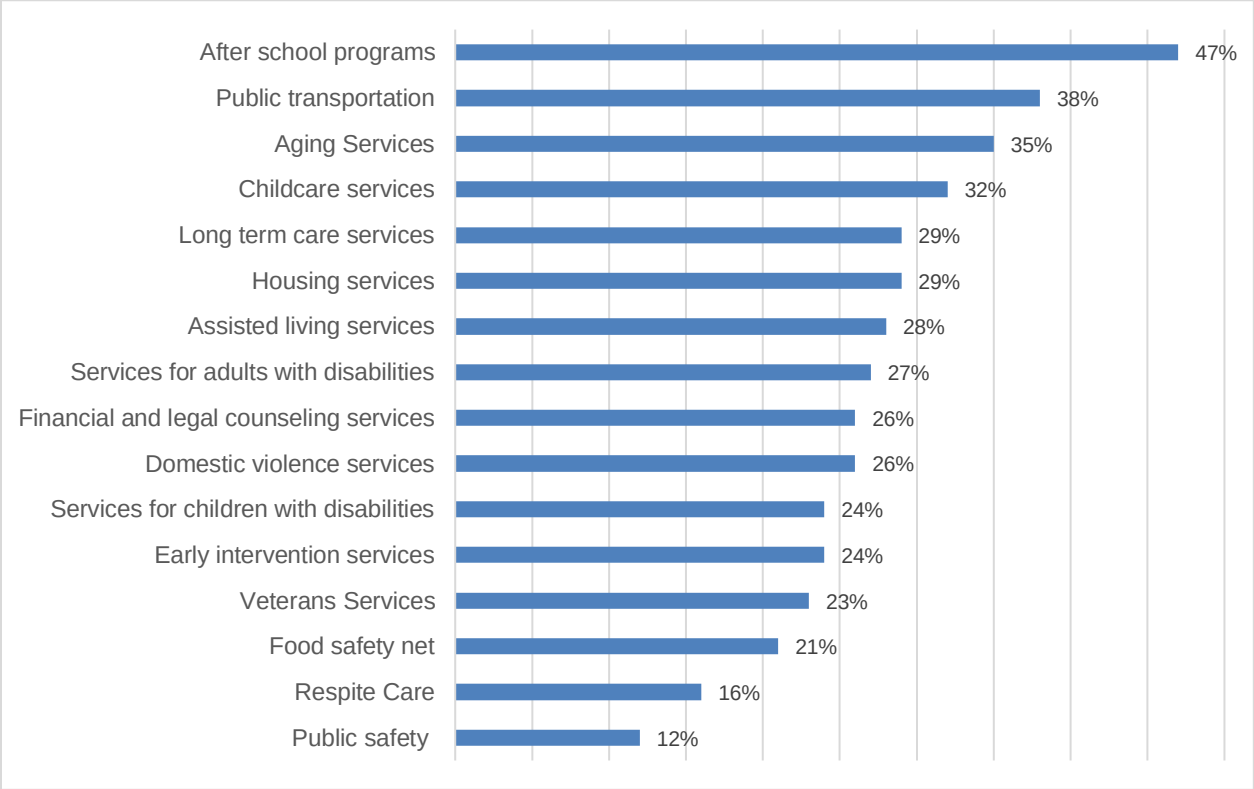
Exhibit 1.5
Health Care Service Needs (n=631)



F. Community Services

Community residents were asked to review a list of common community support services and identify which of those services need strengthening in their community. The results are shown in **Exhibit 1.6**.

Exhibit 1.6
Community Services that Need Strengthening
(n=605)



G. In Their Own Words – Insights from Community Residents

Community residents were asked to share in their own words their insights on the health and well-being of their community. **Exhibit 1.7** presents a summary of the **most common themes** and the associated number of responses. The most common themes are provided as a summary illustration, but they do not represent all the responses provided. The detailed responses are provided under separate cover.

Exhibit 1.7
In their Own Words – Insights from Community Resident Survey Respondents

1. How would you define a healthy community? (n=406)				
168 Access to Healthcare Services Medical, Dental, Behavioral Health	106 Access to Community & Social Services	49 Supports for Healthy Lifestyles	49 Supports for People with Disabilities	85 Supports for Children

2. Are there particular groups of people within your neighborhood or community who need help obtaining better health? (n=360)				
Elderly Population 110	Low Income Population 70	Child Population 56	Minority Population 48	People with Behavioral Health Concerns 44

3. Are there any new health issues within your neighborhood or community that others may not be aware of, but could cause serious harm today or in the future? (n=273)				
61 COVID-19 Issues	53 Behavioral Health Issues	50 Access to Health Care Issues	31 Unhealthy Lifestyle Issues	32 Child Health Issues

4. In your view, what are the people, places or things that contribute the most to better health in your neighborhood or community? (n=354)			
123 Healthcare Services	106 Community & Social Services	21 Community Engagement	16 Support for Health Equity

5. Please share your ideas about how people could work together to promote better health in your neighborhood or community (n=262)			
65 COVID-19 Response	43 Healthcare Service	43 Supports for Children	25 Supports for People with Disabilities

6. Do you have any ideas on how local organizations can help you and others in your neighborhood or community achieve better health? (n=262)				
55 Community & Social Services	47 Healthcare Services	29 Supports for Children	27 Supports for Healthy Lifestyles	21 Supports for People with Disabilities

Section 2. Insights from Community Professionals

In addition to the survey of community residents described in Section 1, a second *Community Insight Survey* was conducted with a group of community professionals identified by the Planning District 9 Planning Workgroup. This section describes the methods, summary results, and detailed results for each section of the survey.

A. Survey Methods

The survey was conducted online with a pool of potential respondents identified by the project partners from their existing lists of community contacts. One section of the survey included questions about community needs related to COVID-19. The other sections asked respondents for their insights about community health issues beyond COVID-19. The survey link was sent to a total of 170 community professionals based on lists from the project partners. A total of 61 (36%) individuals submitted a response (although not every respondent answered every question).

B. Organizational Affiliation and Geographic Perspective

Survey Responses were received from 61 community professionals from the organizations listed in **Exhibit 2.1**. Each respondent was asked to describe their geographic perspective in terms of the counties for which they would share insights on the survey. Most respondents identified multiple counties.

Exhibit 2.1
Organizational Affiliation and Geographic Perspective
(n=61)

By Organization
(A count denotes multiple respondents from the same organization.)

- Aging Together
- Anonymous
- Boys & Girls Club of Fauquier
- BRCCC
- Caring Angels Home Health
- Come As You Are, Inc.
- Culpeper Baptist Church
- Culpeper Chamber of Commerce
- Culpeper Hospital Auxiliary
- Culpeper Human Services (3)
- Culpeper Wellness Foundation (3)
- DARS
- Department of Social Services
- Families First - Healthy Families Culpeper (3)
- Fauquier Community Action Committee, Head Start
- Fauquier County
- Fauquier County Parks & Recreation
- Fauquier County Public Schools/FRESH
- Fauquier County Sheriff's Office/Jail
- Fauquier Department of Social Services
- Fauquier Free Clinic
- Fauquier Health
- FCCC
- Free Clinic of Culpeper (3)
- Headwaters
- Horse and Soul Counseling
- Impactando Culpeper
- Lord Fairfax Community College
- Madison Department of Social Services
- Madison Free Clinic
- Mental Health Assoc. and others.
- Mental Health Association of Fauquier
- NH UVA Culpeper Medical Center
- nono
- Operation First Response
- Orange County Free Clinic
- PATH Foundation
- Piedmont Dispute Resolution Center
- Powell Wellness Center (4)
- Rappahannock center for education
- Rappahannock County OEM
- Rappahannock County Sheriff's Office
- Virginia Cooperative Extension
- Virginia Department of Health (5)
- Wakefield School
- Windy Hill Foundation, Inc.

By Geographic Perspective
(Can select multiple)

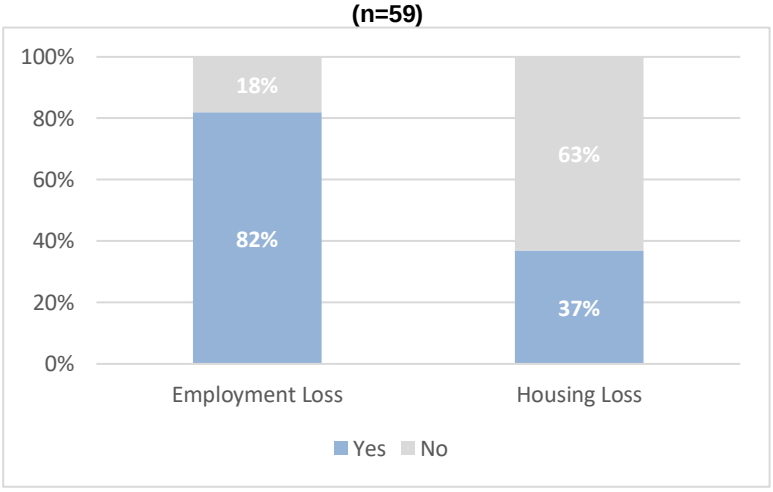
Culpeper	69%
Fauquier	54%
Madison	36%
Orange	33%
Rappahannock	43%

C. Community Needs Related to COVID-19

Community professionals were asked to share their insights on community needs specifically related to COVID-19. As shown in **Exhibit 2.2**, 82% said they have seen an increase in employment loss due to COVID-19, and 37% said they have seen an increase in housing loss. Survey respondents also identified multiple groups that need extra help due to COVID-19. They also shared their perceptions of client/consumer difficulty as shown in the bottom panel.

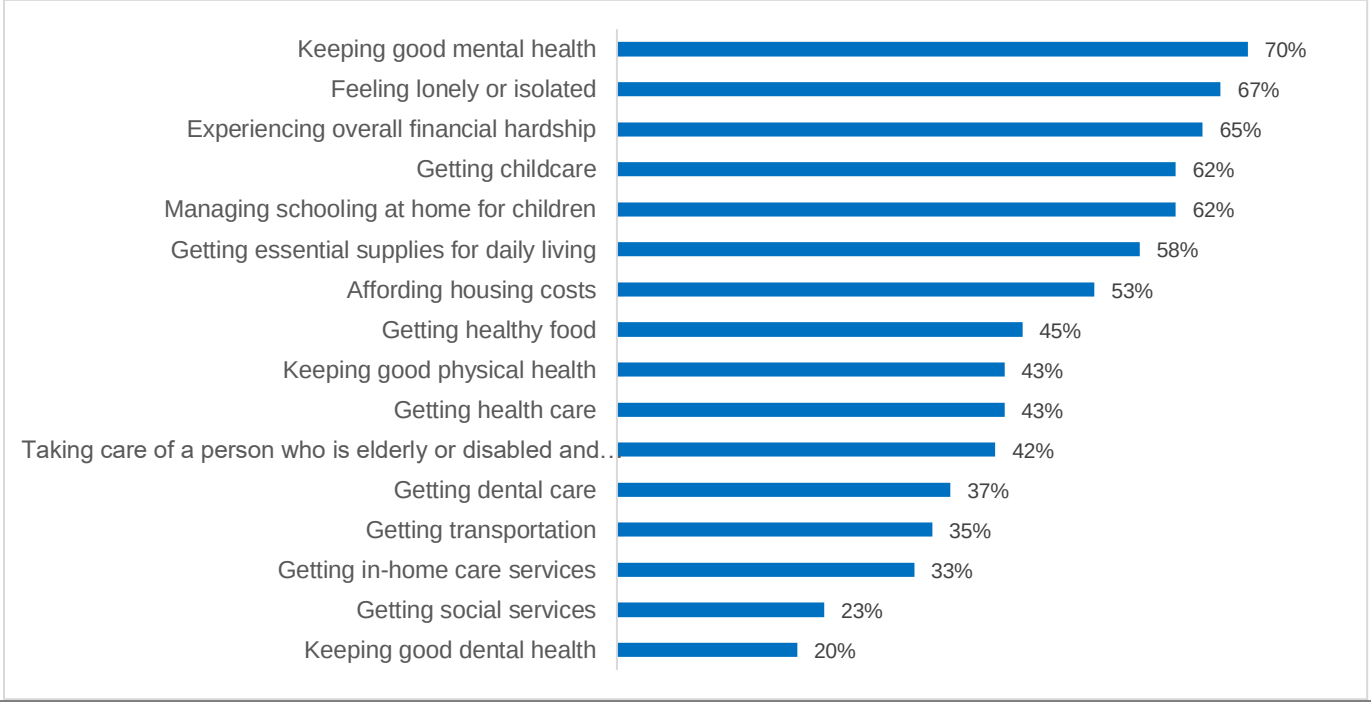
Exhibit 2.2
Community Needs Related to COVID-19

Increase in Client/Consumer Employment (n=60) or Housing Loss (n=59)



Groups Who Need Extra Help (n=51)

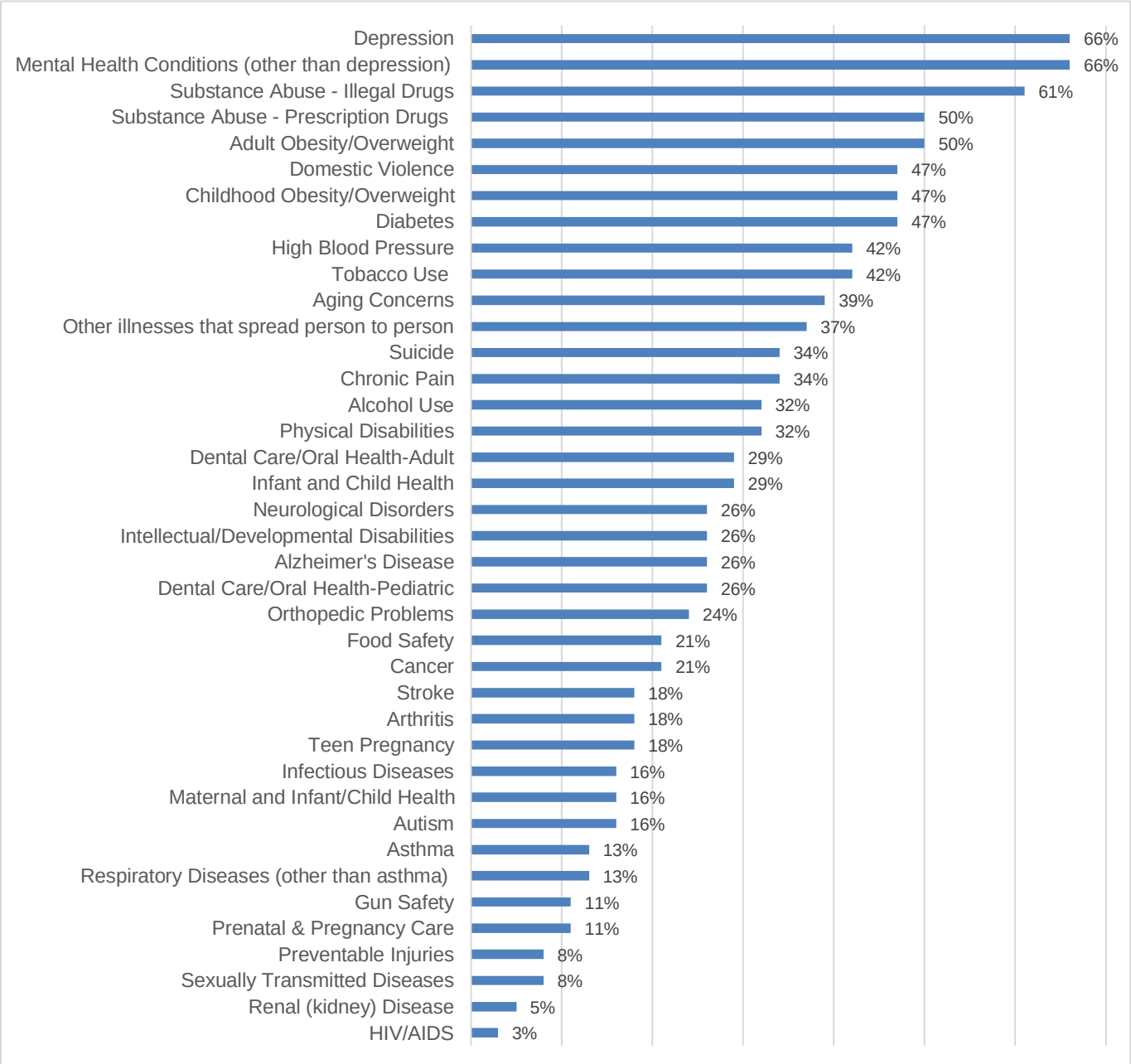
Client/Consumer Difficulties (n=60)



D. Community Health Concerns

Community professionals were asked to review a list of common community health needs and identify which of these needs are present in their community. The results are shown in **Exhibit 2.3**.

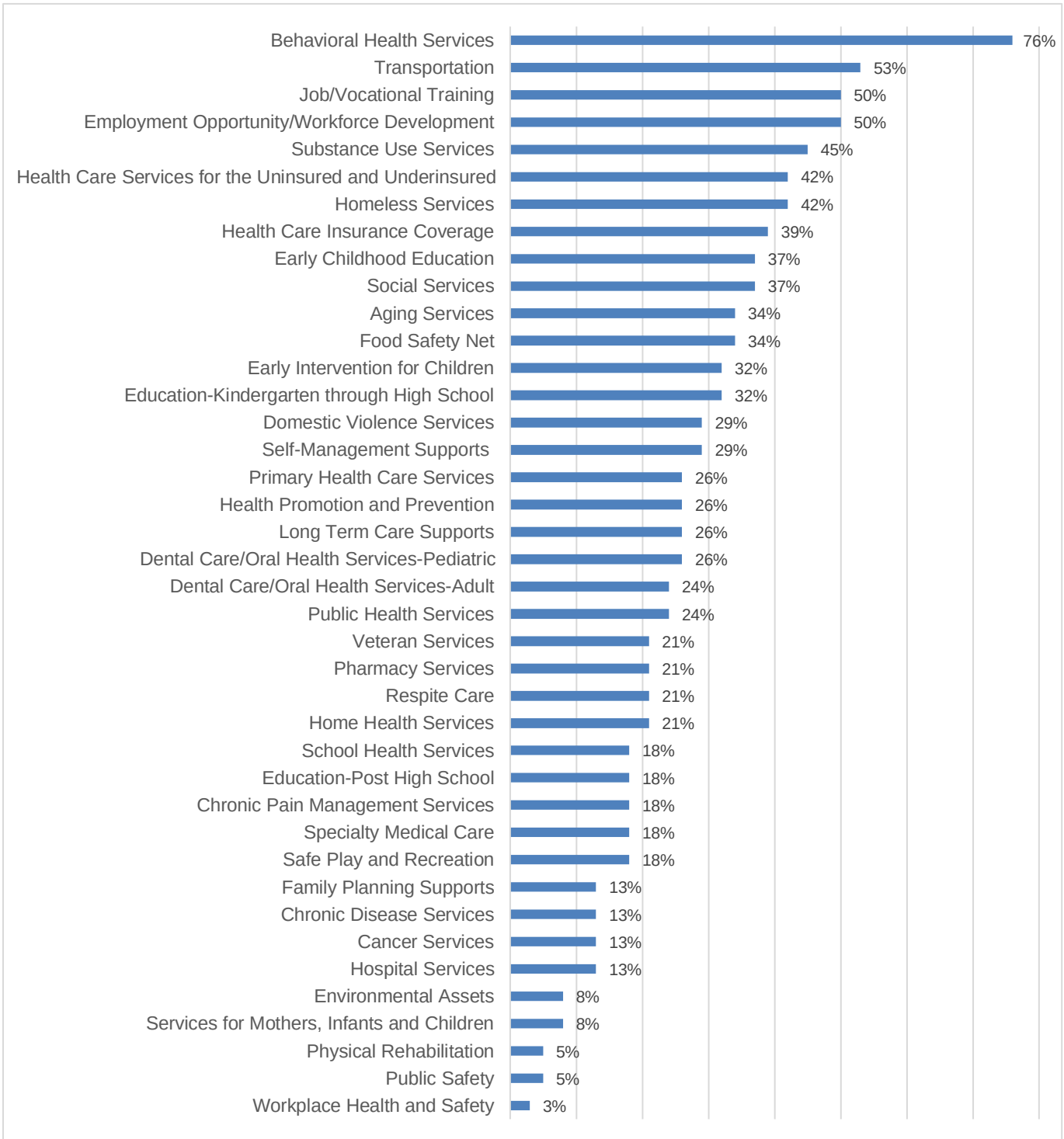
Exhibit 2.3
Community Health Concerns
(n=61)



E. Services and Supports that Need Strengthening

Community professionals were asked to review a list of common community services and supports, and identify which of those services need strengthening in their community. The results are shown in **Exhibit 2.4**.

Exhibit 2.4
Services and Supports that Need Strengthening
(n=61)



F. In Their Own Words – Insights from Community Professionals

Community professionals were asked to share in their own words their insights on the health and well-being of their community. **Exhibit 2.5** provides a summary of the **most common themes** and the associated number of responses. The most common themes are provided as a summary illustration, but they do not represent all the responses provided. The detailed responses are provided under separate cover.

Exhibit 2.5
In their Own Words – Insights from Community Professionals

1. In your own words, how would you define the idea of a "healthy community"? (n=48)				
24 Access to Healthcare (Medical, Dental, Behavioral)	13 Access to Community & Social Services	10 Supports for People with Behavioral Health Concerns	7 Healthy Lifestyle Supports	7 Supports for People with Disabilities

2. In your view, what are the most important health assets within the community? (n=53)				
25 Healthcare Services	25 Healthy Lifestyle Supports	21 Community and Social Services	9 Supports for Elderly	6 Supports for Children

3. Are there particular groups within the community who are at greater risk for health problems or difficulties obtaining their best health? (n=53)				
18 Elderly Population	14 Low Income Population	14 Minority Population	9 People with Behavioral Health Concerns	6 People with Disabilities

4. Are there any new health issues within the community that may not be widely known yet, but could cause serious harm today or in the future? (n=28)				
9 COVID-19 Issues	9 Child Health Issues	8 Behavioral Health Issues	4 Disability-Related Issues	4 Access to Healthcare

5. Please share your ideas about how people could work together to promote optimal health in the community (n=44)			
17 More Community Collaboration	9 Healthcare Services	9 Community & Social Services	5 Healthy Lifestyle Supports

6. Please share your additional ideas or suggestions (n=44)			
5 Health Care Services	2 Community and Social Services	2 Health Equity	2 Low Income Population

Section 3. Community Indicator Profiles

This section of the report provides a quantitative profile of the study region based on a wide array of community health indicators. To produce the profile, Community Health Solutions analyzed data from multiple sources. By design, the analysis does not include every possible indicator of community health. The analysis is focused on a set of indicators that provide broad insight into community health and for which there were readily available data sources.

The results of this profile can be used to evaluate community health status compared to the Commonwealth of Virginia overall. The results can also be helpful for determining the number of people affected by specific health concerns. In addition, the results can be used alongside the survey results to help inform action plans for community health improvement.

The community data profiles are organized into two sections as outlined below. Health factors include demographics and other factors that can influence health status and access to health care for community populations. Health outcomes are indicators of the health status of community members.

Health Factor Profiles	Health Outcome Profiles
A. Community Demographics B. Social Determinants of Health C. Health Risk Behaviors for Adults D. Health Risk Behaviors for Youth E. Access to Health Care	F. Leading Causes of Death G. Maternal and Infant Health H. Cancer Incidence I. Communicable Disease Incidence J. Injury and Violence K. Preventable Hospitalization L. Mental Health and Substance Use

A. Health Factors: Community Demographics

Exhibit 3.1 provides a demographic profile of each county and Planning District 9. Focusing on rates in the bottom panel, compared to Virginia as a whole, the PD9 region is more rural, has a higher percentage of seniors age 65+, and is less racially and ethnically diverse.

Exhibit 3.1
Community Demographics (2020)

Indicator		Fauquier	Rappahannock	Culpeper	Madison	Orange	PD9 Total	Virginia
Estimated Counts								
Total Population	Population	73,383	7,502	53,428	13,914	37,934	186,161	8,684,166
Age	Children Age 0-17	16,151	1,283	12,837	2,849	7,830	40,950	1,857,391
	Adults Age 18-29	9,481	830	7,572	1,619	4,819	24,321	1,425,254
	Adults Age 30-44	12,857	1,139	10,163	2,474	6,545	33,178	1,728,750
	Adults Age 45-64	21,893	2,303	14,386	3,924	10,557	53,063	2,272,656
	Seniors Age 65+	13,001	1,947	8,470	3,048	8,183	34,649	1,400,115
Sex	Female	37,126	3,766	26,585	7,100	19,323	93,900	4,411,676
	Male	36,257	3,736	26,843	6,814	18,611	92,261	4,272,490
Race	Asian	1,259	74	855	93	428	2,709	609,644
	Black/African American	5,489	324	7,504	1,216	4,960	19,493	1,687,062
	White	61,106	6,860	39,371	11,984	30,133	149,454	5,667,763
	Other or Multi-Race	5,529	244	5,698	621	2,413	14,505	719,697
Ethnicity	Hispanic Ethnicity	7,308	301	6,608	493	2,276	16,986	880,213
Estimated Rates								
Total Population	Population Density (pop. per sq. mile)	113.3	28.2	140.9	43.4	111.3	95.3	219.9
Age	Children Age 0-17 pct. of Total Pop.	22%	17%	24%	20%	21%	22%	21%
	Adults Age 18-29 pct. of Total Pop.	13%	11%	14%	12%	13%	13%	16%
	Adults Age 30-44 pct. of Total Pop.	18%	15%	19%	18%	17%	18%	20%
	Adults Age 45-64 pct. of Total Pop.	30%	31%	27%	28%	28%	29%	26%
	Seniors Age 65+ pct. of Total Pop.	18%	26%	16%	22%	22%	19%	16%
Sex	Female pct. of Total Pop.	51%	50%	50%	51%	51%	50%	51%
	Male pct. of Total Pop.	49%	50%	50%	49%	49%	50%	49%
Race	Asian pct. of Total Pop.	2%	1%	2%	1%	1%	1%	7%
	Black/African American pct. of Total Pop.	7%	4%	14%	9%	13%	10%	19%
	White pct. of Total Pop.	83%	91%	74%	86%	79%	80%	65%
	Other or Multi-Race pct. of Total Pop.	8%	3%	11%	4%	6%	8%	8%
Ethnicity	Hispanic Ethnicity pct. of Total Pop.	10%	4%	12%	4%	6%	9%	10%

Source: Community Health Solutions analysis of data from ESRI. See Appendix A: Data Sources for details.

B. Health Factors: Social Determinants of Health

Exhibit 3.2 shows selected social determinants of health for residents each county and Planning District 9. Social determinants of health are social and economic factors that can influence health and access to health care for individuals and populations. The results show there are substantial numbers of community residents with low income, without a high school diploma, with food insecurity, and housing problems. These factors can impact an individual's health status and access to health services and supports.

Exhibit 3.2
Social Determinants of Health (Various Years)

Indicator		Fauquier	Rappahannock	Culpeper	Madison	Orange	PD9 Total	Virginia
Estimated Counts								
Income	Total Population (Individual) in Poverty (2018)	4,177	650	3,986	1,070	2,984	12,867	893,580
	Total Households in Poverty (2018)	1,423	313	1,521	490	1,073	4,820	330,813
Education	Population Age 25+ Without a High School Diploma (2020)	3,704	595	5,011	1,231	2,984	13,525	593,336
Food Insecurity	Food Insecure Population (2017)	4,030	590	4,190	1,180	3,040	13,030	863,390
Housing	Households with Severe Housing Problems[3] (2012-2016)	2,840	520	2,550	880	1,700	8,490	461,330
Estimated Rates								
Income	Total Population (Individual) in Poverty pct. of Total Population for Whom Poverty Status is Determined (2018)	6%	9%	8%	8%	9%	7%	11%
	Total Households in Poverty pct. of Total Households for Whom Poverty Status is Determined (2018)	6%	11%	9%	10%	8%	8%	11%
	Median Household Income (2020)	$95,822	$61,522	$67,696	$53,162	$71,307	$76,845	$73,543
	Per Capita Income (2020)	$45,542	$37,720	$30,000	$29,091	$33,706	$37,125	$40,095
Education	Population Age 25+ Without a High School Diploma pct. of Total Pop. Age 25+ (2020)	7%	10%	14%	12%	11%	10%	10%

[3] Percentage of households with at least 1 of 4 housing problems: overcrowding, high housing costs, lack of kitchen facilities, or lack of plumbing facilities.

Exhibit 3.2
Social Determinants of Health (Various Years)

Indicator		Fauquier	Rappahannock	Culpeper	Madison	Orange	PD9 Total	Virginia
Food Insecurity	Food Insecure Population pct. of Total Population (2017)	6%	8%	8%	9%	9%	7%	10%
Housing	Households with Severe Housing Problems pct. of Total Households (2012-2016)	12%	16%	15%	17%	13%	14%	15%

Source: Community Health Solutions analysis of data from ESRI, The U.S. Department of Housing and Urban Development, and Feeding America. See Appendix A: Data Sources for details

C. Health Factors: Risk Behaviors for Adults

Exhibit 3.3 shows selected health risk behaviors for adults by county and for Planning District 9. Health risk behaviors include lifestyle factors that can influence health including development of chronic disease. Please note that these figures are estimates derived by applying 2017/2018 health district estimates to 2020 local demographics for the study region. They are subject to error and presented for planning purposes only. The results show there are substantial numbers of community residents who could reduce their health risks by improving their diet, reducing their body weight, engaging in physical activity, reducing alcohol consumption, and ceasing smoking.

Exhibit 3.3
Adult Health Risk Behaviors (2020 Estimates)

Indicator		Fauquier	Rappahannock	Culpeper	Madison	Orange	PD9 Total	Virginia
Estimated Counts								
Total Estimated Adults age 18+		57,232	6,219	40,591	11,065	30,104	145,211	6,826,775
Lifestyle Risk Factors	Less than Five Servings of Fruits and Vegetables Per Day	47,503	5,162	33,691	9,184	24,986	120,525	5,597,956
	Overweight or Obese	36,628	3,980	25,978	7,082	19,267	92,935	4,505,672
	Not Meeting Recommendations for Physical Activity in the Past 30 Days	14,880	1,617	10,554	2,877	7,827	37,755	1,501,891
	At-risk for Binge Drinking[4]	6,868	746	4,871	1,328	3,612	17,425	1,092,284
	Smoker	11,446	1,244	8,118	2,213	6,021	29,042	1,024,016
Chronic Conditions[5]	High Cholesterol	22,320	2,425	15,830	4,315	11,741	56,632	2,389,371
	High Blood Pressure	21,748	2,363	15,425	4,205	11,440	55,180	2,184,568
	Arthritis	14,308	1,555	10,148	2,766	7,526	36,303	1,774,962
	Diabetes	6,296	684	4,465	1,217	3,311	15,973	750,945
General Health	Fair or Poor Health Status	10,302	1,119	7,306	1,992	5,419	26,138	1,570,158
Estimated Rates								
Lifestyle Risk Factors	Less than Five Servings of Fruits and Vegetables Per Day	83%	83%	83%	83%	83%	83%	82%
	Overweight or Obese	64%	64%	64%	64%	64%	64%	66%
	Not Meeting Recommendations for Physical Activity in the Past 30 Days	26%	26%	26%	26%	26%	26%	22%
	At-risk for Binge Drinking	12%	12%	12%	12%	12%	12%	16%
	Smoker	20%	20%	20%	20%	20%	20%	15%
Chronic Conditions	High Cholesterol	39%	39%	39%	39%	39%	39%	35%
	High Blood Pressure	38%	38%	38%	38%	38%	38%	32%
	Arthritis	25%	25%	25%	25%	25%	25%	26%
	Diabetes	11%	11%	11%	11%	11%	11%	11%
General Health Status	Fair or Poor Health Status	18%	18%	18%	18%	18%	18%	23%

Source: Community Health Solutions analysis of data from Virginia Department of Health Behavioral Risk Factor Surveillance System and demographic estimates from ESRI. See Appendix A: Data Sources for details

[4] Males having five or more drinks on one occasion, females having four or more drinks on one occasion.
[5] As told by a doctor or other health professional

D. Health Factors: Risk Behaviors for Youth

Exhibit 3.4 shows selected health risk behaviors for youth by county and for Planning District 9. Please note that all indicators in this profile are based on 2019 health district estimates applied to 2020 local demographics for the study region. They are subject to error and presented for planning purposes only. The results show there are substantial numbers of community youth who could reduce their health risks by avoiding tobacco and vapor products, engaging in more physical activity, and sustaining healthier body weight.

Exhibit 3.4
High School Youth Health Risk Behaviors (2020 Estimates)

Indicator		Fauquier	Rappahannock	Culpeper	Madison	Orange	PD9 Total	Virginia
Estimated Counts								
Total Estimated High School Youth Age 14-19		5,639	444	4,186	929	2,471	13,669	652,253
Lifestyle Risk Factors	Used tobacco or vapor products in the past month	1,635	129	1,214	269	717	3,964	150,018
	Not Meeting Recommendations for Physical Activity in the Past Week	3,271	258	2,428	539	1,433	7,928	384,829
Chronic Conditions	Asthma	1,128	89	837	186	494	2,734	136,973
	Overweight or Obese	2,030	160	1,507	334	890	4,921	202,198
Estimated Rates								
Lifestyle Risk Factors	Used tobacco or vapor products	29%	29%	29%	29%	29%	29%	23%
	Not Meeting Recommendations for Physical Activity in the Past Week	58%	58%	58%	58%	58%	58%	59%
Chronic Conditions	Asthma	20%	20%	20%	20%	20%	20%	21%
	Overweight or Obese	36%	36%	36%	36%	36%	36%	31%

Source: Community Health Solutions analysis of data from Virginia Department of Health Youth Risk Behavior Surveillance System and demographic estimates from ESRI. See Appendix A: Data Sources for details

E. Health Factors: Access to Health Care

Access to health care is essential for individual and population health. **Exhibit 3.5** provides indicators of access to health insurance for community residents. As shown, an estimated 16,422 community members may lack health coverage, with higher uninsured rates among lower-income populations. Looking beyond health coverage, **Exhibit 3.6** shows that all five counties in the region have been designated as full or partial medically underserved areas by the U.S. Health Resources and Services Administration. The designations are based on several factors including primary care provider supply, infant mortality, prevalence of poverty and the prevalence of seniors age 65+.

Exhibit 3.5
Access to Health Coverage-Uninsured Population (2018 Estimates)

Indicator		Fauquier	Rappahannock	Culpeper	Madison	Orange	PD9 Total	Virginia
Estimated Counts - Population								
Total Population Age 0-64	Total Population Age 0-64	59,005	5,232	42,295	10,287	28,677	145,496	6,981,520
	Total Population Age 0-19	17,370	1,253	13,295	2,798	7,975	42,691	1,935,423
	Total Population Age 18-64	42,550	4,067	29,665	7,637	21,101	105,020	5,141,142
Estimated Counts - Uninsured								
Uninsured Population Age 0-64	All Incomes	5,965	698	5,273	1,269	3,217	16,422	705,225
	138% to 400% of Poverty	2,914	354	2,781	637	1,713	8,399	353,297
	<= 200% of Poverty	2,368	330	2,560	647	1,540	7,445	341,332
	<= 138% of Poverty	1,440	204	1,533	416	935	4,528	218,164
Uninsured Population Age 0-19	All Incomes	998	104	867	193	478	2,640	95,977
	138% to 400% of Poverty	505	56	492	95	261	1,409	49,807
	<= 200% of Poverty	394	52	409	104	243	1,202	46,780
	<= 138% of Poverty	229	30	228	67	151	705	28,816
Uninsured Population Age 18-64	All Incomes	5,055	604	4,485	1,093	2,778	14,015	618,552
	138% to 400% of Poverty	2,450	302	2,326	549	1,470	7,097	307,967
	<= 200% of Poverty	2,008	284	2,191	551	1,317	6,351	299,182
	<= 138% of Poverty	1,232	178	1,332	355	798	3,895	192,475
Estimated Rates - Uninsured								
Uninsured Population Age 0-64	All Incomes	10%	13%	13%	12%	11%	11%	10%
	138% to 400% of Poverty	16%	16%	15%	14%	13%	15%	14%
	<= 200% of Poverty	27%	27%	23%	20%	20%	23%	20%
	<= 138% of Poverty	28%	29%	23%	21%	20%	24%	20%
Uninsured Population Age 0-19	All Incomes	6%	8%	7%	7%	6%	6%	5%
	138% to 400% of Poverty	8%	9%	7%	7%	6%	7%	6%
	<= 200% of Poverty	12%	15%	9%	9%	8%	10%	8%
	<= 138% of Poverty	6%	8%	7%	7%	6%	6%	5%
Uninsured Population Age 18-64	All Incomes	12%	15%	15%	14%	13%	13%	12%
	138% to 400% of Poverty	20%	19%	20%	16%	17%	19%	17%
	<= 200% of Poverty	36%	32%	31%	26%	26%	31%	26%
	<= 138% of Poverty	37%	33%	32%	28%	28%	32%	26%

Notes: These data may reflect conservative estimates of health coverage for 2018. Readers are encouraged to review current data on Medicaid Expansion enrollment that which updated on a regular basis. Click here view the Department of Medical Assistance Services Medicaid Expansion Access Dashboard.

Source: Community Health Solutions analysis of data from US Census Bureau Small Area Health Insurance Estimates
See Appendix A: Data Sources for details.

Exhibit 3.6
Access to Health Care-Medically Underserved Areas/Populations

Locality	Index of Medical Underservice Score (0= Highest Need 100 =Lowest Need)	Service Area Name (s)	Rural Status
Fauquier County	42.6	Lee Division Service Area	Non-Rural
	62.0	Northern Fauquier County	Non-Rural
Rappahannock County	58.6	Entire County	Partially Rural
Culpepper County	42.3	Cedar Mountain Division Service Area	Partially Rural
Madison County	55.0	Madison Service Area	Rural
Orange County	58.5	Orange Service Area	Rural

Source: Community Health Solutions analysis of data from Health Resources and Services Administration. See Appendix A: Data Sources for details

F. Health Outcomes: Leading Causes of Death

Exhibit 3.7 shows the leading causes of death for each county and Planning District 9. In 2018 the five leading causes of death in PD9 were malignant neoplasms (392), heart disease (353), accidents (118), chronic lower respiratory disease (82), and cerebrovascular disease (75). Age-adjusted mortality rates for the PD9 region were higher than the Virginia rate for total deaths, malignant neoplasm, heart disease, and accidents.

Exhibit 3.7
Mortality (2018)

Indicator	Fauquier	Rappahannock	Culpeper	Madison	Orange	PD9 Total	Virginia
Counts-Total Deaths by Cause							
Total Deaths by All Causes	573	68	488	147	389	1,665	69,353
Malignant Neoplasms	134	20	106	39	93	392	15,142
Heart Disease	124	17	87	36	89	353	14,526
Accidents	45	1	36	12	24	118	3,799
Chronic Lower Respiratory	25	6	30	3	18	82	3,466
Cerebrovascular Disease	33	1	18	8	15	75	3,771
Alzheimer's Disease	17	3	17	5	14	56	2,594
Diabetes	12	1	13	1	10	37	2,281
Nephritis and Nephrosis	10	4	8	2	8	32	1,563
Influenza and Pneumonia	12	0	11	1	5	29	1,279
Chronic Liver Disease	7	0	11	1	8	27	943
Suicide	7	1	11	3	3	25	1,198
Septicemia	3	1	5	2	9	20	1,121
Parkinson's Disease	6	1	7	2	3	19	878
Primary Hypertension	1	1	6	3	1	12	788
Rates-Age Adjusted Per 100,000 Population							
Total Deaths by All Causes	671.8	568.7	784.8	756.6	764.7	722.3	683.8
Malignant Neoplasms	147.5	132.1	172.1	196.9	170.0	161.6	149.3
Heart Disease	146.6	134.8	146.1	165.3	173.8	154.1	147.1
Accidents	65.8	6.8	69.0	85.5	61.0	65.3	42.1
Chronic Lower Respiratory	28.9	41.5	50.3	14.7	31.2	34.1	34.7
Cerebrovascular Disease	39.5	7.8	32.4	34.5	31.5	33.6	38.8
Alzheimer's Disease	21.9	20.8	31.4	23.9	25.7	25.3	27.1
Diabetes	14.8	6.8	21.1	3.9	22.8	16.3	22.8
Nephritis and Nephrosis	13.3	28.2	14.5	9.8	14.7	14.6	15.9
Influenza and Pneumonia	15.8	0.0	19.1	4.6	9.9	13.0	13.0
Chronic Liver Disease	6.9	0.0	16.2	4.6	17.2	11.2	9.3
Suicide	10.3	7.4	19.4	23.7	4.8	12.7	13.4
Septicemia	3.6	19.5	8.2	9.5	15.9	8.7	11.3
Parkinson's Disease	7.1	7.4	12.6	9.8	5.7	8.4	9.2
Primary Hypertension	1.4	5.6	4.5	14.1	1.9	5.3	8.0

Source: Community Health Solutions analysis of data from Virginia Department of Health. See Appendix A: Data Sources for details

G. Health Outcomes: Maternal and Infant Health

Exhibit 3.8 shows indicators of maternal and infant health for each county and Planning District 9. In 2018 there were 2,063 total live births, with 141 low weight births, 750 non-marital births, and 75 births to teens. The region also had 10 infant deaths during 2018.

Exhibit 3.8
Maternal and Infant Health (2018)

Indicator	Fauquier	Rappahannock	Culpeper	Madison	Orange	PD9 Total	Virginia
Counts							
Total Pregnancies	873	58	746	134	454	2,265	119,960
Teenage Pregnancies (Age 10-19)	27	2	38	5	21	93	5,158
Total Live Births	803	56	678	118	408	2,063	99,629
Low Weight Births	47	4	44	9	37	141	8,201
Non-Marital Births	221	20	293	47	169	750	33,663
Teenage Births (Age 10-19)	22	2	29	4	18	75	3,824
Infant Deaths	5	0	4	0	1	10	558
Rates							
Total Pregnancies Rate per 1,000 Females	70.8	54.7	80.4	62.1	73.6	73.1	71.1
Teenage Pregnancies Rate per 1,000 Females age 10-19	5.9	5.4	10.8	6.2	10.3	8.2	9.8
Live Birth Rate per 1,000 Population	11.4	7.7	13.1	8.9	11.1	11.5	11.7
Low Weight Births as a pct. of Total Births	6%	7%	7%	8%	9%	7%	8%
Non-Marital Births as a pct. of Total Births	28%	36%	43%	40%	41%	36%	34%
Teenage Births (Age 10-19) Rate per 1,000 Females age 10-19	4.8	5.4	8.2	4.9	8.8	6.6	7.3
Infant Death Rate per 1,000 Live Births	6.2	0	5.9	0	2.5	4.8	5.6

Source: Community Health Solutions analysis of data from Virginia Department of Health. See Appendix A: Data Sources for details

H. Health Outcomes: Cancer Incidence

Exhibit 3.9 shows reported cancer incidence for each county and Planning District 9 for 2013-2017. Over this period, PD9 residents had 4,762 reported cases of cancer. The most frequent cancer types by site were breast (726), lung and bronchus (717), prostate (571), and colorectal (390).

Exhibit 3.9
Cancer Incidence (2013-2017)

Indicator	Fauquier	Rappahannock	Culpeper	Madison	Orange	PD9 Total	Virginia
Counts-Total Cancer Incidence by Site							
Cancer Incidence by All Sites	1,745	230	1,275	420	1,092	4,762	198,496
Breast	268	35	187	57	179	726	32,339
Lung and Bronchus	238	32	185	79	183	717	27,117
Prostate	230	36	150	33	122	571	23,638
Colorectal	130	24	100	46	90	390	16,568
Cervix Uteri	15	^	11	^	^	--	1,342
Ovary	25	^	16	^	22	--	2,556
Brain and Other Nervous System	23	^	12	^	^	--	2,747
Hodgkin Lymphoma	^	^	^	^	^	--	1,001
Non-Hodgkin Lymphoma	75	^	56	12	44	--	7,986
Kidney and Renal Pelvis	73	^	54	^	43	--	7,416
Liver and Intrahepatic Bile Duct	42	^	29	^	14	--	3,709
Leukemia	57	^	39	15	17	--	4,951
Melanoma of the Skin	52	^	59	27	39	--	9,441
Myeloma	25	^	18	^	22	--	2,954
Oral Cavity and Pharynx	46	^	36	13	38	--	5,611
Pancreas	51	^	38	14	28	--	5,839
Thyroid	64	^	24	^	22	--	5,817
Rates- Age Adjusted Per 100,000 Population							
All Sites	414.5	375.9	446.0	429.5	441.0	--	415.8
Breast	^	^	^	^	^	--	^
Lung and Bronchus	55.3	51.9	63.4	75.6	69.4	--	56.4
Colorectal	32.1	46.3	36.4	45.8	36.2	--	35.2
Prostate	^	^	^	^	^	--	^
Cervix Uteri	^	^	^	^	^	--	^
Ovary	^	^	^	^	^	--	^
Brain and Other Nervous System	5.7	^	^	^	^	--	6.0
Hodgkin Lymphoma	^	^	^	^	^	--	2.4
Non-Hodgkin Lymphoma	17.7	^	20.8	^	17.6	--	17.1
Kidney and Renal Pelvis	16.7	^	18.5	^	18.1	--	16.0
Liver and Intrahepatic Bile Duct	9.2	^	9.9	^	^	--	7.3
Leukemia	15.3	^	14.7	^	6.4	--	10.9
Melanoma of the Skin	12.2	^	22.1	29.7	18.7	--	20.0
Myeloma	5.8	^	6.0	^	8.5	--	6.2
Oral Cavity and Pharynx	10.3	^	12.0	^	15.5	--	11.4
Pancreas	11.5	^	13.0	^	10.7	--	12.2
Thyroid	17.3	^	8.6	^	10.5	--	13.0

^ Data are suppressed for incidence counts if counts<11 and for rates if counts<16.
-- Data are not publicly available
Source: Community Health Solutions analysis of data from Virginia Department of Health- Virginia Cancer Registry. See Appendix A: Data Sources for details

I. Health Outcomes: Communicable Disease Incidence

Exhibit 3.10 shows the incidence of communicable disease for each county and Planning District 9. In 2018 the most reported communicable diseases were hepatitis C - chronic (219), Lyme disease (74), campylobaceteriosis (47), salmonellosis (34), and spotted fever (30). Local rates of incidence were higher than Virginia rates for each of these conditions.

Exhibit 3.10
Communicable Disease (2018)

Indicator	Fauquier	Rappahannock	Culpeper	Madison	Orange	PD9 Total	Virginia
Counts- Communicable Disease Incidence by Leading 10 Conditions							
Hepatitis C, chronic	55	3	112	11	38	219	10,405
Lyme disease	38	4	23	4	5	74	1,139
Campylobacteriosis	22	2	8	6	9	47	1,665
Salmonellosis	17	0	9	1	7	34	1,365
Spotted Fever Rickettsiosis (including RMSF)	12	0	8	0	10	30	339
Escherichia coli infection, Shiga Toxin-Producing	4	1	7	0	2	14	400
Hepatitis B, chronic	3	2	5	0	4	14	2,050
Lead, elevated levels	1	0	6	2	3	12	872
Pertussis	8	0	0	0	2	10	245
Varicella (Chickenpox)	6	0	2	2	0	10	352
Rates- Per 100,000 Population							
Hepatitis C, chronic	79.2	41.0	218.4	82.9	105.3	123.4	122.8
Lyme disease	54.7	54.6	44.9	30.1	13.9	41.7	13.4
Campylobacteriosis	31.7	27.3	15.6	45.2	24.9	26.5	19.7
Salmonellosis	24.5	0.0	17.6	7.5	19.4	19.2	16.0
Spotted Fever Rickettsiosis (including RMSF)	17.3	0.0	15.6	0.0	27.7	16.9	4.0
Escherichia coli infection, Shiga Toxin-Producing	5.8	13.7	13.7	0.0	5.5	7.9	4.7
Hepatitis B, chronic	4.3	27.3	9.8	0.0	11.1	7.9	24.2
Lead, elevated levels	1.4	0.0	11.7	15.1	8.3	6.8	10.3
Pertussis	11.5	0.0	0.0	0.0	5.5	5.6	2.9
Varicella (Chickenpox)	8.6	0.0	3.9	15.1	0.0	5.6	4.2

Source: Community Health Solutions analysis of data from Virginia Department of Health. See Appendix A: Data Sources for details

J. Heath Outcomes: Injury and Violence

This section presents indicators of deaths and hospitalizations due to injury and violence. **Exhibit 3.11** shows indicators of deaths by injury and violence for each county and Planning District 9. In 2016 PD9 had 150 deaths related to injury or violence, with the leading causes of death being poison (59), overdose due to drug poisoning (57), traumatic brain injury (49), motor vehicle traffic injury (28), and suicide (24). Crude death rates were higher than the Virginia rates for total deaths, and deaths due to poison, drug poisoning due to overdose, and traumatic brain injury. Age-adjusted death rates were not available for this analysis.

Exhibit 3.11
Injury and Violence Deaths (2016)

Indicator	Fauquier	Rappahannock	Culpeper	Madison	Orange	PD9 Total	Virginia
Counts – Total Deaths by Cause							
Injury and Violence Related Deaths	65	5	30	14	36	150	5,154
Poison (non-drug)	27	2	12	2	16	59	1,027
Drug Poisoning (Overdose)	25	2	12	2	16	57	1,430
Traumatic Brain Injury	23	2	7	8	9	49	811
Motor Vehicle Traffic Injury	13	1	4	2	8	28	1,131
Suicide	10	1	5	3	5	24	736
Firearms	6	1	3	4	2	16	1,323
Unintentional Fall	9	1	0	1	3	14	1,644
Homicide	1	0	0	1	0	2	434
Rates - Crude Rate Per 100,000 Population							
Total Injury and Violence Related Deaths	94.1	--	59.9	--	101.3	85.6	61.3
Poison (non-drug)	--	--	--	--	--	33.7	12.2
Drug Poisoning (Overdose)	--	--	--	--	--	32.5	17
Traumatic Brain Injury	--	--	--	--	--	28.0	9.6
Motor Vehicle Traffic Injury	--	--	--	--	--	--	13.4
Suicide	--	--	--	--	--	--	8.7
Firearms	--	--	--	--	--	--	15.7
Unintentional Fall	--	--	--	--	--	--	19.5
Homicide	--	--	--	--	--	--	5.2

-- Rates are not calculated where the number of deaths is less than 30.

Source: Community Health Solutions analysis of data from Virginia Department of Health. See Appendix A: Data Sources for details

Exhibit 3.12 shows hospitalizations due to injury and violence for each county and Planning District 9. In 2018 PD9 residents had 789 inpatient hospitalizations for injury or violence-related incidents, with the leading causes being unintentional fall (223), firearm (156), traumatic brain injury (152), drug poisoning due to overdose (138), and self-harm (72). Crude hospitalization rates were higher for PD9 compared to Virginia for each of these causes except self-harm.

Exhibit 3.12
Injury and Violence-Hospitalization (2018)

Indicator	Fauquier	Rappahannock	Culpeper	Madison	Orange	PD9 Total	Virginia
Counts-Injury and Violence Related Discharges							
Injury and Violence Related Discharges	247	17	216	65	244	789	32,021
Unintentional Fall	68	5	68	21	61	223	7,234
Firearm	54	3	50	12	37	156	6,156
Traumatic Brain Injury	34	3	50	8	57	152	5,438
Drug Poisoning (Overdose)	53	3	23	14	45	138	7,155
Self-harm	24	1	14	5	28	72	3,622
Poisoning (non-drug)	9	2	3	2	10	26	1,310
Motor Vehicle Injury	4	0	8	3	5	20	881
Assault	1	0	0	0	1	2	225
Rates- Crude Rate Per 100,000 Population							
Injury and Violence Related Discharges	349.5	--	416.5	488.9	665.9	439.0	375.9
Unintentional Fall	96.2	--	131.1	--	166.5	124.1	84.9
Firearm	76.4	--	96.4	--	101.0	86.8	72.3
Traumatic Brain Injury	48.1	--	96.4	--	155.6	84.6	63.8
Drug Poisoning (Overdose)	75.0	--	--	--	122.8	76.8	84.0
Self-harm	--	--	--	--	--	40.1	42.5
Poisoning (non-drug)	--	--	--	--	--	--	15.4
Motor Vehicle Injury	--	--	--	--	--	--	10.3
Assault	--	--	--	--	--	--	2.6

-- Rates are not calculated where the number of discharges is less than 30.

Source: Community Health Solutions analysis of data from Virginia Health Information, Inc. and demographic estimates from Virginia Department of Health. See Appendix A: Data Sources for details

K. Health Outcomes: Potentially Avoidable Hospitalizations

Exhibit 3.13 shows indicators of potentially avoidable hospitalizations for each county and Planning District 9. These hospitalizations are potentially avoidable with adequate access to outpatient care and other health supports. Case are defined using specific diagnosis and procedure codes as noted in **Appendix A**.

In 2018 PD9 residents had 1,937 potentially avoidable hospitalizations, with most being for residents age 65+. The leading diagnoses for these hospitalizations were congestive heart failure (617), COPD or asthma in older adults (417), community acquired pneumonia (393), diabetes (260), and urinary tract infection (175). The age-adjusted rate of these hospitalizations was generally higher in PD9 than for Virginia as a whole.

Exhibit 3.13
Potentially Avoidable Hospitalizations (2018)

Indicator	Fauquier	Rappahannock	Culpeper	Madison	Orange	PD9 Total	Virginia
Counts- Discharges by Diagnosis							
Total PQI Discharges by All Diagnoses	749	40	525	129	494	1,937	69,654
Congestive Heart Failure	232	8	169	50	158	617	24,850
COPD or Asthma in Older Adults	141	6	125	25	120	417	12,338
Community Acquired Pneumonia	187	13	88	20	85	393	8,353
Diabetes	80	7	73	24	76	260	13,267
Urinary Tract Infection	77	4	46	9	39	175	7,150
Hypertension	31	2	23	1	12	69	3,103
Asthma in Younger Adults	1	0	1	0	4	6	600
Rates-Age Adjusted Per 100,000 Population							
Total Prevention Quality Indicator (PQI) Discharges	886.8	316.5	218.4	2,730.3	1,005.2	854.1	711.4
Congestive Heart Failure	271.2	--	86.0	--	289.9	262.5	250.4
COPD or Asthma in Older Adults	154.6	--	39.5	--	232.9	171.2	119.5
Community Acquired Pneumonia	220.7	--	32.1	--	169.8	171.0	85.0
Diabetes	103.0	--	44.3	--	188.4	131.5	141.5
Urinary Tract Infection	95.5	--	15.1	--	77.7	79.1	74.5
Hypertension	40.3	--	--	--	--	34.7	33.0
Asthma in Younger Adults	--	--	--	--	--	--	7.5

-- Rates are not calculated where the number of discharges is less than 30.

Source: Community Health Solutions analysis of data from Virginia Health Information, Inc. and demographic estimates from Virginia Department of Health. See Appendix A: Data Sources for details

L. Health Outcomes: Mental Health and Substance Use

This section presents indicators of mental health and substance use for each county and Planning District 9. Focusing first on hospitalizations, **Exhibit 3.14** shows that PD9 residents had 1,007 discharges from Virginia community hospitals for behavioral health conditions in 2018. The leading causes of hospitalization were major depressive disorder - recurrent (258), alcohol related disorders (165), bipolar disorder (151), major depressive disorder - single episode (111), and schizoaffective disorders (61).

Exhibit 3.14
Hospitalizations for Mental Health and Substance Use Diagnoses (2018)

Indicator	Fauquier	Rappahannock	Culpeper	Madison	Orange	PD9 Total	Virginia
Counts-Discharges by Diagnosis							
Total Discharges by All Diagnoses	376	31	247	63	290	1,007	66,201
Major depressive disorder, recurrent	107	9	56	6	80	258	16,253
Alcohol related disorders	70	5	44	7	39	165	8,386
Bipolar disorder	54	9	38	8	42	151	9,985
Major depressive disorder, single episode	44	3	26	7	31	111	6,506
Schizoaffective disorders	22	0	17	8	14	61	6,026
Reaction to severe stress, and adjustment disorders	14	1	14	6	19	54	3,031
Unspecified mood [affective] disorder	7	0	12	4	15	38	1,963
Persistent mood [affective] disorders	11	1	9	1	11	33	1,634
Schizophrenia	10	1	13	3	5	32	3,082
Unspecified psychosis not due to a substance or known physiological condition	7	0	2	1	6	16	1,129
Opioid related disorders	3	0	5	4	3	15	1,425
Other anxiety disorders	3	1	2	4	3	13	712
Other psychoactive substance related disorders	3	0	2	0	4	9	990
Unspecified dementia	5	1	0	1	2	9	659
Rates- Crude Rate Per 100,000 Population							
Total Discharges	532.0	427.5	476.3	473.9	791.4	560.3	777.2
Major depressive disorder, recurrent	151.4	--	108.0	--	218.3	143.6	190.8
Alcohol related disorders	99.0	--	84.8	--	106.4	91.8	98.5
Bipolar disorder	76.4	--	73.3	--	114.6	84.0	117.2
Major depressive disorder, single episode	62.3	--	--	--	84.6	61.8	76.4
Schizoaffective disorders	--	--	--	--	--	33.9	70.7
Reaction to severe stress, and adjustment disorders	--	--	--	--	--	30.0	35.6
Unspecified mood [affective] disorder	--	--	--	--	--	21.1	23.0
Persistent mood [affective] disorders	--	--	--	--	--	18.4	19.2
Schizophrenia	--	--	--	--	--	17.8	36.2
Unspecified psychosis not due to a substance or known physiological condition	--	--	--	--	--	--	13.3
Opioid related disorders	--	--	--	--	--	--	16.7
Other anxiety disorders	--	--	--	--	--	--	8.4
Other psychoactive substance related disorders	--	--	--	--	--	--	11.6
Unspecified dementia	--	--	--	--	--	--	7.7

-- Rates are not calculated where the number of discharges is less than 30.
Source: Community Health Solutions analysis of data from Virginia Health Information, Inc. and demographic estimates from ESRI. See Appendix A: Data Sources for details

Exhibit 3.15 shows indicators of adult mental health and substance use for each county and Planning District 9. Please note that these figures are estimates derived by applying 2017/2018 statewide estimates to 2020 local demographics for the study region. They are subject to error and presented for planning purposes only.

Among an estimated 145,211 adults age 18+ in PD9, an estimated 19% may have had a mental illness in the past year, and an estimated 4% may have had a serious mental illness in the past year. An estimated 6% may have had an alcohol use disorder in the past year, and 3% may have had an illicit drug use disorder in the past year.

Exhibit 3.15
Adult Mental Health and Substance Use: Incidence and Prevalence (2020 Estimates)

Indicator		Fauquier	Rappahannock	Culpeper	Madison	Orange	PD9 Total	Virginia
Estimated Counts								
Total Estimated Adults age 18+		57,232	6,219	40,591	11,065	30,104	145,211	6,826,775
Behavioral Health	One or more days of poor mental health in the past 30 days	16,597	1,804	11,771	3,209	8,730	42,111	2,389,371
	Any Mental Illness in the Past Year	10,760	1,169	7,631	2,080	5,660	27,300	1,283,434
	Received Mental Health Services in the Past Year	8,871	964	6,292	1,715	4,666	22,508	1,058,150
	Major Depressive Episode in the Past Year	3,892	423	2,760	752	2,047	9,874	464,221
	Serious Mental Illness in the Past Year	2,289	249	1,624	443	1,204	5,808	273,071
Substance Use	Substance Use Disorder in the Past Year	4,464	485	3,166	863	2,348	11,326	532,488
	Needing but Not Receiving Treatment at a Specialty Facility for Substance Use in the Past Year	4,235	460	3,004	819	2,228	10,746	505,181
	Alcohol Use Disorder in the Past Year	3,319	361	2,354	642	1,746	8,422	395,953
	Illicit Drug Use Disorder in the Past Year	1,602	174	1,137	310	843	4,066	191,150
Estimated Rates								
Behavioral Health	One or more days of poor mental health in the past 30 days	29%	29%	29%	29%	29%	29%	35%
	Any Mental Illness in the Past Year	19%	19%	19%	19%	19%	19%	19%
	Received Mental Health Services in the Past Year	16%	16%	16%	16%	16%	16%	16%
	Major Depressive Episode in the Past Year	7%	7%	7%	7%	7%	7%	7%
Substance Use	Serious Mental Illness in the Past Year	4%	4%	4%	4%	4%	4%	4%
	Substance Use Disorder in the Past Year	8%	8%	8%	8%	8%	8%	8%
	Needing but Not Receiving Treatment at a Specialty Facility for Substance Use in the Past Year	7%	7%	7%	7%	7%	7%	7%
	Alcohol Use Disorder in the Past Year	6%	6%	6%	6%	6%	6%	6%
	Illicit Drug Use Disorder in the Past Year	3%	3%	3%	3%	3%	3%	3%

Source: Community Health Solutions analysis of data from Virginia Department of Health Behavioral Risk Factor Surveillance System, National Surveys on Drug Use and Health State Prevalence Estimates, and demographic estimates from ESRI. See Appendix A: Data Sources for details

Exhibit 3.16 shows indicators of mental health and substance use for children and youth. As with the adult estimates in Exhibit 3.14, these figures are estimates derived by applying 2017/2018 health district or statewide estimates to 2020 local demographics for the study region. They are subject to error and presented for planning purposes only.

Among an estimated 34,952 PD9 residents age 3-17, an estimated 3%-10% may have one or more behavioral health conditions including: ADD or ADHD, anxiety problems, depression, behavioral or conduct problems, or other cognitive or mental health conditions. Among an estimated 14,294 PD9 residents age 12-17, An estimated 2% may have had an alcohol use disorder in the past year, and 3% may have had an illicit drug use disorder in the past year.

Exhibit 3.16
Child and Youth Mental Health and Substance Use: Incidence and Prevalence (2020 Estimates)

Indicator		Fauquier	Rappahannock	Culpeper	Madison	Orange	PD9 Total	Virginia
Estimated Counts								
	Total Estimated Children Age 3-17	13,920	1,106	10,842	2,438	6,646	34,952	1,565,040
	Total Estimated Child Age12-17	5,912	471	4,305	981	2,625	14,294	628,758
Behavioral Health (Age 3-17)	ADD or ADHD	1,350	107	1,052	236	645	3,390	151,809
	Anxiety problems	960	76	748	168	459	2,412	107,988
	Depression	459	36	358	80	219	1,153	51,646
	Behavioral or conduct problems	960	76	748	168	459	2,412	107,988
	Speech or other language disorder	863	69	672	151	412	2,167	97,032
	Learning Disability	905	72	705	158	432	2,272	101,728
	Other mental health condition	668	53	520	117	319	1,678	75,122
	Autism or Autism Spectrum Disorder	445	35	347	78	213	1,118	50,081
Substance Use (Age 12-17)	Substance Use Disorder in the Past Year	213	17	155	35	95	515	22,635
	Needing but Not Receiving Treatment at a Specialty Facility for Substance Use in the Past Year	213	17	155	35	95	515	22,635
	Illicit Drug Use Disorder in the Past Year	154	12	112	26	68	372	16,348
	Alcohol Use Disorder in the Past Year	112	9	82	19	50	272	11,946
Estimated Rates								
Behavioral Health (Age 3-17)	ADD or ADHD	10%	10%	10%	10%	10%	10%	10%
	Anxiety problems	7%	7%	7%	7%	7%	7%	7%
	Depression	3%	3%	3%	3%	3%	3%	3%
	Behavioral or conduct problems	7%	7%	7%	7%	7%	7%	7%
	Speech or other language disorder	6%	6%	6%	6%	6%	6%	6%
	Learning Disability	7%	7%	7%	7%	7%	7%	7%
	Other mental health condition	5%	5%	5%	5%	5%	5%	5%
	Autism or Autism Spectrum Disorder	3%	3%	3%	3%	3%	3%	3%
Substance Use (Age 12-17)	Substance Use Disorder in the Past Year	4%	4%	4%	4%	4%	4%	4%
	Needing but Not Receiving Treatment at a Specialty Facility for Substance Use in the Past Year	4%	4%	4%	4%	4%	4%	4%
	Illicit Drug Use Disorder in the Past Year	3%	3%	3%	3%	3%	3%	3%

Exhibit 3.16
Child and Youth Mental Health and Substance Use: Incidence and Prevalence (2020 Estimates)

Indicator		Fauquier	Rappahannock	Culpeper	Madison	Orange	PD9 Total	Virginia
	Alcohol Use Disorder in the Past Year	2%	2%	2%	2%	2%	2%	2%

Source: Community Health Solutions analysis of data from National Surveys on Drug Use and Health State Prevalence Estimates, National Survey of Children's Health, and demographic estimates from ESRI. See Appendix B: Data Sources for details

Section 4. Social Determinants of Health

Social determinants of health (SDoH) have been defined as the conditions under which people are born, grow, live, work, and age, and include factors such as socioeconomic status, education, employment, social support networks, and neighborhood characteristics.[6] A growing body of research indicates that SDoH can be linked to a lack of opportunity and resources to protect, improve, and maintain health. The impacts of SDoH can be seen in disparities in health status and access to healthcare for individuals and populations.

This section explores the results of the CHNA study from an SDoH perspective. Part A provides summary insights about SDoH from the survey of community residents and the survey of community professionals. Part B presents a demographic profile of the region that may be helpful for understanding where populations with SDoH risk reside. This type of information can be helpful for planning efforts to reduce health disparities and increase health equity.

A. Insights from Surveys of Community Residents and Community Professionals

Respondents to both surveys were asked if there are particular groups of people within their neighborhood or community who need help obtaining better health. As shown in **Exhibit 4.1**, the most frequently identified populations are shown in the exhibit below, along with a list of specific mentions. Members of these populations have one or more social determinants of health that could influence their health status and access to health services and supports. The list is consistent with research on populations at higher risk for health challenges because of one or more social determinants of health.

Exhibit 4.1
Insights about Vulnerable Populations from Community Residents and Community Professionals

Most Frequently Identified Populations in the Survey of Community Residents (n=360)				
110 Elderly Population	*70 Low Income Population*	*56 Child Population*	*48 Minority Population*	*44 People with Behavioral Health Concerns*
Most Frequently Identified Populations in the Survey of Community Professionals (n=53)				
18 Elderly Population	*14 Low Income Population*	*14 Minority Population*	*9 People with Behavioral Health Concerns*	*6 People with Disabilities*

Specific Populations Identified in One or Both Surveys

- At-risk youth
- Black/African American
- Children
- Elderly
- English as Second Language
- Hispanic
- Homeless
- Immigrants (including undocumented)
- LGBTQ
- Low-income
- People of color
- People with disabilities
- People with mental health conditions
- People with substance use problems
- Re-entrants from incarceration
- Unemployed
- Uninsured

[6] American Academy of Family Physicians

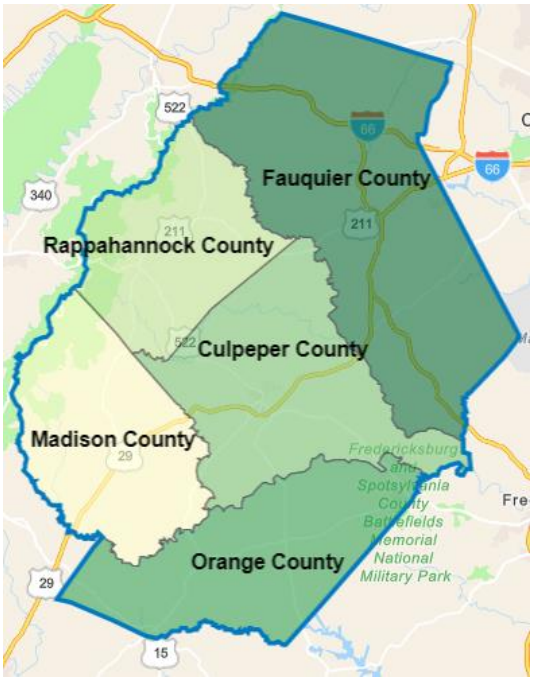
B. Community Mapping of SDoH Indicators

For purposes of assessment and planning it is helpful to understand where populations with SDoH risk factors reside in the community. The following exhibits provide maps and data for four SDoH indicators including low income, minority status, disability, and aging. There are many additional SDoH not shown here. The indicators shown are intended as a starting point for further analysis of SDoH factors in local communities.

Exhibit 4.2 shows the estimated median household income at the county and census tract level as of 2020. County indicators range from $95,822 in Fauquier County to $53,162 in Madison County. At the census tract level, the range expands from a low of $48,256 to a high of $135,544. The lighter census tracts are the areas with the lowest median household income.

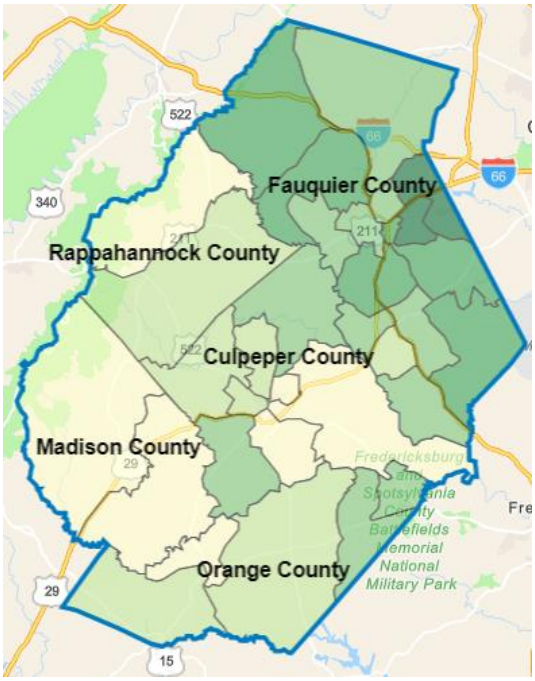
Exhibit 4.2
Median Household Income (2020 Estimates)

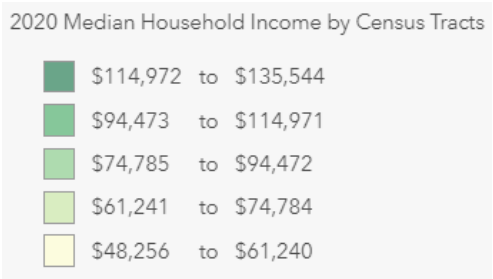
County View



2020 Median Household Income (Estimated)	
Culpeper County	$67,696
Fauquier County	$95,822
Madison County	$53,162
Orange County	$71,307
Rappahannock County	$61,522

Census Tract View



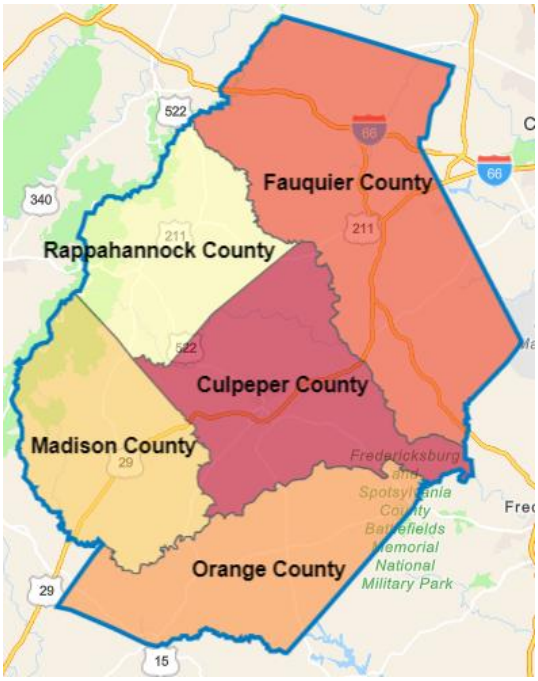


Source: CHS analysis of estimates provided by ESRI.

Exhibit 4.3 shows the estimated number of households with income below poverty as of 2018. The county view shows a total of 4,820 households with income below poverty in 2018, along with the county-level figures. The census tract view shows where households in poverty are located within counties and across the region.

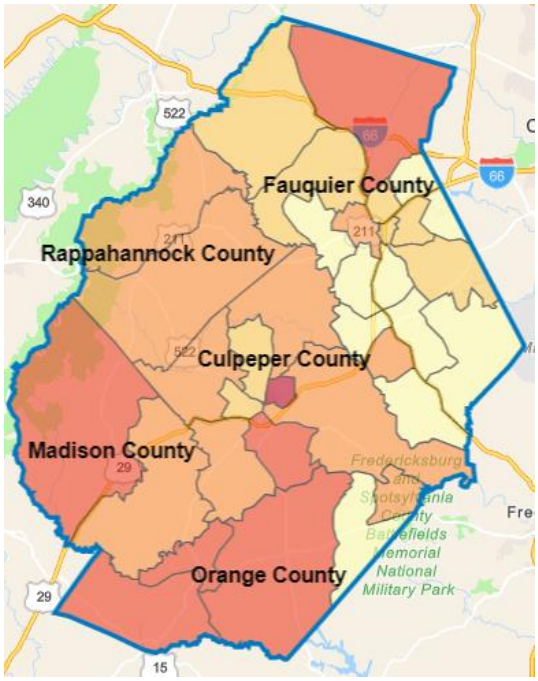
Exhibit 4.3
Number of Households with Income Below Poverty (2018 Estimates)

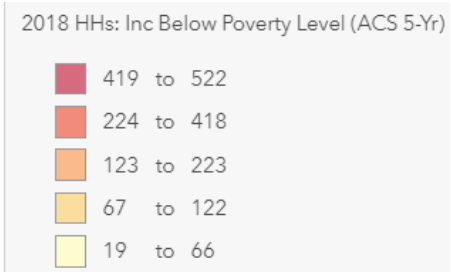
County View



2018 Households with Income below Poverty Level (Estimated)	
Planning District 9	4,820
Culpeper County	1,521
Fauquier County	1,423
Madison County	490
Orange County	1,073
Rappahannock County	313

Census Tract View



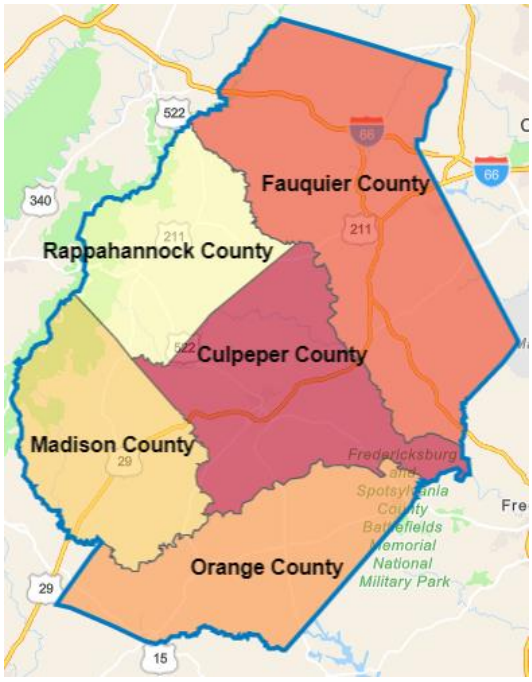


Source: CHS analysis of estimates provided by ESRI.

Exhibit 4.4 shows the estimated number of minority residents as of 2020. In this analysis, minority residents include people of races other than White, plus people of Hispanic ethnicity. The county view shows a total of 44,701 minority residents in Planning District 9, along with the county-level figures. The census tract view shows where minority residents reside within counties and across the region.

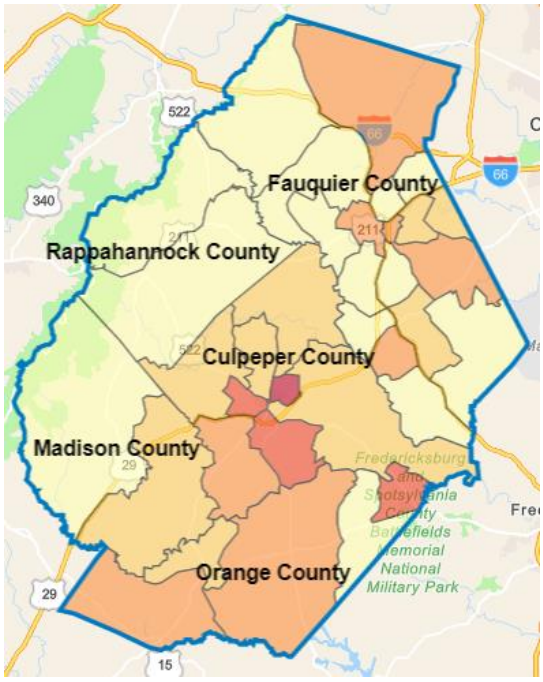
Exhibit 4.4
Number of Minority Residents (2020 Estimates)

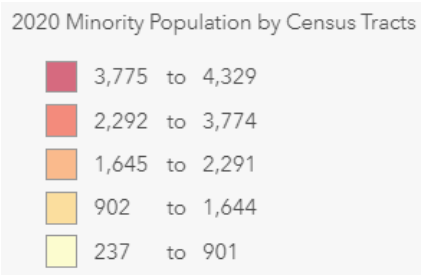
County View



2020 Minority Population (Estimated)	
Planning District 9	44,701
Culpeper County	16,604
Fauquier County	16,093
Madison County	2,220
Orange County	8,903
Rappahannock County	881

Census Tract View



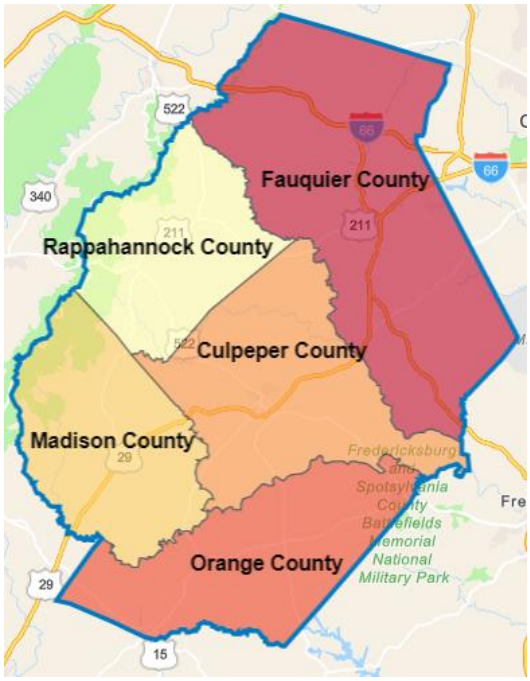


Source: CHS analysis of estimates provided by ESRI.

Exhibit 4.5 shows the estimated number of households having one or more members with a disability as of 2018. The county view shows a total of 16,389 households meeting this definition, along with county-level figures. The census tract view shows where these households are located within counties and across the region.

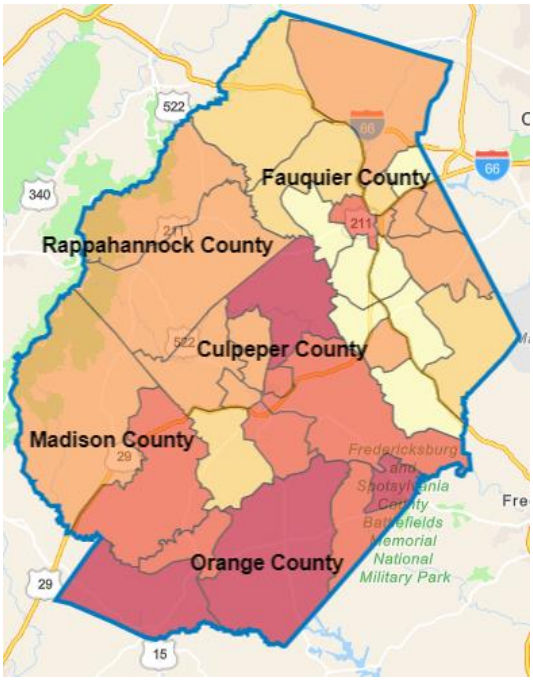
Exhibit 4.5
Households with 1+ Persons with Disability (2018 Estimates)

County View



2018 Households w/1+ Persons w/Disability (ACS 5-Yr Estimates)	
Planning District 9	16,389
Culpeper County	4,296
Fauquier County	5,341
Madison County	1,214
Orange County	4,669
Rappahannock County	869

Census Tract View

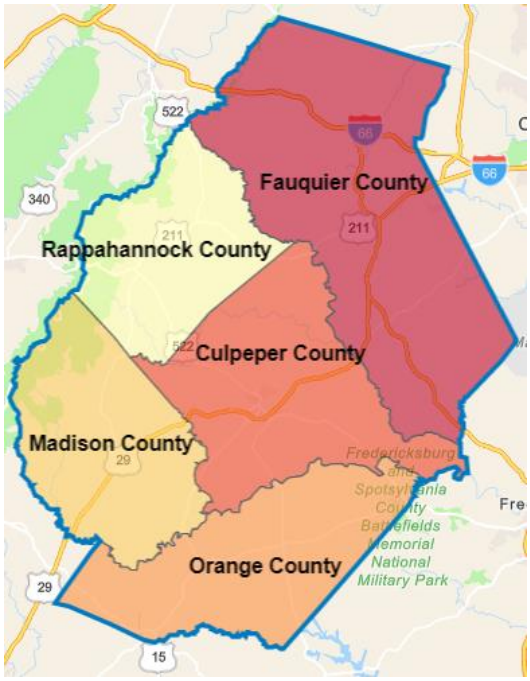


Source: CHS analysis of estimates provided by ESRI.

Exhibit 4.6 shows the estimated population age 65+ as of 2020. The county view shows there are an estimated 34,649 residents age 65+ in Planning District 9, along with county-level figures. The census tract view shows where the population age 65+ resides within counties and across the region.

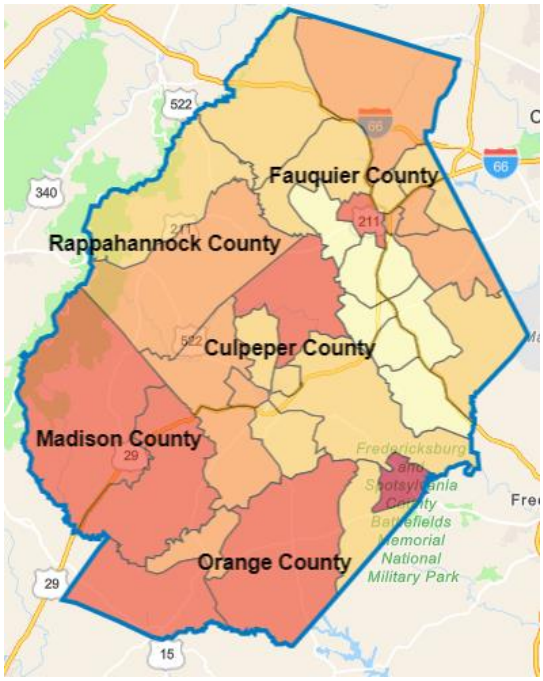
Exhibit 4.6
Population Age 65+ (2018 Estimates)

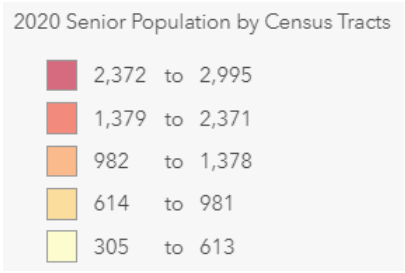
County View



2020 Senior Population (Estimated)	
Planning District 9	34,649
Culpeper County	8,470
Fauquier County	13,001
Madison County	3,048
Orange County	8,183
Rappahannock County	1,947

Census Tract View





Source: CHS analysis of estimates provided by ESRI.

Appendix A: Data Sources

Profile	Source
Section 1. Insights from Community Residents	Community Health Solutions analysis of Community Insight survey responses submitted by community residents conducted in June-July 2020.
Section 2. Insights from Community Professionals	Community Health Solutions analysis of Community Insight survey responses submitted by community professionals conducted in June-July 2020.
Section 3. Community Indicator Profiles	
A. Community Demographics	Community Health Solutions analysis of demographic estimates from ESRI. (2020).
B. Social Determinants of Health	Community Health Solutions analysis of data from ESRI (2018 and 2020), The U.S. Department of Housing and Urban Development (2012-2016), and Feeding America (2017).
C. Health Risk Behaviors for Adults	Estimates of chronic disease and risk behaviors for adults 18+ were produced by Community Health Solutions using: ☐ Data from the Virginia Behavioral Risk Factor Surveillance System (2017 and 2018 ☐ Local demographic estimates from ESRI (2020). Estimates are used when there are no primary sources of data available at the local level. The estimates are for planning purposes only and are not guaranteed for accuracy. The statistical model to produce the local estimates was developed by Community Health Solutions. Local health district rates were used to render estimates at the locality level. Therefore, direct comparisons of local estimates with state estimates are not recommended. Because of data limitations, it is not possible to assign specific margins of error or levels of significance to these statistical estimates.
D. Health Risk Behaviors for Youth	Estimates of chronic disease and risk behaviors for high school youth age 14-19 were produced by Community Health Solutions using: ☐ Data from the Virginia Youth Risk Behavioral Surveillance System from the Centers for Disease Control (2019). https://www.vdh.virginia.gov/content/uploads/sites/69/2020/06/2019VAH-Summary-Tables.pdf ☐ Local demographic estimates from ESRI (2020). Estimates are used when there are no primary sources of data available at the local level. The estimates are for planning purposes only and are not guaranteed for accuracy. The statistical model to produce the local estimates was developed by Community Health Solutions. Local health district rates were used to render estimates at the locality level. Therefore, direct comparisons of local estimates with state estimates are not recommended. Because of data limitations, it is not possible to assign specific margins of error or levels of significance to these statistical estimates.

Profile	Source
E. Access to Health Care-Uninsured Population	Community Health Solutions analysis of demographic estimates from US Census Bureau, Small Area Health Insurance Estimates (2018). Differences between local rates and state rates may reflect estimation error rather than valid differences. Therefore, direct comparisons of local estimates with state estimates are not recommended. These data may reflect conservative estimates of health coverage for 2018. Readers are encouraged to review current data on Medicaid Expansion enrollment that which updated on a regular basis. Click here view the Department of Medical Assistance Services Medicaid Expansion Access Dashboard.
E. Access to Health Care-Medically Underserved Areas/Populations	Community Health Solutions analysis of U.S. Health Resources and Services Administration data. For more information, visit: http://muafind.hrsa.gov/
F. Leading Causes of Death	Data were obtained from the Virginia Department of Health (2018)
G. Maternal and Infant Health	Data were obtained from the Virginia Department of Health (2018)
H. Cancer Incidence	Data were obtained from the Virginia Department of Health-Cancer Registry (2013-2017)
I. Communicable Disease Incidence	Data were obtained from the Virginia Department of Health (2018) https://www.vdh.virginia.gov/data/communicable-diseases/
J. Injury and Violence-Deaths	Data were obtained from the Virginia Department of Health Data Portal (2016) and Virginia Department of Health NCHS Bridged-Race population estimates. https://www.vdh.virginia.gov/data/injury-violence/ https://apps.vdh.virginia.gov/HealthStats/stats.htm
J. Injury and Violence-Hospitalization	Community Health Solutions analysis of hospital discharge data from the Virginia Health Information (VHI) 2018 datasets and demographic estimates from Virginia Department of Health (2018). Data include discharges for Virginia residents from Virginia hospitals reporting to Virginia Health Information, Inc. The analysis includes records of discharges of Virginia residents from Virginia hospitals excluding state and federal facilities. Data reported are based on the patient's primary diagnosis. Injury and Violence definitions were developed using coding methodology from the Healthcare Cost and Utilization Project (HCUP) Clinical Classifications Software Refined (CCSR) for International Classification of Diseases, Tenth Revision, Clinical Modification (ICD-10-CM)-coded diagnoses https://www.hcup-us.ahrq.gov/toolssoftware/ccsr/DXCCSR-User-Guide.pdf NOTE: Virginia Health Information (VHI) requires the following statement to be included in all reports utilizing its data: VHI has provided non-confidential patient level information used in this report which was compiled in accordance with Virginia law. VHI has no authority to independently verify this data. By accepting this report the requester agrees to assume all risks that may be associated with or arise from the use of inaccurately submitted data. VHI edits data received and is responsible for the accuracy of assembling this information, but does not represent that the subsequent use of this data was appropriate or endorse or support any conclusions or inferences that may be drawn from the use of this data.

Profile	Source
K. Potentially Avoidable Hospitalization	Community Health Solutions analysis of hospital discharge data from the Virginia Health Information (VHI) 2018 datasets and demographic estimates from Virginia Department of Health (2018). Data include discharges for Virginia residents from Virginia hospitals reporting to Virginia Health Information, Inc.) The analysis includes records of discharges of Virginia residents from Virginia hospitals excluding state and federal facilities. Data reported are based on the patient's primary diagnosis. Potentially Avoidable Hospitalizations-The PQI definitions are detailed in their specification of ICD-9 diagnosis codes and procedure codes. Not every hospital admission for congestive heart failure, bacterial pneumonia, etc. is included in the PQI definition; only those meeting the detailed specifications. Low birth weight is one of the PQI indicators, but for the purpose of this report, low birth weight is included in the Maternal and Infant Health Profile. Also, there are four diabetes related PQI indicators which have been combined into one for the report. For more information, visit the AHRQ website at http://www.qualityindicators.ahrq.gov/modules/pqi_overview.aspx NOTE: Virginia Health Information (VHI) requires the following statement to be included in all reports utilizing its data: VHI has provided non-confidential patient level information used in this report which was compiled in accordance with Virginia law. VHI has no authority to independently verify this data. By accepting this report the requester agrees to assume all risks that may be associated with or arise from the use of inaccurately submitted data. VHI edits data received and is responsible for the accuracy of assembling this information, but does not represent that the subsequent use of this data was appropriate or endorse or support any conclusions or inferences that may be drawn from the use of this data.
L. Mental Health and Substance Use: Hospitalizations	Community Health Solutions analysis of hospital discharge data from the Virginia Health Information (VHI) 2018 datasets and demographic estimates from Virginia Department of Health (2018). Data include discharges for Virginia residents from Virginia hospitals reporting to Virginia Health Information, Inc.) The analysis includes records of discharges of Virginia residents from Virginia hospitals excluding state and federal facilities. Data reported are based on the patient's primary diagnosis. NOTE: Virginia Health Information (VHI) requires the following statement to be included in all reports utilizing its data: VHI has provided non-confidential patient level information used in this report which was compiled in accordance with Virginia law. VHI has no authority to independently verify this data. By accepting this report the requester agrees to assume all risks that may be associated with or arise from the use of inaccurately submitted data. VHI edits data received and is responsible for the accuracy of assembling this information, but does not represent that the subsequent use of this data was appropriate or endorse or support any conclusions or inferences that may be drawn from the use of this data.
L. Mental Health and Substance Use: Adult Incidence and Prevalence	Estimates of behavioral health and substance use for adults 18+ were produced by Community Health Solutions using: □ Data from the Virginia Behavioral Risk Factor Surveillance System (2017 and 2018) □ National Surveys on Drug Use and Health State Prevalence Estimates (2016-2017) http://www.samhsa.gov/data/NSDUH.aspx □ Local demographic estimates from ESRI (2020). Estimates are used when there are no primary sources of data available at the local level. The estimates are for planning purposes only and are not guaranteed for accuracy. The statistical model to produce the local estimates was developed by Community Health Solutions. Local health district or statewide rates were used to render estimates at the locality level. Therefore, direct comparisons of local estimates with state estimates are not recommended. Because of data limitations,

Profile	Source
	it is not possible to assign specific margins of error or levels of significance to these statistical estimates.
L. Mental Health and Substance Use: Child and Youth Incidence and Prevalence	Estimates of behavioral health and substance use for adults 18+ were produced by Community Health Solutions using: ☐ National Surveys on Drug Use and Health State Prevalence Estimates (2016-2017) http://www.samhsa.gov/data/NSDUH.aspx ☐ Statewide Virginia results from the 2016-2017 National Survey of Children's Health https://www.childhealthdata.org/browse/survey ☐ Local demographic estimates from ESRI (2020). Estimates are used when there are no primary sources of data available at the local level. The estimates are for planning purposes only and are not guaranteed for accuracy. The statistical model to produce the local estimates was developed by Community Health Solutions. Local health district and/or statewide rates were used to render estimates at the locality level. Therefore, direct comparisons of local estimates with state estimates are not recommended. Because of data limitations, it is not possible to assign specific margins of error or levels of significance to these statistical estimates.
Section 4. Social Determinants of Health	☐ Community Health Solutions analysis of Community Insight survey responses submitted by community residents conducted in June-July 2020. ☐ Community Health Solutions analysis of Community Insight survey responses submitted by community professionals conducted in June-July 2020. ☐ Community Health Solutions analysis of demographic estimates from ESRI. (2020).