A Community Health Needs Assessment

Prepared for Culpeper, Madison and Orange Counties

By Community Health Solutions

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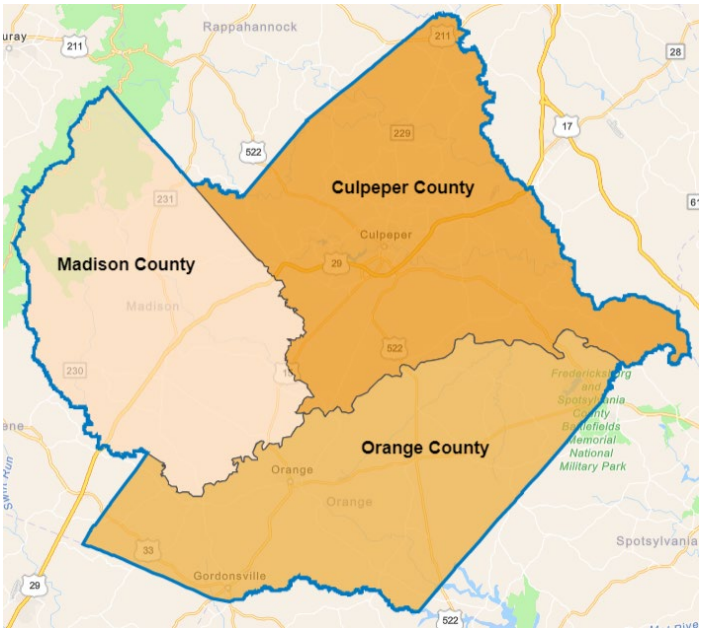
Executive Summary

This report presents the results of a Community Health Needs Assessment (CHNA) for counties of Culpeper, Madison and Orange. 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, this region is home to more than 105,276 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 Study Region



2020 Population Estimates	
Total	105,276
Culpeper County	53,428
Madison County	13,914
Orange County	37,934

Source: CHS analysis of estimates provided by ESRI using ArcGIS Business Analyst software.

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). Four hundred and nine (409) 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	• 409 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	• 20% 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; children; low income; people with disabilities; and isolated individuals. • Among the most identified personal difficulties were feeling lonely or isolated from others; keeping good mental health; and keeping good physical health.
Neighborhood and Community Environment Needs	• The leading neighborhood and community needs were jobs/healthy economy; affordable housing; and an environment more welcoming of diversity.
Health Care Service Needs	• The leading health care service needs were affordable health insurance; healthcare for the uninsured/underinsured; and mental health services.
Community Support Service Needs	• The leading community support service needs were after school programs; aging services; childcare services; and public transportation.
Defining a Healthy Community	• Respondents defined a healthy community as one with access to healthcare services; access to community and social services; supports for children; supports for healthy lifestyles; supports for people with disabilities.
Groups Who Need Help Obtaining Better Health	• The most commonly identified groups needing help inclluded the elderly, people with low income, minority populations, children, 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 health 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 45 (26%) 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	• 45 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	• 84% reported an increase in clients/consumer who lost employment. • 40% 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; experiencing overall financial hardship; feeling lonely or isolated; getting childcare; managing schooling at home for children; getting essential supplies for daily living; and affording housing cost.
Community Health Concerns	• Among the most commonly identified concerns were depression; other mental health conditions; domestic violence; substance abuse of illegal and prescriptions drugs; tobacco use; adult obesity/overweight; and diabetes.
Community Services that Need Strengthening	• The most commonly mentioned services that need strengthening include behavioral health services; homeless services; job/vocational training; substance use services; employment opportunity/workforce development; and transportation.
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	• The most commonly mentioned groups included the elderly population; minority population; low income 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; community and social services; healthcare 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 the study region is estmated at 105,276 people.
- Children age 0-17 represent 22% of the population.
- Seniors age 65+ represent 19% of the population.
- 13% 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

- 8% of individual residents have incomes below poverty.
- 9% of households have incomes below poverty.
- 12% of the population age 25+ is without a high school diploma.
- 9% of the population may have concerns about food insecurity.
- 15% of households may be struggling with housing.

Health Risk Behaviors for Adults

- An estimated 81,760 adults age 18+ reside in the study region.
- 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 7,586 youth age 14-19 reside in the study region.
- 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 81,259 individuals age 0-64 lived in the study region in 2018.
- According to health insurance estimates from the US Census Bureau, and estimated 12% of individuals age 0-64 were uninsured at any point in 2018.
- The uninsured rate increases as income drops, with an uninsured rate of 22% for those with income below 138% of poverty.
- As of 2020, all three counties 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 the study region were malignant neoplasms (238), heart disease (212), accidents (72), chronic lower respiratory disease (51); and cerebrovascular disease (41).

Maternal and Infant Health

- In 2018 residents of the study region had:
  - 1,334 total pregnancies and 1,204 live births.
  - 509 non-marital births and 51 births to teenage mothers.
  - 90 low weight births
  - 5 infant deaths

Cancer Incidence

- From 2013-2017, study region residents had 2,787 reported cases of cancer.
- The most frequent cancer types by site were lung and bronchus (447), breast (423), prostate (305), and colorectal (236).

Communicable Disease Incidence

- In 2018 the most common communicable diseases reported in the study region were hepatitis C - chronic (161); Lyme disease (32); campylobacteriosis (23); spotted fever (18); and salmonellosis (17).

Injury and Violence

- In 2016 the study region had 80 deaths related to injury or violence, with the leading causes of death being poison (30), drug poisoning due to overdose (30), traumatic brain injury (24), motor vehicle traffic injury (14), and suicide (13).
- In 2018 study region residents had 525 inpatient hospitalizations for injury or violence-related incidents, with the leading causes being unintentional fall (150), traumatic brain injury (115), firearm (99), drug poisoning due to overdose (82), and self-harm (47).

Potentially Avoidable Hospitalizations

- Some specifically-defined hospitalizations are potentially avoidable with adequate access to outpatient care and other health supports.
- In 2018 study region residents had 1,148 potentially avoidable hospitalizations.
- The leading diagnoses for these hospitalizations were congestive heart failure (377), COPD or asthma in older adults (270), community acquired pneumonia (193), diabetes (173), and urinary tract infection (94). Most of these hospitalizations were for residents age 65+.

Hospitalizations for Mental Health and Substance Use Diagnoses

- In 2018 study region residents had 600 hospitalizations for behavioral health conditions in Virginia community hospitals.
- The leading causes of hospitalization were major depressive disorder - recurrent (142), alcohol related disorders (90), bipolar disorder (88), major depressive disorder - single episode (64), and schizoaffective disorders (39) and reaction to stress (39).

Adult Mental Health and Substance Use: Incidence and Prevalence

- An estimated 81,760 adults age 18+ reside in the study region :
- 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 19,926 children and youth age 3-17 reside in the study region.
- 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 estimaed 7,911 study region 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. 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. Four hundred and nine (409) 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 presents the results of a survey of community residents from Culpeper, Madison, and Orange Counties.

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.

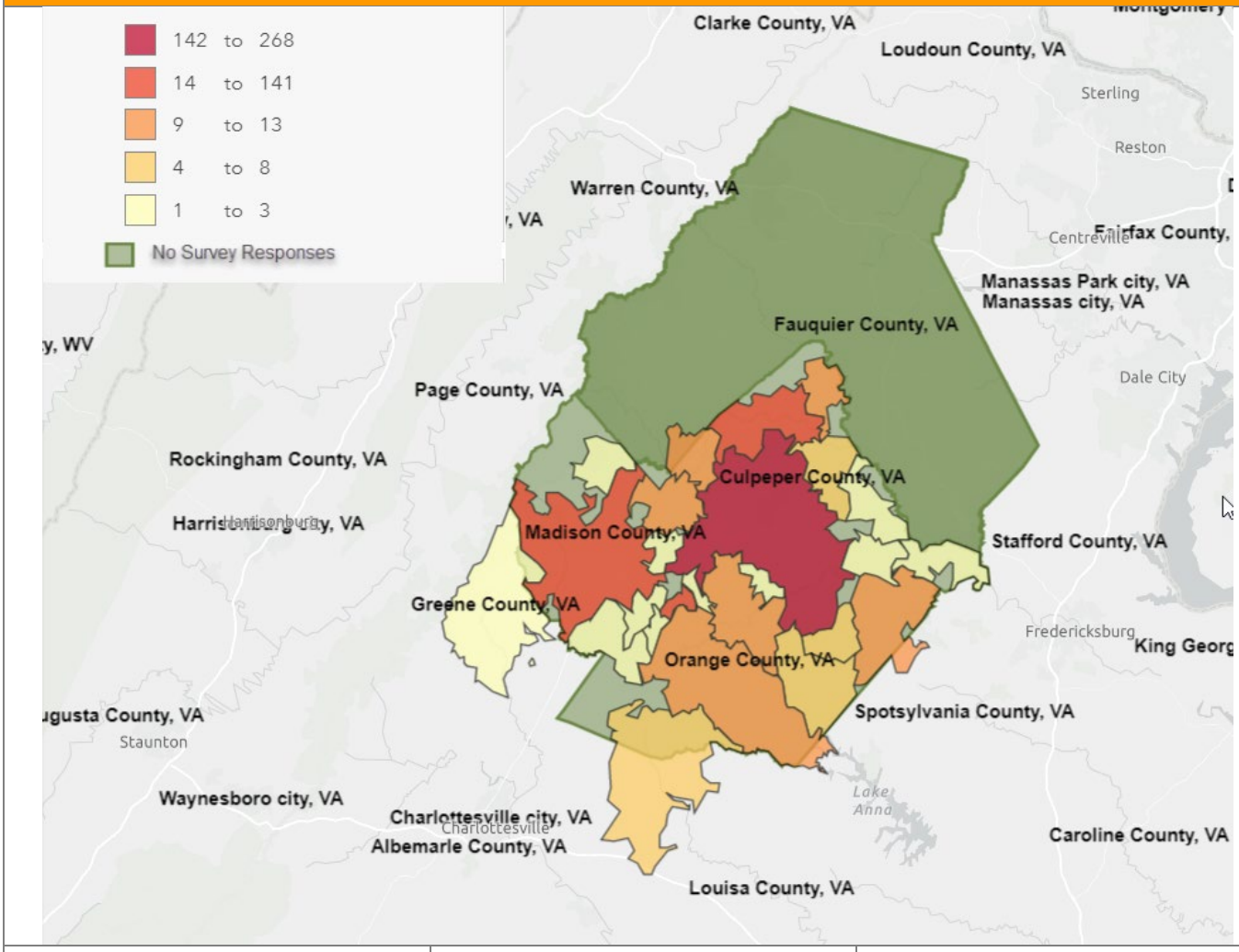
Exhibit 1.1
Demographic Profile
(n=409)

Category	Count	Percent
Age (n=409)		
18-24	5	1%
25-34	34	8%
35-44	84	21%
45-54	81	20%
55-64	88	22%
65-74	93	23%
75-84	23	6%
85+	1	0%
Race (n=406)		
Asian	6	1%
American Indian or Alaska Native	1	0%
Black or African American	24	6%
Multiple Race	11	3%
Pacific Islander	1	0%
White	355	87%
Other	8	2%
Ethnicity (n=403)		
Hispanic, Latino, or Spanish origin	14	3%
Non-Hispanic, Latino, or Spanish origin	389	97%
Gender (n=406)		
Female	320	79%
Male	84	21%
Unknown	2	0%
Income (n=401)		
Less than $25,000	13	3%
$25,000-$34,999	20	5%
$35,000-$49,999	29	7%
$50,000-$74,999	75	19%
$75,000+	244	61%
Don't Know/Not Sure	20	5%

Category	Count	Percent
Education (n=408)		
Less than High School	3	1%
High School or GED	33	8%
Some College	73	18%
Associate's Degree	48	12%
Bachelor's Degree	117	29%
Master's Degree	107	26%
Professional Degree	12	3%
Doctorate	15	4%
Household Size (n=409)		
1	50	12%
2	151	37%
3	52	13%
4	86	21%
5	35	9%
More Than 5	35	9%
School Aged Children in the Household (n=407)		
Yes	156	38%
No	251	62%
Sources of Health Information (n=406)		
Health Care Provider (Example: Physician, Nurse Practitioner)	377	93%
Online Resources (Example: WebMD)	216	53%
Family Member	84	21%
Urgent Care	71	17%
Friends	151	19%
Social Media Resources (Example: Facebook)	73	9%
Hospital Emergency Department	35	9%
Local Health Department	31	8%
Faith Based Organization	12	3%
Free Clinic	7	2%

Community residents were also asked to indicate the zip code where they live in the study region. 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=409)



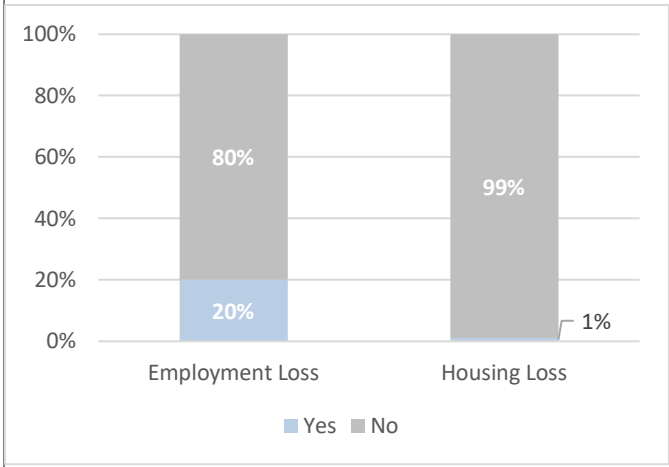
Top 11 Zip Codes	Count	Percent
22701 (Culpeper County)	268	66%
22727 (Madison County)	16	4%
22737 (Culpeper County)	15	4%
22713 (Culpeper County)	13	3%
22733 (Culpeper County)	13	3%
22960 (Madison County)	13	3%
22508 (Orange County)	12	3%
22724 (Culpeper County)	11	3%
22735 (Culpeper County)	11	3%
22714 (Culpeper County)	6	1%
22942 (Orange County)	6	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 percent (20%) said they or an immediate family member lost employment due to COVID-19, and four 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.

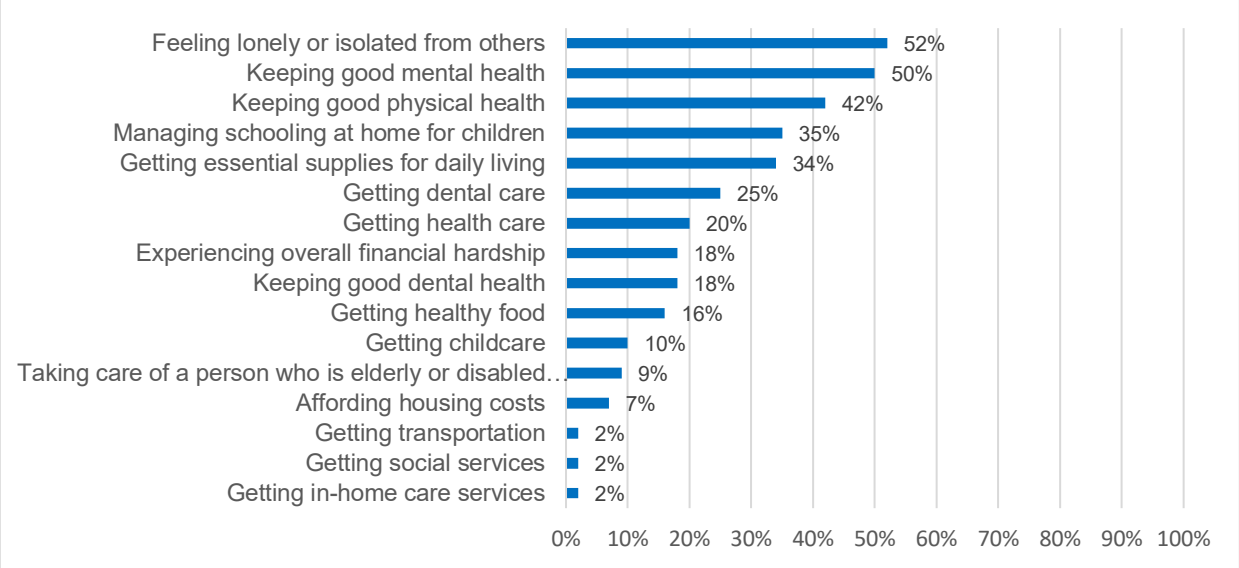
Exhibit 1.3
Community Needs Related to COVID-19

Household/Personal Employment (n=409) or Housing Loss (n=408)



Groups Who Need Extra Help (n=211)

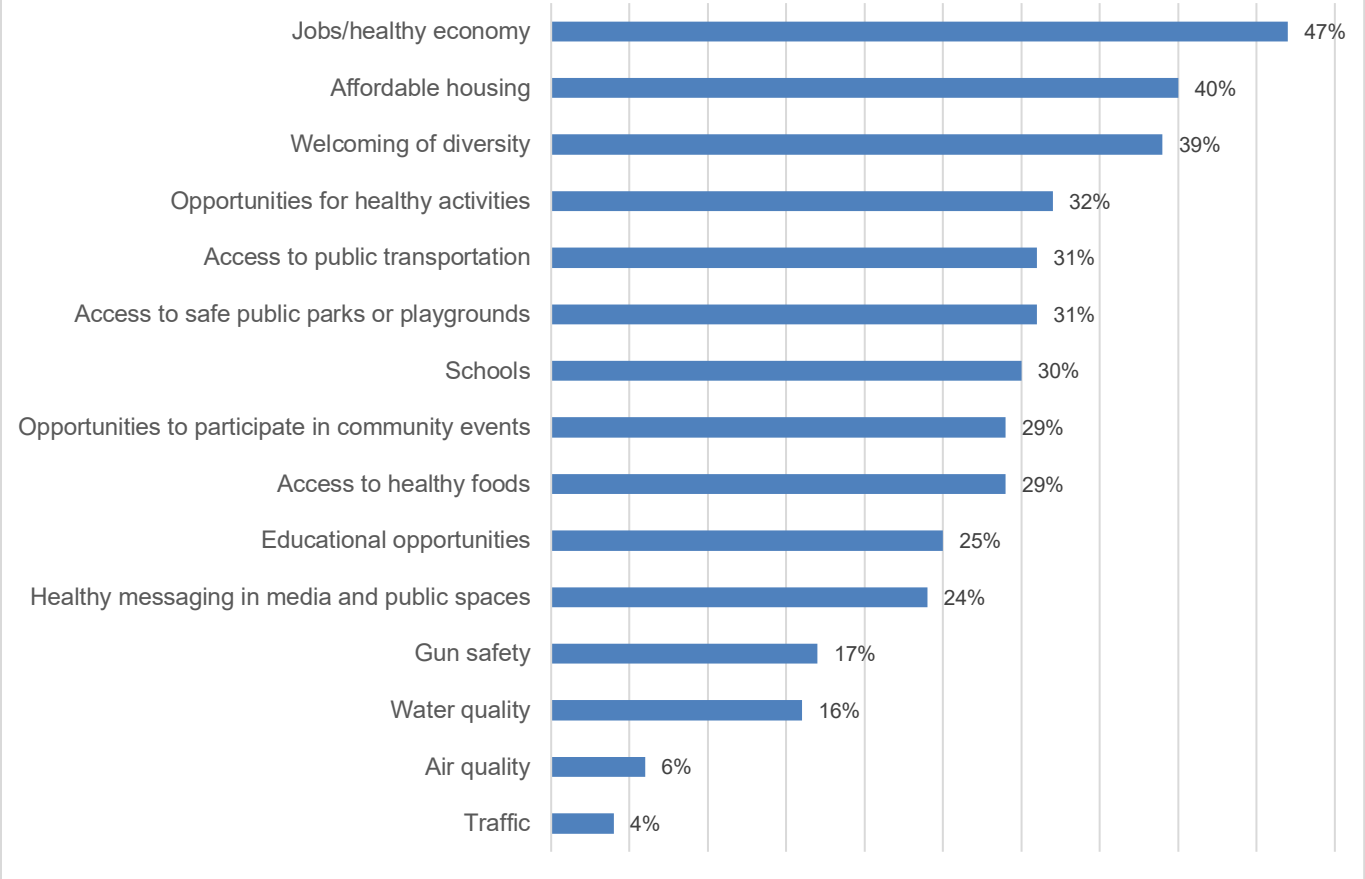
Experiences of Personal Difficulty during COVID-10 (n=301)



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**.

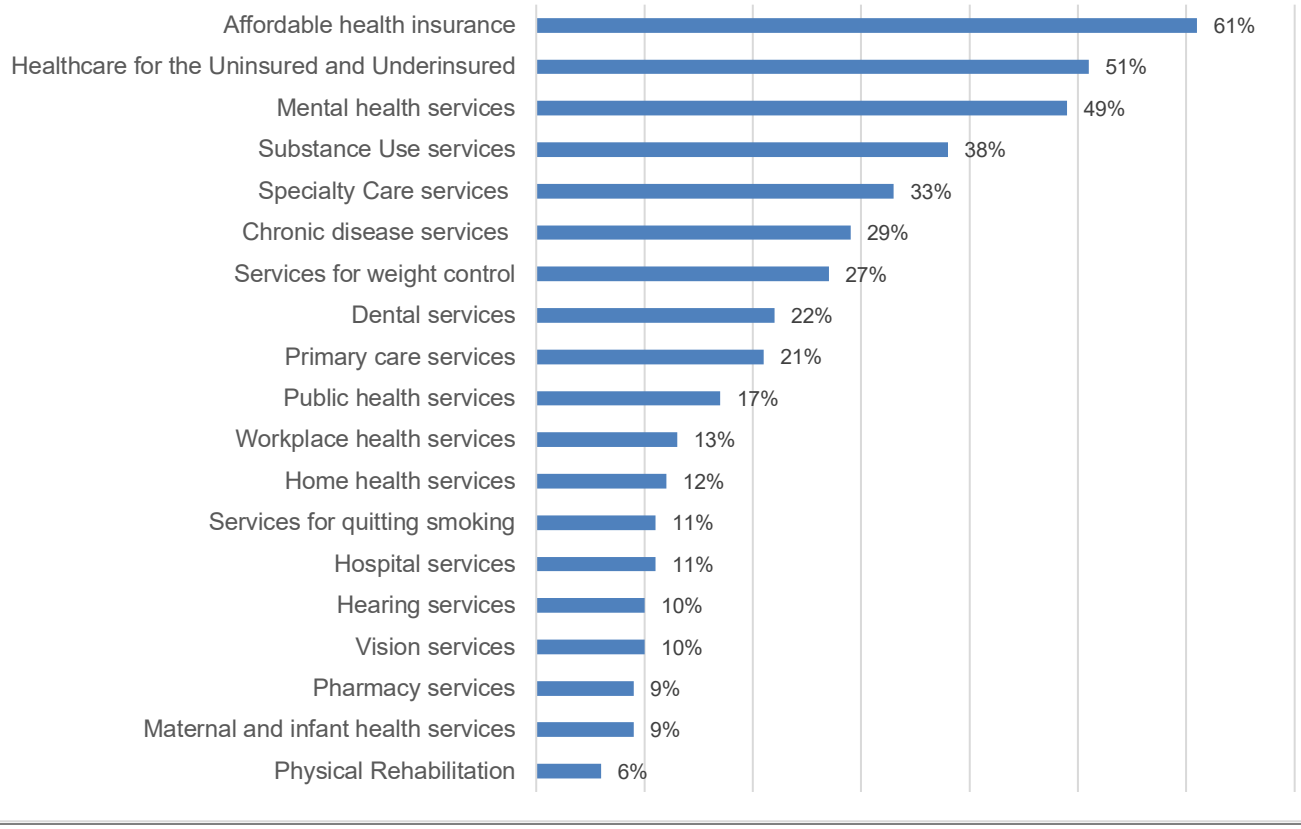
Exhibit 1.4
Neighborhood and Community Environment (n=315)



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**.

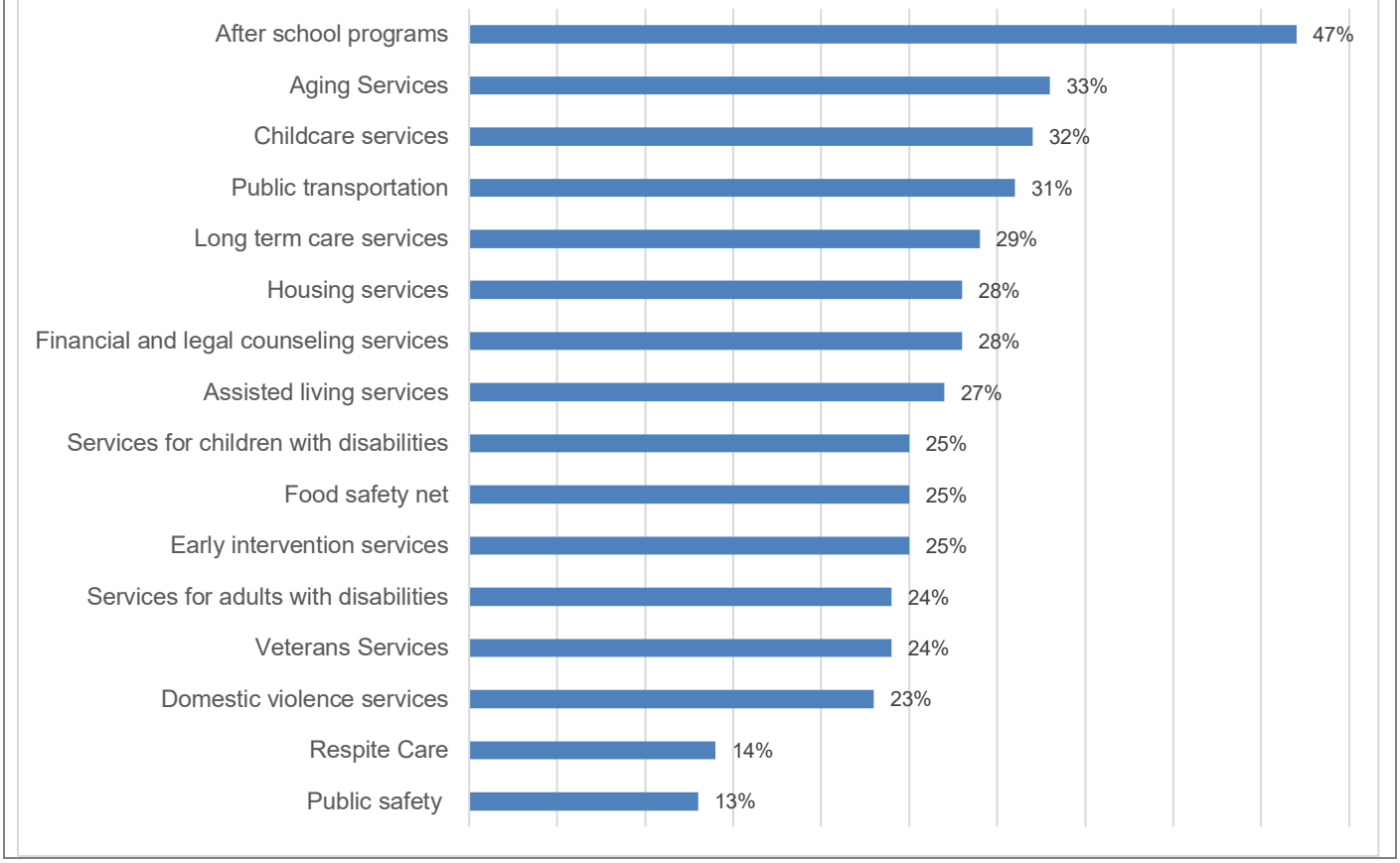
Exhibit 1.5
Health Care Service Needs (n=322)



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=297)



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	85 Supports for Children	49 Supports for Healthy Lifestyles	49 Supports for People with Disabilities

2. Are there particular groups of people within your neighborhood or community who need help obtaining better health? (n=360)				
45 Elderly Population	32 Low Income Population	31 Minority Population	26 Child Population	21 People with Behavioral Health Concerns

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

1. 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

2. 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

3. 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 45 (26%) individuals whose organizations serve the counties of Culpeper, Madison, and Orange submitted a response (although not every respondent answered every question).

B. Organizational Affiliation and Geographic Perspective

Survey Responses were received from 45 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.

The survey results are presented in the following order:

B	Organizational Affiliation and Geographic Perspective
C	Community Needs Related to COVID-19
D	Community Health Concerns
E	Services and Supports that Need Strengthening
F	In their Own Words – Insights from Community Professionals

C. Organizational Affiliation and Geographic Perspective

Survey Responses were received from 45 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=45)

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

- ☐ Aging Together
- ☐ Anonymous
- ☐ 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 Health
- ☐ FCCC
- ☐ Free Clinic of Culpeper (3)
- ☐ Horse and Soul Counseling
- ☐ Impactando Culpeper
- ☐ Madison DSS
- ☐ Madison Free Clinic
- ☐ Mental Health Assoc. and others.
- ☐ 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
- ☐ Virginia Department of Health (4)
- ☐ Virginia Cooperative Extension

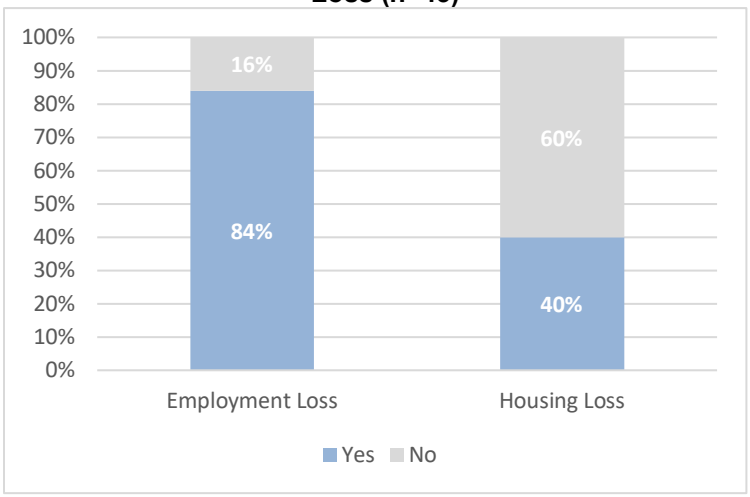
By Geographic Perspective (Can select multiple)	
Culpeper	93%
Madison	49%
Orange	44%

D. 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**, 84% said they have seen an increase in employment loss due to COVID-19, and 40% 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.

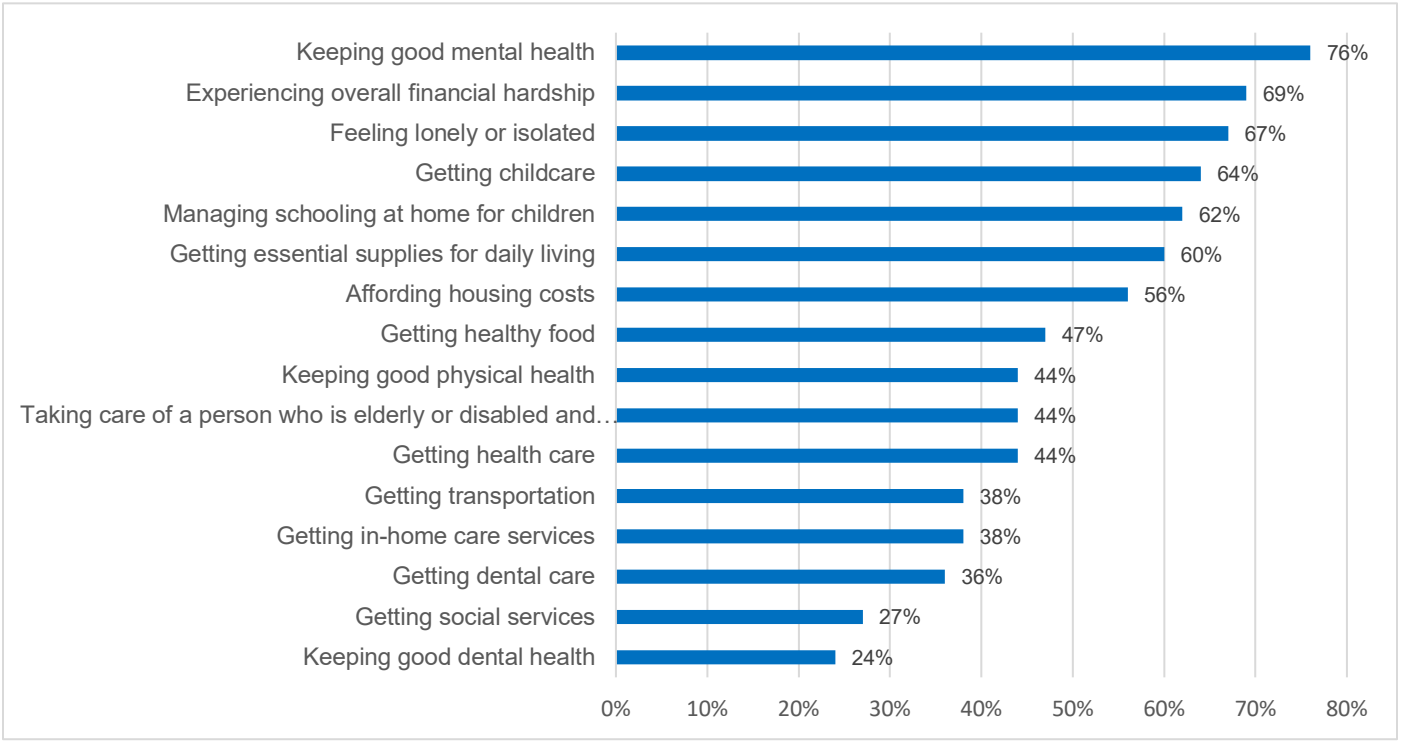
Exhibit 2.2
Community Needs Related to COVID-19

Increase in Client/Consumer Employment (n=44) or Housing Loss (n=43)



Groups Who Need Extra Help (n=35)

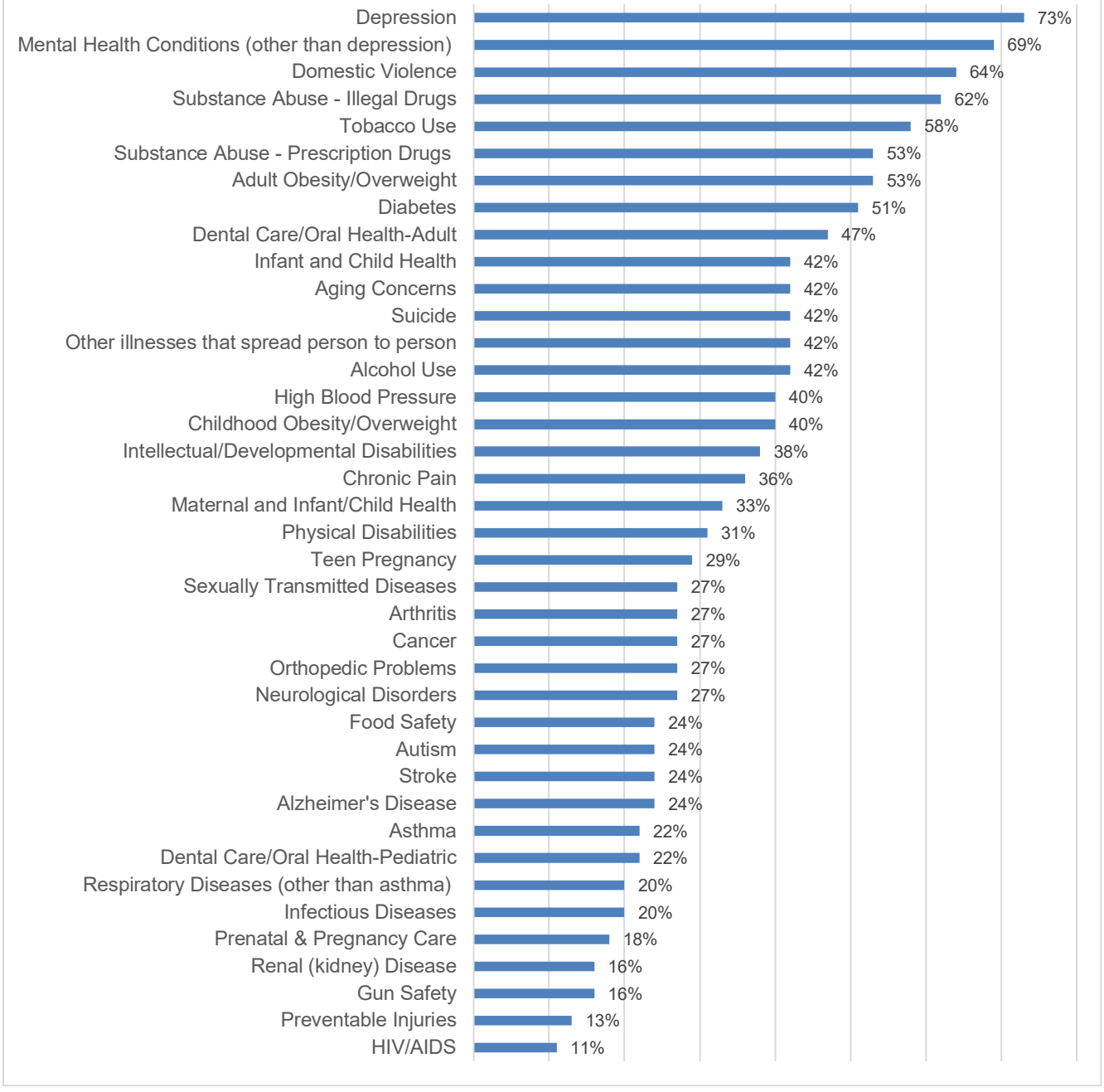
Client/Consumer Difficulties (n=45)



E. 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**.

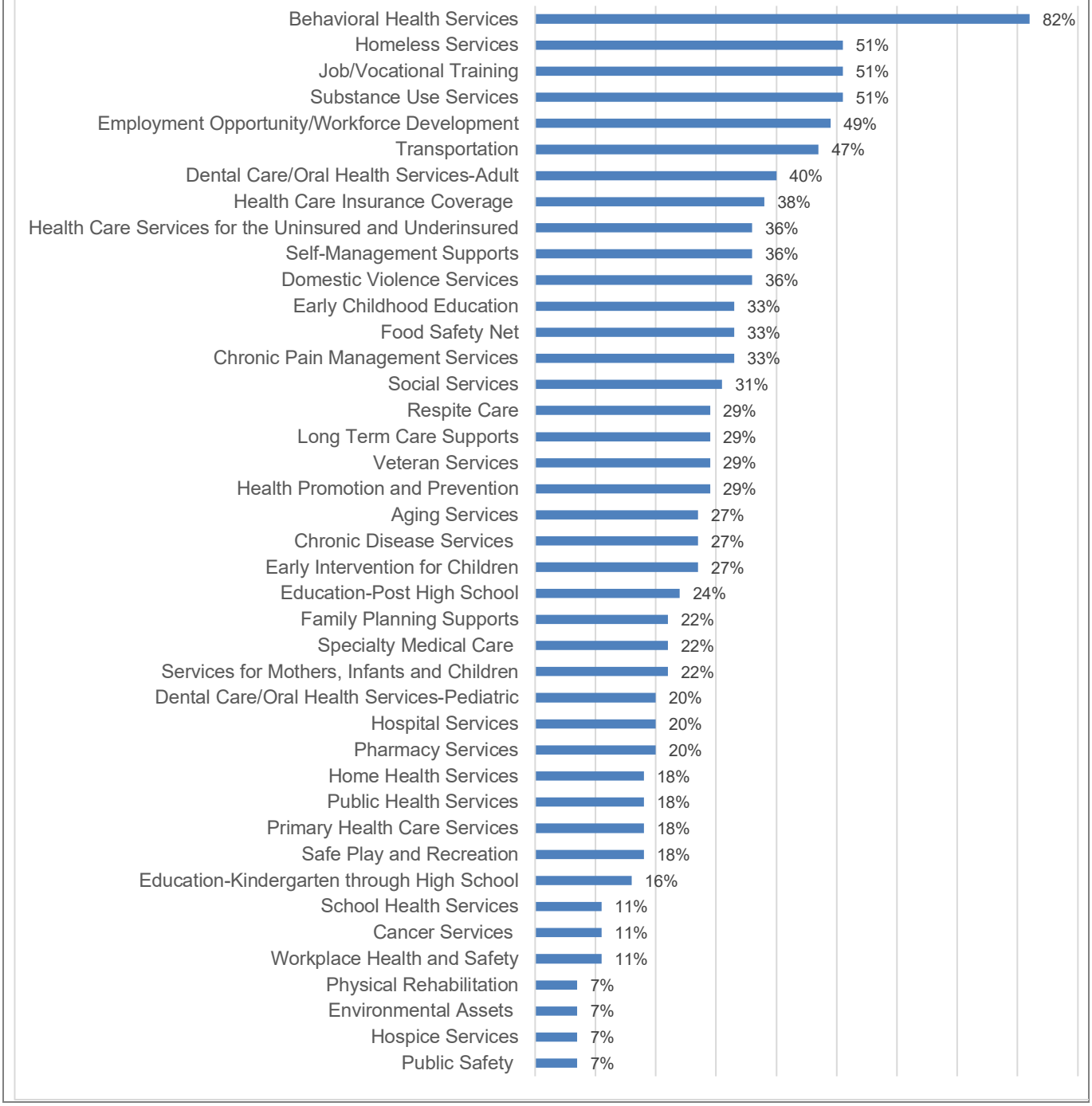
Exhibit 2.3
Community Health Concerns
(n=45)



F. 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=45)



G. 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=35)

14 Access to Healthcare (Medical, Dental, Behavioral)	8 Access to Community & Social Services	5 Supports for People with Behavioral Health Concerns	5 Healthy Lifestyle Supports	5 Supports for People with Disabilities

2. In your view, what are the most important health assets within the community? (n=36)

17 Healthcare Services	20 Healthy Lifestyle Supports	16 Community and Social Services	8 Supports for Elderly	4 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=39)

12 Elderly Population	13 Minority Population	10 Low Income Population	5 People with Behavioral Health Concerns	5 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=19)

8 COVID-19 Issues	6 Child Health Issues	6 Behavioral Health Issues	3 Disability-Related Issues	3 Access to Healthcare

5. Please share your ideas about how people could work together to promote optimal health in the community (n=31)

13 More Community Collaboration	7 Community & Social Services	6 Healthcare Services	3 Healthy Lifestyle Supports

6. Please share your additional ideas or suggestions (n=9)

4 Health Care Services	2 Community and Social Services	1 Health Equity	1 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
1. Community Demographics 2. Social Determinants of Health 3. Health Risk Behaviors for Adults 4. Health Risk Behaviors for Youth 5. Access to Health Care	6. Leading Causes of Death 7. Maternal and Infant Health 8. Cancer Incidence 9. Communicable Disease Incidence 10. Injury and Violence 11. Potentially Avoidable Hospitalization 12. Behavioral Health and Substance Use

A. Health Factors: Community Demographics

Exhibit 3.1 provides a demographic profile of each county and the study region. Focusing on rates in the bottom panel, compared to Virginia as a whole, the study 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		Culpeper	Madison	Orange	Study Region Total	Virginia
Estimated Counts						
Total Population	Population	53,428	13,914	37,934	105,276	8,684,166
Age	Children Age 0-17	12,837	2,849	7,830	23,516	1,857,391
	Adults Age 18-29	7,572	1,619	4,819	14,010	1,425,254
	Adults Age 30-44	10,163	2,474	6,545	19,182	1,728,750
	Adults Age 45-64	14,386	3,924	10,557	28,867	2,272,656
	Seniors Age 65+	8,470	3,048	8,183	19,701	1,400,115
Sex	Female	26,585	7,100	19,323	53,008	4,411,676
	Male	26,843	6,814	18,611	52,268	4,272,490
Race	Asian	855	93	428	1,376	609,644
	Black/African American	7,504	1,216	4,960	13,680	1,687,062
	White	39,371	11,984	30,133	81,488	5,667,763
	Other or Multi-Race	5,698	621	2,413	8,732	719,697
Ethnicity	Hispanic Ethnicity	6,608	493	2,276	9,377	880,213
Estimated Rates						
Total Population	Population Density (pop. per sq. mile)	140.9	43.4	111.3	101.2	219.9
Age	Children Age 0-17 pct. of Total Pop.	24%	20%	21%	22%	21%
	Adults Age 18-29 pct. of Total Pop.	14%	12%	13%	13%	16%
	Adults Age 30-44 pct. of Total Pop.	19%	18%	17%	18%	20%
	Adults Age 45-64 pct. of Total Pop.	27%	28%	28%	27%	26%
	Seniors Age 65+ pct. of Total Pop.	16%	22%	22%	19%	16%
Sex	Female pct. of Total Pop.	50%	51%	51%	50%	51%
	Male pct. of Total Pop.	50%	49%	49%	50%	49%
Race	Asian pct. of Total Pop.	2%	1%	1%	1%	7%
	Black/African American pct. of Total Pop.	14%	9%	13%	13%	19%
	White pct. of Total Pop.	74%	86%	79%	77%	65%
	Other or Multi-Race pct. of Total Pop.	11%	4%	6%	8%	8%
Ethnicity	Hispanic Ethnicity pct. of Total Pop.	12%	4%	6%	9%	10%

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

B. Health Factors: Social Determinants of Health

Exhibit 3.2 shows selected social determinants of health for residents of each county and the study region as a whole. 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		Culpeper	Madison	Orange	Study Region Total	Virginia
Estimated Counts						
Income	Total Population (Individual) in Poverty (2018)	3,986	1,070	2,984	8,040	893,580
	Total Households in Poverty (2018)	1,521	490	1,073	3,084	330,813
Education	Population Age 25+ Without a High School Diploma (2020)	5,011	1,231	2,984	9,226	593,336
Food Insecurity	Food Insecure Population (2017)	4,190	1,180	3,040	8,410	863,390
Housing	Households with Severe Housing Problems[3] (2012-2016)	2,550	880	1,700	5,130	461,330
Estimated Rates						
Income	Total Population (Individual) in Poverty pct. of Total Population for Whom Poverty Status is Determined (2018)	8%	8%	9%	8%	11%
	Total Households in Poverty pct. of Total Households for Whom Poverty Status is Determined (2018)	9%	10%	8%	9%	11%
	Median Household Income (2020)	$67,696	$53,162	$71,307	$66,300	$73,543
	Per Capita Income (2020)	$30,000	$29,091	$33,706	$31,215	$40,095
Education	Population Age 25+ Without a High School Diploma pct. of Total Pop. Age 25+ (2020)	14%	12%	11%	12%	10%
Food Insecurity	Food Insecure Population pct. of Total Population (2017)	8%	9%	9%	9%	10%
Housing	Households with Severe Housing Problems pct. of Total Households (2012-2016)	15%	17%	13%	15%	15%

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

[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.

C. Health Factors: Risk Behaviors for Adults

Exhibit 3.3 shows selected health risk behaviors for adults by county and the study region. 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 level 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		Culpeper	Madison	Orange	Study Region Total	Virginia
Estimated Counts						
Total Estimated Adults age 18+		40,591	11,065	30,104	81,760	6,826,775
Lifestyle Risk Factors	Less than Five Servings of Fruits and Vegetables Per Day	33,691	9,184	24,986	67,861	5,597,956
	Overweight or Obese	25,978	7,082	19,267	52,326	4,505,672
	Not Meeting Recommendations for Physical Activity in the Past 30 Days	10,554	2,877	7,827	21,258	1,501,891
	At-risk for Binge Drinking[4]	4,871	1,328	3,612	9,811	1,092,284
	Smoker	8,118	2,213	6,021	16,352	1,024,016
Chronic Conditions[5]	High Cholesterol	15,830	4,315	11,741	31,886	2,389,371
	High Blood Pressure	15,425	4,205	11,440	31,069	2,184,568
	Arthritis	10,148	2,766	7,526	20,440	1,774,962
	Diabetes	4,465	1,217	3,311	8,994	750,945
General Health Status	Fair or Poor Health Status	7,306	1,992	5,419	14,717	1,570,158
Estimated Rates						
Lifestyle Risk Factors	Less than Five Servings of Fruits and Vegetables Per Day	83%	83%	83%	83%	82%
	Overweight or Obese	64%	64%	64%	64%	66%
	Not Meeting Recommendations for Physical Activity in the Past 30 Days	26%	26%	26%	26%	22%
	At-risk for Binge Drinking	12%	12%	12%	12%	16%
	Smoker	20%	20%	20%	20%	15%
Chronic Conditions	High Cholesterol	39%	39%	39%	39%	35%
	High Blood Pressure	38%	38%	38%	38%	32%
	Arthritis	25%	25%	25%	25%	26%
	Diabetes	11%	11%	11%	11%	11%
General Health Status	Fair or Poor Health Status	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 B: 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 the study region. Please note that all indicators in this profile are based on 2019 health district level 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		Culpeper	Madison	Orange	Study Region Total	Virginia
Estimated Counts						
Total Estimated High School Youth Age 14-19		4,186	929	2,471	7,586	652,253
Lifestyle Risk Factors	Used tobacco or vapor products in the past month	1,214	269	717	2,200	150,018
	Not Meeting Recommendations for Physical Activity in the Past Week	2,428	539	1,433	4,400	384,829
Chronic Conditions	Asthma	837	186	494	1,517	136,973
	Overweight or Obese	1,507	334	890	2,731	202,198
Estimated Rates						
Lifestyle Risk Factors	Used tobacco or vapor products	29%	29%	29%	29%	23%
	Not Meeting Recommendations for Physical Activity in the Past Week	58%	58%	58%	58%	59%
Chronic Conditions	Asthma	20%	20%	20%	20%	21%
	Overweight or Obese	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 B 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 9,759 community members may lack health coverage, with higher uninsured rates among lower-income populations. Looking beyond health coverage, **Exhibit 3.6** shows that all three counties in the study 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		Culpeper	Madison	Orange	Study Region Total	Virginia
Estimated Counts - Population						
Total Population Age 0-64	Total Population Age 0-64	42,295	10,287	28,677	81,259	6,981,520
	Total Population Age 0-19	13,295	2,798	7,975	24,068	1,935,423
	Total Population Age 18-64	29,665	7,637	21,101	58,403	5,141,142
Estimated Counts - Uninsured						
Uninsured Population Age 0-64	All Incomes	5,273	1,269	3,217	9,759	705,225
	138% to 400% of Poverty	2,781	637	1,713	5,131	353,297
	<= 200% of Poverty	2,560	647	1,540	4,747	341,332
	<= 138% of Poverty	1,533	416	935	2,884	218,164
Uninsured Population Age 0-19	All Incomes	867	193	478	1,538	95,977
	138% to 400% of Poverty	492	95	261	848	49,807
	<= 200% of Poverty	409	104	243	756	46,780
	<= 138% of Poverty	228	67	151	446	28,816
Uninsured Population Age 18-64	All Incomes	4,485	1,093	2,778	8,356	618,552
	138% to 400% of Poverty	2,326	549	1,470	4,345	307,967
	<= 200% of Poverty	2,191	551	1,317	4,059	299,182
	<= 138% of Poverty	1,332	355	798	2,485	192,475
Estimated Rates - Uninsured						
Uninsured Population Age 0-64	All Incomes	13%	12%	11%	12%	10%
	138% to 400% of Poverty	15%	14%	13%	14%	14%
	<= 200% of Poverty	23%	20%	20%	21%	20%
	<= 138% of Poverty	23%	21%	20%	22%	20%
Uninsured Population Age 0-19	All Incomes	7%	7%	6%	6%	5%
	138% to 400% of Poverty	7%	7%	6%	7%	6%
	<= 200% of Poverty	9%	9%	8%	9%	8%
	<= 138% of Poverty	7%	7%	6%	9%	5%
Uninsured Population Age 18-64	All Incomes	15%	14%	13%	14%	12%
	138% to 400% of Poverty	20%	16%	17%	18%	17%
	<= 200% of Poverty	31%	26%	26%	29%	26%
	<= 138% of Poverty	32%	28%	28%	30%	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 B: 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
Culpeper 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 B: Data Sources for details

F. Health Outcomes: Leading Causes of Death

Exhibit 3.7 shows the leading causes of death for each county and the study region as a whole. In 2018 the five leading causes of death in the study region were malignant neoplasms (238), heart disease (212), accidents (72), chronic lower respiratory disease (51); and cerebrovascular disease (41). Age-adjusted mortality rates were not available for the study region.

Exhibit 3.7
Mortality (2018)

Indicator	Culpeper	Madison	Orange	Study Region Total	Virginia
Counts- Deaths by Leading Cause					
Total Deaths by All Causes	488	147	389	1,024	69,353
Malignant Neoplasms	106	39	93	238	15,142
Heart Disease	87	36	89	212	14,526
Accidents	36	12	24	72	3,799
Chronic Lower Respiratory	30	3	18	51	3,466
Cerebrovascular Disease	18	8	15	41	3,771
Alzheimer's Disease	17	5	14	36	2,594
Diabetes	13	1	10	24	2,281
Chronic Liver Disease	11	1	8	20	943
Nephritis and Nephrosis	8	2	8	18	1,563
Suicide	11	3	3	17	1,198
Influenza and Pneumonia	11	1	5	17	1,279
Septicemia	5	2	9	16	1,121
Parkinson's Disease	7	2	3	12	878
Primary Hypertension	6	3	1	10	788
Rates-Age Adjusted Per 100,000 Population					
Total Deaths by All Causes	784.8	756.6	764.7	N/A	683.8
Malignant Neoplasms	172.1	196.9	170.0	N/A	149.3
Heart Disease	146.1	165.3	173.8	N/A	147.1
Accidents	69.0	85.5	61.0	N/A	42.1
Chronic Lower Respiratory Disease	50.3	14.7	31.2	N/A	34.7
Cerebrovascular Disease	32.4	34.5	31.5	N/A	38.8
Alzheimer's Disease	31.4	23.9	25.7	N/A	27.1
Diabetes	21.1	3.9	22.8	N/A	22.8
Chronic Liver Disease	16.2	4.6	17.2	N/A	9.3
Nephritis and Nephrosis	14.5	9.8	14.7	N/A	15.9
Suicide	19.4	23.7	4.8	N/A	13.4
Influenza and Pneumonia	19.1	4.6	9.9	N/A	13.0
Septicemia	8.2	9.5	15.9	N/A	11.3
Parkinson's Disease	12.6	9.8	5.7	N/A	9.2
Primary Hypertension	4.5	14.1	1.9	N/A	8.0

N/A- Age Adjusted Rates at the Study Region are not available publicly.
Source: Community Health Solutions analysis of data from Virginia Department of Health. See Appendix B: 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 the study region. In 2018 there were 1,204 total live births, with 90 low weight births, 509 non-marital births, and 51 births to teens. The study region also had 5 infant deaths during 2018.

Exhibit 3.8
Maternal and Infant Health (2018)

Indicator	Culpeper	Madison	Orange	Study Region Total	Virginia
Counts					
Total Pregnancies	746	134	454	1,334	119,960
Teenage Pregnancies (Age 10-19)	38	5	21	64	5,158
Infant Deaths	4	0	1	5	558
Total Live Births	678	118	408	1,204	99,629
Low Weight Births	44	9	37	90	8,201
Non-Marital Births	293	47	169	509	33,663
Teenage Births (Age 10-19)	29	4	18	51	3,824
Rates					
Total Pregnancies Rate per 1,000 Females	80.4	62.1	73.6	75.8	71.1
Teenage Pregnancies Rate per 1,000 Females age 10-19	10.8	6.2	10.3	10.0	9.8
Infant Death Rate per 1,000 Live Births	5.9	0	2.5	4.2	5.6
Live Birth Rate per 1,000 Population	13.1	8.9	11.1	11.8	11.7
Low Weight Births as a pct. of Total Births	7%	8%	9%	10%	8%
Non-Marital Births as a pct. of Total Births	43%	40%	41%	42%	34%
Teenage Births (Age 10-19) Rate per 1,000 Females age 10-19	8.2	4.9	8.8	8.0	7.3

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

H. Health Outcomes: Cancer Incidence

Exhibit 3.9 shows reported cancer incidence for each county and the study region as a whole. for 2013-2017. Over this period, study region residents had 2,787 reported cases of cancer. The most frequent cancer types by site were lung and bronchus (447), breast (423), prostate (305), and colorectal (236).

Exhibit 3.9
Cancer Incidence (2013-2017)

Indicator	Culpeper	Madison	Orange	Study Region Total	Virginia
Counts-Total Cancer Incidence by Site					
Cancer Incidence by All Sites	1,275	420	1,092	2,787	198,496
Breast	187	57	179	423	32,339
Cervix Uteri	11	^	^	--	1,342
Ovary	16	^	22	--	2,556
Prostate	150	33	122	305	23,638
Colorectal	100	46	90	236	16,568
Lung and Bronchus	185	79	183	447	27,117
Brain and Other Nervous System	12	^	^	--	2,747
Hodgkin Lymphoma	^	^	^	--	1,001
Non-Hodgkin Lymphoma	56	12	44	--	7,986
Kidney and Renal Pelvis	54	^	43	--	7,416
Liver and Intrahepatic Bile Duct	29	^	14	--	3,709
Leukemia	39	15	17	--	4,951
Melanoma of the Skin	59	27	39	--	9,441
Myeloma	18	^	22	--	2,954
Oral Cavity and Pharynx	36	13	38	--	5,611
Pancreas	38	14	28	--	5,839
Thyroid	24	^	22	--	5,817
Rates- Age Adjusted Rate Per 100,000 Population					
All Sites	446.0	429.5	441.0	--	415.8
Breast	^	^	^	--	^
Cervix Uteri	^	^	^	--	^
Ovary	^	^	^	--	^
Prostate	^	^	^	--	^
Colorectal	36.4	45.8	36.2	--	35.2
Lung and Bronchus	63.4	75.6	69.4	--	56.4
Brain and Other Nervous System	^	^	^	--	6.0
Hodgkin Lymphoma	^	^	^	--	2.4
Non-Hodgkin Lymphoma	20.8	^	17.6	--	17.1
Kidney and Renal Pelvis	18.5	^	18.1	--	16.0
Liver and Intrahepatic Bile Duct	9.9	^	^	--	7.3
Leukemia	14.7	^	6.4	--	10.9
Melanoma of the Skin	22.1	29.7	18.7	--	20.0
Myeloma	6.0	^	8.5	--	6.2
Oral Cavity and Pharynx	12.0	^	15.5	--	11.4
Pancreas	13.0	^	10.7	--	12.2
Thyroid	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 B: Data Sources for details

I. Health Outcomes: Communicable Disease Incidence

Exhibit 3.10 shows the incidence of communicable disease for each county and the study region as a whole. In 2018 the most reported communicable diseases were hepatitis C - chronic (161): Lyme disease (32): campylobaceteriosis (23): spotted fever (18): and salmonellosis (17). Local rates of incidence were higher than Virginia rates for each of these conditions.

Exhibit 3.10
Communicable Disease (2018)

Indicator	Culpeper	Madison	Orange	Study Region Total	Virginia
Counts- Communicable Disease Incidence by Leading 10 Conditions					
Hepatitis C, chronic	112	11	38	161	10,405
Lyme disease	23	4	5	32	1,139
Campylobacteriosis	8	6	9	23	1,665
Spotted Fever Rickettsiosis (including RMSF)	8	0	10	18	339
Salmonellosis	9	1	7	17	1,365
Lead, elevated levels	6	2	3	11	872
Escherichia coli infection, Shiga Toxin-Producing	7	0	2	9	400
Hepatitis B, chronic	5	0	4	9	2,050
Varicella (Chickenpox)	2	2	0	4	352
Pertussis	0	0	2	2	245
Rates- Crude Rate Per 100,000 Population					
Hepatitis C, chronic	218.4	82.9	105.3	160.0	122.8
Lyme disease	44.9	30.1	13.9	31.8	13.4
Campylobacteriosis	15.6	45.2	24.9	22.9	19.7
Spotted Fever Rickettsiosis (including RMSF)	15.6	0.0	27.7	17.9	4.0
Salmonellosis	17.6	7.5	19.4	16.9	16.0
Lead, elevated levels	11.7	15.1	8.3	10.9	10.3
Escherichia coli infection, Shiga Toxin-Producing	13.7	0.0	5.5	8.9	4.7
Hepatitis B, chronic	9.8	0.0	11.1	8.9	24.2
Varicella (Chickenpox)	3.9	15.1	0.0	4.0	4.2
Pertussis	0.0	0.0	5.5	2.0	2.9

Source: Community Health Solutions analysis of data from Virginia Department of Health. See Appendix B: 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 the study region. In 2016 the study region had 80 deaths related to injury or violence, with the leading causes of death being poison (30), drug poisoning due to overdose (30), traumatic brain injury (24), motor vehicle traffic injury (14), and suicide (13). Crude death rates were higher than the Virginia rates for total deaths, and deaths due to poison, and drug poisoning due to overdose. Age-adjusted death rates were not available for this analysis.

Exhibit 3.11
Injury and Violence Deaths (2016)

Indicator	Culpeper	Madison	Orange	Study Region Total	Virginia
Counts – Deaths by Leading Cause					
Injury and Violence Related Deaths	30	14	36	80	5,154
Poison (non-drug)	12	2	16	30	1,027
Drug Poisoning (Overdose)	12	2	16	30	1,430
Traumatic Brain Injury	7	8	9	24	811
Motor Vehicle Traffic Injury	4	2	8	14	1,131
Suicide	5	3	5	13	736
Firearms	3	4	2	9	1,323
Unintentional Fall	0	1	3	4	1,644
Homicide	0	1	0	1	434
Rates - Crude Rate Per 100,000 Population					
Total Injury and Violence Related Deaths	59.9	--	101.3	81.1	61.3
Poison (non-drug)	--	--	--	30.4	13.4
Drug Poisoning (Overdose)	--	--	--	30.4	19.5
Traumatic Brain Injury	--	--	--	--	17.0
Motor Vehicle Traffic Injury	--	--	--	--	9.6
Suicide	--	--	--	--	8.7
Firearms	--	--	--	--	15.7
Unintentional Fall	--	--	--	--	12.2
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 B: Data Sources for details

Exhibit 3.12 shows hospitalizations due to injury and violence for each county and the study region. In 2018 study region residents had 525 inpatient hospitalizations for injury or violence-related incidents, with the leading causes being unintentional fall (150), traumatic brain injury (115), firearm (99), drug poisoning due to overdose (82), and self-harm (42). Age-adjusted hospitalization rates were higher than Virginia rates for each of these causes except drug poisoning due to overdose.

Exhibit 3.12
Injury and Violence-Hospitalization (2018)

Indicator	Culpeper	Madison	Orange	Study Region Total	Virginia
Counts- Injury and Violence Related Discharges					
Injury and Violence Related Discharges	216	65	244	525	32,021
Unintentional Fall	68	21	61	150	7,234
Traumatic Brain Injury	50	8	57	115	5,438
Firearm	50	12	37	99	6,156
Drug Poisoning (Overdose)	23	14	45	82	7,155
Self-harm	14	5	28	47	3,622
Motor Vehicle Injury	8	3	5	16	881
Poisoning (non-drug)	3	2	10	15	1,310
Assault	0	0	1	1	225
Rates- Crude Rate Per 100,000 Population					
Injury and Violence Related Discharges	416.5	488.9	665.9	515.7	375.9
Unintentional Fall	131.1	--	166.5	147.4	84.9
Traumatic Brain Injury	96.4	--	155.6	113.0	63.8
Firearm	96.4	--	101.0	97.3	72.3
Drug Poisoning (Overdose)	--	--	122.8	80.6	84.0
Self-harm	--	--	--	46.2	42.5
Motor Vehicle Injury	--	--	--	--	10.3
Poisoning (non-drug)	--	--	--	--	15.4
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 B: Data Sources for details

K. Health Outcomes: Potentially Avoidable Hospitalizations

Exhibit 3.13 shows indicators of potentially avoidable hospitalizations for each county and the study region. 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 study region residents had 1,148 potentially avoidable hospitalizations, with most being for residents age 65+. The leading diagnoses for these hospitalizations were congestive heart failure (377), COPD or asthma in older adults (270), community acquired pneumonia (193), diabetes (173), and urinary tract infection (94). The age-adjusted rate of these hospitalizations was generally higher in the study region than for Virginia as a whole.

Exhibit 3.13
Potentially Avoidable Hospitalizations (2018)

Indicator	Culpeper	Madison	Orange	Study Region Total	Virginia
Counts- Discharges by Leading Diagnosis					
Total PQI Discharges by All Diagnoses	525	129	494	1,148	69,654
Congestive Heart Failure	169	50	158	377	24,850
COPD or Asthma in Older Adults	125	25	120	270	12,338
Community Acquired Pneumonia	88	20	85	193	8,353
Diabetes	73	24	76	173	13,267
Urinary Tract Infection	46	9	39	94	7,150
Hypertension	23	1	12	36	3,103
Asthma in Younger Adults	1	0	4	5	600
Rates- Age Adjusted Rate Per 100,000 Population					
Total Prevention Quality Indicator (PQI) Discharges	218.4	2,730.3	1,005.2	889.9	711.4
Congestive Heart Failure	86.0	--	289.9	277.4	250.4
COPD or Asthma in Older Adults	39.5	--	232.9	195.9	119.5
Community Acquired Pneumonia	32.1	--	169.8	147.6	85.0
Diabetes	44.3	--	188.4	155.4	141.5
Urinary Tract Infection	15.1	--	77.7	74.2	74.5
Hypertension	--	--	--	33.3	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 ESRI. See Appendix B: 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 the study region. Focusing first on hospitalizations, **Exhibit 3.14** shows that study region residents had 600 discharges from Virginia community hospitals for behavioral health conditions in 2018. The leading causes of hospitalization were major depressive disorder - recurrent (142), alcohol related disorders (90), bipolar disorder (88), major depressive disorder - single episode (64), and schizoaffective disorders (39).

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

Indicator	Culpeper	Madison	Orange	Study Region Total	Virginia
Counts-Discharges by Leading Diagnosis					
Total BH Discharges by All Diagnoses	247	63	290	600	66,201
Major depressive disorder, recurrent	56	6	80	142	16,253
Alcohol related disorders	44	7	39	90	8,386
Bipolar disorder	38	8	42	88	9,985
Major depressive disorder, single episode	26	7	31	64	6,506
Schizoaffective disorders	17	8	14	39	6,026
Reaction to severe stress, and adjustment disorders	14	6	19	39	3,031
Unspecified mood [affective] disorder	12	4	15	31	1,963
Persistent mood [affective] disorders	9	1	11	21	1,634
Schizophrenia	13	3	5	21	3,082
Opioid related disorders	5	4	3	12	1,425
Unspecified psychosis not due to a substance or known physiological condition	2	1	6	9	1,129
Other anxiety disorders	2	4	3	9	712
Other psychoactive substance related disorders	2	0	4	6	990
Unspecified dementia	0	1	2	3	659
Rates- Crude Rate Per 100,000 Population					
Total BH Discharges	476.3	473.9	791.4	589.4	777.2
Major depressive disorder, recurrent	108.0	--	218.3	139.5	190.8
Alcohol related disorders	84.8	--	106.4	88.4	98.5
Bipolar disorder	73.3	--	114.6	86.4	117.2
Major depressive disorder, single episode	--	--	84.6	62.9	76.4
Schizoaffective disorders	--	--	--	38.3	70.7
Reaction to severe stress, and adjustment disorders	--	--	--	38.3	35.6
Unspecified mood [affective] disorder	--	--	--	30.5	23.0
Persistent mood [affective] disorders	--	--	--	--	19.2
Schizophrenia	--	--	--	--	36.2
Opioid related disorders	--	--	--	--	16.7
Unspecified psychosis not due to a substance or known physiological condition	--	--	--	--	13.3
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 B: Data Sources for details

Exhibit 3.15 shows indicators of adult mental health and substance use for each county and the study region. 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.

Among an estimated 81,760 adults age 18+ in the study region, 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
Estimated Prevalence of Adult Mental Health and Substance Use (2020 Estimates)

Indicator		Culpeper	Madison	Orange	Study Region Total	Virginia
Estimated Counts						
Total Estimated Adults age 18+		40,591	11,065	30,104	81,760	6,826,775
Behavioral Health	One or more days of poor mental health in the past 30 days	11,771	3,209	8,730	23,710	2,389,371
	Any Mental Illness in the Past Year	7,631	2,080	5,660	15,371	1,283,434
	Received Mental Health Services in the Past Year	6,292	1,715	4,666	12,673	1,058,150
	Major Depressive Episode in the Past Year	2,760	752	2,047	5,560	464,221
	Serious Mental Illness in the Past Year	1,624	443	1,204	3,270	273,071
Substance Use	Substance Use Disorder in the Past Year	3,166	863	2,348	6,377	532,488
	Needing but Not Receiving Treatment at a Specialty Facility for Substance Use in the Past Year	3,004	819	2,228	6,050	505,181
	Alcohol Use Disorder in the Past Year	2,354	642	1,746	4,742	395,953
	Illicit Drug Use Disorder in the Past Year	1,137	310	843	2,289	191,150
Estimated Rates						
Behavioral Health	One or more days of poor mental health in the past 30 days	29%	29%	29%	29%	35%
	Any Mental Illness in the Past Year	19%	19%	19%	19%	19%
	Received Mental Health Services in the Past Year	16%	16%	16%	16%	16%
	Major Depressive Episode in the Past Year	7%	7%	7%	7%	7%
Substance Use	Serious Mental Illness in the Past Year	4%	4%	4%	4%	4%
	Substance Use Disorder in the Past Year	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%
	Alcohol Use Disorder in the Past Year	6%	6%	6%	6%	6%
	Illicit Drug Use Disorder in the Past Year	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 B: 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 estimates to 2020 local demographics for the study region. They are subject to error and presented for planning purposes only.

Among an estimated 19,926 study region 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 7,911 study region 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
Estimated Prevalence of Child and Youth Mental Health and Substance Use (2020 Estimates)

Indicator		Culpeper	Madison	Orange	Study Region Total	Virginia
Estimated Counts - Population						
	Total Estimated Children Age 3-17	10,842	2,438	6,646	19,926	1,565,040
	Total Estimated Child Age12-17	4,305	981	2,625	7,911	628,758
Behavioral Health (Age 3-17)	ADD or ADHD	1,052	236	645	1,933	151,809
	Anxiety problems	748	168	459	1,375	107,988
	Depression	358	80	219	658	51,646
	Behavioral or conduct problems	748	168	459	1,375	107,988
	Speech or other language disorder	672	151	412	1,235	97,032
	Learning Disability	705	158	432	1,295	101,728
	Other mental health condition	520	117	319	956	75,122
	Autism or Autism Spectrum Disorder	347	78	213	638	50,081
Substance Use (Age 12-17)	Substance Use Disorder in the Past Year	155	35	95	285	22,635
	Needing but Not Receiving Treatment at a Specialty Facility for Substance Use in the Past Year	155	35	95	285	22,635
	Illicit Drug Use Disorder in the Past Year	112	26	68	206	16,348
	Alcohol Use Disorder in the Past Year	82	19	50	150	11,946

continued

Exhibit 3.16
Estimated Prevalence of Child and Youth Mental Health and Substance Use (2020 Estimates)

Estimated Counts – Mental Health and Substance Use						
Behavioral Health (Age 3-17)	ADD or ADHD	10%	10%	10%	10%	10%
	Anxiety problems	7%	7%	7%	7%	7%
	Depression	3%	3%	3%	3%	3%
	Behavioral or conduct problems	7%	7%	7%	7%	7%
	Speech or other language disorder	6%	6%	6%	6%	6%
	Learning Disability	7%	7%	7%	7%	7%
	Other mental health condition	5%	5%	5%	5%	5%
	Autism or Autism Spectrum Disorder	3%	3%	3%	3%	3%
Substance Use (Age 12-17)	Substance Use Disorder in the Past Year	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%
	Illicit Drug Use Disorder in the Past Year	3%	3%	3%	3%	3%
	Alcohol Use Disorder in the Past Year	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 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 geographic 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=159)				
45 Elderly Population	32 Low Income Population	31 Minority Population	26 Child Population	21 People with Behavioral Health Concerns
Most Frequently Identified Popuilations in the Survey of Community Professionals (n=39)				
13 Elderly Population	8 People with Behavioral Health Concerns	7 Minority Population	6 Low Income Population	5 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

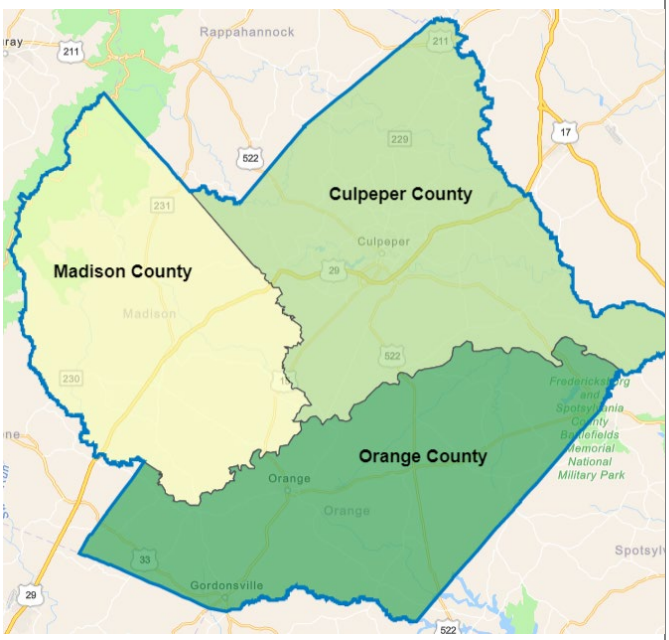
B. Community Mapping of SDoH Indicators

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 $71,307 in Orange 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 $87,367. The lighter census tracts are the areas with the lowest median household income.

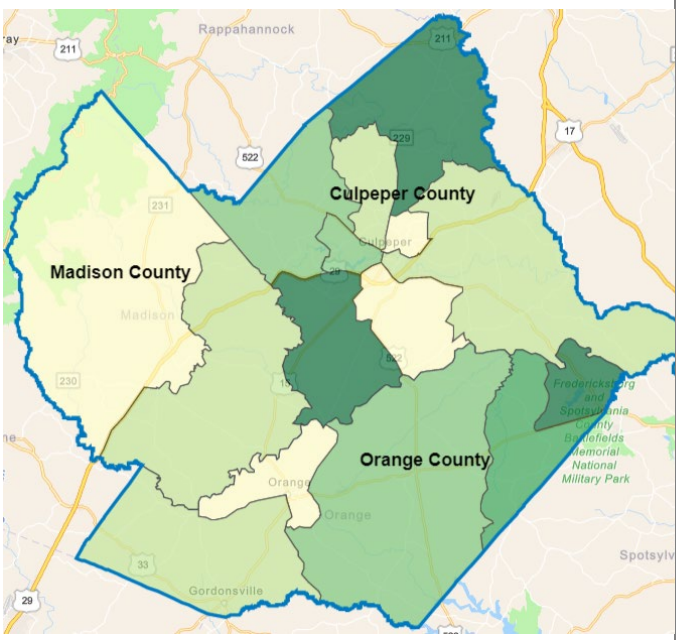
Exhibit 4.2
Median Household Income (2020 Estimates)

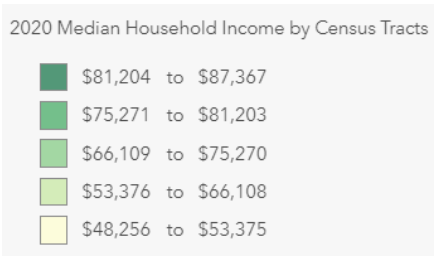
County View



2020 Median Household Income	
Culpeper County	$67,696
Madison County	$53,162
Orange County	$71,307

Census Tract View



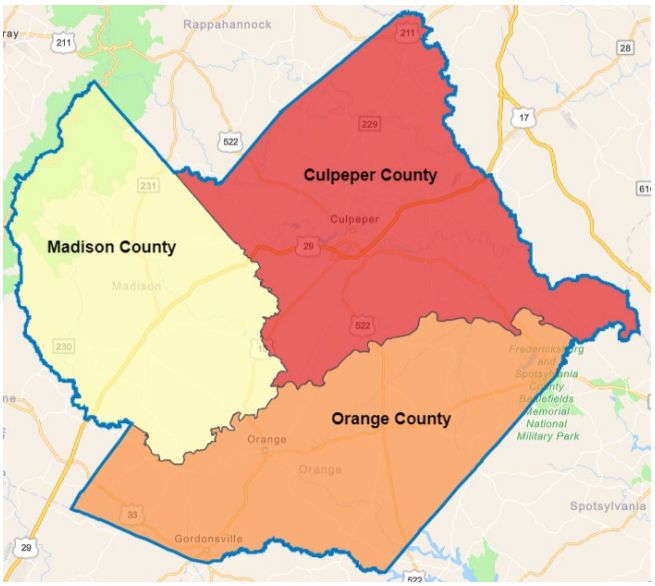


Source: CHS analysis of estimates provided by ESRI using ArcGIS Business Analyst software.

Exhibit 4.3 shows the estimated number of households with income below poverty as of 2018. The county view shows a total of 1,715 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.

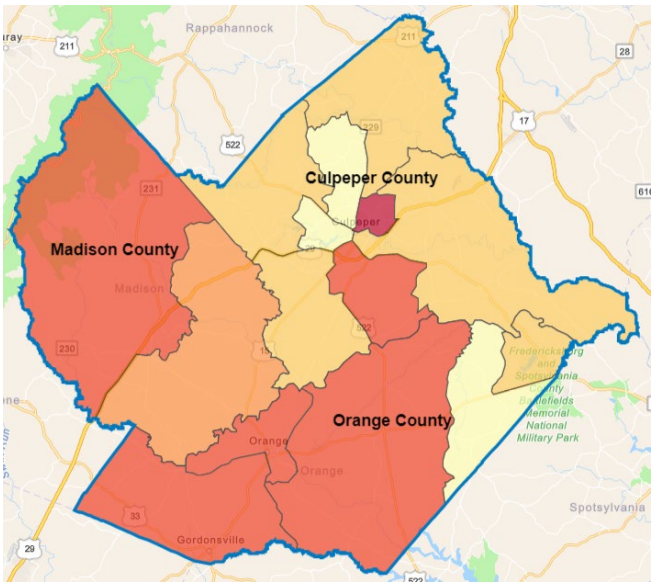
Exhibit 4.3
Number of Households with Income Below Poverty (2018 Estimates)

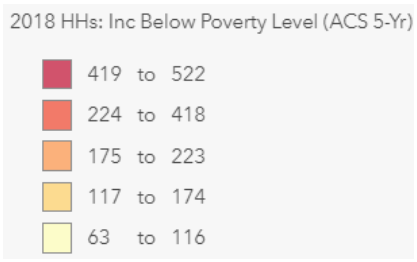
County View



2018 Households Below Poverty Level	
Culpeper County	1,521
Madison County	490
Orange County	1,073
Total	3,084

Census Tract View



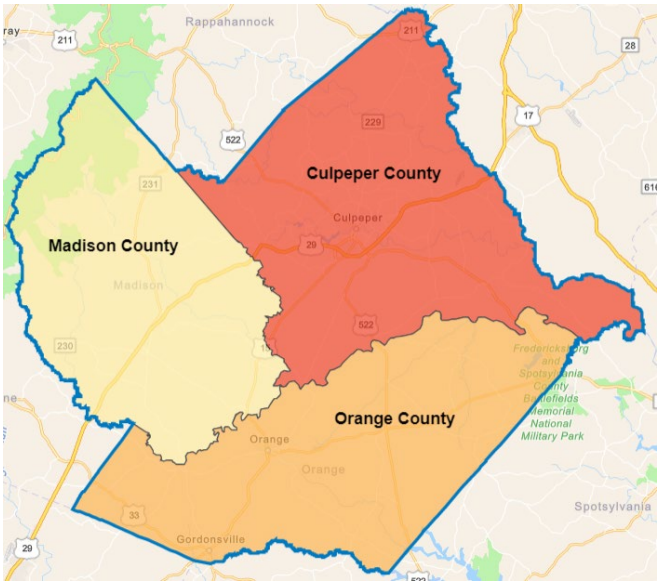


Source: CHS analysis of estimates provided by ESRI using ArcGIS Business Analyst software.

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 27,727 minority residents in the study region as a whole, along with the county-level figures. The census tract view shows where minority residents reside within counties and across the region.

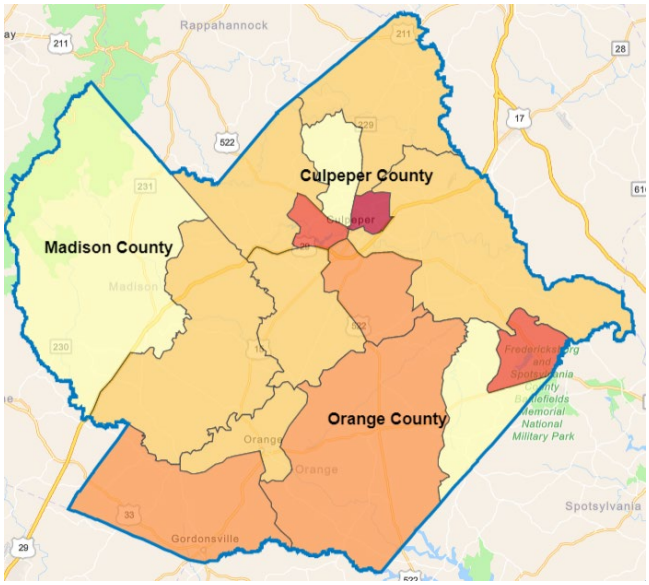
Exhibit 4.4
Number of Minority Residents (2020 Estimates)

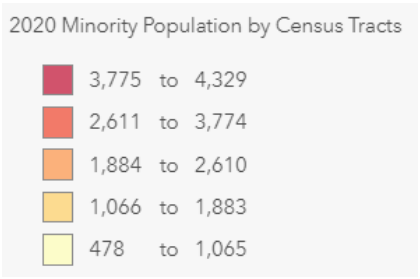
County View



2020 Number of Minority Residents	
Culpeper County	16,604
Madison County	2,220
Orange County	8,903
Total	27,727

Census Tract View



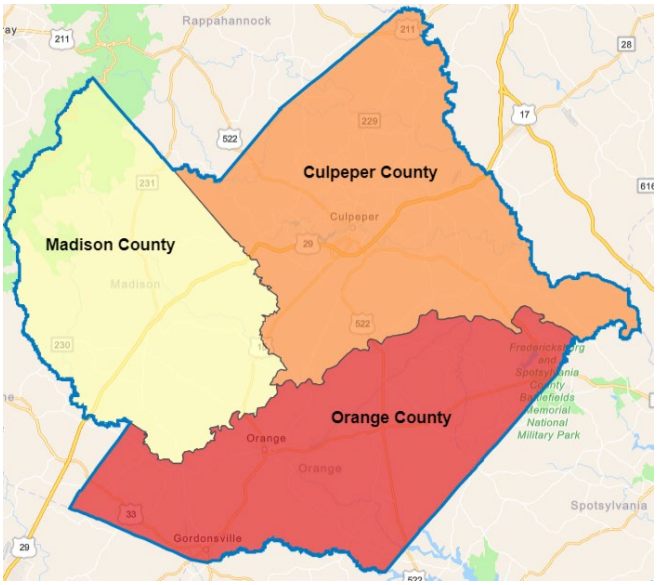


Source: CHS analysis of estimates provided by ESRI using ArcGIS Business Analyst software.

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 10,179 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.

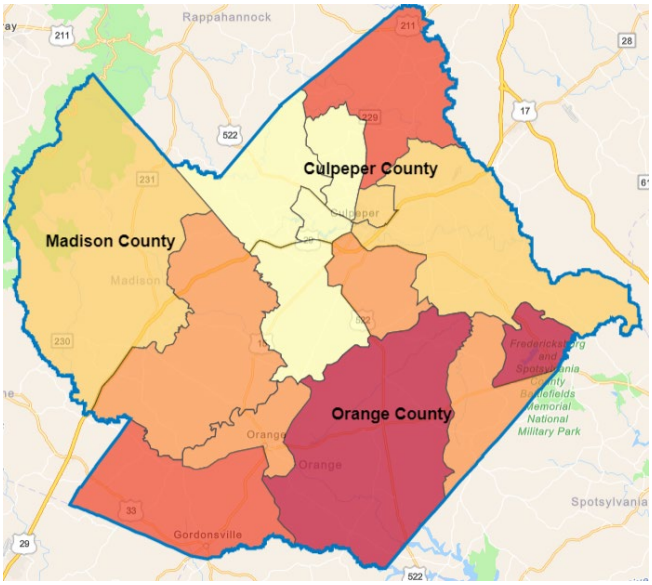
Exhibit 4.5
Households with 1+ Persons with Disability (2018 Estimates)

County View



2018 Households with 1+ Persons with a Disability	
Culpeper County	4,296
Madison County	1,214
Orange County	4,669
Total	10,179

Census Tract View

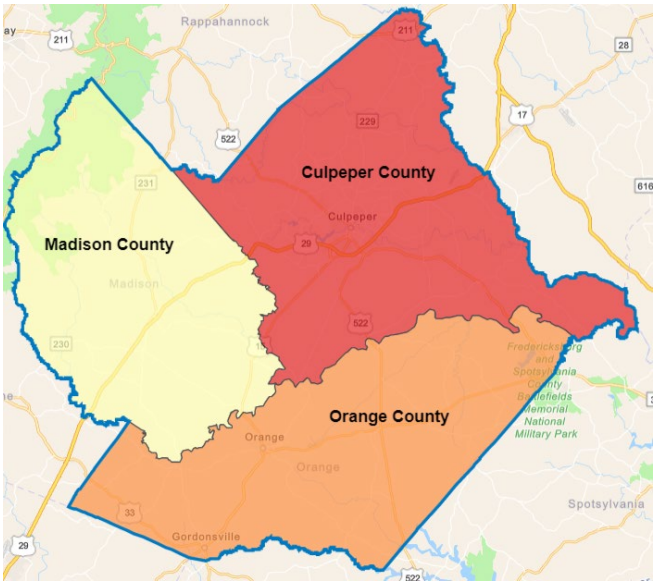


Source: CHS analysis of estimates provided by ESRI using ArcGIS Business Analyst software.

Exhibit 4.6 shows the estimated population age 65+ as of 2020. The county view shows there are an estimated 19,701 residents age 65+ in the study region as a whole, along with county-level figures. The census tract view shows where the population age 65+ resides within counties and across the region.

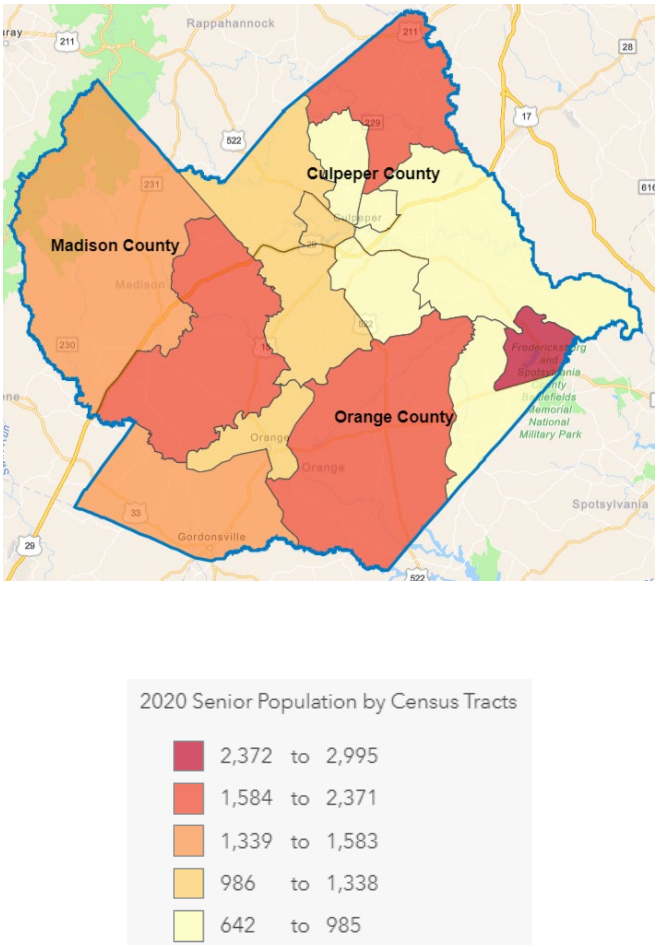
Exhibit 4.6
Population Age 65+ (2018 Estimates)

County View



2018 Senior Population Age 65+	
Culpeper County	8,470
Madison County	3,048
Orange County	8,183
Total	19,701

Census Tract View



Source: CHS analysis of estimates provided by ESRI using ArcGIS Business Analyst software.

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).