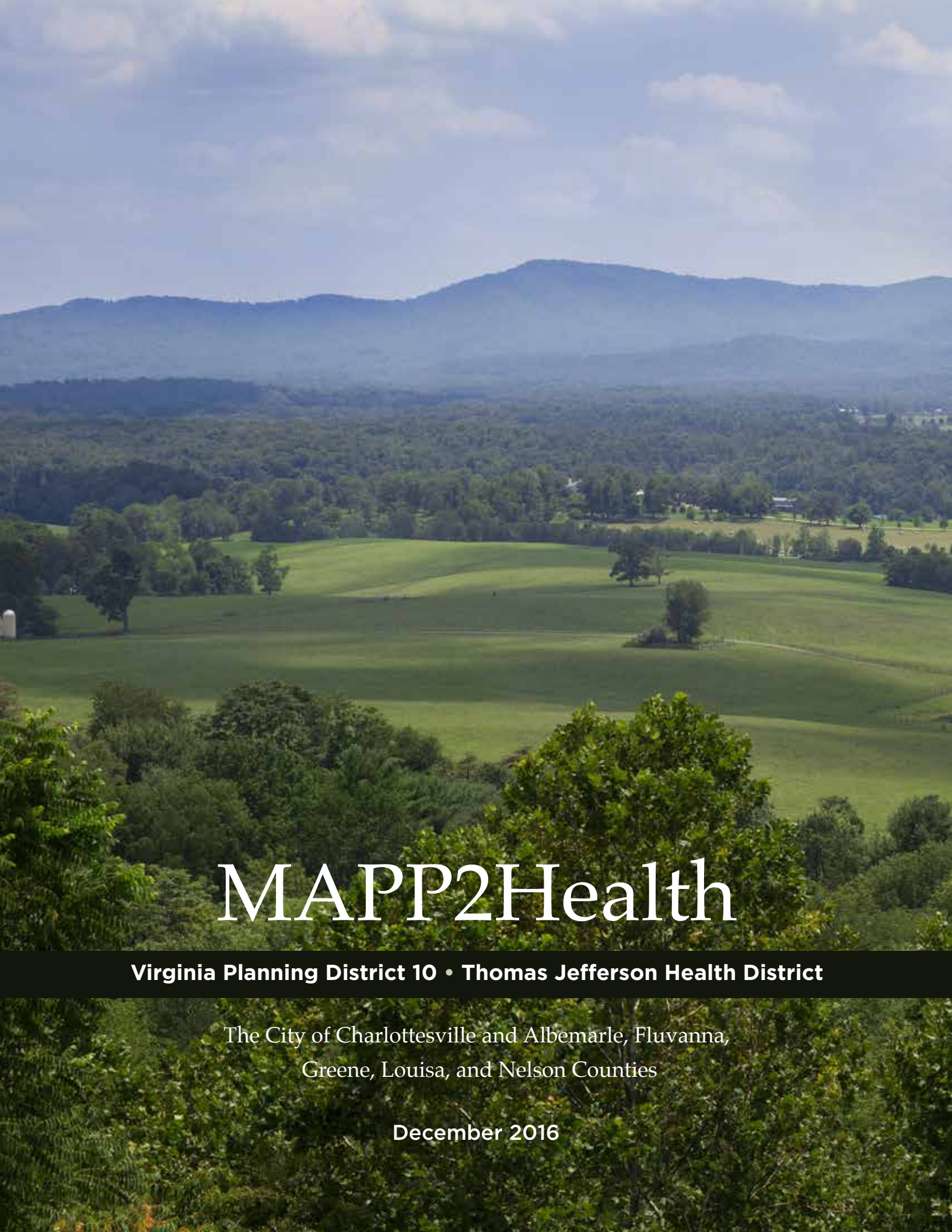


MAPP2Health

Virginia Planning District 10 • Thomas Jefferson Health District

The City of Charlottesville and Albemarle, Fluvanna,
Greene, Louisa, and Nelson Counties

December 2016

MAPP2Health

Table of Contents

Executive Summary

MAPP2Health Overview

Many factors influence a community's health including individual health behaviors and genes/biology, social, economic, and environmental conditions, and healthcare—both access to care and service delivery by private, nonprofit, and governmental agencies. Assessing our own community's health is critical for understanding our community's strengths and opportunities for improvement so that a healthy, connected, vibrant, and overall, well, community results.

The Centers for Disease Control and Prevention (CDC) and the National Association of City and County Health Officials (NACCHO) developed the *Mobilizing for Action through Planning and Partnerships* (MAPP) strategic framework to engage community stakeholders, key organizations, and citizens to come together to review health indicators and determine community health priorities for focus and improvement. Agencies serving communities within Virginia's Planning District 10 (PD10), also referred to as the Thomas Jefferson Health District (TJHD), have utilized the MAPP framework since 2008 to review health outcomes and align resources. In September 2015, a third round of the MAPP process launched to assess progress on the priority areas identified within the 2012 MAPP2Health Report and to identify whether new priority areas were needed.

Community Health Assessment (CHA) Councils convened within each PD10 locality—Albemarle/Charlottesville (combined), Fluvanna, Greene, Louisa, and Nelson—and included representatives from local governments, schools, community agencies, colleges, nonprofits, and healthcare organizations. The MAPP2Health Leadership Council (the Leadership Council) included a variety of public and private agencies serving the entire PD10, representatives from each locality CHA Council, community members, and the four coalitions working to address priority areas identified in the 2012 MAPP2Health Report. Overall, 105 community partners and 10 community coalitions participated in the MAPP process from September 2015–December 2016 to review and discuss collected quantitative and qualitative data, recommend other data that should be collected, and develop a Community Health Improvement Plan for inclusion in the 2016 MAPP2Health Report (Figure 1).

Key Findings

The current MAPP2Health Report was developed as a call to action for PD10 organizations and residents to work collaboratively to leverage existing resources, access new resources, and strategically implement interventions that will improve community health outcomes

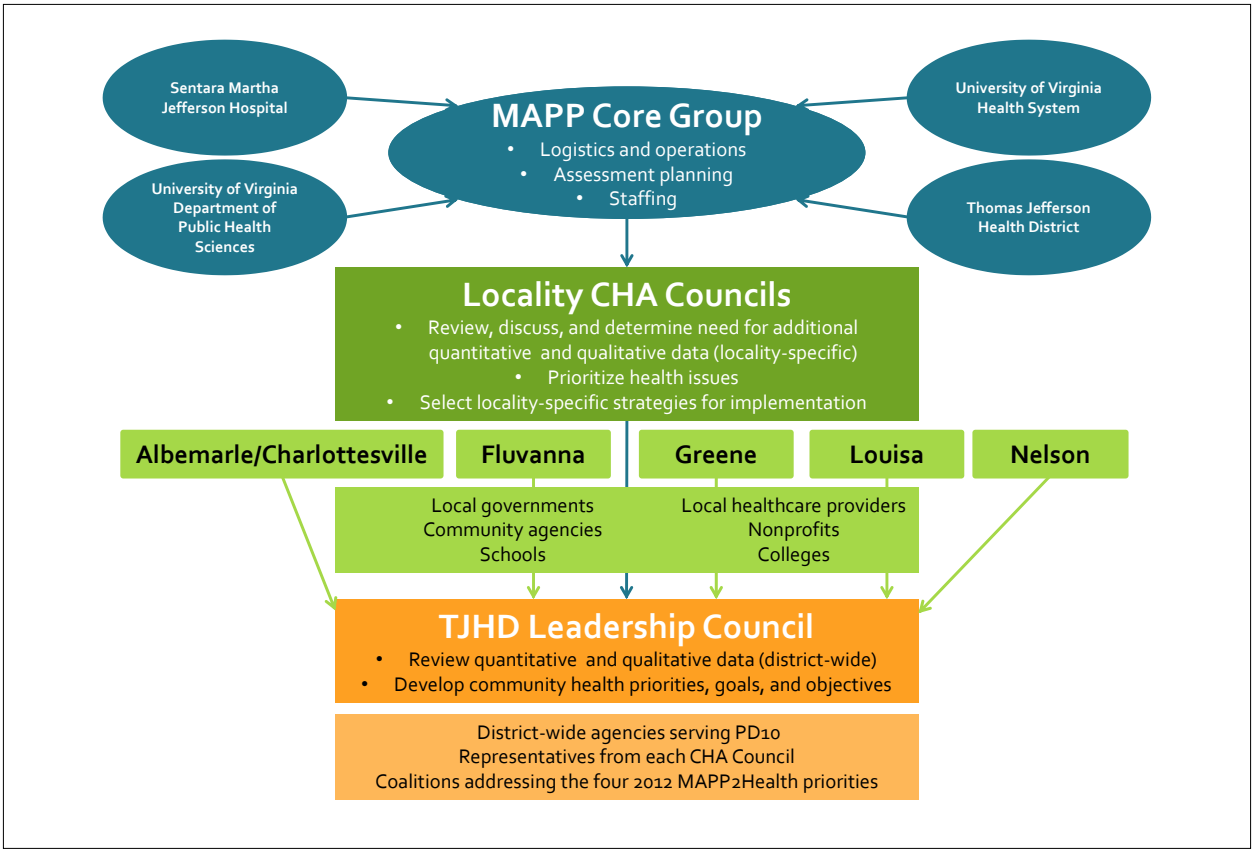


Figure 1 | MAPP2Health Structure, TJHD, 2015–2016. Source: Thomas Jefferson Health District, 2016.

across the selected community health priorities. Collectively, the 105 community partners and 10 community coalitions that came together to assess the community's health through the MAPP process completed four assessments—the Local Public Health System Assessment (LPHSA), the Forces of Change Assessment (FOCA), the Community Health Assessment (CHA), and the Community Themes and Strengths Assessment (CTSA). To complete the CHA, councils reviewed approximately 140 indicators comparing local data to state and national standards and benchmarks. Council members at all levels of the MAPP process provided input and feedback on the development of the CTSA which ultimately reached 2,885 residents.

After extensive review of these qualitative and quantitative data and with recommendations from the CHA Councils, the Leadership Council identified four district-wide community health priorities and goals:

- **Promote Healthy Eating and Active Living**

  Goal: Increase access to healthy foods and recreation through education, advocacy, and evidence-based programming.

- **Address Mental Health and Substance Use**

  Goal: Improve capacity to provide culturally and linguistically appropriate mental health and substance abuse prevention and treatment services.

- **Improve Health Disparities and Access to Care**

  Goal: Increase health equity and narrow the gap for health conditions through outreach and education to health care providers and community members.

- **Foster a Healthy and Connected Community**

  Goal: Increase well-being across the lifespan by supporting education, prevention, advocacy, and evidence-based programming.

While the selected community health priority areas and goals are district-wide, strategies for community implementation were selected by each locality CHA Council, with recognition that each CHA Council was best positioned to select effective strategies for its specific locality. Strategy development at the locality level was critical to remain true to the community's strengths and opportunities for improvement and leveraged locality-specific knowledge about existing resources, services, organizations, and collaborations in addition to any other forces that could positively or negatively impact success.

Next Steps

As the population in TJHD grows, new challenges arise in achieving and maintaining health and well-being. In many cases, organizations and partnerships within PD10 have already made substantial improvements in community health through new programs, campaigns, laws, and community coalition work. Despite the many successes, promoting healthy eating and active living, addressing mental health and substance use, improving health disparities and access to care, and fostering a healthy and connected community continue to affect the quality of health and the quality of life in our community. It is in these areas that the community is called to turn its focus to collaboratively brainstorm new approaches and strategies to make measureable gains in improving health.

Progress cannot be made without the support of the entire community. Council members at all levels of the process encourage community members to get involved in any way they can—from volunteering to serve on a community coalition to making a small change toward healthier eating and more active living. Between 2017 and 2019, partner agencies and community coalitions will continue to work toward these community goals and objectives with support from community partners and the agencies engaged in the MAPP process. The Leadership and CHA Councils will meet to review data, evaluate progress, and discuss any potential changes needed in strategic approaches.

This report and other downloadable content are available online at *www.tjhd.org*.

Overview

Introduction

Many factors influence a community's health including individual health behaviors and genes/biology, access to care, healthcare service delivery, and the social determinants of health—"the conditions in which people are born, grow, work, live, and age, and the wider set of forces and systems shaping the conditions of daily life."[1] Assessing our own community's health is critical for understanding our community's strengths and opportunities for improvement so that a healthy, connected, vibrant, equitable, and overall, well, community results.

Beginning in September 2015, Sentara Martha Jefferson Hospital (SMJH), the Thomas Jefferson Health District (TJHD), the University of Virginia's Department of Public Health Sciences (UVA DPHS), and the University of Virginia's Health System (UVA HS) (collectively, the MAPP Core Group) began collaborating to prepare for the launch of a third round of community health assessment and health improvement planning. Utilizing the *Mobilizing for Action through Planning and Partnerships* (MAPP) strategic framework, developed by the Centers for Disease Control and Prevention (CDC) and the National Association of City and County Health Officials (NACCHO), the MAPP Core Group committed to engaging community stakeholders, key organizations, and citizens to come together to review health indicators and determine community health priorities for focus and improvement.

Community Overview

Virginia's Planning District 10 (PD10), also known as the Thomas Jefferson Health District (TJHD), is comprised of the City of Charlottesville and Albemarle, Fluvanna, Greene, Louisa, and Nelson Counties (Figure 1). It includes 247,084 individuals[2] living in urban, suburban, and rural environments. The urban ring of Charlottesville and Albemarle is the economic and cultural hub of TJHD, and many residents from the surrounding counties commute there for work, healthcare, shopping, and entertainment.

MAPP Background

2008 Community Health Status Assessment in Charlottesville and Albemarle

The MAPP process was first initiated in 2007 in the City of Charlottesville and Albemarle County. A steering committee of leaders from a wide array of organizations was established to plan and implement MAPP. After a year of engaged review, analysis, and discussion of data, five goals were recommended:

1. **Reduce the prevalence of tobacco use and obesity**

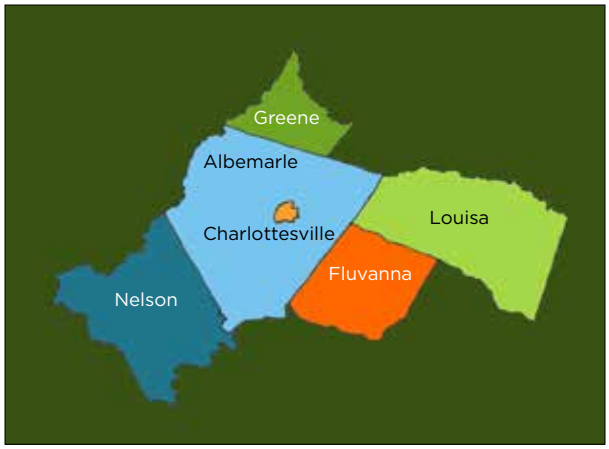


Figure 1 | Thomas Jefferson Health District. Source: The Oak Hill Fund, 2016.

2. **Improve mental health and ensure access to appropriate quality mental health services**
3. **Reduce substance abuse to protect health, safety, and quality of life for all**
4. **Reduce the infant mortality rate**
5. **Reduce the disparity between white and black infant mortality**

Two existing community groups, the Childhood Obesity Taskforce (COTF) and the Charlottesville Free Clinic's Tobacco Cessation Committee, were encouraged to move forward to address the first goal. The Community Mental Health and Wellness Coalition (CMHWC) was organized to address the second and third goals, and the Improving Pregnancy Outcomes Workgroup (IPO) was established to address the fourth and fifth goals. The 2008 MAPP Community Health Status Assessment Technical Report was disseminated throughout the community and resulted in review, discussion, program initiation, and support in seeking funding by many entities in the community. Successes of the first MAPP assessment included the development of a collaborative platform to address community health, the development of community-wide health goals, and progress towards stronger coalitions to address mental health and pregnancy outcomes.

2012 TJHD MAPP2Health

In July 2011, MAPP2Health was launched to capitalize on the successes and to address the shortfalls of the first MAPP process—namely, that the previous assessment focused primarily on Charlottesville and Albemarle and lacked a Community Health Improvement Plan with measurable outcomes. The Jefferson Area Board for Aging (JABA), Martha Jefferson Hospital, Region Ten Community Services Board, TJHD, and UVA DPHS partnered to extend the MAPP effort to encompass all six localities in TJHD. This included forming the MAPP2Health Leadership Council to provide guidance to the process and to develop a plan with measurable outcomes. To achieve locality-level input and engagement, Community Health Assessment (CHA) Councils were established in each TJHD locality either through an existing interagency council of health and human services organizations (Fluvanna, Greene, and Nelson) or as a new entity (Charlottesville/Albemarle and Louisa). The CHA Councils included representatives from local governments, schools, community agencies, colleges, nonprofits and healthcare organizations.

In total, representatives from 61 agencies that serve TJHD came together to assess the community's health. In addition to quantitative data review, input was also gathered from more than 2,000 TJHD residents through surveys and

in-depth conversation in locality-specific focus groups. These assessments informed the development of four priority issues:

1. **An increasing rate of obesity**
2. **Insufficient access to mental health and substance abuse services for segments of the population**
3. **Late and insufficient prenatal care and racial disparities in pregnancy outcomes**
4. **Tobacco use above the Healthy People 2020 goal**

The lead organizations for each priority, respectively, were the Community Action on Obesity, the Community Mental Health and Wellness Coalition, the Improving Pregnancy Outcomes Workgroup, and the PD10 Tobacco Use Control Coalition. The 2012 MAPP2Health Report was disseminated via email, print, and online distribution throughout the community and again generated discussion, programming, and funding to support implementation. Successes of the second MAPP assessment included the development of district-wide community health priority issues and goals with measurable objectives, annual updates on progress within each priority area to the Leadership Council, and continued progress and engagement through community coalitions and partners to address these priority issues.

Figure 2 shows the MAPP logos from the 2008 and 2012 reports, respectively.

Figure 2 | 2008 and 2012 MAPP Logos. Source: Thomas Jefferson Health District, 2016.

2016 PD10 • TJHD MAPP2Health

Framework

The MAPP strategic framework includes the steps of organizing and partnership development, visioning, assessment, identifying strategic issues (hereafter referred to locally as "community health priorities"), formulating goals and strategies, and taking action. The four assessments that frame MAPP are the Local Public Health System Assessment (LPHSA), the Community Health Status Assessment (CHA), the Forces of Change Assessment (FOCA), and the Community Themes and Strengths Assessment (CTSA). The community health priorities, goals, objectives, and strategies collectively form the Community Health Improvement Plan (CHIP) that is implemented and evaluated. The MAPP model, shown in Figure 3, provides an illustrative schematic of the process.

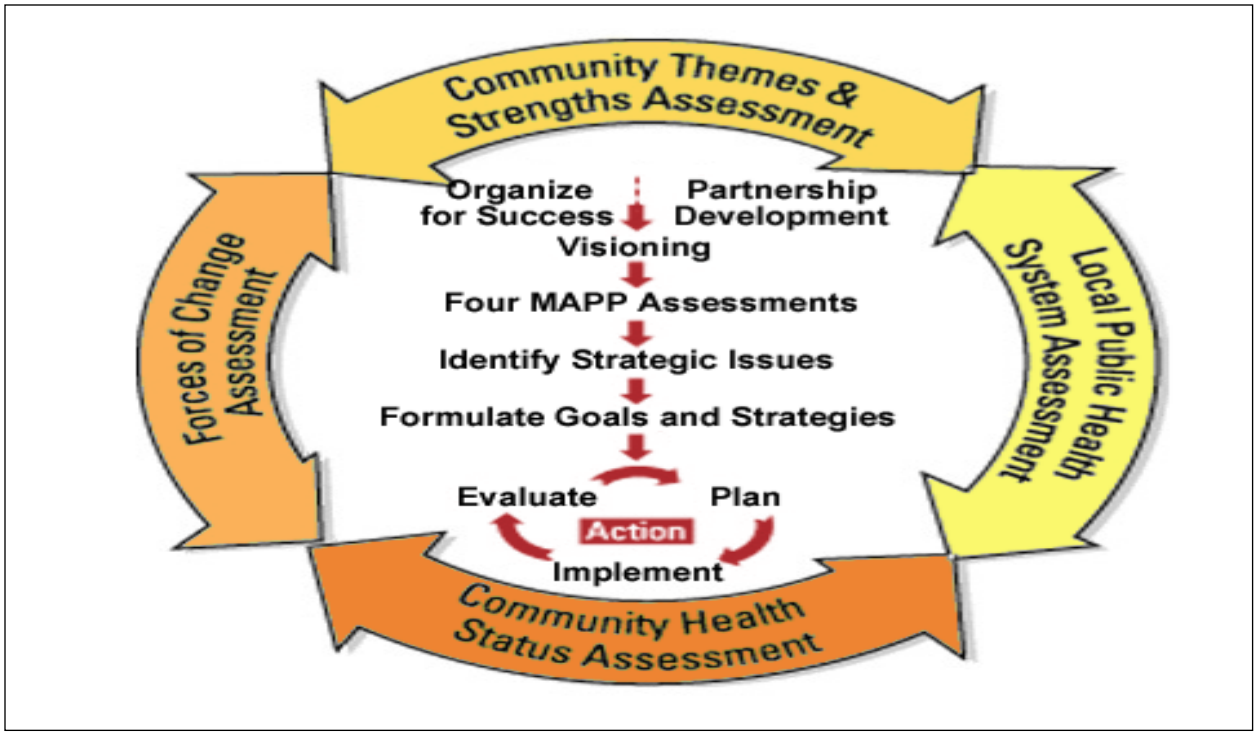


Figure 3 | 2008 and 2012 MAPP Logos. Source: Thomas Jefferson Health District, 2016.

Council Structure

The current round of MAPP2Health utilized a structure similar to that of the previous round. The MAPP Core Group provided staffing, logistics and operations, and planning for the four assessments and council meetings. The Leadership Council included a variety of public and private agencies that serve the entire PD10, representatives from each locality CHA Council, community members, and representation from the four coalitions working to address the priority areas identified in the 2012 MAPP2Health Community Health Improvement Plan. The Leadership Council met six times and participated in visioning, completed the LPHSA and FOCA, reviewed district-wide CHA and CTSA data, and guided the development of the Community Health Improvement Plan. The locality-specific CHA Councils were re-engaged either through partnership with an existing interagency council of health and human services organizations (Fluvanna Interagency Council, Greene Agencies Coming Together, and Nelson Interagency Council) or as a separate entity (Charlottesville/Albemarle CHA Council and Louisa CHA Council). The CHA Councils included representatives from local governments, schools, community agencies, colleges, nonprofits and healthcare organizations and met monthly to review locality-specific CHA and CTSA data, consider the FOCA results, recommend community health priorities, and select strategies for inclusion in the Community Health Improvement Plan (Figure 4). Overall, [10] community coalitions, councils, and/or workgroups and 105 community partners including umbrella organizations and agencies as well as specific departments, divisions, and locality-

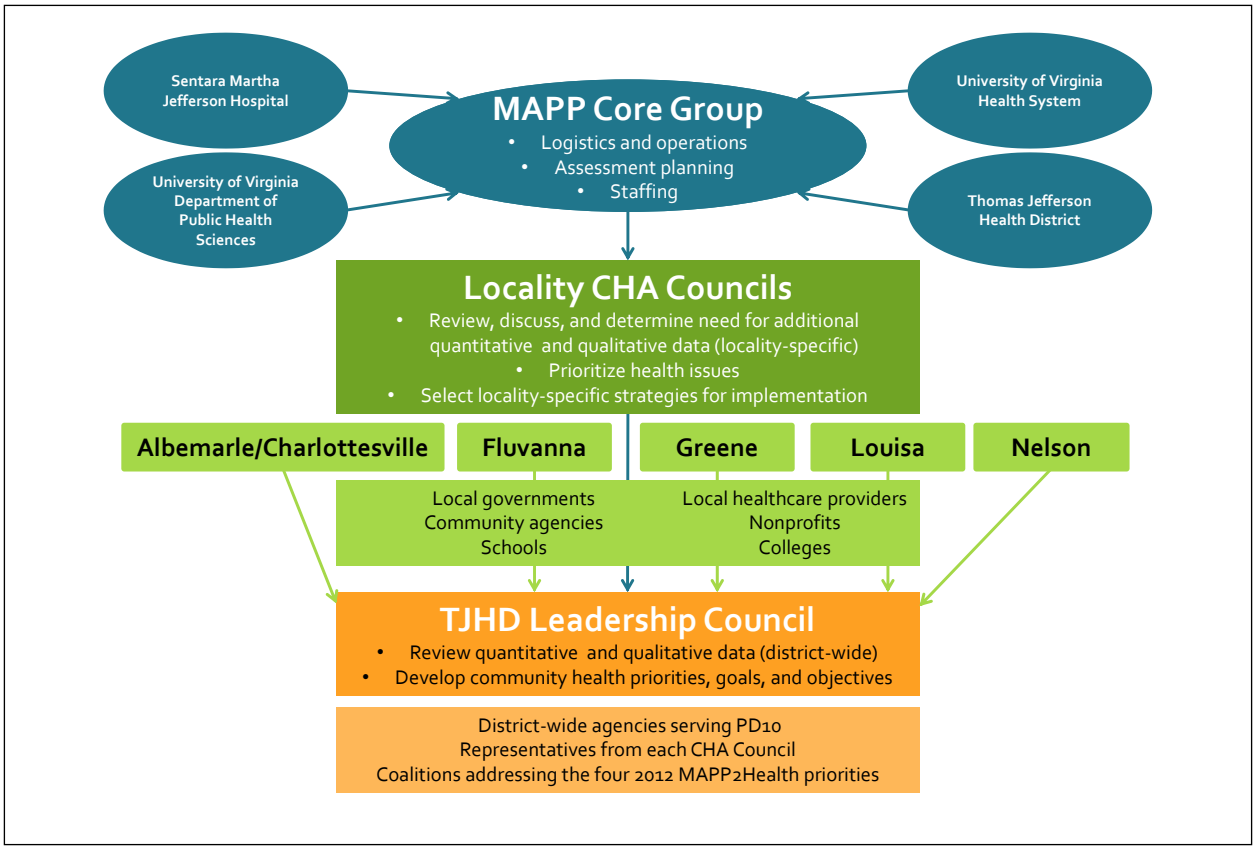


Figure 4 | MAPP2Health Structure, TJHD, 2015–2016. Source: Thomas Jefferson Health District, 2016.

level offices participated in the Leadership and CHA Councils.

MAPP2Health Assessment Process and Timeline

Organizing to initiate the MAPP process began in September 2015 and subsequent assessment, review, and development of the Community Health Improvement Plan, or MAPP2Health, concluded in December 2016 (Figure 5). In September 2015, TJHD hosted a NACCHO MAPP training for MAPP partners as well as representatives from other health departments in Virginia. On November 30, 2015, the MAPP Core Group held a reception to re-engage the Leadership Council and launch the third round of MAPP community health assessment and health improvement planning. During the meeting, participants reviewed the MAPP framework and timeline, discussed the 10 Essential Public Health Services and visualized PD10 system connectedness through a yarn and sticky-wall activity, and began MAPP visioning (*see Section IV of this report for the complete Local Public Health System Assessment*). In the following months, the locality CHA Council members also participated in the visioning exercise so that the MAPP Core Group could develop a vision statement with input from each of the counties within the district. The vision statement the community developed for the MAPP process was **"Together we support equitable access to resources for a healthy, safe community"** (Figure 6). The values the community committed to uphold during the

	09-'15	10-'15	11-'15	12-'15	01-'16	02-'16	03-'16	04-'16	05-'16	06-'16	07-'16	08-'16	09-'16	10-'16	11-'16	12-'16
Hold NACCHO MAPP training																
Hold initial locality council meetings																
Continue locality CHA meetings																
Collect/present quantitative data																
Plan for qualitative research																
Conduct qualitative research																
Determine health priorities																
Write community profile																
Hold TJHD CHIP meetings																
Complete CHIP																
Disseminate profile and CHIP																

Figure 5 | MAPP2Health Timeline, TJHD, 2015–2016. Source: Thomas Jefferson Health District, 2016.

Figure 6 | MAPP2Health Vision, TJHD, 2015–2016. Source: Sentara Martha Jefferson Hospital, 2016.

MAPP process included **teamwork, accountability, inclusivity, and respect.**

Throughout 2016, the CHA Councils reviewed locality-specific quantitative and qualitative data, while the Leadership Council reviewed district-wide data. The CHA included review of quantitative data indicators to help answer three questions: (1) Who comprises the community, and what do community members bring to the table? (2) What are the strengths and risk factors in the community that contribute to health? and (3) What is the status of health in the community? (*see Section V of this report for the complete Community Health Assessment*). The FOCA was conducted during the Leadership Council's May 18, 2016 meeting (see Section VI of this report for the complete Forces of Change Assessment), and results were shared with each CHA Council. To obtain feedback from community members, a

three-question survey was distributed between May 7, 2016 and June 12, 2016. The survey team reached community members by offering the survey in multiple languages, at various community events, through partner sites, and online. In total, 2,885 PD10/TJHD residents completed the survey. Survey results were shared with the CHA Councils and the Leadership Council (*see Section VII of this report for the complete Community Themes and Strengths Assessment*).

After reviewing the qualitative and quantitative data through the framework of the four MAPP assessments, the CHA Councils each selected their top five locality-specific health priorities. The Leadership Council reviewed these recommendations and identified four district-wide community health priorities with corresponding goals and objectives. The CHA Councils selected strategies for their individual localities to implement in order to improve health across the four selected priorities (*see Section III of this report for the complete Community Health Improvement Plan*).

Next Steps: 2016 Community Health Improvement Plan

As the population in TJHD grows, new challenges arise in achieving and maintaining health and well-being. In many cases, organizations and partnerships within PD10 have already made substantial improvements in community health through new programs, campaigns, laws, and community coalition work. Despite the many successes, promoting healthy eating and active living, addressing mental health and substance use, improving health disparities and access to care, and fostering a healthy and connected community continue to affect the quality of health and the quality of life in our community. It is in these areas that the community is called to turn its focus to collaboratively brainstorm new approaches and strategies to make measureable gains in improving health.

Progress cannot be made without the support of the entire community. Council members at all levels of the process encourage community members to get involved in any way they can—from volunteering to serve on a community coalition to making a small change toward healthier eating and more active living. Between 2017 and 2019, partner agencies and community coalitions will continue to work toward these community goals and objectives with support from community partners and the agencies engaged in the MAPP process. The Leadership and CHA Councils will continue to meet to review data and actions taken, evaluate progress, and discuss any potential changes needed in strategic approaches.

Endnotes

[1] World Health Organization. (2016). Social Determinants of Health. Retrieved November 21, 2016 from *http://www.who.int/social_determinants/en/*

[2] U.S. Census Bureau. (2016). Annual Estimates of the Resident Population for Selected Age Groups by Sex for the United States, States, Counties and Puerto Rico Commonwealth and Municipios: April 1, 2010 to July 1, 2015. Retrieved August 2, 2016 from *https://www.census.gov/popest/data/counties/asrh/2015/index.html*

2016 Community Health Improvement Plan

Methods

The MAPP Core Group contracted The Planning Council (TPC), a consultant agency, to serve as a facilitator in the development of community health priorities, goals, objectives, and strategies for inclusion in the Community Health Improvement Plan. After extensive review of the qualitative and quantitative data, each locality Community Health Assessment (CHA) Council selected five priority areas using a "blue dot" voting method (three stickers per council member). TPC ranked the proposed priority areas for each locality and shared this information with all CHA Councils at subsequent meetings (Table 1). Council members were advised to select priorities and discuss goals that must be addressed to achieve the MAPP2Health vision—**"together we support equitable access to resources for a healthy, safe community."** TPC and the MAPP Core Group created a visual representation showing broader commonalities across each of the localities; these results were shared with the Leadership Council on October 19, 2016 to select overarching district-wide priorities and goals (Table 2).

Results

As the MAPP process was designed to maximize community engagement and particularly, locality participation, the priorities, goals, objectives, and strategies reflect this diverse community input from partners engaged across the district. The Leadership Council, with recommendations from the CHA Councils, identified four district-wide community health priorities with corresponding goals and objectives:

- **Promote healthy eating and active living**
- **Address mental health and substance use**
- **Improve health disparities and access to care**
- **Foster a healthy and connected community**

In considering individual and population health, Healthy People 2020 poses two questions: "What makes some people healthy and others unhealthy?" and "How can we create a society in which everyone has a chance to live a long, healthy life?" Determinants of health are the wide range of genetic, personal, social, environmental, economic, policy, and healthcare factors that impact overall health status.[1] In selecting the four

	Greene	Louisa	Nelson	Fluvanna	Charlottesville Albemarle
1	Children and Youth (26)*	Alcohol and Drugs (8)	Aging (18)	Mental Health (5)	Disparities in access (31)
2	Mental Health (12)	Dental Care (8)	Transportation (12)	Housing (4)	Mental Health (8)
3	Alcohol and Drugs (8)	Obesity (5)	Children and Youth (11) Childcare	Health system hard to navigate (3)	Alcohol and Drugs (6)
4	Obesity (6)	Funding (4)	Lack of Recreation (9)	Lack of Recreation (3)	Health system hard to navigate (6)
5	DV/Sexual Assault (6)	Mental Health (3)	Jobs (5)	Economic Development/ Jobs (3)	Transportation (5)
6	Housing (5)	Transportation (2)	Disparities in access (4)	Children and Youth (2) Aging (2)	Aging (4)
	NOTES * Greene CHA Council voted to combine the following: Connect youth programs = 13, Insufficient parental supervision = 8, Mentoring = 5				

Table 1 | Top Five Community Health Priorities Identified by CHA Councils, TJHD Localities, August–September 2016. Source: The Planning Council, 2016.

community health priorities above, the Leadership Council recognized that multiple determinants impact these areas of health and specifically recognized the role that policy, transportation, stable housing, and jobs would play in selecting effective strategies to improve our community's health.

The strategies for community implementation are locality-specific and were selected by each locality's CHA Council in discussions facilitated by TPC. Locality-specific strategies recognize that the CHA Councils are best positioned to select effective strategies for their locality based on their knowledge of the community, its existing resources, services, organizations, and collaborations, and any other forces that could positively or negatively impact success.

Next Steps

Between 2017 and 2019, partner agencies and community coalitions will work toward the community goals, objectives, and strategies outlined on the following pages in order to promote healthy eating and active living, address mental health and substance use, improve health disparities and access to care, and foster a healthy and connected community with the hope of making measurable gains in improving health. The Leadership and CHA Councils will continue to meet to review data and actions taken, evaluate progress, and discuss any potential changes needed in strategic approaches.

Greene	Louisa	Nelson	Fluvanna	Charlottesville Albemarle
Mental Health & Substance Use	Mental Health & Substance Use	Mental Health & Substance Use [1]	Mental Health & Substance Use	Mental Health & Substance Use
Obesity	Obesity	Obesity	Obesity	
		Health Disparities		Health Disparities
Strengthen Families		Strengthen Families	Strengthen Families	
	Dental Care			
	Transportation	Transportation		Transportation
Sexual Assault				
Stable Housing			Stable Housing	
		Jobs	Jobs	
		Aging	Aging	Aging
			Access to Healthcare	Access to Healthcare

NOTES [1] Mental Health & Substance Use not identified in Nelson CHA Council's Community Health Priorities meeting but identified in subsequent Goal Development meeting.

Table 2 | Commonalities across Priorities Identified by CHA Councils, TJHD Localities, August–September 2016. Source: The Planning Council and University of Virginia Health System, 2016.

Community Health Priority:
Promote Healty Eating and Active Living

Background

This community health priority is a continuation of the 2012 MAPP2Health Report's *Community Health Issue #1: An Increasing Rate of Obesity* and is aligned with *Virginia's Plan for Well-being 2016-2020.* The *Plan for Well-being* notes that "following a healthy diet and living actively have long-term health benefits. Maintaining a healthy weight is associated with improved quality of life and reduced risk of cardiovascular disease, diabetes, dementia, cancer, liver disease, and arthritis."[2]

In the Community Themes and Strengths Assessment, all six PD10 localities ranked the *outdoors* within their top five "healthy strengths," while four of six localities ranked *recreation* and three of six ranked *food options* as top healthy strengths. Three out of six PD10 localities ranked *obesity prevention* within their top five "opportunities for improvement." As locality CHA Councils voted on their top five priority areas, two out of five councils selected *obesity* while two other councils selected *lack of recreation;* when these two categories were combined to show commonalities across priorities, *obesity* was a top priority in four out of five CHA Councils. In facilitated discussions with the CHA Councils, several rural localities discussed the need for more recreational facilities as well as opportunities for safe and convenient daily exercise, while other conversations centered on educating community members about healthy eating and active living.

This priority includes three key components for promoting a healthy lifestyle:

1. **Preventing obesity:** According to the Centers for Disease Control and Prevention (CDC), "Obesity costs the U.S. about $147 billion in medical expenses each year. Obesity results from a combination of causes and contributing factors, including individual factors such as behavior and genetics. Behaviors can include dietary patterns, physical activity, inactivity, medication use, and other exposures. Additional contributing factors in our society include the food and physical activity environment, education and skills, and food marketing and promotion."[3] In 2012–2014, the average percentage of obese TJHD adults was 27.9% which was slightly higher than Virginia's average of 27.7%.[4] In 2014, the CDC estimated that the prevalence of obesity among youth aged 2–19 in the United States was about 17%.[5] In the 2010–2011 school year, among fifth graders in Nelson County public schools, 31.2% were obese.[6] In 2014, among fifth graders in Charlottesville and Albemarle public schools, 15.0% were obese.[7] Data from the other TJHD localities were not available.

2. **Promoting healthy food:** Poor diet is a risk factor for obesity and other health problems. From 2011 to 2013, the percentage of Virginia high school students who did not eat vegetables in the past seven days increased from 6.4% to 6.7%.[8] In addition to education about healthy eating, diet can be addressed through policy, systems, and environmental change. For example, policies in schools and workplaces can help to promote healthy food choices.

3. **Promoting physical activity:** Physical inactivity is another risk factor for obesity and poor health. In 2014, 29% of adults in Louisa County and 24% in Charlottesville reported no leisure time physical activity which was higher than the Virginia average of 23%.[9] When measuring the percentage of the population with access to adequate exercise opportunities such as a park or community center, all of the residents in Charlottesville had adequate access to locations for physical activity, while other TJHD localities had anywhere from 44% (Nelson) to 74% (Albemarle) of residents with adequate access.[10] However, although our district provides opportunities for outdoor recreation, many residents lack access to affordable indoor facilities that can be used year-round. Creating diverse opportunities for physical activity at work, at school, and in the community can be effective in promoting active living.[11] Additionally, policy change can be a tool to increase physical activity in schools and early childhood education.

Promote Healty Eating and Active Living

Goal: Increase access to healthy foods and recreation through education, advocacy, and evidence-based programming.

Objective 1	Objective 2	Objective 3
By 2019, decrease the percentage of TJHD adults who are overweight and obese.	By 2019, decrease the percentage of TJHD children who are overweight and obese.	By 2019, implement data collection and analysis of obesity across the lifespan in all TJHD localities.

Charlottesville City / Albemarle County

Strategy 1: Increase availability of fresh fruits and vegetables at corner markets (see Richmond's Healthy Corner Store Initiative for reference).

Strategy 2: Consider implementing a tax on sugar-sweetened beverages or restrict the availability of unhealthy snacks in public venues.

Fluvanna County

Strategy 1: Create an outdoor basketball court for use by all community members.

Strategy 2: Include cooking classes or demonstrations at *Tuesday's Table* or similar events.

Strategy 3: Increase public awareness of free health resources.

Strategy 4: Identify evidence-based programming that addresses healthy eating/heart health in faith-based settings.

Greene County

Strategy 1: Connect with healthy lifestyle initiatives in Charlottesville through the Move2Health Coalition.

Strategy 2: Offer healthy lifestyle programming where people already congregate such as at the food bank, in health clinic waiting rooms, etc.

Strategy 3: Identify and collaborate with successful programs in Greene to provide community health information.

Louisa County

Strategy 1: Work with service providers to connect surplus supplies of fresh produce with those in need.

Strategy 2: Explore implementing the Coordinated Approach to Child Health (CATCH) program at schools to introduce and/or expand obesity prevention programs.

Strategy 3: Increase nutrition education programming when the Resource Council expansion is completed.

Nelson County

Strategy 1: Develop a collaborative relationship with the school system for hosting recreational/healthy lifestyle events at school facilities.

Strategy 2: Continue collaborating with primary care providers as a key conduit for connecting people to other needed resources.

Determinants Affecting this Priority

- Access to Healthcare (Preventive Care)
- Diet/Nutrition
- Food Security
- Genetic Factors
- Individual Behavior
- Knowledge
- Physical Activity
- Physical Environment
- Policies
- Poverty
- Psychosocial Stress
- Social Norms/Values

Community Health Priority:
Address Mental Health and Substance Issues

Background

This community health priority is a continuation of the 2012 MAPP2Health Report's *Community Health Issue #2: Insufficient Access to Mental Health and Substance Abuse Services* and is aligned with *Virginia's Plan for Well-being 2016-2020.* The *Plan for Well-being* describes the importance of addressing mental health and substance use and how these areas link to other health outcomes: "Untreated mental health disorders and substance misuse and abuse have serious impacts on physical health and are associated with the prevalence, progression, and outcome of some of today's most pressing chronic diseases, including diabetes, heart disease, and cancer." [12] Despite the significant link between mental health and other health outcomes, in 2014, only around one-third of youth with mental illness and around one-half of adults with mental illness nationally had received mental health services in the last year.[13]

In the Community Themes and Strengths Assessment, five out of six PD10 localities ranked *mental health* and *alcohol and drug abuse prevention* (separate indicators) within their top five "opportunities for improvement." In the initial ranking of health priorities, four out of five locality CHA Councils included mental health and three out of five included *alcohol and drugs*. When these priorities were linked, *mental health and substance use* was identified as a top priority in all five CHA Councils.

This priority includes three key components for addressing mental health and substance use:

1. Reducing the need for hospitalization: This component recognizes the importance of improving mental health and substance use disorder service capacity and improving access to upstream outpatient care in order to prevent unnecessary behavioral health hospitalizations. In 2012, the overall behavioral health hospitalization rate per 100,000 residents was 586.8 in TJHD and 674.0 in Virginia. In both TJHD and Virginia, the most common diagnosis for behavioral health hospitalizations was affective psychoses. Residents of TJHD had higher rates of hospitalization for adjustment reaction, alcoholic dependence syndrome, and alcoholic psychoses than the Virginia state average but lower rates of affective psychoses and schizophrenic disorders.[14]

2. Promoting mental health through a stigma-free culture and availability of services: In facilitated discussions with locality CHA Councils, council members cited a lack of access to mental health and substance use services and noted that stigma associated with these issues may deter people from getting help. In TJHD, the ratio of mental health providers to population is lowest in Charlottesville with one mental health provider for every 116 individuals and highest in Louisa with one mental health provider for every 6,870 individuals.[15] According to TJHD's largest public provider of mental health and substance use services, the most commonly diagnosed illnesses among TJHD residents are depressive disorders, trauma/stress related disorders, and bipolar disorders which accounted for 34% of diagnoses in 2016. Of clients with a substance use disorder, more than half were alcohol-related disorders in 2016.[16]

3. Identifying and enacting policy, system, and environmental changes: It is well-recognized that mental health is shaped to a great extent by the social, economic, and physical environments in which people live.[17] Advocating for policy initiatives to expand access to behavioral health services, working with health systems and providers to expand integrated care, increasing the use of telehealth to treat patients in rural areas, and improving access to transportation are all examples of changes that could positively impact mental health and substance use.

Address Mental Health and Substance Issues

Goal: Improve capacity to provide culturally and linguistically appropriate mental health and substance abuse prevention and treatment services.

Objective 1	Objective 2	Objective 3
By 2019, reduce the need for mental health and substance use disorder hospitalizations in TJHD through improved access to upstream outpaient care.	By 2019, increase the capacity of Community Mental Health and Wellness Coalition partners to provide mental health and substance use disorder services in TJHD by 10%.	By 2019, leverage partnerships across local coalitions to implement 3 to 5 policy, system, and environmental changes to prevent substance use disorders and promote mental health.

Charlottesville City / Albemarle County

Strategy 1: Increase culturally and linguistically appropriate mental health and substance abuse services by expanding integrated care, medication assisted treatment, and overall access to care.	**Strategy 2:** Implement a mental health and substance abuse public awareness and stigma reduction campaign and other policy, system, and environmental changes.	**Strategy 3:** Develop a culturally and linguistically appropriate behavioral health workforce and include opportunities for support from peer and family members with lived behavioral health experience.

Fluvanna County

Strategy 1: Create more adult peer support groups for addiction by connecting available facilities (including churches) with people who can implement the support groups.	**Strategy 2:** Participate in the Community Mental Health and Wellness Coalition to share resources and information and to work toward its district-wide goals, especially the public awareness and stigma reduction campaign.	**Strategy 3:** Increase service system capacity by bringing in additional psychiatrists or psychiatric nurses.

Greene County

Strategy: Participate in the Community Mental Health and Wellness Coalition to share resources and information and to work toward its district-wide goals.

Louisa County

Strategy: Conduct Mental Health First Aid trainings, especially within Louisa's faith community (over 110 churches).

Nelson County

Strategy 1: Continue efforts to integrate primary and behavioral health care.	**Strategy 2**: Develop collaboration between schools and agencies serving/counseling youth.

Determinants Affecting this Priority

- Access to Healthcare (Behavioral/Mental Health)
- Diet/Nutrition
- Employment/Unemployment
- Genetic Factors
- Health Insurance
- Housing
- Individual Behavior
- Knowledge
- Physical Environment
- Policies
- Poverty
- Psychosocial/Family Stress
- Social Inequities
- Social Norms/Values
- Transportation

Community Health Priority:
Improve Health Disparities and Access to Care

Background

This is a new community health priority and is aligned with *Virginia's Plan for Well-being 2016-2020*. The *Plan for Well-being* states: "There are striking differences in health within and between communities in Virginia. Uncovering the root causes of health inequities in Virginia's neighborhoods and working together to improve the conditions needed for people to be healthy will improve well-being for all Virginians."[18]

Healthy People 2020 defines a health inequity, or disparity, as "a particular type of health difference that is closely linked with social, economic, and/or environmental disadvantage. Health disparities adversely affect groups of people who have systematically experienced greater obstacles to health based on their racial or ethnic group; religion; socioeconomic status; gender; age; mental health; cognitive, sensory, or physical disability; sexual orientation or gender identity; geographic location; or other characteristics historically linked to discrimination or exclusion." To counter these health disparities and help improve the health of all groups, Healthy People 2020 also works to achieve health equity, which is "the attainment of the highest level of health for all people. Achieving health equity requires valuing everyone equally with focused and ongoing societal efforts to address avoidable inequalities, historical and contemporary injustices, and the elimination of health and health care disparities."[19]

In the Community Themes and Strengths Assessment, all six PD10 localities ranked *healthcare* within their top five "healthy strengths." However, two out of six PD10 localities also ranked *medical care access* within their top five "opportunities for improvement." When locality CHA Councils voted on their top five health priorities, two out of five councils selected *disparities in access/health disparities* and two out of five selected *health system hard to navigate/access to care*. This priority also relates directly to two of the four categories identified in the Forces of Change Assessment: *access* and *cultural diversity and cultural humility*. Both categories identified specific issues or potential barriers to success as well as specific opportunities for positive change.

This priority includes three key components for ensuring that everyone in the community has equitable access to the healthcare services and resources they need for a safe and healthy life:

1. Identifying and decreasing specific health disparities: Several examples of health disparities were noted in the CHA data. For example, mortality rates for African American residents in Virginia exceed those of white residents for heart disease, stroke, and diabetes.[20] In addition, low birth weight and infant mortality rates are higher for African Americans in TJHD as well as in Virginia.[21] These disparities may highlight a lack of access to preventive care, a lack of health knowledge, insufficient provider outreach, and/or social barriers preventing utilization of services.

2. Increasing health equity by improving access to care for everyone: Having a primary care provider or medical home is the first line of defense for addressing health problems before they start. A relationship with a medical home is associated with better health, lowered healthcare costs, and reductions in disparities in health between socially disadvantaged subgroups and more socially advantaged populations.[22] Healthy People 2020 established a goal to lower the percentage of people who do not have access to a primary care provider (<16.1%) as did the *Plan for Well-being* (<15%). TJHD (17.7%) is closer to reaching these goals than Virginia as a whole (22.5%).[23] However, CHA Councils in several localities noted access concerns such as a lack of awareness of resources, limited transportation to medical services and/or a medical home, and difficulty navigating available services.

3. Increasing the diversity of providers and fostering cultural humility within the healthcare workforce: Professional development in cultural humility is a practice that highlights health and community inequities with the goal of decreasing disparities. Cultural humility describes an approach to care in which practitioners become aware of cultures other than their own, recognize their own implicit biases, and cultivate sensitivity toward those from diverse backgrounds. In the Forces of Change Assessment and in developing this priority, the Leadership Council recognized the importance of cultural humility as well as employing a workforce that is representative of the diverse community served so that residents from all backgrounds increase their trust in and utilization of the healthcare system.

Improve Health Disparities and Access to Care

Goal: Increase health equity and narrow the gap for health conditions through outreach and education to healthcare providers and community members.

Objective 1	Objective 2	Objective 3
By 2019, identify up to three health conditions with marked disparities and reduce the disparities.	By 2019, decrease the 2010–2014 TJHD African American infant mortality rate from 10.6 to 5.0 infant deaths per 1,000 live births.	By 2019, support TJHD employers and community partners to develop cultural humility and workforce diversity to ensure that all citizens have the opportunity to achieve the highest level of health.

Charlottesville City / Albemarle County

Strategy 1: Pick one or two concrete health disparities to improve (while still maintaining pregnancy outcomes).	**Strategy 2:** Develop an effective coalition around improving health disparities to guide progress toward achieving this goal.	**Strategy 3:** Explore best practices to ensure a medical home for everyone.	**Strategy 4:** Create a healthcare workforce that reflects the diversity of the community.

Fluvanna County

Strategy 1: Have a Fluvanna County representative actively participate in the newly developed coalition that will address this goal.	**Strategy 2:** Increase public awareness that Medicaid patients have access to free medical transportation to and from medical appointments.

Greene County

Strategy: Have a Greene County representative actively participate in the newly developed coalition that will address this goal.

Louisa County

Strategy 1: Expand access to dental care services.	**Strategy 2:** Increase awareness of primary care options in Louisa County.	**Strategy 3:** Host the Community Extravaganza twice each year.	**Strategy 4:** Create a Facebook page to inform the community about health improvement efforts.	**Strategy 5:** Identify a champion for each goal to drive efforts toward achieving goals.

Nelson County

Strategy 1: Explore the possibility of using volunteer drivers to increase transportation services.	**Strategy 2:** Focus efforts on child safety by strengthening connections and communication between organizations and programs.

Determinants Affecting this Priority

- Access to Healthcare
- Diet/Nutrition
- Employment/Unemployment
- Genetic Factors
- Health Insurance
- Housing
- Individual Behavior
- Knowledge
- Physical Activity
- Physical Environment
- Policies
- Poverty
- Psychosocial/Family Stress
- Racism
- Social Inequities
- Social Norms/Values
- Transportation

Community Health Priority:
Foster a Healthy and Connected Community

Background

This is a new community health priority and is aligned with *Virginia's Plan for Well-Being 2016-2020.* The *Plan for Well-Being* states that "improving environmental and social conditions at the neighborhood level provides a greater opportunity for all Virginians to be healthy. Communities can improve health by considering implications to health when developing policies and systems related to education, employment, housing, transportation, land use, economic development, and public safety."[24]

In the Community Themes and Strengths Assessment, all six PD10 localities ranked *children and youth services* and three out of six ranked *aging services* within their top five "opportunities for improvement." Three of six localities ranked *local schools* and two of six ranked *safe streets* within their top five "healthy strengths." As locality CHA Councils voted on their top five priority areas, *children and youth* and *aging* (separate categories) were both selected in three out of five CHA Councils. Discussions in several CHA Councils centered around the need for education surrounding healthy relationships and a trauma-informed approach to care for victims of sexual violence.

The World Health Organization also offers guidance and measures around life-course health issues that focus on well-being at various stages of life. The four stages are: (1) maternal and newborn health; (2) child and adolescent health; (3) sexual and reproductive health; and (4) healthy aging. This priority is focused on the child and adolescent health and healthy aging life stages. The maternal and newborn health stage is reflected under Objective 2 of the Improve Health Disparities and Access to Care priority which is focused on decreasing the African American infant mortality rate in TJHD.

This priority includes two key components for fostering a healthy and connected community:

1. Child and adolescent health: Childhood experiences, both positive and negative, have a tremendous impact on lifelong health and opportunity. Adverse Childhood Experiences (ACEs) are forms of abuse, neglect, and household challenges which may disrupt a child's neurological development and impair social, emotional, and cognitive development. ACEs have been linked to risky health behaviors—including substance abuse, poor diet, and lack of physical activity—as well as chronic health conditions such as obesity, diabetes, and COPD.[25] From 2012 to 2014, there was a decrease in the availability of childcare slots in TJHD,[26] leaving children vulnerable to poor or inadequate care. High quality childcare with developmentally appropriate activities was cited as a priority by CHA Council members in several localities. Other priorities cited for children and youth included healthy eating, recreation and exercise, and trauma-informed care for children experiencing any form of violence or bullying, as well as resources to support parents and families.

2.Healthy aging: According to the 2010 U.S. Census, nearly 43% of residents age 75 and older in TJHD live alone.[27] The U.S. Census estimates that in 2014, approximately 1,200 TJHD residents age 75 and older (8.3%) were living below the poverty line.[28] Living alone and/or in poverty can increase social isolation, limit transportation options, and require additional medical supports among the elderly to ensure a healthy life. These factors can also contribute significantly to the rate of falls and other forms of unintentional injury. Nearly half of all injury hospitalizations in TJHD are caused by falls. Since 2007, the hospitalization rate for falls is at least five times greater for those older than 65 than for those of all ages.[29]

Foster a Healthy and Connected Community

Goal: Increase well-being across the lifespan by supporting education, prevention, advocacy, and evidence-based programming.

Objective 1	Objective 2	Objective 3
By 2019, decrease the founded/substantiated child and adult abuse and neglect report rates.	By 2019, strengthen healthy relationships across the lifespan through expansion and implementation of evidence-based programing.	By 2019, decrease the rate of unintentional injury hospitalizations due to falls.

Charlottesville City / Albemarle County

Strategy 1: Expand evidence-based programs for promoting healthy relationships and decreasing sexual assault. Expand trauma-informed approaches to care and develop strategies and training to promote healthy relationships and resilience.	**Strategy 3:** Implement a measurement of wellness across the age continuum (look to WHO model, structure and benchmarks).	**Strategy 3:** Provide a handout on parenting skills and resources when every child enters school.

Fluvanna County

Strategy 1: Explore collaboration with pastors to develop a faith coalition to support meeting the community's needs.	**Strategy 2:** Develop a Faith Day that allows the community to gather, discuss, and learn about health and social issues.	**Strategy 3:** Provide a handout on parenting skills and resources when every child enters school.

Greene County

Strategy 1: Help childcare providers to strengthen programming through the inclusion of educational and physical activities to help children thrive and blossom.	**Strategy 2:** Consider implementing the Coordinated Approach to Child Health (CATCH) program to increase activity in after-school programs.	**Strategy 3:** Implement an evidence-based parenting program.

Louisa County

Strategy 1: Implement and/or expand evidence-based parenting classes in a neutral location such as schools to avoid stigma.	**Strategy 2:** Have parenting classes partner with churches to reach more parents.

Nelson County

Strategy 1: Bring the *Tuesday's Table* model to Nelson such as by providing a free healthy dinner at a school with presentations on healthy eating, family education, etc.	**Strategy 2:** Collaborate with the schools to host family-friendly education and community events.

Determinants Affecting this Priority

- Access to Healthcare
- Diet/Nutrition
- Employment/Unemployment
- Food Security
- Genetic Factors
- Health Insurance
- Housing
- Illness
- Individual Behavior
- Knowledge
- Physical Environment
- Policies
- Poverty
- Psychosocial/Family Stress
- Social Inequities
- Social Norms/Values
- Transportation

Endnotes

[1] Healthy People 2020. (2016). Determinants of Health. Retrieved December 2, 2016 from *https://www.healthypeople.gov/2020/about/foundation-health-measures/Determinants-of-Health*

[2] Virginia Department of Health. (2016). Virginia's Plan for Well-Being 2016-2020. Retrieved November 27, 2016 from *http://virginiawellbeing.com/*

[3] Centers for Disease Control and Prevention. (2014). National Health Report Highlights. Retrieved November 18, 2016 from *https://www.cdc.gov/healthreport/publications/compendium.pdf*

[4] Virginia Department of Health. (2016). Virginia Behavioral Risk Factor Surveillance System, Percentage of Obese Adults Aged 20 and Older, 2000–2010 and 2011–2014.

[5] Centers for Disease Control and Prevention. (2014). National Health Report Highlights. Retrieved November 18, 2016 from *https://www.cdc.gov/healthreport/publications/compendium.pdf*

[6] Nelson County School System. (2016). Percent of Fifth and Tenth Graders Enrolled in Public Schools in Locality who are Overweight or Obese, 2008–2011.

[7] City of Charlottesville and Albemarle County School Systems. (2016). Overweight and Obese 5th Grade Students, 2004–2014.

[8] Centers for Disease Control and Prevention. (2016). Youth Risk Behavior Survey. Percent of High School Students (Grades 9–12) Who Did NOT Eat Vegetables in the Past Seven Days Prior to Survey, 2011–2013.

[9] County Health Rankings and Roadmaps. (2016). 2016 County Health Rankings Virginia. Retrieved November 18, 2016 from *http://www.countyhealthrankings.org/sites/default/files/state/downloads/CHR2016_VA.pdf*

[10] County Health Rankings and Roadmaps. (2014). Health Factors and Health Behaviors.

[11] Johns, D. J., Hartmann-Boyce, J., Jebb, S. A., & Aveyard, P. (2014). Diet or exercise interventions vs combined behavioral weight management programs: A systematic review and meta-analysis of direct comparisons. Journal of the Academy of Nutrition and Dietetics, 114(10), 1557–1568. doi:10.1016/j.jand.2014.07.005.

[12] Virginia Department of Health. (2016). Virginia's Plan for Well-Being 2016-2020. Retrieved November 18, 2016 from *http://virginiawellbeing.com/*

[13] Center for Behavioral Health Statistics and Quality. (2015). 2014 National Survey on Drug Use and Health: Detailed Tables. Retrieved November 18, 2016 from *http://www.samhsa.gov/data/*

[14] Virginia Atlas of Community Health. (2016). Behavioral Health Hospital Discharge Profile (January 1–December 21, 2012). Retried November 30, 2016 from *http://atlasva.org/hpd-10/*

[15] County Health Rankings and Roadmaps. (2016). Virginia: Ranked Measures.

[16] Region Ten Community Services Board. (2016). FY2016 consumer Data. Retrieved November 29, 2016 from *http://regionten.org/about-us/key-documents/*

[17] World Health Organization. (2014). Retrieved November 29, 2016 from *http://apps.who.int/iris/bitstream/10665/112828/1/9789241506809_eng.pdf?ua=1*

[18] Virginia's Plan for Well-Being. (2016). Retrieved November 27, 2016 from *http://virginiawellbeing.com/*

[19] Healthy People 2020. (2016). Retrieved November 27, 2016 from *https://www.healthypeople.gov/2020/about/foundation-health-measures/Disparities*

[20] Virginia Department of Health, Division of Health Statistics, 2000–2010. Centers for Disease Control and Prevention, National Center for Health Statistics. CDC Online WONDER Database, 2011–2013.

[21] Virginia Department of Health (2016). Division of Health Statistics.

[22] Starfield, Barbara, and Shi, Leiyu. (2004). The Medical Home, Access to Care, and Insurance: A Review of Evidence. Pediatrics. Retrieved November 27, 2016 from *http://www.jhsph.edu/research/centers-and-institutes/johns-hopkins-primary-care-policy-center/Publications_PDFs/2004%20Pediatrics.pdf*

[23] Community Commons Report. (2015).

[24] Virginia's Plan for Well-being. (2016). Retrieved November 18, 2016 from *http://virginiawellbeing.com/*

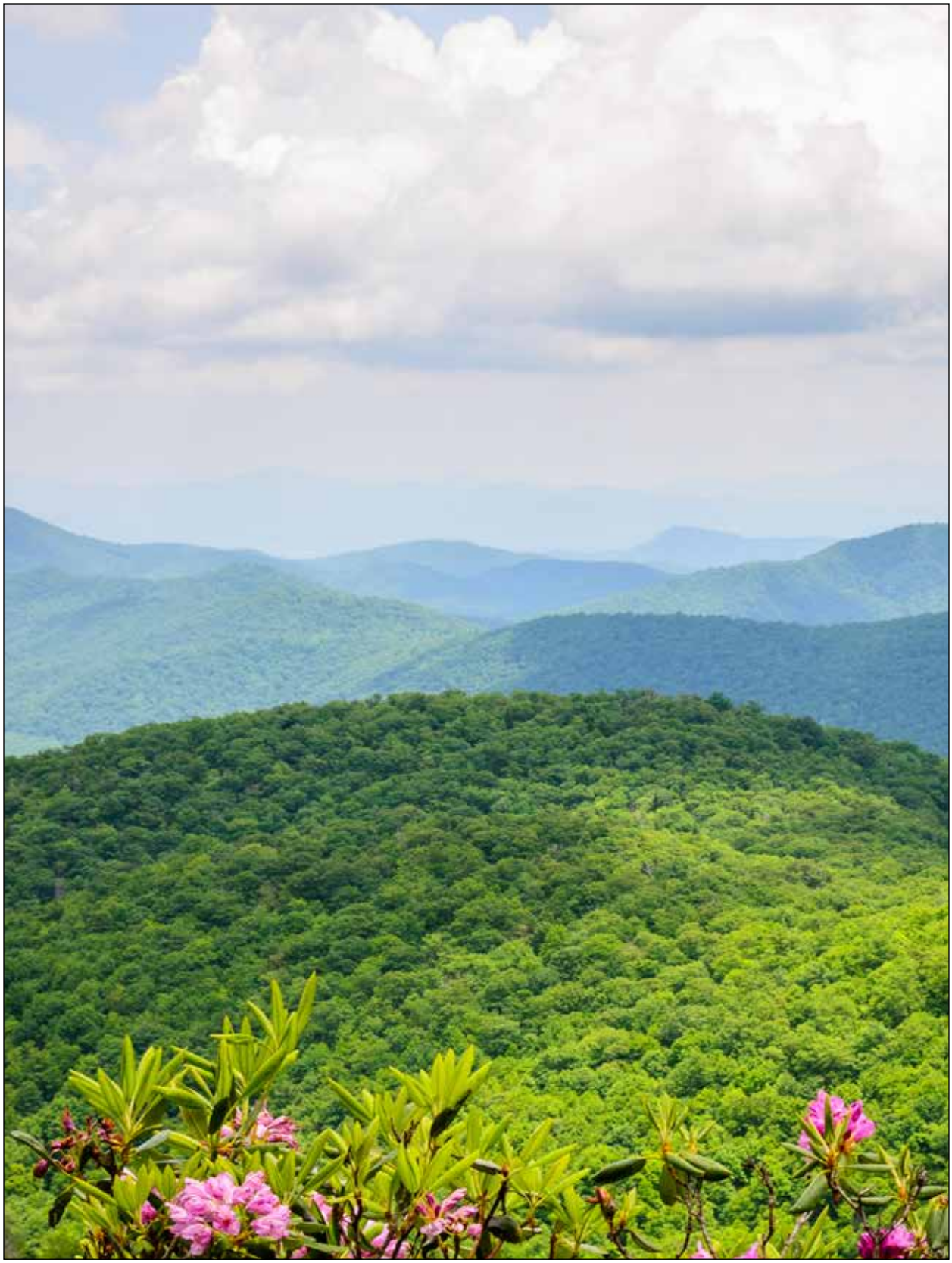
[25] Felitti, VJ et al. (1998). Relationship of childhood abuse and household dysfunction to many of the leading causes of death in adults. The Adverse Childhood Experiences (ACE) Study. *American Journal of Preventive Medicine.* May;14(4):245-58.

[26] Virginia Department of Social Services and U.S. Census Bureau. (2016).

[27] U.S. Census Bureau. (2010). 2010 Census. Retrieved November 17, 2016 from *http://factfinder.census.gov/faces/nav/jsf/pages/index.xhtml*

[28] U.S. Census Bureau. (2014). American Community Survey. Retrieved November 17, 2016 from *http://factfinder.census.gov/faces/nav/jsf/pages/index.xhtml*

[29] Virginia Department of Health. (2014). Virginia Online Injury Reporting System.



Local Public Health System Assessment Report

Background

The public health system in Virginia's Planning District 10 (PD10), which includes the City of Charlottesville and Albemarle, Fluvanna, Greene, Louisa, and Nelson Counties, includes many diverse partners, from public agencies to private and voluntary organizations. Each partner contributes to the overall health and well-being of the population, and together these partners create a network of organizations serving different needs of the communities within PD10. Daily interactions between the organizations are evident through community activities and services.

The Local Public Health System Assessment (LPHSA), one of the four assessments identified in the Mobilizing for Action through Planning and Partnerships (MAPP) framework, identifies the strengths of the public health system and areas for improvement. Conducting the LPHSA as the initial step of the MAPP process is a key component for making MAPP community-driven.

The LPHSA focuses on the capacity, provision of services, and optimal performance of the overall community-based public health system, rather than on individual organizations that make up this system, in terms of the 10 Essential Public Health Services (Essential Services). The Essential Services, endorsed by the Centers for Disease Control and Prevention (CDC), are listed in Table 1.

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

Table 1 | 10 Essential Public Health Services
Source: CDC, 2016.

LPHSA Methods

The MAPP Core Group, which included staff from Sentara Martha Jefferson Hospital (SMJH), the Thomas Jefferson Health District (TJHD), and the University of Virginia's (UVA) Department of Public Health Sciences and Health System, initially reached out to the members of the 2012–

2017 MAPP2Health Leadership Council (the Leadership Council) to invite them to participate in a third round of community health assessment and health improvement planning. The Leadership Council included representation from a variety of public and private agencies that serve the entire PD10, community members, and the four coalitions working to address the priority areas identified in the 2012–2017 MAPP2Health Community Health Improvement Plan. On November 30, 2015, a multisector meeting was held to (1) reintroduce MAPP and gauge participant commitment; (2) understand the Essential Services; (3) visualize PD10 LPHSA connectedness; and (4) begin MAPP visioning. Figure 1 depicts the participating LPHSA organizations on November 30, 2015.

During the meeting, participants identified which services their organization provided from among the list of Essential Services. Each group received a kit that allowed them to display any of the Essential Services provided by their organization. Next, participants connected with other organizations supplying Essential Services that their organization did not provide. Lastly, by using yarn and a sticky wall, participating organizations identified how they connect with one another.

LPHSA Results

Figure 2 depicts the connections that were noted by the individuals completing the assessment on behalf of their organizations while Figure 3 is a generic representation of a local public health system. As facilitators of the yarn and sticky wall ac-

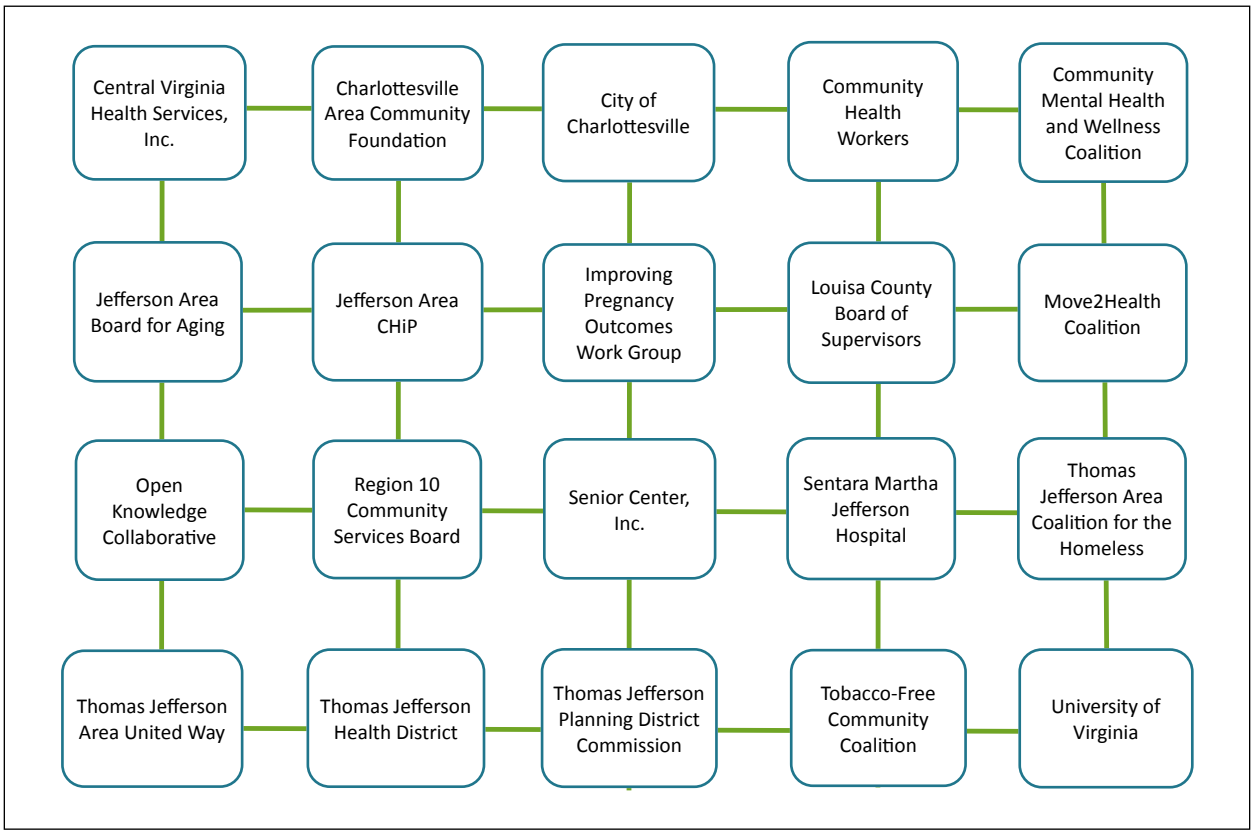


Figure 1 | November 2015 LPHSA Participants. Source: Leadership Council Sign-In Sheet, November 30, 2015.

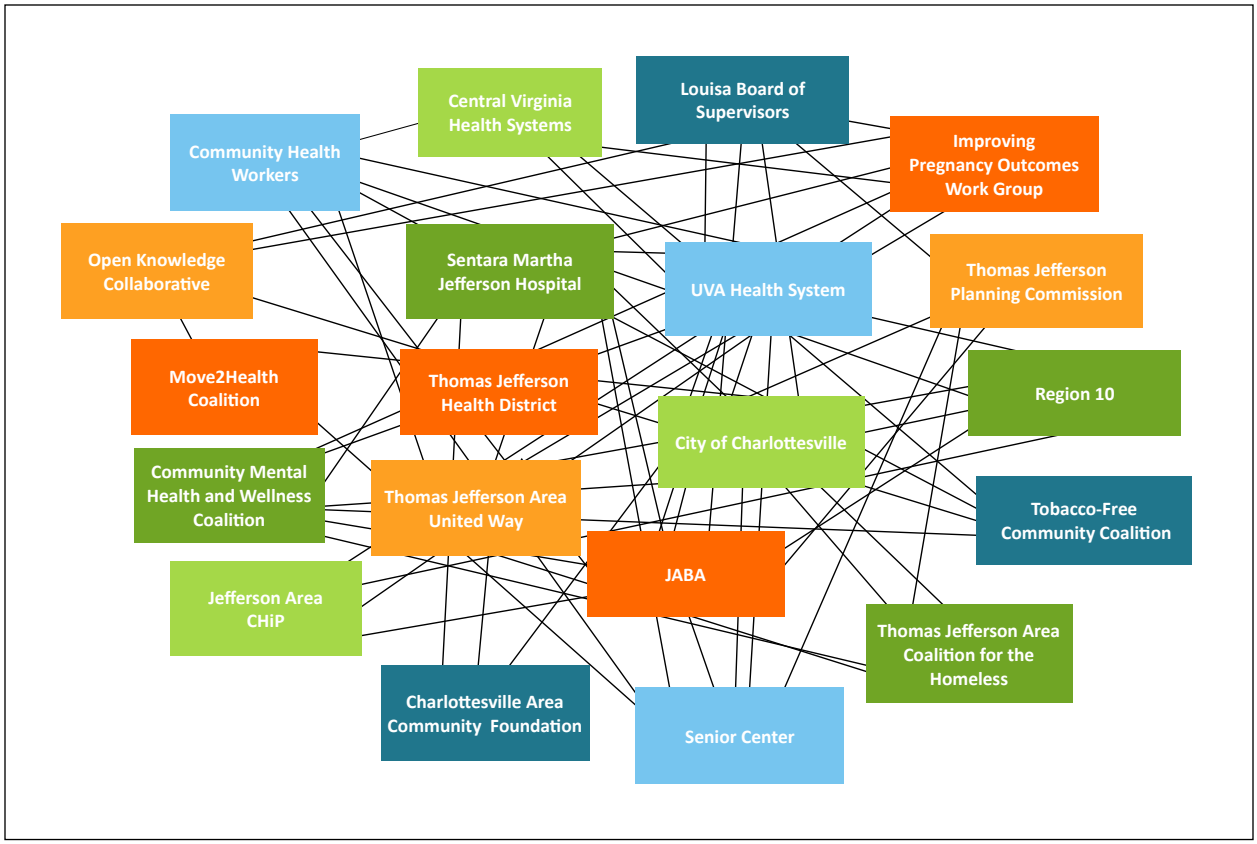


Figure 2 | November 2015 LPHSA Participating Organizations' Connectedness Results. Source: Leadership Council Yarn and Sticky Wall Activity, November 30, 2015.

tivity, individuals from TJHD did not participate in the exercise; however, TJHD is represented as part of the local public health system in Figure 2. The group engaged in creating a visual network of collaboration, which serves to highlight how the district can work together to provide the 10 Essential Public Health Services to the public.

Table 2 shows the organizations' responses indicating which essential services each provides in the community. Services provided by organizations are shown with a colored box. The agencies that provide at least 7 of the 10 Essential Services in the community include the City of Charlottesville, the Community Mental Health and Wellness Coalition, the Improving Pregnancy Outcomes Work Group, Region 10 Community Services Board, SMJH, Thomas Jefferson Area Coalition for the Homeless, TJHD, and UVA. Agencies that provided fewer than 5 of the 10 services include the Charlottesville Area Community Foundation, Jefferson Area CHiP, Community Health Workers, Jefferson Area Board for the Aging (JABA), the Move2Health Coalition, the Thomas Jefferson Planning District Commission, and the Tobacco-Free Community Coalition. Figure 4 highlights the total percentage of LPHSA participating organizations providing each of the 10 Essential Services.

Conclusion

As the results from Table 2 and Figure 4 show, PD10 shows strong provision of Essential Service Numbers 3 (inform, educate, and empower), 4 (mobilize community partnerships), and 7

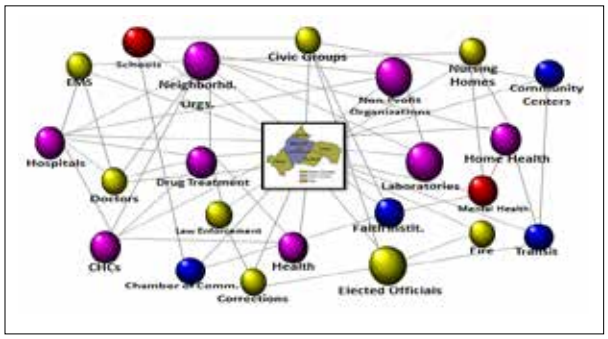


Figure 3 | Generic Local Public Health System. Source: CDC.

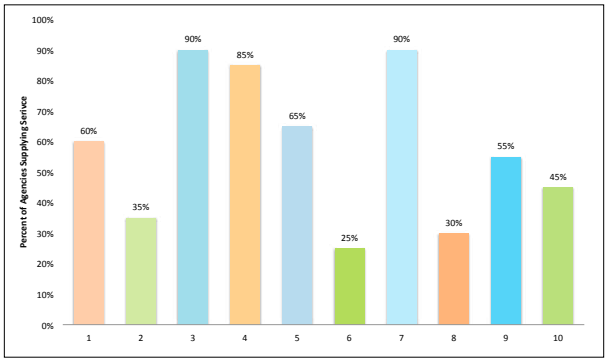


Figure 4 | LPHSA Participating Organizations' Provision of the 10 Essential Public Health Services. Source: Leadership Council Meeting, November 30, 2015.

(link to/provide care), with moderately strong provision of Essential Services Numbers 1 (monitor health), 5 (develop policies and plans), 9 (evaluate), and 10 (research).

The LPHSA in this instance was designed to initiate networking and re-engagement within the MAPP framework and to launch a third round of health assessment and improvement planning. Organizations that did not provide a majority of the services networked with organizations that do, thus highlighting real-time opportunities for partnerships. Not all organizations engaged in the local public health system participated in this assessment, and opportunities to conduct this assessment at a more localized level in the rural areas of PD10 may be worthwhile for future iterations of the MAPP framework.

10 Essential Public Health Services	Central Virginia Health System, Inc.	Charlottesville Area Community Foundation	City of Charlottesville	Community Health Workers	Community Mental Health and Wellness Coalition	Improving Pregnancy Outcomes Work Group	Jefferson Area Board for the Aging	Jefferson Area CHIP	Louisa County Board of Supervisors	Move2Health Coalition	Open Knowledge Collaborative	Region Ten Community Services Board	Senior Center	Sentara Martha Jefferson Hospital	Thomas Jefferson Area Coalition for the Homeless	Thomas Jefferson Health District	Thomas Jefferson Planning District Commission	Tobacco-Free Community Coalition	Thomas Jefferson Area United Way	University of VirginiaHealth System
1. Monitor Health																				
2. Diagnose and Investigate																				
3. Inform, Educate, Empower																				
4. Mobilize Community Partnerships																				
5. Develop Policies and Plans																				
6. Enforce Laws																				
7. Link to/Provide Care																				
8. Assure Competent Workforce																				
9. Evaluate																				
10. Research																				

Table 2 | LPHSA Participating Organizations' Provision of the 10 Essential Public Health Services. Source: Leadership Council Meeting, November 30, 2015.

Community Health Assessment Report

Background

The Community Health Assessment (CHA), one of the four assessments included in the Mobilizing for Action through Planning and Partnerships (MAPP) framework, analyzes quantitative data on demographics, quality of life, risk factors, health status, and other indicators to answer the questions:

1. **Who comprises the community, and what do community members bring to the table?**
2. **What are the strengths and risk factors in the community that contribute to health?**
3. **What is the status of health in the community?**

For purposes of this report, the community encompasses residents of Virginia's Planning District 10 (PD10), also referred to as the Thomas Jefferson Health District (TJHD), which includes the City of Charlottesville and Albemarle, Fluvanna, Greene, Louisa, and Nelson Counties.

CHA Methods

Data Collection

Data collection built on the previous CHA data published in the 2012 MAPP2Health Report. The current assessment includes updated data for the indicators included in the previous report as well as new indicators when available and appropriate for inclusion.

Data is sourced from a variety of local, state, and national agencies, organizations, and healthcare settings. For a complete list of data sources, see Appendix 2 of this report. The Virginia Department of Health (VDH) and other governmental organizations supply the majority of the descriptive and outcomes data. Local and non-governmental sources also help to describe the TJHD population and available community resources.

One new source of data for the current assessment is Community Commons; their Community Health Needs Assessment report-building tool was used to source data and report on multiple indicators for the localities in TJHD. Community Commons is an organization focused on increasing the impact of local organizations by providing online data, tools, and reports to assess and improve population health. The three organizations that manage Community Commons are the Institute for People, Place, and Possibility, the Center for Applied Research and Environmental Systems, and Community Initiatives.

In addition, as CHA data were shared with the MAPP2Health Leadership Council (the Leadership Council) and CHA Councils in Charlottesville/Albemarle, Fluvanna, Greene, Louisa, and

Nelson, council members were asked if they had any suggestions for additional data and/or data sources; these data were obtained and included whenever possible.

Data collected include:

Section One Data on Demographics, Socioeconomics, and Health Resource Availability

Section Two Data on Community Resources, Community Safety, Environmental Quality, and Health Behaviors

Section Three Data on Maternal and Child Health, Leading Causes of Death, Cancer, Unintentional Injury, Infectious Diseases, Chronic Diseases, Hospitalizations and ED Visits, Mental Health, Adverse Childhood Experiences, and Dental Care and Poisonings

Benchmarks

Where possible, data for the Commonwealth of Virginia, the United States, and/or the Healthy People 2020 or Virginia's Plan for Well-Being 2020 goals are referenced for comparison. Healthy People 2020 is a set of objectives for the nation's health that was developed by the U.S. Department of Health and Human Services through a broad national consultative process. These targets were developed with the foundation of the best scientific knowledge and are intended for use in public health program evaluation over time with the ultimate goal of assisting local, state, and federal agencies in improving the health of the nation. Virginia's Plan for Well-Being is VDH's plan to improve health for all Virginians and includes 2020 target goals in order to measure success.

Limitations

Data are generally reported at the district and county or city level. For some indicators, the number of events is too small to reliably report at the locality level. When local data are not available, state data are provided. Where possible, data are stratified by age or race.

State- and national-level data typically allow for analyses to incorporate some granularity. However, in smaller-level analyses at the county or city level, precision is often lost due to a smaller sample size. For example, the Virginia smoking prevalence (n = 6,700) in 2013 was 19.0% with a 95% confidence interval of 17.9%–20.2%. The 2013 smoking prevalence for TJHD (n = 214) was 18.9% with a 95% confidence interval of 12.2%–25.6%.[1] While both estimates are practically identical, the confidence interval for the TJHD estimate is much wider than that for the state indicating a lack of precision. A lack of precision not only reduces the usefulness of an estimate for any given year, but also obscures the ability to detect true differences in estimates across years due to overlapping confidence intervals. If health institutions cannot measure differences in health estimates across years, then it also becomes difficult to assess whether health interventions and associated resources effectively and meaningfully impact the community's health.

Several of the data sources utilize self-response surveys to gather information on the population, potentially introducing biases into the data. Survey respondents may incorrectly recall events that occurred some time ago or may offer more socially desirable answers to questions that involve morally subjective behaviors (e.g. level of physical activity, smoking status, etc.). Moreover, certain individuals may respond to surveys more frequently than others. For example, individuals who often engage in physical activities may respond to surveys dealing with physical activity at higher rates than

individuals who do not exercise which would give the health district artificially high rates of physical activity.[2] While the type and extent of bias impact the accuracy and interpretability of health estimates, it is not suggested that the following data suffer extensively from bias–only that all data retain some bias and that a discussion of bias should accompany the analysis.

TJHD's demographics also present several limitations to the data and their interpretation. Relatively low populations in the individual localities can render the measures used in the CHA difficult to interpret. For example, Nelson County had 17 cases of gonorrhea in 2014 and the locality's population was ~15,000. The resulting incidence rate of 47.3 per 100,000 people appears larger than the actual number of cases when the locality contains fewer people than the unit of measurement. The resulting rates should be considered to provide a magnitude of impact.[3] In addition to population numbers, TJHD covers nearly 2,200 square miles. This geographic expanse allows for variation in valuable data about environmental factors. For example, Charlottesville is the only locality with an air monitoring station from the Environmental Protection Agency to assess the quality of the ambient air. While data from the Charlottesville monitoring station may be used to model the air quality in the localities, this is an approximation for true ambient air quality.

Finally, and in a general sense, the available data may not necessarily reflect or capture the health phenomena most pertinent to TJHD. As this assessment largely relies on how state and national-level agencies and organizations decide to define, collect, organize, and disseminate data, these data may at times fail to encapsulate perfectly the health priorities of TJHD; however, this in no way implies that the data available to TJHD from other sources lack usefulness.

Conclusion

Collected data were disseminated via a series of presentations to the Leadership Council and to the locality CHA Councils in Charlottesville/Albemarle, Fluvanna, Greene, Louisa, and Nelson during monthly meetings where input was sought regarding clarifications to the data. Supplementary data were then collected, when available, if the Councils felt they would provide more depth or clarity to an issue.

Along with the shared understanding of the local public health system gained through the Local Public Health System Assessment, the Forces of Change Assessment, and the qualitative community perspective gained through the Community Themes and Strengths Assessment, the CHA laid a strong data-driven foundation for the Councils to select community health priorities and formulate goals and strategies for inclusion in the Community Health Improvement Plan.

Endnotes

[1] Virginia Department of Health, Division of Policy and Evaluation. (2013). Behavioral Risk Factor Surveillance Survey. Current Smoking at the State, Health Region, and Health District Levels, Virginia. Retrieved September 29, 2016 from *http://www.vdh.virginia.gov/livewell/data/surveys/brfss/archived/brfss_tables/8.%20Tobacco/10.%20VBR13%20_RFSMOK3%20(Current%20Smoker)%20Health%20Districts.pdf*

[2] Rothman, K.J. (2002). *Epidemiology: An introduction.* 2nd ed. New York, NY: Oxford University Press.

[3] Virginia Department of Health, Office of Epidemiology. (2014). Reportable Disease Surveillance in Virginia. Retrieved September 29, 2016 from *https://www.vdh.virginia.gov/Epidemiology/Surveillance/SurveillanceData/AnnualReports/Reports/Diseases%202014/Intro2014.pdf.*

CHA Section 1

Section one includes information to answer the question:

Who comprises the community, and what do community members bring to the table?

Demographics

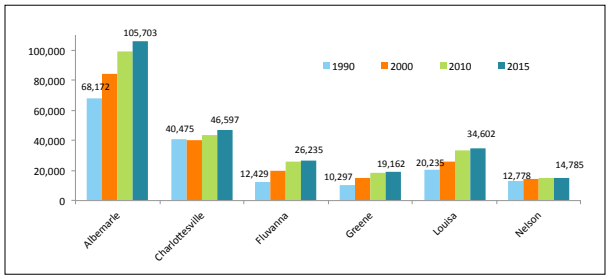


Figure 1 | Change in Population, TJHD Localities, 1990–2015. Source: U.S. Census Bureau, Population Division, 2016.

Locality	1990	2000	2010	2015	% Change 2010-2015
Albemarle	68,172	84,186	98,970	105,703	6.80%
Charlottesville	40,475	40,099	43,475	46,597	7.20%
Fluvanna	12,429	20,047	25,691	26,235	2.10%
Greene	10,297	15,244	18,403	19,162	4.10%
Louisa	20,235	25,627	33,153	34,602	4.40%
Nelson	12,778	14,445	15,020	14,785	-1.60%
TJHD	164,476	199,648	234,712	247,084	5.30%
Virginia	6,189,317	7,079,030	8,001.024	8,382,993	4.80%

Table 1 | Population and Percent Change in Population between 1990–2015 in TJHD Localities and VA. Source: U.S. Census Bureau, Population Division, 2016.

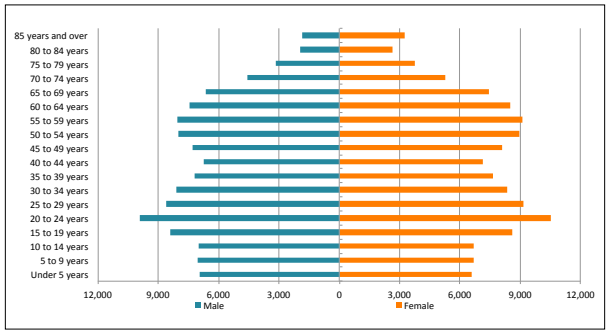


Figure 2 | Population Estimates by Age and Gender, TJHD, 2015. Source: U.S. Census Bureau, Population Division, 2016.

Population Estimates and Growth

The population in the Thomas Jefferson Health District (TJHD) localities increased from 1990 to 2015. As of 2015, the total population is highest in Albemarle County (105,703) and lowest in Nelson County (14,785) (Figure 1). Also of note, the percent change in population from 2010–2015 was highest in the City of Charlottesville (7.2%) and decreased in Nelson County (-1.6%) (Table 1).

Age and Sex Distribution of the Population

Figure 2 shows the population age and sex distribution in TJHD. College students are counted as residents of the locality in which they attend college, rather than their permanent residence. Students attending the University of Virginia (UVA) are counted among Albemarle County residents if they live in dormitories and among Charlottesville or Albemarle residents if they live off-campus, depending on their local address. The number of UVA first and second year students living in dorms increases the number of people living in Albemarle. This effect is most obvious in the number of 20–24-year-olds which is the largest demographic of both males and females in TJHD. The second largest demographic among females and males is 25–29-year-olds.

From 2000 to 2015, the percent change in population by age group and gender in TJHD saw the largest increase among males aged 85+ years (121.3% increase) and the largest decrease in females aged 40–44 years (12.3% decrease). The population aged 55–69 years also experienced a large increase during the same time frame. This may be

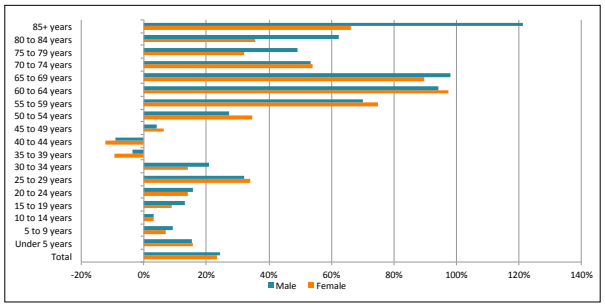


Figure 3 | Percent Change in Population by Age Group and Gender in TJHD from 2000–2015. Source: U.S. Census Bureau, Population Division, 2016.

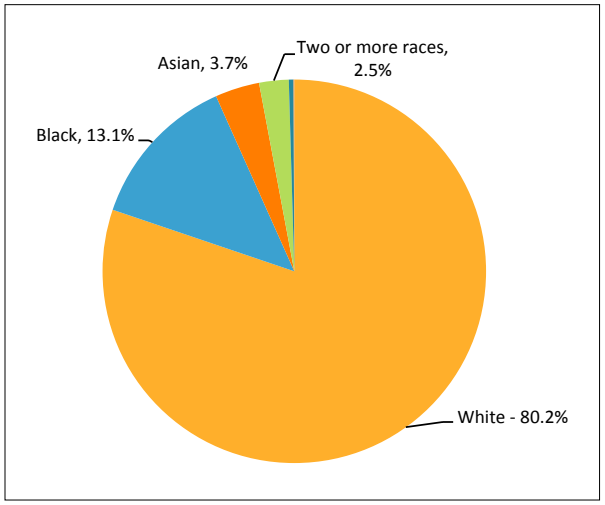


Figure 4 | Racial Composition, TJHD, 2014. Source: U.S. Census Bureau, Population Division, 2016.

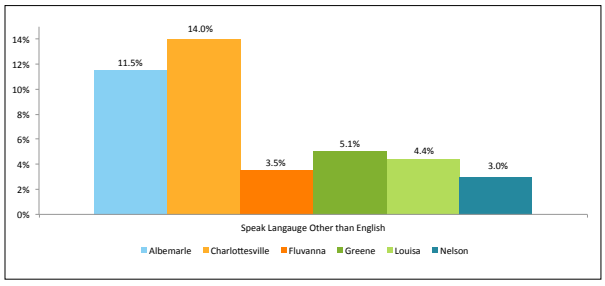


Figure 5 | Percent of Population Speaking a Language Other than English, 2014. Source: U.S. Census Bureau, 2010–2014 American Community Survey 5-Year Estimates, 2016.

due in part to the aging of the Baby Boomer generation as well as many retirees choosing to move to the TJHD area from other areas (Figure 3).

Racial and Ethnic Composition of Population

As of 2014, 80.2% of the population in TJHD identified as white, 13.1% black or African-American, 3.7% Asian, and less than 1% Native Hawaiian/Other Pacific Islander or American Indian/Alaska Native. People who identified as two or more races comprised 2.5% of the population (Figure 4).

The percent of the population speaking a language other than English varies between 3% and 14% in TJHD localities. The City of Charlottesville has the highest percent (14%) of the population who speaks a language other than English while Nelson County has the lowest (3%) (Figure 5). Overall in TJHD, languages in the Spanish or Spanish Creole language family are spoken by a greater percent of the population (3.5%) than languages in other language families (Figure 6). The International Rescue Committee (IRC), a refugee resettlement organization, is located in Charlottesville and may contribute to the higher percent of the population speaking a language other than English, especially the higher percent of those speaking Asian and Pacific Island languages.

The percent of public school students in TJHD who are Limited English Proficiency (LEP) increased since the 2002–2003 school year, most notably in the City of Charlottesville. From the 2010–2011 school year to the 2015–2016 school year, LEP enrollment in Charlottesville increased from 8.6% to 11.9%. Each locality in TJHD experienced an increase in LEP en-

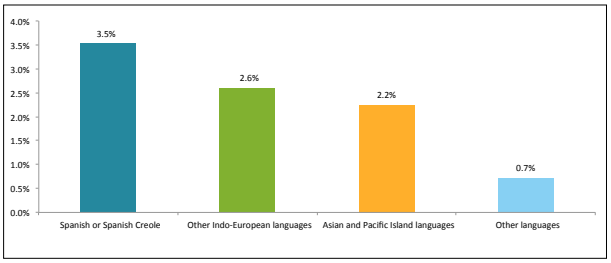


Figure 6 | Percent of Population Speaking Each Language by Language Family (for Languages Other Than English) in TJHD, 2014. Source: U.S. Census Bureau, 2010-2014 American Community Survey 5-Year Estimates, 2016.

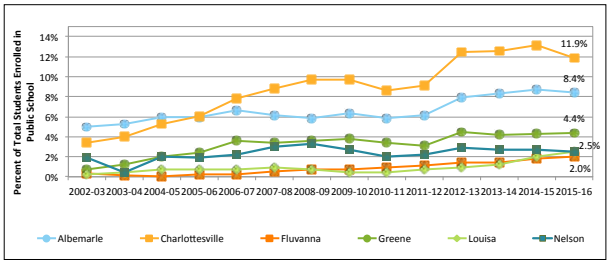


Figure 7 | Limited English Proficient Student Enrollment, TJHD Localities, 2002–2016. Source: Virginia Department of Education. Fall Membership Reports—Division Totals by Grade, 2016.

Locality	Total Number of Disability Beneficiaries (OASDI + SSI)	Total Population (2014)	% of the Population Receiving Disability Benefits
Albemarle	2,514	104,489	2.41%
Charlottesville	1,859	45,593	4.08%
Fluvanna	1,027	26,092	3.94%
Greene	733	19,031	3.85%
Louisa	2,128	34,348	6.20%
Nelson	841	14,850	5.66%
TJHD	9,102	244,403	3.72%
Virginia	363,338	8,326,289	4.36%

Table 2 | Percent of the Population Receiving Disability Benefits (SSI Recipients and OASDI Beneficiaries), TJHD by Locality, 2014. Source: Social Security Administration, 2016.[1]

rollment in the same time frame. As of the 2015–2016 school year, Albemarle (8.4%) and Charlottesville (11.9%) have the highest LEP student enrollment rates. Fluvanna (2.0%) had the lowest LEP enrollment as of the 2015–2016 school year (Figure 7).

Persons with Disabilities

The combined number of persons receiving Supplemental Security Income (SSI) and Old-Age, Survivors, and Disability Insurance (OASDI) benefits provides a snapshot of those in the community with disabilities. Overall, TJHD has a lower percentage of the population receiving disability benefits than the state. Louisa has the highest percentage of the population receiving disability benefits (6.2%), while Albemarle has the lowest (2.4%) (Table 2).

Figure 8 shows the changes in the percentage of public school students who receive special education in each locality of TJHD. The percentage of children receiving special education in TJHD has remained constant or decreased slightly in every locality with the exception of Louisa County which experienced an increase from 9.1% to 11.1% from school year 2010–11 to school year 2015–2016. During the 2015–2016 school year, Albemarle County (5.8%) had the lowest percent enrolled in special education (Figure 8).

Educational Milestones

In 2015, the on-time graduation rate[2] for economically disadvantaged students was lower than that for all students in every TJHD locality and Virginia overall. The highest on-time graduation rate for all students was in Greene (95.7%), and the lowest was in Nelson (83.9%). The highest on-time graduation rate for economically disadvantaged

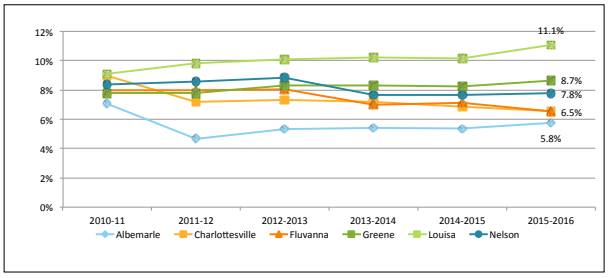


Figure 8 | Percent of Children Aged 19 Years and Younger Receiving Special Education, 2010–2016. Source: VDOE Special Education Child Count Reports, 2016.

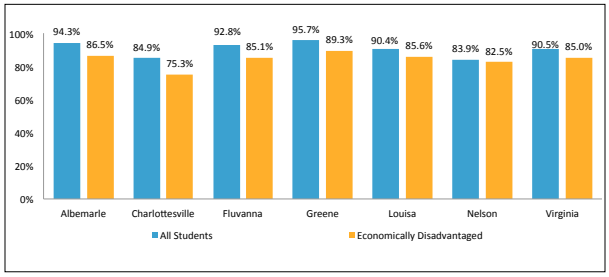


Figure 9 | On-Time Graduation, All Students, TJHD Localities and Virginia, 2015. Source: Virginia Department of Education, Virginia School Report Card, 2016.

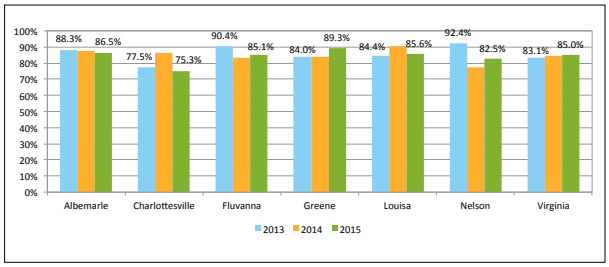


Figure 10 | On-Time Graduation, Economically Disadvantaged Students, TJHD Localities and Virginia, 2013–2015. Source: Virginia Department of Education, Virginia School Report Card, 2016.

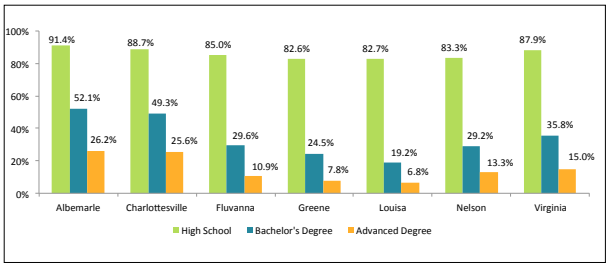


Figure 11 | Percentage of Population with Highest Educational Diploma/Degree Obtained by Type in TJHD Localities, 2014. Source: Census Bureau, 1-year Estimates from the American Community Survey, 2015.

students was in Greene (89.3%), and the lowest was in Charlottesville (75.3%). The largest disparity between all students and economically disadvantaged students was in Charlottesville (9.6%), and the smallest disparity was in Nelson (1.4%) (Figure 9). From 2013 to 2015, the on-time graduation rate for economically disadvantaged students decreased in Albemarle, Charlottesville, Fluvanna, and Nelson, while increasing in Greene and Louisa during the same time period (Figure 10)..

When compared to all TJHD localities, as of 2014, Albemarle County has the highest percent of its population having a high school diploma (91.4%), a bachelor's degree (52.1%), and an advanced degree (26.2%). Charlottesville has the second highest percentage of its population holding each type of degree. Both Albemarle and Charlottesville have percentages above the state's average while all of the other TJHD localities have percentages below the state's average (Figure 11). Having the University of Virginia and Piedmont Virginia Community College as well as several large employers who offer jobs requiring a college or advanced degree in Charlottesville and Albemarle could have an influence on the higher percent of their populations holding bachelor's and advanced degrees. Also, having a university and college in Charlottesville and Albemarle may influence the percentage of the population whose highest degree obtained is a high school diploma because students attending college do not yet have a college degree, only a high school diploma. Additionally, the higher cost of living in Charlottesville and Albemarle may influence this measure. Those with less than a college degree may be employed in lower paying jobs and choose to live in a more affordable surrounding county,

The Phonological Awareness Literacy Screening (PALS) is a tool used to measure literacy.

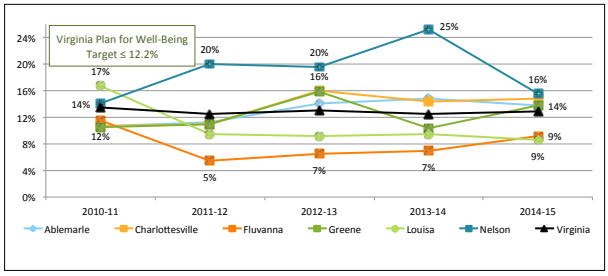


Figure 12 | Kindergarteners whose PALS-K Scores were Below Kindergarten Readiness Levels, 2010-2015. Source: Kids Count, 2016.

Children take the PALS-K test in the fall of their kindergarten year to determine readiness for kindergarten. The Virginia Plan for Well-Being established a goal of having less than 12.2% of Virginia's kindergarteners with PALS-K scores below kindergarten readiness level. In 2014, Fluvanna (9.2%) and Louisa (8.6%) were the only two localities in TJHD to meet this standard. The highest rate of children below kindergarten readiness level in TJHD was in Nelson at 15.5%, which is a decrease from 25.2% in 2013. Charlottesville (14.8%), Greene (13.8%), and Albemarle (13.8%) were all also above the Virginia rate (12.9%) (Figure 12).

Socioeconomics

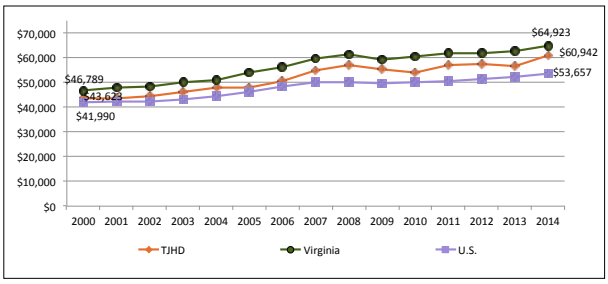


Figure 1 | Median Household Income, TJHD, Virginia, and US, 2000–2014. Source: U.S. Census Bureau, Small Area Income and Poverty Estimates: SAIPE Interactive Data Tool, 2016.

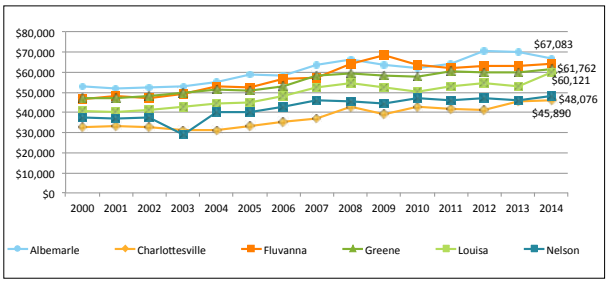


Figure 2 | Median Household Income, TJHD Localities, 2000–2014. Source: U.S. Census Bureau, Small Area Income and Poverty Estimates: SAIPE Interactive Data Tool, 2016.

Median Household Income

Average Median Household Income (MHI) in TJHD ($60,942) has grown slowly, but has remained lower than Virginia's average MHI ($64,923) and higher than the United States' ($53,657) average MHI since the early 2000s (Figure 1). In the localities, Albemarle saw the average MHI decrease from $70,813 in 2012 to $67,083 in 2014. Louisa experienced the greatest rise in MHI from 2012 to 2014 ($54,836 to $60,121) (Figure 2).

Persons Living in Poverty

The U.S. Department of Health and Human Services sets poverty guidelines which serve as a simplified version of poverty thresholds. For administrative purposes, such as determining eligibility for public programs, these guidelines are referred to as the Federal Poverty Level (FPL). The FPL for a household is determined by the number of persons in the household. For instance, as of 2015, for a household of two, the FPL is $15,930 while for a household of four persons, the FPL is $24,250. The FPL can also be used as a way to examine poverty in a community by looking at the percent of persons with household incomes below the FPL.

In 2014, 25.9% of Charlottesville residents lived below the FPL, which is the highest rate in TJHD and also higher than the state and United States average. Charlottesville was the only locality in TJHD with a higher percentage of residents living below the FPL than the national average of 15.5% and the only TJHD locality to see an increase in this percentage from 2012 to 2014. Every

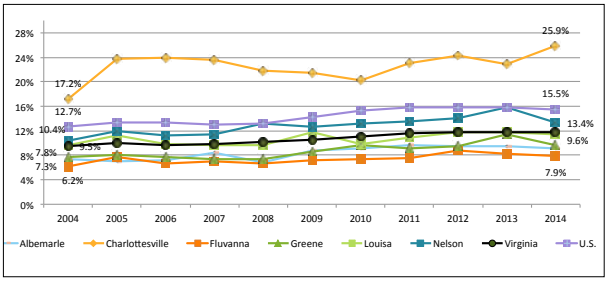


Figure 3 | Percent of Residents Living in Poverty, TJHD Localities, Virginia, and U.S., 2004–2014. Source: U.S. Census Bureau, Small Area Income and Poverty Estimates: SAIPE Interactive Data Tool, 2016.

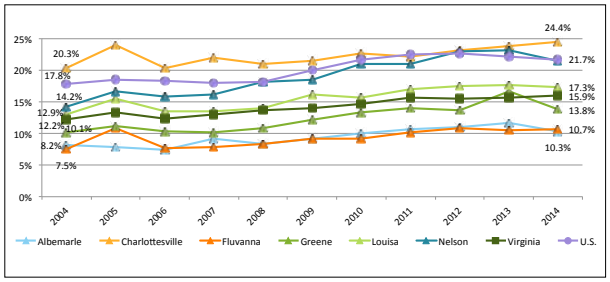


Figure 4 | Percent of Children Aged 18 and Under Living in Poverty, TJHD Localities, Virginia, and U.S., 2004–2014. Source: U.S. Census Bureau, Small Area Income and Poverty Estimates: SAIPE Interactive Data Tool, 2016.

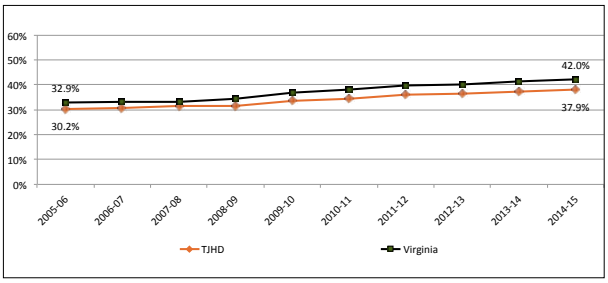


Figure 5 | Percent of Students Eligible for Free or Reduced Lunch, TJHD and Virginia, 2005–2015. Source: Virginia Department of Education, Free and Reduced-Price Lunch Program Eligibility: Public School Divisions, 2016.

other locality saw no change or a decrease in the percentage of persons living in poverty during this time which is similar to trends seen in the United States and Virginia as a whole. Nelson was the only locality other than Charlottesville with a higher percentage of residents in poverty (13.4%) than the Virginia average (11.8%) (Figure 3).

The percentage of children living in households with household incomes less than the FPL was also higher in Charlottesville (24.4%) than all of the other TJHD localities, the U.S. (21.7%), and Virginia (15.9%) averages as of 2014. Louisa (17.3%) and Nelson (21.5%) also had a higher percent of children living in poverty than the state average (Figure 4).

Another indicator used to examine poverty in TJHD is the percentage of children eligible to receive free and reduced-price meals under the National School Lunch Program. Children from households with incomes equal to or less than 130% of the FPL are eligible for free meals while children from households with income between 130% and 185% of the FPL are eligible for reduced price meals. The percentage of children who met the eligibility criteria in TJHD (37.9%) increased from the 2008–09 to the 2014-15 school year, although the TJHD percentage remained lower than the Virginia average (42.0%) (Figure 5). The percentage of children eligible varies between the localities in TJHD with the highest eligible percentage in Charlottesville (54.5%) and the lowest in Albemarle (28.7%) (Figure 6).

The number of households enrolled in the Supplemental Nutrition Assistance Program (SNAP) is another indicator of poverty. The total number of households enrolled in SNAP decreased in all localities in TJHD from 2012 to 2014 after it had grown nearly every year

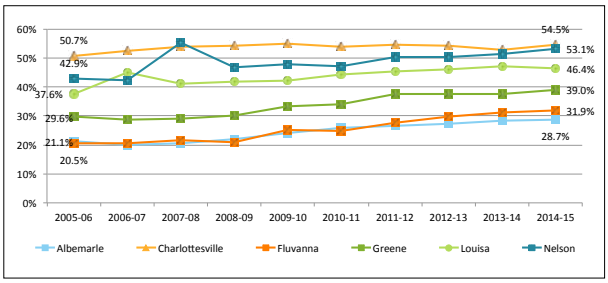


Figure 6 | Percent of Students Eligible for Free or Reduced Lunch, TJHD Localities, 2005–2015. Source: Virginia Department of Education, Free and Reduced-Price Lunch Program Eligibility: Public School Divisions, 2016.

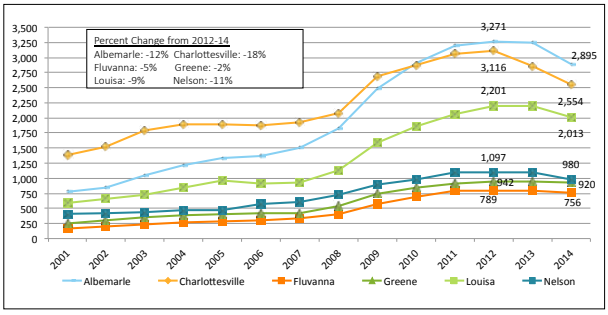


Figure 7 | Number of Households Enrolled in SNAP, TJHD Localities, 2001–2014. Source: Virginia Department of Social Services, Food Stamp Participation Report, 2016.

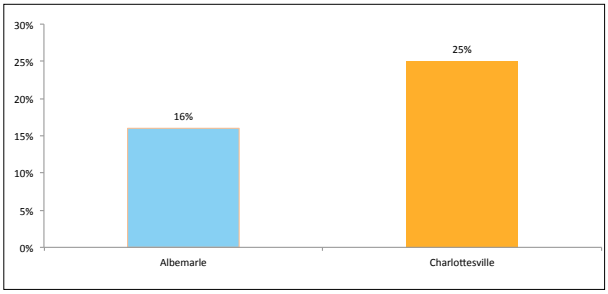


Figure 8 | Percentage of Families That Are Not Self-Sufficient in Albemarle and Charlottesville, 2013. Source: Orange Dot 2.0 Report, 2015.

in every locality since 2001. In 2012, there was a change in the work requirement for SNAP eligibility that may have impacted the number of households who enrolled in SNAP. The number of households enrolled was highest in Albemarle County with 2,895 households enrolled and lowest in Fluvanna County with 756 households enrolled (Figure 7); Albemarle has the largest population among the localities and this measure only looks at the number of households, not ratio of households. The number of households enrolled in SNAP in both Charlottesville and Louisa is close to that of Albemarle; however, Charlottesville and Louisa both have populations much lower than that of Albemarle, indicating that the proportion of households enrolled in SNAP is actually higher in Charlottesville and Louisa than in Albemarle even though the number of households enrolled is higher in Albemarle.

Families and Self-Sufficiency

Orange Dot Project

While income and poverty level are good indicators of the socioeconomic situation in a community, it is also important to consider self-sufficiency—having an income high enough to cover the cost of living as well as the cost of working in a locality. A 2015 study called the Orange Dot Report 2.0 examined the costs of living and working in Charlottesville and Albemarle as well as the number of families who do not have a high enough income to be self-sufficient. The report found that Charlottesville has a higher percentage of families who do not make enough income to be self-sufficient (25%) than does Albemarle (16%) (Figure 8). Additionally, by mapping families by census tract,

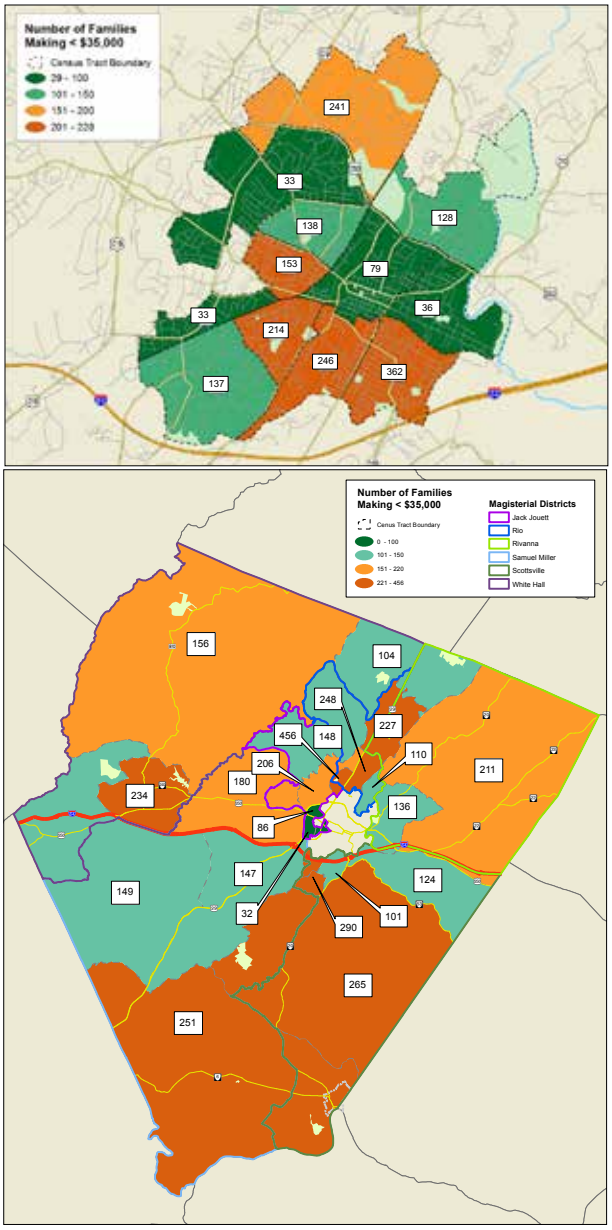


Figure 9 | Number of Families Making Less Than $35,000 by Census Tract in Charlottesville and Albemarle. Source: Orange Dot 2.0 Report, 2015.

the report showed which census tracts had higher and lower concentrations of families who do not earn enough income to be self-sufficient (Figure 9).

While the Orange Dot Report examined self-sufficiency in Albemarle and Charlottesville, students in the University of Virginia's Master of Public Health (MPH) program researched the costs of living and working in the other TJHD localities using a similar methodology to that of the Orange Dot Report. Both the survival and working incomes needed to cover the basic costs of living as well as the costs of working for a single parent with two children are highest in Greene and lowest in Louisa (Table 1).

Unemployment Rate

TJHD has had a lower unemployment rate than that of Virginia and the U.S. since 2000. However, during the recession, the percent of the working-age population who are unemployed increased sharply in TJHD from 2007 (2.5%) to 2010 (6.2%) which is similar to increases in unemployment in VA and the U.S. during that same time frame. After 2010, the unemployment rate decreased steadily in TJHD as well as VA and the U.S. However, as of 2015, the unemployment rate is still higher (3.9%) than the unemployment rate was in TJHD in 2007 before the recession (Figure 10).

The unemployment rates in the TJHD localities have followed the same trend as Virginia and the U.S. by increasing with the recession and then decreasing after 2010. The unemployment rates across all TJHD localities have been similar with the highest rate in Louisa County (4.3%) and the lowest rate a tie between Charlottesville, Fluvanna, and Greene (3.7%) as of 2015 (Figure 11).

	Albemarle-Charlottesville		Fluvanna		Greene		Louisa		Nelson	
	1 Parent + 2 kids (1 toddler)	2 Parents + 2 kids (1 toddler)	1 Parent + 2 kids (1 toddler)	2 Parents + 2 kids (1 toddler)	1 Parent + 2 kids (1 toddler)	2 Parents + 2 kids (1 toddler)	1 Parent + 2 kids (1 toddler)	2 Parents + 2 kids (1 toddler)	1 Parent + 2 kids (1 toddler)	2 Parents + 2 kids (1 toddler)
Costs of Survival										
Food	$5,831.28	$7,763.60	$4,784.00	$6,884.00	$6,748.56	$9,328.80	$6,630.00	$9,555.60	$5,779.00	$8,828.00
Clothing	$1,056.11	$1,396.11	$1,227.00	$3,168.00	$1,184.00	$1,829.00	$2,316.00	$3,204.00	$750.00	$1,230.00
Shelter	$11,124.00	$13,188.00	$13,188.00	$13,188.00	$14,052.00	$14,052.00	$9,876.00	$9,876.00	$12,456.00	$12,456.00
Utilities	$2,645.22	$3,017.22	$3,481.00	$4,196.00	$4,038.00	$4,038.00	$3,123.00	$3,348.00	$3,445.00	$3,989.00
Necessary Costs	$4,131.32	$5,072.99	$4,131.32	$5,072.99	$4,131.32	$5,072.99	$4,131.32	$5,072.99	$4,131.32	$5,072.99
Total Survival Income	$24,787.94	$30,437.92	$26,811.32	$32,508.99	$30,153.88	$34,320.79	$26,076.32	$31,056.59	$26,561.32	$31,575.99
Costs of Working										
Transportation	$240.00	$240.00	$5,700.00	$5,700.00	$9,041.00	$9,041.00	$2,244.00	$2,244.00	$5,471.00	$10,698.00
Childcare	$9,936.00	$9,936.00	$9,936.00	$0.00	$6,750.00	$0.00	$2,690.00	$2,690.00	$9,936.00	$9,936.00
Total Working Income	$34,963.94	$40,613.92	$42,447.32	$38,208.99	$45,944.88	$43,361.79	$31,010.32	$35,990.59	$41,968.32	$52,209.99

Table 1 | Cost of Living, Survival and Working Incomes Needed by TJHD Locality. Sources: Orange Dot 2.0 Report, 2015; UVA MPH Program Community Engagement Class Project Results, 2016.

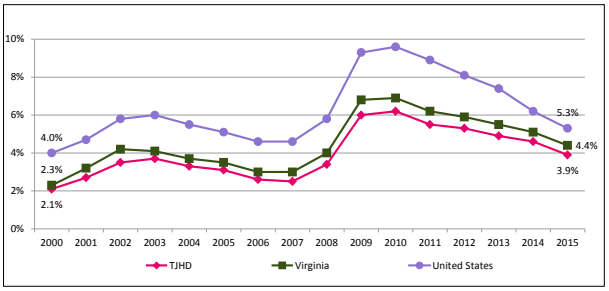


Figure 10 | Unemployment Rate, TJHD, Virginia, and the US, 2000–2015. Source: Virginia Workforce Connection, 2016.

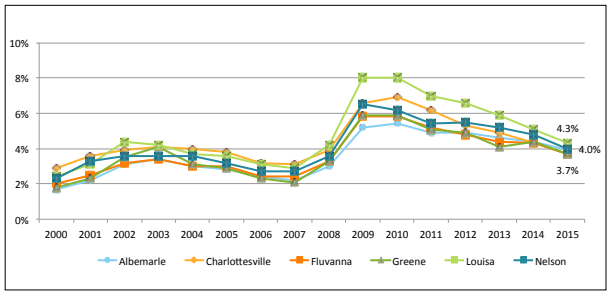


Figure 11 | Unemployment Rate, TJHD Localities, 2000–2015. Source: Virginia Workforce Connection, 2016.

Homelessness

The Thomas Jefferson Area Coalition for the Homeless (TJACH), a coalition of individuals and organizations working to end homelessness in TJHD, conducts a Street Census each year to assess the numbers and select characteristics of homeless persons in TJHD. The number of homeless persons in TJHD has decreased every year since 2010. In 2015, there were 185 homeless persons counted by the survey, which was a decrease from the previous year (2014) in which 199 homeless persons were counted (Figure 12).

The majority of homeless persons in TJHD are in the 40–64 year old age group according to TJACH's 2015 Point-in-Time Survey. Approximately a third (32%) of the homeless population is adults under 40 years of age (aged 19–39 years). The 2015 survey found that very few are children 18 years or younger (2%) or seniors 65 years or older (6%) (Figure 13).

Homeless persons may face barriers to finding and keeping a job. Knowing what barriers the homeless population perceives as most trouble-

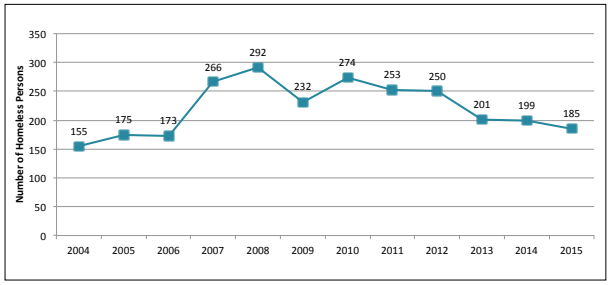


Figure 12 | Total Number of Homeless Persons, TJHD, 2004–2015. Source: Survey by the Thomas Jefferson Area Coalition for the Homeless, 2016.

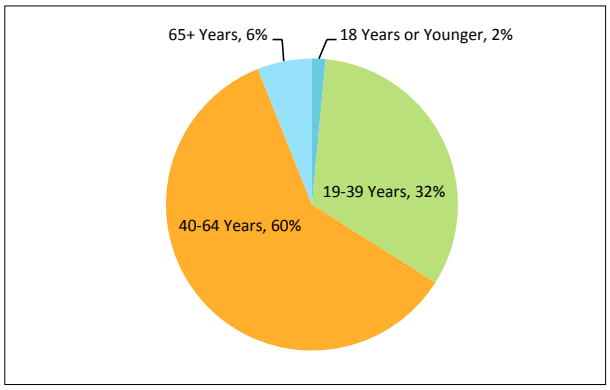


Figure 13 | Age of Homeless Population, TJHD, 2015. Source: 2015 Point-in-Time Comprehensive Survey Analysis: FCG Consulting / Thomas Jefferson Area Coalition for the Homeless, 2016.

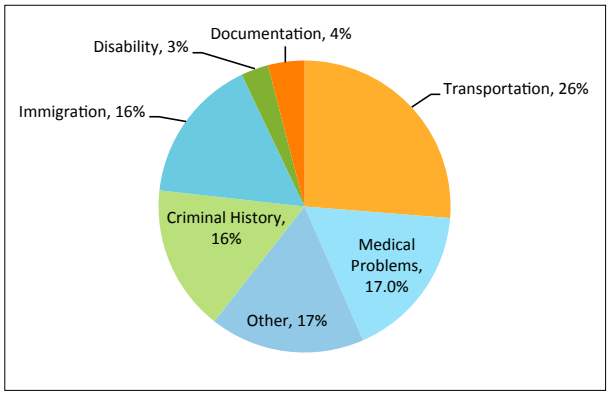


Figure 14 | Challenges in Finding or Keeping a Job, TJHD, 2012. Source: Thomas Jefferson Area Coalition for the Homeless (TJACH), On the Street in Greater Charlottesville Infographic, 2016.

some to finding employment can help inform what services need to be supplied or improved upon in order to help homeless persons earn a reliable income and better care for themselves. Transportation was the most commonly reported challenge to finding and keeping a job; other barriers to employment include medical problems, a criminal history, and immigration status (Figure 14).

Programs to Help Reduce Homelessness

Rapid re-housing refers to financial assistance and services meant to prevent individuals and families from becoming homeless and to help those experiencing homelessness to be quickly re-housed and stabilized. The number of people receiving rapid re-housing has grown to 37 since it started in 2013. Permanent supportive housing refers to services which assist homeless persons in transitioning from homelessness to supportive housing to enable homeless persons to live as independently as possible. The number of people receiving permanent supportive housing has not changed greatly from 2013–2015 (Figure 15).

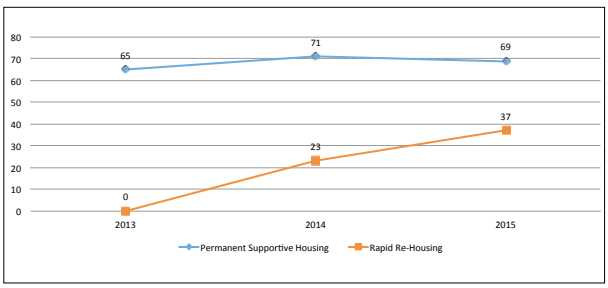


Figure 15 | Number of Homeless Who Receive Permanent Supportive Housing and Rapid Re-Housing, TJHD 2013–2015. Source: Thomas Jefferson Area Coalition for the Homeless, On the Street in Greater Charlottesville Infographic, 2016.

Health Resource Availability

Health Insurance

Access to healthcare is largely affected by consumer health insurance coverage. Sources of health insurance include employer-based private coverage, private policies purchased by individuals, and government-provided or subsidized coverage through the Health Insurance Marketplace, Medicaid, Family Access to Medical Insurance Security (FAMIS), and Medicare.

Medicaid

To receive Medicaid benefits, recipients must meet categorical, income, and resource criteria as established by each state. Medicaid was not expanded in Virginia and is currently available to the following groups:

- Qualifying aged (65+), blind, and disabled (ABD) residents[3]
- Pregnant women whose family income is at or below 143% of the FPL
- Some parents and caregivers up to 49% of FPL
- Children less than 19 years of age living in households with incomes of less than 143% of the FPL are eligible for FAMIS Plus (Children's Medicaid)
- Former foster care youth under age 26

Plan First

Plan First provides family planning care to qualifying men and women who earn an income up to 200% of the FPL.

FAMIS & FAMIS MOMS

In Virginia, the State Children's Health Insurance Program (SCHIP) is called FAMIS and is available for uninsured children under 19 years old who live in households with incomes up to 200% of the FPL. FAMIS MOMS is available for uninsured pregnant women who have household incomes up to 200% of the FPL.

GAP

The Governor's Access Plan (GAP) covers uninsured adults aged 21 to 64 years with a serious mental illness and income below 80% of the FPL.

Hospital Presumptive Eligibility

Hospital Presumptive Eligibility (HPE) is a temporary short-term coverage program where hospitals may be able to enroll qualifying individuals based on income and non-financial eligibility for the following coverage groups:

- A parent or caretaker relative of a child or children in the home under age 18 or 19 if the child remains in school
- A pregnant woman
- A child under age 19
- An individual under age 26 who was a former foster care child
- A person who has been diagnosed with breast or cervical cancer
- A person eligible for limited Medicaid benefit for family planning coverage only[4]

Medicare

Medicare, a federal program, is available for those aged 65 years and older, certain disabled individuals and people with end-stage renal disease.

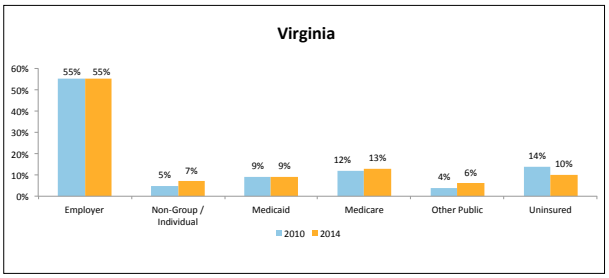


Figure 1 | Sources of Health Insurance, Virginia 2014. Source: Kaiser Family Foundation, State Health Facts, 2016.

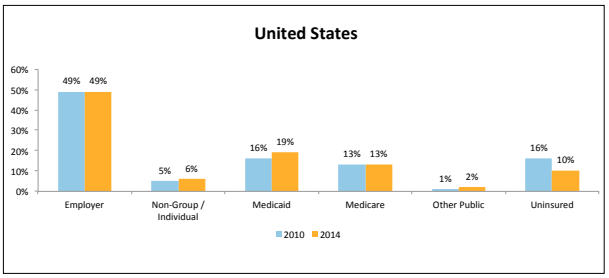


Figure 2 | Sources of Health Insurance, U.S., 2014. Source: Kaiser Family Foundation, State Health Facts, 2016.

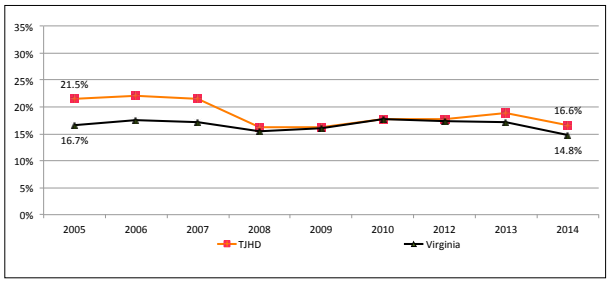


Figure 3 | Percent of Estimated Uninsured Persons Aged 18–64 Years, TJHD and Virginia, 2005–2014. Source: U.S. Census Bureau, Small Area Health Insurance Estimates, 2014.

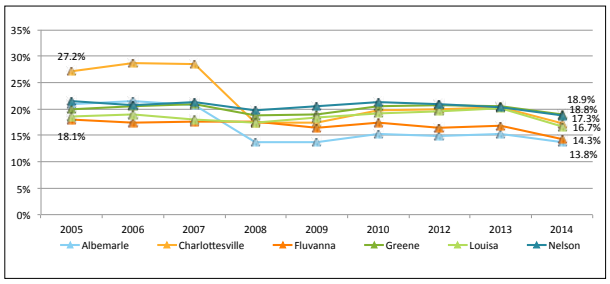


Figure 4 | Percent of Estimated Uninsured Persons Aged 18–64 Years, TJHD Localities, TJHD, and Virginia, 2005–2014. Source: U.S. Census Bureau, Small Area Health Insurance Estimates—Interactive Data Tool, 2016.

Compared to the United States as a whole, a greater percentage of Virginia residents receive health insurance through their employer. A smaller percentage receive Medicaid in Virginia than in the United States. Also of note, between 2010 and 2014, Virginia and the United States saw a decrease in the percent of persons without health insurance. This is likely due to the provision of the Affordable Care Act which was signed into law in 2010 (Figure 1 and Figure 2).

The estimated percentage of uninsured adults aged 18–64 was higher in 2014 among TJHD adults (16.6%) than Virginia's estimated percentage (14.8%) (Figure 3). In 2014, Greene (18.9%), Nelson (18.8%), and Louisa (16.7%) counties as well as Charlottesville (17.3%) had a higher percentage of uninsured residents aged 18–64 years than did TJHD as a whole. Albemarle (13.8%) and Fluvanna (14.3%) counties both had a smaller percentage than TJHD (Figure 4).

In TJHD, the percentage of uninsured children aged less than 19 years has gradually decreased since 2006. However, it remains higher than the percentage of uninsured children statewide (Figure 5).

From 2010 to 2013, the only TJHD locality to experience an increase in the percentage of uninsured children aged less than 19 years was Louisa (from 8.2% in 2010 to 8.4% in 2013). Greene saw an increase in the number of children who are uninsured from 7.9% to 8.4% between 2012 and 2013. All other TJHD localities experienced a decrease in this time frame except for Fluvanna, which remained at 6.4% in both years (Figure 6).

Medicaid Coverage

Children: 0–17 year-olds

During fiscal year 2015, the largest age bracket to receive Medicaid benefits was 0–17 year-olds.

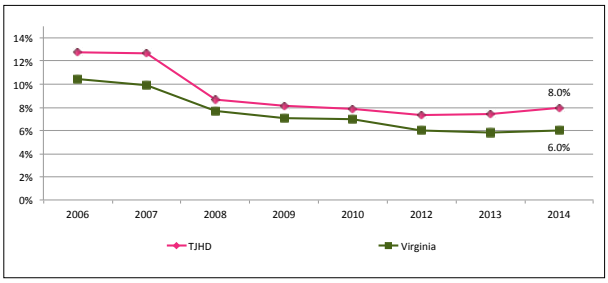


Figure 5 | Percent of Estimated Uninsured People Aged Less than 19 Years, TJHD and Virginia, 2006–2014. Source: U.S. Census Bureau, Small Area Health Insurance Estimates—Interactive Data Tool, 2016

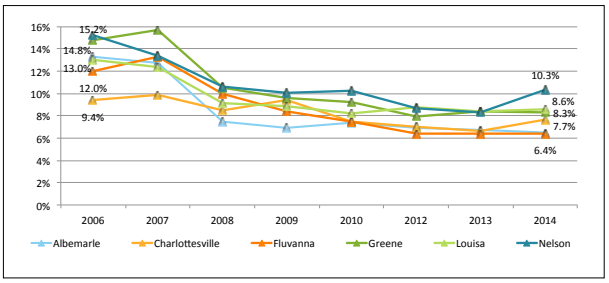


Figure 6 | Percent of Estimated Uninsured People Aged Less than 19 Years, TJHD localities, 2006–2014. Source: U.S. Census Bureau, Small Area Health Insurance Estimates — Interactive Data Tool, 2014.

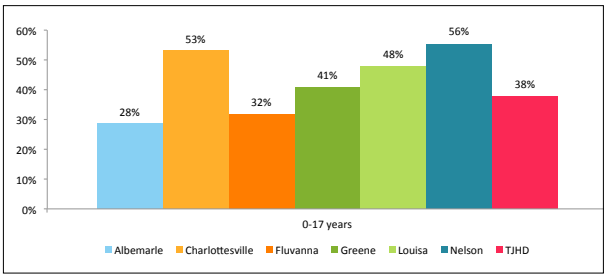


Figure 7 | Percent of Population Enrolled in Medicaid in State FY 2015, Aged 0–17 Years, TJHD Localities and TJHD, 2015. Sources: Department of Social Services; U.S. Census Bureau; VDH Division of Health Statistics, 2016.

Albemarle had the lowest percentage covered (28%) while Nelson (56%) had the highest percentage of children covered (Figure 7).

Adults

A lower percentage of adults was covered by Medicaid as compared to the percentage of children covered. The percentage of people aged 18–64 who received Medicaid ranged from 6% in Albemarle to 16% in Nelson during fiscal year 2015 (Figure 8). Charlottesville had the highest percentage of people aged 65 or older at 15% and Albemarle County again had the lowest at 6% (Figure 9).

In 2013, the largest percentage of children aged 0–18 living under 250% of the FPL who were uninsured were those who fell between 200% and 250% of the FPL. This was the case in every TJHD locality. Fluvanna had the smallest percentage of uninsured children who lived under 250% of the FPL at 9.2%; 3.9% were uninsured who lived between 200% and 250% of the FPL and 2.1% were uninsured who lived under 138% of the FPL. Louisa had the largest percentage of uninsured children living under 250% of the FPL at 14.2%. In Louisa County, 6% of the children in the highest-income household poverty group were uninsured, while 3.3% of the children in the lowest-income household poverty group were uninsured (Figure 10).

Availability of Primary Care and Mental Health Providers

Primary Care Providers

Assessing the ratio of primary care providers (PCPs) to the population in a community can provide insight into the availability of primary care in that community.[5] Within TJHD, Charlottesville has the lowest ratio of primary care

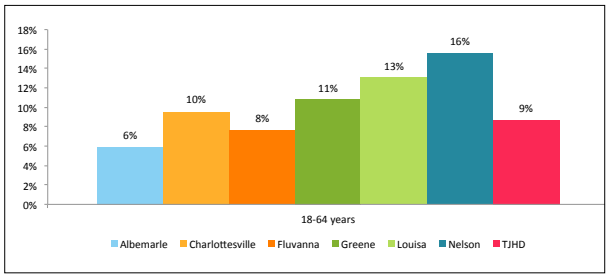


Figure 8 | Percent of Population Enrolled in Medicaid in FY 2015, Aged 18–64 Years, TJHD Localities and TJHD, 2015. Sources: Department of Social Services; U.S. Census Bureau; and VDH Division of Health Statistics, 2016.

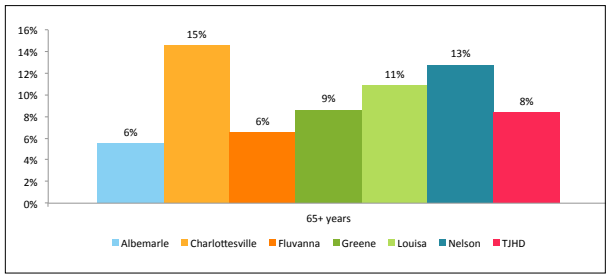


Figure 9 | Percent of Population Enrolled in Medicaid in FY 2015, Aged 65+ Years, TJHD Localities and TJHD, 2015. Sources: Department of Social Services; U.S. Census Bureau; and VDH Division of Health Statistics, 2016.

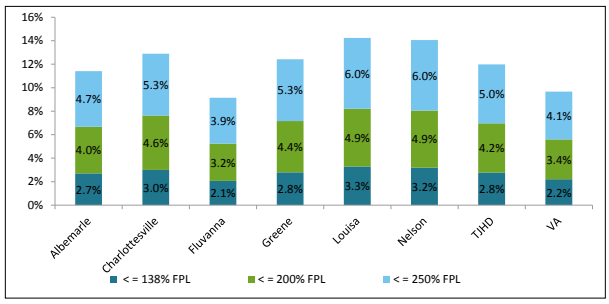


Figure 10 | Uninsured Children Ages 0–18 Years by Household Poverty Level Group, TJHD Localities and TJHD, and VA, 2013. Source: Virginia Atlas of Community Health, Health Coverage, 2014.

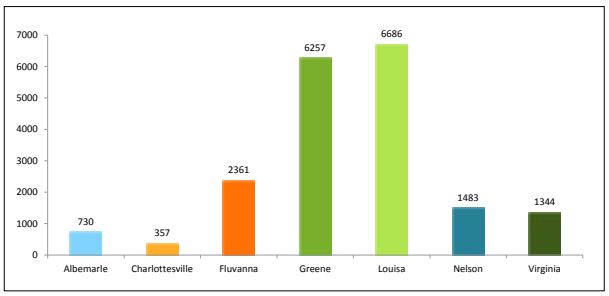


Figure 11 | The Ratio of Primary Care Providers to Population in TJHD Localities and Virginia, 2012. Source: County Health Rankings, 2016.

providers to population with 1 PCP for every 357 individuals which was lower than the state average. Louisa has the highest ratio with 1 PCP for every 6,686 individuals which was much higher than the state average (Figure 11).

Mental Health Providers

Similar to assessing primary care, assessing the ratio of mental healthcare providers can indicate the availability of mental health providers in the community. In TJHD, the ratio of mental health providers is lowest in Charlottesville with 1 mental health provider for every 116 individuals and highest in Louisa with 1 mental health provider for every 6,870 individuals (Figure 12).

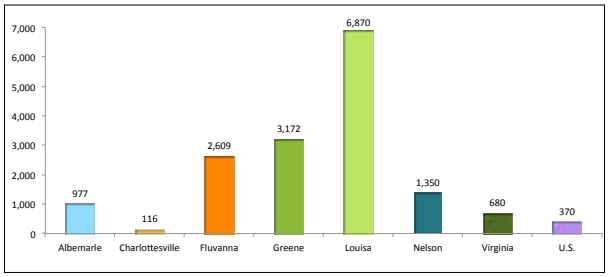


Figure 12 | The Ratio of Mental Health Providers to Population in TJHD Localities, VA, and U.S., 2014. Source: County Health Rankings, 2016.

Endnotes

Demographics

[1] SSI Beneficiaries includes those only receiving SSI benefits—those who also received OASDI benefits were not included in this number to avoid duplication; OASDI Beneficiaries includes all those classified under the disability category.

[2] On-time graduation: the percentage of students in a cohort who earn a diploma within 4 years of entering high school. A cohort is a group of students who entered the ninth grade for the first time together and were scheduled to graduate 4 years later.

Health Resource Availability

[3] The Social Security Administration (SSA) defines a disability for an individual 18 years of age or older as the inability to do any substantial gainful activity (work) because of a severe medically determinable physical or mental impairment that has lasted or is expected to last for a continuous period of not less than 12 months or until death.

[4] Cover Virginia. Our Programs. Retrieved October 26, 2016 from *http://www.coverva.org/main_programs.cfm*

[5] Primary care physicians: non-federal, practicing physicians (MD and DO) under age 75 specializing in general practice medicine, family medicine, internal medicine, and pediatrics; it does not include nurse practitioners, physician assistants or other practitioners available for primary care services.

CHA Section 2

Section two includes information to answer the question:

What are the strengths and risk factors in the community that contribute to health?

Community Resources

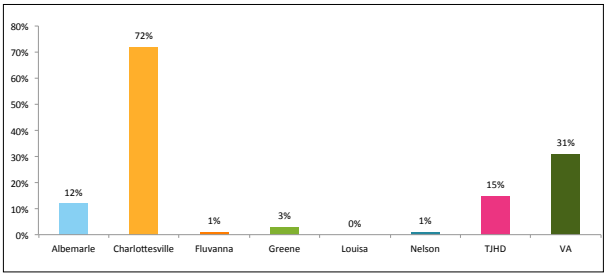


Figure 1 | Population Living within 1/2 Mile of a Park, TJHD Localities, VA, and U.S., 2010. Source: Centers for Disease Control and Prevention, National Environmental Public Health Tracking Network, 2010.

Recreational Facilities

Increased physical activity is associated with lower risks of type 2 diabetes, cancer, stroke, hypertension, cardiovascular disease, and premature mortality. The built environment plays an important role in encouraging physical activity—individuals who live closer to sidewalks, parks, and gyms are more likely to exercise.[1,2,3,4] According to the Centers for Disease Control and Prevention's National Environmental Public Health Tracking Network, the closer someone lives to a park, the more likely he or she is to walk or bike there. Walking and biking to parks can decrease air pollution and car crashes, which in turn, can reduce chronic disease rates and traffic-related injuries. In Charlottesville, most (72%) residents live within a half-mile of a park, which is higher than the average percent in Virginia (31%). The other TJHD localities, which are more suburban or rural, have a small percentage of their population living within a half-mile of a park (Figure 1).

The County Health Rankings measure the percentage of the population with access to adequate exercise opportunities. Locations for physical activity are defined as parks or recreational facilities (facilities such as gyms, community centers, YMCAs, dance studios, and pools). Living in close proximity to a park or recreational facility is defined as residing in a census block within a half-mile of a park or within one mile of a recreational facility if in an urban area or three miles if in a rural area; this measure does not take into account the cost of using the park or facility or resident income. According to this measure, all of the residents in Charlottesville have adequate

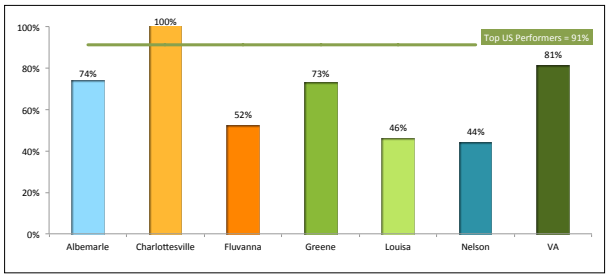


Figure 2 | Percentage of Population with Adequate Access to Locations for Physical Activity, TJHD Localities, 2014. Source: County Health Rankings, Health Factors, Health Behaviors, 2016.

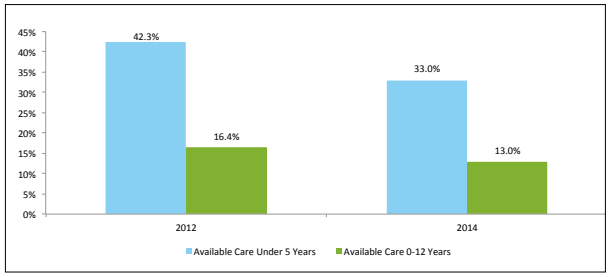


Figure 3 | Percentage of Children with a Childcare Slot Available to Them, TJHD, 2012 and 2014. Source: Virginia Department of Social Services and U.S. Census Bureau, 2016.

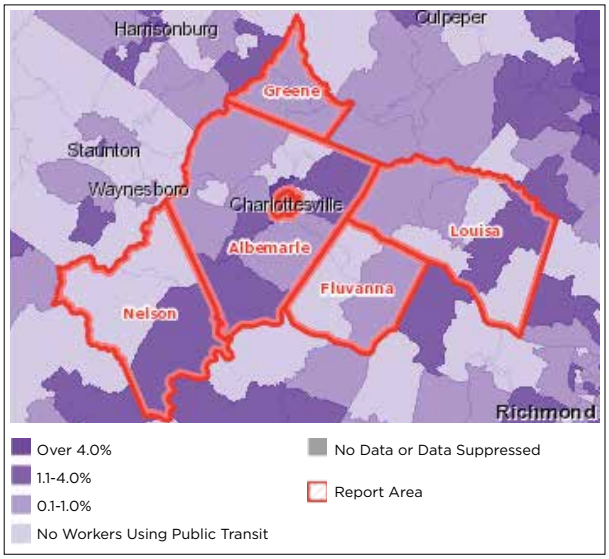


Figure 4 | Workers Traveling to Work Using Public Transit, Percent by Census Tract, TJHD, 2009–2013. Source: Community Commons Report, 2015.

access to locations for physical activity. However, the other localities in TJHD have less than the state average (81%) of their population who has adequate access to locations for physical activity (Figure 2).

Chldcare

According to the American Planning Association, a nonprofit that provides community development leadership, childcare is a vital part of livable communities. From 2012 to 2014 in TJHD, there was a decrease in the availability of childcare slots. Several licensed childcare locations closed during that time period while the population of young children increased across the district. The proportion of available childcare slots is higher for children under 5 years of age than it is for children aged 0–12 years which is likely due to age limits at some of the licensed childcare facilities (Figure 3).

Public and Private Transportation

Public transportation includes buses or trolley buses, streetcars or trolley cars, subway or elevated rails, and ferryboats. In TJHD, the use of these services is highest in Charlottesville and the eastern portions of Albemarle and Nelson. The areas where these services are least used are in the western portions of Nelson and Fluvanna, some areas in central and eastern Louisa, and areas in northern Albemarle (Figure 4). Much of the public transit that is available is concentrated in the areas that are more densely populated; Charlottesville Area Transit (CAT) operates 11 bus routes serving Charlottesville and parts of Albemarle that are adjacent to Charlottesville. The University of Virginia's (UVA) University Transit Service (UTS) operates 9 bus routes in

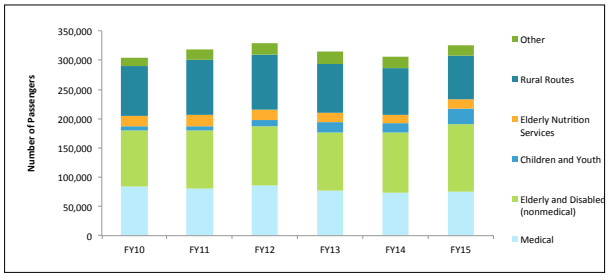


Figure 5 | Number of JAUNT Passengers by Category, TJHD (excluding Greene County), 2010–2015. Source: JAUNT Ridership Report, 2016.

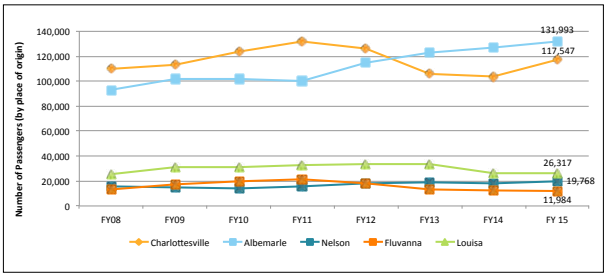


Figure 6 | Number of JAUNT Passengers by Place of Origin, TJHD (excluding Greene County), 2008–2015. Source: JAUNT Ridership Report, 2016.

Number of Rideshare Park ad Ride Lots	
Albemarle	**11**
Charlottesville	**1**
Fluvanna	**1**
Greene	**1**
Louisa	**2**
Nelson	**4**

Table 1 | Number of Rideshare Park and Ride Lots, TJHD Localities, 2015. Source: Thomas Jefferson Planning District Commission's Rideshare, 2016.

and around UVA and the parts of Charlottesville and Albemarle surrounding UVA.

JAUNT, Inc. is a publically-owned regional transportation system providing service to residents of Albemarle, Charlottesville, Fluvanna, Louisa, and Nelson as well as Buckingham and Amherst Counties. Greene is served separately by Greene County Transit Authority. Since fiscal year 2010 (FY10), the annual number of passengers served by JAUNT has consistently been between 300,000 and 330,000. Every year, the top three categories of passengers who use JAUNT has been, in order, the elderly and disabled (non-medical), those living on rural routes, and those with medical conditions. There was not much change in the number or composition of JAUNT ridership from FY10 to FY15. However, the number of children and youth served by JAUNT increased steadily from 7,577 in FY10 to 26,954 in FY15 (Figure 5).

The majority of JAUNT passengers are from Charlottesville and Albemarle. Fluvanna and Louisa have seen decreases in the number of passengers whereas there has been an increase in passengers riding from Nelson (Figure 6).

The Thomas Jefferson Planning District Commission, in cooperation with the Central Shenandoah Planning District Commission, began a program to reduce traffic congestion and increase mobility throughout Central Virginia and the Central Shenandoah Valley. RideShare has a total of 20 TJHD-based park and ride lots with the majority of these lots located within Albemarle (Table 1).

The transportation choices that communities and individuals make have important impacts on health through active living, air quality, and traffic crashes. The choices for commuting to work

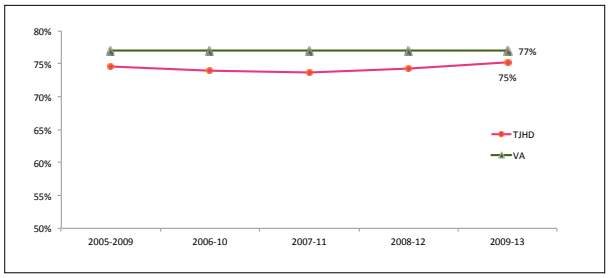


Figure 7 | Percentage of Workforce that Drives to Work Alone, TJHD and Virginia, 2005–2013. Source: County Health Rankings, Health Factors, Health Behaviors, 2016.

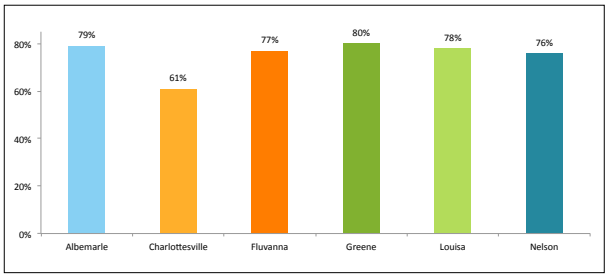


Figure 8 | Average Percentage of Workforce that Drives to Work Alone, TJHD Localities, 2009–2013. Source: County Health Rankings, Health Factors, Health Behaviors, 2016.

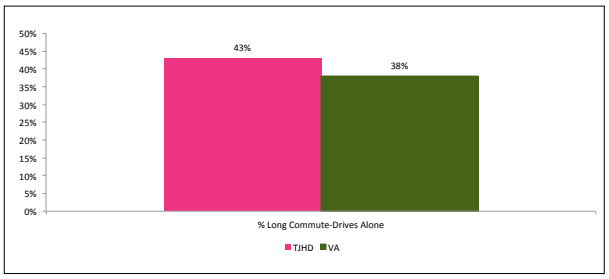


Figure 9 | Average Percentage of Workforce that Drives to Work Alone and also Travels More than 30 Miles, TJHD and Virginia, 2009–2013. Source: County Health Rankings, Health Factors, Health Behaviors, 2016.

can include walking, biking, taking public transit, driving, or carpooling; the most damaging to a community's overall health is when passengers drive to work alone. The farther people commute by vehicle, the higher their blood pressure and body mass index, and the less physically active they are. Our current transportation system also contributes to physical inactivity—each additional hour spent in a car per day is associated with a 6% increase in the likelihood of obesity.[5,6]

Most workers drive to work alone in both TJHD and VA. The average percentage of workers who commute alone has remained unchanged in Virginia (77%) since 2005. From 2009–2013 in TJHD, the average percentage of workers driving to work alone was 75% (Figure 7). However, there is variation across the TJHD localities with as few as 61% of workers driving alone to work in Charlottesville to as many as 80% in Greene (Figure 8).

The percentage of workers who drive to work alone and have a long commute to work (more than 30 miles) was 43% in TJHD from 2009–2013 which was higher than the Virginia average of 38% (Figure 9).

Community Safety

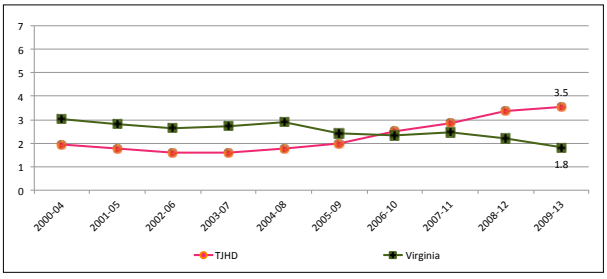


Figure 1 | Founded Child Abuse and Neglect Report Rate per 1,000 Children Aged 0–17 Living in TJHD and Virginia, 2000–2013. Source: Virginia Department of Social Services Report, Rate of Abuse/Neglect per 1,000 Children by Locality, Completed Founded Investigations, 2016.

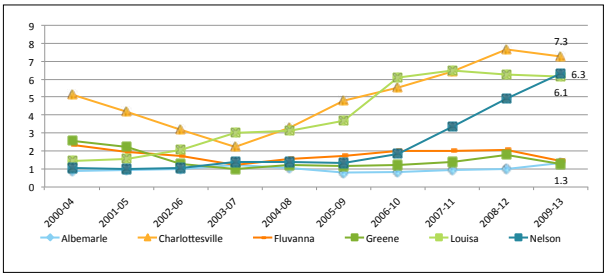


Figure 2 | Founded Child Abuse and Neglect Report Rate per 1,000 Children Aged 0–17 Living in Locality, TJHD Localities, 2000–2013. Source: Virginia Department of Social Services Report, Rate of Abuse/Neglect per 1,000 Children by Locality, Completed Founded Investigations, 2016.

The safety of our communities has both direct and indirect effects on health. Victims of violent crimes experience both physical and psychological health issues. Persons who are routinely exposed to unsafe communities may be affected by psychosocial stress that affects health, and fear of crime has been shown in studies to be directly associated with poor health outcomes. Additionally, higher levels of crime in a neighborhood are associated with lower levels of physical activity.[7]

Abuse and Neglect

Of reports for maltreatment, only a small proportion of reports qualify for a review. Founded child abuse and neglect reports are those that show strong proof of child abuse and/or neglect after a review of the facts and evidence. Statewide, the four-year rolling average for the rate of founded child abuse and neglect cases[8] per 1,000 children has been decreasing since 2004–2008, but has been rising in TJHD since 2003–2007. As of 2009–2013, the average rate in TJHD was 3.53 founded cases per 1,000 children and 1.83 in Virginia (Figure 1). Fluvanna, Greene, and Albemarle had rates lower than the state average in 2009–2013. Charlottesville as well as Louisa and Nelson have seen increases in this rate since 2003–2007 with Charlottesville having the highest rate in 2009–2013 at 7.27 proven incidences of child abuse or neglect per 1,000 children (Figure 2).

The Virginia Department of Aging and Rehabilitative Services tracks adult abuse reports and provides data at a regional level. Within each region, the majority of adult abuse cases were founded as self-neglect wherein an adult lacks

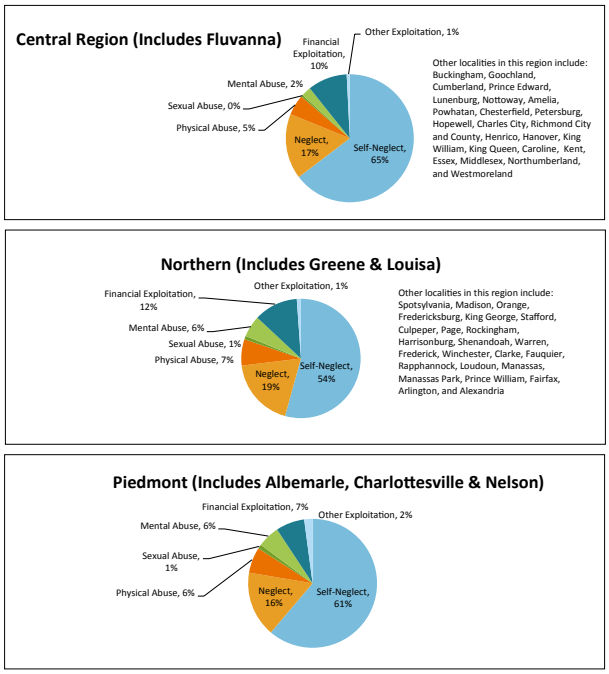


Figure 3 | Percentage of Adult Abuse by Forms of Abuse, Central, Northern, and Piedmont DSS Regions, Fiscal Year 2015. Source: Virginia Department of Aging and Rehabilitative Services, Adult Protective Services Division, FY 2015 Annual Report, 2016.

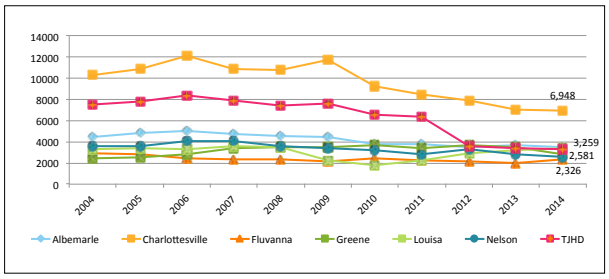


Figure 4 | Reported Crime Incidents per 100,000 Residents, TJHD Localities and TJHD, 2004–2014. Source: Crime in Virginia, Virginia Uniform Crime Reporting Program, Department of State Police, 2016.

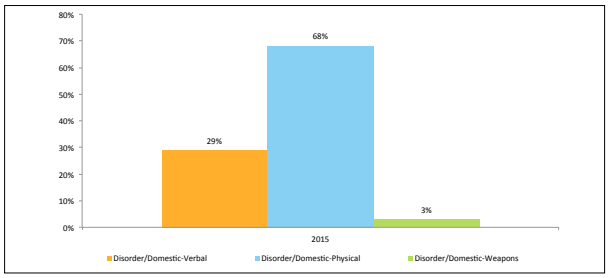


Figure 5 | Percent of Domestic Violence by Type in Louisa County, 2015. Source: Speak Out Against Domestic Abuse (SOADA) and Louisa County Sheriff's Office, 2016.

the ability or will to take care of themselves. The second leading form of adult abuse was neglect by a caretaker. Physical abuse and mental abuse, as well as financial exploitation, were also common in each region (Figure 3).

Crime Rates

Crime incident report rates are one indicator of community safety, but because rates are influenced by factors such as population size, stability and density, economic conditions, and reporting patterns, caution is advised in making inferences from these data.

From 2004–2014, the crime rate (Group A offenses[9]) in TJHD fell from 7,494 per 100,000 residents to 3,259. Crime rates in most TJHD localities remained the same during this time span. Though Charlottesville has the highest crime rate among TJHD's localities, the rate decreased from 10,342 crimes per 100,000 residents to 6,948 in 2014. The lowest crime rate was in Fluvanna at 2,326 crimes per 100,000 residents (Figure 4).

Domestic Violence

Domestic and intimate partner violence data were not available for all TJHD localities. In Louisa, most (68%) of the domestic violence was classified as physical violence while about a quarter (29%) was classified as verbal and only 3% was classified as domestic violence with weapons in 2015 (Figure 5). From 2001 to 2010, domestic violence arrests per year in Charlottesville decreased from 7 in 2001 to 4 in 2010 and stayed steady at around 2 per year in Albemarle (Figure 6).

Alcohol and Substance Use Arrests

The rolling three-year average rate for combined DUI and narcotics offense[10] arrests fell in TJHD

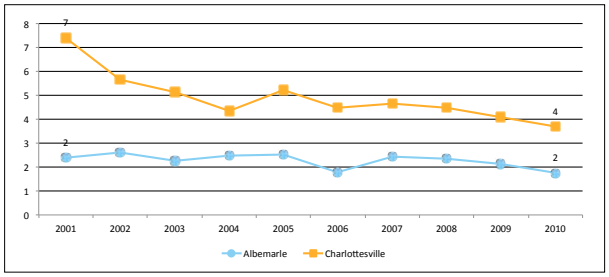


Figure 6 | Arrests for Domestic Violence in Albemarle and Charlottesville, 2001–2010. Source: Albemarle-Charlottesville Commission on Children and Families Report, 2012.

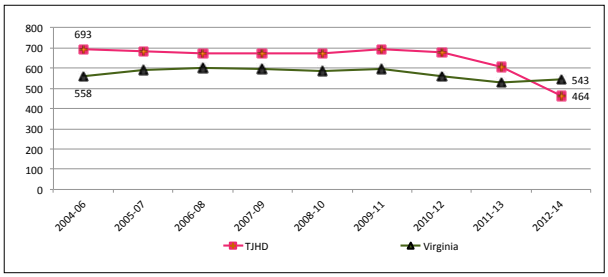


Figure 7 | Combined Arrests for DUI and Narcotic Arrest Rate per 100,000 Residents, TJHD and Virginia, 2004–2014. Source: Virginia State Police, Crime in Virginia, Uniform Crime Reporting Program, 2016.

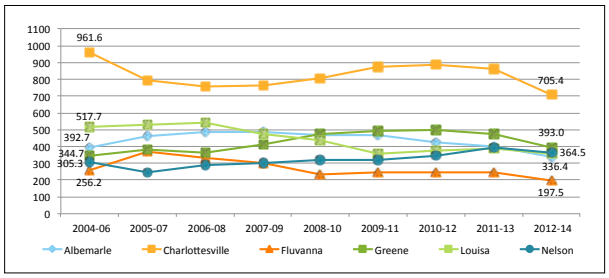


Figure 8 | Combined Arrests for DUI and Narcotic Arrest Rate per 100,000 Residents, TJHD localities, 2004–2014. Source: Virginia State Police, Crime in Virginia, Uniform Crime Reporting Program, 2016.

from 693 per 100,000 residents in 2004–2006 to 464 per 100,000 residents in 2012–2014 while the rate across Virginia remained relatively steady. The lowest drug and narcotic arrest rate among TJHD localities was in Fluvanna (197.5 per 100,000) (Figure 7 and Figure 8).

Violence in Schools

Between 2008–2012, in both TJHD and Virginia, the most common form of violence in schools was altercations.[11] In TJHD, the rates of bullying[12] and threats[13] were higher than in Virginia as a whole, but the rates of harassment and fighting without resulting injuries were lower (Figure 9).

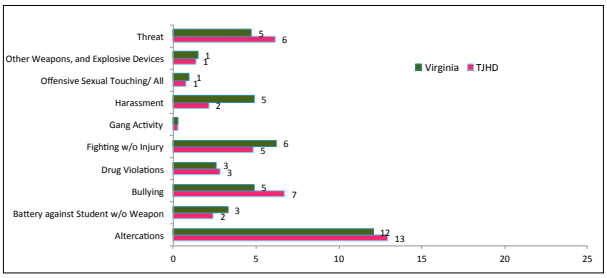


Figure 9 | Four-Year Average Rate of Violence in Schools per 1,000 Students, TJHD and Virginia, 2008–2012. Source: Virginia Department of Education: School Climate Reports, 2016.

Housing and Food

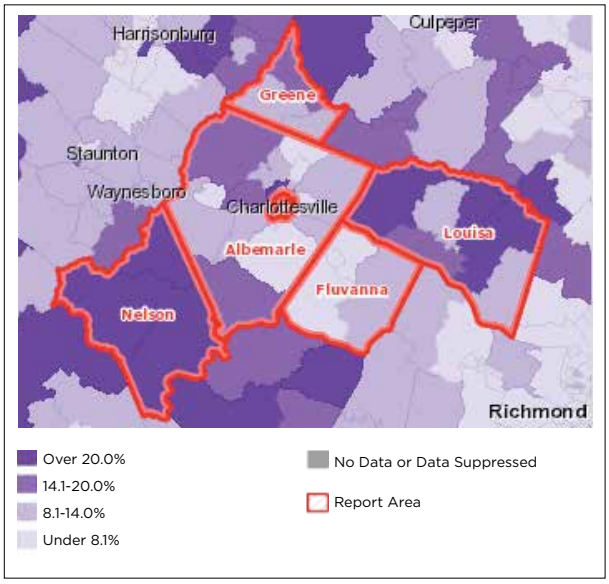


Figure 1 | Percentage of Housing Units Which are Vacant, TJHD Localities by Census Tract, 2009–2013. Source: Community Commons Report, 2015.

Housing

According to the County Health Rankings, "good health depends on having homes that are safe and free from physical hazards. When adequate housing protects individuals and families from harmful exposures and provides them with a sense of privacy, security, stability and control, it can make important contributions to health. In contrast, poor quality and inadequate housing contributes to health problems such as infectious and chronic diseases, injuries and poor childhood development."[14] Indicators assessed for TJHD include the percent of vacant housing units, the median year the structure was built, the number of HUD-assisted housing units, and the percent of housing units that are substandard.

A housing unit is considered vacant by the American Community Survey if no one is living in it at the time of interview. Units occupied at the time of interview entirely by persons who are staying two months or less and who have a more permanent residence elsewhere are considered to be temporarily occupied and are classified as "vacant." On average, from 2009–2013, more than 20% of homes in Nelson, northwestern Albemarle, and parts of Louisa were considered vacant. This is partially due to vacation homes in and around resorts such as Wintergreen in Nelson and Lake Anna in Louisa. Fluvanna, central Albemarle, and southern Greene each had lower vacancy rates (Figure 1).

Since housing units built before 1975 may contain lead-based paint, the median year in which housing structures were built is an import-

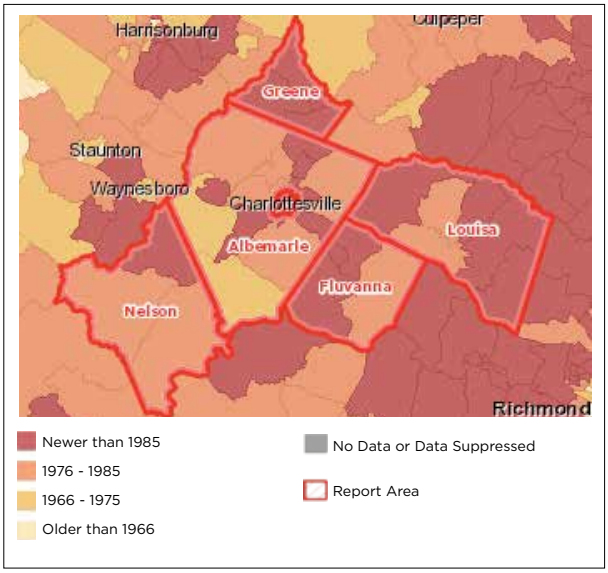


Figure 2 | Median Year Structures were Built, TJHD Localities by Census Tact, 2009–2013. Source: Community Commons Report, 2015.

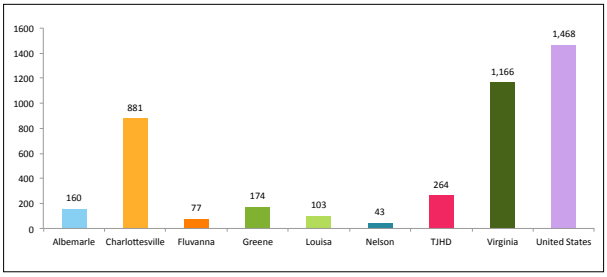


Figure 3 | HUD-Assisted Units, Rate per 10,000 Housing Units, TJHD Localities, TJHD, Virginia, and U.S., 2013. Source: Community Commons Report, 2015.

ant indicator to examine as a risk factor for lead exposure for those residing within the housing unit. This data can also help forecast future services such as energy consumption and fire safety. The median years built for most structures in Louisa, Fluvanna, and Greene, as well as northern Albemarle and western Nelson, were 1976 or more recently. The median ages of the housing structures in Charlottesville, southern Albemarle, and eastern Nelson are older than 1975 which indicates that housing structures in those areas are at an increased risk of having lead-based paint (Figure 2).

In 2013, the number of HUD-assisted housing units per 10,000 housing units among TJHD localities was highest in Charlottesville (881) and lowest in Nelson (43). This rate was still lower than the average rate in Virginia (1,166) and the US (1,468) as a whole. Interestingly, the rate of HUD-assisted housing units per 10,000 housing units was higher in Greene (174) than in Albemarle (160) (Figure 3).

Housing units are classified as substandard if they have at least one of the following substandard conditions: lack complete plumbing facilities or kitchen facilities, have 1.01 or more occupants per room, if the selected monthly owner costs are greater than 30% of household income, or if gross rent as a percentage of household income is greater than 30%. As of 2009–2013, Charlottesville, part of western Albemarle just outside of the city limits, eastern Fluvanna, central Louisa, and northern Greene had more than 34% of housing units classified as substandard. Areas which had from 28–34% of housing units classified as substandard included southern Greene, southwestern Fluvanna, eastern Louisa, northeastern Albemarle, and southern Nelson (Figure 4).

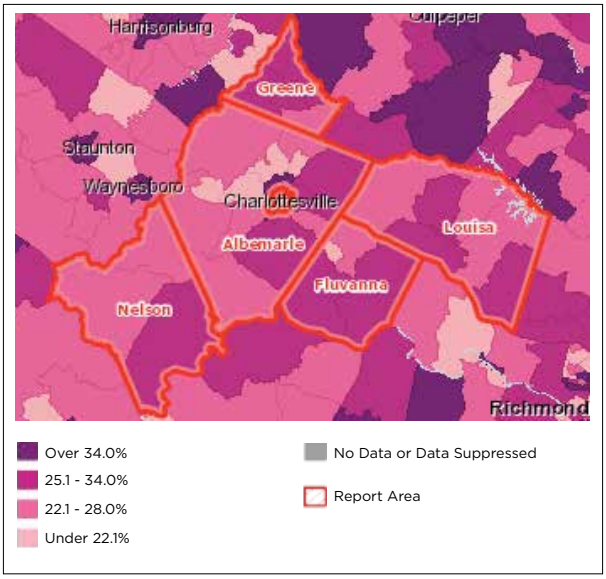


Figure 4 | Percentage of Housing Units Which are Substandard, TJHD Localities by Census Tract, 2009–2013. Source: Community Commons Report, 2015.

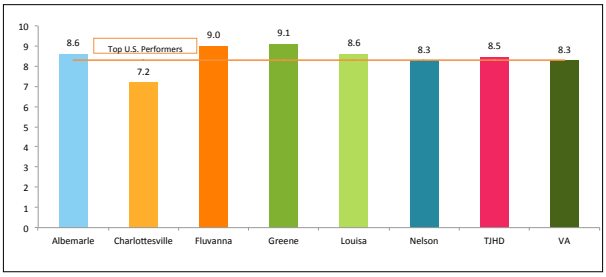


Figure 5 | Food Environment Index, TJHD Localities, TJHD, and Virginia, 2012 & 2013. Source: US County Health Rankings, 2016.

Food Environment

Food environment factors, such as living in a food desert (an area where low-income residents lack access to affordable and healthy foods through a grocery store or other outlet), correlate with overweight and obesity status.[15, 16]

The Food Environment Index (FEI) gives an overall score of the food environment from 0 (worst) to 10 (best) and is based on two indicators: limited access to healthy foods and food insecurity. Limited access to healthy foods measures the percentage of the population who are low income and do not live close to a grocery store. Living close to a grocery store is defined differently in rural and non-rural areas; in rural areas, it means living less than 10 miles from a grocery store whereas in non-rural areas, it means less than 1 mile. Low income is defined as having an annual family income of less than or equal to 200% of the federal poverty level. Food insecurity measures the percentage of the population who did not have access to a reliable source of food during the past year. The FEI in Virginia was the same as the score for the top U.S. performers (8.3). Every locality in TJHD scored the same or higher with the exception of Charlottesville where the FEI was 7.2. Fluvanna (9.0) and Greene (9.1) had the highest FEI (Figure 5).

Food Insecurity

Eleven percent of the population in TJHD was food insecure and did not have access to a reliable source of food from 2012–2013 due to the cost barriers. Charlottesville had the highest food insecurity at 18%; the only other locality to have a higher food insecurity than TJHD as a whole

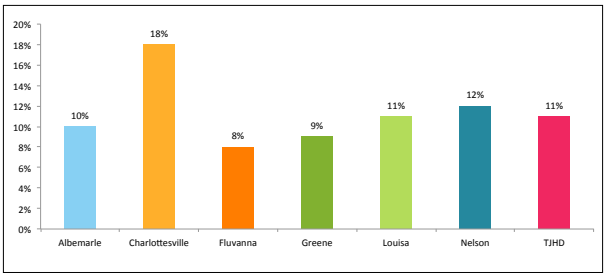


Figure 6 | Percent of Population with Food Insecurity, TJHD Localities and TJHD, 2012 & 2013. Source: U.S. County Health Rankings, 2016.

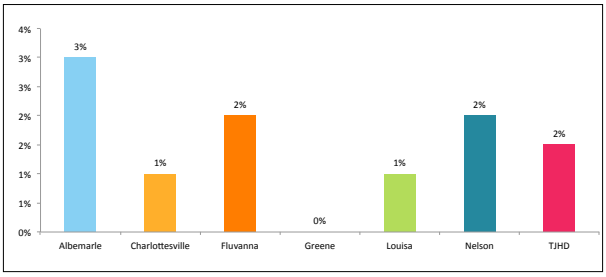


Figure 7 | Percent of Population with Limited Access to Healthy Foods, TJHD Localities and TJHD, 2012 & 2013. Source: US County Health Rankings, 2016.

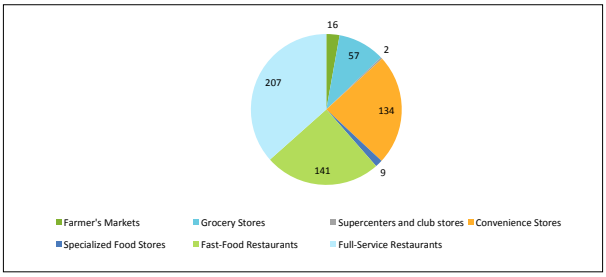


Figure 8 | Number of Food Stores by Type, TJHD, 2012. Source: US Department of Agriculture (USDA) Food Environment Atlas, 2016.

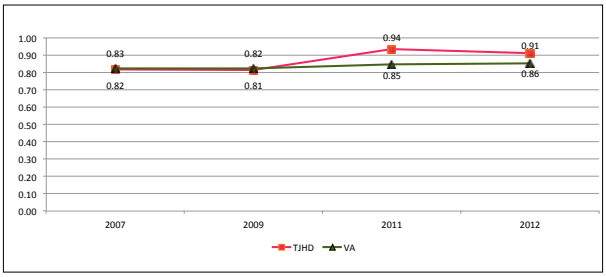


Figure 9 | Full-Service Restaurants per 1,000 Population, TJHD and Virginia, 2007–2012. Sources: U.S. Census Bureau, County Business Patterns and Population Estimates, 2016.

was Nelson at 12%. Fluvanna (8%) and Greene (9%) had the lowest food insecurity (Figure 6).

In 2012 and 2013, only 2% of the population of TJHD had limited access to healthy foods. The percent of the population with limited access to healthy foods ranged from as low as 0% in Greene County to as high as 3% in Albemarle County (Figure 7).

Food Stores by Type

Full-service restaurants[17] are the most common type of food store in TJHD (207) followed by fast-food restaurants[18] (141). There are more convenience stores[19] (134) than grocery stores[20] (57). Other types of food stores in TJHD include farmers' markets (16), specialized food stores (9), and supercenters and club stores (2) (Figure 8).

From 2007 to 2012, the number of full-service restaurants per 1,000 residents increased in TJHD from 0.82 in 2007 to 0.91 in 2012. This increase made the rate of full-service restaurants higher in TJHD than in Virginia in 2012 whereas TJHD's rate was lower than the state's in 2007 (Figure 9).

From 2007 to 2012, the rate of grocery stores per 1,000 residents in TJHD remained similar to that of Virginia (Figure 10).

From 2007 to 2011, the rate of convenience stores in TJHD rose from 0.60 to 0.64, but decreased back to 0.60 in 2012. Since 2007, this rate has never been higher in TJHD than it is in Virginia (Figure 11).

The rate of fast food restaurants in TJHD was consistently lower than the rate in Virginia during this time frame. However, the average rate in Virginia decreased from 0.73 to 0.72 between 2007 and 2012 while it increased in TJHD from 0.53 to 0.57 (Figure 12).

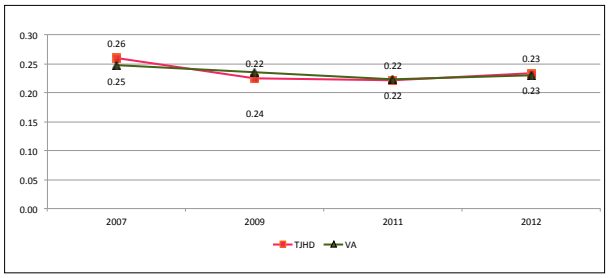


Figure 10 | Grocery Stores per 1,000 Population, TJHD and Virginia, 2007–2012. Sources: U.S. Census Bureau, County Business Patterns and Population Estimates, 2016.

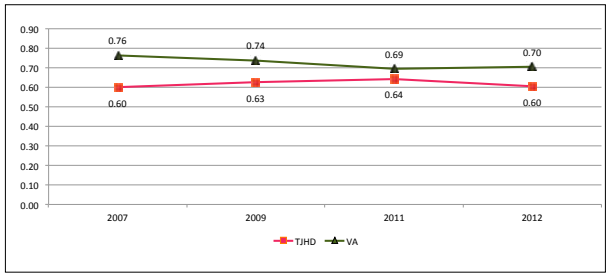


Figure 11 | Convenience Stores per 1,000 Population, TJHD and Virginia, 2007–2012. Source: U.S. Census Bureau, County Business Patterns and Population Estimates, 2016.

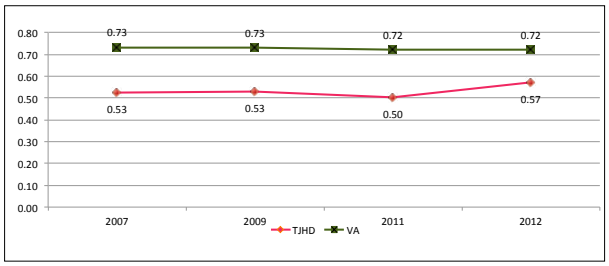


Figure 12 | Fast Food Restaurants per 1,000 Population, 2007–2012. Source: U.S. Census Bureau, County Business Patterns and Population Estimates, 2016.

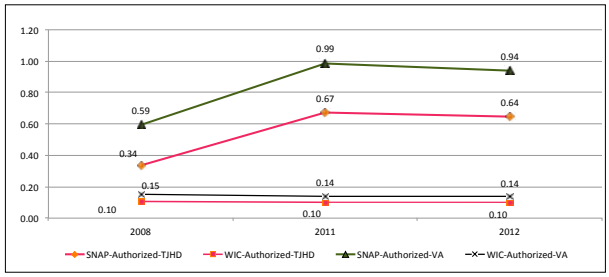


Figure 13 | SNAP and WIC Authorized Stores per 1,000 Population, TJHD and Virginia, 2008–2012. Source: US Department of Agriculture (USDA) Food Environment Atlas, 2016.

Food Stores Accepting Food Assistance Program Benefits

Food assistance programs, such as the Supplemental Nutrition Assistance Program (SNAP) and Women Infants and Children (WIC) Program, provide nutrition assistance to households that meet income and eligibility requirements. In TJHD, similar to Virginia, there are more stores that accept SNAP benefits than those that accept WIC benefits. The rate of SNAP-authorized stores in TJHD increased from 0.34 in 2008 to 0.64 in 2012 although it remained below the Virginia average. However, the rate of WIC-authorized stores in TJHD remained the same over this time period (0.10) and was also lower than that of the state average (0.14) (Figure 13).

Food Safety

From 2010 to 2015, the total number of permitted food facilities in TJHD increased from 881 to 995. The year-to-year growth was highest between 2012 and 2013 with 46 more permitted food facilities in 2013 than there were in 2012 (Figure 14).

From 2010 to 2015, Charlottesville had the largest growth in the number of newly permitted food facilities every year as well as the highest number of new food facility permits. Albemarle had the second highest number of newly permitted food facilities each year. In both localities, the number of new permitted food facilities was higher in every year from 2013–2015 than it had been from 2010–2012. Fluvanna (2) and Greene (4) had the fewest new permitted food facilities in 2015. Both of these localities saw a decrease in the number of new permitted food facilities from 2013 to 2015 (Figure 15).

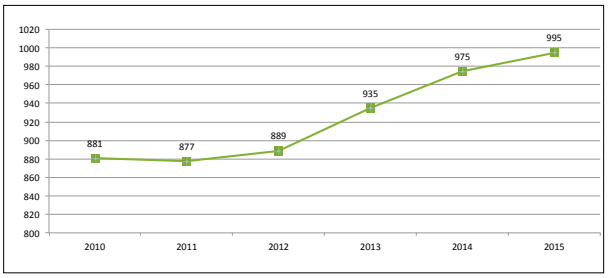


Figure 14 | Total Number of Permitted Food Facilities, TJHD, 2010–2015. Source: Virginia Department of Health, BlueJay Report #109, 2016.

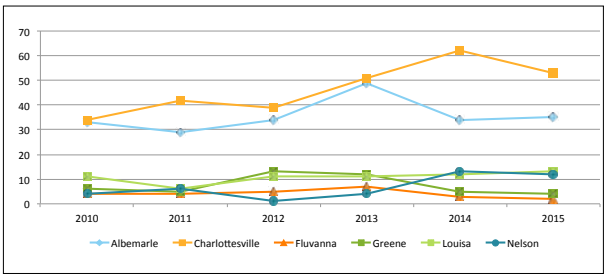


Figure 15 | Number of New Permitted Food Facilities, TJHD Localities, 2010–2015. Source: Virginia Department of Health, BlueJay Report #0961, 2016.

Environmental Quality

Maintaining a healthy environment, especially water and air, increases the quality of life and improves community health. Poor environmental quality presents the greatest risks for people who have underlying health conditions. Air pollution can contribute to increased morbidity and mortality. Protecting water sources and minimizing exposure to contaminated water sources are critical for reducing the spread of infectious diseases.[21, 22] According to the Centers for Disease Control and Prevention, protecting children from exposure to lead is important to lifelong good health. No safe blood lead level in children has been identified. The most important step parents, doctors, and others can take is to prevent lead exposure before it occurs.

Air Quality

The Air Quality Index (AQI), developed by the Environmental Protection Agency (EPA), is used to report daily air quality which tells consumers how clean the air is and what associated health effects might be a concern, especially for ground-level ozone and particle pollution. Higher AQI values represent a greater level of air pollution and potential for health concerns. For example, an AQI value of 50 represents good air quality with little potential to affect public health while an AQI value over 300 represents hazardous air quality. The EPA sets the national standard AQI value at 100. When AQI values are above 100, air quality is considered to be unhealthy—at first for certain sensitive groups of people[23] and then for everyone[24] as AQI values get higher.

Charlottesville tests air quality daily and records the rating. From 2011–2014, at least 84%

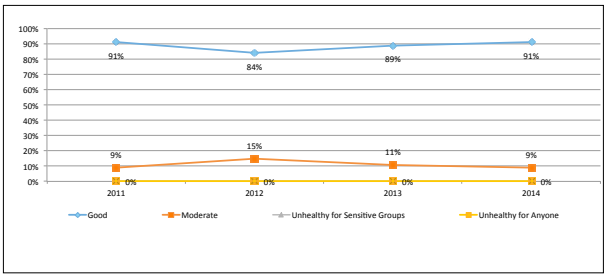


Figure 1 | Percent of Days by Each Air Quality Rating, City of Charlottesville, 2011–2014. Source: Environmental Protection Agency, 2016.

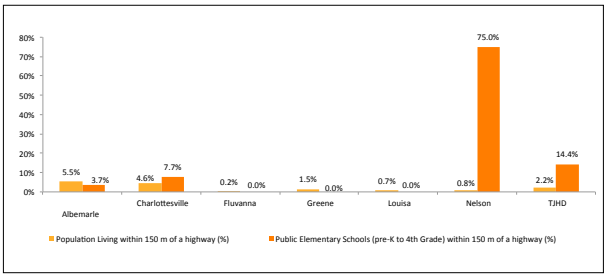


Figure 2 | Percentage of Population and Public Elementary Schools near a Highway, TJHD Localities and TJHD, 2010. Source: Centers for Disease Control, National Environmental Public Health Tracking Network, 2016.

of the days in each year qualified as "Good" with an AQI no greater than 50. From 2012–2014, the percentage of good days increased each year from 84% to 91%. Every other day in each year was "Moderate" with an AQI between 50 and 100.[25] In each year, 0% of days were unhealthy for sensitive groups or anyone else (Figure 1).

Traffic-related air pollution is a major cause of unhealthy air quality, especially in urban areas, and health problems have been linked to exposure to traffic-related air pollution. The closer a home or school is to a major highway, the more likely its residents and students are to be exposed to traffic-related air pollution. As of 2010, 2.2% of TJHD residents lived within 150 meters of a highway and 14.4% of the public elementary schools in TJHD were located within 150 meters of a highway. Albemarle (5.5%) and Charlottesville (4.6%) were the only localities with a higher percentage of residents living near a highway than TJHD as a whole. These localities also had two of the highest rates of public elementary schools built near highways with 3.7% and 7.7%, respectively. Nelson (75%) had the highest percentage of schools near a highway due to the low number of schools in Nelson and the fact that they are mostly located next to the highway for convenience (Figure 2).

Water Quality

Public water systems fluoridate the water supply to protect residents' dental health. Healthy People 2020 set a goal that 79.6% of all people should be served by water with a fluoridation concentration of at least 0.7mg/L. In 2015, TJHD as a whole did not meet this goal; the only locality that met this goal was Charlottesville where 80% of all residents were served by a water system

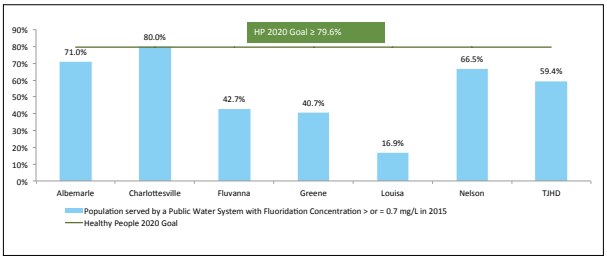


Figure 3 | Percentage of Population Served by a Public Water System with a Fluoridation Concentration Greater than or Equal to 0.7mg/L, TJHD Localities and TJHD, 2015. Source: Centers for Disease Control and Prevention, My Water's Fluoride, 2016.

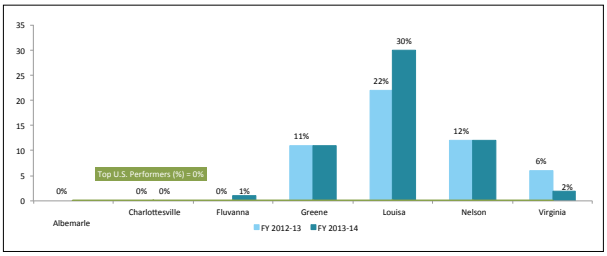


Figure 4 | Percentage of Population Potentially Exposed to Water Exceeding a Violation Limit during the Past Year, TJHD Localities, TJHD, Virginia, FY 2012–14. Source: County Health Rankings, 2016.

that adequately fluoridates its drinking water. Many residents in other TJHD localities receive their drinking water from private wells which are not fluoridated. Albemarle was the next closest locality to meeting this goal at 71%. Louisa at 16.9% had the lowest percentage of residents who were served by a fluoridated water system (Figure 3).

During fiscal year 2012–2013, 6% of the Virginia population was potentially exposed to water exceeding a violation limit at some point; this percentage decreased to 2% in fiscal year 2013–2014. During the same timeframe, among TJHD localities, 0% of Albemarle or Charlottesville residents were potentially exposed to water exceeding a violation limit which puts these localities in the same percentage as the top U.S. Performers. Only 1% of Fluvanna residents were potentially exposed during fiscal year 2013-2014 whereas 0% had been exposed in the previous fiscal year. More than 10% of the residents in Greene, Louisa, and Nelson were potentially exposed in both years. Louisa had the highest percentages in TJHD with 22% of residents potentially exposed in fiscal year 2012–2013 and 30% in fiscal year 2013–2014 (Figure 4).

Healthy watersheds provide a habitat for wildlife and preserve fishing and outdoor recreation activities. The localities of TJHD are served by seven watersheds, each of which includes many rivers, streams, creeks, and other bodies of water. According to the EPA, more than 50% of the streams in each watershed were classified as "Impaired" in 2010. A stream can be classified as impaired if it has a high enough level of certain chemical or biological pollutants. The watershed with the lowest percentage of impaired streams was the Middle James-Buffalo Watershed which

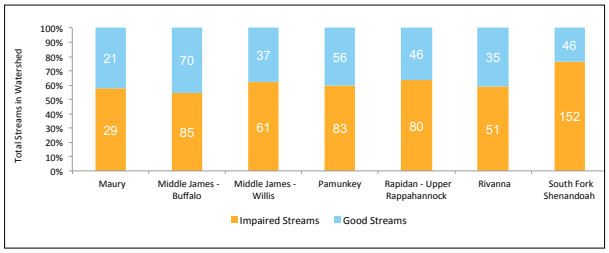


Figure 5 | Number of Good and Number of Impaired Streams in Watersheds, TJHD, 2010. Source: Environmental Protection Agency, Surf Your Watershed, 2016.

Figure 6 | Map of TJHD Localities Showing Impaired and Non-impaired Streams. Source: Thomas Jefferson Planning Commission, 2016.

Albemarle	22901	22931 Covesville	22937 Esmont	22943 Greenwood	22947 Keswick	22959 North Garden	24590 Scottsville
Charlottesville	22903						
Fluvanna	23022	23084					
Greene	22935 Dyke						
Louisa	23024						
Nelson	22938 Faber	22964 Piney River	22969 Schuyler	22971 Shipman	24464 Montebello	24553 Gladstone	

Table 1 | At-risk Zip Codes for Lead Exposure in TJHD, 2012.Source: Virginia Department of Health, Lead Safe Virginia, 2016.

covers parts of Albemarle, Fluvanna, and Nelson. In this watershed, 54.8% of streams were impaired. The watershed with the highest percentage of impaired streams was the South Fork Shenandoah Watershed which covers parts of Albemarle, Greene, and Nelson. In this watershed, 76.7% of streams were impaired. In the Rivanna Watershed, the only watershed which covers parts of each TJHD locality, 59.3% of streams were impaired (Figure 5). Figure 6 shows a map of the non-impaired and impaired streams in the watersheds within TJHD.

Lead

Lead exposure is another environmental health issue that is important to consider when assessing community health. Exposure to lead can interfere with normal brain development in children and is associated with learning disabilities and behavioral disorders. Exposure to dust from lead-based paint in homes or buildings built before 1978 is the main source of lead exposure. The Virginia Department of Health (VDH) has identified zip codes in TJHD that are considered to be at risk for lead exposure; at risk zip codes have more than 27% of homes built before 1950 and/or an increased prevalence of children with elevated blood lead levels. Albemarle has seven zip codes at risk for lead exposure, while Charlottesville, Greene, and Louisa only have one zip code at risk for lead exposure (Table 1).

The Code of Virginia, Sections 32.1-46.1, requires all children determined to be at risk to be tested for elevated blood lead levels at the age of 12 months, again at 24 months, and between 36–72 months if never tested previously or exposed to a new risk factor. All laboratories are required to report elevated blood lead results

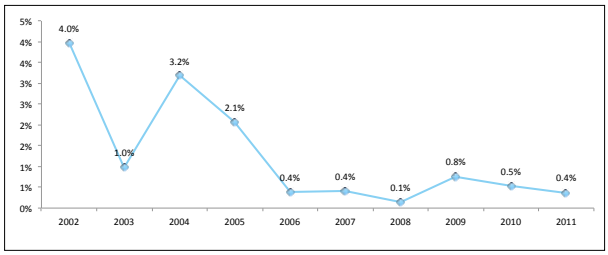


Figure 7 | Percent of Children Who Tested Positive for Lead Out of Children Tested, TJHD, 2002–2011. Source: Virginia Department of Health, Lead Safe Virginia, 2016.

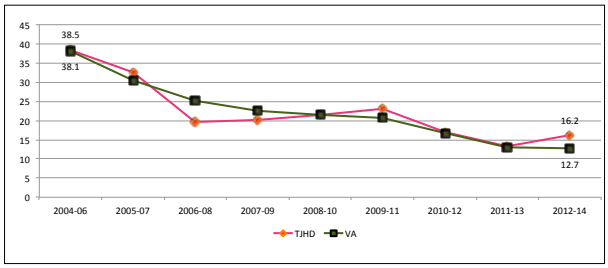


Figure 8 | Rate of Elevated Blood Lead Levels in Children Ages 0–15 years per 100,000 Child Population in TJHD and VA, 3-year Rolling Averages, 2004–2014. Source: Virginia Department of Health, Office of Epidemiology, 2016.

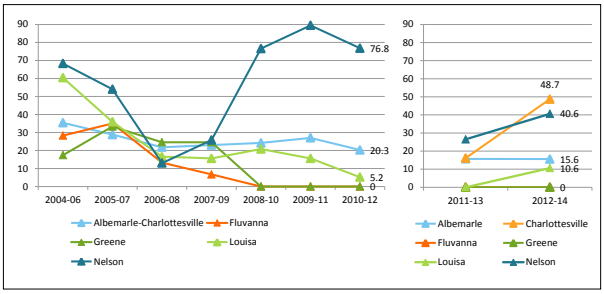


Figure 9 | Rate of Elevated Blood Lead Levels in Children ages 0–15 years per 100,000 Child Population in TJHD Localities, 3-year Rolling Averages, 2004–2014. Source: Virginia Department of Health, Office of Epidemiology, 2016. Note: Albemarle-Charlottesville was reported combined for years 2004–2011 but then reported separately for years 2012–14.

electronically within 10 days. Effective July 1, 2001, regulations require the reporting of all lead tests performed on children under 72 months of age. From 2002–2006, the percentage of children who tested positive for lead among children tested fell from 4% to 0.4%. From 2006 to 2011, the percentage rose to 0.8% in 2009 before decreasing to 0.4% again in 2011 (Figure 7).

The rate of elevated blood lead levels in children aged 0–15 years has decreased in both TJHD and VA although TJHD has a higher rate (16.2 per 100,000) than that of VA (12.7 per 100,000) (Figure 8). Among TJHD localities, this rate was highest in Charlottesville (48.7 per 100,000) and lowest in Fluvanna and Greene (0 per 100,000) (Figure 9). Lead exposure in young children under 72 months of ages is highest in Nelson (0.17%) and lowest in Greene (0.0%) (Figure 10).

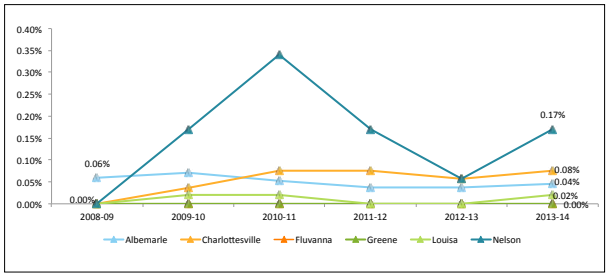


Figure 10 | Percent of Children < 72 Months of Age who Tested Positive for Elevated Blood Lead Levels in TJHD Localities, 2008–2014. Source: Virginia Department of Health, Lead Safe Virginia, 2016.

Health Behaviors

In addition to genetics, the social and physical environments, and healthcare, health behaviors play a large role in population health. In 2009, a study conducted by researchers at the Harvard School of Public Health provided[26] insight into the effects of risk factors on mortality and found that in the U.S., 1 in 5 premature or preventable deaths can be attributed to smoking (467,000), 1 in 6 to high blood pressure (395,000) and 1 in 10 to obesity (216,000).

Since 1988, the Virginia Department of Health has participated in CDC's Behavioral Risk Factor Surveillance System (BRFSS) which is a randomized telephone health survey conducted by state health departments across the U.S. It includes standardized questions about health-related behaviors of adults. Statewide BRFSS results are periodically stratified and reported by health district. Most of the local data available in this category came from this study and results for TJHD are presented with the following caveats:

- Only about 500 phone interviews were conducted over three-year intervals for the entire health district
- The BRFSS survey is administered to adults 18 years and older in households where there is a landline phone; adult cell phone users have been included in the survey population since 2008
- All results are based on self-reporting; therefore, there is no way of validating responses (e.g., height and weight).

Tobacco, Alcohol, and Drugs

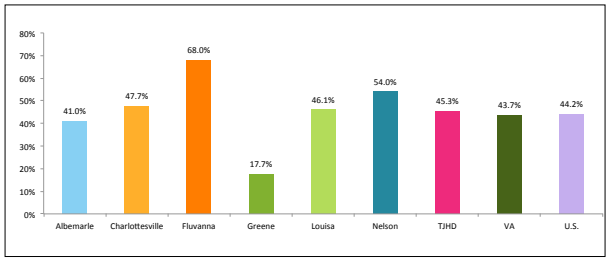


Figure 1 | Percent of Adults Who Report Ever Smoking 100 or More Cigarettes, TJHD Localities, TJHD, Virginia, and U.S., 2011–2012. Source: Community Commons Report, 2015.

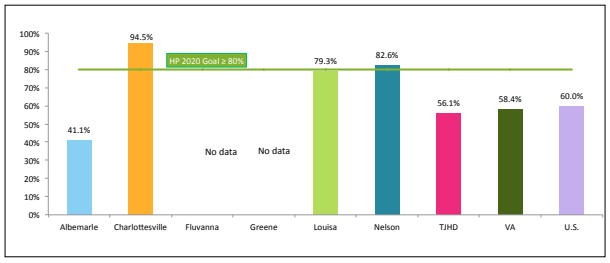


Figure 2 | Percent of Smokers with a Quit Attempt in Past 12 Months, TJHD Localities, TJHD, Virginia, and U.S., 2011–2012. Source: Community Commons Report, 2015

Tobacco Use

Tobacco use is associated with cardiovascular disease, multiple types of cancer, respiratory disease, and poor birth outcomes, and is among the most important modifiable risk factors of adverse health outcomes.[27] As a result of extensive public health efforts (including health education, advances in tobacco cessation treatment, counter-marketing, regulation, and litigation) the prevalence of smoking in the U.S. declined among men from 57% in 1955 to 18.8% in 2014[28] and among women from 34% in 1965 to 14.8% in 2014.[29, 30]

The percentage of adults who have ever smoked at least 100 cigarettes in their lifetime in TJHD (45.3%) is slightly higher than the rate in Virginia (43.7%) and the U.S. as a whole (44.2%). This rate of current or previous smokers is highest in Fluvanna (68%) and lowest in Greene (17.7%) (Figure 1).

Healthy People 2020 established a goal of 80% of current smokers who attempted to quit at some point in the prior 12 months. TJHD (56.1%) has a slightly lower rate of smokers who have recently attempted to quit than Virginia (58.4%) and the US (60%). Charlottesville (94.5%) and Nelson (82.6%) were the only two TJHD localities to meet this goal (Figure 2).

From 2001–2009, the percentage of smokers who reported that they had attempted to quit grew by nearly 10%. However, this growth leveled off from 2009–2013 and dropped by 1% (Figure 3).

The percentage of total spending on cigarettes varied among communities within TJHD in 2014.

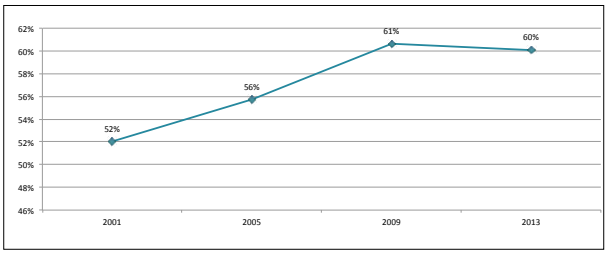


Figure 3 | Percent of Smokers Who Tried to Quit Smoking, Virginia, 2001–2013. Source: Virginia Department of Health, Office of Family Health Services, Behavioral Risk Factor Surveillance System, 2016.

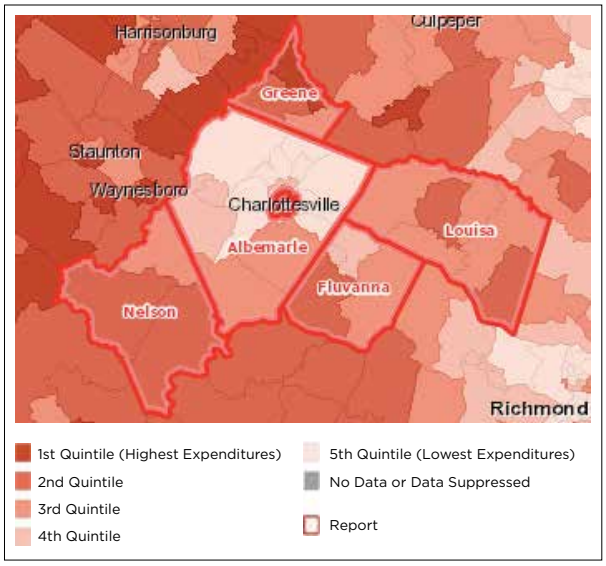


Figure 4 | Cigarette Expenditures as a Percent of Total Household Expenditures, TJHD by Census Tract, 2014. Source: Community Commons Report, 2015.

	Average Expenditures (USD)	Percentage of Food-at-Home Expenditures
TJHD	$877.76	1.50%
VA	$823.43	1.40%
US	$822.70	1.60%

Table 1 | Tobacco Expenditures, TJHD, Virginia, and U.S., 2014. Source: Community Commons Report, 2015.

As a percent of total expenditures, residents in the northern part of Greene spent more on cigarettes than residents of any other part of the district and are in the top quintile for cigarette spending in Virginia. Residents of northern Albemarle spent the least of their expenditures on cigarettes and were in the bottom quintile for cigarette expenditures among Virginia residents (Figure 4).

In 2014, TJHD residents spent more money on tobacco than the average expenditures of Virginia and United States residents although the percentage of food-at-home expenditures—or the average amount spent on food and drink purchased for consumption at home—accounting for tobacco purchases were about the same among the three (Table 1).

Secondhand smoke exposure causes numerous health problems in infants and children, including more frequent and severe asthma attacks, respiratory infections, ear infections, and sudden infant death syndrome (SIDS). Some of the health conditions caused by secondhand smoke in adults include coronary heart disease, stroke, and lung cancer.[31] In both the U.S. and Virginia, there has been progress made on efforts to reduce secondhand smoke exposure in the past 20 years. Exposure to secondhand smoke dropped by more than half among non-smokers nationally from 1992–1993 to 2011–2012 (Figure 5). In this same time span in Virginia, the percentage of households with smoke-free rules, which are rules saying there is no smoking inside the house, more than doubled in homes in the United States (Figure 6). As more households adopt smoke-free rules inside their home, the risk of exposure to secondhand smoke in the home decreases.

Healthy People 2020's goal for smoking is to have no more than 12% of adults aged 20 years

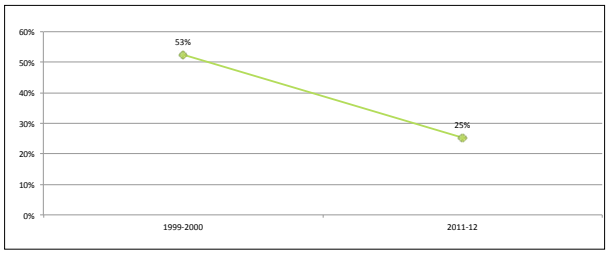


Figure 5 | Secondhand Smoke Exposure among Non-Smokers, U.S., 1992–2012. Source: Virginia Department of Health, Office of Family Health Services, 2015 Report on Exposure to Secondhand Smoke in the U.S. & VA, 2016.

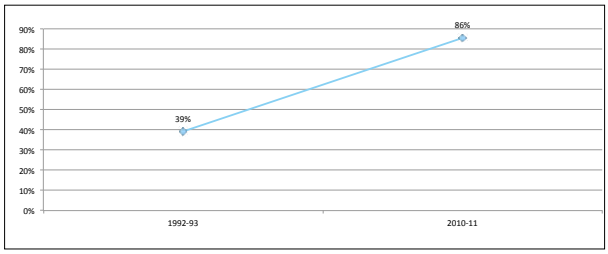


Figure 6 | Percentage of Households with Smoke-free Rules, Virginia, 1992–2011. Source: Virginia Department of Health, Office of Family Health Services, 2015 Report on Exposure to Secondhand Smoke in the US & VA, 2016.

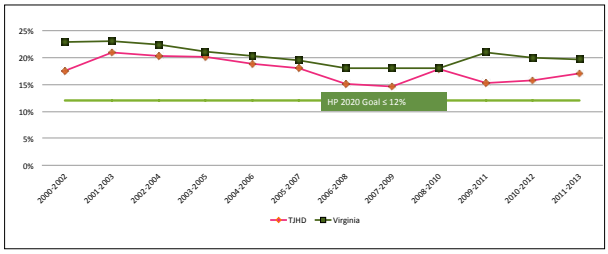


Figure 7 | 3-Year Rolling Average Percentage of Adults Aged 20 Years and Older Who Smoke, TJHD and Virginia, 2000–2010. Source: Virginia Department of Health, Office of Family Health Services, Virginia Behavioral Risk Factor Surveillance System, 2016.

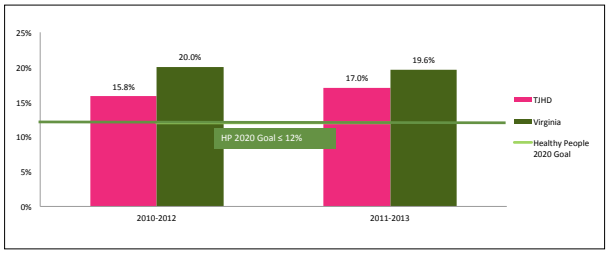


Figure 8 | 2-Year Rolling Average Percentage of Adults Aged 20 Years and Older Who Smoke, TJHD and Virginia, 2010–2013. Source: Virginia Department of Health, Office of Family Health Services, Virginia Behavioral Risk Factor Surveillance System, 2016.

and older smoke. From 2000–2006, the percent of adults who reported that they were current smokers in TJHD and Virginia dropped steadily, reaching as low as 14.6% in TJHD and 18% in Virginia, and seemed to be approaching this goal (Figure 7). However, there was an uptick in smoking among TJHD residents during the recession. In the years since 2010, the percent of adults reporting smoking in TJHD increased from 15.8% to 17.0% while the Virginia smoking percentage remained around 20% (Figure 8).

No single locality in TJHD reached the Healthy People 2020 goal of equal to or less than 12% smoking prevalence in 2014. Albemarle had the lowest smoking percentage among adults at 15% and Charlottesville had the highest adult smoking percentage at 22% (Figure 9).

Alcohol Use

Excessive drinking is defined as drinking more than 2 alcoholic beverages per day on average for men and drinking more than 1 alcoholic beverage per day on average for women. Among TJHD localities which had sufficient data, Fluvanna had the highest average percentage of residents who reported drinking excessively from 2006–2012 at over 22% whereas in Nelson, fewer than 14.1% of residents reported drinking excessively during this time span which was the lowest reported rate in TJHD (Figure 10).

In TJHD, the age-adjusted percent of adults who reported drinking excessively was 16.5%—nearly the same as among Virginia (16.3%) and United States residents (16.9%) (Table 2).

From 2008–2013, the rate of breweries, wineries, and liquor stores per 100,000 residents in Virginia remained nearly unchanged at just below 7 per 100,000 residents. Five of the TJHD localities had a rate of breweries, wineries, and liquor

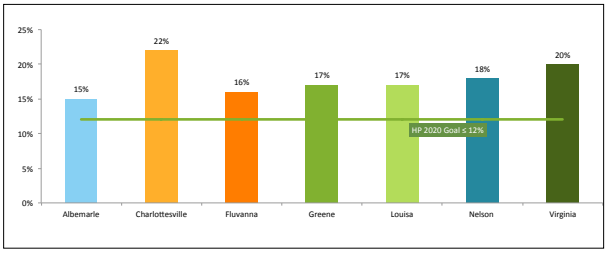


Figure 9 | Percentage of the Adult Population That Currently Smokes Every Day or Most Days and Has Smoked at Least 100 Cigarettes in Their Lifetime, TJHD Localities and Virginia, 2014. Source: Robert Wood Johnson Foundation, County Health Rankings, 2016.

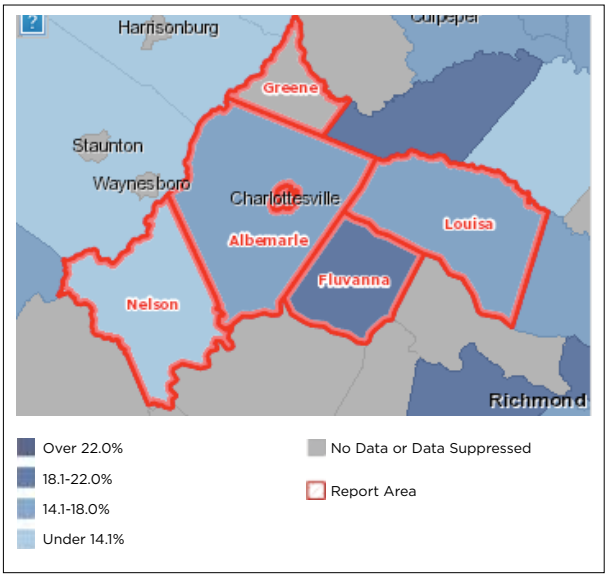


Figure 10 | Percentage of Adults Age 18 or Older Who Reported Excessive Drinking, TJHD Localities, 2006–2012. Source: Community Commons Report, 2015.

	Estimaated Adults Drinking Excessively—Age-Adjusted Percentage
TJHD	16.5%
VA	16.3%
US	16.9%

Table 2 | Percentage of Adults Age 18 or Older Who Reported Excessive Drinking, TJHD, Virginia, and U.S., 2006–2012. Source: Community Commons Report, 2015.

stores between 5.9 and 23.3 per 100,000 residents in 2013. Nelson's rate of more than 70 per 100,000 is triple that of Albemarle (23.3 per 100,000), but it also has the smallest population of any of the localities (Figure 11).

Most areas of TJHD rank highly among census tracts in Virginia for their residents' average alcoholic beverage expenditures as a percentage of food-at-home expenditures. Every tract in TJHD is in at least the second-highest quintile among tracts in Virginia and most are in the highest quintile in 2014 (Figure 12).

Residents of TJHD spend, on average, almost $100 more on alcoholic beverages than all residents of Virginia and more than $200 more than all U.S. residents. The average percentage of food-at-home expenditures composed of money spent on alcoholic beverages is also slightly higher among TJHD residents (18%) than Virginia (16.6%) and U.S. residents (14.3%) (Table 3).

Drug Use

In 2013, the drugs Virginia high school students were most likely to say they had ever used were marijuana (32.1%) and non-prescribed prescription drugs (15.9%). However, in both cases, the percentage of Virginia high school students who had tried these drugs at least once was lower than the national average. In Virginia, a slightly higher percentage of high school students had tried cocaine, methamphetamines, non-prescribed steroids, heroin, and any injected illegal drug than the average across the U.S. (Figure 13).

There are fewer high school students who report currently using marijuana compared to those who report ever using marijuana in both VA and the U.S. The rate of ever users is lower in VA than in the U.S. and 18% of Virginia high school students reported that they currently use

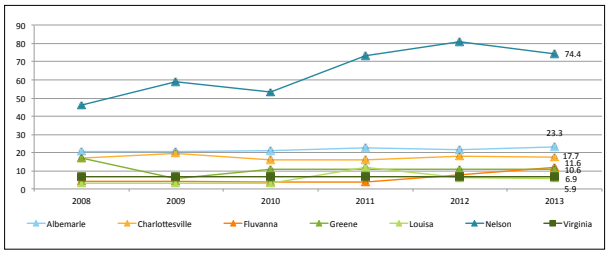


Figure 11 | Rate of Breweries, Wineries, & Liquor Stores per 100,000 Population, TJHD Localities, 2008–2013. Source: U.S. Census Bureau, County Business Patterns, 2008–2013 (NAICS codes 312120, 312130, & 445310) and Population data, 2016.

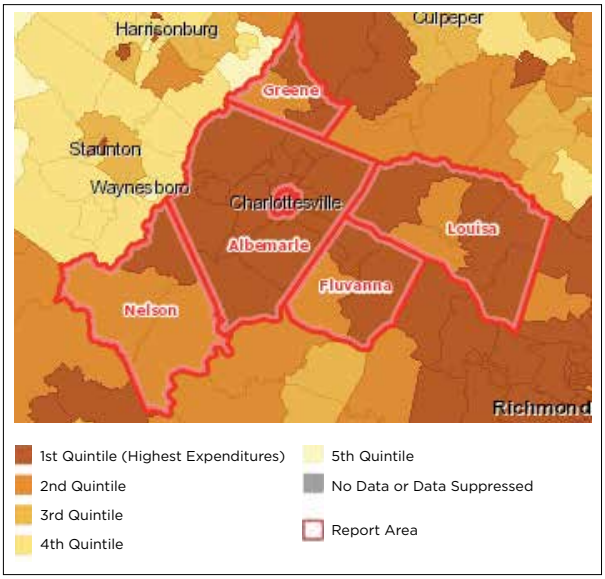


Figure 12 | Alcoholic Beverage Expenditures as a Percent of Food-at-Home Expenditures, TJHD by Census Tract, 2014. Source: Community Commons Report, 2015.

	Average Expenditures (USD)	Percentage of Food-at-Home Expenditures
TJHD	$1,065.72	18.00%
VA	$973.12	16.60%
US	$839.54	14.30%

Table 3 | Alcoholic Beverage Expenditures as a Percent of Food-at-Home Expenditures, TJHD, Virginia, and U.S., 2014. Source: Community Commons Report, 2015.

marijuana compared to 23% of high school students in the U.S. (Figure 14). From 2011 to 2013, the percentage of U.S. high school students who took drugs not prescribed to them decreased by about 3% while it increased slightly in Virginia. However, the rate was still higher nationwide than in the state (Figure 15). The use of inhalants among Virginia high school students fell by more than 1% from 2011 to 2013, and was nearly identical to the national average in 2013 (Figure 16).

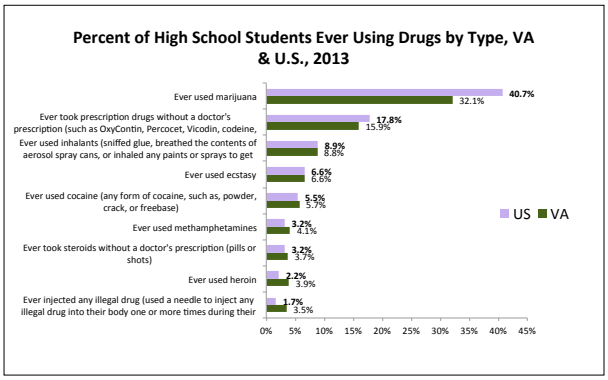


Figure 13 | Percent of High School Students Ever Using Drugs by Type, Virginia and U.S., 2013. Source: Centers for Disease Control & Prevention (CDC), Youth Risk Behavior Surveillance System (YRBSS), 2016.

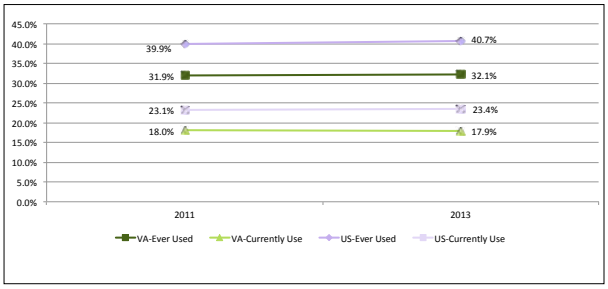


Figure 14 | Percent of High School Students Currently Using or Ever Used Marijuana, Virginia and U.S., 2011–2013. Source: Centers for Disease Control & Prevention (CDC), Youth Risk Behavior Surveillance System (YRBSS), 2016.

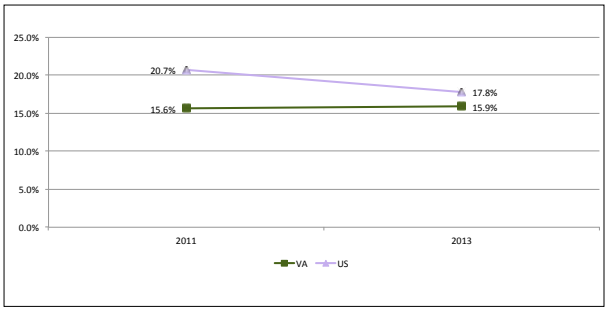


Figure 15 | Percent of High School Students Using Prescription Drugs without a Doctor's Prescription, Virginia and U.S., 2011–2013. Source: Centers for Disease Control & Prevention (CDC), Youth Risk Behavior Surveillance System (YRBSS), 2016.

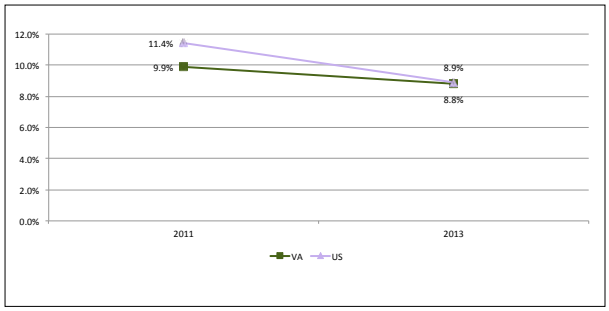


Figure 16 | Percent of High School Students Using Inhalants, Virginia and U.S., 2011–2013. Source: Centers for Disease Control & Prevention (CDC), Youth Risk Behavior Surveillance System (YRBSS), 2016.

Obesity

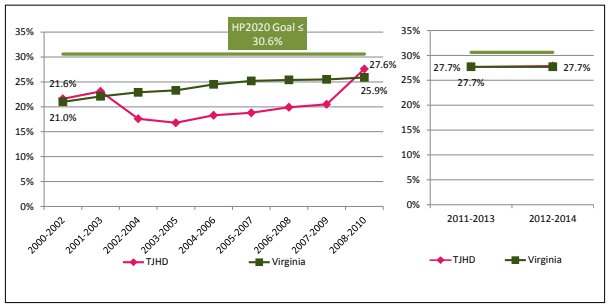


Figure 1 | Percentage of Obese Adults Aged 20 and Older, TJHD and Virginia, Three-Year Rolling Averages, 2000–2010. Source: Virginia Department of Health, Virginia Behavioral Risk Factor Surveillance System, 2016.

Poor diet and physical inactivity are among the leading contributors to actual causes of death in the United States.[32] Poor diet and inactivity can lead to obesity which is a major risk factor for chronic disease. In addition to health education and regulatory initiatives, creating opportunities to access nutritious foods and to engage in physical activity at work, in school, and in the community can be effective approaches to addressing this public health issue.[33] Locally, unhealthy eating habits and lack of exercise are key contributors to rising obesity in TJHD.[34]

Obesity

The average percent of obese TJHD and Virginia adults aged at least 20 years climbed steadily from 2003–2010. The percent of adults reporting obesity across TJHD increased from 21.6% from 2000–2002 to 27.6% from 2008–2010. The average percentage of obese TJHD adults remains steady at around 28% (27.9%) and is slightly higher than Virginia's average percentage of 27.7% although both were lower than the Healthy People 2020 goal (30.6%) in 2012–2014 (Figure 1). In 2011, BRFSS changed the sample weighting by adding cell phones to the sample in addition to land line telephones. Therefore, data from years 2010 and prior should not be compared with data from years 2011 and forward due to the change in sampling scheme.

The assessment of child overweight and obesity in TJHD pulled data from Albemarle County, City of Charlottesville, and Nelson County public schools; data from the other TJHD localities were not available. The combined percentage of overweight and obese third graders in Albemar-

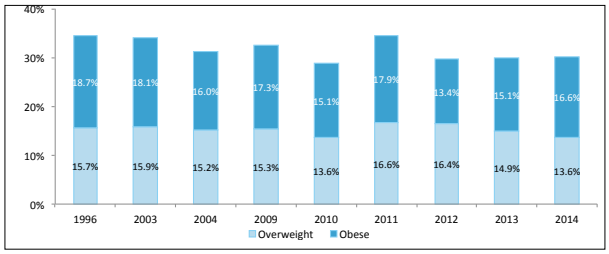


Figure 2 | Percentage of Third Graders with BMI categorized as Overweight or Obese, Albemarle County, 1996–2014. Source: Albemarle County Schools, 2016.

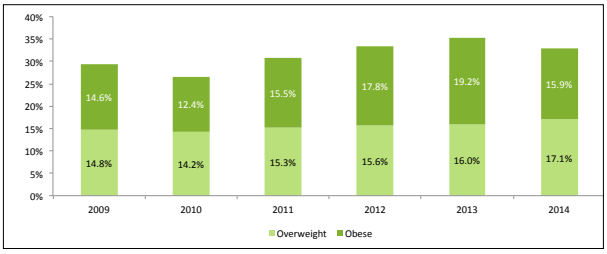


Figure 3 | Percentage of Seventh Graders with BMI >85%, Albemarle County, 2009–2014. Source: Albemarle County Schools, 2016.

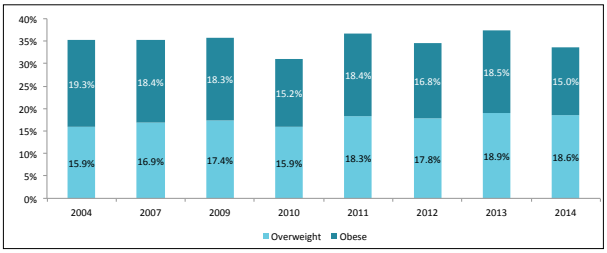


Figure 4 | Overweight & Obese 5th Grade Students, City of Charlottesville and Albemarle County, 2004–2014. Source: City of Charlottesville and Albemarle County School Systems, 2016.

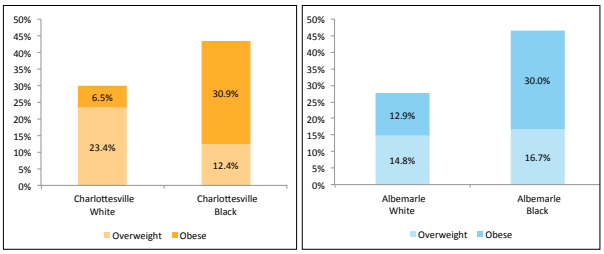


Figure 5 | Percentage of Obese and Overweight Fifth Grade Students by Race, City of Charlottesville, 2014, and Albemarle County, 2013. Source: City of Charlottesville and Albemarle County School Systems, 2016.

le public schools increased from 28.7% in 2010 to 30.2% in 2014. The percentage of overweight third graders decreased from 16.6% in 2011 to 13.6% in 2014 while the percentage of obese third graders increased from 13.4% in 2012 to 16.6% in 2014 (Figure 2).

The combined percentage of overweight and obese seventh graders in Albemarle public schools increased from 26.6% in 2010 to 35.2% in 2013 before it fell to 33.0% in 2014. The percentage of overweight seventh graders increased every year from 2010 (14.2%) to 2014 (17.1%) as did the percentage of obese seventh graders from 2010 (12.4%) to 2014 (15.9%) (Figure 3).

In 2011, the percentage of fifth grade students in Charlottesville and Albemarle public schools who were overweight (18.3%) and obese (18.4%) were nearly identical. Since 2011, the percentage of overweight fifth graders has slightly increased (18.6%) while the obesity rate has slightly decreased (15.0%) as of 2014 (Figure 4).

In 2013 and 2014, both public school systems in Albemarle and Charlottesville recorded the percentages of black and white fifth graders who were overweight (BMI between 85% and 95% of their peers) and obese (BMI greater than 95% of their peers). The combined percentages of overweight and obese fifth graders were higher among black students and the obesity rate was higher among black students in both Albemarle and Charlottesville. The percentage of overweight white students was lower in Albemarle than the corresponding percentages in Charlottesville (Figure 5).

From the 2008–2009 school year to the 2010–2011 school year, the percentage of obese fifth graders in Nelson increased every year from 25.6% in 2008–2009 to 31.2% in 2010–2011. In the same time span, the percentage of overweight

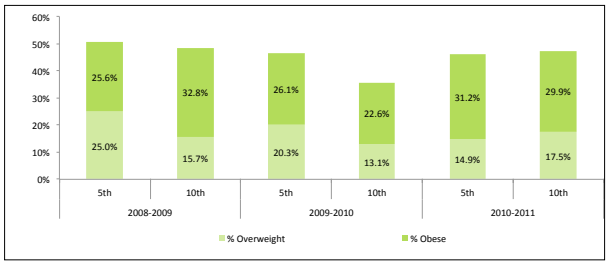


Figure 6 | Percent of Fifth and Tenth Graders Enrolled in Public Schools in Locality who are Overweight or Obese, Nelson County, 2008–2011. Source: Nelson County Schools, 2016.

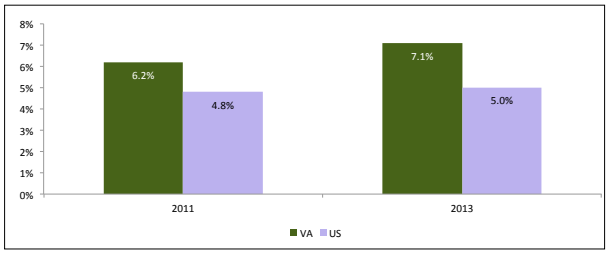


Figure 7 | Percent of High School Students (Grades 9–12) Who Did NOT Eat Fruit or Drink 100% Fruit Juice in the Past Seven Days Prior to Survey, Virginia and U.S., 2011–2013. Source: Centers for Disease Control and Prevention (CDC), Youth Risk Behavior Survey, 2016.

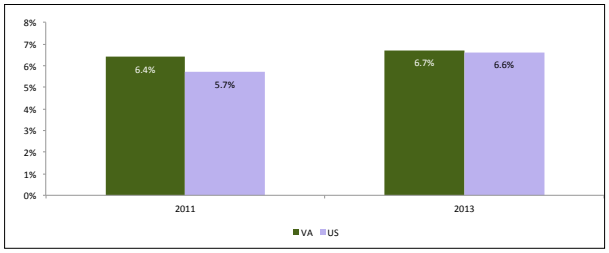


Figure 8 | Percent of High School Students (Grades 9–12) Who Did NOT Eat Vegetables in the Past Seven Days Prior to Survey, Virginia and U.S., 2011–13. Source: Centers for Disease Control and Prevention (CDC), Youth Risk Behavior Survey, 2016.

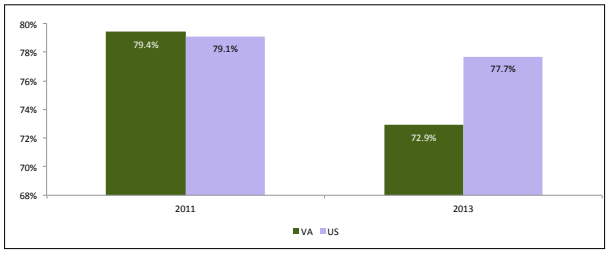


Figure 9 | Percent of High School Students (Grades 9–12) Who Drank Soda (at least 1 can/glass/bottle of soda) in the Past 7 Days Prior to Survey, Virginia and U.S., 2011–2013. Source: Centers for Disease Control and Prevention (CDC), Youth Risk Behavior Survey, 2016.Survey, 2016.

fifth graders decreased every year from 25.0% in 2008–2009 to 14.9% in 2010–2011. Among tenth graders in Nelson, the percentage of obese students decreased from 32.8% in 2008–2009 to 29.9% in 2010–2011. The percentage of overweight tenth graders increased from 15.7% to 17.5% during this time span (Figure 6).

Diet

From 2011 to 2013, the percentage of Virginia high school students who did not eat fruit or drink 100% fruit juice within the past seven days increased from 6.2% to 7.1% while the percentage for U.S. high school students increased from 4.8% to 5.0% during the same time frame (Figure 7).

From 2011 to 2013, the percentage of Virginia high school students who did not eat vegetables in the past seven days increased from 6.4% to 6.7%; across the U.S., this percentage increased from 5.7% to 6.6% (Figure 8).

From 2011 to 2013, the percentage of Virginia high school students who drank at least one serving of soda in the past seven days decreased from 79.4% in 2011 to 72.9% in 2013; across the U.S., this percentage decreased from 79.1% to 77.7% in the same time span (Figure 9).

Physical Activity

From 2011 to 2013, there was no change in the percentage (10.6%) of male high school students in Virginia who did not have at least one hour of physical activity on any one day in the past seven days. For female high school students in Virginia, this percentage shifted from 20.3% in 2011 to 19.9% in 2013. In 2013, the total percentage of high school students in the United States who reported not having at least one hour of physical activity on any day in the past seven was 15.2% which was up from 13.8% in 2011 (Figure 10).

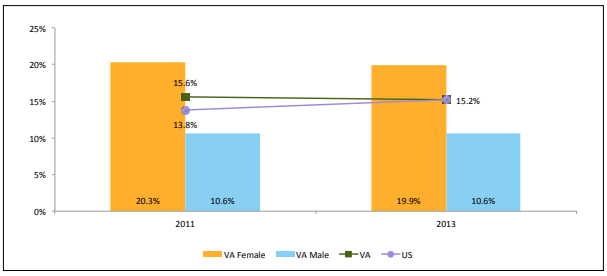


Figure 10 | Percent of High School Students (Grades 9–12) who did NOT participate in at Least 1 hour of Physical Activity on at Least 1 Day in the Past 7 Days Prior to Survey, Virginia, 2011–2013. Source: Centers for Disease Control and Prevention (CDC), Youth Risk Behavior Survey, 2016.

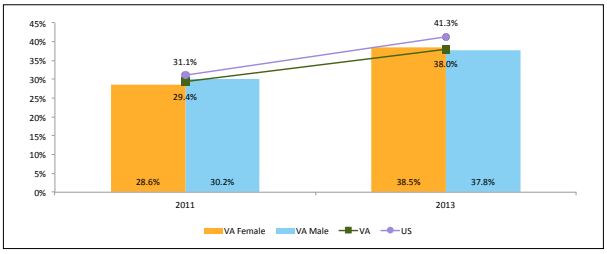


Figure 11 | Percent of High School Students (Grades 9–12) who Played Video/Computer Games OR Used a computer (for something other than schoolwork) for 3 or More Hours per Day on an Average School Day, Virginia, 2011–2013. Source: Centers for Disease Control and Prevention (CDC), Youth Risk Behavior Survey, 2016.

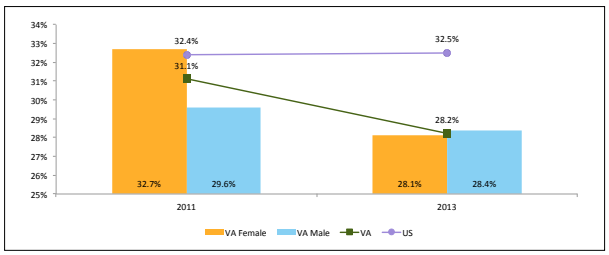


Figure 12 | Percent of High School Students (Grades 9–12) Who Watched TV for 3 or More Hours per Day on an Average School Day, Virginia, 2011–2013. Source: Centers for Disease Control and Prevention (CDC), Youth Risk Behavior Survey, 2016

Playing video games and computer usage are on the rise among Virginia high school students. The percentage of high school students who played a video game or used a computer for something besides school work for three or more hours a day was 38.0% in 2013—38.5% among female students and 42.3% among male students. These were increases from a total of 29.4% in 2011—28.6% of female students and 35.3% of male students. The Virginia average was below the United States average in 2011 and 2013 (Figure 11).

Television usage has been dropping among Virginia high school students. In 2013, 28.2% of all high school students in Virginia said they watched television for at least three hours per day on school days which was a decrease from 31.1% in 2011. The national average rose slightly from 32.4% in 2011 to 32.5% in 2013. Television viewership among female high school students in Virginia dropped by 4.6% in this time span while viewership among male students dropped by 1.5% (Figure 12).

From 2011 to 2013, the percentage of Virginia high school students who did not attend a physical education (PE) class on at least one day during the school week fell below the national average and decreased from 49.9% in 2011 to 47.7% in 2013. The national average rose from 48.2% to 52.0% in the same time span. The percentage of female high school students in Virginia who did not have at least one weekly PE class dropped from 55.6% to 52.9% while this percentage dropped from 44.2% to 42.7% among male students (Figure 13).

Healthy People 2020 established a goal that no more than 32.6% of adults aged 20 years and older should report not getting any physical activity during leisure time. From 2011 to 2014,

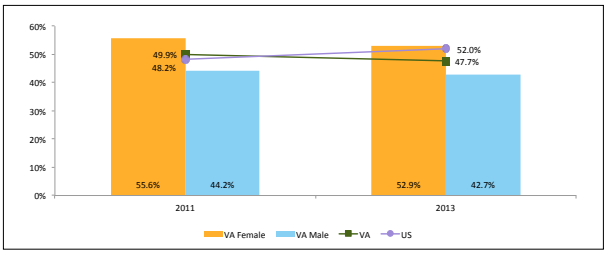


Figure 13 | Percent of High School Students (Grades 9–12) Who Did NOT Attend a PE Class on at Least 1 Day in an average Week They Were in School, Virginia, 2011–2013. Source: Centers for Disease Control and Prevention (CDC), Youth Risk Behavior Survey, 2016.

TJHD and Virginia as a whole both met this goal. In 2014, 23.7% of TJHD adults reported no leisure time physical activity compared to 23.0% of Virginia adults (Figure 14).

Among TJHD localities in 2014, Louisa (29%) had the highest percentage of adults who reported no leisure time physical activity while Albemarle had the fewest adults report no leisure time physical activity every year from 2011–2014, although this percentage increased from 19% in 2013 to 21% in 2014 (Figure 15).

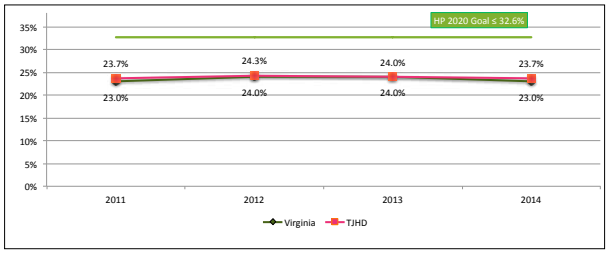


Figure 14 | Percent of Adults Aged 20 and Older Reporting No Leisure Time Physical Activity, TJHD and Virginia, 2011–2014. Source: County Health Rankings Health Factors, Health Behaviors, Physical Inactivity, 2016.

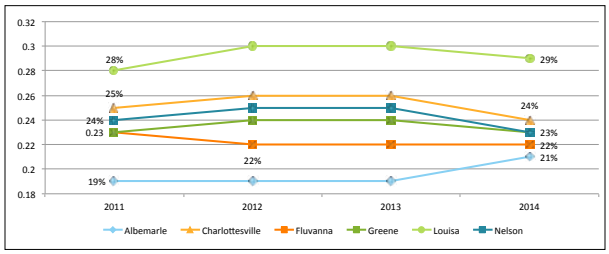


Figure 15 | Percent of Adults Aged 20 and Older Reporting No Leisure Time Physical Activity, TJHD Localities, 2011–2014. Source: County Health Rankings Health Factors, Health Behaviors, Physical Inactivity, 2016.

Healthcare Utilization

Dental Care

From 2006–2010, the national average of adults who had not had a dental exam within the past year was 30.2%. The average percentage of Virginia and TJHD residents who had not had a dental exam in the past year was lower in this time span at approximately 24%. Among TJHD localities, Charlottesville had the lowest average percentage of adults who had not had a dental exam within the past year at 17%. In Louisa, an average of 56% of adults had not had a dental exam within the past year during this time span which was the highest percentage in TJHD (Figure 1).

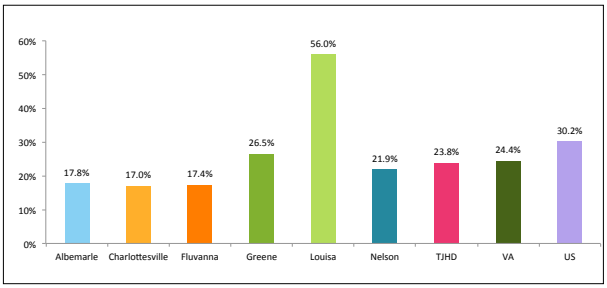


Figure 1 | Percentage of Adults with No Dental Exam in Past Year, TJHD Localities, TJHD, Virginia, and U.S., 2006–2010. Source: Community Commons Report, 2015.

Primary Care

Having a primary care provider (PCP) or medical home is the first line of defense for addressing health problems before they start. International and national studies have indicated that a relationship with a medical home is associated with better health. Benefits range from lowered health care costs to reductions in disparities in health between socially disadvantaged subgroups and more socially advantaged populations.[35]

Healthy People 2020 established a goal to lower the percentage of people who do not have access to a primary care provider (<16.1%) as did the Virginia Plan for Well Being (<15%). TJHD (17.7%) is closer to reaching these goals than Virginia as a whole (22.5%). Fluvanna (11.9%) and Nelson (13.5%) are the only two TJHD localities to meet both of these goals. Charlottesville (33.4%) has the highest percentage of people who reported not having a PCP (Figure 2).

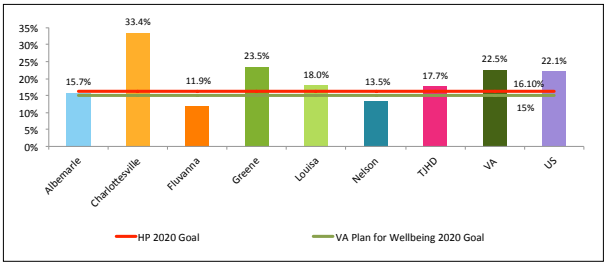


Figure 2 | Percentage of Adults without Any Regular Primary Care Provider, TJHD Localities, TJHD, VA, and U.S., 2011–2012. Source: Community Commons Report, 2015.

Health Screenings

Engaging in preventive behaviors such as health screenings allows for early detection and treatment of health problems. These indicators can also highlight a lack of access to preventive care, a lack of health knowledge, insufficient provider outreach, and/or social barriers preventing utilization of services.

A hemoglobin A1c test measures blood sugar levels which is an important health indicator for pre-diabetes and diabetes. In 2012, every TJHD locality and TJHD as a whole (90.7%) had a higher percentage of persons with diabetes receiving Medicare benefits who had an A1c test within the past year than the average in Virginia as a whole (86.5%). In Charlottesville, 100% of Medicare beneficiaries with diabetes received an A1c test within the past year which was the highest percentage of all TJHD localities. The percentage was lowest in Fluvanna at 89.6% (Figure 3).

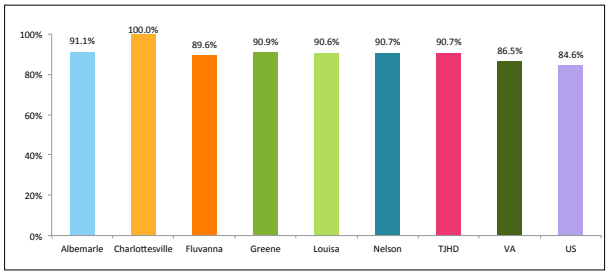


Figure 3 | Percentage of Medicare Beneficiaries with Diabetes with Annual Hemoglobin A1c Test, TJHD Localities, TJHD, VA, and U.S., 2012. Source: Community Commons Report, 2015.

Monitoring the percentage of people with hypertension who do not take their prescribed medications can be an indication of future health problems for a community. As of 2006–2010, the only TJHD locality with enough data to report was Albemarle where an average of 24.9% of residents with hypertension reported taking no medication to manage their hypertension. This was higher than the average across TJHD (10.4%), Virginia (19.7%), and the United States (21.7%) (Figure 4).

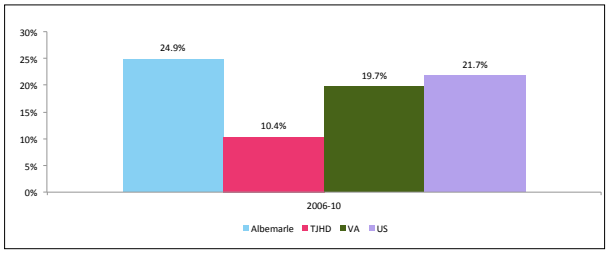


Figure 4 | Percentage of Adults with Hypertension who are Not Taking Hypertension Medication, Albemarle County, TJHD, VA, and US, 2006–2010. Source: Community Commons Report, 2015.

In 2012, no TJHD locality met the Healthy People 2020 goal of having at least 81.1% of women aged 67–69 receive a mammogram within the past two years. Albemarle (73.5%) had the highest rate in TJHD while Nelson (59.8%) had the lowest rate. The rate across TJHD (69.1%) was higher than the rates in Virginia and the United States (both approximately 63%) (Figure 5).

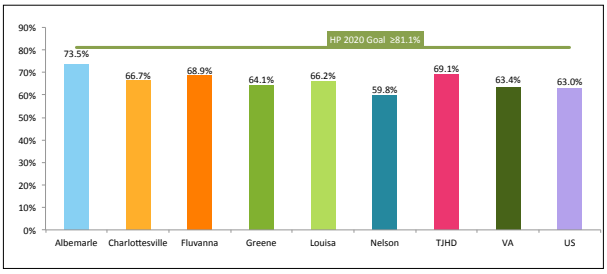


Figure 5 | Percentage of Female Medicare Enrollees Aged 67-69 Years Who Have Had a Mammogram in the Past 2 Years, TJHD Localities, TJHD, VA, and U.S., 2008–2012. Source: Community Commons Report, 2015.

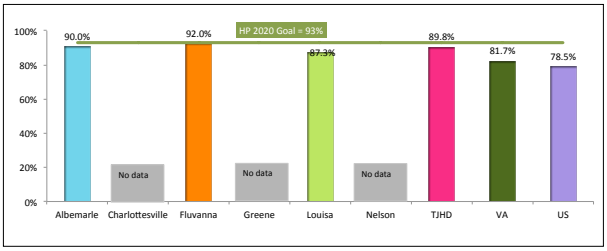


Figure 6 | Percentage of Adult Women Age 18+ Years Who Have Had a PAP Test in the Past 3 Years, TJHD Localities, TJHD, VA, and U.S., 2006–2012. Source: Community Commons Report, 2015.

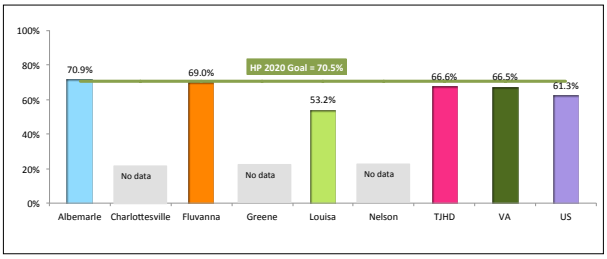


Figure 7 | Percentage of Adults Age 50+ Years Who Have Ever Had a Sigmoidoscopy or Colonoscopy, TJHD Localities, TJHD, VA, and U.S., 2006–2012. Source: Community Commons Report, 2015.

Healthy People 2020 set a goal that at least 93% of all women older than 18 years should receive a PAP test to screen for cervical cancer at least once every three years. Although the average percentage of adult women in TJHD who received a PAP test in the past three years was higher than the state average from 2006–2012, it still fell slightly below 90%. Among the TJHD localities where there was enough data to report accurately, Fluvanna (92%) had the highest rate of women receiving PAP tests and Louisa (87.3%) had the lowest (Figure 6).

At least 70.5% of adults older than 50 years should have received a colonoscopy or sigmoidoscopy according to Healthy People 2020 goals. The percentage of adults older than 50 years who have ever had a sigmoidoscopy or colonoscopy in TJHD was 66.6% and nearly the same as the average across Virginia in the years from 2006–2012. Among the TJHD localities where there was enough data to report accurately, Albemarle (70.9%) had the highest rate in TJHD in this time span and Louisa (53.2%) had the lowest (Figure 7).

Men 40 years or older should receive a PSA test at least once every two years to screen for prostate cancer. In 2012, only 46.5% of men in Virginia had received a PSA test within the past 2 years. In the northwestern region of Virginia, which is composed of TJHD as well as the Central Shenandoah, Lord Fairfax, Rappahannock, and Rappahannock/Rapidan Health Districts, the PSA screening rate was slightly lower at 45.3% (Figure 8).

Healthy People 2020 established a goal that at least 73.6% of people aged 15–44 years should receive an HIV screening at some point. In 2011–2012, 65% of TJHD residents aged 18–70 years reporting never having an HIV screening. Nelson

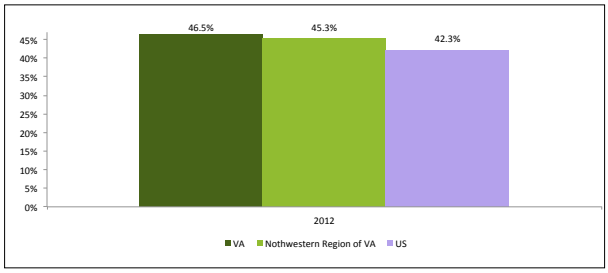


Figure 8 | Percentage of Adult Males Age 40 Years and Older Who Have Had a PSA Test in the Past 2 Years, Northwestern VA, VA, and U.S., 2012. Source: Virginia Department of Health, Behavioral Risk Factor Surveillance Survey, 2016.

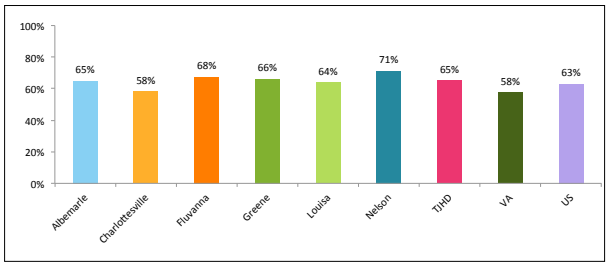


Figure 9 | Percentage of Adults Aged 18–70 Years Who Have Never Been Screened for HIV (Self-Reported), TJHD Localities, TJHD, VA, and U.S., 2011–2012. Source: Community Commons Report, 2015.

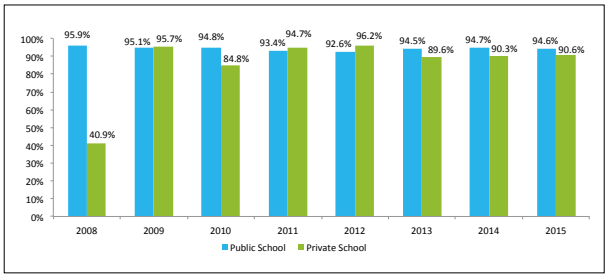


Figure 10 | Percentage of Kindergarteners Adequately Immunized in Reporting Schools, TJHD, 2008–2015. Source: Virginia Department of Health, SIS (Student Immunization Survey) Reports, 2016.

(71%) had the highest percentage of residents reporting no HIV screening in their lifetime and Charlottesville (58%) had the lowest percentage (Figure 9).

Immunizations

Since the 1960s, childhood immunization has been widely used to prevent what were once severe, or even life-threatening, diseases. Due largely to school entrance requirements and increased vaccine availability, childhood immunization rates remain at high levels.

From 2008–2015 in TJHD, the percentage of adequately immunized[36] kindergartners enrolled in public schools was generally slightly higher than the percentage among kindergartners enrolled in private schools. The percentage of adequately immunized kindergartners in private[37] schools did increase from 41% to 96% from 2008 to 2009. From 2009 to 2015, this percentage never dropped below 84%. During this same time span, the percentage of immunized kindergartners in public schools never dropped below 92% (Figure 10).

As is the case among kindergartners, there is a higher immunization rate among sixth graders in public schools in TJHD than among sixth graders in private schools. After 2008, the immunization rate among private school sixth graders varied from a low of 67.1% in 2013 to a high of 93.7% in 2014. The immunization rate among public school sixth graders never dropped below 88% between 2008 and 2015 (Figure 11).

Adults older than 65 years should receive pneumonia vaccines every year because they are at a higher risk of developing complications from pneumonia. From 2006–2012, the average percent of residents aged 65 years and older who report-

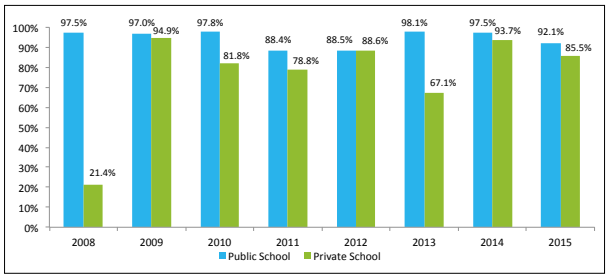


Figure 11 | Percent of Sixth Graders Immunized in Reporting Schools, TJHD, 2008–2015. Source: Virginia Department of Health, SIS (Student Immunization Survey) Reports, 2016.

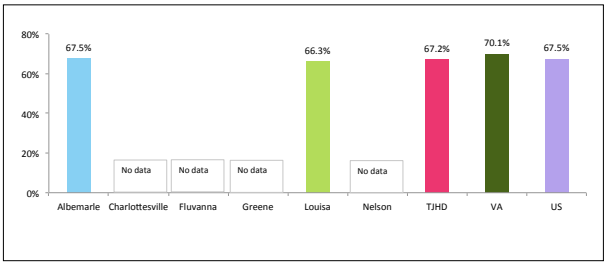


Figure 12 | Percentage of Adults Aged 65 Years and Older Who Have Received Pneumonia Vaccine, TJHD Localities, TJHD, VA, and U.S., 2006–2012. Source: Community Commons Report, 2015.

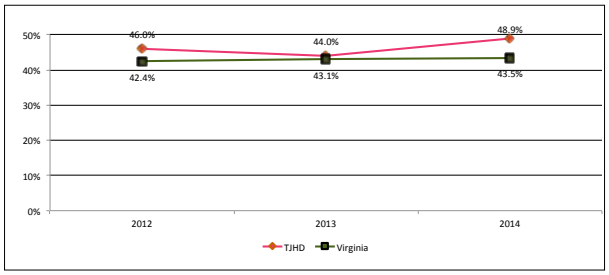


Figure 13 | Percentage of Adults Receiving Flu Immunization within the Past 12 Months (Self-Reported), TJHD and VA, 2012–2013. Source: Virginia Department of Health, Behavioral Risk Factor Surveillance Survey (BRFSS), 2016.

ed receiving a pneumonia vaccine was at or just under 70% in TJHD (67.2%), Virginia (70.1%), and the United States (67.5%). Albemarle (67.5%) and Louisa (66.3%) were the only TJHD localities with enough data to report accurately (Figure 12).

From 2012 to 2014, the percent of adults who reported having their annual flu vaccination increased in TJHD from 46.0% to 48.9% (Figure 13). During the same time span, the percent of adults who reported having their tetanus vaccination dropped by around 15% in both TJHD and Virginia. As tetanus vaccination was self-reported and tetanus vaccination is only required once every 10 years, it is possible that a portion of respondents did not accurately remember their vaccination history (Figure 14).

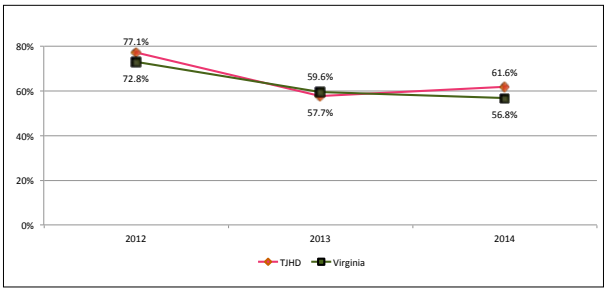


Figure 14 | Percentage of Adults Receiving Tetanus Vaccination, TJHD and VA, 2012–2013. Source: Virginia Department of Health, Behavioral Risk Factor Surveillance Survey (BRFSS), 2016.

Safety Device Use

Failure to use safety restraints increases the risk of injury during a motor vehicle crash. The number of hospitalizations from motor vehicle accidents were lower in TJHD when a safety device[38], such as a seat belt, was used compared to when it was not used (Figure 1). Since the 1980s, the percent of drivers and passengers using seat belts in Virginia has increased although it has not reached the Healthy People 2020 target of 92% (Figure 2). However, the percent of adults who report always or nearly always wearing a seat belt when in a motor vehicle has decreased in TJHD from 98.6% in 2011 to 90.2% in 2013 (Figure 3).

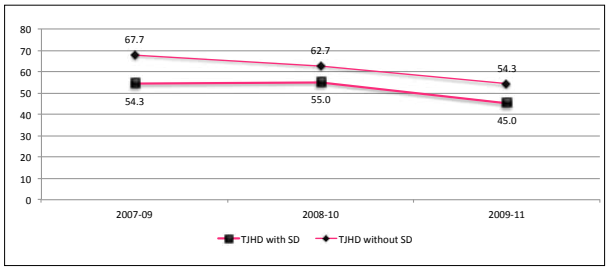


Figure 1 | Number of Hospitalizations from Motor Vehicle Accidents With and Without the Use of a Safety Device in TJHD, 2007–2011. Source: Virginia Department of Health, Office of Emergency Medical Services, Trauma Registry, 2016.

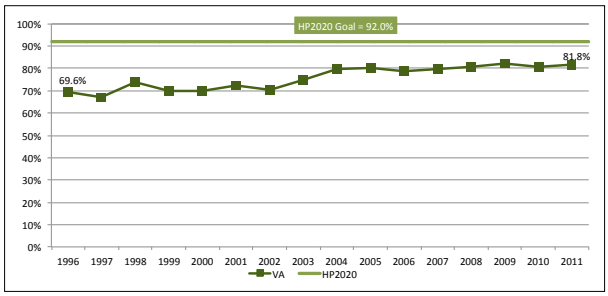


Figure 2 | Percent of Drivers and Passengers Using Seat Belts in VA, 1987–2011. Source: Virginia Department of Motor Vehicles' Highway Safety Office, 2016.

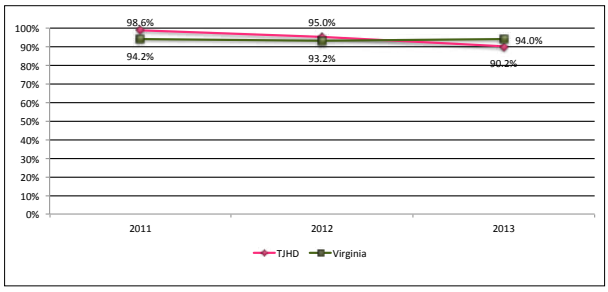


Figure 3 | The Percent of Adults Who Report Always or Nearly Always Wearing a Seat Belt When in a Motor Vehicle in TJHD and VA, 2011–2013. Source: Virginia Department of Health, Behavioral Risk Factor Surveillance Survey (BRFSS), 2016.

Endnotes

Community Resources

[1] Babey SH, Wolstein J, Krumholz S, Robertson B, Diamant AL. Physical Activity, Park Access and Park Use among California Adolescents. Los Angeles, CA: UCLA Center for Health Policy Research, 2013.

[2] Sallis, James F., et al. "Distance between homes and exercise facilities related to frequency of exercise among San Diego residents." Public health reports 105.2 (1990): 179.

[3] Cohen, Deborah A., et al. "Contribution of public parks to physical activity. "American Journal of Public Health 97.3 (2007): 509-514.

[4] Casey, R., Oppert, J., Weber, C., Charriere, H., Salze, P., Badariotti, D., et al. "Determinants of childhood obesity: What can we learn from built environments?" Food Quality and Preference 31. (2014). 164-172.

[5] Hoehner, Christine M., et al. "Commuting distance, cardiorespiratory fitness, and metabolic risk." American journal of preventive medicine 42.6 (2012): 571-578.

[6] Frank, Lawrence D., Martin A. Andresen, and Thomas L. Schmid. "Obesity relationships with community design, physical activity, and time spent in cars." American journal of preventive medicine 27.2 (2004): 87-96.

Community Safety

[7] Lorenc, Theo, et al. Crime, fear of crime, environment, and mental health and wellbeing: mapping review of theories and causal pathways. Health & place 18.4 (2012): 757-765.

[8] Virginia Department of Social Services. Child Protective Services A Guide to Investigative Procedures in Out of Family Settings. Retrieved October 27, 2016 from *http://www.dss.virginia.gov/files/division/dfs/cps/intro_page/publications/out_of_family/B032-01-0300-04-eng.pdf*

[9] Group A Offense categories include: arson, assault, bribery, burglary, counterfeiting/forgery, destruction/ damage/vandalism of property, drug/narcotic offenses, embezzlement, extortion/blackmail, fraud, gambling, homicide, kidnapping/abduction, larceny/theft, motor vehicle theft, pornography/ obscene material, prostitution, robbery, sex—forcible and nonforcible, stolen property, and weapon law violations.

[10] Drug/Narcotic Offenses: The violation of laws prohibiting the production, distribution, and/or use of certain controlled substances and the equipment or devices utilized in their preparation and/or use (includes drugs and equipment violations).

[11] Altercations: Confrontation, tussle, or verbal/physical aggression that does not result in injury.

[12] Bullying: Using repeated negative behaviors intended to frighten or cause harm; these may include, but are not limited to, verbal or written threats or physical harm.

[13] Threat: Unlawfully placing a staff member/student in fear of bodily harm through physical, verbal, written or electronic threats without displaying a weapon or subjecting the person to actual physical attack. Considers age, developmentally appropriate behavior and disability status before use.

Housing and Food

[14] County Health Rankings & Roadmaps. Severe Housing Problems. Retrieved October 31, 2016 from *http://www.countyhealthrankings.org/measure/severe-housing-problems*

[15] Danhong Chen; Jaenicke, Edward C.; Volpe, Richard J. "Food Environments and Obesity: Household Diet Expenditure versus Food Deserts." American Journal of Public Health. 2016. 106 (5), 881-888.

[16] Cummins, S. (2014). Food deserts. The Wiley Blackwell Encyclopedia of Health, Illness, Behavior, and Society.

[17] Full-Service Restaurants: The number of full-service restaurants in the county. Full-service restaurants include establishments primarily engaged in providing food services to patrons who order and are served while seated (i.e., waiter/waitress service) and pay after eating. These establishments may provide this type of food service to patrons in combination with selling alcoholic beverages, providing take-out services, or presenting live nontheatrical entertainment.

[18] Fast-Food Restaurants: Establishments primarily engaged in providing food services (except snack and nonalcoholic beverage bars) where patrons generally order or select items and pay before eating. Food and drink may be consumed on premises, taken out, or delivered to the customer's location.

[19] Convenience Stores: Establishments primarily engaged in retailing a limited line of goods that generally includes milk, bread, soda, and snacks. Also includes the number of gasoline-convenience stores, which are engaged in retailing automotive fuels (for example, diesel fuel, gasohol, and gasoline) in combination with convenience store or food mart items. These establishments can either be in a convenience store (food mart) setting or a gasoline station setting.

[20] Grocery Store: Establishments primarily engaged in retailing a general line of food, such as canned and frozen foods; fresh fruits and vegetables; and fresh and prepared meats, fish, and poultry. Included in this industry and delicatessen-type establishments primarily engaged in retailing a general line of food.

Environmental Quality

[21] Bascom, R., Bromber, P., & Costa, D. Health effects of outdoor air pollution. Am J Respir Crit Care Med, (1996). 153: 3-50. Retrieved August 8, 2012 from *http://www.countyhealthrankings.org/health-factors/environmental-quality*

[22] Curtis L, Rea W, Smith-Willis P, Fenyves E, Pan Y. Adverse health effects of outdoor air pollutants. Environment International. (2006) 32(6):815-830. doi:10.1016/j.envint.2006.03.012.

[23] Unhealthy for Sensitive Groups: Although general public is not likely to be affected at this AQI range, people with lung disease, older adults and children are at a greater risk from exposure to ozone, whereas persons with heart and lung disease, older adults and children are at greater risk from the presence of particles in the air.

[24] Unhealthy for Anyone: Everyone may begin to experience some adverse health effects, and members of the sensitive groups may experience more serious effects.

[25] Moderate: Air quality is acceptable; however, for some pollutants there may be a moderate health concern for a very small number of people. For example, people who are unusually sensitive to ozone may experience respiratory symptoms.

Tobacco, Alcohol, and Drugs

[26] Danaei G, Ding EL, Mozaffarian D, Taylor B, Rehm J, et al. (2009) The Preventable Causes of Death in the United States: Comparative Risk Assessment of Dietary, Lifestyle, and Metabolic Risk Factors. PLoS Med 6(4).

[27] Centers for Disease Control and Prevention. (2015). Current cigarette smoking prevalence among adults - United States, 2005-2014. MMWR, 64 (44), 1233-1240.

[28] Ibid.

[29] Schroeder, S. (2007). We can do better—improving the health of the American people. New England Journal of Medicine, 337 (12), 1221-1227.

[30] Centers for Disease Control and Prevention. (2015). Current cigarette smoking among adults - United States, 2005-2014. MMWR, 64 (44), 1233-1240.

[31] Centers for Disease Control and Prevention. Health Effects of Secondhand Smoke. March 5, 2014. Retrieved on August 20, 2016 from *http://www.cdc.gov/tobacco/data_statistics/fact_sheets/secondhand_smoke/health_effects/*

Obesity

[32] Mokdad, A.H., Marks, J.S., & Stroup, D.F. (2004) Actual Causes of Death in the United States, 2000. JAMA, 291:1238-1245.

[33] Johns, D. J., Hartmann-Boyce, J., Jebb, S. A., & Aveyard, P. (2014). Diet or exercise interventions vs combined behavioral weight management programs: A systematic review and meta- analysis of direct comparisons. Journal of the Academy of Nutrition and Dietetics, 114(10), 1557–1568. doi:10.1016/j.jand.2014.07.005

[34] Centers for Disease Control and Prevention. (2016, August 15). Adult obesity causes and consequences. Retrieved October 18, 2016 from *https://www.cdc.gov/obesity/adult/causes.html*

Health Care Utilization

[35] Starfield, B., Leiyu, S. The Medical Home, Access to Care, and Insurance: A Review of Evidence. Pediatrics May 2004, Volume 113, Issue Supplement 4.

[36] Adequately Immunized: includes children vaccinated in accordance with either the current harmonized schedule or the harmonized catch-up schedules (including all minimum age and interval requirements) and are considered appropriately immunized for school attendance. The children not included in the "adequately immunized" category include the number of children with medical exemptions, with religious exemptions, children that are conditionally enrolled and the children without records.

[37] In 2008, the private school percentage is low because only two schools reported their immunization rates—participation in the school immunization survey increased after 2008 to include up to six private schools reporting.

2.8 Safety Device Usage

[38] Safety Devices: includes air bags, child safety seats, helmets, and safety belts; note that the presence of a safety device does not necessarily imply that it was used (properly or otherwise). Similarly, "none" does not necessarily mean that safety device was not used.

CHA Section 3

Section three includes information to answer the question:

What is the status of health in the community?

Maternal and Child Health: Birth, Pregnancies, and Mortality

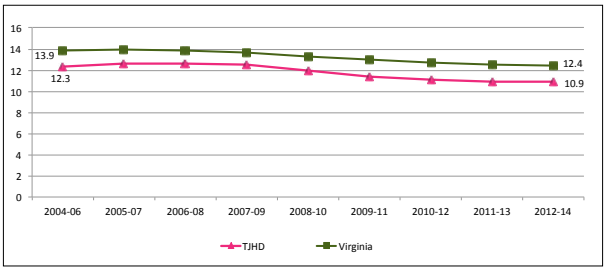


Figure 1 | Live Birth Rate per 1,000 Persons, TJHD and Virginia, 3-Year Rolling Averages, 2004–2014. Source: Virginia Department of Health, Division of Health Statistics, 2016.

Birth and Pregnancy Rates

The well-being of pregnant women and their children influences the health of the next generation and can predict future public health challenges for families, communities, and the healthcare system.

The five-year rolling average live birth[1] rate per 1,000 residents decreased slightly in both TJHD and Virginia from 2004–2006 to 2012–2014. The birth rate in TJHD was lower than Virginia's birth rate during the same time frame (Figure 1).

Teen pregnancy is a critical issue that affects the health, social, and economic future of mothers and their children.[2] Teenaged mothers generally have fewer resources available to them while pregnant and for their children after giving birth which can lead to poor pregnancy outcomes. Babies born to teen mothers are more likely to be born preterm and at a low birth weight. The children are at greater risk of living in poverty, lower cognitive attainment, and behavioral problems. Girls born to teen mothers are more likely themselves to become teen mothers and boys are more likely to be incarcerated. Teen mothers are less likely to graduate from high school or attain a GED and earn an average of $3,500 less per year as compared to those who delay childbearing until their 20s.[3,4] Teen fatherhood is also associated with lower educational attainment and lower income.[5]

The rate of pregnancies per 1,000 females aged 10–19 years decreased in all TJHD locali-

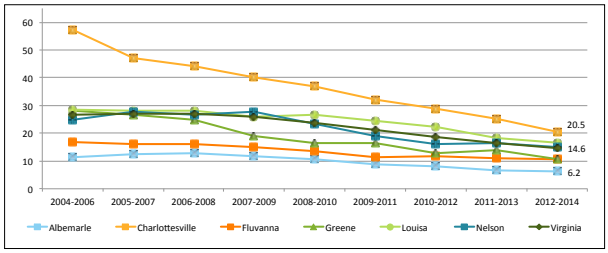


Figure 2 | Teen Pregnancy Rate for Females Aged 10–19 Years per 1,000 Females Aged 10–19 Years, TJHD Localities, 3-Year Rolling Averages, 2004–2014. Source: Virginia Department of Health, Division for Health Statistics, 2016.

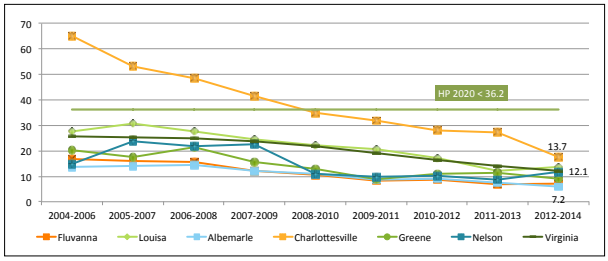


Figure 3 | Teen Pregnancy Rate for Females Aged 15–17 Years per 1000 Females Aged 15–17 Years, TJHD Localities and Virginia, 3-Year Rolling Averages, 2004–2014. Source: Virginia Department of Health, Division for Health Statistics, 2016.

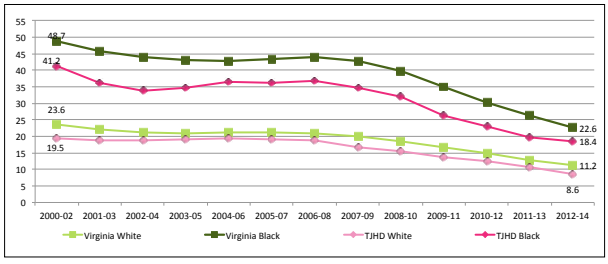


Figure 4 | Teen Pregnancy Rate By Race for Females Aged 10–19 Years per 1000 Females Aged 10–19 Years, TJHD and Virginia, 3-Year Rolling Averages, 2000–2014. Source: Virginia Department of Health, Division for Health Statistics, 2014.

ties from 2004 to 2014. Charlottesville saw the greatest decrease in its teen pregnancy rate—although Charlottesville still had the largest rate among TJHD localities—with the rate dropping from an average of 57.3 pregnancies per 1,000 teenaged females from 2004–2006 to an average of 20.5 per 1,000 from 2012–2014. The lowest rate in TJHD from 2012–2014 was 6.2 per 1,000 teenaged females in Albemarle County (Figure 2).

The pregnancy rate for older teenagers also decreased across the district. It was highest in Charlottesville (13.7 per 1,000 females aged 15–17) and lowest in Albemarle County (7.2). These were both lower than the Healthy People 2020 goal of no more than 36.2 pregnancies per 1,000 females aged 15–17 (Figure 3).

The pregnancy rate among white teenagers is lower than the pregnancy rate among black teenagers in both TJHD and Virginia as a whole although the gap between the two has been shrinking since 2006–2008. In 2012–2014, TJHD's pregnancy rate among black teenagers (18.4 per 1,000) was almost twice as high as the rate of white teenagers (8.6 per 1,000) (Figure 4).

Maternal and Infant Mortality

In the Northwest Health Planning District, which includes TJHD, the pregnancy-associated mortality rate increased from an average of 29.7 per 100,000 live births from 2009–2011 to 43.8 in 2011–2013. Across Virginia, the rate has increased from 41.6 to 45.5 in the same time span (Figure 5).

Black women are more likely to die from a pregnancy-related cause than white women in Virginia. An annual average of approximately 80 black mothers per 100,000 live births died due to complications of pregnancy from 2004–2013 as compared to an annual average

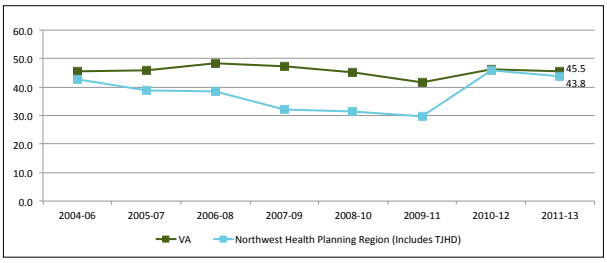


Figure 5 | Pregnancy-Associated Deaths (of Mother) per 100,000 Live Births to Residents, Virginia and Northwest Health Planning District, 3-Year Rolling Averages, 2004–2013. Source: Virginia Department of Health, Office of the Chief Medical Examiner, Virginia Pregnancy-Associated Mortality Surveillance System, 2015.

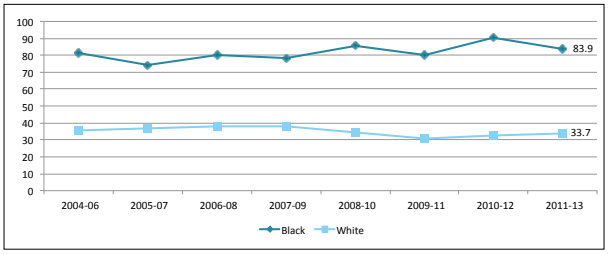


Figure 6 | Pregnancy-Associated Deaths (of Mother) per 100,000 Live Births to VA Residents by Race, Virginia, 3-Year Rolling Averages, 2004–2013. Source: Virginia Department of Health, Office of the Chief Medical Examiner, Virginia Pregnancy-Associated Mortality Surveillance System 2015.

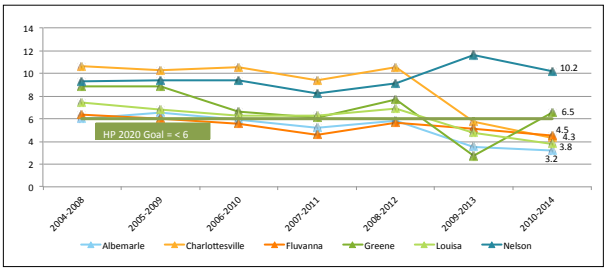


Figure 7 | Infant Deaths per 1,000 Live Births by Place of Residence, TJHD Localities and TJHD, 5-Year Rolling Averages, 2004–2014. Source: Virginia Department of Health, Division of Health Statistics, 2016.

of approximately 30 white mothers per 100,000 live births (Figure 6).

The Infant Mortality Rate (IMR)[6] is often used as an indicator of the level of health in a country. The U.S. has one of the highest infant mortality rates among industrialized countries; for 2016, the Central Intelligence Agency ranked the U.S. 57th out of the 225 countries included in the study.[7] The infant mortality rate per 1,000 live births decreased in every TJHD locality except for Greene from 2009–2013 to 2010–2014. In 2010–2014, four localities had a lower infant mortality rate than the Healthy People 2020 goal of 6 per 1,000 live births. Nelson (10.2) had the highest infant mortality rate among TJHD localities and Albemarle (3.2) had the lowest rate (Figure 7).

In 2010–2014, the infant mortality rate among African Americans in TJHD was 10.6 per 1,000 live births which is a decrease from 11.4 in 2009–2013. The white infant mortality rate in TJHD decreased from 3.8 to 3.5 per 1,000 live births in the same years. Both rates were lower than the respective rates in Virginia (Figure 8).

Nelson (8.7) and Greene (4.4) did not meet the Healthy People 2020 goal of having fewer than 4.1 neonatal deaths (infant deaths within the first 28 days of life) per 1,000 live births in 2010–2014; every other TJHD locality met this goal. Louisa (2.1) has the lowest neonatal mortality rate in TJHD (Figure 9).

The number of cases of Sudden Infant Death Syndrome (SIDS) in TJHD dropped in recent years. There were 15 total cases of SIDS in TJHD between 2004–2008, but only 5 cases between 2009–2014 (Figure 10).

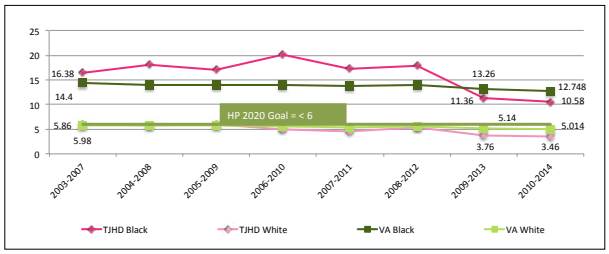


Figure 8 | Infant Deaths Per 1,000 Live Births by Race and Place of Residence, TJHD and Virginia, 5-Year Rolling Averages, 2003-2014. Source: Virginia Department of Health, Division of Health Statistics, 2016.

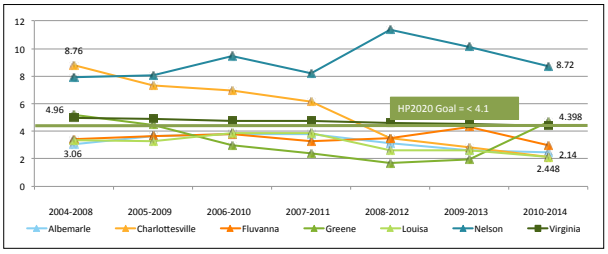


Figure 9 | Neonatal Mortality Rate (Death within 28 days of Life) per 1,000 Live Births, TJHD Localities and Virginia, 5-Year Rolling Averages, 2004–2014. Source: Virginia Department of Health, Division of Health Statistics, 2016.

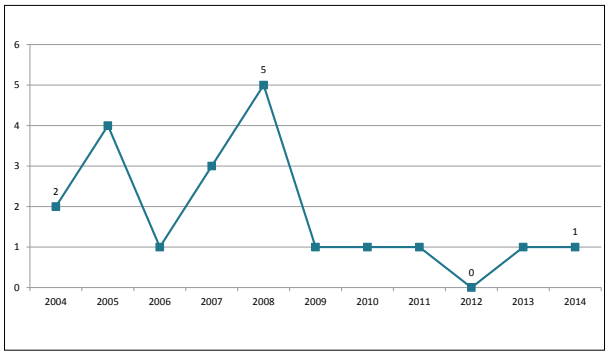


Figure 10 | Number of SIDS Deaths, TJHD, 2004–2014. Source: Virginia Department of Health, Division of Health Statistics, 2016.

Maternal and Child Health: Pregnancy Outcomes and Behaviors

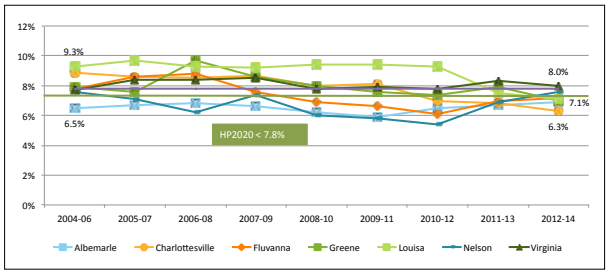


Figure 1 | Percent of Low Birth Weight Births out of Total Live Births by Place of Residence, TJHD Localities and TJHD, 3-Year Rolling Averages, 2004–2014. Source: Virginia Department of Health, National Center for Health Statistics, 2016.

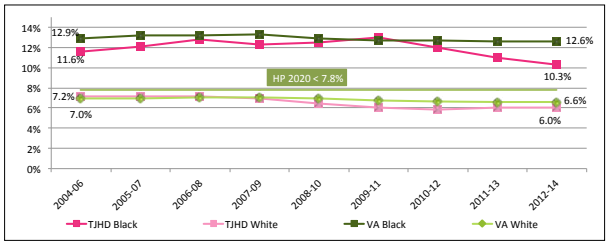


Figure 2 | Percent Low Birth Weight Births by Race Out of Total Live Births By Place of Residence, TJHD and Virginia, 3-Year Rolling Averages, 2004–2014. Source: Virginia Department of Health, National Center for Health Statistics, 2016.

Low Birth Weight

Low birth weight (LBW) refers to a baby born weighing less than 2,500 grams (5 pounds, 8 ounces). Infants born at LBW have greater developmental and growth problems, are at higher risk of cardiovascular disease, and have a greater rate of respiratory conditions.[8, 9, 10, 11] Infant LBW is associated with the mother's health risks during pregnancy, including access to health care, the social and economic environment she inhabits, her health behaviors, and environmental risks to which she is exposed.[12]

The percent of babies classified as LBW dropped in most TJHD localities from 2004–2006 to 2012–2014 and all met the Healthy People 2020 goal of less than 7.8% of all births being classified as LBW. Nelson (7.6%) had the highest percentage of live births resulting in low birth weight and Charlottesville (6.3%) had the lowest percentage (Figure 1).

There is a disparity in the rate of LBW births between black and white babies in TJHD and Virginia. The percent of LBW births decreased to 10.3% among black babies born in TJHD from 2009–2011 to 2012–2014 while it remained at just over 12% in Virginia. The LBW birth percentage among white babies born in TJHD and Virginia remained around 6% (Figure 2).

Preterm Births

Preterm births are defined as those that occur less than 37 weeks after conception. On average, babies born preterm have worse health out-

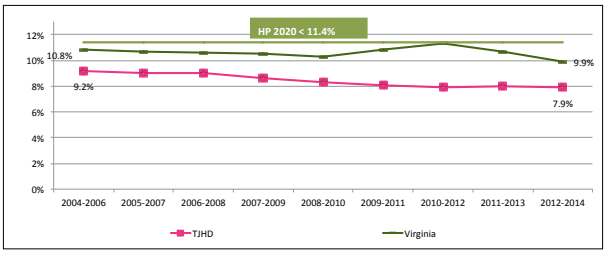


Figure 3 | Percent of Total Live Births That Were Preterm (Less Than 37 Weeks Gestation), TJHD and Virginia, 3-Year Rolling Averages, 2004–2014. Source: Source: Virginia Department of Health, National Center for Health Statistics, 2016.

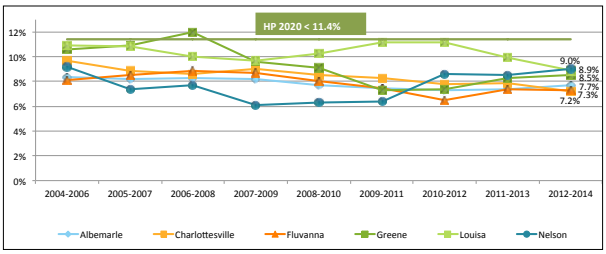


Figure 4 | Percent of Total Live Births That Were Preterm (Less Than 37 Weeks Gestation), TJHD Localities, 3-Year Rolling Averages, 2004–2014. Source: Source: Virginia Department of Health, National Center for Health Statistics, 2016.

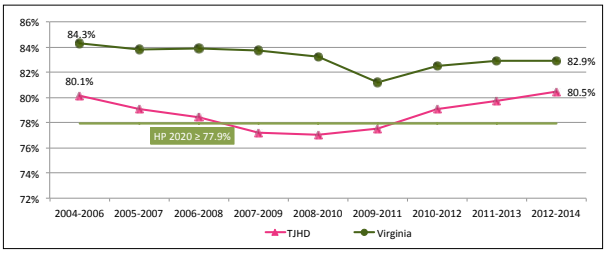


Figure 5 | Percent of Live Births with Prenatal Care Beginning in the first 13 Weeks, TJHD and Virginia, 3-Year Rolling Averages, 2004–2014. Source: Virginia Department of Health, Division of Health Statistics, 2016.

comes than those with longer gestation periods and are at increased risk of having long-term health and developmental problems and early death.[13] The percentage of preterm births for TJHD has decreased from 9.2% in 2004–2006 to 7.9% in 2012–2014 and is lower than the Virginia percentage as well as the Healthy People 2020 goal (Figure 3). The highest percentage of live births that were preterm among TJHD localities was in Nelson where an average of 9.0% of births was preterm from 2012–2014. The lowest average percentage of preterm births during this time span was in Charlottesville (7.2%). From 2012–2014, all TJHD localities met the Healthy People 2020 goal of no more than 11.4% (Figure 4).

Prenatal Care

Prenatal care has important implications for both a pregnant woman and her child. The risk of infant mortality and pregnancy-related complications can be reduced by increasing access to quality preconception and prenatal care.[14] Early entry into prenatal care provides the opportunity for education of women about healthy behaviors during pregnancy and allows for detection of problems. Mothers who receive prenatal care within the first 13 weeks of pregnancy have better health outcomes for themselves and for their children. Healthy People 2020 established a goal of at least 77.9% of all mothers initiating prenatal care within the first 13 weeks after conception. TJHD and Virginia as a whole have exceeded this goal since 2010. From 2012–2014, an average of 80.5% of mothers in TJHD received early prenatal care compared to an average of 82.9% across Virginia as a whole (Figure 5).

The more prenatal care visits a pregnant mother receives during pregnancy, the better

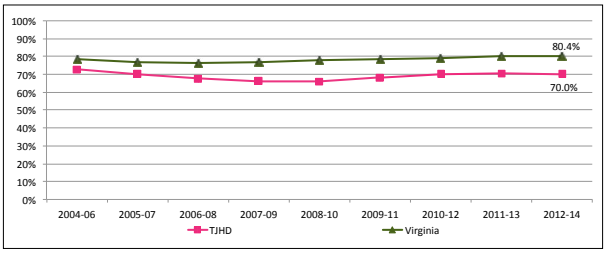


Figure 6 | Percentage of Mothers Who Had 10 or More Prenatal Care Visits, TJHD and Virginia, 3-Year Rolling Average, 2004–2014. Source: Virginia Department of Health, Division of Health Statistics, 2016.

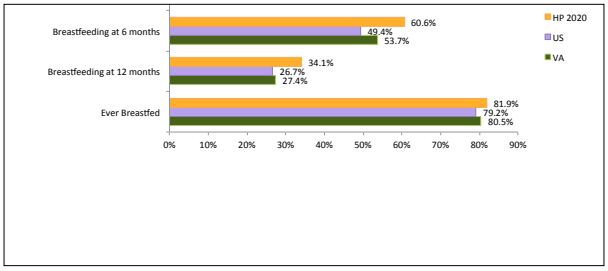


Figure 7 | Percentage of WIC Clients with Infants Who Breastfed, Virginia, U.S., and Healthy People 2020 Goal, 2012–2013. Source: Virginia Department of Health, Thomas Jefferson Health District's WIC Program, 2016.

health outcomes she can expect for herself and her child. From 2012–2014, an average of 70% of mothers every year in TJHD received at least 10 prenatal care visits which was a decrease from an average of 72.7% from 2004–2006. The percentage of pregnant mothers in TJHD receiving at least 10 prenatal care visits was consistently lower than the average across Virginia from 2004–2014 (Figure 6).

Breastfeeding

Breastfeeding is associated with better health outcomes for infants and is a cheaper alternative than buying formula. Healthy People 2020 has established a series of goals for the percentage of mothers who breastfeed until certain ages and for those who ever breastfed. In 2012–2013, 38.3% of Virginia WIC clients with infants exclusively breastfed at 3 months, compared to the Healthy People 2020 goal of 46.2%. The percentage of Virginia WIC clients with infants who had ever breastfed, 80.5%, was close to the Healthy People 2020 goal of 81.9% (Figure 7).

Maternal Substance Use

Smoking during pregnancy increases the risk of miscarriage and increases the risk of the infant having a low birth weight, respiratory distress syndrome, sudden infant death syndrome, and/or impaired cognitive development.[15] The earlier a woman stops smoking during pregnancy, the greater the reduction of risk to her baby.[16] The percentage of mothers who reported smoking during pregnancy has remained higher than the Healthy People 2020 goal of 1.4% in all TJHD localities. Nelson (12.9%) had the highest percentage of pregnant mothers who reported smoking and Albemarle (2.7%) had the lowest percentage among TJHD localities (Figure 8).

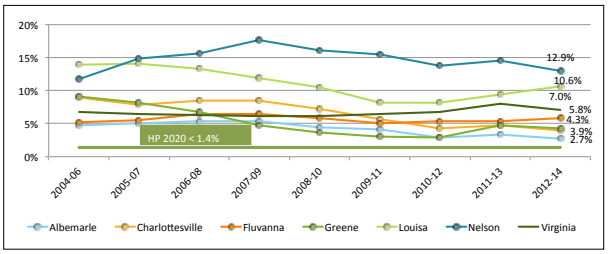


Figure 8 | Percent of Live Births to Mothers Who Reported Smoking during Pregnancy, TJHD Localities and Virginia, 3-Year Rolling Averages, 2004–2014. Source: Virginia Department of Health, Division of Health Statistics, 2016.

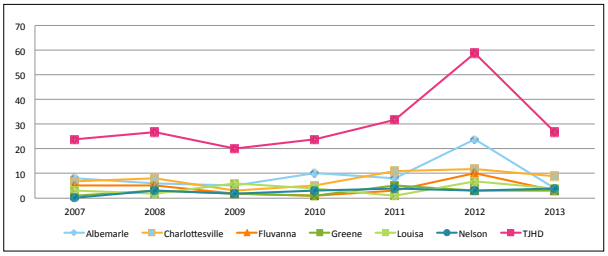


Figure 9 | Number of Substance Exposed Infants, TJHD Localities and TJHD, 2007–2013. Source: Virginia Department of Social Services (DSS) Data Records for Child Protective Services, 2016.

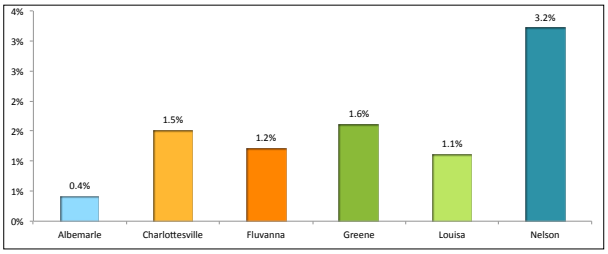


Figure 10 | Percent of Mothers Reporting Substance Use during Pregnancy, TJHD Localities and Virginia, 2013. Source: Virginia Department of Social Services (DSS) Data Records for Child Protective Services, 2016.

The Commonwealth of Virginia mandates that any cases of newborn infants who may have been exposed to controlled substances prior to birth are reported to the local Department of Social Services. The number of infants in TJHD exposed to harmful substances increased from 20 in 2009 to 59 in 2012 before it decreased to 27 in 2013. Charlottesville had 6 infants exposed to harmful substances in 2013, the most in TJHD, and Greene reported the lowest number of infants exposed (3) (Figure 9).

In 2013, 1.4% of mothers in Virginia reported substance use during pregnancy. In Nelson, 3.2% of mothers reported substance use which was the highest rate in TJHD. Albemarle (0.4%) had the lowest percentage of mothers reporting substance use (Figure 10).

Among TJHD mothers who reported substance use while pregnant, a third reported using marijuana and 28% reported using alcohol (Figure 11).

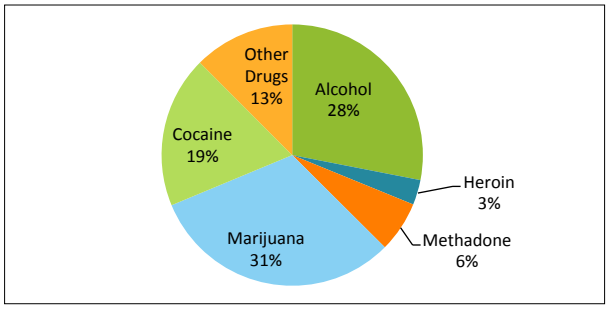


Figure 11 | Substances Used by Mother for Mothers Reporting Substance Use, TJHD, 2013. Source: Virginia Department of Social Services (DSS) Data Records for Child Protective Services, 2016.

Cancer

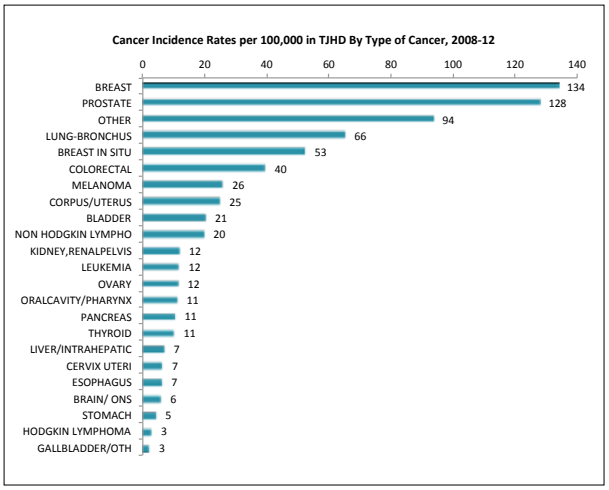


Figure 1 | Cancer Incidence Rates per 100,000 by Type of Cancer in TJHD, 2008–2012. Source: Virginia Department of Health, 2016.

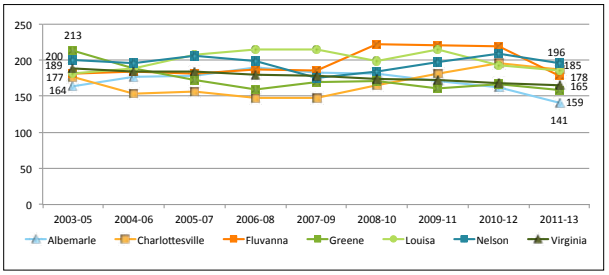


Figure 2 | The Age-Adjusted Cancer Mortality Rate per 100,000 Population for All Types of Cancers in TJHD Localities and VA, 2003–2013. Source: Virginia Department of Health, Center for Health Statistics, 2016.

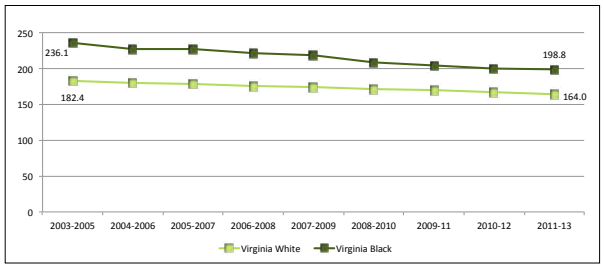


Figure 3 | The Age-Adjusted Cancer Mortality Rate per 100,000 Population by Race for All Types of Cancers, VA, 2003–2013. Source: Virginia Department of Health, Center for Health Statistics and Centers for Disease Control and Prevention, National Center for Health Statistics, 2016.

Cancer is not one disease, but a number of different diseases that have some commonalities. In general, the major risk factors for cancer include a person's age, sex, and family medical history. Different kinds of cancers have specific risk factors.[17] For example:

- Tobacco use causes cancers of the lung, esophagus, larynx, mouth, throat, kidney, bladder, liver, pancreas, stomach, cervix, colon, and rectum, and leukemia.[18]
- Unprotected exposure to sunlight is related to skin cancer.[19]
- Age, changes in hormone levels throughout life, obesity, and physical inactivity are all risk factors for breast cancer.[20]

In TJHD from 2008–2012, the cancers with the highest incidence rates include breast, prostate, other, lung-bronchus, breast in situ, colorectal, and melanoma (Figure 1).

From 2003–2005 to 2011–2013, the age-adjusted cancer mortality rate for all types of cancer decreased slightly from 189 to 165 per 100,000 in Virginia. In 2011–2013, Albemarle had the lowest rate among the TJHD localities at 141 while Nelson had the highest at 196 (Figure 2).

From 2003–2005 to 2011–2013, the age-adjusted cancer mortality rate for all types of cancer among black Virginians decreased from 236.1 per 100,000 residents to 198.8. The rate among white Virginians also decreased during the same time frame from 182.4 to 164. However, the cancer mortality rate among black Virginians was consistently higher than among white Virginians (Figure 3).

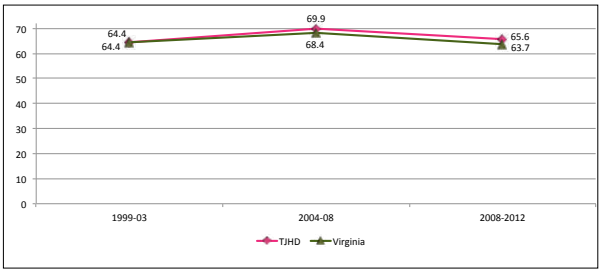


Figure 4 | Lung and Bronchus Cancer Incidence Rate per 100,000 in TJHD and VA, 5-Year Averages, 1999–2012. Source: Virginia Department of Health, Virginia Cancer Registry, 2016.

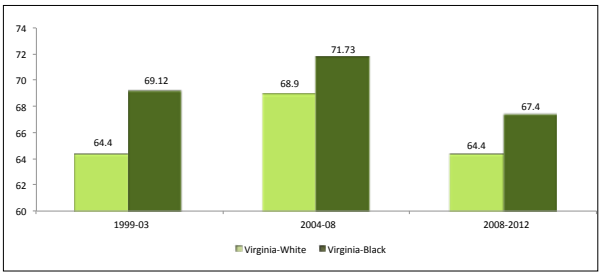


Figure 5 | Lung and Bronchus Cancer Incidence Rate per 100,000 by Race in VA, 5-Year Averages, 1999–2012. Source: Virginia Department of Health, Virginia Cancer Registry, 2016.

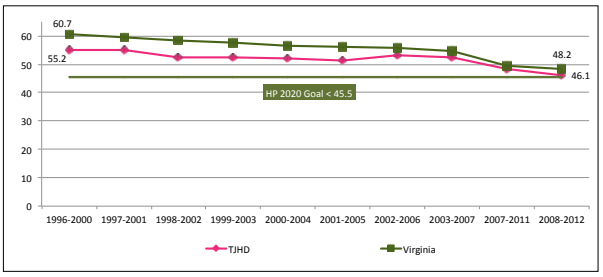


Figure 6 | Lung Cancer Age-Adjusted Mortality Rate per 100,000 Residents, 5-Year Rolling Averages, TJHD and VA, 1996–2012. Source: Virginia Department of Health, Center for Health Statistics, 2016.

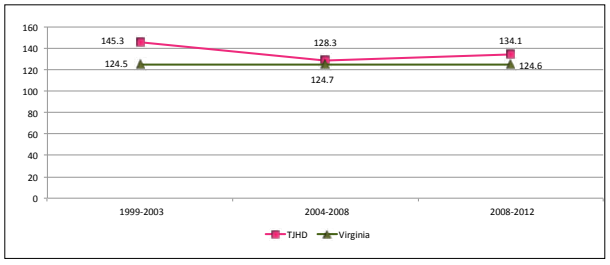


Figure 7 | Breast Cancer Incidence Rate per 100,000 in TJHD and VA, 5-Year Averages, 1999–2012. Source: Virginia Department of Health, Virginia Cancer Registry, 2016.

Lung Cancer

Cigarette smoking is the strongest risk factor for developing lung cancer; other risk factors include exposures to secondhand smoke, radon, and asbestos and genetic factors may also increase susceptibility to developing the disease. In Virginia in 2011, inpatient hospitalizations for lung, trachea, and bronchus cancer cost over $390 million.[21] In the United States an estimated 158,080 deaths from lung cancer (85,920 in men and 72,160 in women) were expected to occur in 2016. One quarter of all cancer deaths are from lung cancer.[22]

The incidence rate per 100,000 for lung and bronchus cancer were the same for TJHD and Virginia for 1999–2003 (64.4) while the rate increased slightly for TJHD (65.6) and decreased slightly for Virginia (63.7) by 2008–2012 (Figure 4). In 2008–2012, the incidence rate for lung and bronchus cancer was higher in the Virginia black population (67.4 per 100,000) than in the Virginia white population (64.4 per 100,000) although this gap has narrowed slightly from 1999–2003 to 2008–2012 (Figure 5). The mortality rate for lung cancer in TJHD decreased from 55.2 per 100,000 residents in 1996–2000 to 46.1 in 2008–2012 which is slightly lower than the rate across Virginia but still above the Healthy People 2020 goal of no higher than 45.5 (Figure 6).

Breast Cancer

Excluding skin cancer, breast cancer is the most frequently diagnosed cancer among women. The incidence rate of breast cancer decreased in TJHD from 145.3 per 100,000 in 1999–2003 to 134.1 per 100,000 in 2008–2012 although it has remained higher than the state average (124.6 per 100,000) (Figure 7). There is a health dispari-

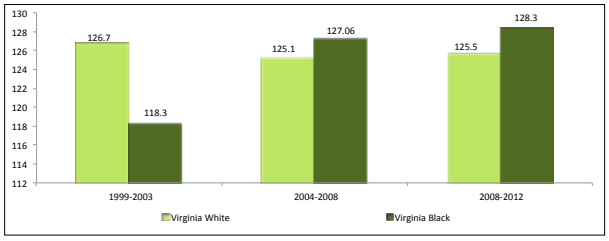


Figure 8 | Breast Cancer Incidence Rate per 100,000 by Race in VA, 5-Year Averages, 1999–2012. Source: Virginia Department of Health, Virginia Cancer Registry, 2016.

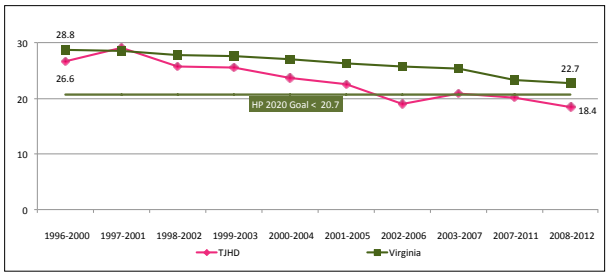


Figure 9 | Breast Cancer Mortality Rate per 100,000 Population (Age-Adjusted), 5-Year Rolling Averages, TJHD and VA, 1996–2012. Source: Virginia Center for Health Statistics, Virginia Department of Health, 2016.

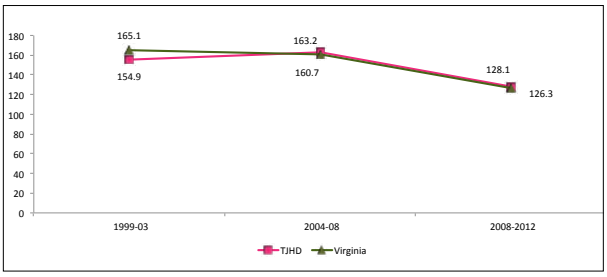


Figure 10 | Prostate Cancer Incidence Rate per 100,000 Population (Age-Adjusted), 5-Year Averages, 1999–2012. Source: Virginia Department of Health, Virginia Cancer Registry, 2016.

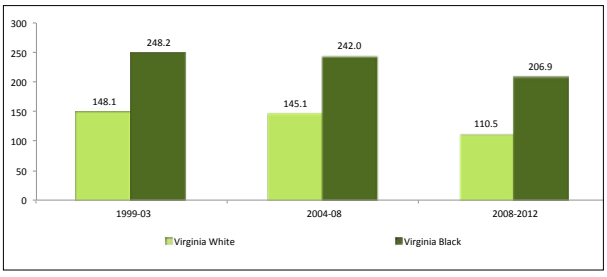


Figure 11 | Prostate Cancer Age-Adjusted Incidence Rate per 100,000 by Race in VA, 5-Year Averages, 1999–2012. Source: Virginia Department of Health, Virginia Cancer Registry, 2016.

ty by race in breast cancer incidence with the incidence higher in the Virginia black population than the Virginia white population as of 2004–2008 and 2008–2012. However, it was higher in the Virginia white population than the Virginia black population in 1999–2003 (Figure 8). The mortality rate for breast cancer has decreased in TJHD. In 2008–2012, the rate of 18.4 deaths due to breast cancer per 100,000 residents is lower than both the state average of 22.7 and the Healthy People 2020 goal of 20.7 (Figure 9).

Prostate Cancer

From 1999–2012, the age-adjusted prostate cancer incidence rate per 100,000 residents decreased in both TJHD and Virginia from 154.9 to 128.1 and 165.1 to 126.3, respectively (Figure 10). There is a health disparity by race in prostate cancer incidence with the incidence higher in the Virginia black population than the Virginia white population—for 2008–2012, the rate was 206.9 for the Virginia black population and 110.5 for the Virginia white population (Figure 11). The prostate cancer mortality rate in TJHD was under the Healthy People 2020 goal of 21.8 for the first time in 2008–2012 when it was 21.4. Although the prostate cancer mortality rate also decreased across Virginia, the average rate across the state is still higher than the rate in TJHD alone (Figure 12).

Colorectal Cancer

Factors that increase the risk of developing colorectal cancer include age (over 90% of colorectal cancers are diagnosed in people 50 and older), personal/family history of colorectal polyps or cancer, certain genetic mutations, overweight/obesity, sedentary lifestyle, high

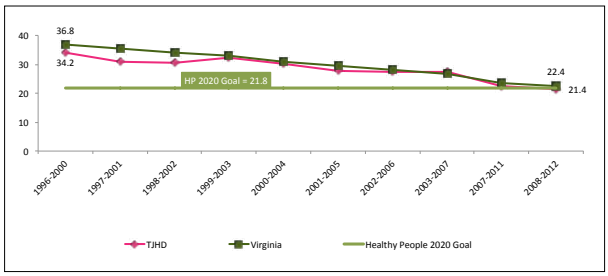


Figure 12 | Prostate Cancer Mortality Rate per 100,000 (Age-Adjusted), 5-Year Rolling Averages, TJHD and VA, 1996–2012. Source: Virginia Center for Health Statistics, Virginia Department of Health, 2016.

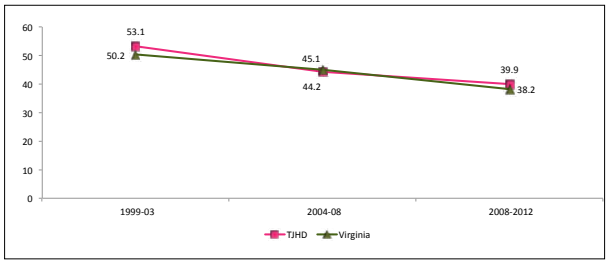


Figure 13 | Colorectal Cancer Age-Adjusted Incidence Rate per 100,000, 5-Year Averages, 1999–2012. Source: Virginia Department of Health, Virginia Cancer Registry, 2016.

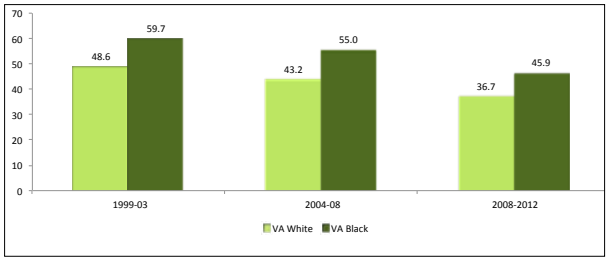


Figure 14 | Colorectal Cancer Age-Adjusted Incidence Rate per 100,000 by Race, 5-Year Average, 1999–2012. Source: Virginia Department of Health, Virginia Cancer Registry, 2016.

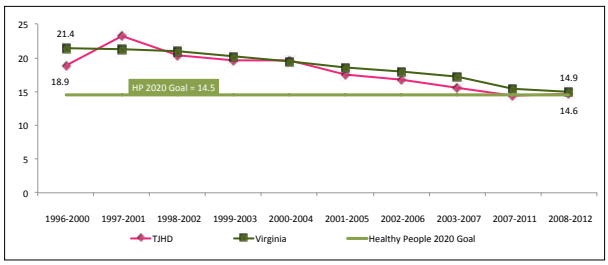


Figure 15 | Colorectal Cancer Mortality Rate per 100,000 (Age-Adjusted), 5-Year Rolling Averages, TJHD and VA, 1996–2012. Source: Virginia Department of Health, Virginia Center for Health Statistics, 2016.

red / processed meat consumption, and heavy alcohol use.[23] From 1999–2012, the colorectal cancer incidence rate decreased in TJHD (from 53.1 per 100,000 to 39.9) and Virginia as a whole (from 50.2 to 38.2) (Figure 13). When viewing the colorectal cancer incidence rate by race in the same time frame, the rate decreased for both white and black Virginians although there was a disparity in rates; in 2008–2012, the incidence rate for white Virginians was 36.7 while it was 45.9 for black Virginians (Figure 14). The TJHD colorectal cancer mortality rate is nearly identical to the Virginia rate with 14.6 and 14.9 deaths per 100,000 residents, respectively. Although both rates decreased over time, both are still above the Healthy People 2020 goal of 14.5 (Figure 15).

Skin Cancer (Melanoma)

The incidence rate of skin cancer was higher in TJHD (26.2 per 100,000) than in VA (18.3 per 100,000) and highest in the TJHD localities of Charlottesville and Nelson (31.7) and lowest in Greene (19.2) (Figure 16). While mortality rates for other forms of cancer dropped, the skin cancer mortality rate increased in TJHD; the rate in TJHD was higher than the state average in 2008–2012. The district average of 3.6 deaths per 100,000 residents was also higher than the Healthy People 2020 goal of no more than 2.4 per 100,000 (Figure 17).

Oral Cavity Cancer

TJHD has a slightly higher incidence rate of oral cavity cancer (11.5 per 100,000) than the state average (10.4 per 100,000) (Figure 18). There is a difference by race in incidence rate of oral cavity cancer per 100,000 with it being slightly

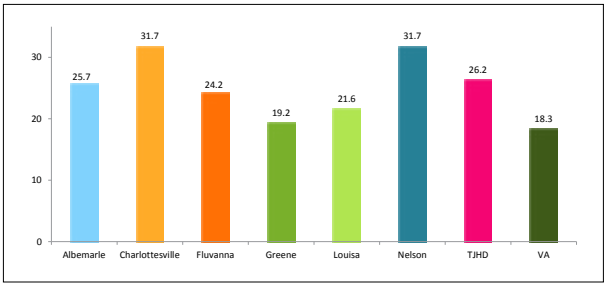


Figure 16 | Skin Cancer Age-Adjusted Incidence Rate per 100,000 Population, 5-Year Average, 2008–2012. Source: Virginia Department of Health, Virginia Cancer Registry, 2016.

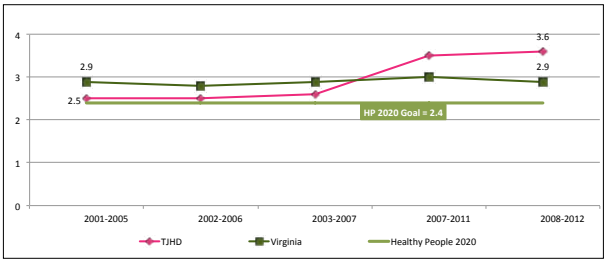


Figure 17 | Skin Cancer (Melanoma) Mortality Rate per 100,000 (Age-Adjusted), 5-Year Rolling Averages, TJHD and VA, 2001–2012. Source: Virginia Department of Health, Virginia Center for Health Statistics, 2016.

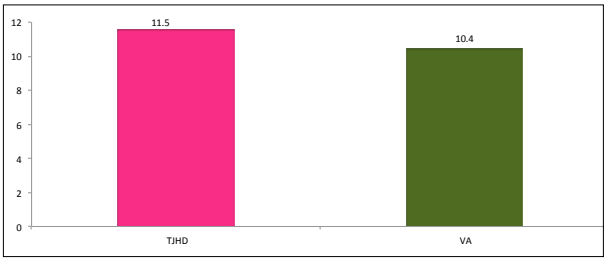


Figure 18 | The Incidence Rate of Oral Cavity Cancer per 100,000 (Age-Adjusted) in TJHD and VA, 5-Year Average, 2008–2012. Source: Virginia Department of Health, Virginia Cancer Registry, 2016.

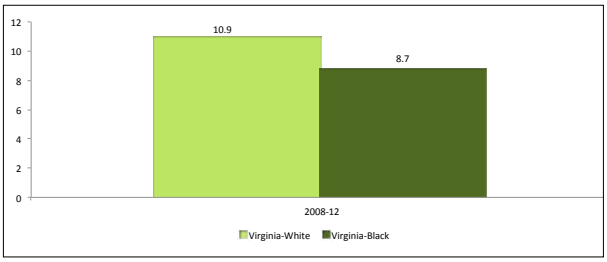


Figure 19 | Oral Cavity Age-Adjusted Incidence Rate per 100,000 by Race, 5-Year Rolling Averages, in VA, 2008–2012. Source: Virginia Department of Health, Virginia Cancer Registry, 2016.

higher in the Virginia white population (10.9 per 100,000) than the Virginia black population (8.7 per 100,000) (Figure 19). In 2008–2012, the oral cavity cancer mortality rate in TJHD (1.9 deaths per 100,000 residents) was somewhat lower than the Virginia state average (2.3 per 100,000) (Figure 20).

Ovarian Cancer

In 2008–2012, the ovarian cancer incidence rate was the same in TJHD as across Virginia at 11.8 per 100,000 (Figure 21). In the same time frame, white Virginians had a higher incidence rate of ovarian cancer (12.5 per 100,000) than did black Virginians (9.3) (Figure 22). In Virginia, the ovarian cancer mortality rate was also higher among white women (8.4 deaths per 100,000 residents) than it was for black women (6.9 per 100,000) in 2008–2012 (Figure 23).

Cervical Cancer

The incidence rate of cervical cancer in TJHD (6.7 per 100,000) is similar to the state average (6.3 per 100,000) (Figure 24). There are racial disparities in the incidence rate with it being higher in the Virginia black female population (7.5 per 100,000) than in the Virginia white female population (5.9 per 100,000) (Figure 25). The cervical cancer mortality rate fell among both Virginian whites and blacks although it was still lower for white Virginians (1.7 per 100,000) than it was for black Virginians (2.9 per 100,000) in 2008–2012. The Healthy People 2020 goal is no more than 2.2 deaths due to cervical cancer per 100,000 residents (Figure 26).

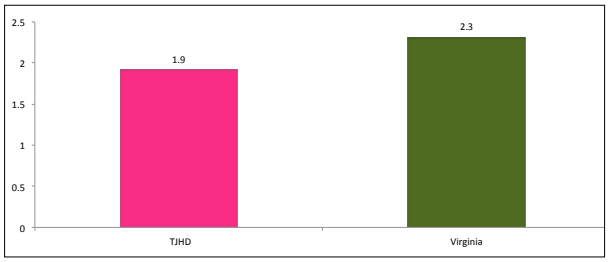


Figure 20 | Oral Cavity Cancer Age-Adjusted Mortality Rate per 100,000, TJHD and VA, 2008–2012. Source: Virginia Department of Health, Virginia Center for Health Statistics, 2016.

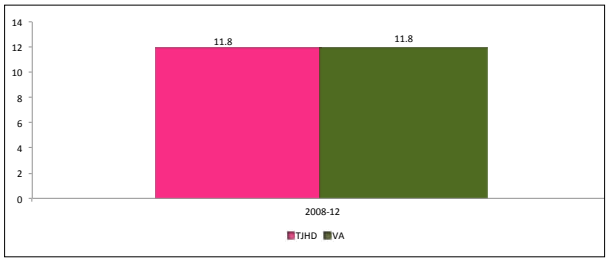


Figure 21 | Ovarian Cancer Incidence Rate per 100,000 Population, TJHD and VA, 2008–2012. Source: Virginia Department of Health, Virginia Cancer Registry, 2016

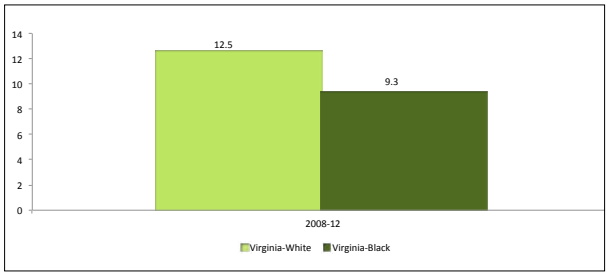


Figure 22 | Ovarian Cancer Incidence Rate per 100,000 Population by Race, TJHD and VA, 2008–2012. Source: Virginia Department of Health, Virginia Cancer Registry, 2016.

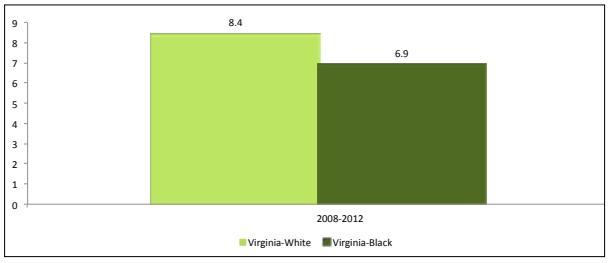


Figure 23 | Ovarian Cancer Mortality Rate per 100,000 Total and by Race, Age-Adjusted, 5-Year Average, VA, 2008–2012. Source: National Institutes of Health, National Cancer Institute, National Vital Statistics System, State Cancer Profiles-Death Rates, 2016.

Figure 24 | Cervical Cancer Incidence Rate per 100,000 in TJHD and VA, 5-Year Average, 2008–2012. Source: Virginia Department of Health, Virginia Cancer Registry, 2016.

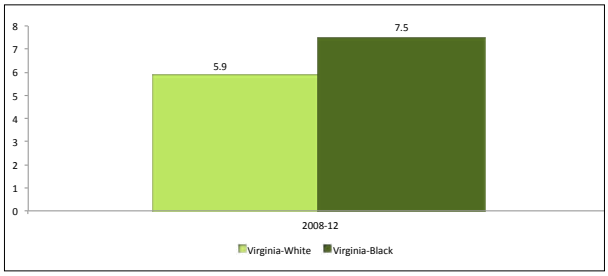


Figure 25 | Cervical Cancer Incidence Rate per 100,000 by Race in TJHD and VA, 5-Year Average, 2008–2012. Source: Virginia Department of Health, Virginia Cancer Registry, 2016.

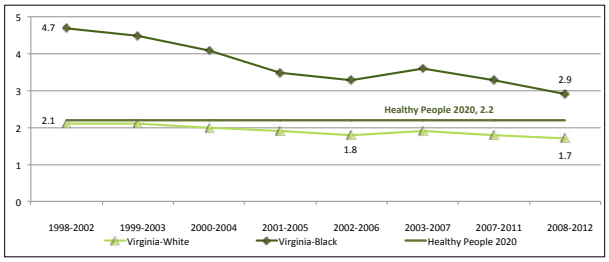


Figure 26 | Cervical Cancer Age-Adjusted Mortality Rate per 100,000 by Race, 5-Year Rolling Averages, VA, 1998–2012. Source: Virginia Department of Health, Virginia Center for Health Statistics, 2016.

Unintentional and Intentional Injuries

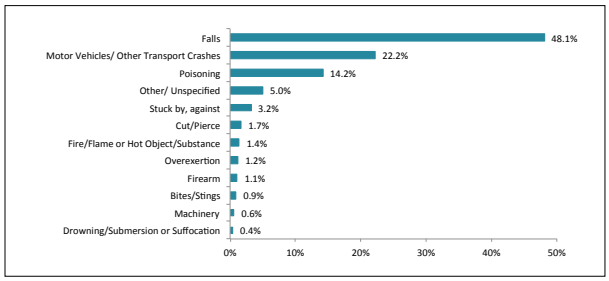


Figure 1 | Percent of Injury Hospitalizations by Cause (All Intents), TJHD, 2003–2013. Source: Virginia Online Injury Reporting System, 2016.

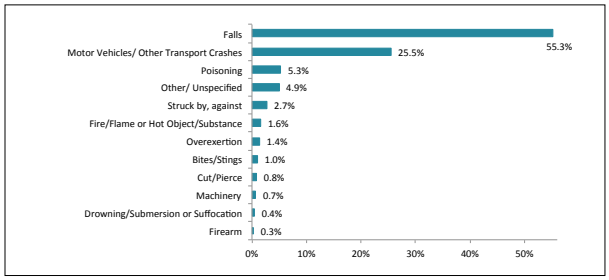


Figure 2 | Percent of Unintentional Injury Hospitalizations by Cause, TJHD, 2003–2013. Source: Virginia Online Injury Reporting System, 2016.

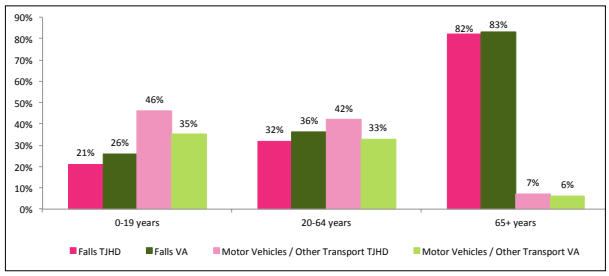


Figure 3 | Most Common Causes of Hospitalization by Age Group, TJHD and VA, 2003–2013. Source: Virginia Online Injury Reporting System, 2016.

Hospitalizations

Nearly half of all injury hospitalizations in TJHD are caused by falls (Figure 1). This percentage increases to over half when only hospitalizations for unintentional, or accidental, injuries are counted (Figure 2). The next most common injury to lead to hospitalization is motor vehicle crashes (MVCs) and the percentage is also higher for unintentional hospitalizations (25.5%) than for all injury hospitalizations (22.2%) (Figures 1 and 2).

From 2003 to 2013, when looking at the two most common types of hospitalization by age group, MVCs are the most common cause of hospitalization for those aged 0–64 years and the percentage of MVCs is higher in TJHD than Virginia. In this age group, falls account for a lower percentage of hospitalizations in TJHD than in Virginia overall. In TJHD and Virginia, falls account for the vast majority of hospitalizations for those older than 65 years (Figure 3).

Falls

Since 2007, the hospitalization rate for falls is at least five times greater for those older than 65 than for those of all ages. The rate for those older than 65 fell slightly from 2010–2012 to 2011–2013 while the rate for those younger than 65 stayed relatively constant (Figure 4). Not only are hospitalizations due to falls more common among those older than 65 years, they also tend to cause longer hospital stays on average. For those of all ages, the duration of a hospital stay caused by a fall is typically less than four days. For those older than 65 years, the duration

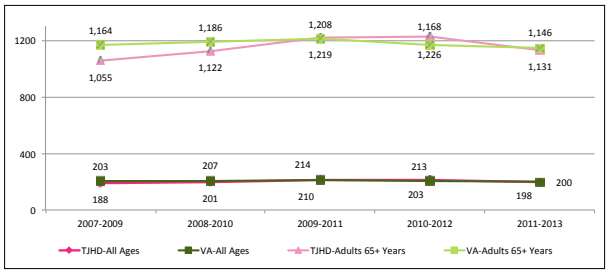


Figure 4 | Rate of Unintentional Injury Hospitalizations Due to Falls per 100,000 (Age-Adjusted), All Ages, 3-Year Rolling Averages, TJHD and VA, 2007–2013. Source: Virginia Department of Health, Online Injury Reporting System, 2016.

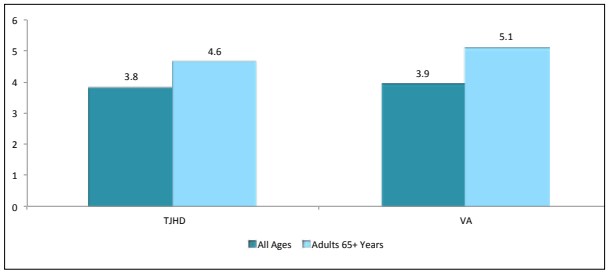


Figure 5 | Average Length of Stay in Days for Unintentional Injury Hospitalizations Due to Falls, TJHD and VA, 2011–2013. Source: Virginia Online Injury Reporting System, 2016.

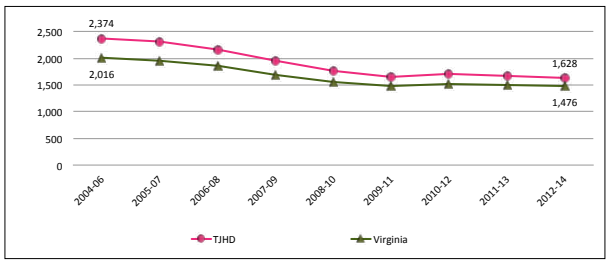


Figure 6 | Motor Vehicle Crash Rate per 100,000 Residents, TJHD and VA, 2004–2014. Source: Virginia Department of Motor Vehicles, Virginia Traffic Crash Facts, 2016.

is closer to five days. For all age groups, hospitalizations due to falls last longer across Virginia than in TJHD alone (Figure 5).

Motor Vehicle Crashes (MVCs)

The three-year average motor vehicle crash (MVC) rate decreased in TJHD from 2,374 per 100,000 residents in 2004–2006 to 1,628 in 2012–2014. However, it is still higher than the rate of MVCs in Virginia (Figure 6).

The three-year average percentage of alcohol-related MVCs in 2012–2014 was 7.9% in TJHD which was a higher average percentage than in Virginia (6.7%) during the same time frame. Since 2007–2009, the percentage of alcohol-related MVCs has decreased slightly in TJHD and Virginia (Figure 7).

In 2012–2014, an average of 12.7 fatalities per 100,000 residents occurred within 30 days of a MVC in TJHD which was higher than Virginia's three-year average of 9.0 during the same period. Overall in TJHD and Virginia, this rate decreased in recent years (Figure 8).

In 2012–2014, nearly 40% of fatalities in TJHD caused by MVCs occurred in alcohol-related MVCs compared to approximately one-third of fatalities across Virginia. This percentage has increased in TJHD since 2010–2012 (Figure 9).

Intentional Injuries

When assessing intentional injuries in TJHD, poisonings account for the largest percentage of hospitalizations caused by a self-inflicted injury. Cuts and pierces account for a slightly larger percentage than injuries caused by firearms (Figure 10).

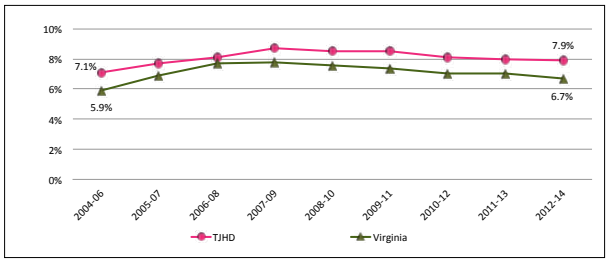


Figure 7 | Percentage of Alcohol-Related Motor Vehicle Crashes, TJHD and VA, 3-Year Average, 2004–2014. Source: Virginia Department of Motor Vehicles, Virginia Traffic Crash Facts, 2016.

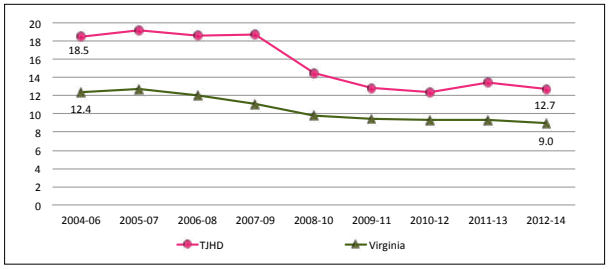


Figure 8 | Motor Vehicle Fatality Rate per 100,000 Population, 3-Year Rolling Averages, TJHD and VA, 2004–2014. Source: Virginia Department of Motor Vehicles, Virginia Traffic Crash Facts, 2016.

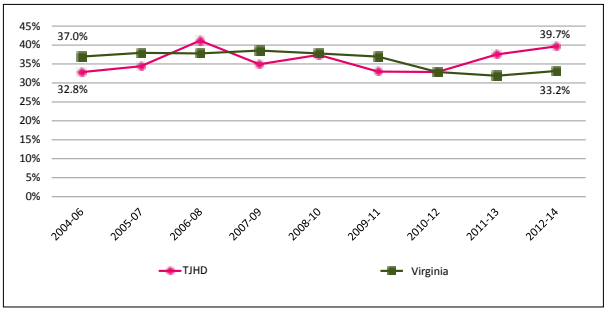


Figure 9 | Percentage of Motor Vehicle Fatalities Occurring in Alcohol-Related Crashes, 3-Year Rolling Averages, TJHD and VA, 2004–2014. Source: Virginia Department of Motor Vehicles, Virginia Traffic Crash Facts, 2016.

Being struck accounts for the largest percentage of hospitalizations caused by assaults at just under one-third. Being cut or pierced accounts for about one-quarter of assault injury hospitalizations and injuries from firearms account for about one-fifth. The causes of the remainder are unspecified (Figure 11).

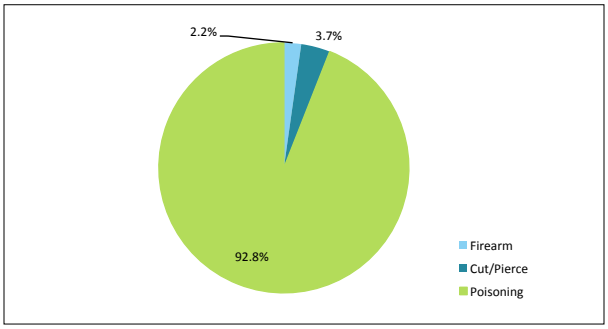


Figure 10 | Percentage of Self-Inflicted Injury Hospitalizations by Cause, TJHD, 2003–2013. Source: Virginia Online Injury Reporting System, 2016.

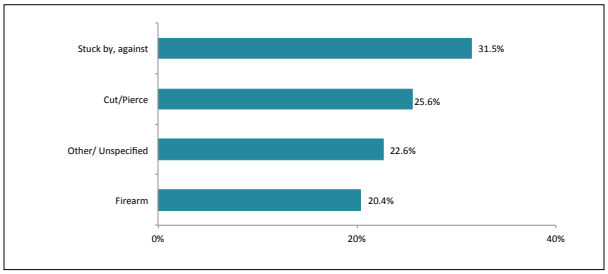


Figure 11 | Percent of Assault Injury Hospitalizations by Cause, TJHD, 2003–2013. Source: Virginia Online Injury Reporting System, 2016.

Infectious Diseases

In Virginia, healthcare providers and laboratories are required to report cases of over 70 infectious diseases to the local health department so that they can be investigated and so that controls can be put in place to reduce further spread in the community. Locally, the health department provides testing, surveillance, investigation, and follow up of sexually transmitted infections (STIs) such as HIV, gonorrhea, chlamydia, and syphilis as well as surveillance and investigation of vaccine-preventable diseases, foodborne illness, rabies, and outbreaks.

HIV/AIDS

Human Immunodeficiency Virus (HIV) causes Acquired Immunodeficiency Syndrome (AIDS), which is a disease that is characterized by a severely weakened immune system. HIV is transmitted through body fluids (blood, semen, vaginal secretions, or breast milk) and is most commonly transmitted through sex and sharing of intravenous drug needles. A person can be infected with HIV for many years before developing AIDS. The incidence rate for HIV increased in TJHD from 6.6 cases per 100,000 residents in 2007–2011 to 9.1 in 2010–2014. This is still lower than the HIV incidence rate in Virginia (13.9 per 100,000 residents) (Figure 1).

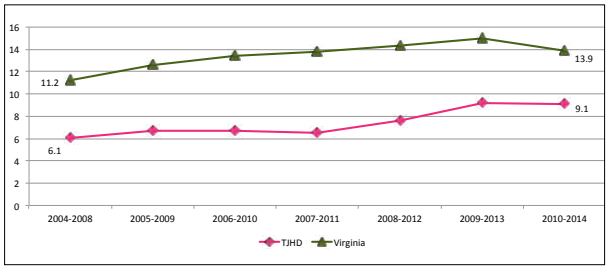


Figure 1 | HIV Disease Incidence Rate per 100,000 Population, 5-Year Rolling Averages, TJHD and VA, 2004–2014. Source: Virginia Department of Health, Office of Epidemiology, 2016.

From 2010–2014, the HIV incidence rate among white Virginians stayed consistently just under 6 per 100,000 residents. In the same time span, while the HIV incidence rate among black Virginians decreased from 46.3 to 37.2, there was still a large disparity in the incidence rate between black and white Virginians. The

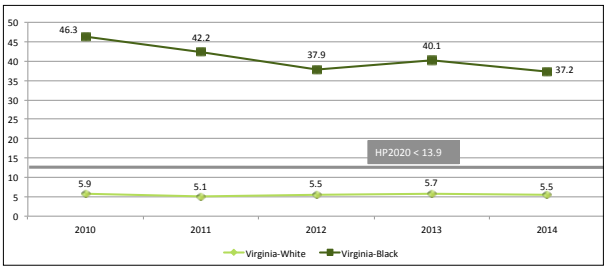


Figure 2 | HIV Incidence Rate per 100,000 by Race, Virginia, 2010–2014. Source: Virginia Department of Health, Office of Epidemiology, 2016.

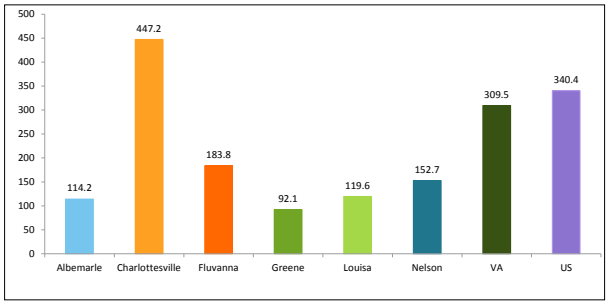


Figure 3 | HIV/AIDS Prevalence Rate per 100,000 Population, TJHD Localities, VA, and U.S., 2010. Source: Virginia Department of Health, Office of Epidemiology, 2016.

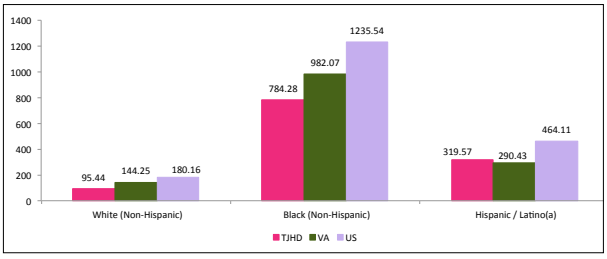


Figure 4 | HIV/AIDS Prevalence Rate per 100,000 Population by Race/Ethnicity, TJHD, VA, and U.S., 2010. Source: Virginia Department of Health, Office of Epidemiology, 2016.

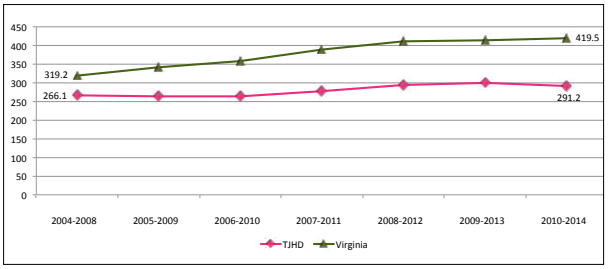


Figure 5 | Chlamydia Incidence Rate per 100,000 Population, 5-Year Rolling Averages, TJHD and VA, 2004–2014. Source: Virginia Department of Health, Office of Epidemiology, 2016.

Healthy People 2020 goal is no more than 13.9 cases of HIV per 100,000 residents (Figure 2).

In 2010, the HIV / AIDS prevalence rate was lower in Virginia than the United States. Among TJHD localities, Charlottesville had the highest HIV / AIDS prevalence rate—also higher than the Virginia and United States prevalence rates—while Greene had the lowest (Figure 3). The prevalence rate of HIV / AIDS among white residents in TJHD was lower than the average in Virginia and the United States as a whole. The prevalence rate among Latino residents in TJHD was higher than for white residents and also higher than among all Latinos in Virginia, but lower than the average rate for Latinos in the United States. The HIV / AIDS prevalence rate among black residents in TJHD was higher than it was for Latino and white residents, but it is lower than the rate for black Virginians and in the United States as a whole (Figure 4).

Chlamydia, Gonorrhea, and Syphilis

Chlamydia is the most commonly reported STI in both TJHD and Virginia. If left untreated, it can have serious health consequences, but because males and females are often asymptomatic (without symptoms), it can be spread without the person's knowledge. While the incidence rate for chlamydia increased from 266.1 in 2004–2008 to 291.2 in 2010–2014, it remained much lower than the average chlamydia rate across Virginia (Figure 5). Gonorrhea is the second most commonly reported STI in TJHD. The incidence rate for gonorrhea remained relatively stable with 66.3 cases per 100,000 population in 2004–2008 and 67.7 in 2010–2014. This rate was lower than the average rate across Virginia (Figure 6). The incidence rate for syphilis increased in TJHD from 1.0 per 100,000 in 2004–2008 to 3.8 in 2010-

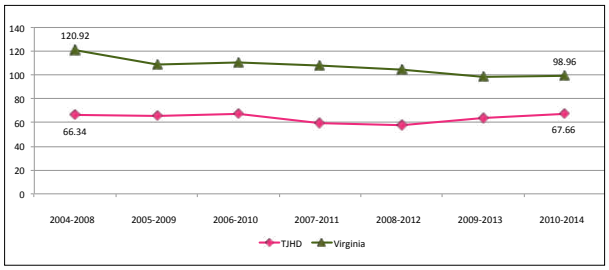


Figure 6 | Gonorrhea Incidence Rate per 100,000 Population, 5-Year Rolling Averages, TJHD and VA, 2004–2014. Source: Virginia Department of Health, Office of Epidemiology, 2016.

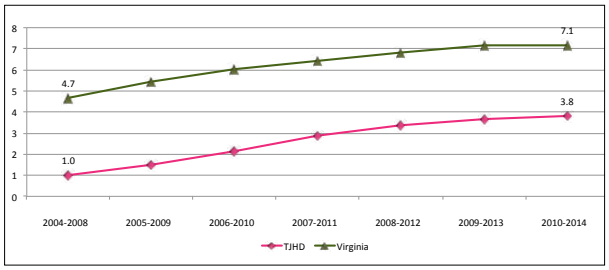


Figure 7 | Syphilis Incidence Rate per 100,000 Population, 5-Year Rolling Averages, TJHD and VA, 2004–2014. Source: Virginia Department of Health, Office of Epidemiology, 2016.

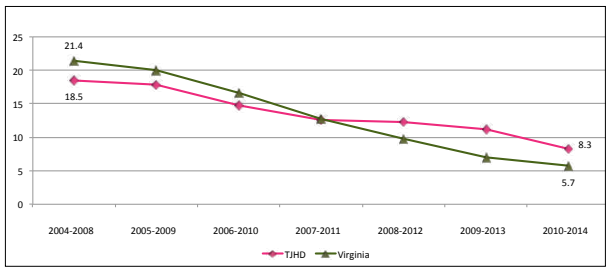


Figure 8 | Varicella (Chickenpox) Incidence Rate per 100,000 Population, 5-Year Rolling Averages, TJHD and VA, 2004–2014. Source: Virginia Department of Health, Office of Epidemiology, 2016.

Figure 9 | Pertussis Incidence Rate per 100,000 Population, 5-Year Rolling Averages, TJHD and VA, 2004–2014. Source: Virginia Department of Health, Office of Epidemiology, 2016.

2014, but was still lower than the average across Virginia (Figure 7).

Vaccine Preventable Diseases

According to the CDC, though there are record low levels of vaccine preventable childhood diseases in the United States, it does not mean they have disappeared.

While chicken pox is often a benign disease, serious complications can occur including bacterial infections, meningitis, and blindness. Chicken pox was added to the list of nationally reportable diseases in 2003.[24] The incidence rate of varicella, or chicken pox, decreased in TJHD and Virginia as a whole from 2004–2008 to 2010–2014; however, the incidence rate of varicella is higher in TJHD than it is across Virginia (Figure 8).

The incidence rate of pertussis, or whooping cough, remained level in TJHD and across Virginia in recent years but is higher in TJHD than in Virginia (Figure 9). Since 2005–2009, the incidence rate of meningococcal disease increased in TJHD while decreasing across Virginia. Despite the increase, the incidence rate is still less than 1 case per 100,000 residents in TJHD (Figure 10). Due to localized outbreaks, in 2006–2010, the incidence rate of mumps in TJHD was 5.5 per 100,000 residents. This decreased to 1.2 in 2010–2014, which was higher than the Virginia average rate of 0.4 (Figure 11).

Foodborne Illness

The CDC estimates that each year roughly 1 in 6 Americans (or 48 million people) gets sick, 128,000 are hospitalized, and 3,000 die of foodborne diseases.[25] Five steps that can be taken to reduce risks of foodborne illness are keeping

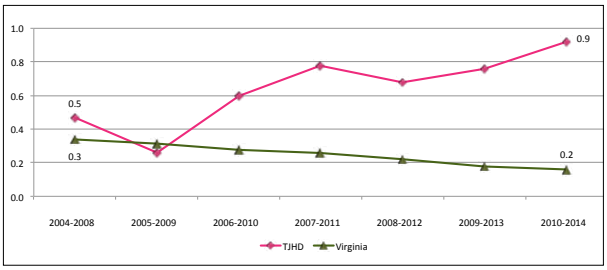


Figure 10 | Meningococcal Incidence Rate per 100,000 Population, 5-Year Rolling Averages, TJHD and VA, 2004–2014. Source: Virginia Department of Health, Office of Epidemiology, 2016.

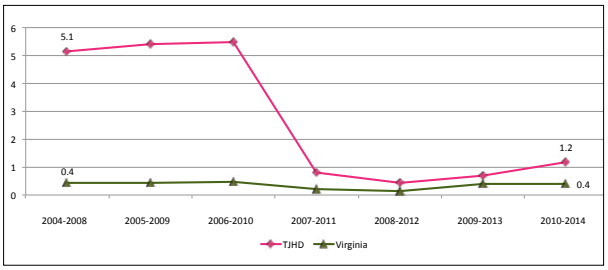


Figure 11 | Mumps Incidence Rate per 100,000 Population, 5-Year Rolling Averages, TJHD and VA, 2004–2014. Source: Virginia Department of Health, Office of Epidemiology, 2016.

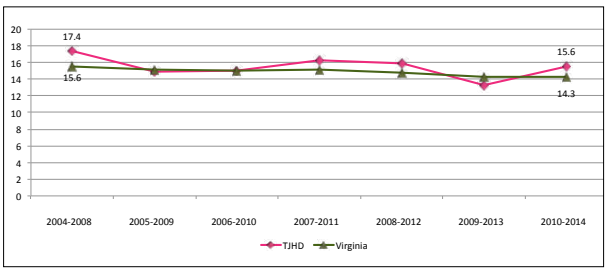


Figure 12 | Salmonellosis Incidence Rate per 100,000 Population, 5-Year Rolling Averages, TJHD and VA, 2004–2014. Source: Virginia Department of Health, Office of Epidemiology, 2016.

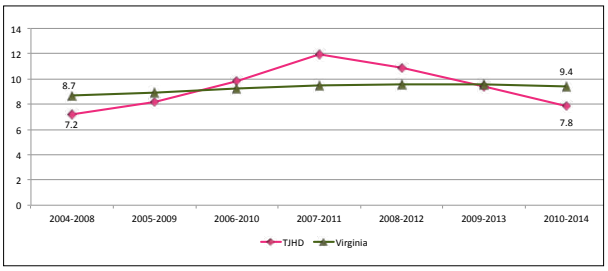


Figure 13 | Campylobacteriosis Incidence Rate per 100,000 Population, 5-Year Rolling Averages, TJHD and VA, 2004–2014. Source: Virginia Department of Health, Office of Epidemiology, 2016

hands and surfaces clean when preparing raw foods, separating raw and cooked foods, cooking foods thoroughly, keeping foods at safe temperatures, and using safe water and raw materials.[26]

Salmonella bacteria are a common cause of foodborne illness and account for 11% of cases nationally. While most people who get sick from *Salmonella* infection only have mild illness, it is one of the leading foodborne pathogens in the United States and can cause illness requiring hospitalization and/or result in death.[27] Since 2004–2008, the incidence rate for salmonellosis decreased slightly in TJHD and Virginia; though in 2010–2014, the incidence rate was higher in TJHD (15.6 per 100,000) than in Virginia (14.3) (Figure 12).

Campylobacter is a top five foodborne pathogen in the United States and, like salmonella, can cause illness requiring hospitalization and/or can result in death.[28] Campylobacteriosis incidence in TJHD (7.8 per 100,000) is lower than that of the state average (9.4 per 100,000) (Figure 13).

E. coli O157:H7 is another top five foodborne pathogen in the United States that can cause illness requiring hospitalization.[29] The incidence rate of *E. coli* infection is higher in TJHD (2.6 per 100,000) than that of Virginia (1.4 per 100,000) (Figure 14).

Giardia is a parasite that causes a diarrheal illness known as giardiasis. It is typically associated with water and is the most common pathogen in waterborne outbreaks in the United States; it is also found in soil and food.[30] The incidence of giardiasis decreased in TJHD although it is still higher than the state average (Figure 15).

In 2010–2014, the rate of shigellosis, a condition caused by ingesting *Shigella* bacteria, was higher in Virginia (1.6 per 100,000) than in TJHD (1.3 per 100,000) (Figure 16).

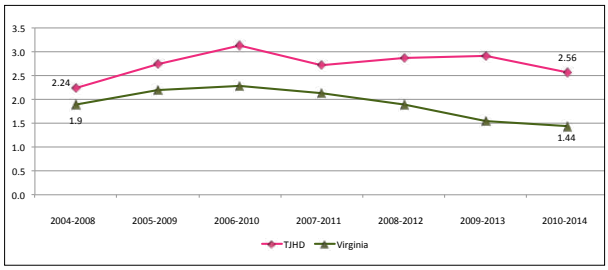


Figure 14 | E.coli Incidence Rate per 100,000 Population, 5-Year Rolling Averages, TJHD and VA, 2004–2014. Source: Virginia Department of Health, Office of Epidemiology, 2016.

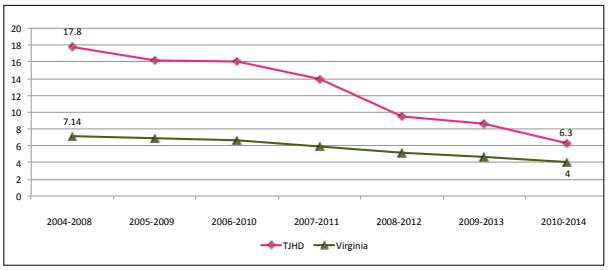


Figure 15 | Giardiasis Incidence Rate per 100,000 Population, 5-Year Rolling Averages, TJHD and VA, 2004–2014. Source: Virginia Department of Health, Office of Epidemiology, 2016.

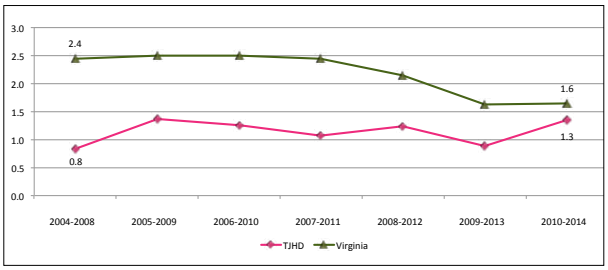


Figure 16 | Shigellosis Incidence Rate per 100,000 Population, 5-Year Rolling Averages, TJHD and VA, 2004–2014. Source: Virginia Department of Health, Office of Epidemiology, 2016.

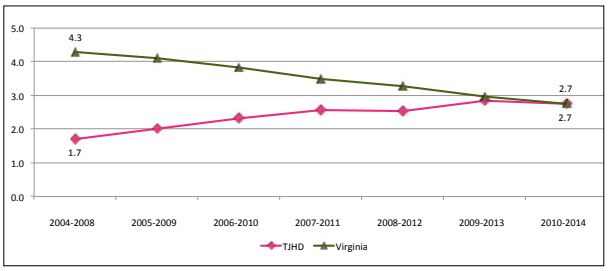


Figure 17 | Tuberculosis Incidence Rate per 100,000 Population, 5-Year Rolling Averages, TJHD, 2004–2014. Source: Virginia Department of Health, Office of Epidemiology, 2016.

Respiratory

Tuberculosis (TB) is one of the world's deadliest infectious diseases. It is important to distinguish between TB disease and TB infection. Many people infected with the TB germ are not infectious (cannot spread it to others) and can be treated to prevent further infection from developing. This is a cornerstone of the United States' TB prevention strategy. There were 9,563 TB cases reported during 2015 in the United States.[31] Tuberculosis incidence rates among Virginia and TJHD have remained steady since 2007–2011 (Figure 17).

Legionellosis is a respiratory disease caused by *Legionella* bacteria. People get legionellosis, or Legionnaires' disease, when they breathe in mist or vapor—small droplets of water in the air—that has been contaminated with the bacteria such as breathing in steam from a hot tub or a hot water tank and heater that have not been properly disinfected.[32] The incidence rate in TJHD is the same as the state average (1.2 per 100,000) (Figure 18).

Rabies

Rabies in the animal population is a risk factor for human exposure and infection with rabies. Through a system of vigilant surveillance and vaccination of household pets and livestock in the United States, it is rare to have cases of human rabies today. The last case of a human with rabies in Virginia was in 2009 in Fairfax County and the rabies exposure happened while the victim was traveling abroad.[33] In 2015, there were 23 confirmed cases of rabies in animals in TJHD. Of these, there were 11 raccoons, 5 skunks, 4 foxes, and 1 case each among cows, bats, and goats. 2015 saw the highest number of rabies cases since

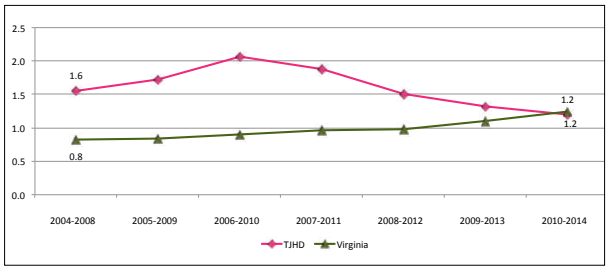


Figure 18 | Legionellosis Incidence Rate per 100,000 Population, 5-Year Rolling Averages, TJHD and VA, 2004–2014. Source: Virginia Department of Health, Office of Epidemiology, 2016.

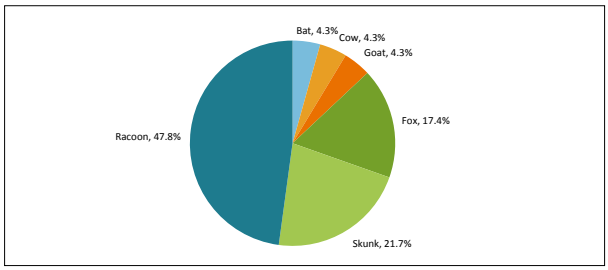


Figure 19 | Percentage of All Confirmed Rabies Cases Attributed to Each Species, TJHD, 2015. Source: Virginia Department of Health, Department of Environmental Epidemiology, 2016.

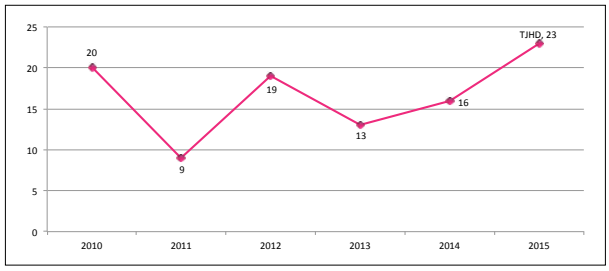


Figure 20 | Total Number of Confirmed Rabies Cases, TJHD, 2010–2015. Source: Virginia Department of Health, Department of Environmental Epidemiology, 2016.

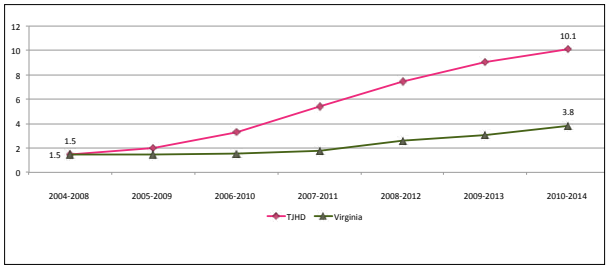


Figure 21 | Rocky Mountain Spotted Fever (Spotted Fever Rickettsiosis) Incidence Rate per 100,000 Population, 5-Year Rolling Averages, TJHD and VA, 2004–2014. Source: Virginia Department of Health, Office of Epidemiology, 2016.

before 2010. The number of cases has increased every year since 2013 (Figures 19 and 20).

Tickborne Diseases

Spotted fever rickettsiosis (SFR), a group of diseases that are spread by ticks and includes Rocky Mountain spotted fever, was added to the list of reportable diseases in 2005. Most commonly used SFR lab tests can be misleading, however, because they test for multiple bacteria—some of which don't cause people to get sick—and they may not distinguish between past and current infections. Lyme disease, a bacterial disease spread through the bite of an infected tick, became a reportable disease in Virginia in 2003.

The incidence rates for the tickborne diseases Rocky Mountain spotted fever and Lyme disease increased in both TJHD and across Virginia. There are many rural, wooded communities in TJHD where the ticks which carry these diseases are likely more prevalent, and the increased rate may be due in part to health care providers helping to identify cases early (Figures 21 and 22).

Outbreaks

In 2015, half of all infectious disease outbreaks occurred within the school setting. Fourteen percent occurred in assisted living facilities and another 14% occurred in nursing homes. No other type of facility accounted for more than 10% of all outbreaks (Figure 23). Of the 22 total outbreaks in TJHD in 2015, 9 were caused by norovirus, 4 by pertussis, and no other organism accounted for more than two outbreaks (Table 1).

Hospital-Associated Infections

Standardized infection ratios (SIRs) compare how many hospital-associated infections (HAIs)

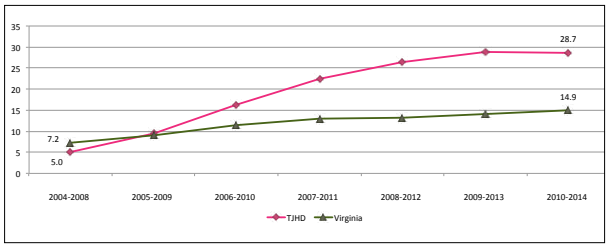


Figure 22 | Lyme Disease Incidence Rate per 100,000 Population, 5-Year Rolling Averages, TJHD and VA, 2004–2014.Source: Virginia Department of Health, Office of Epidemiology, 2016.

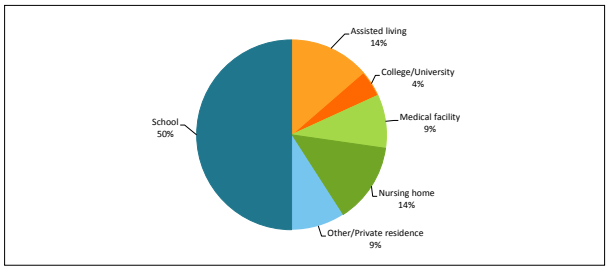


Figure 23 | Outbreak Settings by Facility Type, TJHD, 2015. Source: Virginia Department of Health, Thomas Jefferson Health District, 2016.

	Albemarle	Charlottesville	Fluvanna	Greene	Louisa	Nelson	TOTAL
Cryptospordium					1		1
Influenza		1			1		2
Norovirus	5			1	2	1	9
MRSA		1					1
Pediculus (lice)	1						1
Pertussis	3	1					4
Mumps		1					1
Pneumonia	1						1
Chickenpox	1						1
Group A Strep					1		1
TOTAL	11	4	0	1	5	1	22

Table 1 | Number of Outbreaks by Type of Organism Causing Outbreak, TJHD Localities and TJHD, 2015. Source: Virginia Department of Health, Thomas Jefferson Health District, 2016.

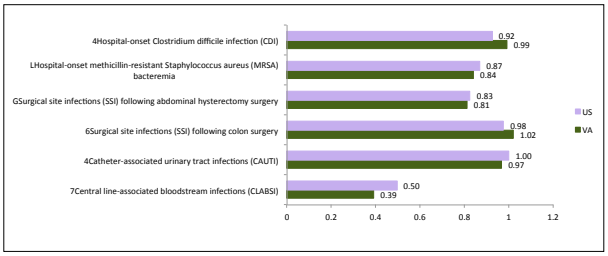


Figure 24 | Standardized Infection Ratios (SIRs) for Healthcare Associated Infections, VA and U.S., 2014. Source: Centers for Disease Control and Prevention (CDC), HAI Progress Report, 2016.

occur to how many are expected to occur based on the number of patients and procedures performed in a given year. In 2014, there were lower SIRs in Virginia for most HAIs. However, Virginia had higher SIRs for hospital-onset clostridium difficile infections (CDIs) and for surgical site infections following colon surgery (Figure 24).

From 2013 to 2014, the SIRs for central-line associated bloodstream infections decreased by 22% in Virginia, the largest decrease for any HAI in the state. The only HAIs for which SIRs increased in Virginia were for CDIs and surgical site infections following colon surgery (Figure 25).

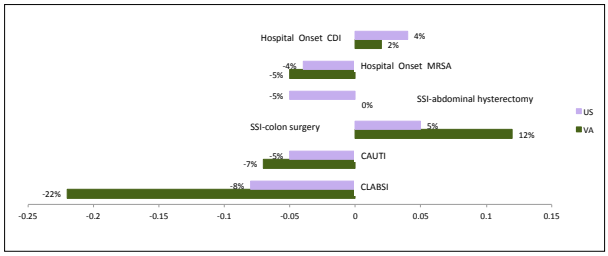


Figure 25 | Percent Change in Standardized Infection Rations (SIRs), VA, and U.S., 2013 & 2014. Source: Centers for Disease Control and Prevention (CDC), HAI Progress Report, 2016.

Chronic Diseases, Hospitalizations. and ED Use

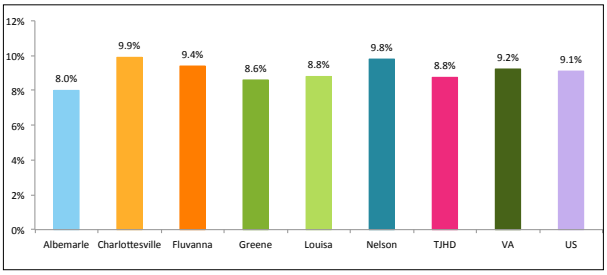


Figure 1 | Percentage of Adults Age 20 Years and Older Diagnosed with Diabetes, Age-Adjusted Rate (%), TJHD Localities, TJHD, VA, and U.S., 2012. Source: Community Commons Report, 2015

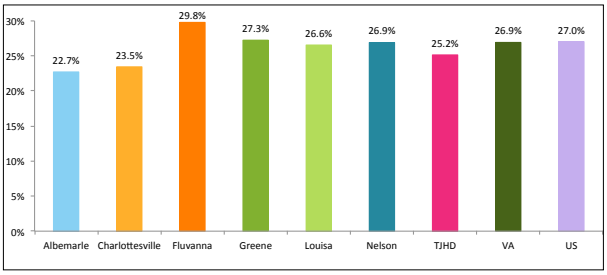


Figure 2 | Percentage of Medicare Beneficiaries with Diabetes, TJHD Localities, TJHD, VA, and U.S., 2012. Source: Community Commons Report, 2015.

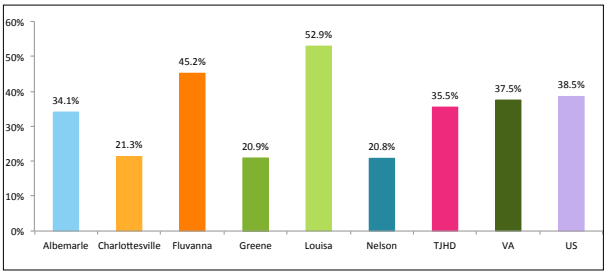


Figure 3 | Percentage of Adults Age 18 Years and Older with High Cholesterol, TJHD Localities, TJHD, VA, and U.S., 2011–2012. Source: Community Commons Report, 2015

Diabetes

Diabetes mellitus is a condition that leads to increased glucose in the bloodstream. The percentage of adults aged more than 20 years who were diagnosed with diabetes in TJHD (8.8%) was slightly lower in 2012 than Virginia (9.2%) and the United States (9.1%). Charlottesville (9.9%) had the highest percent of adults with diabetes and Albemarle (8.0%) had the lowest among TJHD localities (Figure 1).

The percentage of Medicare beneficiaries diagnosed with diabetes was also lower in TJHD (25.2%) than in Virginia (26.9%) or the United States (27.0%). Fluvanna (29.8%) had the highest percentage of Medicare beneficiaries with diabetes while Albemarle (22.7%) had the lowest (Figure 2).

High Cholesterol

High cholesterol is another chronic disease that can be affected by unhealthy lifestyle choices, and can lead to a build-up of fatty deposits in the bloodstream. As of 2012, TJHD (35.5%) had a lower percentage of residents (18 years and older) with high cholesterol than Virginia (37.5%) and the United States (38.5%). Charlottesville, Greene, and Nelson had the lowest percentage of high cholesterol while Louisa had the highest percentage (52.9%) in TJHD (Figure 3). TJHD also had a lower percentage of Medicare beneficiaries with hyperlipidemia—which is associated with high cholesterol—than Virginia and the United States. For hyperlipidemia, Fluvanna (49.5%) had the highest percent while Greene (41.0%) had the lowest percent among TJHD localities (Figure 4).

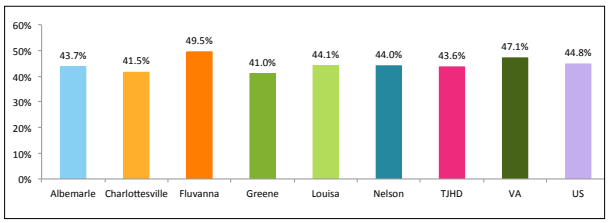


Figure 4 | Percentage of Medicare Beneficiaries with Hyperlipidemia, TJHD Localities, TJHD, VA, and U.S., 2012. Source: Community Commons Report, 2015.

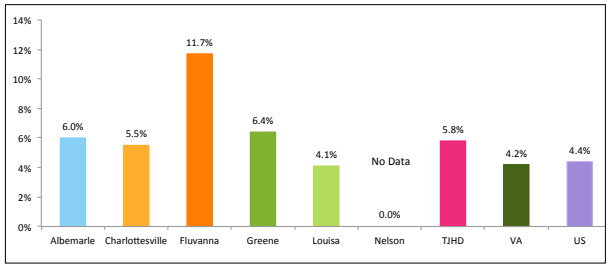


Figure 5 | Percentage of Adults Age 18 Years and Older with Heart Disease, TJHD Localities, TJHD, VA, and U.S., 2011–2012. Source: Community Commons Report, 2015.

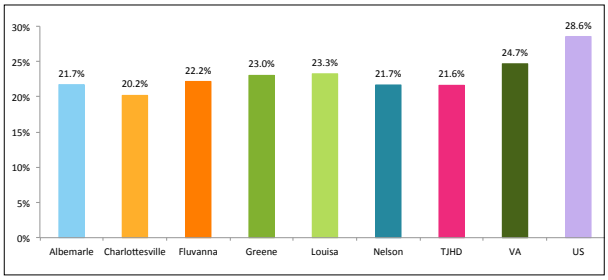


Figure 6 | Percent of Medicare Beneficiaries with Heart Disease, TJHD Localities, TJHD, VA, and U.S., 2012. Source: Community Commons Report, 2015.

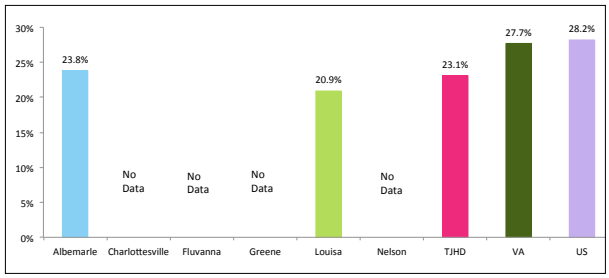


Figure 7 | Percentage of Adults Age 18 Years and Older with Hypertension, TJHD Localities, TJHD, VA, and U.S., 2006–2012. Source: Community Commons Report, 2015.

Heart Disease

Heart disease, which includes conditions such as coronary artery disease, arrhythmias, and congenital heart defects, is another chronic disease that can be influenced by unhealthy lifestyle choices. The percentage of adults aged at least 18 years with heart disease was higher in TJHD (5.8%) as of 2011–2012 than in Virginia (4.2%) and the United States (4.4%). Fluvanna (11.7%) had the highest percent among TJHD localities and Louisa (4.1%) had the lowest (Figure 5). Medicare beneficiaries in TJHD (21.6%) had a lower average percentage of heart disease than Virginia's (24.7%) average percent of beneficiaries; Louisa (23.3%) had the highest percentage and Charlottesville (20.2%) had the lowest (Figure 6).

Hypertension

Hypertension, or high blood pressure, is another chronic disease that can be affected by unhealthy lifestyle choices. It can lead to more serious health conditions, such as heart disease. From 2006–2012, the percentage of adult residents with hypertension was lower in TJHD (23.1%) than both Virginia (27.7%) and the United States (28.2%). Louisa (20.9%) and Albemarle (23.8%) were the only TJHD localities with enough data to accurately report (Figure 7). Fluvanna (57.2%) had the highest hypertension percentage among Medicare beneficiaries, which was also higher than the state (57.1%) and national percentages (55.5%). Charlottesville and Nelson had the lowest percent among TJHD localities at 50.2% (Figure 8).

Asthma

Asthma is a chronic disease that can affect the respiratory system and make it difficult to breathe.

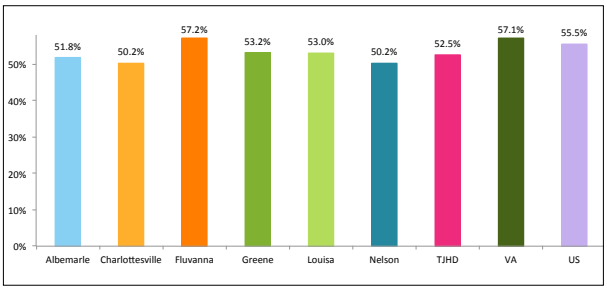


Figure 8 | Percentage of Medicare Beneficiaries with Hypertension, TJHD Localities, TJHD, VA, and U.S., 2012. Source: Community Commons Report, 2015.

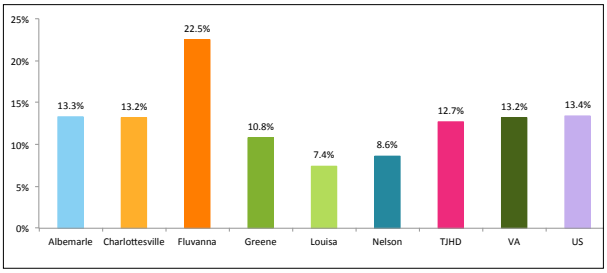


Figure 9 | Percentage of Adults Age 18 Years and Older with Asthma, TJHD Localities, TJHD, VA, and U.S., 2011–2012. Source: Community Commons Report, 2015.

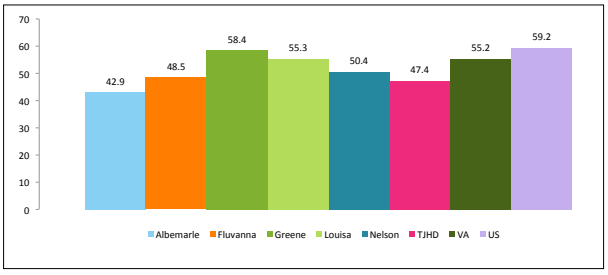


Figure 10 | Ambulatory Care Sensitive Condition Hospital Discharge Rate of Medicare Part A Enrollees per 1,000 Medicare Part A Enrollees, TJHD Localities, TJHD, VA, and U.S., 2012. Source: Virginia Department of Health, Division of Population Health, 2016.

The percentage of adults with asthma in TJHD was slightly lower (12.7%) than that in Virginia (13.2%) and the United States (13.4%) in 2011–2012. Fluvanna (22.5%) had the highest percent of adults with asthma while Louisa (7.4%) had the lowest percent among all TJHD localities (Figure 9).

Hospitalizations

The following indicator reports the discharge rate for conditions that are ambulatory care-sensitive. Ambulatory care-sensitive conditions (ACSC) include both acute and chronic diseases such as pneumonia, dehydration, asthma, diabetes, and other conditions. ACSC are hospitalizations that could have been prevented if adequate primary care and preventive resources were available and accessed by those patients. This indicator is relevant because analysis of ACSC discharges allows demonstrating a possible "return on investment" from interventions that reduce admissions (for example, for uninsured or Medicaid patients) through better access to primary care resources.[34]

In 2012, TJHD's average ACSC discharge rate among Medicare Part A enrollees (47.4 per 1,000 enrollees) was lower than Virginia (55.2) and the United States (59.2). In TJHD, Albemarle had the lowest discharge rate (42.9) while Greene had the highest (58.4). Greene's discharge rate was higher than the state average, but lower than the national average (Figure 10).

In 2013, Charlottesville had the highest rate of asthma hospitalizations (14.7 per 10,000) in TJHD while Fluvanna had the lowest (3.2 per 10,000) (Figure 11). Hospitalization rates for asthma decreased overall in TJHD from 10.4 per 10,000 residents in 2004–2006 to 7.7 in 2011–

Figure 11 | Asthma Hospitalization Rate per 10,000 Population, 2013, TJHD Localities. Source: Virginia Department of Health, Division of Population Health, 2016.

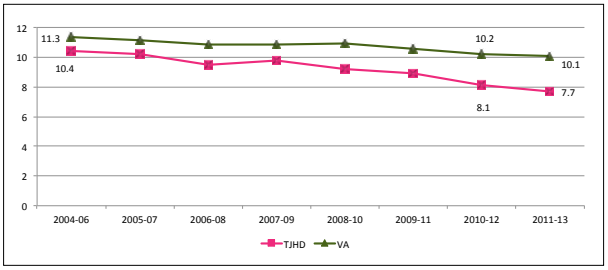


Figure 12 | Asthma Hospitalization Rate per 10,000 Population, 3-Year Rolling Averages, TJHD and VA, 2004–2013. Source: Virginia Department of Health, Division of Population Health, 2016.

Figure 13 | Diabetes (Type 2) Hospitalization Rate per 10,000 Population, TJHD Localities, 2013. Source: Virginia Department of Health, Division of Population Health, 2016.

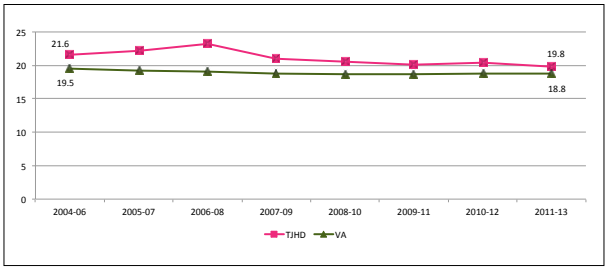


Figure 14 | Diabetes (Type 2) Hospitalization Rate per 10,000 Population, 3-Year Rolling Averages, TJHD and VA, 2004–2013. Source: Virginia Department of Health, Division of Population Health, 2016.

2013. This rate has been lower than the state average since at least 2004 (Figure 12).

Greene had the highest rate of diabetes type 2 hospitalizations (32.5 per 10,000) in TJHD while Albemarle had the lowest (12.2 per 10,000) in 2013 (Figure 13). The hospitalization rate for diabetes in TJHD decreased slightly from 21.6 per 10,000 residents in 2004–2006 to 19.8 in 2011–2013 which is slightly higher than the average rate across Virginia (Figure 14).

The rate of hypertension hospitalizations was highest in Charlottesville (15.9 per 10,000) and lowest in Albemarle (5.9 per 10,000) as of 2013 (Figure 15). The hospitalization rate for hypertension increased in TJHD from 8.5 in 2008–2010 to 9.5 in 2011–2013, but was still lower than the Virginia state average (Figure 16).

Drug Overdose Emergency Department Visits

From May 2015 to August 2016, TJHD had a higher rate of emergency department visits due to unintentional heroin overdoses than the Virginia state average in most months and peaked in October 2015 at 3.7 per 100,000 (Figure 17).

Between January and August of 2016, there were more emergency department visits due to drug overdoses in Virginia than there were during the same time period in 2015. The number of visits in 2016 was highest from March through June (Figure 18). Emergency department visits for heroin overdoses were much higher in 2016 than in the same months during 2015 and peaked in May 2016 (Figure 19). The majority of emergency department visits for heroin overdoses between September 2015 and August 2016 were by those aged 25–34 years. The monthly number of visits from this age group began increasing in December 2015

Figure 15 | Hypertension Hospitalization Rate per 10,000 Population, TJHD and VA, 2013. Source: Virginia Department of Health, Division of Population Health, 2016.

Figure 16 | Hypertension Hospitalization Rate per 10,000 Population, 3-Year Rolling Averages, TJHD and VA, 2004–2013. Source: Virginia Department of Health, Division of Population Health, 2016.

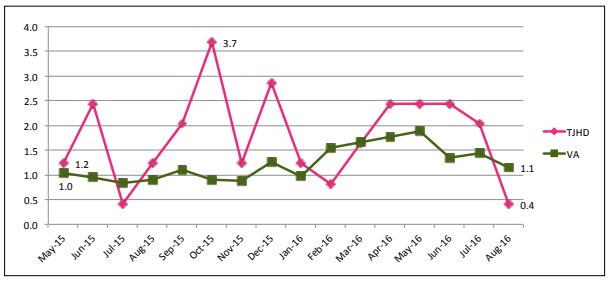


Figure 17 | Unintentional Heroin Overdose ED Visits, Rate per 100,000, TJHD and VA, May 2015–August 2016. Source: Virginia Department of Health, Division of Surveillance and Investigation, Enhanced Surveillance Monthly Report, August 2016.

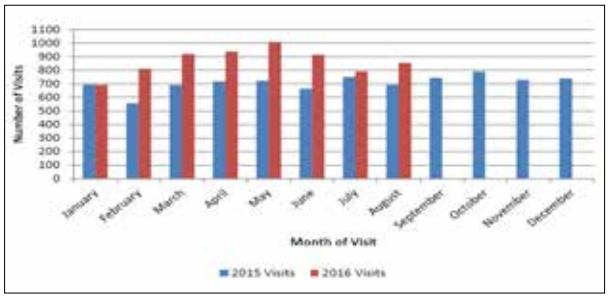


Figure 18 | Number of Chief Complaint of Unintentional Drug Overdose among VA Residents by Month, 2015–2016.

and peaked in March 2016, while the number of visits from other age groups remained constant or rose only slightly. The fewest emergency department visits in most months were from those aged more than 65 years and those aged 9–14 years (Figure 20).

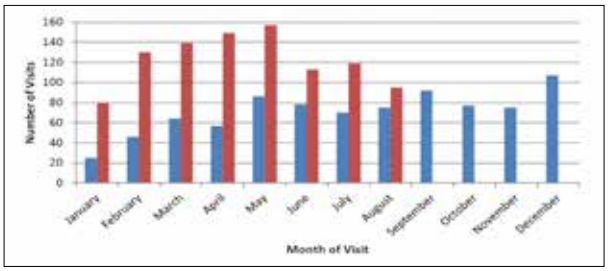


Figure 19 | Number of Chief Complaint or Discharge Diagnosis of Unintentional Heroin Overdose among VA Residents by Month, 2015–2016. Source: Virginia Department of Health, Division of Surveillance and Investigation, Enhanced Surveillance Monthly Report, 2016.

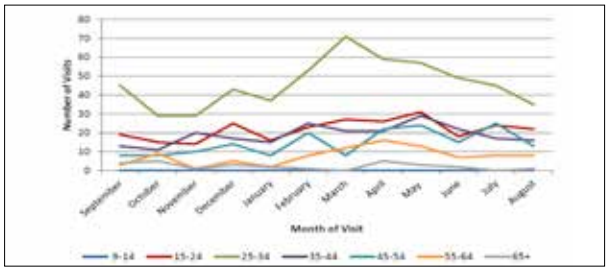


Figure 20 | Number of ED Visits with Chief Complaint or Discharge Diagnosis of Unintentional Heroin Overdose among VA Residents by Month and Age Group, September 2015–August 2016 (Previous 12 Months). Source: Virginia Department of Health, Division of Surveillance and Investigation, Enhanced Surveillance Monthly Report, 2016.

Mental Health

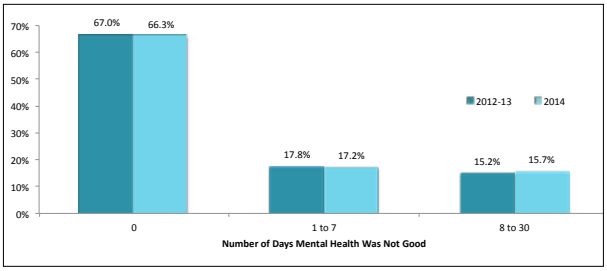


Figure 1 | Percentage of Persons Reporting Number of Days Mental Health was Not Good in the Past 30 Days before the Survey, TJHD, 2012–2013 compared to 2014. Source: Virginia Department of Health, Behavioral Risk Factor Surveillance Survey, 2016.

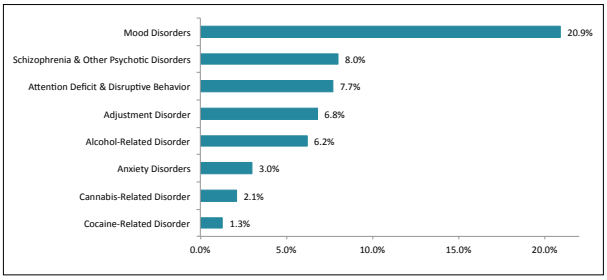


Figure 2 | Prevalence of Mental Health Disorders by Type in Consumers Served by Region Ten, TJHD, 2015. Source: Region Ten Community Services Board, Consumer Report: Fiscal Year 2014, 2016. Note: These counts only include consumers served with residence in one of the TJHD localities and not those categorized as "Other" (counties outside TJHD) for residence. Thus, the percentages may vary slightly from those calculated using all clients.

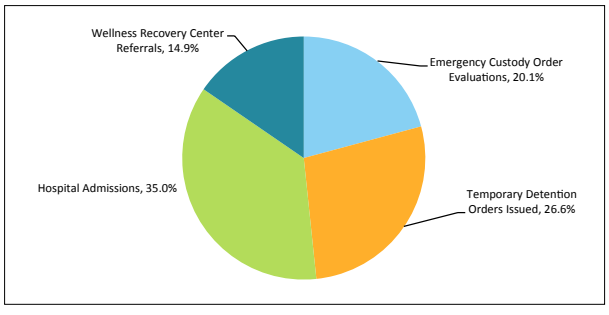


Figure 3 | Percent of Mental Health Emergency Services by Type, TJHD, 2015. Source: Region Ten Community Services Board, Emergency Services, 2016.

Poor Mental Health Days

In the Behavioral Risk Factor Surveillance Survey (BRFSS), poor mental health days were defined by responses to the question: "Thinking about your mental health, which includes stress, depression, and problems with emotions, for how many days during the past 30 days was your mental health not good?" In TJHD, most adults reported not experiencing any days of poor mental health in the last 30 days. However, in 2014, 17.2% reported experiencing 1 to 7 days of poor mental health and 15.7% reported experiencing 8 to 30 poor mental health days in TJHD. Those reporting in the upper range of 8 to 30 poor mental health days are of particular concern since that may indicate that they have a serious mental illness (SMI). Overall, the percentages of poor mental health days did not change much when comparing 2012–2013 to 2014 data (Figure 1).

Region Ten Services

Region Ten Community Services Board (Region Ten) provides mental health, intellectual disability, and substance abuse treatment services to residents in TJHD. In 2015, 20.9% of residents who received Region Ten services received them for a mood disorder followed by services for schizophrenia and other psychotic disorders (8%) and then attention deficit and disruptive behaviors (7.7%). The least prevalent mental health disorders in terms of consumers served were cannabis-related (2.1%) and cocaine-related (1.3%) disorders (Figure 2).

In 2015, the most common type of behavioral health emergency service was hospital admission which accounted for 35% of all behavioral health

emergency services. Issued temporary detention orders (26.6%) and evaluations of emergency custody orders (20.1%) were next most common whereas referrals to wellness recovery centers were the least common (14.9%) type of mental health emergency service (Figure 3).

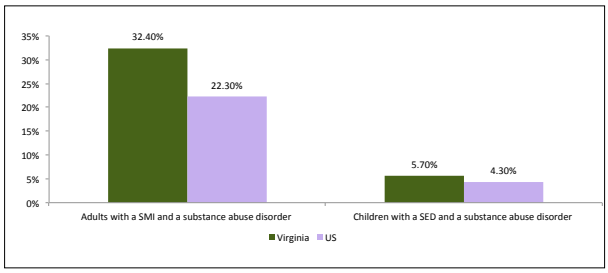


Figure 4 | Adults and Children with Co-Occurring Severe Mental Illnesses/Severe Emotional Disturbances and Substance Abuse Disorders, VA and U.S., 2014. Source: Substance Abuse and Mental Health Services Administration (SAMHSA) Mental Health National Outcome Measures, CMHS Uniform Reporting System, 2016.

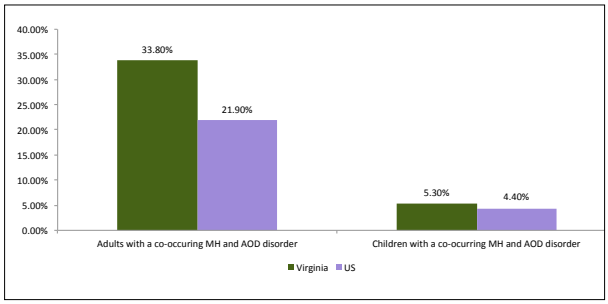


Figure 5 | Adults and Children with Co-Occurring Mental Health and Alcohol or Other Drug Disorders, VA and U.S., 2014. Source: National Mental Health Association, State Rankings, 2016.

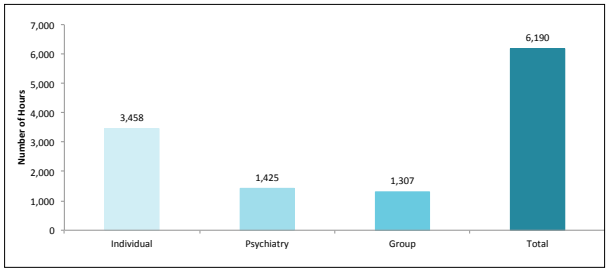


Figure 6 | Number of Clinical, Face-to-Face Hours Used in All of the Community Mental Health & Wellness Coalition Member Agencies by Category, TJHD, 2014. Source: Region Ten Community Services Board, 2015.

Serious Mental Illness

Adults aged 18 years or older with a serious mental illness (SMI) have a mental, behavioral, or emotional disorder "resulting in serious functional impairment, which substantially interferes with or limits one or more major life activities."[35] A serious emotional disturbance (SED)[36] is similar to an SMI except that it is classified in children under 18 years of age.

In 2014, nearly one-third of Virginians with a SMI also had a substance use disorder which was higher than the national average of 22.3%. There was also a slightly higher percentage of children with SEDs and a co-occurring substance use disorder in Virginia than across the United States (Figure 4). The National Mental Health Association collected data on this topic as well, and while the exact percentages were slightly different, they too found that Virginians with mental health disorders were more likely to also abuse alcohol or other drugs than the average American with a mental health disorder (Figure 5).

Community Mental Health and Wellness Coalition Service Hours

In 2014, 6,190 hours were spent treating patients in participating Community Mental Health and Wellness Coalition member agencies in TJHD. More than half of these hours were in individual treatment with slightly less than a quarter each in psychiatry and group meetings (Figure 6).

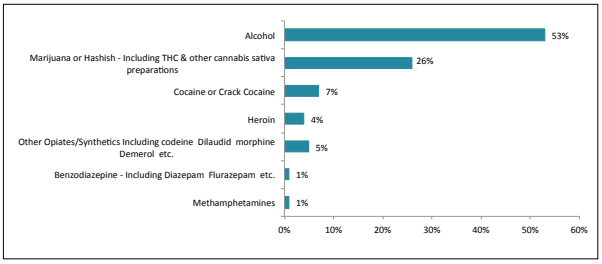


Figure 7 | Primary Type of Substance Abuse in Region Ten Consumers with Substance Abuse Disorder, TJHD, FY 2015. Source: Region Ten Community Services Board, FY 2015 Consumer Data, 2016.

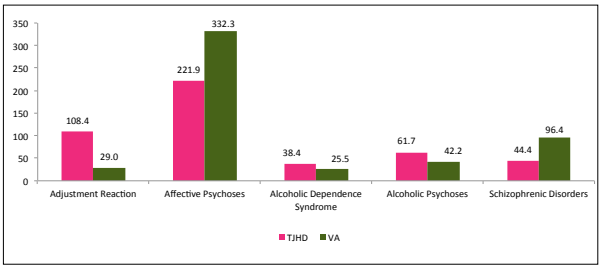


Figure 8 | Most Common Diagnoses for Behavioral Health Hospitalizations, Age-Adjusted Rate per 100,000, TJHD and VA, 2012. Source: Virginia Atlas of Community Health, Behavioral Health Hospital Discharge Profile (January 1–December 21, 2012), 2016.

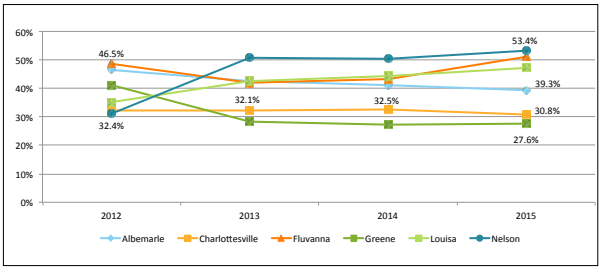


Figure 9 | Serious Emotional Disturbance (SED) in Child Consumers Served by Region Ten, TJHD Localities, FY 2011–2015. Source: Region Ten Community Services Board, 2016.

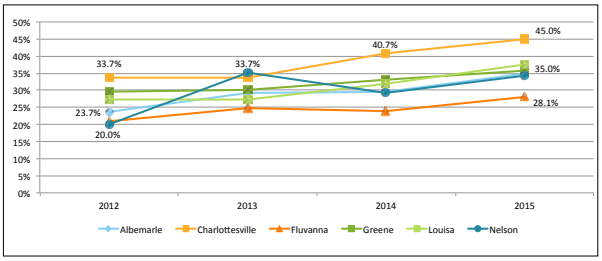


Figure 10 | Serious Mental Illness in Adult Consumers Served by Region Ten, TJHD Localities, FY 2012–2015. Source: Region Ten Community Services Board, 2016.

Substance Abuse Disorders

Among Region Ten consumers diagnosed with a substance abuse disorder, more than half were alcohol-related disorders in Fiscal Year 2015. The second most common form of substance abuse disorder was cannabis-related disorders which accounted for more than a quarter of the diagnoses. No other substance type accounted for more than 10% with the least common being methamphetamine- and benzodiazepine-related disorders at 1% each (Figure 7).

In TJHD and Virginia, the most common diagnosis for behavioral health hospitalizations was affective psychoses with 221.9 and 332.3 hospitalizations per 100,000 residents (age-adjusted), respectively. Residents of TJHD have higher rates of hospitalization for adjustment reaction, alcoholic dependence syndrome, and alcoholic psychoses than the Virginia state average but lower rates of affective psychoses and schizophrenic disorders. There were especially large differences in adjustment reaction and affective psychoses (Figure 8).

From FY 2012 to 2015, Nelson went from having the lowest percentage of child consumers served by Region Ten with an SED among TJHD localities to having the highest percentage at 53.4%. In FY 2015, Greene had the lowest percentage among TJHD localities at 27.6% (Figure 9).

From FY 2012 to 2015, the percentage of adult consumers served by Region Ten with a SMI increased in every TJHD locality. Among TJHD localities, Charlottesville (45%) had the highest percentage in FY 2015 and Fluvanna (28.1%) had the lowest percentage (Figure 10).

Adverse Childhood Experiences

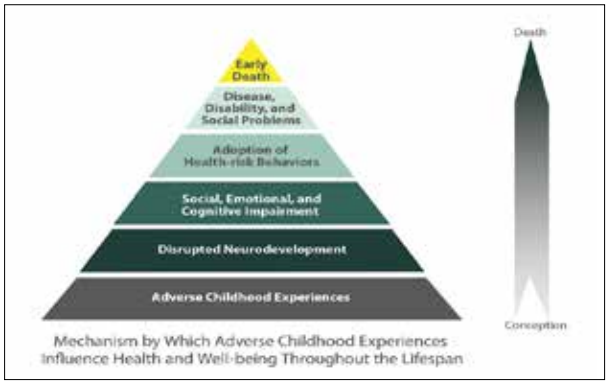


Figure 1 | Mechanism by Which Adverse Childhood Experiences Influence Health and Well-being throughout the Lifespan. Source: Centers for Disease Control and Prevention, Adverse Childhood Experiences Presentation Graphics, the ACE Pyramid, 2016.

Childhood experiences, both positive and negative, have a tremendous impact on lifelong health and opportunity. As such, early experiences are an important public health issue. Much of the foundational research in this area is referred to as Adverse Childhood Experiences (ACEs). ACEs are forms of abuse, neglect, and household challenges which may disrupt a child's neurological development and impair social, emotional, and cognitive development. ACEs have been linked to risky health behaviors—including substance abuse, poor diet, and lack of physical activity—as well as chronic health conditions such as obesity, diabetes, and COPD. ACEs have also been associated with low life potential—such as graduation achievement or lost time from work—and early death. The higher the number of ACEs experienced, the higher the risk of developing these negative health behaviors, conditions, or outcomes.[37, 38] Figure 1 visually depicts how ACEs can influence health and well-being throughout the lifespan.

ACEs can be categorized as abuse, household challenges, or neglect. Physical abuse was the most prevalent type of abuse (28%) followed by sexual abuse (21%) and emotional abuse was the least prevalent (11%). Substance abuse in the household was found to be the most common type of household challenge ACE (27%) which was closely followed by parental separation or divorce (23%); having a household member being incarcerated was the least prevalent type of household challenge ACE (5%). Emotional neglect was slightly more prevalent (15%) than physical neglect (10%). It should be noted that these percentages do not add up to

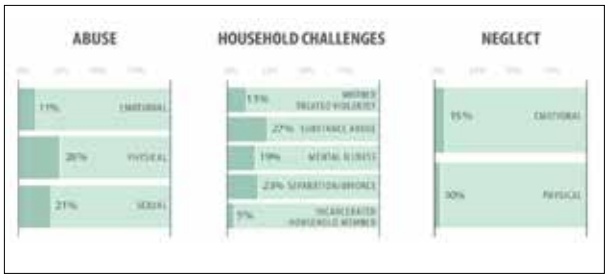


Figure 2 | Adverse Childhood Experiences (ACEs) by Type of ACE, 1997. Source: Centers for Disease Control and Prevention (CDC), VetoViolence, ACEs Infographic, 2016.

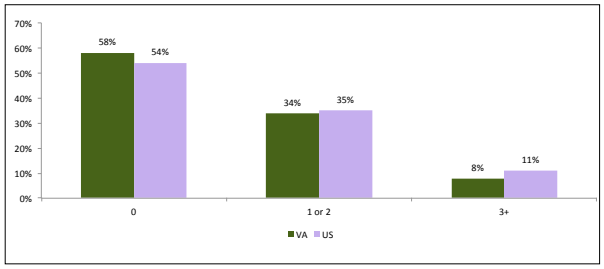


Figure 3 | Percentage of Children Ages Birth to 17 Years Reporting Having 0, 1, 2, or 3+ Adverse Childhood Experiences (ACEs), VA and U.S., 2011–2012. Source: Sacks et al, Adverse Childhood Experiences: National and State-Level Prevalence, Child Trends Research Brief, 2016.

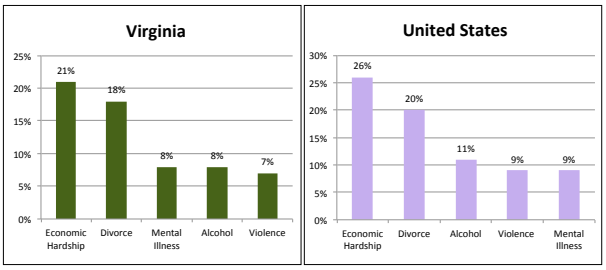


Figure 4 | Percentage of Children Ages Birth to 17 Years Reporting Each Category of ACE Experienced, VA and U.S., 2011–2012. Source: Sacks et al, Adverse Childhood Experiences: National and State-Level Prevalence, Child Trends Research Brief, 2016.

100% because not all study participants experienced all types of ACEs and 36% reported not experiencing any ACEs; there were some study participants who experienced multiple ACEs with 13% of study participants experiencing four or more ACEs (Figure 2).

A separate study by Sacks et al[39] found that the majority of children younger than 18 years in Virginia and the United States did not report experiencing an ACE. In Virginia, 34% reported experiencing 1 or 2 ACEs which was similar to the United States average of 35%. The percentage that had not experienced any ACEs was higher in Virginia (58%) than in the US (54%). A lower percentage of study participants in Virginia (8%) also reported experiencing three or more ACEs as a child than those in the United States as a whole (11%) (Figure 3). Sacks et al also found that economic hardship was the most prevalent type of ACE followed by divorce in both Virginia and the United States; mental illness and alcohol were tied for 3rd (8%) and violence was 4th (7%) in VA while in the United States alcohol was 3rd (11%) and violence and mental illness were tied for 4th (9%) (Figure 4).

Dental Health

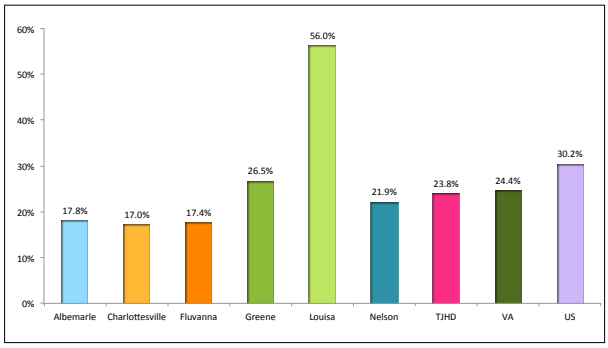


Figure 1 | Percentage of Adults with No Dental Exam in Past Year, TJHD Localities, TJHD, VA, and U.S., 2006–2010. Source: Community Commons Report, 2015.

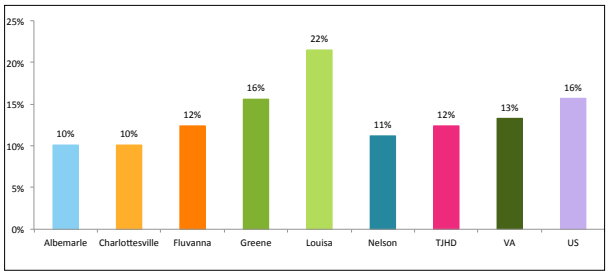


Figure 2 | Percentage of Adults Age 18 Years and Older with Poor Dental Health, TJHD Localities, TJHD, VA, and U.S., 2006–2010. Source: Community Commons Report, 2015.

Dental health is an overall part of health and well-being and provides important social and emotional functions such as the ability to speak and smile as well as important physical functions such as the ability to chew.[40] From 2006–2010, the percentage of adults who did not have a dental exam in the past year in TJHD (23.8%) was similar to the percentage in VA (24.4%) and lower than the United States average (30.2%). Among TJHD localities, the lowest percentage was in Charlottesville (17%) and the highest percentage at above half was in Louisa (56%) (Figure 1).

While TJHD overall has a slightly lower percentage of adult residents with poor dental health (12%) than adults in Virginia (13%) and the United States (16%), this percentage varies greatly from county to county. Albemarle and Charlottesville have the lowest percentage of adults with poor dental health (10%) while Louisa has the highest (22%) (Figure 2). Poor dental health is defined as having six or more permanent teeth removed due to tooth decay, gum disease, or infection.

Poisoning

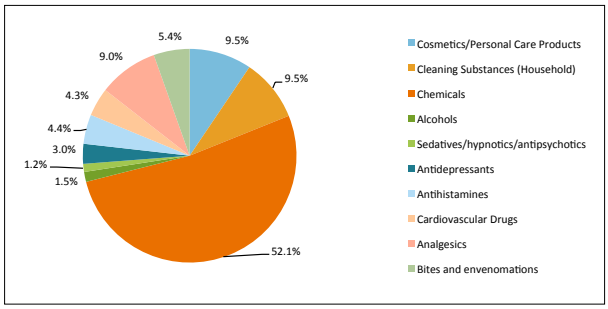


Figure 1 | Substances Involved in Non-intentional Exposures, TJHD, 2015. Source: Blue Ridge Poison Control Center, University of Virginia, School of Medicine, 2016.

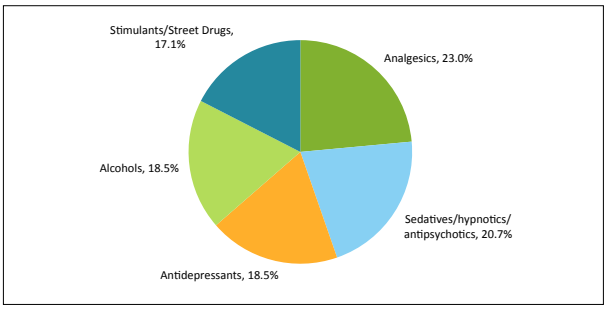


Figure 2 | Substances Involved in Intentional Exposures, TJHD, 2015. Source: Blue Ridge Poison Control Center, University of Virginia, School of Medicine, 2016.

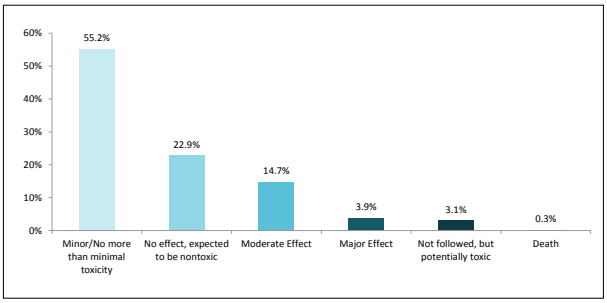


Figure 3 | Medical Outcome of Poisoning, TJHD, 2015. Source: Blue Ridge Poison Control Center, University of Virginia, School of Medicine, 2016.

According the Blue Ridge Poison Control Center, 66% of all 2015 calls inquired about non-intentional exposures. Within TJHD, unintentional exposures to chemicals accounted for more than half (52.1%) of calls in the district. Exposures to household cleaning substances, cosmetics and personal care products, and analgesics each accounted for approximately 9% of all unintentional exposures. A combined 12.6% of unintentional exposures were due to various other prescription and over-the-counter drugs (Figure 1).

In 2015 in TJHD, for intentional exposures, analgesics were the most commonly used substance (23%) with sedatives, hypnotics, and antipsychotics as the next most commonly used substances (20.7%). Alcohols and antidepressants both accounted for 18.5% of intentional exposures while stimulants and "street drugs" were the least commonly used (17.1%) (Figure 2).

Most, or a combined total of 78.1%, of all poisoning reports in 2015 resulted in minor/minimal toxicity or no effect/nontoxic. 18.6% of poisonings in TJHD had moderate to major effects while only 0.3% resulted in death (Figure 3).

Among all reported poisonings in TJHD from 2010-2015, adults aged 20 years and older comprised around 40% of reports. During this timeframe, women were higher percentage of the total reports than men; in 2015 21.7% of reported poisonings were among women and 17% among men (Figure 4). In 2015, most (60.9%) poisoning exposures reported were among children age 19 years or less; 32.5% of total reports were for children aged 5 years aor less (Figure 5).

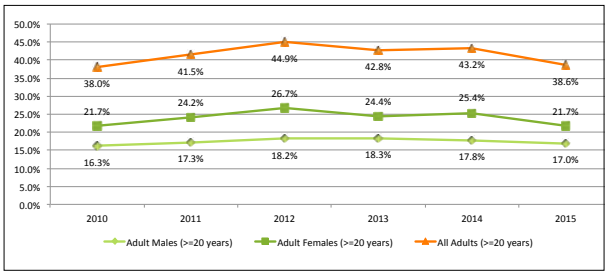


Figure 4 | Percent of Poisoning Exposures Who were Adults by Gender, TJHD, 2010–2015. Source: Blue Ridge Poison Control Center, University of Virginia, School of Medicine, 2016.

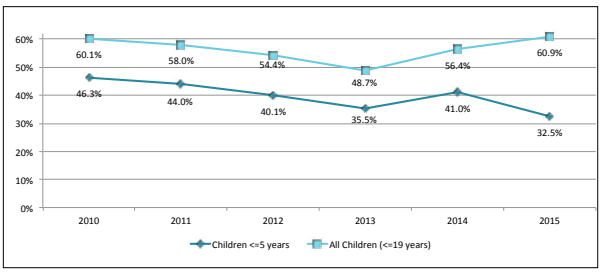


Figure 5 | Percent of Poisoning Exposures Who Were Children, TJHD, 2010-2015. Source: Blue Ridge Poison Control Center, University of Virginia, School of Medicine, 2016. Source: Region Ten, 2016.

Causes of Death

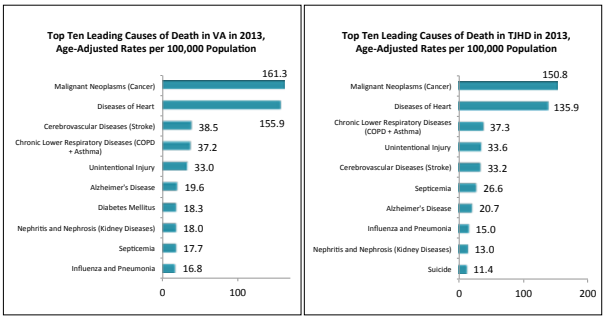


Figure 1 | Top Ten Leading Causes of Death, VA and TJHD, 2013. Source: Virginia Department of Health, Division of Health Statistics, 2016.

Leading Causes of Death

As of 2013, cancer (malignant neoplasms) was the leading cause of death in TJHD and Virginia followed by heart disease although the mortality rate per 100,000 population was lower for both cancer and heart disease in TJHD. In TJHD, suicide is the tenth leading cause of death; in Virginia, suicide is not ranked in the top ten leading causes of death. In TJHD, diabetes is not ranked as a top ten leading cause of death; in Virginia, diabetes is ranked as the seventh leading cause of death (Figure 1).

Among Virginians, the leading causes of death differ by age group—unintentional injuries are the leading cause of death in the younger age groups while cancer and heart disease are the leading causes of death in the older age groups. Chronic obstructive pulmonary disease (COPD) accounted for a significant portion of deaths among children and pre-teens aged 1–14 years. For those aged 40–84 years, cancer was the leading cause of death with heart disease the second most common cause. For those older than 85 years, heart disease is most common with cancer second most common. Stroke, COPD, and unintentional injuries are the next most common causes of death for those older than 40 years with stroke becoming more common in older age groups (Figure 2).

Mortality Rate

Since 2003–2005, the total mortality rate per 100,000 residents decreased in both TJHD and Virginia. In the same time span, the 3-year rolling average mortality rate was lower in TJHD than across Virginia. In 2011–2013, the average mortality rate in TJHD

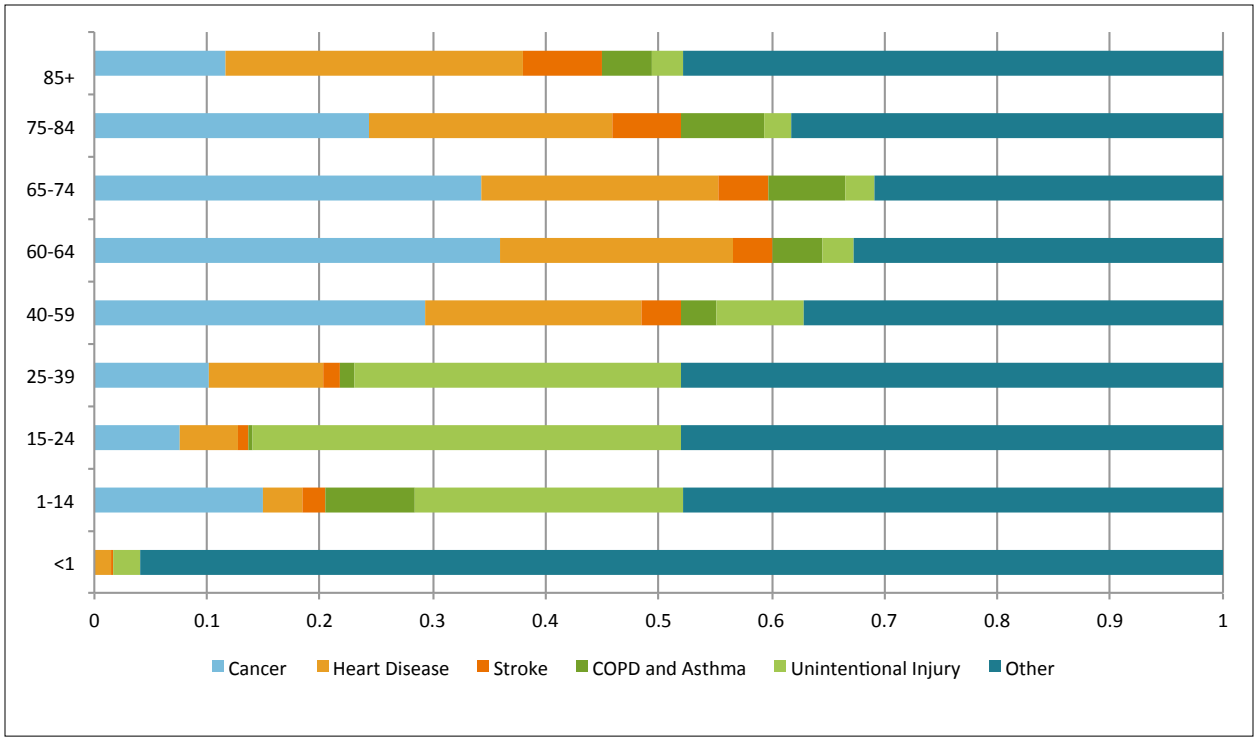


Figure 2 | Leading Causes of Death by Age Group in Virginia, 2013. Source: Virginia Department of Health, Division of Health Statistics, 2016.

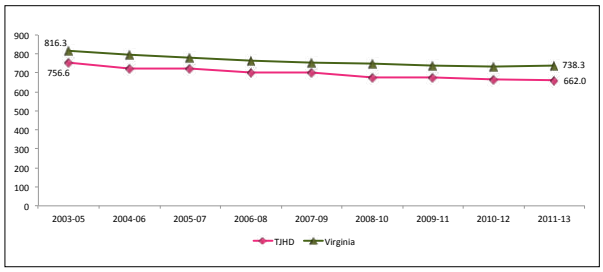


Figure 3 | Total Age-Adjusted Mortality Rate per 100,000 Population, 3-Year Rolling Averages, TJHD and VA, 2003–2013. Source: Virginia Department of Health, Center for Health Statistics, 2016.Source: Region Ten, 2016.

was 662 deaths per 100,000 residents while it was 738.3 per 100,000 in Virginia (Figure 3).

A racial disparity for mortality exists between white and black residents in both TJHD and Virginia. The black mortality rate across Virginia decreased from 1,023 per 100,000 residents from 2003–2005 to 764 from 2011–2013 and from 925 to 839 in TJHD in the same time frame. The white mortality rate increased in TJHD and across Virginia from 2009–2011 to 2011–2013. The difference between mortality rates among white and black residents in TJHD was nearly 100 more deaths per 100,000 residents from 2011-13 (Figure 4).

Heart Disease

The death rate from heart disease in Virginia has fallen every year since 2003–2005 and after

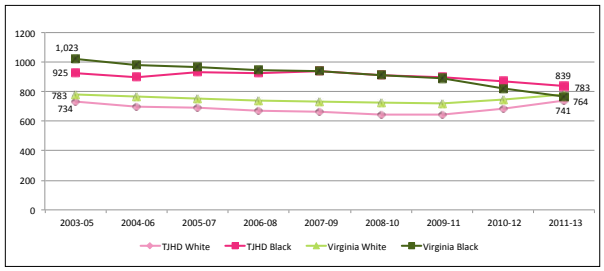


Figure 4 | Mortality by Race Age-Adjusted Rate per 100,000 Population, 3-Year Rolling Averages, TJHD and VA, 2003–2013, Source: Virginia Department of Health, Center for Health Statistics, 2016.

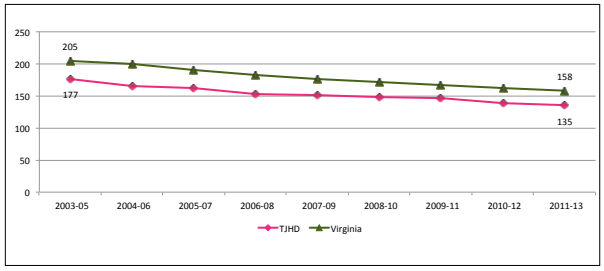


Figure 5 | Heart Disease Mortality Age-Adjusted Rate per 100,000 Population, 3-Year Rolling Averages, TJHD and VA, 2003–2013. Source: Virginia Department of Health, Center for Health Statistics, 2016.

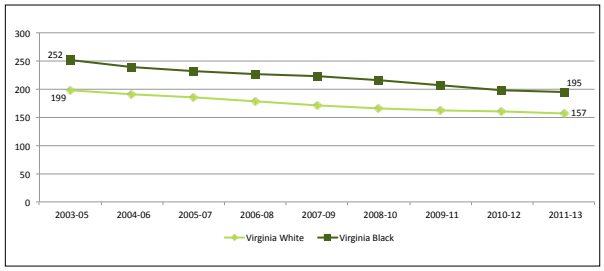


Figure 6 | Heart Disease Mortality by Race Age-Adjusted Rate per 100,000 Population, 3-Year Rolling Averages, VA, 2000–2013. Source: Virginia Department of Health, Center for Health Statistics, 2016.

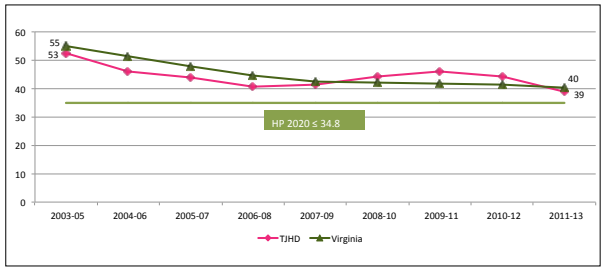


Figure 7 | Stroke Mortality Age-Adjusted Rate per 100,000 Population, 3-Year Rolling Averages, TJHD and VA, 2003–2013. Source: Virginia Department of Health, Center for Health Statistics, 2016.

adjusting for differences in age, Virginia had the 25th lowest rate of heart disease in the U.S. in 2013.[41] The rate also declined in TJHD over the last decade, and Virginia's rate (158 per 100,000 residents) was higher than TJHD's rate (135 per 100,000) (Figure 5).

Across Virginia, there was a higher rate of deaths caused by heart disease among black residents than white residents. This gap was nearly 40 per 100,000 residents on average from 2011–2013 (Figure 6).

Stroke

The three-year rolling average stroke death rate was nearly identical in TJHD (39 per 100,000 residents) and Virginia (40 per 100,000 residents) from 2011–2013. The rates in TJHD and Virginia are decreasing, but neither met the Healthy People 2020 goal of having no more than 34.8 deaths due to stroke per 100,000 residents (Figure 7).

The average stroke-related death rate fell among both black and white Virginians over the course of ten years. However, there were more deaths due to stroke among black Virginians as compared to white Virginians (Figure 8).

Cancer

In 2012, Virginia ranked 24th among U.S. states in age-adjusted cancer mortality.[42] Three-year average cancer mortality rates rose in some TJHD localities and fell in others between 2003 and 2013. From 2011–2013, Nelson had an average rate of cancer deaths of 196.5 per 100,000 residents which was the highest rate in TJHD. Albemarle had a rate of 141 per 100,000 residents—a decrease from a high of 190 in 2006–2008—which was the lowest rate in TJHD (Figure 9).

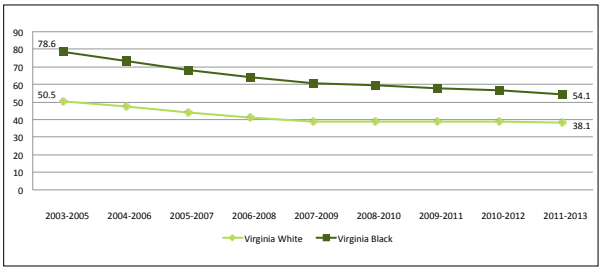


Figure 8 | Cardiovascular Disease (Stroke) Mortality by Race, Rate per 100,000, 3-Year Rolling Averages, Virginia, 2003–2013. Source: Virginia Department of Health, Center for Health Statistics, 2016.

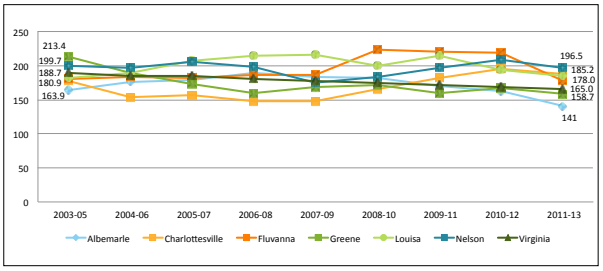


Figure 9 | Cancer Mortality (All Cancers), Age-Adjusted Rate per 100,000 Population, 3-Year Rolling Averages, TJHD Localities and VA, 2003–2013. Source: Virginia Department of Health, Center for Health Statistics, 2016.

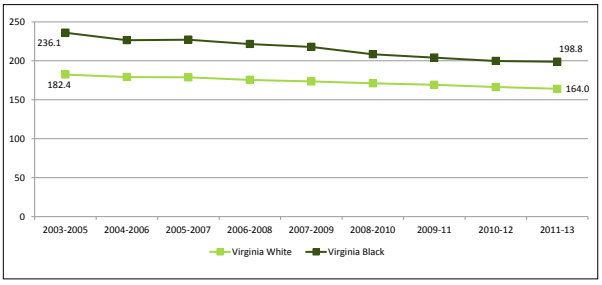


Figure 10 | Cancer Mortality by Race, Age-Adjusted Rate per 100,000 Population, 3-Year Rolling Averages, VA, 2003–2013. Source: Virginia Department of Health, Center for Health Statistics, 2016.

Figure 11 | COPD Mortality, Rate per 100,000 Population (Age-Adjusted), 3-Year Rolling Averages, 2003-2013. Source: Center for Health Statistics, Virginia Department of Health.

The three-year rolling average cancer mortality disparity between black and white Virginians decreased between 2003 and 2013 (Figure 10).

Chronic Obstructive Pulmonary Disease

Deaths from chronic obstructive pulmonary disease (COPD) slightly increased in TJHD from 33.4 COPD deaths per 100,000 in 2008–2010 to 36.9 per 100,000 in 2011–2013 while Virginia's rate decreased from 38.9 to 37.4 during the same time span (Figure 11).

Among Virginians, the average COPD mortality rate is higher among white residents than among black residents by approximately 15 COPD deaths per 100,000 residents since 2003–2005. In 2011–2013, the average three-year COPD mortality rate among white Virginians was 41.4 per 100,000 while it was 26.4 per 100,000 among black Virginians (Figure 12).

Diabetes

Nationally, the risk of death among persons with diabetes is about twice that of persons of similar age without diabetes.[43] The diabetes mortality rate fell in both TJHD and Virginia from 2003 to 2013 although the decrease in TJHD has been greater (Figure 13).

Diabetes mortality rates in Virginia have decreased over the past decade, but disparities by race remain. From 2003–2005 to 2011–2013, the three-year rolling average diabetes mortality rates fell slightly among white Virginians. There was a sharper decrease among black Virginians although a disparity still exists. The three-year rolling average diabetes mortality rate for black Virginians was approximately 34 deaths per 100,000 residents in 2011–2013 compared to the average of approximately 16 deaths per 100,000 white residents during the same time period (Figure 14).

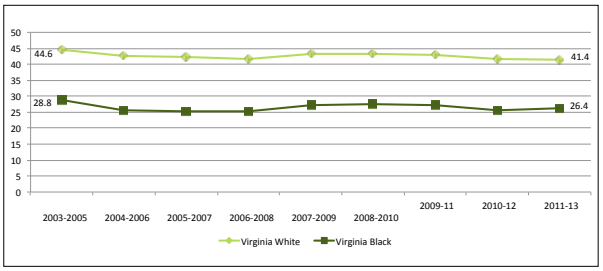


Figure 12 | Chronic Lower Respiratory Diseases (COPD + Asthma) Mortality by Race, Rate per 100,000, 3-Year Rolling Averages, VA, 2003–2013. Source: Virginia Department of Health, Center for Health Statistics, 2016.

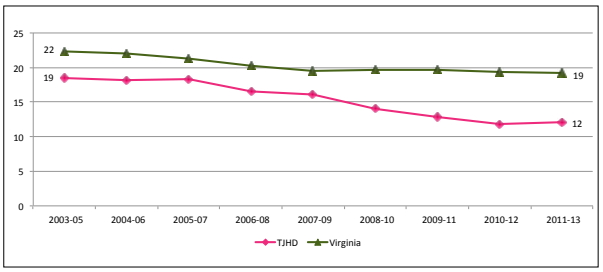


Figure 13 | Diabetes Mortality Age-Adjusted Rate per 100,000 Population, 3-Year Rolling Averages, TJHD and VA, 2003–2013. Source: Virginia Department of Health, Center for Health Statistics, 2016.

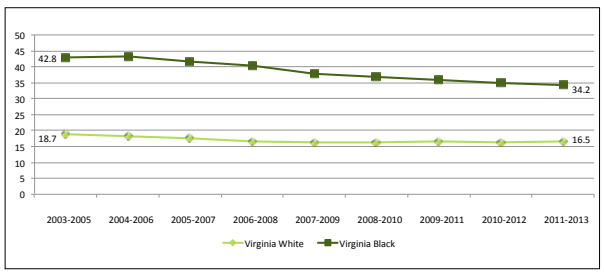


Figure 14 | Diabetes Mellitus Mortality by Race, Rate per 100,000 Population, 3 Year Rolling Averages, VA, 2003–2013. Source: Virginia Department of Health, Center for Health Statistics, 2016.

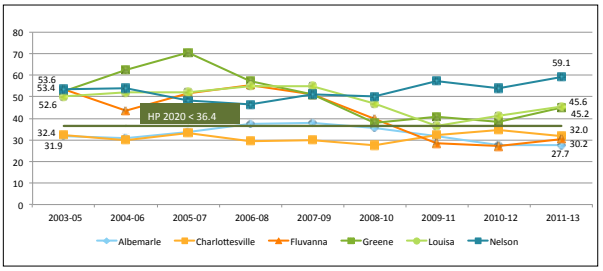


Figure 15 | Unintentional Injury Mortality, Age-Adjusted Rate per 100,000 Population, 3-Year Rolling Averages, TJHD Localities, 2003–2013.Source: Virginia Department of Health, Center for Health Statistics, 2016.

Unintentional Injury

Injuries, classified as unintentional[44] (accidents) or intentional (suicide and homicide), constitute a significant source of disability and death across the life spectrum. From 2011 to 2013, the three-year rolling average mortality rate caused by unintentional injuries was highest in Nelson at 59.1 per 100,000 residents in Louisa (45.6) and Greene (45.2) also did not meet the Healthy People 2020 goal of an unintentional injury mortality rate of 36.4. While Albemarle, Charlottesville, and Fluvanna all met the Healthy People 2020 goal, and Albemarle (27.7) had the lowest rate in TJHD (Figure 15).

In the early 2000s, the unintentional mortality rates for white and black Virginians were very similar. Beginning in 2005–2007, the black mortality rate per 100,000 residents began to increase until 2007–2009 when the rate was 60.9 compared to the rate of 39.0 among white Virginians. By 2011–2013, the average black mortality rate decreased again to about 10 deaths per 100,000 residents lower than the average white mortality rate (Figure 16).

Homicide

In 2011–2013, every locality in TJHD met the Healthy People 2020 goal of having no more than 5.5 homicides per 100,000 people. Nelson had the highest three-year average homicide rate in TJHD (5.4). The average homicide rate across Virginia was 4 in 2011–2013. Greene had a three-year rolling average homicide rate of 0.0 every year from 2006–2008 to 2011–2013 (Figure 17).

From 1999–2013, the average homicide rate among family members and intimate partners was 1.8 per 100,000 residents in Virginia. Louisa (2.9) and Nelson (3.2) were the only two TJHD localities with higher rates than the state average

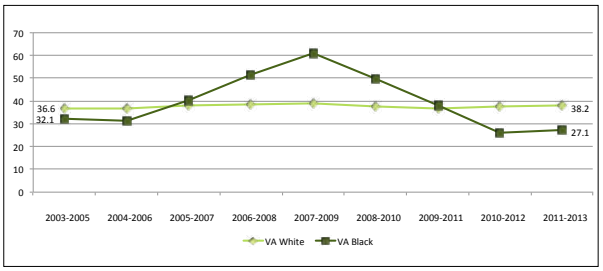


Figure 16 | Unintentional Injury Mortality by Race, Rate per 100,000, 3-Year Rolling Averages, 2003–2013. Source: Virginia Department of Health, Center for Health Statistics, 2016.

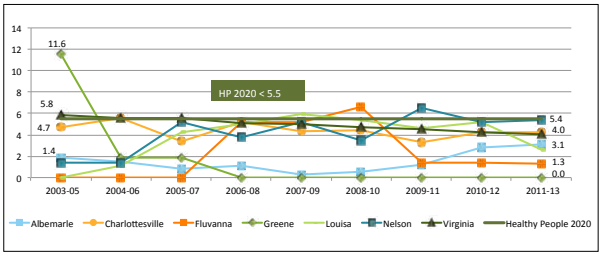


Figure 17 | Homicide Age-Adjusted Rate per 100,000 Population, 3-Year Rolling Averages, TJHD Localities and VA, 2003–2013. Source: Virginia Department of Health, Center for Health Statistics, 2016.

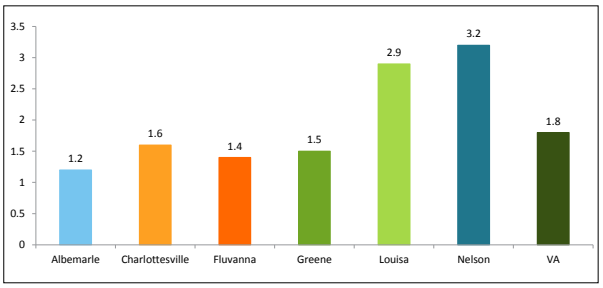


Figure 18 | : Rate of Family and Intimate Partner Homicide per 100,000 Residents, TJHD Localities and Virginia, 1999–2013. Source: Office of the Chief Medical Examiner, Family and Intimate Partner Homicide in VA's Cities & Counties, 2016.

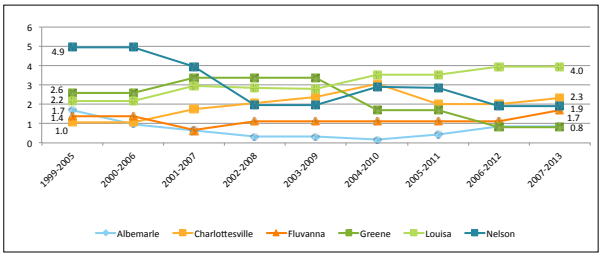


Figure 19 | Family and Intimate Partner Homicide Rate per 100,000 Residents, 7-Year Rolling Averages, TJHD Localities, 1999–2013. Source: Office of the Chief Medical Examiner, Family and Intimate Partner Homicide in VA's Cities & Counties, 2016.

during this time span. Albemarle (1.2) had the lowest rate among TJHD localities (Figure 18).

The seven-year rolling average rate for family and intimate partner homicide shows that although Nelson had the highest rate in 1999–2005, the rate decreased from 4.9 per 100,000 to 1.9 in 2007–2013. Louisa saw an increase from 2.2 to 4.0 during this time span and most recently had the highest rate among TJHD localities. The lowest rates of family and intimate partner homicide are in Albemarle and Greene at 0.8 per 100,000 residents (Figure 19).

Prescription and Heroin Overdose

Prescription opioid deaths were a significant cause of injury and death in Virginia accounting for at least 55.5% of all drug or poison deaths in 2014 (Figure 20).

The rates of fatal prescription opioid overdoses were higher in some areas of Virginia than in others including within TJHD. Louisa had the highest rate of fatal prescription opioid overdoses by locality of residence (5.8 per 100,000) of all TJHD localities, Charlottesville had the second highest (4.4), and Nelson and Greene both had the lowest rate (0) (Figure 21). When looking by locality of where the fatal prescription opioid overdose occurred, Nelson (6.7) had the highest rate, followed by Charlottesville (4.4), and Greene had the lowest rate (0) (Figure 22).

The rate of fatal heroin overdoses in Virginia has been steadily climbing since 2010 (Figure 23). Within TJHD, Fluvanna had the highest rate of fatal heroin overdoses (7.7 per 100,000), Albemarle had the second highest (2.9), and the other TJHD localities did not have any fatal heroin overdoses by locality of residence (Figure 24). When looking by locality of where the fatal heroin overdose occurred, Fluvanna still had the highest rate of fatal

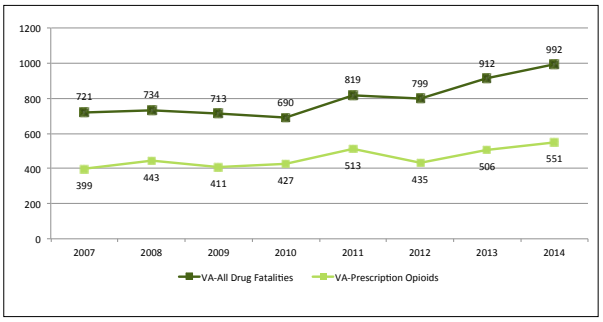


Figure 20 | Number of Deaths from All Drug Fatalities and Prescription Opioids in VA, 2007–2014. Source: Virginia Department of Health, Office of the Chief Medical Examiner, National Violent Death Reporting System and Virginia Violent Death Reporting System, 2016.

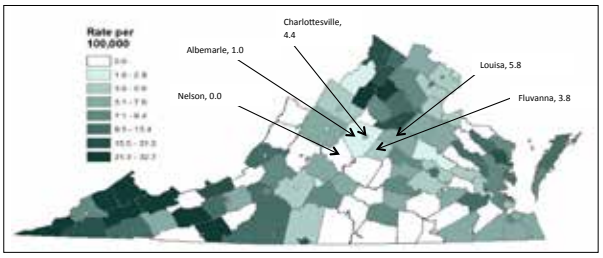


Figure 21 | Rate of Fatal Prescription Opioid Overdoses by Locality of Residence, VA, 2014. Source: Virginia Department of Health, Office of the Chief Medical Examiner, National Violent Death Reporting System and Virginia Violent Death Reporting System, 2016.

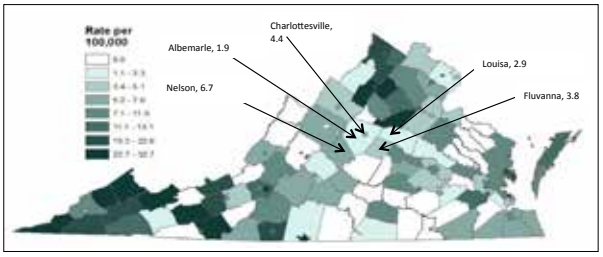


Figure 22 | Rate of Fatal Prescription Opioid Overdoses by Locality of Injury (Not Residence), VA, 2014. Source: Virginia Department of Health, Office of the Chief Medical Examiner, National Violent Death Reporting System and Virginia Violent Death Reporting System, 2016.

heroin overdoses (3.8) out of the TJHD localities, Charlottesville had the second highest (2.2), and Greene, Louisa, and Nelson did not have any. Fluvanna's rate both by locality of residence and locality of injury was higher than the state average (2.9) (Figure 25).

Suicide

In the United States, suicide is the second leading cause of death in 15–24 year olds. The suicide rate is four times higher for males than females and represents 77.9% of all suicides.[45] Nelson had the highest three-year rolling average suicide rate (24.8 suicides per 100,000 residents) among TJHD localities. Fluvanna (19) also did not meet the Healthy People 2020 goal of having no more than 10.2 suicides per 100,000 people. Charlottesville (7.6) had the lowest suicide rate among TJHD localities (Figure 26).

Among youth aged 10–24 years, the suicide rate was lower in TJHD (5.01 per 100,000 residents) than Virginia's average rate (7.16) between 2003 and 2013 (Figure 27).

The five-year average suicide rate among Virginia youth increased from 6.5 per 100,000 in 1999–2003 to 7.5 per 100,000 in 2009–2013 (Figure 28).

The ten-year average youth suicide rate between 2003–2013 among white youth aged 10–24 was higher (8.2 per 100,000) than among black youth (4.8) (Figure 29).

Violent Deaths

In 2014, the rates of all types of violent deaths—homicides, suicides, and unintentional firearms— were virtually identical in TJHD and across Virginia as a whole. The combined rate of violent deaths was slightly lower in TJHD (17.6) than in Virginia (17.9) (Figure 30).

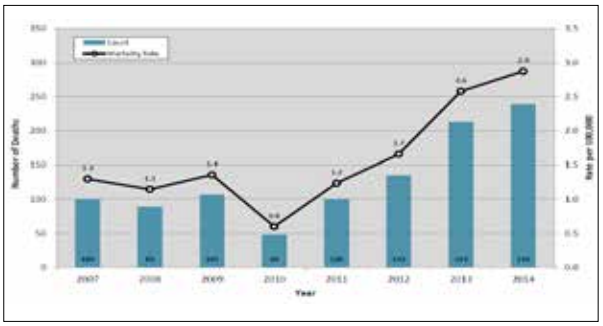


Figure 23 | Number and Rate of Fatal Heroin Overdoses by Year of Death, VA, 2007–2014. Source: Virginia Department of Health, Office of the Chief Medical Examiner, National Violent Death Reporting System and Virginia Violent Death Reporting System, 2016.

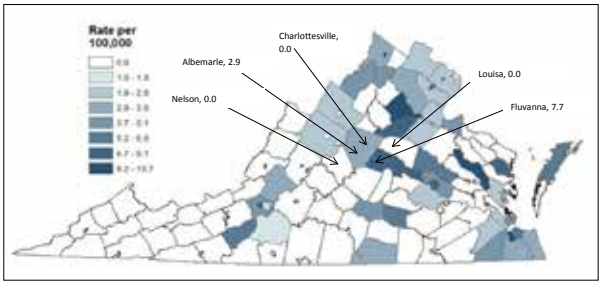


Figure 24 | Rates of Fatal Heroin Overdose by Locality of Residence, VA, 2014. Source: Virginia Department of Health, Office of the Chief Medical Examiner, National Violent Death Reporting System and Virginia Violent Death Reporting System, 2016.

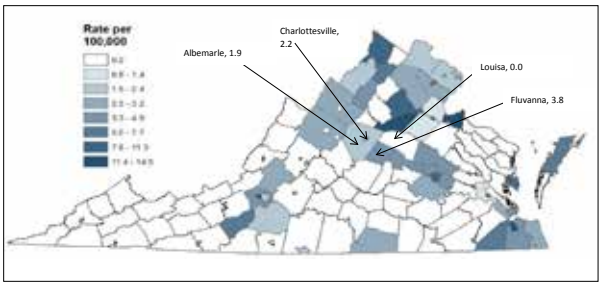


Figure 25 | Rate of Fatal Heroin Overdose by Locality of Injury (Not Residence), VA, 2014. Source: Virginia Department of Health, Office of the Chief Medical Examiner, National Violent Death Reporting System and Virginia Violent Death Reporting System, 2016.

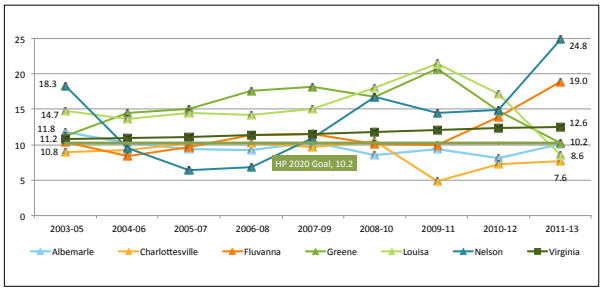


Figure 26 | Age-Adjusted Suicide Rate per 100,000 Population, 3-Year Rolling Averages, TJHD Localities and Virginia, 2003–2013. Source: Virginia Department of Health, Center for Health Statistics, 2016.

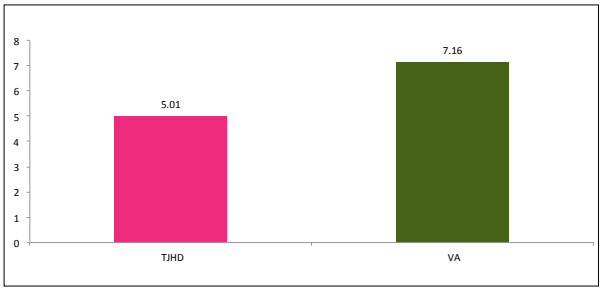


Figure 27 | Suicide Rate per 100,000 Population in Youth Aged 10–24 Years, TJHD and VA, 10-Year Average, 2003–2013. Source: Virginia Department of Health, Suicide Prevention, 2016.

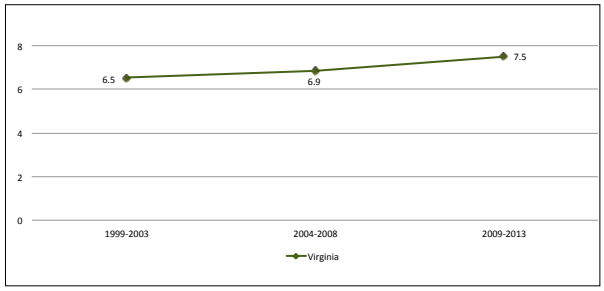


Figure 28 | Suicide Rate per 100,000 Population in Youth Aged 10–24 Years, Virginia, 5-Year Averages, 1999–2013. Source: Virginia Department of Health, Suicide Prevention, 2016.

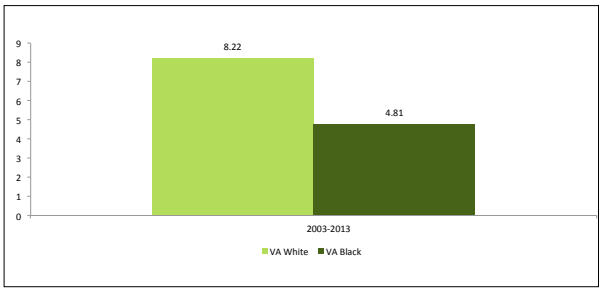


Figure 29 | Suicide Rate per 100,000 in Youth Age 10-24 Years by Race, 10 Year Average, Virginia, 2003-2013. Source: Virginia Department of Health, Suicide Prevention, 2016.

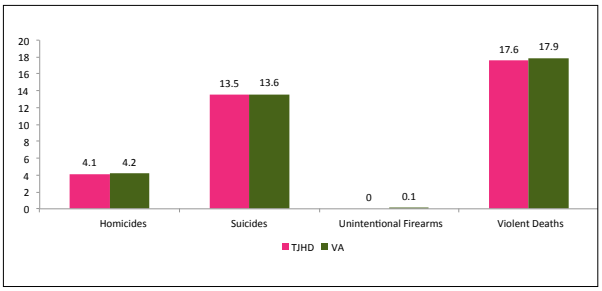


Figure 30 | Violent Deaths by Type, TJHD and VA, 2014. Source: Virginia Department of Health, Office of the Chief Medical Examiner, Virginia Violent Death Reporting System, 2016.

Endnotes

Maternal and Child Health

[1] Live births: the complete expulsion or extraction of a product of human conception from its mother, irrespective of the duration of pregnancy, which breathes or shows any other evidence of life such as beating of the heart, pulsation of the umbilical cord, or definite movement of voluntary muscles, whether or not the umbilical cord has been cut or the placenta is attached.

[2] Roth, J., Hendrickson, J., Schilling, M., & Stowell, D. W. (1998). The Risk of Teen Mothers Having Low Birth Weight Babies: Implications of Recent Medical Research for School Health Personnel. Journal of School Health, 68(7), 271–275. *http://doi.org/10.1111/j.1746-1561.1998.tb00581.x*

[3] Perper, K., Peterson, K., & Manlove, J. (2010). Diploma Attainment among Teen Mothers. Fact Sheet. Publication #2010-01. Child Trends. Women who become young mothers earn less because they obtain less formal education and work experience (Klepinger, Lundberg, & Plotnick, 1999).

[4] Klepinger, D., Lundberg, S., & Plotnick, R. (1999). How Does Adolescent Fertility Affect the Human Capital and Wages of Young Women? The Journal of Human Resources, 34(3), 421–448. *http://doi.org/10.2307/146375*

[5] Modernmom Staff. "Teen Dad Pregnancy Facts." Retrieved October 4, 2016 from *http://www.modernmom.com/2c30887c-051f-11e2-9d62-404062497d7e.html*

[6] Number of deaths among infants less than one year old per 1,000 live births.

[7] The World Factbook 2014–2015. Washington, DC: Central Intelligence Agency, 2014.

[8] Knoches AML, Doyle LW. (1993). Long-term outcome of infants born preterm. Baillieres Clin Obstet Gynaecol.7:633-651.

[9] Stoll BJ, Hansen NI, Adams-Chapman I, & et al. (2004). Neurodevelopmental and growth impairment among extremely low-birth-weight infants with neonatal infection. JAMA, 292(19), 2357–2365. *http://doi.org/10.1001/jama.292.19.2357*

[10] Hack M, Klein NK, Taylor HG. (1995). Long-term developmental outcomes of low birth weight infants. Future Child. 5:176-196.

[11] Irving RJ, Belton NR, Elton RA, Walker BR. (2000). Adult cardiovascular risk factors in premature babies. Lancet. 355:2135-2136.

[12] Vohr, B. R., Wright, L. L., Dusick, A. M., Mele, L., Verter, J., Steichen, J. J., ... Kaplan, M. D. (2000). Neurodevelopmental and Functional Outcomes of Extremely Low Birth Weight Infants in the National Institute of Child Health and Human Development Neonatal Research Network, 1993–1994. Pediatrics, 105(6), 1216–1226. *http://doi.org/10.1542/peds.105.6.1216*

[13] March of Dimes. (2013). Long-term health effects of premature birth. Retrieved October 19, 2016 from *http://www.marchofdimes.org/complications/long-term-health-effects-of-premature- birth.aspx*

[14] Healthy People 2020. (2012). Maternal, Infant and Child Health. 2020 Topics & Objectives. Retrieved October 19, 2016 from *http://www.healthypeople.gov/2020/topicsobjectives2020/overview.aspx?topicId=26*

[15] Woolston, C. (2012). Smoking and the fetus. LimeHealth. HealthDay Health Library. Retrieved October 19, 2016 from *http://consumer.healthday.com/encyclopedia/article.asp?AID=645311*

[16] Maine Department of Health and Human Services. (2008). Smoking among pregnant women. Partnership for a Tobacco-Free Maine. Retrieved October 19, 2016 from *http://www.tobaccofreemaine.org/channels/parents/smoking_and_pregnancy.php*

Cancer

[17] U.S. Department of Health and Human Services (2003). Cancer and the Environment: What You Need to Know, What You Can Do. National Institutes of Health, National Cancer Institute, and National Institute of Environmental Health Sciences. Retrieved October 19, 2016 from *http://www.niehs.nih.gov/health/materials/cancer_and_the_environment_508.pdf*

[18] National Cancer Institute. (2014). Harms of cigarette smoking and health benefits of quitting. Retrieved from *https://www.cancer.gov/about-cancer/causesrevention/risk/tobacco/cessation-fact-sheet*

[19] McNeill, A.M. & Wesner, E. (2016). Sun protection and vitamin D. Retrieved from *http://www.skincancer.org/healthy-lifestyle/vitamin-d/damage*

[20] Centers for Disease Control and Prevention. (2016). What are the risk factors for breast cancer? Retrieved October 19, 2016 from *http://www.cdc.gov/cancer/breast/basic_info/risk_factors.htm*

[21] Cancer Action Coalition of Virginia. (2011). Virginia inpatient hospitalization costs associated with cancer in

2011. Retrieved October 19, 2016 from *http://ftp.cdc.gov/pub/Publications/Cancer/ccc/virginia_ccc_plan.pdf*

[22] American Cancer Society. (2016). Key statistics for lung cancer: How common is lung cancer? Retrieved October 19, 2016 from *www.cancer.org/cancer/lungcancer-non-smallcell/detailedguide/non-small-cell-lung-cancer-key-statistics*

[23] American Cancer Society. (2016, January 20). Colorectal cancer. Retrieved September 25, 2016 from *http://www.cancer.org/cancer/colonandrectumcancer/detailedguide/colorectal-cancer-risk-factors*

Infectious Diseases

[24] Centers for Disease Control and Prevention. (2010). Summary of Notifiable Diseases – United States, 2010. Morbidity and Mortality Weekly Report. Retrieved October 19, 2016 from *http://www.cdc.gov/mmwr/preview/mmwrhtml/mm5953a1.htm*

[25] Centers for Disease Control and Prevention. (2011). Estimates of Foodborne Illness in the United States. Atlanta, GA: Centers for Disease Control and Prevention. Retrieved October 19, 2016 from *http://www.cdc.gov/foodborneburden/index.html*

[26] World Health Organization (2006). Food Safety: Five Keys to Safer Food. Retrieved October 16, 2016 from *http://www.who.int/foodsafety/publications/consumer/en/5keys_en.pdf?ua=1*

[27] Centers for Disease Control and Prevention. (2016). Burden of foodborne illness: Findings. Retrieved October 19, 2016 from *http://www.cdc.gov/foodborneburden/2011-foodborne-estimates.html*

[28] World Health Organization. (2011). Campylobacter Fact Sheet. World Health Organization. Retrieved from *http://www.who.int/mediacentre/factsheets/fs255/en/*

[29] Centers for Disease Control and Prevention. (2016). Burden of foodborne illness: Findings. Retrieved October 19, 2016 from *http://www.cdc.gov/foodborneburden/2011-foodborne-estimates.html*

[30] Painter J. E., Gargano J. W., Collier S. A., Yoder J.S. (2015). Giardiasis surveillance—United States, 2011-2012. MMWR Morb Mortal Wkly Report; 64(SS03):15-25.

[31] Salinas, J.L., Mindra, G., Haddad, M.B., Pratt, R., Price, S.F., Langer, A.J., & Center for Disease Control and Prevention (CDC). (2016). Leveling of Tuberculosis Incidence – United States, 2013-2015. Morbidity and Mortality Weekly Report. 65(11); 273-278.

[32] Centers for Disease Control and Prevention. (2016). Causes, How it Spreads, and People at Increased Risk. Legionella (Legionnaires' Disease and Pontiac Fever). Retrieved October 8, 2016 from *http://www.cdc.gov/legionella/patient_facts.htm*

[33] Centers for Disease Control and Prevention. (2009). Morbidity and Mortality Weekly Report (MMWR): Human Rabies --- Virginia, 2009. Retrieved November 8, 2016 from *https://www.cdc.gov/mmwr/preview/mmwrhtml/mm5938a3.htm*

Chronic Diseases

[34] Centers for Medicare and Medicaid Services (2015). 2014 Measure Information about the Acute and Chronic Ambulatory Care-Sensitive Condition Composite Measures, Calculated for the Value-Based Payment Modifier Program. Retrieved September 8, 2016 from *https://www.cms.gov/Medicare/Medicare-Fee-for-Service-Payment/PhysicianFeedbackProgram/ Downloads/2014-ACSC-MIF.pdf*

Mental Health

[35] Substance Abuse and Mental Health Services Administration. (2016). Mental and Substance Use Disorders: Serious Mental Illness. Retrieved November 14, 2016 from *http://www.samhsa.gov/disorders*

[36] Substance Abuse and Mental Health Services Administration. (2016). Mental and Substance Use Disorders: Serious Emotional Disturbance. Retrieved November 14, 2016 from *http://www.samhsa.gov/disorders*

Adverse Childhood Experiences

[37] Chartier, M. J., Walker, J. R., & Naimark, B. (2010). Separate and cumulative effects of adverse childhood experiences in predicting adult health and health care utilization. Child Abuse & Neglect, 34(6), 454-464.

[38] Chapman, D.P., Whitfield, C.L., Felitti, V.J., Dube, S.R., Edwards, V.J, & Anda, R.F. (2004). Adverse childhood experiences and the risk of depressive disorders in adulthood. Journal of affective disorders, 82(2): 217-225.

[39] Sacks, V., Murphy, D., Moore, K. (July 2014). Adverse Childhood Experiences: National and State-Level Prevalence. Child Trends Research Brief. Retrieved September 8, 2016 from *http://www.childtrends.org/wp-content/uploads/2014/07/Brief-adverse-childhood-experiences_FINAL.pdf*

Dental Health

[40] Healthy People 2020. Oral Health. Retrieved November 7, 2016 from *https://www.healthypeople.gov/2020/topics-objectives/topic/oral-health*

Causes of Death

[41] Virginia Performs. (2016). Cardiovascular Disease. Virginia Performs: Health & Family Indicators. Retrieved

October 18, 2016 from vaperforms.virginia.gov/indicators/healthfamily/cardiovascularDisease.php

[42] Virginia Performs. (2016). Cancer. Virginia Performs: Health & Family Indicators. Retrieved October 18, 2016 from *vaperforms.virginia.gov/indicators/healthFamily/cancer.php*

[43] Centers for Disease Control and Prevention. (2014). National Diabetes Statistics Report, 2014. Atlanta, GA: U.S. Department of Health and Human Services, Centers for Disease Control and Prevention. Retrieved October 18, 2016 from *http://www.cdc.gov/diabetes/pubs/statsreport14/national-diabetes-report-web.pdf*

[44] Most common injuries include: motor vehicle traffic, other vehicle accidents (including boat accidents), poisoning, drowning, fall, other transport, fire/burn, firearm, suffocation, struck by or against, natural/environment, pedestrian, machinery, cut/pierce.

[45] Centers for Disease Control and Prevention. (2014). 10 Leading Causes of Death by Age Group, United States – 2014. National Vital Statistics System, National Center for Health Statistics. Atlanta, GA: U.S. Department of Health and Human Services, Centers for Disease Control and Prevention. Retrieved October 8, 2016 from *http://www.cdc.gov/injury/images/lc-charts/leading_causes_of_death_age_group_2014_1050w760h.gif*

Forces of Change Assessment Report

Background

The Forces of Change Assessment (FOCA) is one of the four assessments included in the Mobilizing for Action through Planning and Partnerships (MAPP) framework. FOCA identifies the major trends, factors, and events either currently occurring or expected to occur that may affect the community and the local public health system. The trends, factors, and events identified in this assessment can be occurring on a local, regional, national, and/or global level. Identifying these forces allowed the MAPP partner agencies to consider them when identifying community health priorities and setting goals and strategies for the Community Health Improvement Plan.

FOCA Methods

The first step in FOCA is to identify individuals who have knowledge about the forces of change and associated opportunities and threats. According to the National Association of City and County Health Officials and the Centers for Disease Control and Prevention, participants in the FOCA process should include elected officials, agency directors, business leaders, grassroots organizations, long-standing residents, and other community leaders. Because the MAPP2Health Leadership Council (the Leadership Council) includes representatives from the recommended organizations and with the suggested backgrounds, FOCA was conducted during the Leadership Council's May 18, 2016 meeting.

The members of the Leadership Council were asked to consider the vision statement the community developed for the MAPP process, "Together we support equitable access to resources for a healthy, safe community," and the values the community committed to uphold during the MAPP process, including teamwork, accountability, inclusivity, and respect (Table 1). Next, each council member was asked to specify their area of expertise and the organization/area they represent on the Leadership Council, to identify the biggest issue or force that in their estimation might prevent the community from reaching its vision, and to suggest possible solutions for overcoming that force. Participants wrote their responses on sticky notes that were displayed on a banner and later collected and compiled by the MAPP Core Group, which included staff from Sentara Martha Jefferson Hospital (SMJH), the Thomas Jefferson Health District (TJHD), and the University of Virginia's (UVA) Department of Public Health Sciences and Health System.

Logo	Vision	Values
	Together we support equitable access to resources for a healthy, safe community.	• Teamwork • Accountability • Inclusivity • Respect

Table 1 | MAPP2Health Leadership Council Logo, Vision, and Values. Source: Leadership Council Meeting Minutes, March 16, 2016.

FOCA Results

There are four major categories of forces the Leadership Council identified as potential barriers to the community's success in working together to achieve the vision of equitable access to resources for a healthy, safe community. The categories include issues related to access, economics, cultural diversity and humility, and laws/policies. While some of the barriers may fall into more than one category, the categories and specific information gathered as part of FOCA are outlined in Tables 2–5.

Access	Access Issues	Access Opportunities
Freedom or ability to obtain or make use of something	• Healthy food • Safe environments for physical activity • Health-related resources • Healthy lifestyle education • Transportation • Healthcare providers (specifically for the aging population)	• Educate community about available resources • Expand transportation to rural areas • Develop comprehensive transit network • Provide K–12+ healthy lifestyle education • Add bike lanes • Fund public transportation • Address food deserts • Increase provision of healthcare outside hospital

Table 2 | FOCA Results. Major Force Category 1: Access*

Economics	Economic Issues	Economic Opportunities
Material prosperity	• Poverty • Cost of living • Elderly on fixed incomes • Sustainable wages • Education • Pay for healthcare providers in public community/health	• Provide education for jobs with sustainable wages • Spread resources more evenly • Promote focused, coordinated, sustained investment in holistic neighborhood revitalization • Engage low-income individuals and keep them involved • Fund support services for the aging • Expand Medicaid and fund Medicare for the aging • Adopt a living wage

Table 3 | FOCA Results. Major Force Category 2: Economics*.

Cultural Diversity and Cultural Humility	Cultural Diversity and Cultural Humility Issues	Cultural Diversity and Cultural Humility Opportunities
Understand and respect each other's differences	• Race • Aging • Refugee/immigrant community • Lesbian, gay, bisexual, trans, queer/questioning and others (LGBTQ+) • Disparities in outcomes for pregnant women	• Provide sensitivity/cultural awareness education • Advocate for and support diverse groups • Educate on the value of diversity • Foster diversity and inclusion in quality patient care • Recruit a diverse workforce • Ensure culturally competent health promotion • Undertake diverse research • Provide professional interpreter services • Use faith communities to disseminate information • Use Community Health Workers to address racial disparities in pregnancy outcomes

Table 4 | FOCA Results. Major Force Category 3: Cultural Diversity & Cultural Humility*.

Laws/Policies	Laws/Policies Issues	Laws/Policies Opportunities
Rules	• Technology • Medicare for aging • Cigarettes and e-cigs • More drugs in the community • School nutrition • Medicaid expansion • Medicaid reimbursement rate	• Address low cigarette tax • Add licensing requirement to sell tobacco in Virginia • Educate tobacco merchants and enforce age restrictions • Advocate for healthier school nutrition policies • Ensure better regulation of technology • Expand Medicaid • Implement higher Medicaid reimbursement rate

Table 5 | FOCA Results. Major Force Category 4: Laws/Policies*.

*Source for Tables 2–5: Leadership Council Participant Responses for Major Forces and Opportunities, May 18, 2016.

Conclusion

FOCA results were shared with the Leadership Council and the Community Health Assessment Councils in Charlottesville/Albemarle, Fluvanna, Greene, Louisa, and Nelson. Along with the shared understanding of the local public health system gained through the Local Public Health System Assessment, Community Health Assessment data, and Community Themes and Strengths Assessment results, the opportunities identified to overcome the forces of change informed the discussion as the councils selected community health priorities and formulated goals and strategies for inclusion in the Community Health Improvement Plan.

Community Themes and Strengths Assessment Report

Summary

To obtain feedback from community members living in Virginia's Planning District 10 (PD10), also referred to as the Thomas Jefferson Health District (TJHD), which includes the City of Charlottesville and Albemarle, Fluvanna, Greene, Louisa, and Nelson Counties, a three-question survey was distributed between May 7, 2016 and June 12, 2016. The survey was designed to be minimally invasive—no personal information was collected, answer choices were closed-ended, and the survey length was one page. The survey team worked to reach community members by offering the survey in multiple languages, at various community events, through partner sites, and online. In total, 2,885 PD10 residents completed the survey.

Background

The Community Themes and Strengths Assessment (CTSA) is one of four assessments within the Mobilizing for Action through Planning and Partnerships (MAPP) framework. The CTSA provides stakeholders and planners the opportunity to obtain input from community members on the health of their communities. According to the National Association of County and City Health Officials (NACCHO), "The Community Themes and Strengths Assessment answers the questions: 'What is important to our community?' 'How is quality of life perceived in our community?' and 'What assets do we have that can be used to improve community health?' This assessment results in a strong understanding of community issues and concerns, perceptions about quality of life, and a map of community assets."[1]

CTSA Survey Design

In an effort to perform community-based data collection, the MAPP Core Group (staff from Sentara Martha Jefferson Hospital, TJHD, and UVA's Department of Public Health Sciences and Health System), with a team of master's-level public health students, designed the CTSA survey and data collection to take place with residents in their communities. With input from the Community Health Assessment (CHA) Councils in Charlottesville/Albemarle, Fluvanna, Greene, Louisa, and Nelson, planners designed a short survey to collect broad feedback from residents. Initially, 50 questions were drafted to assess community themes and opportunities for improvement, but given the goal of creating a noninvasive survey, the questions were fine-tuned and narrowed down to three questions. Planners developed answer choices based upon previously identified community health issues and the social determinants of health.

Five versions of the survey were published: one for Albemarle and Charlottesville, and one each for Fluvanna, Greene, Louisa, and Nelson Counties.

Survey Questions

The survey included three questions. Question and answer choices are described below.

1. Where do you live?

Albemarle | Charlottesville | Fluvanna | Greene | Louisa | Nelson | Other: _____

Question 1 (Q1) was used to sort respondents' answers by locality so that locality-specific results could be shared with each CHA Council. Respondents were asked to select one county or city. An "other" write-in option was provided for those who wanted to take the survey but did not live in one of the localities within TJHD. This was the extent of any personal information collected in the survey.

2. What makes your community a healthy place to live?

(Check or circle your top 3 answers)

Culture and Arts	Jobs	Neighborhoods	Safe streets
Food options	Local business	Outdoors	Spiritual life
Healthcare	Local schools	Recreation	Transportation
Housing			

Question 2 (Q2) asked respondents to consider the positive aspects of their communities—the assets or strengths that contribute to health and well-being. For all localities, the answer choices for this question were identical.

3. What should your community improve? (Check or circle your top 3 answers)

	Albemarle	Charlottesville	Fluvanna	Greene	Louisa	Nelson
Aging services	✓	✓	✓			✓
Alcohol and drug misuse and prevention	✓	✓	✓	✓	✓	✓
Children and youth services	✓	✓	✓	✓	✓	✓
Dental care				✓		
Education	✓	✓	✓		✓	
Food					✓	
Housing	✓	✓	✓	✓		
Job opportunities				✓	✓	
Medical care access					✓	✓
Mental healthcare services	✓	✓	✓	✓	✓	✓
Obesity prevention	✓	✓	✓	✓	✓	✓
Pregnancy and infant health	✓	✓	✓	✓	✓	✓
Recreational opportunities						✓
Tobacco reduction services	✓	✓	✓	✓	✓	✓
Transportation			✓	✓		✓

Table 1 | Question 3 Indicator Selections by Locality, 2016.

Question 3 (Q3) answer choices varied for each locality's survey (Table 1). Each locality's CHA Council selected between two and four additional indicator areas for improvement to include as answer choices on their locality's survey. In addition to the locality-specific answer choices, the following answer choices were consistent across all locality surveys, and reflect the priority areas from the 2012 MAPP2Health Report and / or current community-wide initiatives:

1. **Alcohol and drug misuse and prevention services**
2. **Children and youth services**
3. **Mental healthcare services**

4. **Obesity prevention and healthy weight services**
5. **Pregnancy and infant health**
6. **Tobacco use reduction services**

In an effort to include community members whose primary language is not English, the survey was translated into Spanish, Nepali, Arabic, and Dari. These language choices were made after discussions with the local International Rescue Committee and the International Family Medicine Clinic at the University of Virginia.

CTSA Survey Methods

Three survey methods were used to expand access to the survey and increase the number of diverse respondents from across PD10. The three methods included paper-based in-person surveys at community events, paper-based surveys offered in the waiting rooms and lobby areas of partner agencies, and an online survey.

1. In-Person Surveys

Surveys were collected in person at community events. Community Health Workers (CHWs, both English- and Spanish-speaking), MAPP Core Group members, and additional TJHD staff approached people at a variety of community-based events and invited them to take the survey. Core Group members asked the locality CHA Councils for suggestions of events, churches, gatherings, and/or retail locations at which to offer the survey. Additionally, known recurring events—such as farmers' markets and festivals—were seen as opportunities to reach a large number of residents efficiently. Once potential events were identified, formal requests were made to retail locations and event organizers for the survey team to attend and

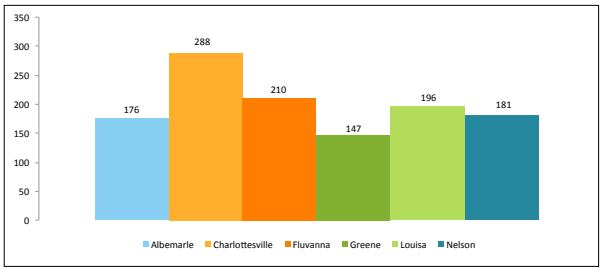


Figure 1 | Number of In-Person Surveys Collected by Locality, May–June 2016.

offer the survey. Not all events and retail locations accepted the request. Additionally, the number of events attended was limited by the availability of the members of the survey team; CHWs and TJHD staff were generally available during evening and Saturday hours. The survey events were scheduled when two or more survey team members were available. Overall, the survey team attended 35 events, which included farmers' markets, church gatherings, community group meetings, and food pantry distribution days. Incorporated into that total count were 14 outings that included surveys for persons speaking primarily Spanish. In-person survey events took place from Saturday, May 7, 2016 through Sunday, June 12, 2016. Figure 1 shows the number of surveys collected in person in each locality. Table 2 shows the CTSA events and retail locations by locality while Table 3 shows the primarily Spanish-speaking CTSA events and retail locations visited.

2. Partner Locations

CTSA surveys were available at 35 partner locations. Partners included nonprofit offices, clinic waiting rooms, senior centers, and home-visiting programs. Surveys were available at partner locations from May 23, 2016 through June 10, 2016, although partners did not all have the surveys for the exact same duration of time. To keep the survey work as easy as possible for partners, each partner was only given the survey of the locality their office serves. Therefore, some respondents completed a survey for a locality they did not live in. Depending on the partner's typical clientele, surveys were available to partner locations in all five languages. English and Spanish were the most commonly used surveys at partner locations. The Dari, Nepali, and Arabic language surveys were made available at the Charlottesville/Albe-

Albemarle	Greene
Scottsville Farmers' Market	Greene Lions Club
Southwood May Market Day	Greene Strawberry Festival
	Tuesday's Table
Charlottesville	**Louisa**
Charlottesville City Market	Community Extravaganza
City of Promise Community Dinner	Louisa Resource Council (2 food distribution days)
Pilgrim Baptist Church Bible Study	Mineral Farmers' Market
Reid Super-Save Market	
Fluvanna	**Nelson**
Fluvanna County Employee Wellness Fair	Nelson County Pantry (1 food distribution day)
Fluvanna County Sunday School Union	Nelson Farmers' Market
Fluvanna Farmers' Market	Rockfish Valley Community Center Community Breakfast
Old Farm Day	Unity in Community Luncheon

Table 2 | In-Person Survey Distribution Events by Locality, 2016.

Albemarle	Charlottesville	Greene
El Mercado (two visits)	El Tío Variedades (three visits)	Church
Christian Salon (two visits)	Mí Canton	
Church of the Incarnation		Iglesia Levántate y Resplandece
Latino Market		
Tako Nako (two visits)		

Table 3 | Spanish-Speaking In-Person Survey Distribution Events by Locality, 2016.

marle Health Department; however, surveys in those three languages were not taken by visitors. Figure 2 shows the number of surveys collected by partner locations in each locality while Table 4 shows the CTSA partner locations by locality.

3. Online Survey

SurveyMonkey hosted the CTSA online in English and Spanish between May 18, 2016 and June 12,

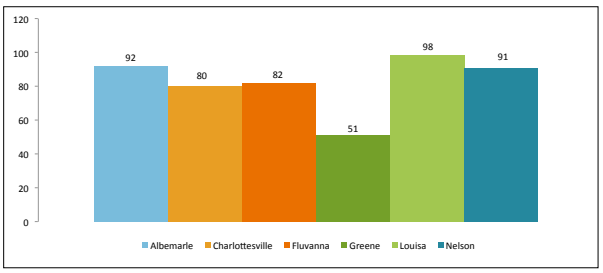


Figure 2 | Number of Partner Location Surveys Collected by Locality, May–June 2016.

2016. Figure 3 shows the number of surveys collected online in each locality.

Surveys completed by non-PD10 residents were not included in the data analysis. Although the survey instrument requested respondents to select "up to three" answer choices for Q2 and Q3, many respondents picked more than 3 answers, and these surveys were included in the

Albemarle	Greene
Albemarle Department of Social Services (DSS)	Emmanuel Christian Center
Jefferson Area Board for Aging (JABA)—Esmont & Scottsville	Feeding Greene
Jefferson Area Children's Health Improvement Program (CHiP)	Greene Care Clinic
Sentara Martha Jefferson Medical Group—Multiple Sites	Greene County DSS
Sin Barreras	Greene Health Department
	Region Ten
Charlottesville	**Louisa**
Charlottesville/Albemarle Health Department	CHiP
Charlottesville DSS	Health & Wellness Center of Louisa
CHiP	JABA
JABA	Louisa County Department of Human Services
Neighborhood Family Health Center	Louisa Health Department
	Sentara Spring Creek Family Medicine
	Vets of Louisa
Fluvanna	**Nelson**
CHiP	Blue Ridge Medical Center
Fluvanna County DSS	Nelson Health Department
Fluvanna County Library	Region Ten
Fluvanna Health Department	Sentara Afton Family Medicine
JABA	
Region Ten	
Union Baptist Church	

Table 4 | Partner Locations by Locality, 2016.

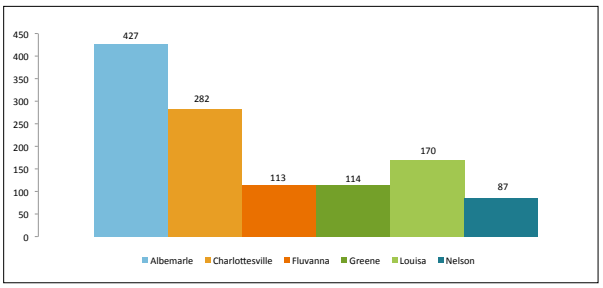


Figure 3 | Number of Online Surveys Collected by Locality, May–June 2016.

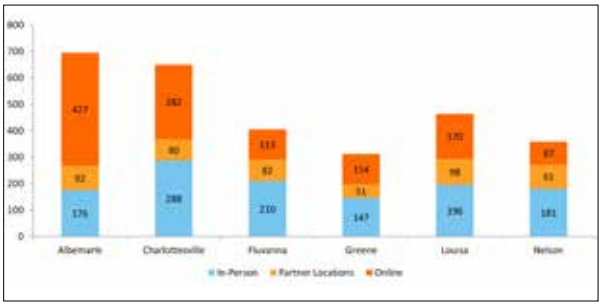


Figure 4 | Total Respondents by Survey Method and Locality, 2016.

data analysis. Several respondents answered Q2 but not Q3, or Q3 but not Q2. Answering both questions was not considered a requirement of the survey; therefore, these surveys were included in the analysis.

CTSA Results

Question 1 / *Participation by Locality*

Overall, 2,885 PD10 residents completed the survey: 695 residents from Albemarle, 650 from Charlottesville, 405 from Fluvanna, 312 from Greene, 464 from Louisa, and 359 from Nelson. The total includes 126 people who completed the survey in Spanish. Additionally, Spanish-speakers completed 18 surveys at partner locations, and 13 residents completed the survey online in Spanish. While every effort was made to offer respondents the correct survey based on the locality the respondent lived in, 184 surveys were completed for the wrong locality at in-person survey events and at partner locations. Thus, those surveys were not included in the analysis. Figure 4 shows the total number of respondents by survey method in each locality.

Question 2 / *Healthy Strengths*

Q2—"What makes your community a healthy place to live?"—helps identify the "healthy strengths" themes of a particular community. Table 5 provides the top five healthy strengths by locality, while Table 6 provides the number of PD10 localities in which a particular indicator is ranked within the top five strengths. In other words, Table 6 shows the common healthy strengths identified across PD10. Figures 5–10 show the breakdown of total responses for each healthy strength listed under Q2 for each locality.

Survey respondents from all six PD10 localities selected healthcare and the outdoors as two of

Rank	Albemarle	Charlottesville	Fluvanna	Greene	Louisa	Nelson
1	Healthcare	Healthcare	Outdoors	Local schools	Outdoors	Outdoors
2	Outdoors	Food options	Recreation	Outdoors	Spiritual life	Healthcare
3	Food options	Outdoors	Spiritual life	Spiritual life	Healthcare	Recreation
4	Recreation	Safe streets	Local schools	Healthcare	Local schools	Food options
5	Culture and Arts	Culture and Arts	Healthcare	Safe streets	Recreation	Local schools Spiritual life

Table 5 | Top Five Healthy Strengths by Locality, 2016.

Indicator	# of PD10 localities in which the indicator is ranked within top five
Outdoors	6
Healthcare	6
Recreation	4
Spiritual life	4
Food options	3
Local schools	3
Culture and Arts	2
Safe streets	2

Table 6 | Healthy Strengths Commonalities across PD10, 2016.

their communities' best strengths. Both Albemarle and Charlottesville consider healthcare to be their number one strength. The more rural localities chose outdoors as their first- or second-ranked strength. The next most popular responses included recreation and spiritual life, which ranked in the top five responses for four of the localities.

Question 3 / *Opportunities for Improvement*

Q3—"What should your community improve?"—helps identify opportunities for improvement in a particular community. Table 7 provides the top five areas for improvement by locality, while Table 8 shows the common areas for improvement identified across PD10. Figures 11–16 show the breakdown of total responses for each potential improvement area listed under Q3 for each locality.

Survey respondents from all six PD10 localities selected children and youth services as a top area for improvement, and respondents from five localities identified mental healthcare services and alcohol and drug misuse prevention as top priorities for improvement. Aging services and obesity prevention were highly ranked priorities in three of the six localities.

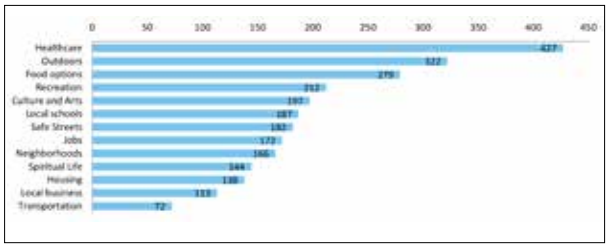


Figure 5 | Albemarle—Q2 Healthy Strengths, 2016.

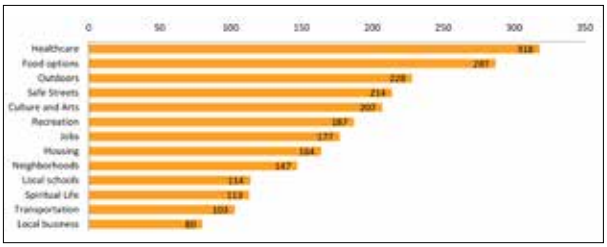


Figure 6 | Charlottesville—Q2 Healthy Strengths, 2016.

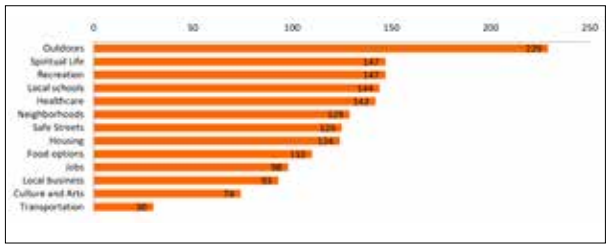


Figure 7 | Fluvanna—Q2 Healthy Strengths, 2016.

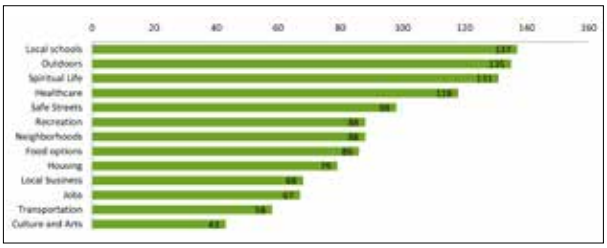


Figure 8 | Greene—Q2 Healthy Strengths, 2016.

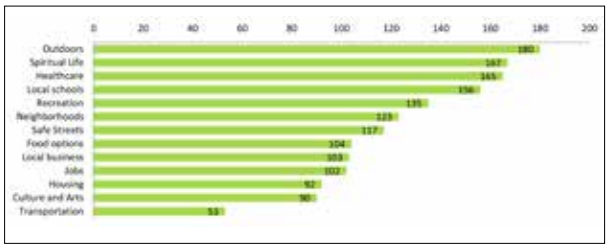


Figure 9 | Louisa—Q2 Healthy Strengths, 2016.

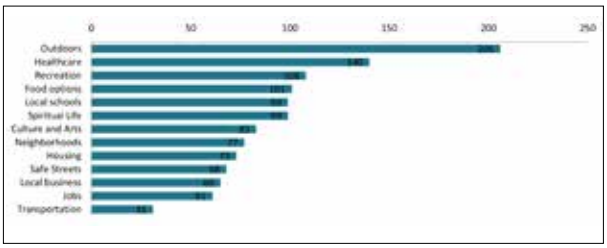


Figure 10 | Nelson—Q2 Healthy Strengths, 2016.

Rank	Albemarle	Charlottesville	Fluvanna	Greene	Louisa	Nelson
1	Mental health care	Mental healthcare	Children and youth services	Job opportunities	Job opportunities	Children and youth services
2	Obesity prevention	Housing	Aging services	Children and youth services	Children and youth services	Aging services
3	Children and youth services	Alcohol and drug abuse prevention	Transpor-tation	Alcohol and drug abuse prevention	Alcohol and drug abuse prevention	Transpor-tation
4	Aging services	Children and youth services	Mental healthcare	Obesity prevention	Medical care access	Alcohol and drug abuse prevention
5	Alcohol and drug abuse prevention	Education	Obesity prevention	Mental healthcare	Mental healthcare	Medical care access

Table 7 | Top 5 Areas Identified for Improvement, by PD10 Locality, 2016.

Indicator	# of PD10 localities in which the indicator is ranked within top five
Children and youth services	6
Mental healthcare	5
Alcohol and drug abuse prevention	5
Aging services	3
Obesity prevention	3
Transportation	2
Job opportunities	2
Medical care access	2
Housing	1
Education	1

Table 8 | Areas for Improvement, Commonalities across PD10, 2016.

CTSA Survey Limitations

The data from this survey are the result of a convenience sample, not a statistically significant or representative sample of the local population. While best efforts were made to survey a broad spectrum of community members in each locality, the results do not identify whether the sample is diverse or representative of the residents living in PD10.

Due to the survey design method of tasking each locality CHA Council to determine the final answer choices for Q3 ("What should your community improve?"), not all respondents across PD10 had the same access to all answer choices. For example, respondents in Albemarle were not given the answer choice of "job opportunities" and respondents in Greene were not given the answer choice of "aging services" to choose from. Respondents were allowed to write in comments on the paper survey, and an "other" comment option was available to those who completed the online version of the survey. The collated comments and write-ins for each locality were included in a CTSA Results handout shared with each locality's CHA Council as well as with the MAPP Leadership Council.

CTSA Summary of Results

The majority of the CTSA respondents believe that healthcare options, the outdoors, recreational opportunities, and spiritual life help to keep PD10 communities healthy.

Survey respondents in all six localities perceive that children and youth services need improvement. Additionally, respondents from five of the six localities believe alcohol and drug misuse prevention and treatment services and access to mental health services need improving. Aging services and obesity prevention were perceived as

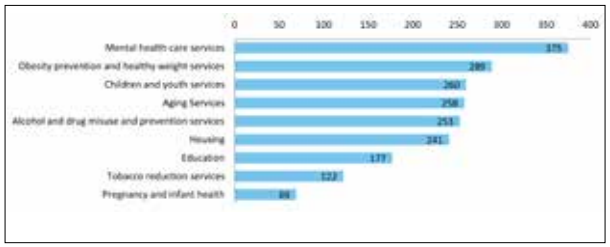


Figure 11 | Albemarle—Q3 Areas for Improvement, 2016.

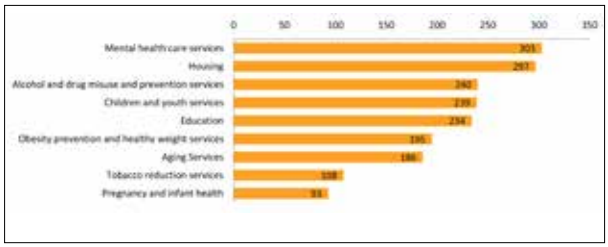


Figure 12 | Charlottesville—Q3 Areas for Improvement, 2016.

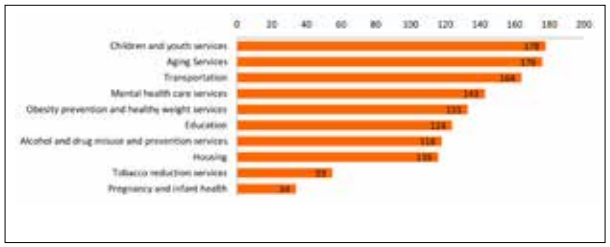


Figure 13 | Fluvanna—Q3 Areas for Improvement, 2016.

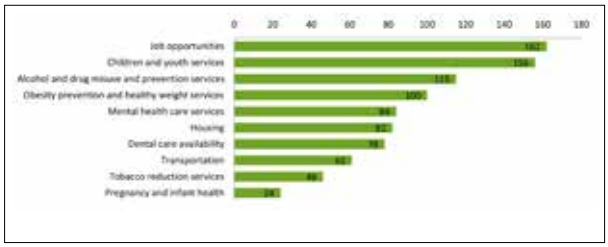


Figure 14 | Greene—Q3 Areas for Improvement, 2016.

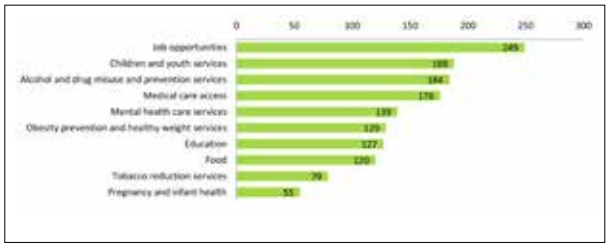


Figure 15 | Louisa—Q3 Areas for Improvement, 2016.

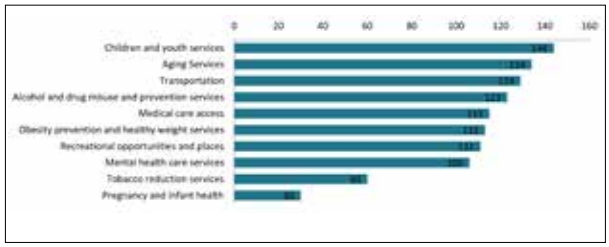


Figure 16 | Nelson—Q3 Areas for Improvement, 2016.

needing improvement in three of six localities.

As the only assessment in the MAPP process intended to directly communicate with community members to obtain their perspectives on health, NACCHO states that:

> The information gathered during this phase will feed into the Identify Strategic Issues Phase of the MAPP process […] By including Community Themes and Strengths in the MAPP process, two benefits are gained. First, community members become more vested in the process when they have a sense of ownership and responsibility for the outcomes. This occurs when their concerns are genuinely considered and visibly affect the process. Second, the

themes and issues identified here offer insight into the information uncovered during the other (three) assessments.[2]

The CTSA results offered the MAPP Leadership Council and locality CHA Councils insights into community perspectives both on their individual communities' strengths and on opportunities for improvement in their communities. The CHA Councils heard presentations on the CTSA results for their locality and received a locality-specific results handout that included the collated comments and write-ins for their communities' respondents. The Leadership Council reviewed the district-wide survey results as well as individualized handouts for each locality. All Councils considered the identified strengths and priority areas for improvement from the CTSA, along with the results from the other three MAPP assessments, when selecting the final community health priorities for inclusion in the Community Health Improvement Plan.

Endnotes

[1] National Association of County and City Health Officials. (2016). Community Themes and Strengths Assessment (CTSA). Retrieved October 24, 2016 from *http://archived.naccho.org/topics/infrastructure/mapp/framework/phase3ctsa.cfm*

[2] National Association of County and City Health Officials. (2016). Community Themes and Strengths Assessment (CTSA). Retrieved October 24, 2016 from *http://archived.naccho.org/topics/infrastructure/mapp/framework/phase3ctsa.cfm*

Appendices

Appendix 1 | CHA Councils, Leadership Council, and Core Group Participating Organizations

Charlottesville/ Albemarle CHA Council

Albemarle Department of Social Services

Albemarle Fire and Rescue

Boys and Girls Club of Central Virginia

Central Virginia Health Services, Inc.

Charlottesville City Council

Charlottesville City Manager's Office

Charlottesville Department of Social Services

Charlottesville Fire Department

Charlottesville Free Clinic

Charlottesville Human Services

Charlottesville / Albemarle Health Department

City of Promise

Community Mental Health and Wellness Coalition

Improving Pregnancy Outcomes Workgroup

On Our Own

ReadyKids

Region Ten Community Services Board

Sentara Martha Jefferson Hospital

The Bridge Performing Arts Initiative

The Planning Council

The Senior Center, Inc.

Thomas Jefferson Health District

Thomas Jefferson Health District Medical Reserve Corps

University of Virginia Department of Public Health Sciences

University of Virginia Family Medicine

University of Virginia Health System

Virginia Cooperative Extension

Virginia Department of Housing and Community Development

Fluvanna CHA Council

Fluvanna County Adult Education / Fluvanna Families Learning Together

Fluvanna County Board of Supervisors

Fluvanna County Department of Social Services

Fluvanna County Health Department

Fluvanna County Public Schools

JAUNT, Inc.

Jefferson Area Children's Health Improvement Program (CHiP)—Fluvanna

Monticello Area Community Action Agency (MACAA)—Fluvanna

Region Ten Community Services Board—Fluvanna

Sentara Martha Jefferson Hospital

Sexual Assault Resource Agency (SARA)

The Planning Council

Thomas Jefferson Health District

University of Virginia Department of Public Health Sciences

Greene CHA Council

Blue Ridge Program of All-Inclusive Care for the Elderly (PACE)

Coffeewood Correctional Center

Commonwealth's Attorney—Greene

Community Members

Emmanuel Christian Center

Feeding Greene, Inc.

Greene County Board of Supervisors

Greene County Department of Social Services

Greene County Health Department

Greene County Public Schools

Greene County Sheriff's Office

Jefferson Area Board for the Aging (JABA)

Offender Aid and Restoration-Jefferson Area Community Corrections—Greene

Region Ten Community Services Board—Greene

Sentara Martha Jefferson Hospital

Sexual Assault Resource Agency (SARA)

Skyline Community Action Partnership (CAP)

Stanardsville Area Revitalization (STAR)

The Gate of Heaven

The Planning Council

Thomas Jefferson Health District

University of Virginia Department of Public Health Sciences

Virginia Department for Aging and Rehabilitative Services

Virginia Department of Corrections Probation/ Parole

Youth Development Council

Louisa CHA Council

Being Fit After Kids

Community Members

Health & Wellness Center of Louisa

Healthy 4 Life

Jefferson Area Board for Aging (JABA)—Louisa

Jefferson Area Children's Health Improvement Program (CHiP)—Louisa

Louisa County Board of Supervisors

Louisa County Children's Services Act

Louisa County Department of Human Services

Louisa County Parks, Recreation, and Tourism

Louisa County Resource Council

Louisa Veterinary Service

Open Knowledge Collaborative

Region Ten Community Services Board—Louisa

Sentara Martha Jefferson Hospital

Speak out Against Domestic Abuse

The Planning Council

Thomas Jefferson Health District

University of Virginia Department of Public Health Sciences

University of Virginia School of Nursing

Virginia Cooperative Extension—Louisa

Virginia Department of Housing and Community Development

Nelson CHA Council

American Red Cross of Central Virginia

Bank On of Greater Charlottesville

Blue Ridge Medical Center

Blue Ridge Program of All-Inclusive Care for the Elderly (PACE)

Community Investment Collaborative

JAUNT, Inc.

Jefferson Area Board for Aging (JABA)—Nelson

Monticello Area Community Action Agency (MACAA)—Nelson

Nelson County Community Fund

Nelson County Department of Social Services

Nelson County Health Department

Nelson County Memorial Library

Nelson County Parks & Recreation

Region Ten Community Services Board—Nelson

RideShare / Thomas Jefferson Planning District Commission

Rockfish Valley Community Center

Sentara Afton Family Medicine

Sentara Martha Jefferson Hospital

Sexual Assault Resource Agency (SARA)

The Planning Council

Thomas Jefferson Health District

University of Virginia Department of Public Health Sciences

Virginia Cooperative Extension—Nelson

MAPP2Health Leadership Council

ACAC Fitness and Wellness

Albemarle County Public Schools Community Engagement

Albemarle Department of Social Services

Alzheimer's Association

Blue Ridge Medical Center

Boys and Girls Club of Central Virginia

Central Virginia Health Services, Inc.

Charlottesville Albemarle Technical Education Center (CATEC)

Charlottesville Area Community Foundation

Charlottesville Department of Social Services

Charlottesville Free Clinic

Charlottesville/Albemarle CHA Council

Charlottesville/Albemarle Coalition for Healthy Youth

Charlottesville City Staff

Charlottesville City Council

Community Health Workers

Community Members

Community Mental Health & Wellness Coalition

Fluvanna Board of Supervisors

Fluvanna Interagency and Community Health Assessment Council

Monticello Area Community Action Agency (MACAA)—Fluvanna

Greene Agencies Coming Together and Community Health Assessment Council

Healthy 4 Life

Improving Pregnancy Outcomes Work Group

International Rescue Committee

JAUNT, Inc.

Jefferson Area Board for Aging (JABA)

Jefferson Area Children's Health Improvement Program (CHiP)

Louisa Board of Supervisors

Louisa Interagency & Community Health Assessment Council

Move2Health Coalition

Mt. Zion First African Baptist Church

Nelson Interagency and Community Health Assessment Council

Open Knowledge Collaborative

Performance Impact Consulting

Piedmont Virginia Community College (PVCC)

Region Ten Community Services Board

ROSMY

Sentara Afton Family Medicine

Sentara Martha Jefferson Hospital

Sin Barreras

The Planning Council

The Senior Center, Inc.

The Women's Initiative

Thomas Jefferson Area Coalition for the Homeless

Thomas Jefferson Area United Way

Thomas Jefferson Health District

Tobacco-Free Community Coalition

University of Virginia Cancer Center

University of Virginia Department of Public Health Sciences

University of Virginia Family Medicine

University of Virginia Medical Center

University of Virginia Office of Diversity and Equity

University of Virginia School of Nursing

Virginia Cooperative Extension

MAPP2Health Core Group

Sentara Martha Jefferson Hospital

Thomas Jefferson Health District

University of Virginia Department of Public Health Sciences

University of Virginia Health System

Appendix 2 | CHA Data Sources

Organization	Division/Subunit	Topics	Sections
Annie E. Casey Foundation		Maternal Characteristics	I
Blue Ridge Medical Center		Obesity	II
Blue Ridge Poison Control Center		Poisonings	III
Bureau of Labor Statistics		Socioeconomic Data	I
Census Bureau (United States)	American Community Survey	Education and Literacy Food Access	I
	American FactFinder	Food Access	II
	County Business Patterns	Recreational Facilities	II
	Small Area Health Insurance Estimates	Insurance	I
	Small Area Income and Poverty Estimates	Socioeconomic Data	I
		Population	I
Centers for Disease Control and Prevention	Behavioral Risk Factor Surveillance System	Behavioral Risk Factors Eating Habits Hospital Discharges Mental Health Obesity Physical Activity Smoking Rate	II, III
	National Center for Health Statistics	Cancer Data Infant Mortality Maternal Health Mortality Population Teen Pregnancy	I, II
Charlottesville Free Clinic		Dental Health Medical Providers	I
Charlottesville Works Initiative	Orange Dot Report	Socioeconomic Data	I
Community Dental Center		Dental Health	I
Community Obesity Task Force		Obesity	II

Organization	Division/Subunit	Topics	Sections
County Health Rankings		Environmental Health Mental Health Physical Activity Recreational Facilities	II, III
Community Commons		Transportation Healthcare Utilization Tobacco, Alcohol, and Drugs Chronic Diseases, Hospitalizations, and ED Visits Dental Health	II, III
Department of Agriculture (United States)	Food Environment Atlas	Food Access Food Store Type	II
Department of Education (Virginia)	Charlottesville and Albemarle School System	Obesity	II
	Food Stamp Participation Report	Socioeconomic Data	I
	Public School Divisions	Socioeconomic Data	I
	School Climate Reports	Violence in Schools	II
		Education and Literacy Persons with Disabilities	I
Department of Health (Virginia)	Behavioral Risk Factor Surveillance System	Behavioral Risk Factors Eating Habits Hospital Discharges Mental Health Obesity Physical Activity Smoking Rate	II, III
	Data Warehouse	Hospital Discharges	III
	Division of Health Statistics	Birthing Data Emergency Services Induced Terminations Infant Mortality Maternal Characteristics Mortality Paternal Characteristics Perinatal Mortality Population Prenatal Care Sudden Infant Death Syndrome Teen Pregnancy	I, III

Organization	Division/Subunit	Topics	Sections
Department of Health (Virginia)	Division of Policy and Evaluation	Eating Habits Obesity Physical Activity	II
	Division of Prevention and Health Promotion	Motor Vehicle Data	III
	Emergency Medical Services	Seat Belt Use	II
	Lead-Safe Virginia Summary Surveillance	Environmental Health	II
	Office of the Chief Medical Examiner	Family and Intimate Partner Violence	II
	Office of Epidemiology	Communicable Diseases	III
	Office of Family Health Services	Hospital Discharges Induced Terminations Maternal Characteristics Obesity Preterm Births	I, III
	On-Line Injury Reporting System	Hospitalizations Injury Data	III
	Student Immunization Survey	Immunization Rates	II
	Thomas Jefferson Health District	District Staffing Obesity	I, II
	Virginia Cancer Registry	Cancer Data	III
		Maternal Characteristics Smoke-Free Restaurants	I, III
Department of Medical Assistance Services (Virginia)	Virginia Smiles for Children	Dental Health	I
Department of Motor Vehicles (Virginia)	Highway Safety Office	Seat Belt Use	II
		Motor Vehicle Data	III
Department of Social Services (Virginia)		Abuse and Neglect Child Care Maternal Characteristics Smoke-Free Restaurants	I
Department of State Police (Virginia)	Virginia Uniform Crime Reporting System	Crime Domestic Violence DUI and Narcotics	II

Organization	Division/Subunit	Topics	Sections
Environmental Protection Agency		Environmental Health	II
Greene County Transit		Transportation	II
JAUNT	Ridership Report	Transportation	II
Region Ten		Mental Health	I, III
Social Security Administration		Persons with Disabilities	I
Stream Watch		Environmental Health	II
Substance Abuse and Mental Health Services Administration	Mental Health National Outcome Measures	Mental Health	III
Thomas Jefferson Area Coalition for the Homeless		Homelessness	I
Thomas Jefferson Planning Commission		Impaired Streams	II
Virginia Workforce Connection		Socioeconomic Data	I
Weldon Cooper Center for Public Service	Demographics and Workforce Group	Population	I
		Motor Vehicle Data	III