Community Health Needs Assessment

Prepared for
SHENANDOAH MEMORIAL HOSPITAL
of Valley Health

By
VERITÉ HEALTHCARE CONSULTING, LLC

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ABOUT VERITÉ HEALTHCARE CONSULTING

Verité Healthcare Consulting, LLC (Verité) was founded in May 2006 and is located in Alexandria, Virginia. The firm serves as a national resource that helps hospitals conduct community health needs assessments and develop implementation strategies that address priority needs. The firm also helps hospitals, associations, and policy makers with community benefit reporting, planning, program assessment, and policy and guidelines development. Verité is a recognized, national thought leader in community benefit and in the evolving expectations that tax-exempt healthcare organizations are being required to meet.

The community health needs assessment prepared for Shenandoah Memorial Hospital was directed by the firm's Vice President and managed by a senior-level consultant. Associates and research analysts supported the work. The firm's senior-level consultants and associates hold graduate degrees in relevant fields.

More information on the firm and its qualifications can be found at www.VeriteConsulting.com

Verité Healthcare Consulting's work reflects a fundamental goal to assist in strengthening the health of communities and vulnerable populations, and the organizations that serve them

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EXECUTIVE SUMMARY

Introduction

This community health needs assessment (CHNA) was conducted by Shenandoah Memorial Hospital (Shenandoah or the hospital) to identify community health needs and to inform the development of an implementation strategy to address identified priority needs. The hospital's assessment of community health needs also responds to emerging regulatory requirements.

Federal regulations require that tax-exempt hospital facilities conduct a CHNA every three years and develop an implementation strategy that addresses priority community health needs. Tax-exempt hospitals also are required to report information about community benefits they provide on IRS Form 990, Schedule H. As specified in the instructions to IRS Form 990, Schedule H, community benefits are programs or activities that provide treatment and/or promote health and healing as a response to identified community needs.

Community benefit activities and programs seek to achieve several objectives, including:

- improving access to health services,
- enhancing public health,
- advancing increased general knowledge, and
- relief of a government burden to improve health.[1]

To be reported, community need for the activity or program must be established. Need can be established by conducting a community health needs assessment.

The 2010 Patient Protection and Affordable Care Act (PPACA) requires each tax-exempt hospital to "conduct a [CHNA] every three years and adopt an implementation strategy to meet the community health needs identified through such assessment."

CHNAs seek to identify priority health status and access issues for particular geographic areas and populations by focusing on the following questions:

- ***Who*** in the community is most vulnerable in terms of health status or access to care?
- ***What*** are the unique health status and/or access needs for these populations?
- ***Where*** do these people live in the community?
- ***Why*** are these problems present?

The question of how the organization can best use its limited charitable resources to address priority needs will be the subject of the hospital's separate implementation strategy.

[1] Instructions for IRS form 990 Schedule H, 2012.

Methodological Summary

Community health needs were identified by collecting and analyzing data and information from multiple sources. Statistics for numerous health status, health care access, and related indicators were analyzed, including comparisons to benchmarks where possible. The principal findings of recent health assessments conducted by other organizations were reviewed, as well.

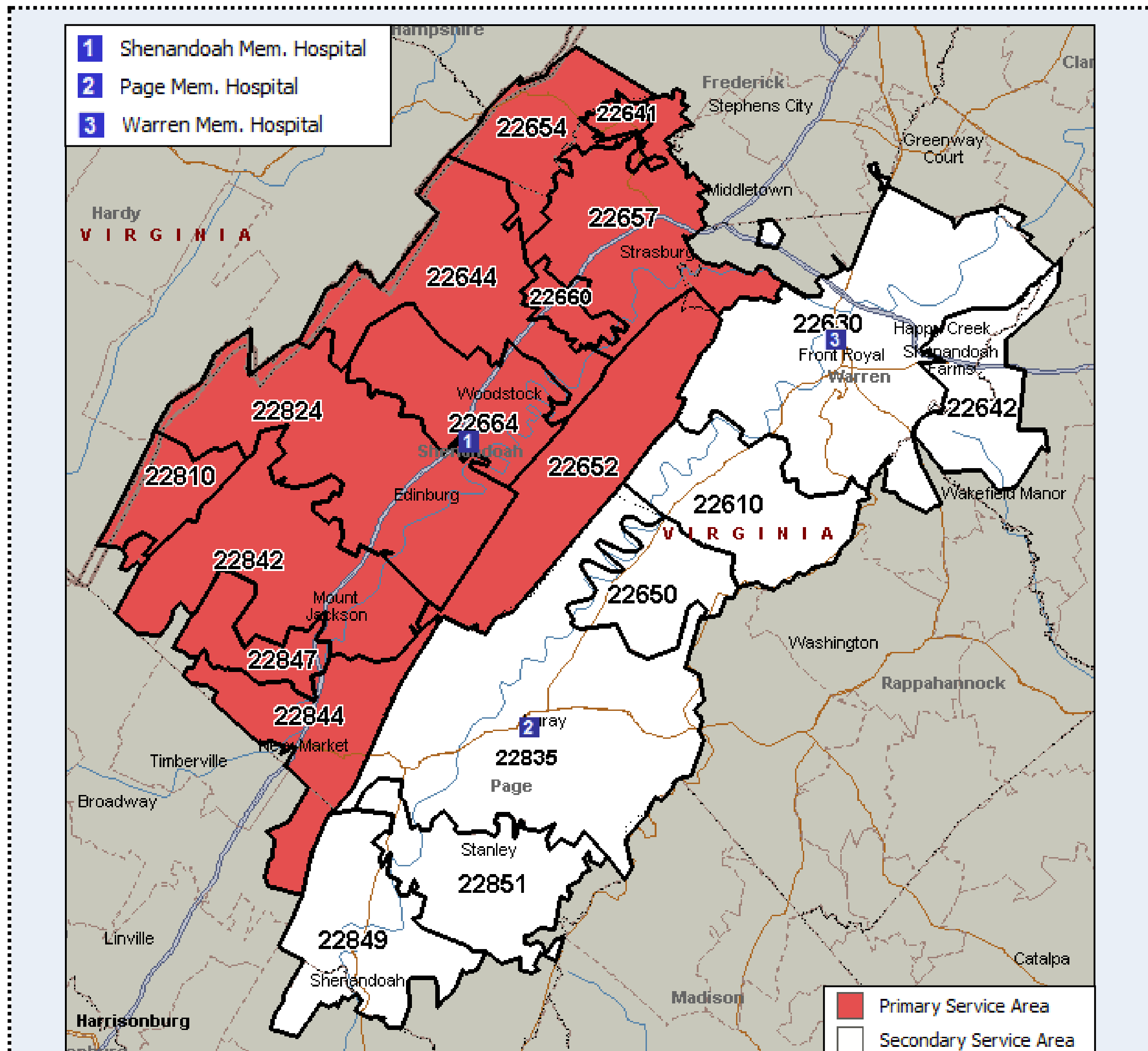
Input from persons representing the broad interests of the community, including individuals with special knowledge of or expertise in public health, were taken into account via interviews and a community response session with 72 key informants and a community survey with 267 respondents.

Verité applied a ranking methodology to help prioritize the community health needs identified, incorporating both quantitative and qualitative data throughout. Scores for the severity and scope of identified health needs were assigned and calculated using weighted averages taking into account multiple data sources. Major themes discussed in the community response session were compared to the scored health issues to aid in identifying the prioritized list of health needs.

No information gaps have affected the hospital's ability to reach reasonable conclusions regarding priority community health needs.

Shenandoah Memorial Hospital collaborated with the other Valley Health hospitals for this assessment: Hampshire Memorial Hospital, Page Memorial Hospital, War Memorial Hospital, Warren Memorial Hospital, and Winchester Medical Center.

Definition of the Community



Shenandoah Memorial Hospital Community by the Numbers

- Community includes three counties in Virginia: Shenandoah, Page, and Warren
- Total population in 2013: 103,927
- Projected population change between 2013 and 2018: 2.3%
- Comparatively high unemployment rates and pockets of poverty in Shenandoah and Page Counties
- 89.8% of inpatient discharges and 90.0% of emergency department visits originated from the community
- Demographics:
  - Projected growth of 15% in 65+ population
  - 92% White in 2013, with projected growth in non-White populations
  - Comparatively low rates of high school graduation

Prioritized Description of Community Health Needs

The CHNA identified and prioritized several community health needs using the data sources, analytic methods, and prioritization process and criteria described in the Methodology section. These needs are listed below in priority order and described on the following pages, with examples of the data supporting the determination of each health need as a priority. Further detail regarding supporting data, including sources, can be found in the CHNA Data and Analysis section of this report.

List of Prioritized Health Needs

1. Access to Primary and Specialty Health Care
2. Mental and Behavioral Health
3. Substance Abuse and Tobacco Smoking
4. Physical Activity, Nutrition, and Obesity-related Chronic Diseases
5. Financial Hardship and Basic Needs Insecurity
6. Oral Health and Dental Care

To provide insight into trends, a comparison to findings from Shenandoah Memorial Hospital's July 2010 CHNA is included below the description and key findings of each priority need.

1. Access to Primary and Specialty Health Care

Access to primary and specialty health care services through a doctor's office, clinic or other appropriate provider is an important element of a community's health care system, and is vital for helping the community's residents to be healthy. The ability to access care is influenced by many factors, including insurance coverage and the ability to afford services, the availability and location of health care providers, and reliable personal or public transportation.

Key Findings

- The number of primary care physicians per 100,000 population is below the Virginia average in all three counties according to the Health Resources and Services Administration. Page County is a Health Professional Shortage Area (HPSA) for primary care.
- The entire service area ranked in the bottom half of all Virginia counties for "access to care" in the County Health Rankings.
- Every county had higher percentages of uninsured residents than the Virginia average, according to the U.S. Census. Shenandoah and Page Counties had higher percentages of uninsured residents than the U.S.
- Concerns about access to care were the most frequently mentioned factor contributing to poor health in key informant interviews.

- Lack of accessible or reliable transportation to health care and a lack of providers who accept new Medicaid and even Medicare patients were the most frequently mentioned specific access to care issues in interviews, especially for low-income individuals and senior citizens.
- Twenty percent of survey respondents reported not being able to always get needed primary care, and 36 percent reported not being able to always get needed specialty care.

Comparison to July 2010 CHNA: Access to affordable health care, including to specialists, was one of the priority issues identified in Shenandoah's July 2010 CHNA, for reasons including: a lack of providers relative to the population and the existence of Health Professional Shortage Areas; affordability and uninsurance; and the challenges of unemployment and low income, including transportation barriers.

2. Mental and Behavioral Health

Mental and behavioral health includes both mental health conditions (e.g., depression, autism, bi-polar) and behavioral problems (e.g., bullying, suicidal behavior). Poor mental and behavioral health causes suffering for both those afflicted and the people around them. It can negatively impact children's ability to learn in school, and adults' ability to be productive in the workplace and to provide a stable and nurturing environment for their families. Poor mental or behavioral health frequently contributes to or exacerbates problems with physical health and illness.

Key Findings

- Shenandoah and Page Counties are HPSAs for mental health.
- The suicide rates in Shenandoah, Page, and Warren Counties were worse than the Virginia average, according to the state health department.
- Mental and behavioral health was the most frequently mentioned health status issue by key informant interview participants. Interviewees generally reported that the community's mental health needs have risen, while mental health service capacity has not.
- Interview participants described a wide range of mental health issues, including for example: bullying among youth, autism spectrum symptoms and diagnoses, depression among senior citizens, adult and family stress and coping difficulties, a lack of affordable outpatient mental health professionals, and a lack of local inpatient treatment facilities. Interviewees also noted frequent dual diagnoses of mental health problems and substance abuse.
- Mental health was among the top ten most frequently mentioned "top health-related issues" in the community by survey respondents, and 43 percent answering a question about mental health care said they rarely or never could get needed care.

Comparison to July 2010 CHNA: Mental health care was one of the priority issues identified in Shenandoah's July 2010 CHNA, for reasons including: the presence of mental health HPSAs in the community; unfavorable suicide rates compared to the commonwealth's average; frequent

mentions by interview participants of both mental health needs and a lack of treatment options; mental health as the most frequently mentioned community resource need in the survey; and focus groups identifying substance abuse and mental health as the second highest health priority.

3. Substance Abuse and Tobacco Smoking

Substance abuse includes the use of: illicit substances (e.g., cocaine, heroin, methamphetamine, and marijuana); misuse of legal over-the-counter and prescription medications; and abuse of alcohol. Substance abuse affects not only the abusing individuals, but also those around them with negative impacts on health, safety and risky behaviors, risks of violence and crime, adults' productivity, students' ability to learn, and families' ability to function. Tobacco smoking is well-documented to be a risk factor for various forms of cancer, heart disease and other ailments, and to pose health risks for those exposed to secondhand smoke.

Key Findings

- Rates of adult tobacco use in Shenandoah and Warren Counties place them in the bottom (worst) half of counties in Virginia, according to County Health Rankings. An indicator of excessive drinking and motor vehicle crash death rates places Page County in the bottom (worst) quarter of Virginia county rankings.
- Substance abuse was the second most frequently mentioned health status issue by key informant interview participants, and was portrayed as both growing and serious. Interviewees reported recent increases in the abuse of prescription pain medications, including "pill parties" among youth and drug-seeking behavior in physicians' offices and hospital emergency departments. Abuse of over-the-counter medications by youth was mentioned, as well.
- Interviewees cited a lack of local treatment services, particularly inpatient facilities, for people with substance abuse problems. Some interviewees reported that substance abuse and addiction among pregnant women is creating more perinatal and neonatal health problems. As noted above for mental health needs, dual diagnoses of substance abuse and mental health problems are not uncommon.
- Tobacco and substance abuse were two of the five most frequently mentioned "top health-related issues" in the community by survey respondents.

<u>Comparison to July 2010 CHNA</u>: Substance abuse was one of the priority issues identified in Shenandoah's July 2010 CHNA, for reasons including: alcohol use as reported by County Health Rankings; mentions by interviewees of increasing substance abuse and tobacco use, especially among adolescents; substance abuse as a top resource need in the survey; and focus groups identifying substance abuse and mental health as the second highest health priority.

4. Physical Activity, Nutrition, and Obesity-related Chronic Diseases

A lack of physical activity and poor nutrition are contributing factors to overweight and obesity, and to a wide range of health problems and chronic diseases among all age groups, including high cholesterol, hypertension, diabetes, heart disease, stroke, some cancers, and more.

Nationally, the increase in both the prevalence of overweight and obesity and associated chronic diseases is well-documented, and has negative consequences for individuals and society. Low-income and poverty often contributes to poor nutrition and to hunger.

Key Findings

- Fourteen schools in the Shenandoah community, located in every county, had 40 percent or more of their students eligible for free and reduced-price lunches, indicating risks of poor nutrition and hunger.
- In key informant interviews, obesity and overweight was the fourth most frequently mentioned health status issue as being important to the community, and diabetes was the most frequently mentioned chronic disease.
- Commenting on the contributing factors to poor health status, interview participants mentioned nutrition and diet, low physical activity and exercise, and food insecurity and hunger all in the top ten. Many commented on both the relative lack of affordable, healthy food choices in some parts of the community. Obesity was reported to be rising among children and youth.
- In the survey, obesity and diabetes were the second and third most frequently mentioned "top health-related issues" in the community; heart disease and poor dietary choices were in the top ten.
- In the survey, 38.2 percent of respondents reported not being physically active, 40.8 percent reported eating less than the recommended amount of fruit, and 68.9 percent reported eating less than the recommended amount of vegetables.

Comparison to July 2010 CHNA: Physical activity, nutrition, and obesity-related chronic diseases were not one of the top health priority areas identified in Shenandoah's July 2010 CHNA, but chronic disease and obesity were among the top seven health status issues reported in that assessment's survey. The need for health education and outreach programs that focus on healthy habits was the top theme from the 2010 assessment's focus groups. Participants in key informant interviews in 2013 reported obesity prevalence now being as bad as or worse than two to three years ago.

5. Financial Hardship and Basic Needs Insecurity

Income levels, employment and degrees of economic self-sufficiency are known to be highly correlated with the prevalence of a range of health problems and factors that contribute to poor health. People with lower income or who are unemployed or underemployed are less likely to have health insurance or to be able to afford health care expenses paid out-of-pocket. Lower income is also associated with increased difficulties securing reliable transportation, including to medical care visits, and with the ability to purchase an adequate quantity of healthy food on a regular basis. For these and other reasons, the assessment identified financial hardship and basic needs insecurity as a priority health need in the community.

Key Findings

- The community as a whole has experienced a 25 percent increase in the percentage of households with incomes under $25,000 since 2009. Twenty-seven percent of households in the community had incomes less than $25,000 in 2013.
- Every county had higher percentages of uninsured residents than the Virginia average, according to the U.S. Census. Shenandoah and Page Counties had higher percentages of uninsured residents than the U.S.
- Governmental budgets at the state level for health and public health-related services were declining, while county-level public budgets in the community demonstrated a mix of reductions and modest increases.
- Low income and poverty was the second most noted issue believed by participants in key informant interviews to be contributing to poor health status. Other income-related factors noted to be contributing to poor health include difficulty with transportation access, food insecurity and hunger, and homelessness.
- The economic downturn of the past several years was mentioned by interview participants as taking a toll on health in numerous ways, reducing access to health care and the ability to maintain a healthy lifestyle, and increasing stress and social instability.
- In the survey, low income and financial challenges was the most frequently mentioned "top health-related issue" in the community, ahead of every other factor. For survey respondents who reported not being able to always get the care they needed, affordability and a lack of insurance coverage were the most frequently stated reasons.

Comparison to July 2010 CHNA: Financial hardship and basic needs insecurity was not one of the top health priority areas identified in Shenandoah's July 2010 CHNA, but that assessment did note several financial hardship measures relevant to health. The study reported that 19 percent of households in the overall community had annual incomes below $25,000, and that Page County in particular had higher poverty and unemployment rates than other parts of the community, as well as Virginia and the U.S. as a whole.

6. Oral Health and Dental Care

Oral health and dental health care is important for overall health, and poor dental health can have negative social, employment and economic consequences for individuals, as well. Income levels and the presence or lack of insurance coverage for dental care are important determinants of the ability to obtain preventive and restorative dental care.

Key Findings

- All three counties are HPSAs for dental care. These data are affirmed in the County Health Rankings' reported population-to-dentist ratios.
- Virginia eliminated funding for commonwealth-supported dental clinics statewide in FY 2013 and FY 2014.

- Oral health and dental care was the fourth most frequently mentioned health status issue by key informant interview participants. The issue was discussed in terms of poor dental hygiene, tooth decay in children and youth in addition to adults, and a lack of affordable, preventive dental health services.
- Interview participants stated access to dental care is very difficult for low income and uninsured individuals, particularly in less populated areas. In addition to private practice dentists, some clinics offer dental services, but some are able to perform extractions only.
- Interview and community response session participants noted that Medicaid covers dental care only for children and youth, and that not all dentists accept Medicaid patients. For low income, uninsured adults needing expensive restorative care, tooth extractions are sometimes the only practical option.
- Oral health challenges were reported by interview participants as affecting people across the age spectrum, with some reporting increasing incidence of severe decay among children and others stating that access to dental care – as for access to other care – was particularly difficult for elderly members of the community who may have transportation limitations and be socially isolated.

Comparison to July 2010 CHNA: Oral health and dental care were not one of the top health priority areas identified in Shenandoah's July 2010 CHNA, but Shenandoah, Page and Warren Counties were Health Professional Shortage Areas for dental care in 2010, a lack of dental providers and poor dental health were raised in interviews, and dental care was in the top five community resource needs cited in the survey.

CHNA DATA AND ANALYSIS

METHODOLOGY

Data Sources and Analytic Methods

Community health needs were identified by collecting and analyzing data and information from multiple quantitative and qualitative sources. Considering information from a variety of sources is important when assessing community health needs, to ensure the assessment captures a wide range of facts and perspectives and to assist in identifying the highest-priority health needs.

Statistics for numerous health status, health care access, and related indicators were analyzed, including from local, state, and federal public agencies, community service organizations in the Shenandoah community, and from Valley Health. Comparisons to benchmarks were made where possible. Details from these quantitative data are presented in the report's body, followed by a review of the principal findings of health assessments conducted by other organizations in the community in recent years.

Input from persons representing the broad interests of the community was taken into account via: interviews with 66 key informants in April and May 2013; a community survey with 267 respondents; and one "community response session" with interviewees and 6 additional community stakeholders in June 2013 where preliminary findings were discussed. Interviews and the community response session included: individuals with special knowledge of or expertise in public health; local and state health and other departments, and agencies with current data or information about the health needs of the community; and leaders, representative and members of medically underserved, low-income, and minority populations, and populations with chronic disease needs. Feedback from community response session participants helped to validate findings and prioritize identified health needs.

Prioritization Process and Criteria

Verité applied a ranking methodology to help prioritize the community health needs identified by the assessment, incorporating both quantitative and qualitative data throughout. Scores were calculated for each category of data (secondary data, previous assessments, survey, and interviews) based on the number of sources that measured each health issue and the severity of the issue as measured by the data and as indicated by community input. Scores were averaged and assigned a weight for each data category: 40 percent, 10 percent, 10 percent, and 40 percent, respectively. All identified health issues were assigned scores for severity and scope. Major themes discussed by participants in the community response session were compared to the scored health issues.

Information Gaps

No information gaps have affected the hospital's ability to reach reasonable conclusions regarding priority community health needs.

Collaborating Organizations

Shenandoah Memorial Hospital collaborated with the other Valley Health hospitals for this assessment: Hampshire Memorial Hospital, Page Memorial Hospital, War Memorial Hospital, Warren Memorial Hospital, and Winchester Medical Center.

Shenandoah's internal project team included Mark Merrill, Valley Health President and Chief Executive Officer, and President of Winchester Medical Center; Floyd Heater, President of Shenandoah Memorial Hospital, and Vice President of Valley Health; Wes Williams, Vice President of Marketing and Public Relations; Todd Way, Senior Vice President of Regional Operations; Chris Rucker, Vice President of Community Health and Wellness and President of Valley Regional Enterprises; Tom Urtz, Corporate Director of Marketing and Public Relations; Gregory Hudson, Corporate Director of Planning and Business Development; and Mary Zufall, Community Health Coordinator.

Shenandoah also collaborated with a variety of individuals through Valley Health's five workgroups that focus on access to primary care; health, outreach, and prevention; mental health and substance abuse; family developmental and social health; and the local environment and social work.

Additionally, lists of the interviewees and community response session participants are provided in **Exhibits 51** through **54** of the report.

DEFINITION OF COMMUNITY ASSESSED

This section identifies and describes the community assessed by Shenandoah Memorial Hospital and how it was determined.

Shenandoah's community is comprised of three counties (22 ZIP codes) in Virginia. The hospital's primary service area (PSA) includes Shenandoah County. The secondary service area (SSA) is composed of Page and Warren Counties (**Exhibit 1**). The hospital is located in Woodstock, Virginia.

Exhibit 1: Community Population, 2013

County and Town	Total Population 2013	Percent of Total Population
PSA	**43,823**	**42.2%**
Shenandoah	**43,823**	**42.2%**
Basye	1,048	1.0%
Edinburg	5,987	5.8%
Fisher's Hill	N/A	N/A
Fort Valley	1,385	1.3%
Lebanon Church	340	0.3%
Maurertown	2,219	2.1%
Mount Jackson	4,905	4.7%
New Market	4,428	4.3%
Orkney Springs	42	0.0%
Quicksburg	850	0.8%
Star Tannery	840	0.8%
Strasburg	11,319	10.9%
Toms Brook	1,671	1.6%
Woodstock	8,789	8.5%
SSA	**60,104**	**57.8%**
Page	**23,795**	**22.9%**
Luray	11,800	11.4%
Rileyville	964	0.9%
Shenandoah	5,158	5.0%
Stanley	5,873	5.7%
Warren	**36,309**	**34.9%**
Bentonville	1,988	1.9%
Front Royal	30,057	28.9%
Linden	4,215	4.1%
Middletown	49	0.0%
Total	**103,927**	**100.0%**

Source: Nielsen-Claritas, via Valley Health, 2013.
* Demographic data were unavailable for Fishers Hill.

The Shenandoah community included 103,927 people in 2013

…

The primary service area accounts for 42% of the total community's population

In 2013, the Shenandoah community was estimated to have a population of approximately 103,927. Approximately 42 percent of the population resided in the primary service area (**Exhibit 1**).

Exhibit 2 presents the geographic origins of Shenandoah's inpatients and emergency department encounters.

Exhibit 2: Inpatient and Emergency Department Discharges, 2012

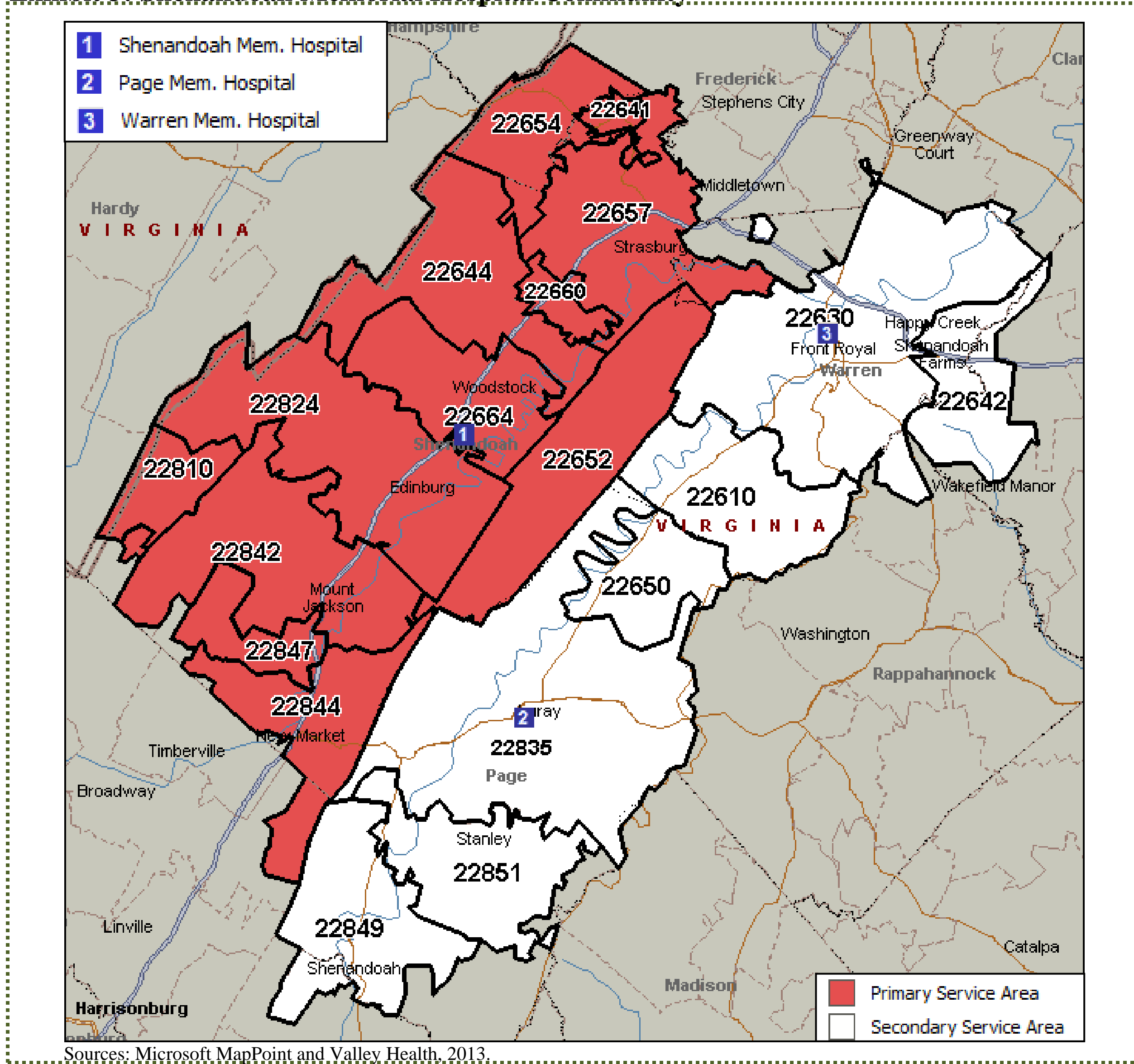
County and Town	Number of Inpatient Discharges	Percent of Inpatient Discharges	Number of ED Discharges	Percent of ED Discharges
PSA	**1,595**	**83.5%**	**17,019**	**88.1%**
Shenandoah	**1,595**	**83.5%**	**17,019**	**88.1%**
Basye	24	1.3%	243	1.3%
Edinburg	323	16.9%	3,179	16.5%
Fisher's Hill	1	0.1%	5	0.0%
Fort Valley	47	2.5%	427	2.2%
Lebanon	4	0.2%	29	0.2%
Maurertown	121	6.3%	927	4.8%
Mount	179	9.4%	2,062	10.7%
New Market	89	4.7%	903	4.7%
Orkney	4	0.2%	13	0.1%
Quicksburg	19	1.0%	278	1.4%
Star Tannery	24	1.3%	133	0.7%
Strasburg	208	10.9%	2,169	11.2%
Toms Brook	68	3.6%	730	3.8%
Woodstock	484	25.3%	5,921	30.6%
SSA	**121**	**6.3%**	**372**	**1.9%**
Page	**86**	**4.5%**	**158**	**0.8%**
Luray	66	3.5%	89	0.5%
Rileyville		-	6	0.0%
Shenandoah	6	0.3%	12	0.1%
Stanley	14	0.7%	51	0.3%
Warren	**35**	**1.8%**	**214**	**1.1%**
Bentonville	1	0.1%	13	0.1%
Front Royal	33	1.7%	187	1.0%
Linden	1	0.1%	14	0.1%
Middletown	-	-	-	-
PSA and SSA Total	**1,716**	**89.8%**	**17,391**	**90.0%**
Other Areas	**195**	**10.2%**	**1,933**	**10.0%**
Total Discharges	**1,911**	**100.0%**	**19,324**	**100.0%**

Source: Valley Health, 2012

In 2012, the community collectively accounted for 90 percent of the hospital's inpatient discharges and 90 percent of emergency department discharges. The majority (84 percent) of the hospital's inpatients originated from the primary service area (**Exhibit 2**).

Exhibit 3 presents a map displaying the four counties and 22 ZIP codes that comprise Shenandoah's community, including its primary and secondary service areas.

Exhibit 3: Shenandoah Memorial Hospital Community



Sources: Microsoft MapPoint and Valley Health, 2013.

SECONDARY DATA ASSESSMENT

This section presents secondary data regarding health needs in Shenandoah Memorial Hospital's community.

Demographics

Population characteristics and changes play a role in influencing the health issues of and services needed by communities (**Exhibit 4**).

Exhibit 4: Percent Change in Population by County and Town, 2013-2018

County and Town	Total Population 2013	Total Population 2018	Percent Change in Population 2013-2018
PSA	**43,823**	**44,992**	**2.7%**
Shenandoah	**43,823**	**44,992**	**2.7%**
Basye	1,048	1,071	2.2%
Edinburg	5,987	6,067	1.3%
Fisher's Hill	N/A	N/A	N/A
Fort Valley	1,385	1,435	3.6%
Lebanon Church	340	348	2.4%
Maurertown	2,219	2,234	0.7%
Mount Jackson	4,905	4,944	0.8%
New Market	4,428	4,512	1.9%
Orkney Springs	42	41	-2.4%
Quicksburg	850	848	-0.2%
Star Tannery	840	900	7.1%
Strasburg	11,319	11,887	5.0%
Toms Brook	1,671	1,662	-0.5%
Woodstock	8,789	9,043	2.9%
SSA	**60,104**	**61,316**	**2.0%**
Page	**23,795**	**24,092**	**1.2%**
Luray	11,800	11,907	0.9%
Rileyville	964	970	0.6%
Shenandoah	5,158	5,278	2.3%
Stanley	5,873	5,937	1.1%
Warren	**36,309**	**37,224**	**2.5%**
Bentonville	1,988	2,053	3.3%
Front Royal	30,057	30,726	2.2%
Linden	4,215	4,393	4.2%
Middletown	49	52	6.1%
Total	**103,927**	**106,308**	**2.3%**

Source: Nielsen-Claritas via Valley Health, 2013.

The total community population is expected to increase 2% from 2013-2018

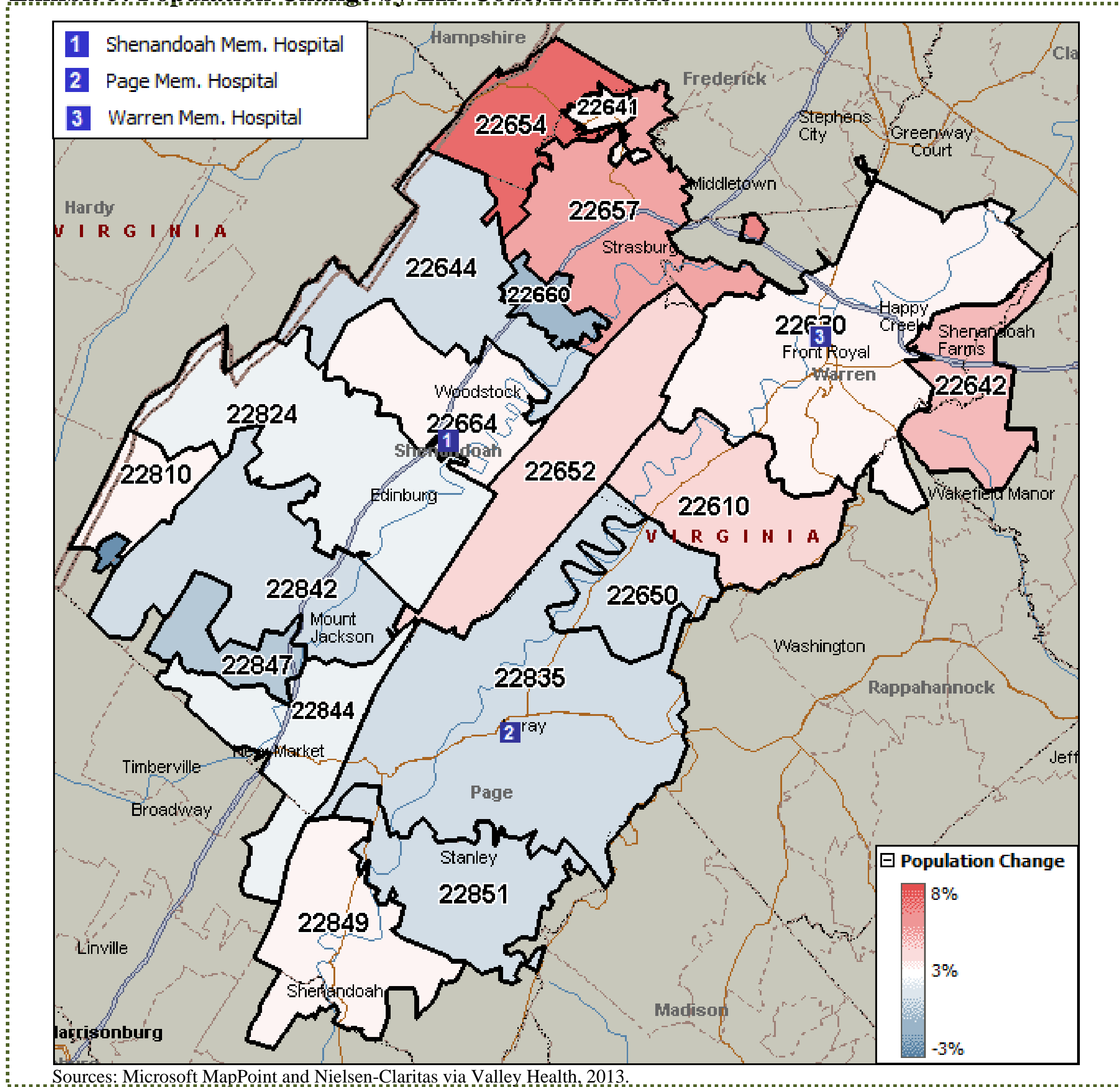
…

The primary service area is expected to grow more rapidly than the secondary service area

Overall, the population living in the Shenandoah community is expected to increase by 2.3 percent between 2013 and 2018 (**Exhibit 4**). The Commonwealth of Virginia is expected to increase by 7.6 percent between 2012 and 2020.[2]

Rates of projected population change vary by county and ZIP code **(Exhibits 4 and 5)**.

Exhibit 5: Population Change by ZIP Code, 2013-2018



Sources: Microsoft MapPoint and Nielsen-Claritas via Valley Health, 2013.

ZIP codes in Warren County and northern Shenandoah County are expecting more rapid growth than the southwestern portions of the community **(Exhibits 4 and 5)**.

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[2] The Weldon Cooper Center for Public Service, University of Virginia. (2013). Retrieved from: http://www.coopercenter.org/demographics/virginia-population-projections

Exhibit 6 illustrates the number of residents by age and sex in 2013 and projected for 2018.

Exhibit 6: Percent Change in Population by Age/Sex Cohort, 2013-2018

Age/Sex Cohort	Total Population 2013	Total Population 2018	Percent Change in Population 2013-2018
Female 0-17	11,467	11,520	0.5%
Male 0-17	11,735	11,829	0.8%
Female 18-44	16,089	16,012	-0.5%
Male 18-44	16,386	16,371	-0.1%
Female 45-64	15,104	15,018	-0.6%
Male 45-64	15,091	14,807	-1.9%
Female 65+	10,081	11,475	13.8%
Male 65+	7,974	9,276	16.3%
Total	**103,927**	**106,308**	**2.3%**

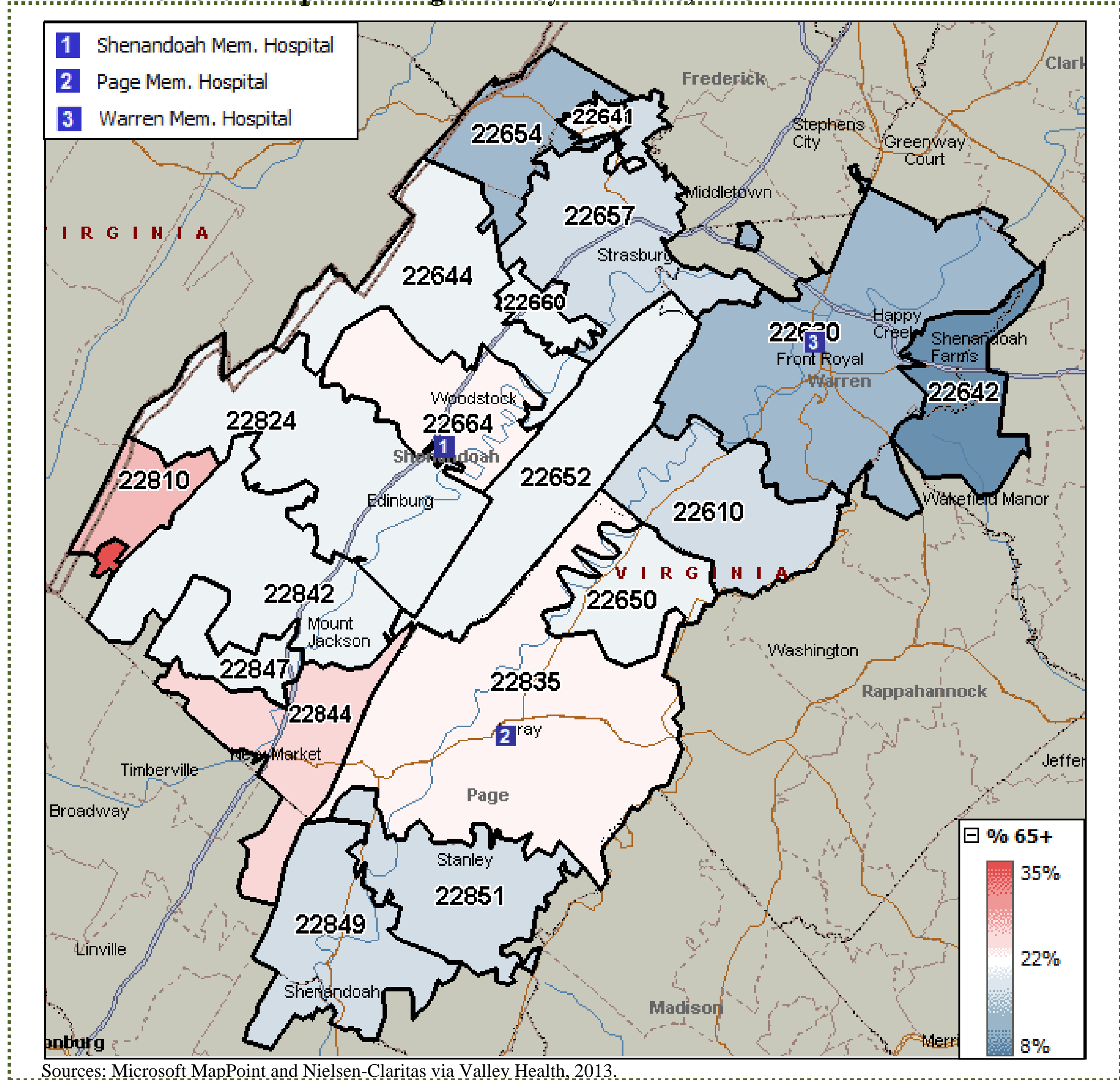
Source: Nielsen-Claritas via Valley Health, 2013.

The community population is aging

The number of residents aged 65 years and over is expected to increase rapidly compared to other cohorts. The growth and aging of the population, coupled with the impact of anticipated health insurance coverage expansions associated with health reform, may increase demand for health services (**Exhibit 6**).

Exhibit 7 indicates the percent of the population aged 65 and over in the community.

Exhibit 7: Percent of Population Aged 65+ by ZIP Code, 2013



Sources: Microsoft MapPoint and Nielsen-Claritas via Valley Health, 2013.

The ZIP codes with the highest percentages of people aged 65 and over are 22845 (Orkney Springs), 22810 (Basye), and 22844 (New Market) in Shenandoah County (**Exhibit 7**). Warren County had the lowest percentages of residents aged 65 and older.

Exhibit 8 indicates the distribution of the population by race in the Shenandoah community.

Exhibit 8: Distribution of Population by Race, 2013

Race	Total Population 2013	Total Population 2018	Percent Change in Population 2013-2018
American Indian / Alaska Native	286	318	11.2%
Asian	711	814	14.5%
Black or African American	2,994	3,042	1.6%
Native Hawaiian / Pacific Islander	27	31	14.8%
Some Other Race	1,928	2,247	16.5%
Two or More Races	1,959	2,263	15.5%
White	96,022	97,593	1.6%
Total	**103,927**	**106,308**	**2.3%**

Source: Nielsen-Claritas via Valley Health, 2013.

The community was 92% White in 2013

About 92 percent of the community's population is White. Non-White populations are expected to grow from 7.6 percent to 8.2 percent of the total population from 2013-2018 (**Exhibit 8**). The gradually growing diversity of the community is important to recognize given the presence of health disparities and barriers to access to services experienced by different groups.

Exhibit 9 indicates the distribution of the population by ethnicity.

Exhibit 9: Distribution of the Population by Ethnicity, 2013

Ethnicity	Total Population 2013	Total Population 2018	Percent Change in Population 2013-2018
Hispanic or Latino	4,827	5,644	16.9%
Not Hispanic or Latino	99,100	100,664	1.6%
Total	**103,927**	**106,308**	**2.3%**

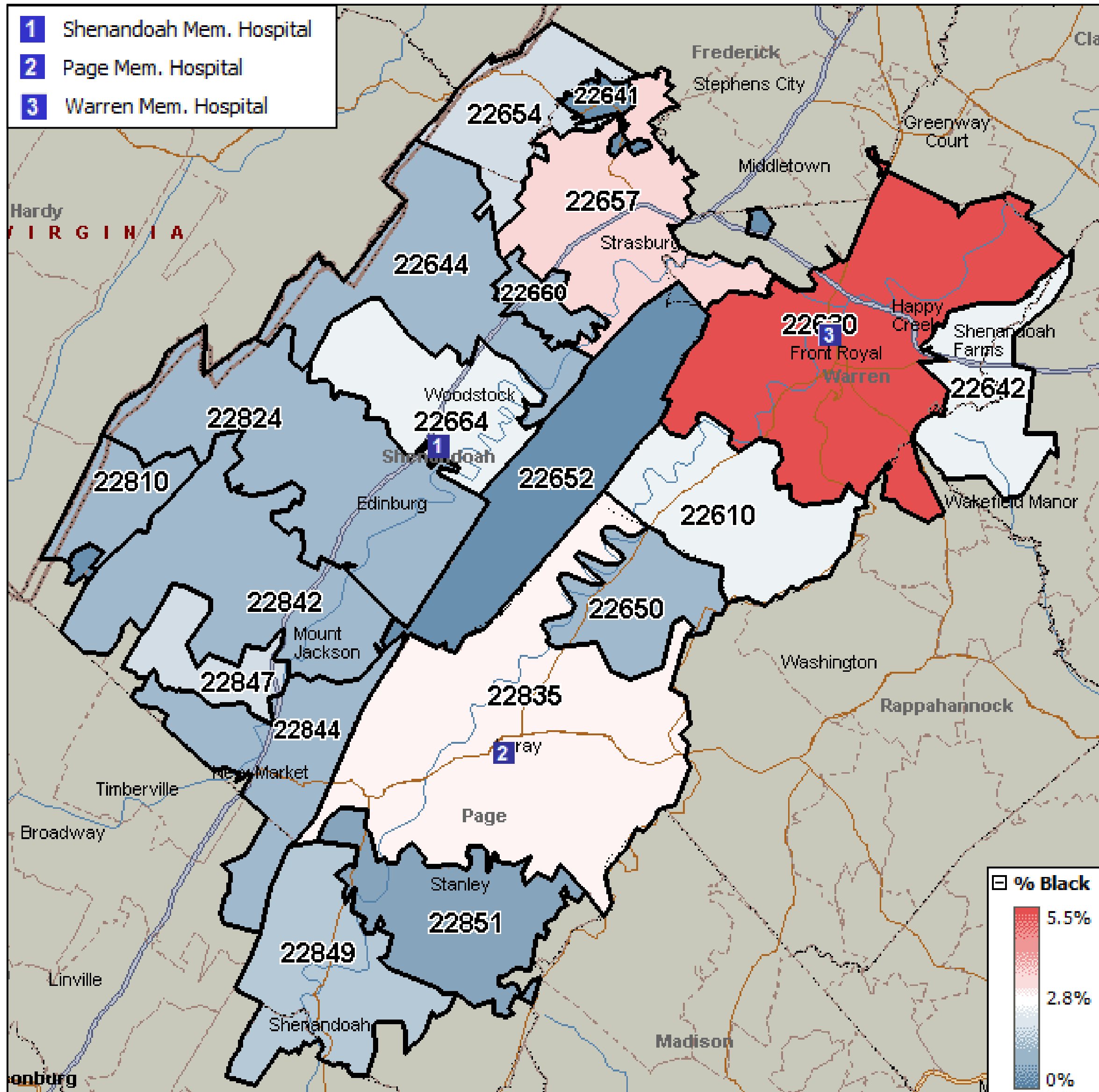
Source: Nielsen-Claritas via Valley Health, 2013.

5% of the community identified as Hispanic or Latino

Projections indicate that the Hispanic or Latino population is expected to increase more rapidly than the non-Hispanic or Latino population, and to increase from 4.6 percent to 5.3 percent of the total community from 2013 to 2018 (**Exhibit 9**).

Exhibits 10 and **11** illustrate the locations in the community where the percentage of the population that is Black and Hispanic or Latino is highest. The percentage of Black residents is highest in ZIP code 22630 (Front Royal). Hispanic or Latino residents are most concentrated in 22664 (Woodstock) and 22842 (Mount Jackson) in Shenandoah County.

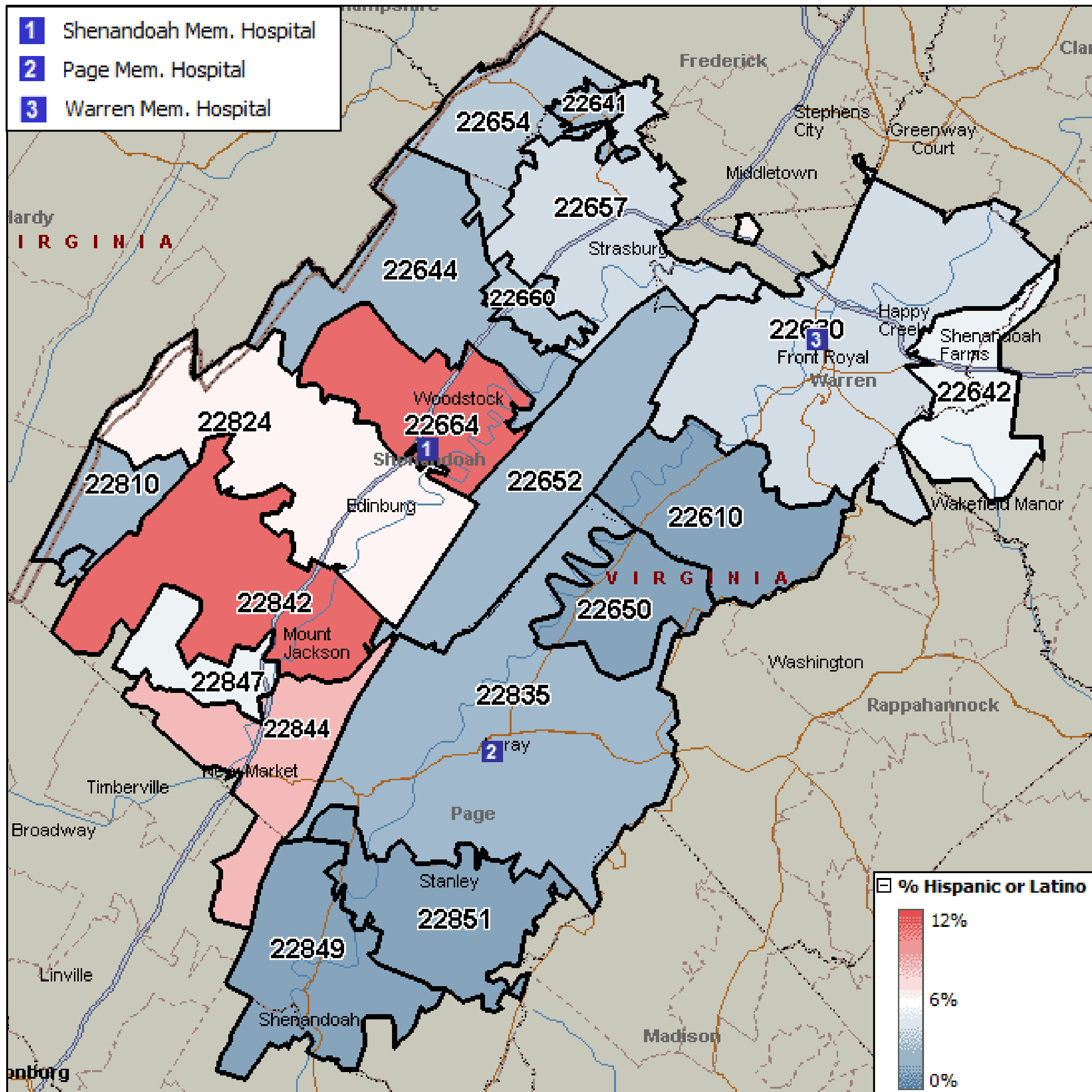
Exhibit 10: Percent of Population – Black, 2013



Sources: Microsoft MapPoint and Nielsen-Claritas via Valley Health, 2013.

At 5.3% of the population, ZIP Code 22630 (Front Royal) had the highest proportion of Black residents in the community

Exhibit 11: Percent of Population – Hispanic (or Latino), 2013



Sources: Microsoft MapPoint and Nielsen-Claritas via Valley Health, 2013.

Shenandoah County ZIP codes 22664 (Woodstock) and 22842 (Mount Jackson) had the highest percentage of Hispanic or Latino residents in the community

Other demographic indicators are presented in **Exhibit 12**.

Exhibit 12: Demographic Indicators, 2011

County	Population 25 + Without a High School Diploma	Population 5+ Who are Linguistically Isolated
PSA		
Shenandoah	17.4%	3.4%
SSA		
Page	26.9%	1.0%
Warren	15.6%	2.4%
Virginia	**13.4%**	**5.6%**
U.S.	**14.6%**	**8.7%**

Source: U.S. Census Bureau, ACS 5 year estimates, 2011.

All three counties in the community had higher rates of residents aged 25+ who did not graduate from high school than the Virginia or U.S. averages

Key findings include:

- All counties in the community had higher percentages than the state and U.S. averages of residents aged 25 and older who did not graduate high school. At nearly 27 percent, Page County had the highest percentage of non-graduates.
- Comparatively few community residents were linguistically isolated. Linguistic isolation is defined as the population aged five and older who speak a language other than English and speak English less than "very well."

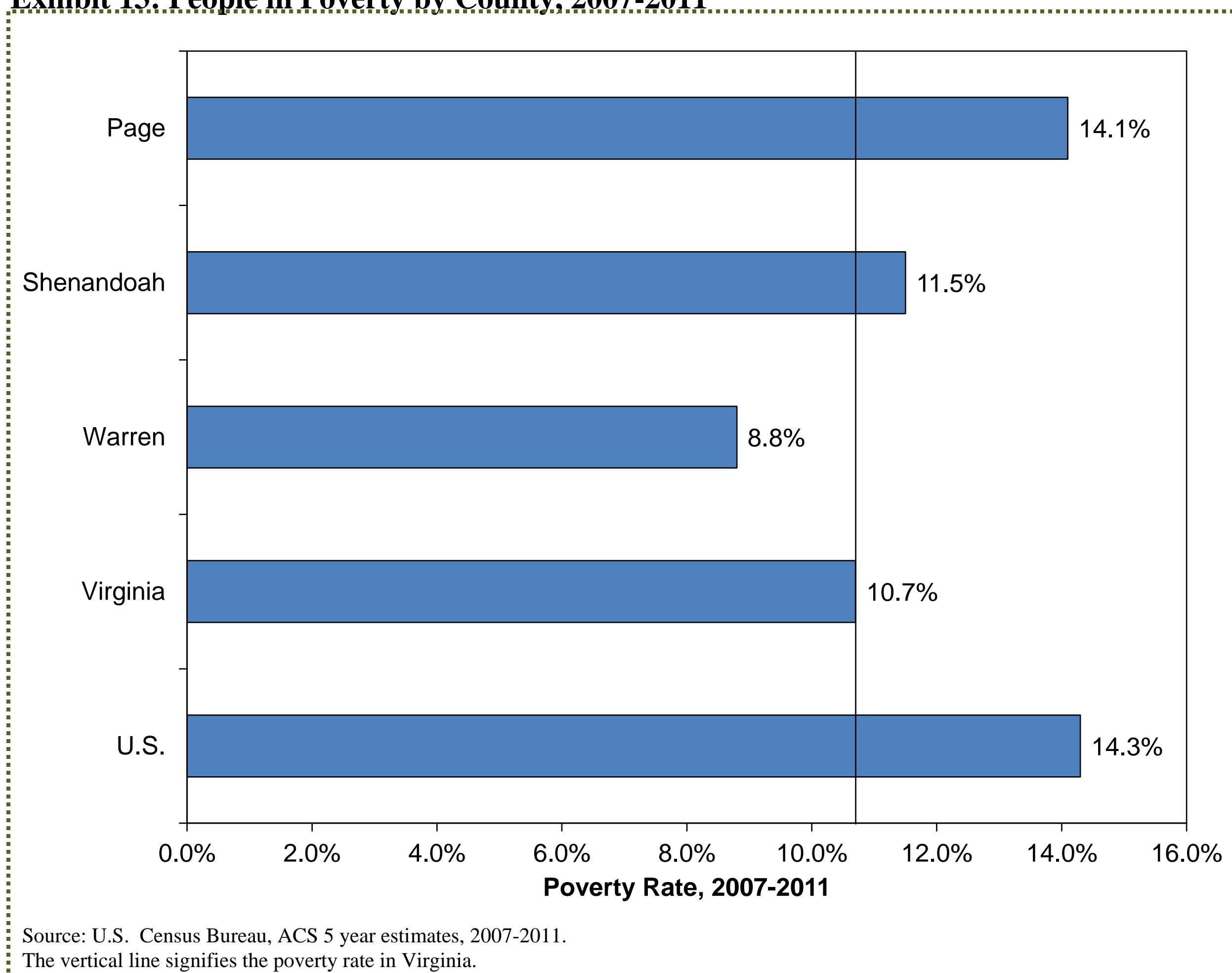
Economic Indicators

The following types of economic indicators with implications for health were assessed: (1) people in poverty; (2) household income; (3) unemployment rate; (4) crime; (5) utilization of government assistance programs; (6) insurance status; and (7) Virginia and local budget adjustments.

1. People in Poverty

Many health needs are associated with poverty. According to the U.S. Census, in 2011 approximately 14 percent of people in the U.S. and nearly 11 percent of people in Virginia lived in poverty (**Exhibit 13**).

Exhibit 13: People in Poverty by County, 2007-2011

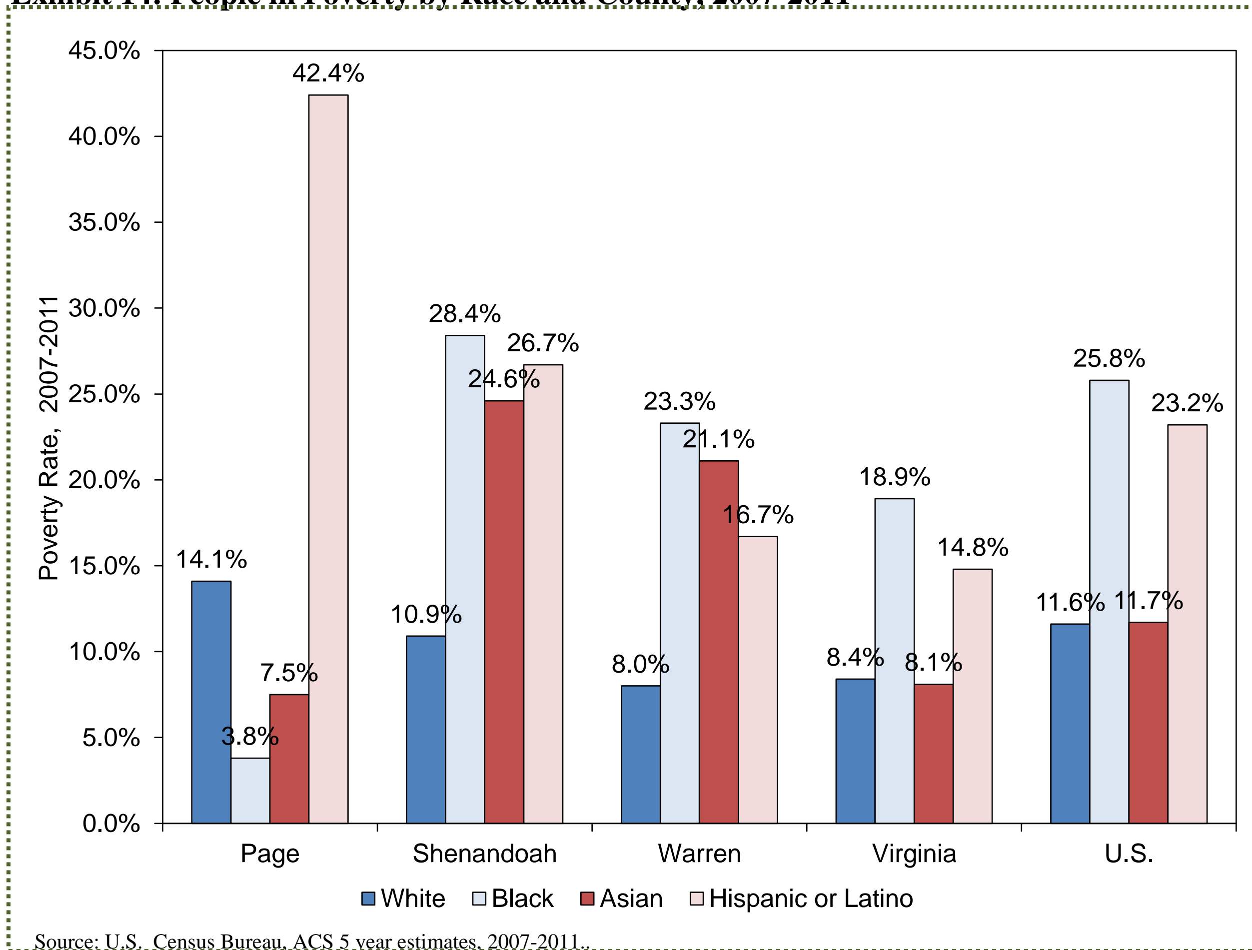


Source: U.S. Census Bureau, ACS 5 year estimates, 2007-2011.
The vertical line signifies the poverty rate in Virginia.

Shenandoah and Page Counties reported poverty rates higher than the Virginia average (**Exhibit 13**).

Exhibit 14 presents poverty rates by race for each county in the community.

Exhibit 14: People in Poverty by Race and County, 2007-2011



Source: U.S. Census Bureau, ACS 5 year estimates, 2007-2011.

Page County had the highest poverty rate for the White population among all four counties in 2011. The poverty rate for the Hispanic (or Latino) population in Page County was three times that of the county's White population and higher than the Virginia and U.S. averages. The poverty rates for the Black, Asian, and Hispanic or Latino populations were higher than the Virginia average in Shenandoah and Warren Counties (**Exhibit 14**).

2. Household Income

The Federal Poverty Level (FPL) is used by many public and private agencies to assess household needs for low-income assistance programs. In 2013, 27 percent of all households in Shenandoah Memorial Hospital's total community, and 26 percent of households in the PSA, had incomes below $25,000, an approximation of the federal poverty level (FPL) for a family of four. The community as a whole has experienced a 25 percent increase in the percentage of households with incomes under $25,000 since 2009. Page County reported the lowest average household income and the highest percentage of households with incomes under $25,000 (**Exhibit 15**).

Exhibit 15: Percent of Lower-Income Households by County and Town, 2013

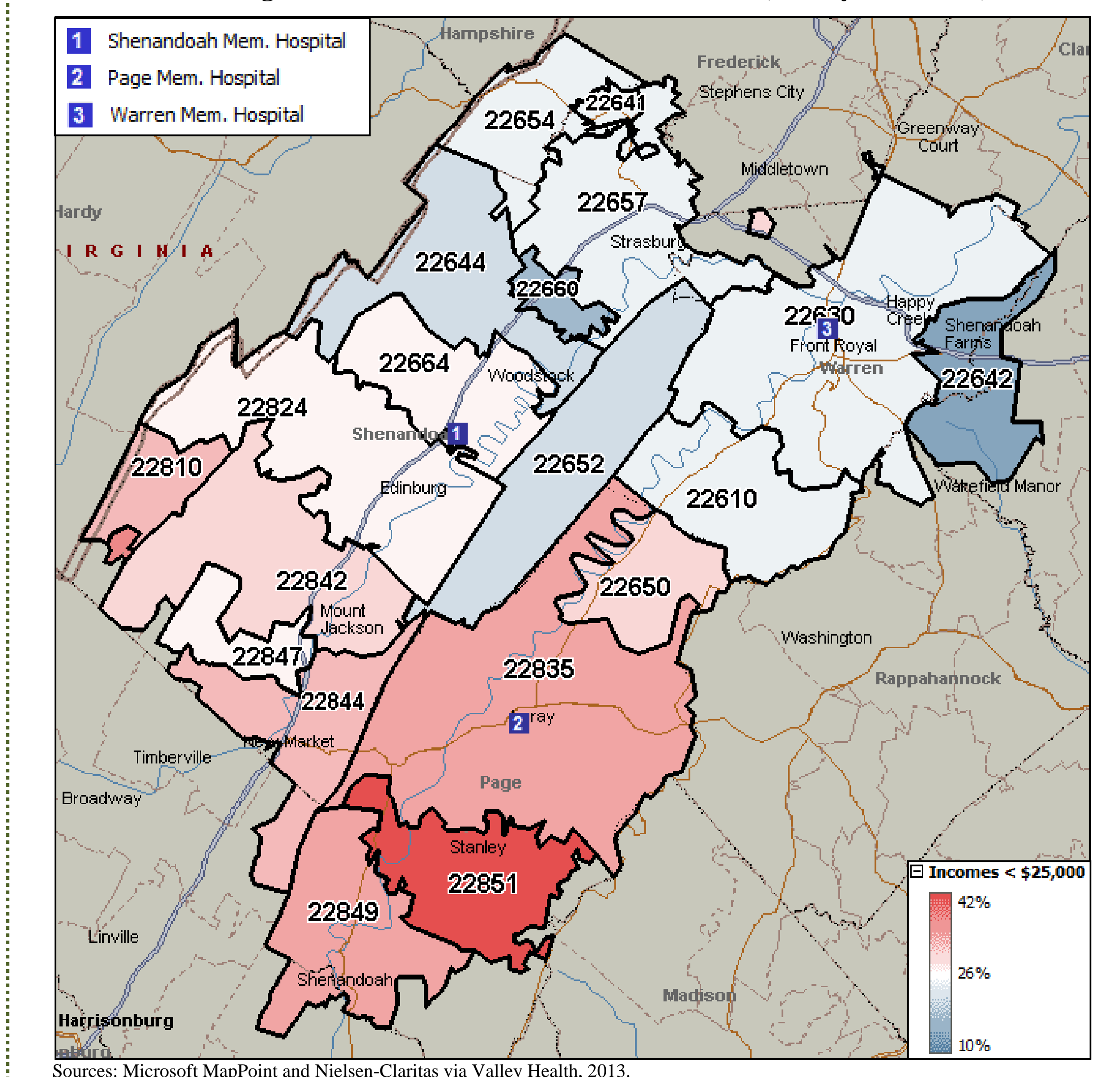
County and Town	Average Income	Percent Less Than $25,000 2009	Percent Less Than $25,000 2013	Percent <25,000 Increase or (Decrease) 2009-2013
PSA	**57,601**	**19.9%**	**25.8%**	**29.6%**
Shenandoah	**57,601**	**19.9%**	**25.8%**	**29.6%**
Basye	59,921	17.6%	30.2%	71.7%
Edinburg	60,839	17.7%	25.0%	40.9%
Fisher's Hill	N/A	N/A	N/A	N/A
Fort Valley	62,582	19.3%	22.1%	14.2%
Lebanon	52,605	7.5%	23.4%	212.1%
Maurertown	51,766	18.2%	22.0%	20.7%
Mount	50,500	19.8%	29.9%	50.7%
New Market	57,426	25.0%	31.4%	25.7%
Orkney	72,741	21.7%	35.0%	61.0%
Quicksburg	58,681	21.5%	26.5%	23.2%
Star Tannery	65,707	8.0%	22.7%	182.9%
Strasburg	58,022	20.9%	23.7%	13.6%
Toms Brook	65,138	12.3%	15.9%	29.4%
Woodstock	72,507	21.4%	26.8%	25.1%
SSA	**62,699**	**22.9%**	**28.0%**	**22.3%**
Page	**47,469**	**28.3%**	**34.6%**	**22.1%**
Luray	85,075	27.4%	32.6%	18.7%
Rileyville	60,694	15.4%	29.9%	94.2%
Shenandoah	58,819	29.1%	33.3%	14.5%
Stanley	-	32.0%	41.0%	28.2%
Warren	**73,524**	**18.3%**	**22.6%**	**23.5%**
Bentonville	49,692	15.0%	22.8%	52.1%
Front Royal	50,532	18.5%	22.6%	21.9%
Linden	47,783	8.7%	12.3%	42.3%
Middletown	41,892	12.5%	27.8%	122.2%
Total	**60,491**	**21.5%**	**27.0%**	**25.2%**

Source: Nielsen-Claritas via Valley Health, 2013.

At 35%, Page County had the highest percentage of households with incomes less than $25,000

Exhibit 16 presents a map of the percent of households with incomes under $25,000 in the community.

Exhibit 16: Percentage of Households with Incomes under $25,000 by ZIP Code, 2013



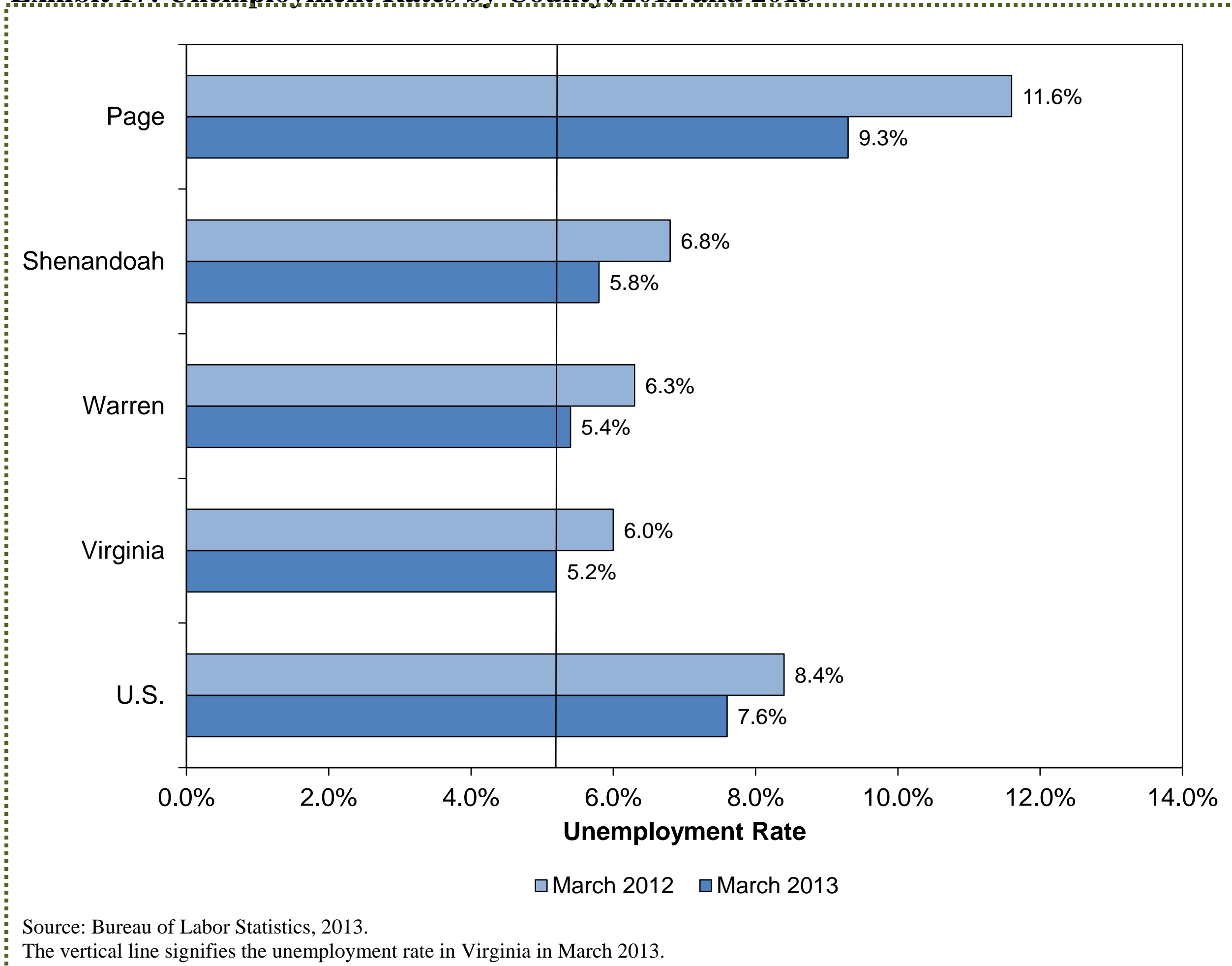
Sources: Microsoft MapPoint and Nielsen-Claritas via Valley Health, 2013.

The highest proportions of households with incomes under $25,000 in 2013 were located in ZIP code 22851 (Stanley) in Page County (**Exhibit 16**).

3. Unemployment Rates

Exhibit 17 shows the unemployment rate for each county compared to Virginia and national averages.

Exhibit 17: Unemployment Rates by County, 2012 and 2013



Source: Bureau of Labor Statistics, 2013.
The vertical line signifies the unemployment rate in Virginia in March 2013.

All three counties reported higher unemployment than the Virginia average in 2013. Page County's unemployment rate nearly twice as high as the Virginia rate (**Exhibit 17**).

4. Crime

The Federal Bureau of Investigation reports data on violent crime in the United States (**Exhibit 18**).

Exhibit 18: Violent and Property Crime Rates per 100,000 Population, 2011

County	Population	Violent crime*	Property crime*	Burglary	Larceny-theft
PSA	**41,807**	**67.0**	**999.8**	**253.5**	**736.7**
Shenandoah	41,807	67.0	999.8	253.5	736.7
SSA	**61,424**	**50.5**	**830.3**	**154.7**	**641.4**
Page	24,101	49.8	825.7	240.7	572.6
Warren	37,323	50.9	833.3	99.1	685.9
Virginia Total	**7,926,192**	**71.8**	**1,004.1**	**163.9**	**789.7**

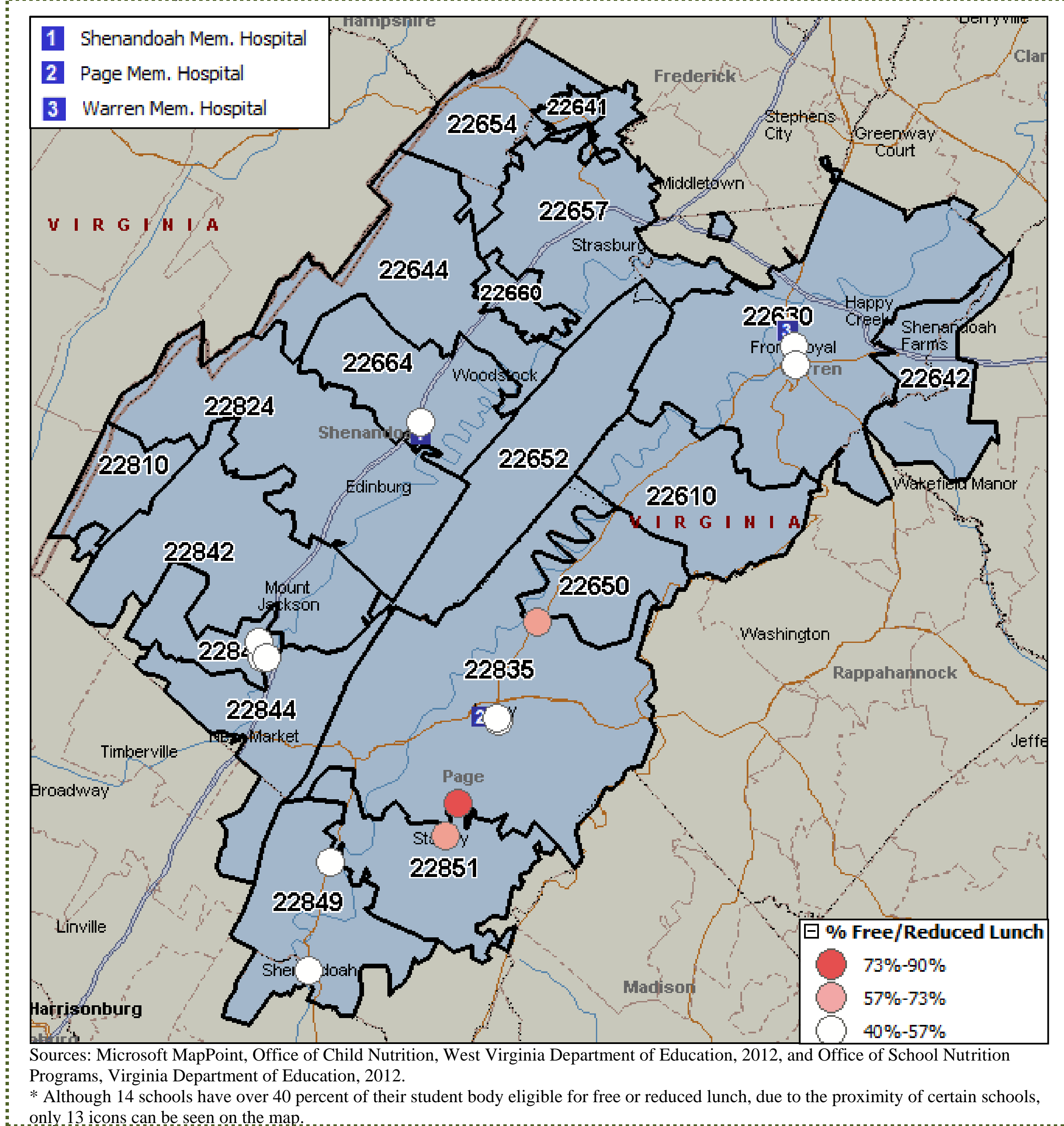
Sources: Violent crime counts retrieved from the Federal Bureau of Investigation, Uniform Crime Reports, 2012. Population 2011 estimates obtained from the U.S. Census Bureau, ACS 5 year estimates, 2007-2011. Rates calculated by Verité.
*Violent crime includes murder and non-negligent manslaughter, forcible rape, robbery, and aggravated assault; property crime includes burglary, larceny-theft, motor vehicle theft, and arson.

All counties reported lower violent crime than the Virginia average. Rates of burglary were comparatively high in Shenandoah and Page Counties **(Exhibit 18)**.

5. Eligibility for the National School Lunch Program

Schools participating in the National School Lunch Program are eligible to receive financial assistance from the United States Department of Agriculture (USDA) to provide free or reduced-price meals to low-income students. Schools with 40 percent or more of their student bodies receiving this assistance are eligible for school-wide Title I funding, designed to ensure that students meet grade-level proficiency standards (**Exhibit 19**).

Exhibit 19: Public Schools with over 40 Percent of Students Eligible for Free or Reduced-Price Lunches, School Year 2012-2013



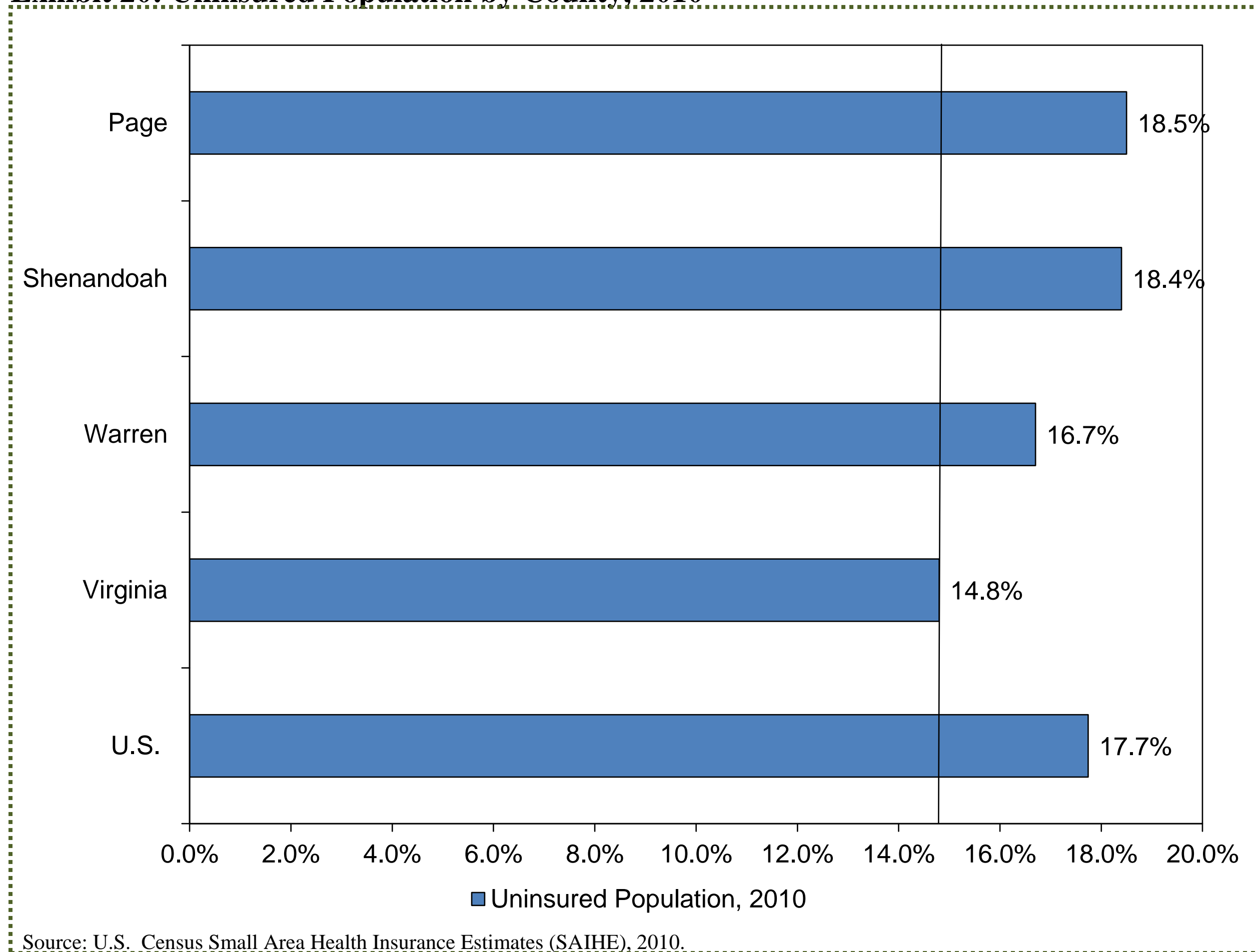
Sources: Microsoft MapPoint, Office of Child Nutrition, West Virginia Department of Education, 2012, and Office of School Nutrition Programs, Virginia Department of Education, 2012.
* Although 14 schools have over 40 percent of their student body eligible for free or reduced lunch, due to the proximity of certain schools, only 13 icons can be seen on the map.

In the Shenandoah community, 14 schools, located in every county, were eligible for Title 1 funds (**Exhibit 19**).

6. Insurance Status

Exhibit 20 displays the percent of the population that is uninsured by county in the Shenandoah community.

Exhibit 20: Uninsured Population by County, 2010



Source: U.S. Census Small Area Health Insurance Estimates (SAIHE), 2010.

Every county in the Shenandoah community had higher uninsurance rates than the Virginia average. Shenandoah and Page Counties' uninsurance rates also were higher than and national average **(Exhibit 20)**.

7. Commonwealth of Virginia and Local Budgets

The recent economic recession has had major implications for levels of state and county resources devoted to health care, public health, and social services.

The Commonwealth of Virginia has significantly reduced funding appropriated to these services. Relevant highlights from the 2012-2014 biennial budget[3] approved by the 2012 General Assembly include:

[3]The 2012 Executive Budget Document. Retrieved on August 2, 2012 from http://dpb.virginia.gov/budget/buddoc12/index.cfm.

- **Children and Youth Services**
  - Elimination of funding for child advocacy centers in the Office of Secretary of Health and Human Resources and Department of Social Services;
  - Reductions in base funding to the Comprehensive Services Act for At-Risk Youth and Families (CSA) and elimination of general fund support for wrap-around services in public schools;
- **Aging and Elderly Services**
  - Reductions in funding for in-home and community-based services, such as adult day care, homemaker, personal care, and transportation services, provided by Virginia's Area Agencies on Aging;
- **Health Services for Indigent and Low-income Populations**
  - Reductions in funding for the Virginia Association of Free Clinics, the Virginia Community Healthcare Association, and the Virginia Health Care Foundation;
  - Elimination of funding for commonwealth-supported dental clinics, and reductions in funding for the Mission of Mercy program through the Virginia Dental Association Foundation;
  - Reductions in funding to the commonwealth's Medicaid Children's Health Insurance Program due to slowed enrollment and lower managed care rates;
  - Reductions in income limits for the Medicaid long-term care eligibility group;
  - Reductions in funding to the Virginia Commonwealth University and University of Virginia academic medical centers for indigent care services;
- **Health Departments, Facilities, and Workers**
  - Reductions in general fund appropriations to the Department of Health;
  - Reductions in funding to the Department of Health Professions; and
  - Withholding annual inflation adjustments from rates paid to nursing facilities, home health agencies, outpatient rehabilitation agencies, and hospitals.

Highlights from county-level budgets include:

- **Page County**:[4] Health and Welfare expenses for FY 2012 totaled $3,599,674.
- **Shenandoah County**:[5] Shenandoah County local health department's FY 2013 budget increased 0.8 percent from the previous year. The Area Agency on Aging Department's budget remained constant from FY 2011 to FY 2013.
- **Warren County:**[6] For FY 2013, the Health and Welfare budget was reduced 5.9 percent from FY 2012. The social services department had a budget reduction of 7.9 percent.

[4] Page County 2012-2013 Budget. (2012). Retrieved from: http://www.pagecounty.virginia.gov/files/Audig.Page%206-30-12.pdf
[5] Shenandoah County Budget FY2013. (2012). Retrieved from: http://www.shenandoahcountyva.us/reportscode/budget/budget13.pdf
[6] Warren County Budget FY 2012-2013. (2012). Retrieved from: http://www.warrencountyva.net/resources/2012-2013-budget.html

Local Health Status and Access Indicators

This section examines health status and access to care data for the Shenandoah community from several sources. The data include: (1) County Health Rankings; (2) Virginia Department of Health; and (3) Behavioral Risk Factor Surveillance System. Indicators also were compared to Healthy People 2020 goals.

1. County Health Rankings

County Health Rankings, a collaboration between the Robert Wood Johnson Foundation and the University of Wisconsin Population Health Institute, examines a variety of health status indicators and ranks each county/city within each commonwealth or state in terms of "health factors" and "health outcomes." These health outcomes and factors are composite measures based on several variables grouped into the following categories: health behaviors, clinical care,[7] social and economic factors, and physical environment.[8] *County Health Rankings* is updated annually. *County Health Rankings 2013* relies on data from 2004 to 2012, with most data originating in 2007 to 2011.

Exhibit 21 illustrates each county's ranking for each composite category in 2013. Rankings indicate how each county in Virginia ranked compared to the 134 counties in the commonwealth. A rank of 1 indicates the best county in Virginia. Indicators are shaded based on the county's percentile for the state ranking. For example, Page County compared unfavorably to other Virginia counties for employment; with a rank of 125 out of 134 counties and placing in the bottom quartile of all Virginia counties.

[7] A composite measure of Access to Care, which examines the percent of the population without health insurance and ratio of population to primary care physicians, and Quality of Care, which examines the hospitalization rate for ambulatory care sensitive conditions, whether diabetic Medicare patients are receiving HbA1C screening, and percent of chronically ill Medicare enrollees in hospice care in the last 8 months of life.

[8] A composite measure that examines Environmental Quality, which measures the number of air pollution-particulate matter days and air pollution-ozone days, and Built Environment, which measures access to healthy foods and recreational facilities and the percent of restaurants that are for fast food.

Exhibit 21: County Rank among 134 Virginia Counties, 2013

Indicator Category	Page	Shenandoah	Warren
Health Outcomes	43	28	62
Mortality	65	32	68
Morbidity	18	25	54
Health Factors	98	70	56
Health Behaviors	87	67	80
Tobacco Use	48	89	121
Diet and Exercise	96	80	43
Alcohol Use	113	49	44
Sexual Activity	57	59	53
Clinical Care	126	85	81
Access to Care	110	101	80
Quality of Care	122	69	80
Social & Economic Factors	92	54	41
Education	46	49	39
Employment	125	59	39
Income	83	63	40
Family and Social Support	50	85	44
Community Safety	44	38	59
Physical Environment	34	93	40
Environmental Quality	56	120	60
Built Environment	37	35	44

Source: County Health Rankings, 2013.

Key	
Top 50th percentile of VA counties (Better)	
25th to 49th percentile of VA counties	
Bottom 25th percentile of VA counties (Worse)	

Shenandoah Memorial Hospital counties frequently ranked in the bottom half of Virginia counties for clinical care, which includes access to care[9] and quality of care.[10] Page County compared the least favorably, with 10 indicators ranking in the bottom half of Virginia counties and five of those indicators ranking in the bottom 25 percent of Virginia counties (alcohol use; clinical care, including access to care and quality of care; and employment). Shenandoah County also compared unfavorably to other Virginia counties for; health factors including tobacco use and diet and exercise; and physical environment, including environmental quality[11]. Warren County ranked in the bottom 25 percent of all Virginia counties for tobacco use (**Exhibit 21**).

Exhibit 22 provides data for each underlying indicator of the composite categories in the County Health Rankings.[12] The County Health Rankings methodology provides a comparison of counties within a state or commonwealth to one another. It also is important to analyze how these same indicators compare to the national average. For example, the percentage of

[9] The percent of the population without health insurance and ratio of population to primary care physicians.
[10] Hospitalization rate for ambulatory care sensitive conditions, whether diabetic Medicare patients are receiving HbA1C screening, and percent of chronically ill Medicare enrollees in hospice care in the last 8 months of life.
[11] The number of air pollution-particulate matter days and air pollution-ozone days.
[12] County Health Rankings provides details about what each indicator measures, how it is defined, and data sources at http://www.countyhealthrankings.org/sites/default/files/resources/2013Measures_datasources_years.pdf

Shenandoah County's population that was exposed to water with a safety violation in the past year was more than 75 percent worse than the U.S. average. Cells in the tables below are shaded if the indicator for a county in the Shenandoah community exceeded the national average for that indicator by more than ten percent.

Exhibit 22: County Data Compared to U.S. Average, 2013

Data	Page	Shenandoah	Warren
Health Outcomes			
Years of potential life lost per death before age 75 per 100,000	7,596.7	6,217.7	7,633.8
Adults reporting poor or fair health	16.5%	12.5%	11.8%
Average number of physically unhealthy days reported in the past 30 days	3.0	3.4	3.9
Average number of mentally unhealthy days reported in the past 30 days	3.3	2.6	4.5
Live births under 2,500 grams (Low birth weight)	5.7%	7.0%	6.8%
Health Behaviors			
Adults reporting smoking 100 cigarettes or more and currently smoking	N/A	21.0%	28.1%
Adults reporting BMI over 30 (obesity)	31.8%	30.0%	28.6%
Adults 20+ reporting no leisure time physical activity	27.8%	28.7%	24.5%
Adults reporting binge and heavy drinking	17.7%	13.6%	13.3%
Motor vehicle crash death rate per 100,000	17.9	13.7	13.7
Chlamydia incidence rate per 100,000	128.9	107.2	247.5
Birth rate per 1,000 females aged 15-19	43.2	45.5	34.7
Clinical Care			
Population under 65 without insurance	18.5%	18.4%	16.7%
Ratio of population to primary care physicians	2,003:1	1,912:1	2,086:1
Ratio of population to dentists	6,059:1	3,863:1	4,253:1
Hospitalizations for ambulatory care sensitive conditions per 1,000	85.4	72.8	69.5
Diabetic Medicare enrollees that receive a blood glucose screening	84.5%	87.6%	86.8%
Female Medicare enrollees that receive a mammogram	54.5%	66.7%	63.6%
Social and Economic Factors			
Number of 9th grade cohort that graduates in 4 years	97.2%	91.9%	91.5%
Adults 25-44 with some post-secondary education	34.6%	47.1%	52.3%
Population 16+ unemployed but seeking work	10.9%	7.0%	6.4%
Percent of children under 18 in poverty	23.5%	20.3%	15.8%
Percent of adults without social/emotional support	17.1%	21.6%	19.5%
Children in a single parent household	30.5%	31.6%	23.3%
Violent crime rate per 100,000	121.3	116.4	138.7
Physical Environment			
Average daily measure of fine particulate matter in the air	12.4	12.4	12.4
Population exposed to water with a safety violation in the past year	0.5%	29.8%	0.6%
Recreation facilities per 100,000 population	8.3	11.9	8.0
Low income population not close to a grocery store	0.7%	2.6%	1.5%
Percent of restaurants classified as fast food	45.2%	46.0%	44.6%

Source: County Health Rankings, 2013.

Key	
Ranging from better than U.S. average up to 10% worse than U.S. average	
10%-50% worse than U.S average	
50-75% worse than U.S. average	
>75% worse than U.S. average	

All three counties in the community compared poorly to national averages for physical environment indicators, including average daily particulate matter (poor air quality). Page and Warren Counties reported comparatively high ratios of population to dentists. Binge and heavy drinking in Page County and tobacco use in Warren County also compared poorly to U.S. averages. Page and Shenandoah Counties benchmarked poorly for certain social and economic factors: postsecondary education in both counties, unemployment in Page County, and adults without social and emotional support in Shenandoah County. The percent of Shenandoah County's population exposed to water with a safety violation was greater than 75 percent worse than the national average (**Exhibit 22**).

2. Virginia Department of Health

The Virginia Department of Health (VDH) maintains a data warehouse that includes indicators regarding a number of health issues. In **Exhibits 23** through **30**, cells in the tables below are shaded if the mortality rate for a county or health district in the Shenandoah community exceeded the Virginia average for that condition by more than ten percent. In some cases, data from VDH are presented by health district.

The Lord Fairfax Health District is composed of Clarke, Frederick, Page, Shenandoah, and Warren Counties, and Winchester City. Supplemental cancer incidence data were gathered from the Centers for Disease Control and Prevention.

Exhibit 23 displays the leading causes of death in Virginia and by county for the Shenandoah community.

Exhibit 23: Leading Causes of Death by County, 2011

Death Rates	Page	Shenandoah	Warren	Virginia 2011
Deaths from all causes	929.0	746.8	895.4	**735.8**
Malignant neoplasms	208.3	154.0	234.2	**169.5**
Diseases of the heart	193.0	160.5	155.8	**161.3**
Cerebrovascular diseases	40.7	36.4	54.8	**41.4**
Chronic lower respiratory diseases	66.7	41.1	39.4	**38.4**
Unintentional injury	44.6	46.3	52.8	**33.4**
Alzheimer's disease	43.7	10.5	-	**23.0**
Diabetes mellitus	27.5	22.4	23.2	**19.4**
Influenza and pneumonia	23.4	29.0	23.0	**17.4**
Suicide	45.9	14.0	14.4	**12.5**
Chronic liver disease	23.8	6.2	0.0	**8.1**
Primary hypertension and renal disease	3.2	5.4	11.6	**6.9**

Source: Virginia Department of Health, 2011. Rates are per 100,000 population and are age-adjusted to the 2000 population.

Key	
Rates unreliable due to small sample size sample size	-
Ranging from better than VA up to 10% worse than VA	
10-50% worse than VA	
50-75% worse than VA	
> 75% worse than VA	

Page County compared unfavorably to Virginia on ten indicators

According to VDH, Page County compared unfavorably to Virginia on ten indicators, with three indicators more than 75 percent worse than the Virginia average. Mortality due to unintentional injury, diabetes mellitus, influenza and pneumonia, and suicide was greater than the commonwealth average across Page, Shenandoah, and Warren Counties **(Exhibit 23)**.

Exhibit 24 displays selected causes of death in Virginia and by health district and race for the Shenandoah community. Mortality data by race only are available at the health district level.

Exhibit 24: Selected Causes of Death by Health District and Race, 2011

Health District and Race	Deaths from All Causes	Cancer	All Diseases of the Heart	Cerebro-vascular Diseases	Chronic Lower Respiratory Diseases
Lord Fairfax					
White	933.3	235.7	181.5	45.1	60.0
Black	680.7	182.6	141.1	-	-
Other	119.9	-	-	-	-
Total	**904.6**	**229.4**	**176.4**	**43.7**	**56.6**
Virginia					
White	807.0	189.7	176.4	42.3	46.5
Black	704.5	166.9	155.8	44.8	20.4
Other	214.2	60.7	43.7	17.0	4.3
Total	**745.1**	**176.1**	**163.0**	**41.1**	**38.3**

Source: Virginia Department of Health, 2011. Rates are per 100,000 population, are not age-adjusted, and were calculated by Verité.

Key	
Rates unreliable due to small sample size	-
Ranging from better than VA up to 10% worse than VA	
10-50% worse than VA	
50-75% worse than VA	
> 75% worse than VA	

The Lord Fairfax Health District reported overall mortality rates, cancer mortality rates, and chronic lower respiratory disease rates more than 10 percent worse than Virginia averages (**Exhibit 24**).

Exhibit 25 displays injury-related mortality in Virginia and by health district and race for the Shenandoah community.

Exhibit 25: Injury-Related Mortality by Health District and Race, 2011

Health District and Race	Unintentional Injury	Motor Vehicle Injury	Suicide
Lord Fairfax			
White	42.2	13.0	22.6
Black	58.1	-	0.0
Other	-	0.0	0.0
Total	**42.8**	**13.4**	**20.9**
Virginia			
White	37.9	10.3	16.0
Black	25.7	9.6	5.2
Other	12.7	4.5	4.7
Total	**33.7**	**9.8**	**13.0**

Source: Virginia Department of Health, 2011. Rates are per 100,000 population, are not age-adjusted, and were calculated by Verité.

Overall, injury-related mortality was unfavorable in the Lord Fairfax Health District

Key	
Rates unreliable due to small sample size	-
Ranging from better than VA up to 10% worse than VA	
10-50% worse than VA	
50-75% worse than VA	
> 75% worse than VA	

Black residents in the Lord Fairfax Health District experienced unintentional-injury related mortality at a rate more than double the Virginia average for that cohort. The overall populations of the Lord Fairfax Health District reported higher rates of mortality related to unintentional injury, motor vehicle injury, and suicide than commonwealth averages (**Exhibit 25**).

Exhibit 26 displays other disease-related causes of death in Virginia and by health district and race for the Shenandoah community.

Exhibit 26: Additional Disease-Related Mortality by Health District and Race, 2011

Health District and Race	Alzheimer's Disease	Diabetes Mellitus	Influenza and Pneumonia	Chronic Liver Disease
Lord Fairfax				
White	21.1	21.1	29.8	11.0
Black	-	-	0.0	0.0
Other	0.0	0.0	0.0	0.0
Total	**20.0**	**20.0**	**27.6**	**10.2**
Virginia				
White	26.9	19.2	20.2	10.2
Black	12.6	28.1	11.8	7.0
Other	2.1	5.6	3.8	2.0
Total	**22.2**	**20.1**	**17.3**	**9.0**

Source: Virginia Department of Health, 2011. Rates are per 100,000 population, are not age-adjusted, and were calculated by Verité.

Key	
Rates unreliable due to small sample size	-
Ranging from better than VA up to 10% worse than VA	(white)
10-50% worse than VA	(light gray)
50-75% worse than VA	(medium gray)
> 75% worse than VA	(dark gray)

The Lord Fairfax Health District reported higher rates of mortality due to influenza and pneumonia and chronic liver disease than commonwealth averages (**Exhibit 26**).

Exhibit 27 portrays 2011 cancer mortality rates by race in Virginia and by health district and race for the Shenandoah community.

Exhibit 27: Cancer Mortality Rates by Health District and Race, 2011

Health District and Race	All Cancers	Colorectal	Pancreatic	Lung	Breast	Cervical	Prostate
Lord Fairfax							
White	235.7	17.8	17.3	74.4	13.4	8.2	12.0
Black	182.6	-	-	58.1	-	0.0	-
Other	-	-	0.0	0.0	0.0	0.0	0.0
Total	**229.4**	**18.3**	**16.5**	**72.2**	**14.3**	**7.6**	**11.6**
Virginia							
White	189.7	14.9	12.0	54.9	13.7	8.6	8.1
Black	166.9	17.4	11.8	40.7	16.0	7.7	12.5
Other	60.7	5.0	5.0	12.9	3.4	3.2	2.1
Total	**176.1**	**14.7**	**11.5**	**49.1**	**13.5**	**8.0**	**8.6**

Source: Virginia Department of Health, 2012. Rates were calculated by Verité, are per 100,000 population, and are not age-adjusted.

Key	
Rates unreliable due to small sample size	-
Ranging from better than VA up to 10% worse than VA	
10-50% worse than VA	
50-75% worse than VA	
> 75% worse than VA	

Overall, the Lord Fairfax Health District reported mortality rates higher than the Virginia average for colorectal, pancreatic, lung, and prostate cancers (**Exhibit 27**).

Exhibit 28 displays cancer incidence rates from 2005 to 2009 in Virginia and by county in the Shenandoah community.

Exhibit 28: Cancer Incidence Rates by County, 2005-2009

Cancer Incidence	Page	Shenandoah	Warren	Virginia
All cancers	422.5	416.6	413.5	**411.3**
Breast (Female)	107.5	119.2	133.1	**124.2**
Colorectal	52.9	32.0	55.0	**43.2**
Lung	64.3	63.8	80.9	**67.5**
Melanoma	21.9	14.5	20.9	**20.7**
Oral	12.7	11.4	13.4	**10.5**
Ovarian	-	-	-	**11.9**
Prostate	80.7	116.1	125.7	**143.8**

Source: Centers for Disease Control and Prevention, State Cancer Profiles, 2013. Rates are per 100,000 population and are age-adjusted to the 2000 population.

Key	
Rates unreliable due to small sample size	-
Ranging from better than VA up to 10% worse than VA	
10-50% worse than VA	
50-75% worse than VA	
> 75% worse than VA	

Colorectal and oral cancer rates were 10-50% worse than Virginia averages in Page and Warren Counties

Overall, Shenandoah County reported cancer incidence rates lower than the Virginia averages. Page and Warren Counties reported rates of colorectal and oral cancers that were worse than the Virginia average. Lung cancer in Warren County was also higher than the Virginia average. No cancer incidence rate in the community was greater than 50 percent worse than the commonwealth average (**Exhibit 28**).

Exhibit 29 displays communicable disease incidence rates in Shenandoah community's Virginia health districts. Communicable disease rates are presented at the health district level due to small sample sizes at the county level.

Exhibit 29: Communicable Disease Incidence Rates by Health District, 2011

Health District	Chlamydia	Gonorrhea	Lyme Disease
Lord Fairfax	274.6	18.9	54.5
Virginia	**453.9**	**81.5**	**12.8**

Source: Virginia Department of Health, 2011. Rates are per 100,000 population.

Key	
Ranging from better than VA up to 10% worse than VA	
10-50% worse than VA	
50-75% worse than VA	
> 75% worse than VA	

The Lord Fairfax Health District reported much lower chlamydia and gonorrhea rates than the Virginia average, but Lyme disease incidence rates were more than double the Virginia average (**Exhibit 29**).

Exhibit 30 portrays maternal and child health indicators from 2011 for Virginia and for counties in the Shenandoah community.

Exhibit 30: Maternal and Child Health Indicators by County, 2011

Indicator	Page	Shenandoah	Warren	Virginia 2011
Low birth weight infants	7.4%	6.7%	8.6%	**8.0%**
Very low birth weight infants	0.0%	0.9%	2.1%	**1.6%**
Teen birth rate (aged 15-19)*	44.7	22.6	29.0	**24.1**
No prenatal care in first trimester	25.8	17.5%	21.8%	**17.3%**
Infant mortality rate**	-	6.5	11.6	**6.7**

Sources: Virginia Department of Health, 2011, and U.S. Census, ACS 5-year estimates, 2007-2011.
*Rates per 1,000 females aged 15-19 were calculated by Verité using U.S. Census, ACS 5-year estimates.
**Rates per 1,000 live births.

Key	
Rates unreliable due to small sample size	-
Ranging from better than VA up to 10% worse than VA	
10-50% worse than VA	
50-75% worse than VA	
> 75% worse than VA	

Maternal and child health indicators were comparatively unfavorable in Warren County

Shenandoah compared favorably to the Virginia average for all maternal and child health indicators. Teen birth rates and the percent of mothers with no prenatal care in the first trimester benchmarked unfavorably in Page and Warren Counties. Page County reported teen birth rates more than 50 percent higher than the commonwealth average. Warren County reported infant mortality rates more than 75 percent higher than the Virginia average (**Exhibit 30**).

3. Behavioral Risk Factors Surveillance System

Data collected by the Centers for Disease Control and Prevention's (CDC) Behavioral Risk Factor Surveillance System (BRFSSS) are based on a telephone survey that gathers data on various health indicators, risk behaviors, healthcare access, and preventive health measures. Data are collected for the entire U.S. Analysis of BRFSS data can identify localized health issues and trends, and enable county, state (or commonwealth), or nation-wide comparisons.

Exhibit 31 compares various BRFSS indicators for Shenandoah and Warren Counties to Virginia and U.S. averages. Indicators are shaded if an area's value was more than ten percent worse than the Virginia average. Data for Page County were not included in this analysis due to small sample sizes.

Exhibit 31: BRFSS Indicators and Variation from the Commonwealth of Virginia,* 2011

Indicator		Shenandoah	Warren	VA	U.S.
Health Behaviors	Binge drinkers**	9.5%	22.7%	**11.1%**	**12.0%**
	Heavy drinkers***	9.5%	9.1%	**5.2%**	**5.3%**
	Current smoker	14.3%	31.8%	**17.2%**	**16.7%**
	No physical activity in past 30 days	16.7%	18.2%	**24.4%**	**25.7%**
	Sometimes, seldom, or never wear seat belt	2.4%	9.1%	**4.5%**	**5.7%**
Access	Unable to visit doctor due to cost	4.8%	4.5%	**11.1%**	**12.7%**
	No personal doctor/healthcare provider	9.5%	9.1%	**16.0%**	**14.4%**
	Do not have health care coverage	9.5%	13.6%	**30.2%**	**10.8%**
Health Conditions	Overweight or obese	57.1%	63.6%	**59.6%**	**60.6%**
	Told have asthma	9.5%	18.2%	**11.8%**	**12.9%**
	Told have coronary heart disease or angina	0.0%	9.1%	**5.3%**	**6.0%**
	Told have diabetes	21.4%	18.2%	**12.9%**	**12.4%**
Mental Health	Poor mental health > 21 days/month	9.5%	0.0%	**5.8%**	**N/A**
Overall Health	Poor physical health > 21 days/month	14.3%	9.1%	**8.6%**	**N/A**
	Limited by physical, mental, or emotional problems	35.0%	22.7%	**26.2%**	**28.5%**
	Reported poor or fair health	16.7%	22.7%	**19.2%**	**19.6%**

Source: CDC BRFSS, 2011.
*Data for Page County were not included in this analysis due to small sample sizes.
**Adult males having five or more drinks on one occasion; adult females having four or more drinks on one occasion.
***Adult men having more than two drinks per day; adult women having more than one drink per day.

Key	
Ranging from better than VA up to 10% worse than VA	
10-50% worse than VA	
50-75% worse than VA	
> 75% worse than VA	

Warren County compared most unfavorably, with six indicators more than 50 percent worse than the Virginia average, of which four were greater than 75 percent worse than the commonwealth average. Warren reported particularly high percentages of residents who binge drink, drink heavily, smoke, and do not wear seat belts. The percentage of Shenandoah County residents who are heavy drinkers was greater than 75 percent worse than the Virginia average. Shenandoah County also benchmarked unfavorably for the percentage of people who reported having diabetes, poor mental or physical health for more than 21 days per month, and those who are limited by physical, mental, or emotional problems (**Exhibit 31**).

4. Healthy People 2020 Goals

Health People 2020 (HP 2020) is a project of the U.S. Department of Health and Human Services (HHS). HP 2020 identifies national health priorities and works to improve public awareness regarding problematic health concerns.

Exhibit 32: Healthy People 2020 Indicators and Goals

Indicator	Page	Shenandoah	Warren	HP 2020
Population with health insurance	81.5%	81.6%	83.3%	100.0%
Population with a usual source of primary care	-	90.5%	-	83.9%
Cancer mortality rate	208.3	154	234.2	160.6
Diabetes mortality rate	27.5	22.4	23.2	65.8
Heart disease mortality rate	193	160.5	155.8	100.8
Stroke mortality rate	40.7	36.4	54.8	33.8
Chronic liver disease and cirrhosis mortality rate	23.8	6.2	0	8.2
Unintentional injury mortality rate	44.6	46.3	52.8	36
Suicide mortality	45.9	14	14.4	10.2
Colorectal cancer incidence	52.9	32	55	38.6
Population reporting seat belt use	-	97.6%	-	92.4%
Binge drinkers	-	9.5%	-	24.3%
Heavy drinkers	-	9.5%	-	25.3%
Current smokers	-	14.3%	-	12.0%
Population reporting no leisure time physical activity	-	16.0%	-	32.6%
Infant mortality rate	4.4	6.5	11.6	6.0
Low birth weight infants	7.4%	6.7%	8.6%	7.8%
Very low birth weight infants	-	0.9%	2.1%	1.4%
Pregnant women receiving 1st trimester prenatal	74.2%	82.5%	78.2%	77.9%
Pregnant mothers abstaining from smoking	-	-	-	98.6%
Drinking water safety	99.5%	70.2%	99.4%	91.0%

Sources: CDC BRFSS, 2012; CDC State Cancer Profiles, 2013; County Health Rankings, 2013; Virginia Department of Health, 2012.
Rates are per 100,000 population, aside from infant mortality, which is per 1,000 live births.

Key	
Unreliable or missing data	-
Ranging from better than HP 2020 up to 10% worse than HP 2020	
10%-50% worse than HP 2020	
50-75% worse than HP 2020	
>75% worse than HP 2020	

All counties in the community compared unfavorably to the Healthy People 2020 goal for lack of insurance, heart disease mortality rate, unintentional injury mortality rate, and suicide

Lack of health insurance, heart disease, unintentional injury, and suicide mortality rates were problematic across the entire Shenandoah community. Cancer, stroke, and colorectal cancer incidence rates were comparatively high in Page and Warren Counties. Three indicators in Page County and one indicator in Warren County was more than 75 percent worse than the HP 2020 goal **(Exhibits 32)**.

Ambulatory Care Sensitive Conditions

This section examines the frequency of discharges for Ambulatory Care Sensitive Conditions (ACSC) throughout the counties in Shenandoah Memorial Hospital's community and at the hospital.

ACSC are sixteen health "conditions for which good outpatient care can potentially prevent the need for hospitalization or for which early intervention can prevent complications or more severe disease." As such, rates of hospitalization for these conditions can "provide insight into the quality of the health care system outside of the hospital," including the accessibility and utilization of primary care, preventive care and health education. Among these conditions are: diabetes, perforated appendixes, chronic obstructive pulmonary disease (COPD), hypertension, congestive heart failure, dehydration, bacterial pneumonia, urinary tract infection, and asthma.

Disproportionately high rates of discharges for ACSC indicate potential problems with the availability or accessibility of ambulatory care and preventive services and can suggest areas for improvement in the health care system and ways to improve outcomes.

1. County-level Analysis

Exhibit 33 indicates the percentage of hospital discharges in the Shenandoah community that were for ACSCs, by payer.[13]

Exhibit 33: Discharges for ACSC by County and Payer, 2012

County	Government	Medicaid	Medicare	Other	Private	Self-pay	Total
PSA	**0.0%**	**14.0%**	**21.6%**	**21.1%**	**10.7%**	**11.6%**	**16.6%**
Shenandoah	0.0%	14.0%	21.6%	21.1%	10.7%	11.6%	16.6%
SSA	**20.0%**	**11.1%**	**22.1%**	**17.6%**	**16.2%**	**19.8%**	**18.7%**
Page	33.3%	11.7%	24.3%	22.2%	23.8%	15.9%	22.5%
Warren	14.3%	11.0%	21.0%	12.5%	13.2%	20.6%	17.3%
Total	**12.9%**	**12.5%**	**21.9%**	**19.4%**	**13.9%**	**16.7%**	**17.8%**

Source: Verité analysis of data from Valley Health, using AHRQ software, 2012.

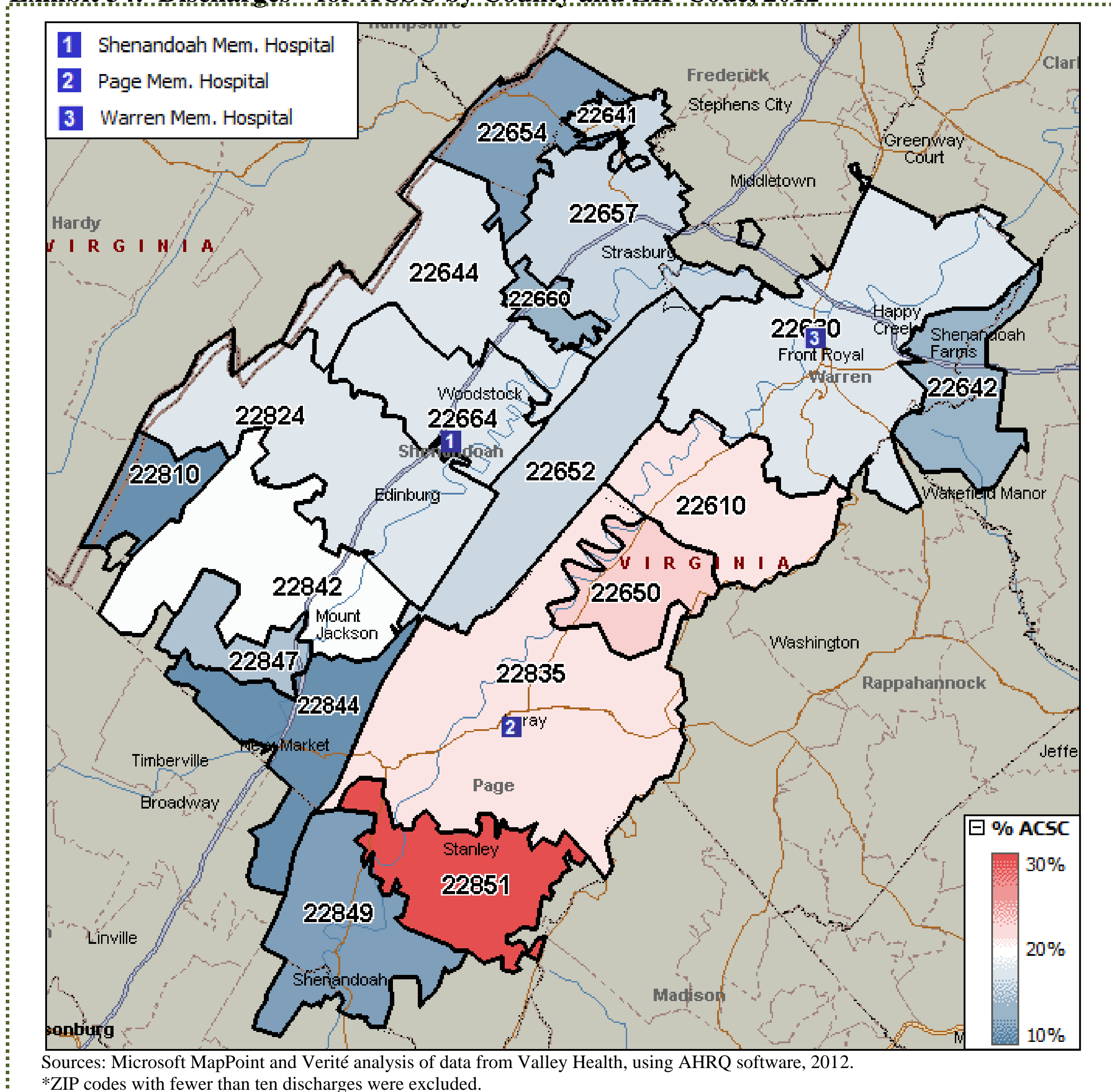
The table indicates that nearly 18 percent of Valley Health's discharges were for ACSCs in 2012. Medicare patients had the highest proportion of discharges for ACSCs. Self-pay patients (typically uninsured individuals), had an ACSC rate slightly less than to the overall figure. Page County had the highest percentage of discharges for ACSC (**Exhibit 33**).

[13] Discharges from all Valley Health hospitals.

2. ZIP Code-Level Analysis

Exhibit 34 illustrates the percentage of discharges for all community residents that were for ACSCs, by ZIP code.

Exhibit 34: Discharges[14] for ACSC by County and ZIP Code, 2012*



Sources: Microsoft MapPoint and Verité analysis of data from Valley Health, using AHRQ software, 2012.
*ZIP codes with fewer than ten discharges were excluded.

The percentage of discharges that were for ACSC was highest in Page County, particularly the following ZIP codes: 22851 (Stanley), and 22650 (Rileyville) (**Exhibit 34**).

[14] Discharges are from all Valley Health hospitals.

3. Hospital-Level Analysis

Exhibit 35 displays the percent of discharges for ACSC from each hospital in the Valley Health system.

Exhibit 35: ACSC Discharges by Hospital, 2012

Hospital	Percent ACSC	Total Discharges
Hampshire	33.6%	470
Page	34.0%	903
Shenandoah	25.3%	1,911
War	32.5%	462
Warren	20.1%	3,145
Winchester	12.7%	26,346
Total	**15.3%**	**33,237**

Of all Valley Health facilities, Page Memorial Hospital and Hampshire Memorial Hospital had the highest proportions of ACSC discharges

Source: Verité analysis of data from Valley Health, using AHRQ software, 2012.

Shenandoah Memorial Hospital ranked in the middle of all hospitals in the Valley Health system for the percent of discharges which were ACSC at 25 percent (**Exhibit 35**).

Exhibit 36 portrays discharges by ACSC by condition.

Exhibit 36: Discharges for ACSC by Condition, Shenandoah Memorial Hospital, 2012

Condition	0 to 17	18 to 39	40 to 64	65+	Total
Bacterial pneumonia		4.3%	25.5%	70.2%	141
COPD or asthma in older adults			45.5%	54.5%	112
Urinary tract infection		5.0%	7.9%	87.1%	101
Congestive heart failure		2.4%	2.4%	95.2%	42
Diabetes long-term complication		14.8%	22.2%	63.0%	27
Diabetes short-term complication		35.7%	50.0%	14.3%	14
Uncontrolled diabetes		11.1%	44.4%	44.4%	9
Perforated appendix		37.5%	50.0%	12.5%	8
Dehydration			28.6%	71.4%	7
Hypertension			16.7%	83.3%	6
Asthma in younger adults		100.0%			5
Pediatric gastroenteritis	100.0%				5
Pediatric asthma	100.0%				4
Pediatric urinary tract infection	100.0%				2
Angina without procedure			100.0%		1
Total	**2.3%**	**6.2%**	**25.0%**	**66.5%**	**484**

Source: Verité analysis of data from Valley Health, using AHRQ software, 2012.

The top four ACSC conditions at Shenandoah Memorial Hospital were: bacterial pneumonia, COPD or asthma in older adults, urinary tract infection, and congestive heart failure. Patients aged 65 years and over had the highest percentage of discharges for ACSC conditions (**Exhibit 36**).

Community Need Index™ and Food Deserts

1. Dignity Health Community Need Index

Dignity Health, a California-based hospital system, developed and has made widely available for public use a *Community Need Index™* that measures barriers to health care access by county/city and ZIP code.[15] The index is based on five social and economic indicators:

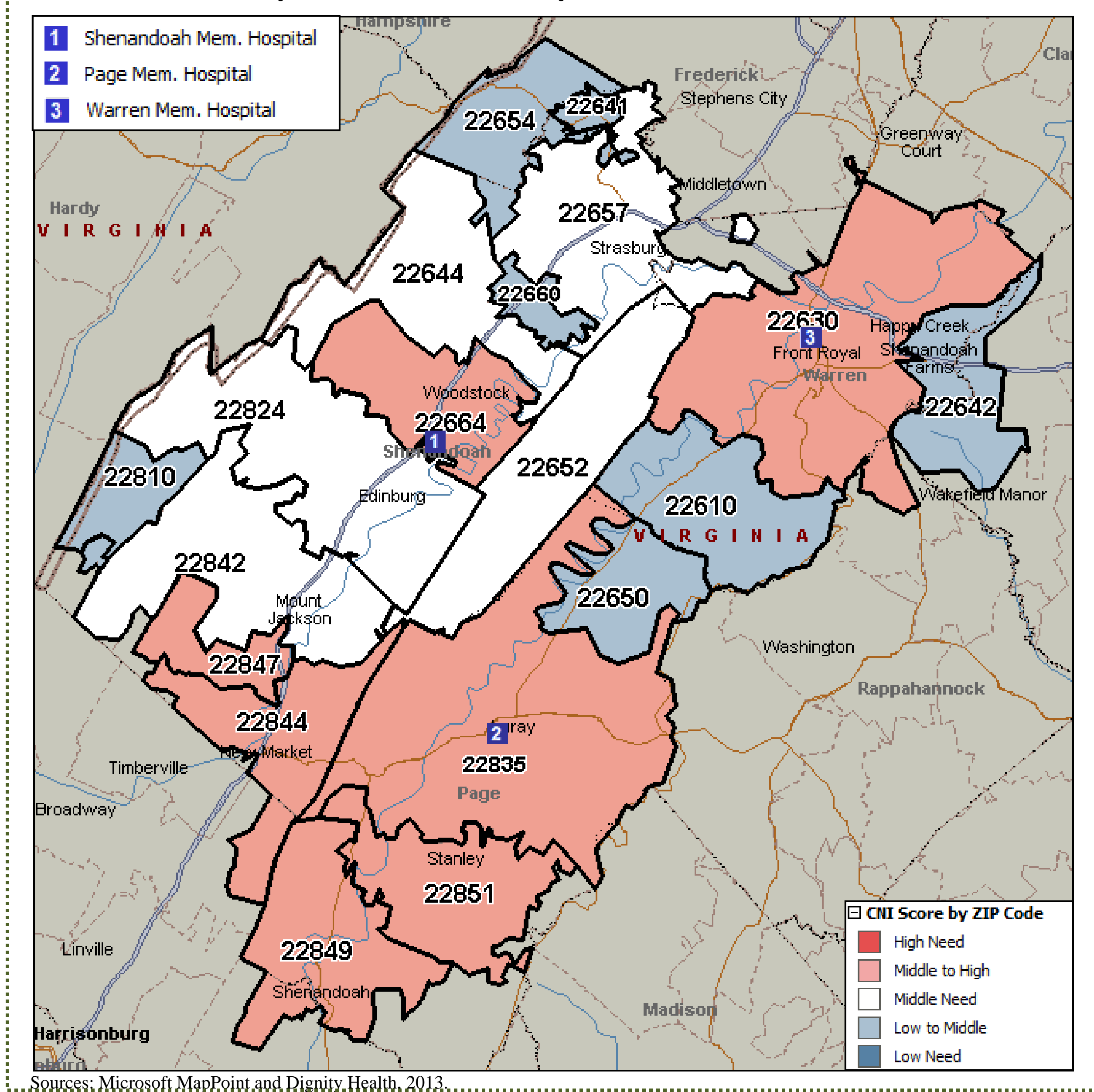
- The percentage of elders, children, and single parents living in poverty;
- The percentage of adults over the age of 25 with limited English proficiency, and the percentage of the population that is non-White;
- The percentage of the population without a high school diploma;
- The percentage of uninsured and unemployed residents; and
- The percentage of the population renting houses.

The *Community Need Index™* calculates a score for each ZIP code based on these indicators. Scores range from "Lowest Need" (1.0-1.7) to "Highest Need" (4.2-5.0).

[15] Accessed online at http://cni.chw-interactive.org/ on June 28, 2013.

Exhibit 37 presents the *Community Need Index™* (CNI) score of each ZIP code in the Shenandoah community.

Exhibit 37: Community Need Index™ Score by ZIP Code



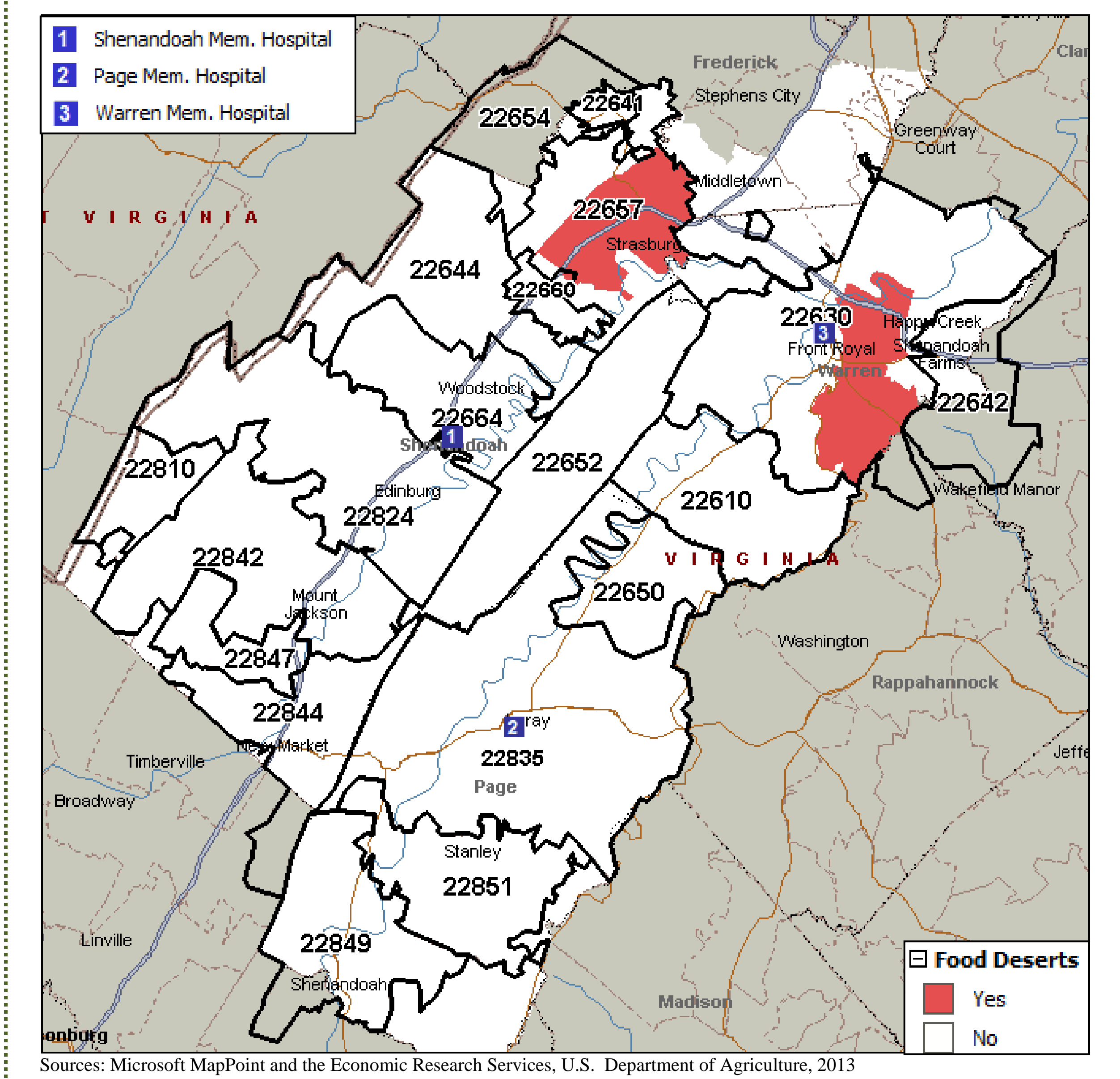
Sources: Microsoft MapPoint and Dignity Health, 2013.

ZIP codes in the Shenandoah community ranged in the middle need categories. Areas of middle to high need are located in substantial parts of Page and Warren Counties, smaller parts of Shenandoah County (**Exhibit 37**).

2. Food Deserts (Lack of Access to Nutritious and Affordable Food)

The U.S. Department of Agriculture's Economic Research Service estimates the number of people in each census tract that live in a "food desert," defined as low-income areas more than one mile from a supermarket or large grocery store in urban areas and more than 10 miles from a supermarket or large grocery store in rural areas. Many government-led initiatives aim to increase the availability of nutritious and affordable foods to people living in these food deserts. **Exhibit 38** illustrates the location of food deserts in the Shenandoah community.

Exhibit 38: Food Deserts by Census Tract



Sources: Microsoft MapPoint and the Economic Research Services, U.S. Department of Agriculture, 2013

Shenandoah Memorial Hospital's community contains two census tracts identified as food deserts. These are located in the municipalities of Front Royal and Strasburg (**Exhibit 38**).

Overview of the Health and Social Services Landscape

This section identifies geographic areas and populations in the community that may be facing barriers accessing care due to medical underservice or a shortage of health professionals.

The section then summarizes various assets and resources available to improve and maintain the health of the community.

1. Medically Underserved Areas and Populations

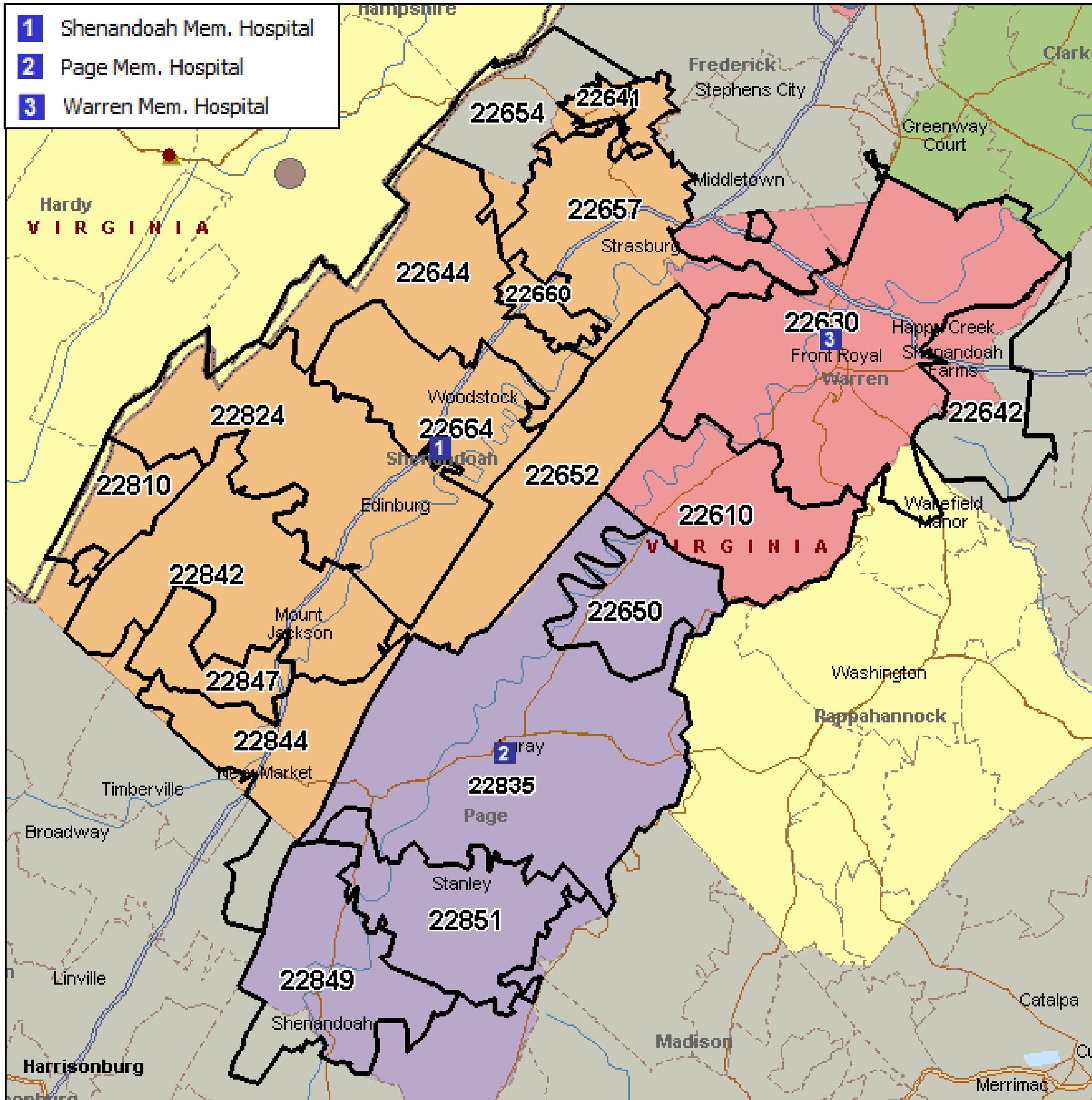
The Health Resources and Services Administration (HRSA) calculates an Index of Medical Underservice (IMU) score for communities across the U.S. The IMU calculation is a composite of the ratio of primary medical care physicians per 1,000 persons, the infant mortality rate, the percentage of the population with incomes below the poverty level, and the percentage of the population greater than age 64. IMU scores range from zero to 100, where 100 represents the least underserved and zero represents the most underserved.[16]

Any area or population receiving an IMU score of 62.0 or less qualifies for Medically Underserved Area (MUA) or Medically Underserved Population (MUP) designation. Federally Qualified Health Centers (FQHCs) may be established to serve MUAs and MUPs. Populations receiving MUP designation include groups within a geographic area with economic barriers or cultural and/or linguistic access barriers to receiving primary care. When a population group does not qualify for MUP status based on the IMU score, Public Law 99-280 allows MUP designation if "unusual local conditions which are a barrier to access to or the availability of personal health services exist and are documented, and if such a designation is recommended by the chief executive officer and local officials of the state where the requested population resides."[17]

Exhibit 39 no areas within the community have been designated as MUAs or MUPs.

[16] U.S. Health Resources and Services Administration. (n.d.) *Guidelines for Medically Underserved Area and Population Designation*. Retrieved 2012, from http://bhpr.hrsa.gov/shortage/muaps/index.html.
[17] *Ibid.*

Exhibit 39: Medically Underserved Areas and Populations and Health Professional Shortage Areas, 2012



Sources: Microsoft MapPoint and the Health Resources and Services Administration, 2013.

- FQHC Locations

Type of HPSA and MUA/P - County

- Dental HPSA
- Mental and Dental HPSA
- Mental HPSA, MUA
- MUA
- Primary and Dental HPSA, MUP (low income)
- Primary, Mental, and Dental HPSA

HPSA - County District

- Dental
- Primary

The community contains primary medical care, mental health care, and dental health care HPSAs

2. Health Professional Shortage Areas

A geographic area can receive a federal Health Professional Shortage Area (HPSA) designation if a shortage of primary medical care, dental care, or mental health care professionals is found to be present.

In addition to areas and populations that can be designated as HPSAs, a health care facility can receive federal HPSA designation and an additional Medicare payment if it provides primary medical care services to an area or population group identified as having inadequate access to primary care, dental, or mental health services.

HPSAs can be: "(1) An urban or rural area (which need not conform to the geographic boundaries of a political subdivision and which is a rational area for the delivery of health services); (2) a population group; or (3) a public or nonprofit private medical facility."[18]

Areas and populations in the Shenandoah Memorial Hospital community are designated as HPSAs (**Exhibit 39**). Page County is designated as a primary medical care, dental, and mental health HPSA, while Shenandoah County is designated as a mental health and dental HPSA. Warren County is designated as a dental HPSA.

3. Description of Other Facilities and Resources within the Community

The Shenandoah community contains a variety of resources that are available to meet the health needs identified in this CHNA. These resources include hospitals, health professionals, and other agencies and organizations.

Exhibit 40 identifies the hospitals in the Shenandoah Memorial Hospital community.

Exhibit 40: List of Hospitals in the Shenandoah Memorial Hospital Community

County	Hospital Name
PSA	
Shenandoah	Shenandoah Memorial Hospital
SSA	
Page	Page Memorial Hospital
Warren	Warren Memorial Hospital

Source: Centers for Medicare & Medicaid Services, 2013.

The community contains one acute care hospital and two critical access hospitals (**Exhibit 40**).

[18] U.S. Health Resources and Services Administration, Bureau of Health Professionals. (n.d.). *Health Professional Shortage Area Designation Criteria*. Retrieved 2012, from http://bhpr.hrsa.gov/shortage/hpsas/designationcriteria/index.html

Exhibit 41 presents the numbers of primary care physicians, mental health providers, and dentists per 100,000 population.

Exhibit 41: Health Professionals Rates per 100,000 Population by County

County	Primary Care Physicians		Mental Health Providers		Dentists	
	Number	Rate per 100,000	Number	Rate per 100,000	Number	Rate per 100,000
PSA	**22.0**	**52.3**	**9.0**	**21.4**	**11.0**	**25.9**
Shenandoah	22.0	52.3	9.0	21.4	11.0	25.9
SSA	**30.0**	**48.7**	**4.0**	**6.5**	**13.0**	**21.1**
Page	12.0	49.9	1.0	4.2	4	16.5
Warren	18.0	47.9	3.0	8.0	9.0	23.5
Virginia	**5,919**	**73.8**	**3,620**	**45.1**	**4,563**	**55.2**

Source: Data provided by County Health Rankings, 2013, via HRSA Area Resource File, 2011-2012.

Availability of primary care physicians, mental health care providers, and dental care providers is below the Virginia average in all counties (**Exhibit 41**).

A number of other agencies and organizations are available in each county in the Shenandoah Memorial Hospital community to assist in meeting health needs. In addition to the organizations listed below, see **Exhibits 51** through **54** for a listing of community organizations represented by individuals participating in key informant interviews and the community response session.

- Community organizations that provide services to elderly residents and those with disabilities:
  - Shenandoah Area Agency on Aging
- Community organizations that provide services relating to domestic violence:
  - Response, Inc.
- Community organizations that provide free or reduced cost health care:
  - Crossroads Counseling Center
  - Shenandoah County Free Clinic / Shenandoah Dental Clinic
  - St. Luke Community Clinic
- Community organizations that provide housing support or shelter for homeless residents:
  - House of Hope
- Community organizations that provide hunger reduction services:
  - Compassion Cupboard
  - Loaves and Fishes
  - Bread of Life
  - Open Door Food Pantry

- Community organizations that provide family planning and maternal / child health services:
    - Shenandoah County Pregnancy Center
- Community organizations that provide services for at-risk children / families:
    - Freemont St. Nursery
    - Healthy Families Northern Shenandoah Valley
    - Skyline Community Action Project (Skyline CAP Head Start)
- Local chapters of national organizations, such as the Alzheimer's Association, American Cancer Association, American Heart Association, American Red Cross, Habitat for Humanity, Lion's Club, United Way, YMCA, and YWCA
- Local places of worship that provide food or housing assistance:
    - Columbia Furnace Church of the Brethren
    - Rock Worship Center, Compassion House
    - St. Stephens CME
    - Emanuel Lutheran Church
- Local first responders, including fire departments, police departments, and Emergency Medical Services (EMS)
- Local government agencies, Chambers of Commerce, and City Councils
- Local and district public health departments and Community Health Coalitions
- Local schools, colleges, and universities

Findings of Other Recent Community Health Needs Assessments

Verité also considered the findings of other needs assessments published since 2009. Nine such assessments conducted in the Shenandoah Memorial Hospital area are referenced here, with highlights and summary points below.

1. AmeriMed Consulting, 2012

AmeriMed Consulting produced a "Physician Needs Assessment"[19] on the patient market, medical staff, and physician market to help Valley Health evaluate and plan for the community's medical staffing needs. Primary data included physician interviews and medical staff interviews, while secondary data was from the U.S. Census and Medical Group Management Association (MGMA).

Key findings relevant to this CHNA include:

- Thirteen percent of primary care physicians reported no longer accepting new Medicaid patients, and between 31 and 57 percent (depending on the state payor type) reported not accepting new Medicare patients;
- Among medical specialties, there is a need for psychiatry, obstetrics/gynecology, cardiology and dentistry; and
- Nearly 30 percent of physicians have reached age 55, and many retire or leave their careers early.

2. Lord Fairfax Health District and KRA Corporation, 2012

The "Youth Risk Behavior Survey (YRBS) – Summary Report for Middle and High School Students"[20] was conducted among 8th and 11th graders at schools in five of the six counties of the Lord Fairfax Health District. Clarke, Frederick, Page, and Warren Counties and the City of Winchester participated in the survey; Shenandoah County did not participate.

Findings from the survey include:

- Fewer 11th graders (21.6 percent) stated having participated in a physical education class during an average week when in school compared to the national average (42.9 percent).
- More 11th graders (13.1 percent) reported having been hit, slapped, or physically hurt by a significant other compared to the national average (10.3 percent). Additionally, more 11th graders also reported having been forced to have sexual intercourse when they did not want to compared to the national average.
- More 11th graders (12.0 percent) stated having had sexual intercourse before age 13 compared to the national average (4.9 percent).

[19] AmeriMed Consulting. (2012). *Physician Needs Assessment*. Retrieved 2013, from Valley Health.
[20] Lord Fairfax Health District and KRA Corporation. (2012). *Youth Risk Behavior Survey-Summary Report for Middle and High School Students.* Retrieved 2013, from Lord Fairfax Health District.

- More 11th graders (11.0 percent) reporting having attempted suicide, compared to the national average of 6.6 percent; 6.8 percent of 8th graders had attempted suicide. More 8th graders than 11th graders had considered attempting suicide.
- Students in both grades reported comparatively low rates of cigarette smoking and alcohol use. Drug use in 11th graders, however, was comparatively high for cocaine, heroin, and methamphetamines.

3. United Way of the Northern Shenandoah Valley, 2012

United Way completed a senior citizen study, "Senior Study: Assessing the Needs of At-Risk Seniors in the Northern Shenandoah Valley,"[21] in January 2012, in which nearly 250 seniors participating in Meals on Wheels or the Senior Center took part. The primary data of the survey was conducted by United Way and the Shenandoah Area Agency on Aging (SAAA). The purpose of the survey was to engage at-risk seniors (those at or below 133 percent of the federal poverty level), to analyze the barriers to accessing healthcare for this group of individuals.

Key findings relevant to this CHNA include:

- Nearly three-quarters of seniors responding to the survey reported annual incomes of less than $15,000.
- Almost a quarter of respondents felt that they were unable to afford prescription medications, and the same proportion did not have regular dental visits because of the cost of the visits (and cost of co-pays).
- The main priority of the majority of respondents was an inability to access support for household tasks, such as food preparation and house cleaning.
- About 30 percent of seniors reported being worried about unintentional injuries.
- Nearly 40 percent stated a concern about the affordability of assisted living in the city of Winchester and the counties of Clarke, Frederick, Page, Shenandoah, and Warren.
- Only about 12 percent of seniors felt all their current needs have been met.

4. Virginia Department of Health, Division of Injury and Violence Prevention, 2012

The Virginia Department of Health completed a report, "Youth Suicide in Virginia," in 2012.[22] The report recorded self-inflicted hospitalizations and youth suicide by age, race/ethnicity, age group, and health district (including the Lord Fairfax Health District, containing all of the Virginia counties in the service area) from 1996-2005. The secondary data included were from the Center for Disease Control and Prevention.

Key findings relevant to this CHNA include:

[21] United Way of Northern Shenandoah Valley. (2012). Senior Study: Assessing the Needs of At-Risk Seniors in the Northern Shenandoah Valley. Retrieved 2013.

[22] Virginia Department of Health- Division of Injury & Violence Prevention. (2012). *Youth Suicide in Virginia.* Retrieved 2013, from: http://www.vdh.state.va.us/ofhs/prevention/preventsuicideva/documents/2012/pdf/youthsuicidereport19962005.pdf

- In Virginia youth suicide rates dropped between 1996 and 2000, and then steadied around 2005. The rate of suicides was highest for the 20-24 year age group.
- The Lord Fairfax Health District had a crude suicide rate of 10.89 per 100,000 population, higher than Alexandria, Arlington, Loudoun, and other Health Districts in the region.

5. Warren Coalition, 2012

The Warren Coalition conducted a survey, the "Warren County Student Pride Survey,"[23] of the county's high school students which was compared to the Monitoring the Future national survey.

Key findings relevant to this CHNA include:

- Warren County high school students had higher rates of tobacco usage across 8th, 10th, and 12th graders, compared to the national average.
- Warren County 8th graders had higher alcohol and prescription drug usage than the national average.
- Cocaine usage was higher for 8th and 10th graders than the national average.
- Warren County 11th graders had a higher rate of inhalant and hallucinogen usage than the national average.
- Warren County 8th and 11th graders had a higher rate of ecstasy, meth, and OTC than the national averages.
- The top five issues identified by Warren County high school students were family problems, bullying, alcohol use, texting while driving, and tobacco use.

6. Shenandoah Free Clinic Community Survey and People Incorporated of Virginia, 2011

Shenandoah County and People Incorporated of Virginia conducted a survey, the "Shenandoah County Free Clinic Health Clinic Expansion Project Survey",[24] regarding medical needs of county residents to provide data for a grant application to improve the Shenandoah County Free Clinic. A phone survey was conducted in 2009 (number of respondents not available), followed by another survey in 2011 to patients (40 respondents), providers (7 respondents), and the Hispanic community (35 respondents).

Findings from the surveys include:

- In 2009, half of the providers surveyed did not have availability for new patients, specifically Medicaid patients.

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[23] Warren Coalition. (2012). Warren County Student Pride Survey Results.

[24] Shenandoah County and People Incorporated of Virginia. (2011). Shenandoah County Free Clinic Health Clinic Expansion Project Survey. Retrieved 2013, from the Shenandoah County Free Clinic.

- In 2009, the wait time for a mental health-related appointment averaged 8 weeks in Woodstock. The average wait time for care at the free clinic was 6 weeks for current patients and 3 months for new patients.
- In 2011, 46 percent of Hispanic (or Latino) respondents and 62 percent of patients stated that they visited a hospital emergency room because there was nowhere else to get medical services.
- In 2011, about 49 percent of Hispanic (or Latino) respondents left the community for medical diagnosis, treatment, and services in the past year, most commonly visiting Harrisonburg, University of Virginia, and Winchester. Twenty-eight percent of patients reported leaving the community for treatment.
- In 2011, about a quarter of Hispanic (or Latino) respondents did not seek medical help as soon as they needed it. Some of the reasons for not receiving care immediately were inability to afford the cost of care and visits, lack of time to attend visits, and the long wait times.
- In 2011, of the services that Hispanic (or Latino) respondents stated needing the most, dental services were identified most frequently, followed by vision and cardiology services.
- The majority of patients, nearly 62 percent had to wait one to two weeks to make an appointment, while about 39 percent had to wait three to four weeks.

7. Voices for Virginia's Children, 2011

Voices for Virginia's Children produced a report, "Building Our Future: The State of Virginia's Early Childhood System,"[25] on child care and early childhood programs in Virginia. Secondary data were from the Virginia Department of Social Services.

Key findings relevant to this CHNA include:

- The number of eligible school divisions that did not participate in the Virginia Preschool Initiative (VPI), a program aimed at providing early education to at-risk four-year olds, decreased from 22 school districts in 2003-2004 to14 school districts in 2010-2011.
- In 2011, nearly 7,800 children were in need of VPI and Head Start programs; these numbers have been trending upward since 2001.
- The percentage of Head Start children with a dental home has increased six percentage points, from 91 percent to 97 percent, between 2007 and 2010.

[25] Voices for Virginia's Children. (2011, October). *Building Our Future: The State of Virginia's Early Childhood System*. Retrieved 2013, from: http://www.vakids.org/pubs/ECE/Building%20Our%20Future%20Oct%202011.pdf

8. Lord Fairfax Health District, 2010

The Lord Fairfax Health District completed a "2010 Language Needs Assessment"[26] that analyzed the limited English proficiency of the counties in the Lord Fairfax Health District, which include: Frederick, Clarke, Page, Shenandoah, Warren, and Winchester City. The primary data in the report include data from the Virginia Department of Health and U.S. Census.

Key findings relevant to this CHNA include:

- Winchester City had the highest number of limited English proficient persons within the district, at 6,777 individuals, followed by Shenandoah County, at 3,006 individuals.
- The primary language spoken by 80 percent of LEP individuals was Spanish.
- There has been a 61 percent increase in the use of educational services for LEP students.
- About six percent of all patients receiving services at the Lord Fairfax Health District were classified as LEP students, and about eight percent of all patient encounters are with LEP patients.

9. Congregational Health ReSource, LLC, 2009

Congregational Health ReSource, LLC, completed a congregational health assessment[27] of Woodstock in Shenandoah County and Luray in Page County[28] for the Virginia Department of Health, Office of Minority Health. Primary data included a survey of clergy and non-clergy in the communities and asked about attitudes and beliefs about how congregational health.

Key findings relevant to this CHNA include:

- Pastors in both communities highlighted primary health concerns for their congregation: cancer, heart disease, and aging/geriatrics. Pastors in Page County also mentioned lack of awareness of preventive medicine.
- Barriers to accessing health care in Shenandoah County include lack of adequate and affordable insurance, lack of knowledge of available resources, cultural barriers, adequate income to afford basic necessities, and transportation.
- Barriers in the Page County that affect the health of congregation members include cultural barriers, lack of knowledge of available resources, and lack of education or vocational training.

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[26] Lord Fairfax Health District. (2010). *2010 Language Needs Assessment*. Retrieved 2013, from: http://www.vdh.virginia.gov/CLAS_Act/researchresources/documents/languageprofiles/LordFairfax.pdf
[27] Congregational Health ReSource, LLC. (2009). Final Report: Shenandoah County (Woodstock).
[28] Congregational Health ReSource, LLC. (2009). Final Report: Page County (Luray).

PRIMARY DATA ASSESSMENT

Community Survey Findings

Shenandoah Memorial Hospital's survey of community health consisted of questions about a range of health status and access issues, as well as respondent demographic characteristics. The survey was made available for six weeks in April and May 2013 on Valley Health's web site and was widely publicized via mailings, e-mail lists, newspaper and local media ads, and dissemination through partner health and community service organizations. The questionnaire was available in English and Spanish, and paper copies were available on request.

1. Respondent Characteristics

The survey questionnaire was completed by 267 residents from the Shenandoah Memorial Hospital community. Survey responses were received from residents of 17 of the Shenandoah Memorial Hospital community's 22 ZIP codes.

Almost 81 percent of respondents were female, and 79 percent were between the ages of 35 and 64. Ninety-five percent were White, and two percent identified as Hispanic (or Latino). The majority of respondents reported being in good, very good, or excellent overall health (92 percent), married (73 percent), employed full time (78 percent), privately insured (85 percent), and having an undergraduate degree or higher (52 percent). The majority (99 percent) of respondents speak English in the home. One percent of respondents reported that they spoke multiple languages at home. Eleven percent of residents reported living alone, and 17 percent of those living alone did not receive any emotional or financial support.

Exhibit 42 presents the percentage of respondents by county.

Exhibit 42: Survey Respondents by County, 2013

County	Number of Responses	Percent of Respondents	Percent of Total Population 2013
PSA	**130**	**48.7%**	**42.2%**
Shenandoah	130	48.7%	42.2%
SSA	**137**	**51.3%**	**57.8%**
Page	33	12.4%	22.9%
Warren	104	39.0%	34.9%
Total	**267**	**100.0%**	**100.0%**

Source: Valley Health Community Survey, 2013.

Shenandoah had the highest percentage of respondents at 49 percent (**Exhibit 42**).

2. Access Issues

The majority of survey respondents reported visiting a primary care provider regularly. Thirty percent had a primary care provider but did not go regularly. Six percent of respondents reported not having a primary care provider.

Exhibit 43 indicates where respondents most often received care.

Exhibit 43: Locations Where Respondents Received Routine Healthcare

Response	Number of Responses	Percent of Responses
No routine healthcare received	15	4.2%
Free or low-cost clinic or health center	8	2.3%
Private doctor's office	239	67.7%
Urgent care facility or store-based walk-in clinic	56	15.9%
Hospital emergency room	20	5.7%
School-based clinic	2	0.6%
Soup kitchen	1	0.3%
Homeless shelter	1	0.3%
Other	11	3.1%

Source: Valley Health Community Survey, 2013. Total community responses (N=359).

Exhibit 43 shows that 68 percent of families received routine (non-emergency, non-specialty) healthcare services from a private doctor's office and 16 percent received routine care from an urgent care facility or store-based walk in clinic. Approximately nine percent received services from a free or low-cost clinic or health center, hospital emergency room, school-based clinic, soup kitchen, or homeless shelter.

Exhibit 44 indicates whether respondents felt that they were able to get needed care.

Exhibit 44: Respondent Ability to Receive Needed Care, by Type of Care

Response	Primary Care	Vision Care	Dental Care	Mental Health Care	Medical Specialty Care	Medicine, Medical Supplies, and Equipment	Prevention and Wellness Services
Total Community							
Always	79.6%	72.5%	71.3%	31.6%	63.6%	80.1%	48.2%
Sometimes	16.2%	18.6%	17.4%	25.3%	22.2%	10.0%	22.9%
Rarely	2.3%	6.2%	9.1%	19.0%	9.3%	6.5%	14.1%
Never	1.9%	2.7%	2.3%	24.1%	4.9%	3.5%	14.7%

Source: Valley Health Community Survey, 2013. Primary Care (N=265), Vision Care (N=258), Dental Care (N=265), Mental Health Care (N=79), Medical Specialty Care (N=162), Medicine, Medical Supplies, and Equipment (N=201), Prevention and Wellness Services (N=170).

Exhibit 44 suggests that most respondents in the community felt that they did not "always" receive needed mental health care, and about half of respondents felt that they did not always receive prevention and wellness services. More residents responded that they always received primary care, vision care, dental care, and medicine, medical supplies, and equipment.

Exhibit 45 presents the percentage of respondents who reported “not always” being able to get needed care by county. Data indicate that access varies by type of care and locality.

Exhibit 45: Respondents Not Always Able to Receive Care, by County

County	Primary Care	Vision Care	Dental Care	Mental Health Care	Medical Specialty Care	Medicine, Medical Supplies, and Equipment	Prevention and Wellness Services
PSA	**21.9%**	**28.5%**	**31.2%**	**71.1%**	**39.2%**	**18.9%**	**58.0%**
Shenandoah	21.9%	28.5%	31.2%	71.1%	39.2%	18.9%	58.0%
SSA	**19.0%**	**26.7%**	**26.4%**	**64.7%**	**33.7%**	**20.7%**	**46.1%**
Page	22.6%	24.2%	21.2%	-	38.1%	21.4%	47.4%
Warren	17.9%	27.5%	28.0%	58.6%	32.3%	20.5%	45.7%
Total	**20.4%**	**27.5%**	**28.7%**	**68.4%**	**36.4%**	**19.9%**	**51.8%**

Source: Valley Health Community Survey, 2013. Primary Care (N=265), Vision Care (N=258), Dental Care (N=265), Mental Health Care (N=79), Medical Specialty Care (N=162), Medicine, Medical Supplies, and Equipment (N=201), Prevention and Wellness Services (N=170).
A “-“ indicates that percentages are unreliable due to small sample size.

Across all counties, respondents reported not always being able to access mental health care (68 percent), prevention and wellness services (52 percent), and medical specialty care (36 percent) more than for other services. The highest percentage of respondents reporting that they are not always able to receive mental health care services was in Shenandoah County (71 percent) (**Exhibit 45**).

Respondents indicating that they were not always able to get care were asked to identify barriers to access (**Exhibit 46**).

Exhibit 46: Barriers to Receiving Needed Care

Response	Primary Care	Vision Care	Dental Care	Mental Health Care	Medical Specialty Care	Medicine, Medical Supplies, and Equipment	Prevention and Wellness Services
I don't have insurance	14.1%	21.8%	20.7%	5.0%	6.5%	16.1%	6.1%
I can't get an appointment	8.2%	1.1%	1.1%	3.0%	4.3%	3.6%	2.6%
I can't afford it / too expensive	15.3%	31.0%	40.2%	15.0%	19.6%	26.8%	20.9%
The hours are inconvenient	12.9%	9.2%	8.0%	7.0%	7.6%	7.1%	13.0%
These services are not available in my area	3.5%	2.3%	1.1%	9.0%	14.1%	1.8%	6.1%
I don't have transportation	1.2%	1.1%	1.1%	1.0%	1.1%	1.8%	0.9%
I don't trust the doctor	3.5%	2.3%	1.1%	3.0%	2.2%	1.8%	1.7%
The doctors and staff do not speak my language	1.2%	1.1%	1.1%	1.0%	2.2%	1.8%	0.9%
I can't take time off from work or from caring for others	15.3%	6.9%	9.2%	7.0%	7.6%	7.1%	14.8%
Other	24.7%	23.0%	16.1%	49.0%	34.8%	32.1%	33.0%

Source: Valley Health Community Survey, 2013. Primary Care (N=85), Vision Care (N=87), Dental Care (N=87), Mental Health Care (N=100), Medical Specialty Care (N=92), Medicine, Medical Supplies, and Equipment (N=56), Prevention and Wellness Services (N=115).

Key	
Top two barriers by care type	

Cost was the most frequently reported barrier to care. Among those choosing "other," most responses cited a lack of need for services as the reason they did not access care (**Exhibit 46**).

3. Health Issues

Exhibit 47 presents the top health issues identified by survey respondents.

Exhibit 47: Top Health Issues

Health Issue	Total Community
Low income / financial challenges	12.3%
Obesity	10.6%
Diabetes	7.9%
Tobacco use	6.8%
Substance abuse / addiction	6.5%
Cancer	6.4%
Mental health (such as depression, bipolar, autism)	6.4%
Unemployment	6.0%
Heart disease	5.5%
Poor dietary choices	5.4%
Not enough exercise	5.3%
Dental health issues	4.0%
Chronic Obstructive Pulmonary Disease (COPD)	3.2%
Access to healthy food is limited	2.4%
Affordable housing	2.2%
Alzheimer's or dementia	1.9%
Homelessness	1.6%
Unsafe sex	1.4%
Asthma	1.1%
Stroke	1.0%
Domestic violence	0.8%
Other (please specify)	0.6%
Poor air quality	0.5%
Birth defects	0.1%
Unsafe neighborhoods	0.1%

Source: Valley Health Community Survey, 2013. The N varies for each answer, as people were able to select several issues as top concerns. Total Number of Responses: Community (N=1,460).

Key	
Top five health issues	

Respondents most often selected low income or financial challenges, obesity, diabetes, tobacco use, and substance abuse/addiction (**Exhibit 47**).

Exhibit 48 indicates, of survey respondents who have certain health conditions, whether they are getting needed care, choose not to get care, or do not know where or how to get care. For example, 98 percent of the 60 respondents who said they have asthma felt as if they are getting the care they need.

Exhibit 48: Receiving Care for Health Conditions

Health Condition	Receiving Needed Care	Choose not to Get Care at this Time	Don't Know Where or How to Get Care for this Condition
Asthma	98.3%	1.7%	0.0%
Alzheimer's / dementia	100.0%	0.0%	0.0%
Cancer	100.0%	0.0%	0.0%
Chronic Obstructive Pulmonary Disease (COPD)	82.1%	7.1%	10.7%
Diabetes	97.2%	1.4%	1.4%
High blood pressure	95.8%	3.0%	1.2%
Heart disease	91.9%	4.8%	3.2%
Mental health issues	70.0%	15.0%	15.0%
Obesity / overweight	58.2%	28.4%	13.4%
Substance abuse / addiction	23.1%	38.5%	38.5%

Source: Valley Health Community Survey, 2013. Asthma (N=60), Alzheimer's / dementia (N=15), Cancer (N=46), Chronic obstructive pulmonary disease (N=28), Diabetes (N=72), High blood pressure (N=168), Heart disease (N=62), Mental health issues (N=60), Obesity / overweight (N=134), Substance abuse / addiction (N=13).

Care was accessed most for cancer (100 percent), Alzheimer's/dementia (100 percent), asthma (98 percent), and diabetes (97 percent). Many respondents stated not choosing to get care and / or not knowing where to get care for mental health issues, obesity, and substance abuse / addiction (**Exhibit 48**).

4. Health Behaviors

Exhibit 49 portrays various health behaviors reported by survey respondents in the Shenandoah Memorial Hospital community.

Exhibit 49: Health Behaviors

Health Behavior	Total Community
Not Physically Active	38.2%
Eat Less than Recommended Amounts of Fruit	40.8%
Eat Less than Recommended Amounts of Vegetables	68.9%
Never or Rarely Shop at Farmer's Market	71.4%
Travel 5 Miles or More for Fresh Produce	41.5%
Drank Alcohol 10+ Days in the Past Month	10.9%
Ever Used Prescription Drugs Belonging to Friends or Family	13.3%

Source: Valley Health Community Survey, 2013. Not physically active (N=267), Eat less than recommended amounts of fruit (N=265), Eat less than recommended amounts of vegetables (N=267), Never or rarely shop at farmer's market (N=266), Travel 5 miles or more for fresh produce (N=265), Drank alcohol 10+ days in the past month (N=265), Ever used prescription drugs belonging to friends or family (N=264).

Thirty-eight percent of respondents reported not being physically active. A large percentage of respondents reported that they were not eating the recommended amount of vegetables and that they never or rarely shopped at a farmer's market. The principal reasons stated for not shopping at a farmer's market were that respondents found the hours inconvenient and that the food was too expensive. Most respondents (48 percent) reported purchasing their groceries in a grocery store, while respondents were least likely to buy groceries at a convenience store (two percent) (**Exhibit 49**).

Respondents were asked to identify health topics that children in various age groups needed to know more about. **Exhibit 50** examines the health topics that respondents chose for children in the Shenandoah community.

Exhibit 50: Important Health Information Topics for Children and Youth

Topic	Ages 0-5	Ages 6-10	Ages 11-15	Ages 16-19
Dental hygiene	24.5%	10.2%	5.3%	5.3%
Nutrition	18.4%	11.0%	6.4%	6.5%
Bullying	14.1%	12.0%	6.9%	6.5%
Getting enough sleep	11.6%	8.3%	6.2%	6.3%
Tobacco	6.1%	8.4%	7.4%	7.4%
Eating disorders	4.9%	7.1%	7.0%	6.9%
Drug abuse	4.6%	7.8%	7.5%	7.5%
Alcohol	4.1%	7.0%	7.4%	7.6%
Asthma management	4.0%	6.4%	4.2%	3.9%
Diabetes management	3.6%	5.8%	4.8%	5.1%
Mental Health Issues	1.3%	4.3%	7.1%	7.0%
Reckless driving / speeding	0.7%	1.2%	6.1%	7.9%
Suicide prevention	0.6%	3.9%	7.5%	7.1%
Sexual intercourse	0.6%	3.5%	7.9%	7.3%
Sexually transmitted diseases	0.6%	2.9%	8.1%	7.4%
Other	0.2%	0.2%	0.3%	0.5%

Source: Valley Health Community Survey, 2013. Ages 0-5 (N=822), Ages 6-10 (N=1,593), Ages 11-15 (N=2.576), Ages 16-19 (N=2,434).

Key	
Top three issues by age group	

Among children aged 0 to 10 years, health topics such as dental hygiene, nutrition, and bullying were seen as important. Drug abuse was one of the primary suggested educational topics for youth aged 11 to 19, with information regarding sexual intercourse and sexually transmitted diseases also recommended for youth aged 11 to 15, and information relating to alcohol and reckless driving / speeding recommended for youth aged 16 to 19 (**Exhibit 50**).

Summary of Interview Findings

Key informant interviews were conducted face-to-face and by telephone by Verité Healthcare Consulting in April and May 2013. The interviews were designed to obtain input on health needs from persons who represent the broad interests of the community served by Shenandoah Memorial Hospital, including those with special knowledge of or expertise in public health.

Interviews were held with 66 individuals (some in group interviews), including: persons with special knowledge of or expertise in public health; health and other public departments or agencies with data or information relevant to the health needs of the community; and leaders, representatives and members of medically underserved, low-income, and minority populations, and of populations with chronic disease needs; and representatives of the educational and business communities. An annotated list of individuals providing community input is in the following section of this report.

Interviews were conducted using a structured questionnaire. Informants were asked to discuss community health issues and encouraged to think broadly about the social, behavioral and other determinants of health. Interviewees were asked about issues related to health status, health care access and services, chronic health conditions, populations with special needs, and health disparities.

The frequency with which specific issues were mentioned and interviewees' perceptions of the severity (how serious or significant) and scope (how widespread) of each concern were assessed. The following health status issues and contributing factors were reported to be of greatest concern. The items in each list are presented in order of stated importance, although the differences in some cases are relatively minor.

Health Status Issues

1. **Mental and behavioral health**: Mental and behavioral health was the most frequently-citied health issue in the community, and one with significant severity. Interviewees generally reported that the community's mental health needs have risen, while mental health service capacity has not. They described a wide range of mental health issues, including for example: bullying among youth, autism spectrum symptoms and diagnoses, depression among senior citizens, adult and family stress and coping difficulties, a lack of affordable outpatient mental health professionals, and a lack of local inpatient treatment facilities. Interviewees also noted frequent dual diagnoses of mental health problems and substance abuse.
2. **Drug and substance abuse**: Substance abuse was the second most frequently mentioned health status issue, and was portrayed as both growing and serious. In addition to use of illicit substances (e.g. cocaine, heroin, and marijuana), interviewees reported recent increases in the abuse of prescription pain medications, including "pill parties" among youth and drug-seeking behavior in physicians' offices and hospital emergency departments. Abuse of over-the-counter medications by youth was frequently mentioned. Interviewees cited a lack of local treatment services, particularly inpatient facilities, for people with substance abuse problems. Some interviewees reported that substance abuse and addiction among pregnant women is creating more perinatal and neonatal health

problems. As noted above for mental health needs, dual diagnoses of substance abuse and mental health problems are not uncommon.

3. **Obesity**: Obesity and overweight was the fourth most frequently mentioned health status issue. This was true for all ages, but noted to be rising among children and youth. Commenting on related contributing factors, interview participants mentioned nutrition and diet, low physical activity and exercise, and food insecurity and hunger.
4. **Oral health and dental care**: Oral health and dental care for all ages was the third most frequently mentioned health status issue by key informant interview participants. The issue was discussed in terms of poor dental hygiene, tooth decay in children and youth in addition to adults, and a lack of affordable, preventive dental health services. Interview participants stated that access to dental care is very difficult for low income and uninsured individuals, particularly in less populated areas. While Medicaid covers dental care for children and youth, not all dentists accept Medicaid patients. For low income, uninsured adults needing expensive restorative care, tooth extractions are sometimes the only available or practical option.
5. **Smoking and tobacco**: Smoking and tobacco use was frequently mentioned in the context of concerns about drug and substance abuse. Smoking was viewed as a significant health issue that has been in existence for some time, but that is not becoming notably worse.
6. **Pregnancy-related health issues**: Interview participants raised two primary concerns with respect to pregnancy health and related perinatal and neonatal health. The first is a perceived increase in teen pregnancies and a lowering of the ages at which some girls are becoming pregnant. The other is concern about the effects of substance use and abuse by pregnant women on their unborn and newborn children, which was stated to cause serious and potentially lifelong health deficits in these children.
7. **Diabetes**: Diabetes was the most frequently mentioned chronic disease in the interviews, and was often paired with a discussion of the condition of obesity and overweight. There was widespread recognition of the toll it takes on health, its impact on the health care system, and the importance of not only treatment but also health behavior change in addressing the disease, as well as concern about younger adults and youth beginning to be diagnosed with the condition.

Factors Contributing to Health Status and Access to Care

In addition to discussing health status issues and health conditions in the community, interview participants addressed the factors or conditions they believe most contribute to poor health status. A rank-ordered list of the major contributing factors raised, some of them inter-related, is below:

1. **Access to health care**: Interview participants cited a wide range of difficulties with access to care, including availability of providers, cost and affordability of care, significant transportation barriers for low-income and elderly populations, and language or cultural barriers for some members of the community.
2. **Low income and poverty**: Issues related to income and financial resources were frequently stated to limit access to care, contribute to poor diet and nutrition, and create stresses that negatively impact health.

3. **Low educational levels and a lack of health education and knowledge**: Factors linked generally to educational attainment and specifically to health education were noted by interview participants as impeding both the ability effectively seek and manage health care, and to adopt and practice healthy behaviors.
4. **Poor nutrition and diet**: Among health behaviors that contribute to or inhibit good health, dietary habits and nutrition were mentioned most frequently as major factors in obesity, diabetes, heart disease, and related conditions and chronic diseases.
5. **Lack of physical activity and exercise**: Among health behaviors that contribute to or inhibit good health, a lack of physical activity and exercise was mentioned as a concern for all age groups, from youth through senior citizens. Interview participants recognized that reasons for limited activity and strategies to increase it differ across the life span.
6. **Preventive health services and preventive health behaviors**: Interview participants raised prevention of illness and disease in two distinct but related ways, which are connected to other factors on this list. First was a lack of use of preventive health services such as regular physical exams and health screenings – due variously to access difficulties and to a tendency not to seek care unless one is experiencing an acute condition. Second was a lack of preventive health behaviors, including but not limited to specific ones on this list. In both cases, the lack of prevention was viewed as contributing to more advanced stages of illness.
7. **Food insecurity and hunger**: Closely linked to, but different from, poor nutrition and diet was interview participants' observations that low income – brought on by unemployment, underemployment, and other economic insecurity – can contribute to malnourishment and to obesity, with significant health consequences.
8. **Homelessness**: Interview participants mentioned homelessness as a risk factor for poor health, and some made particular note of those who are newly homeless as a consequence of the recent economic recession. Homelessness creates stresses and practical challenges to maintaining one's health and seeking or obtaining needed health care.
9. **Risk-factors among Elderly Residents**: Some interview participants highlighted the particular health risks experienced by older residents in the community. Seniors not uncommonly experience lower incomes, transportation barriers, advanced chronic diseases, and social isolation that can negatively impact health status.

Individuals Providing Community Input

The CHNA took into account input from many people who represent the broad interests of the community served by the hospital, via interviews with 66 individuals and one "community response session" that included many of the interviewees and six additional participants. These 72 stakeholders were comprised of public health experts; individuals from health or other departments and agencies; leaders or representatives of medically underserved, low-income, and minority populations; and other individuals representing the broad interests of the community (**Exhibits 51, 52, 53,** and **54**).

1. Public Health Experts

Individuals interviewed with special knowledge of or expertise in public health, some of whom also participated in a community response session, include those in **Exhibit 51**:

Exhibit 51: Public Health Experts Interviewed

Name	Title	Affiliation or Organization	Special Knowledge/Expertise or Nature of Leadership Role	Interview or Response Session
Dr. Charles Devine, III	District Director	Lord Fairfax Health District	Expertise in the public health needs of Lord Fairfax Health district residents.	Both
Dr. Randall Midock	Director	Child Development Clinic, Lord Fairfax Health District	Expertise regarding children's public health and developmental issues, including psychological health.	Interview
Karen Farnsworth	Project Coordinator	Virginia Department of Health	Expertise in the public health needs of children and youth in Lord Fairfax Health District.	Both
Keely Sartori	WIC Supervisor	Virginia Department of Health	Public health expertise related to encouraging proper nutrition in WIC participants.	Interview
Tom Minke	Director	Page County Health Department	Expertise in the public health needs of Page County residents.	Interview

2. Health or Other Departments or Agencies

Several interviewees were from departments or agencies with current data or other information relevant to the health needs of the community (**Exhibit 52**). This list excludes the public health experts identified in **Exhibit 51**, who also meet this criterion.

Exhibit 52: Individuals from Health Departments or Agencies Interviewed

Name	Title	Affiliation or Organization	Interview or Response Session
Carla Taylor	Director	Shenandoah County Social Services	Response Session
Christa Shifflett	Executive Director	Warren County Community Health Coalition	Both

3. Community Leaders and Representatives

The following individuals were interviewed because they are leaders or representatives of medically underserved, low-income, and/or minority populations (**Exhibit 53**). This list excludes the public health experts identified in **Exhibit 51**.

Exhibit 53: Community Leaders and Representatives Interviewed

Name	Title	Affiliation or Organization	Special Knowledge/Expertise or Nature of Leadership Role	Interview or Response Session
Dr. Glenn Burdick	Executive Director	St. Luke Community Clinic	Special knowledge regarding health needs of the indigent populations in the community.	Both
Jill Williams	Program Supervisor	Healthy Families NSV	Experience providing parenting support to at-risk families in the community.	Both
Karol Derflinger	Therapeutic Day Treatment Director	Family Preservation Services	Experience in improving parenting and family functioning while keeping children safe in families in crisis.	Interview
Katy Pitcock	Co-Chair and Coordinator Community Prenatal and Language Access	Virginia Medical Interpreting Collaborative	Special knowledge of health needs of populations that have limited in English proficiency.	Both
Nancy Feldman	Executive Director	Faith In Action	Special knowledge of vulnerable populations receiving transportation services.	Interview
Pam Murphy	Executive Director	Shenandoah County Free Clinic	Special knowledge regarding health needs of the indigent populations in the community.	Both
Sara Schoonover-Martin	Executive Director	Healthy Families NSV	Experience providing parenting support to at-risk families in the community.	Both
Shannon Urum	Prevention Specialist	Northwestern Community Services	Special knowledge of substance abuse prevention and treatment in vulnerable populations.	Response Session
Sheila Orndoff	Executive Director	Shenandoah Alliance for Shelter	Special knowledge of needs of homeless and disadvantaged populations.	Response Session
Stacey Lam	Medical Practice Manager	Page Rural Health Center	Special knowledge regarding health needs of the indigent populations in the community.	Interview

4. Persons Representing the Broad Interests of the Community

Exhibit 54A: Other Interviewees Representing the Broad Interests of the Community

Name	Title	Affiliation or Organization	Interview or Response Session
Anita Scandurra	Director	Wellness Services	Interview
April McClain	Director	Shenandoah Memorial Hospital	Interview
Bill Haire	Chief Operating Officer	Winchester Medical Center	Interview
Bobbi Wells	Director	Page County Schools and Page Alliance for Community Action	Interview
Brody Williams	Fitness Center Coordinator	Page Memorial Hospital	Interview
Brooke Herndon	Director of Development	Grafton Integrated Health Network	Interview
Bryan Rosati	Operations Manager - Winchester	Valley Regional Enterprise	Interview
Carolyn Knowles	Dispatch Manager	Valley Medical Transport	Interview
Chris Rucker	VP Community Health and Wellness, President of Valley Regional Enterprises	Valley Health	Both
Connie Nutter	President	NAMI Winchester	Interview
David Cunsolo	Lead Pastor	Victory Church	Interview
Debra J. Litten	Supervisor of Student Services	Shenandoah County Public Schools	Response Session
Dena Kent	President, Valley Regional Enterprises	Valley Health	Interview
Desiree Brunell	Director, Nursing Resources	Winchester Medical Center	Interview
Donald (Don) Price	Executive Director	Access Independence	Interview
Doug Stanley	County Administrator	Local Government-Warren County	Interview
Dr. B. Keith Rowland	Superintendent	Shenandoah County Public Schools	Interview
Dr. Jack Potter	Medical Director of Emergency Services	Valley Health	Interview
Dr. Jeffrey Feit	Vice President	Valley Health Physician Support Services	Interview
Edyth McGoff	Director, Emergency Department	Warren Memorial Hospital	Interview
Emily Mitchell	Director of Nursing	Page Memorial Hospital	Interview
Ernie Carnevale	CEO	Blue Ridge Hospice	Interview
Floyd Heater	President	Shenandoah Memorial Hospital	Both
Helen Hatfield	Dental Hygiene Coordinator	Lord Fairfax Community College	Response Session
Jeff Jeran	Director	Valley Health Wellness and Fitness	Both
Jenna French	Executive Director	Woodstock Chamber of Commerce	Interview
Jodi Young	Clinical Manager	Winchester Medical Center	Interview
John Nagley	Executive Director	AIDS Response Effort	Interview
John Robbins	President	Page County Chamber of Commerce	Interview

Exhibit 54B: Other Interviewees Representing the Broad Interests of the Community

Name	Title	Affiliation or Organization	Interview or Response Session
Joseph Shtulman	President/CPO	United Way of Northern Shenandoah Valley	Interview
Julie Alexander	Outreach Coordinator	Winchester Medical Center	Both
Linda Gill	Dental Hygiene Coordinator	Lord Fairfax Community College	Interview
Lisa Wells	Trauma Coordinator	Winchester Medical Center	Interview
Mary Presley	Physical Therapy	Warren Memorial Hospital	Interview
Nicole Foster	President	Front Royal Chamber of Commerce	Interview
Nicole Pangle	Executive Director	ARC of Northern Shenandoah Valley	Interview
Pam Gray	Clinical Manager	Page Memorial Hospital	Interview
Pamela M. McInnis	Superintendent	Warren County Public Schools	Interview
Patrick Nolan	President	Warren Memorial Hospital	Both
Paul Clements	Administrator	Lynn Care Center	Interview
Paul Scardino	Director	National Counseling Group	Interview
Portia Brown	Director of Quality and Regulatory Affairs	Page Memorial Hospital	Interview
Randy Reed	Program Director	Winchester Medical Center	Interview
Rebekah Ady Schennum	Project Director	Family Youth Initiative	Response Session
Reen Markland	Regional Parish Nurse Coordinator	Winchester Medical Center	Both
Renee Smith	Membership Director & Peer Recovery Expert	NAMI Winchester	Interview
Sara Kuykendall	Dietician	Wellness Services	Interview
Sharen Gromling	Executive Director	Our Health, Inc.	Interview
Stacey Rice	Clinical Manager	Winchester Medical Center	Interview
Stephanie Dirckx	Executive Director, Heart and Vascular	Winchester Medical Center	Interview
Sue Hildreth	Executive Director	Concern Hotline	Interview
Susan Betcher	Drug Prevention Specialist	Page County Public Schools	Interview
Travis Clark	President	Page Memorial Hospital	Interview
Trina Cox	Director	Hampshire Wellness Center	Both

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