2016 Community Health Needs Assessment

Northwood
Health Systems

Northwood Health Systems

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Executive Summary

2016 Community Health Needs Assessment

Northwood Health Systems

Message to the Community

Northwood Health Systems is proud to present our 2016 Community Health Needs Assessment (CHNA) Report. This report summarizes a comprehensive review and analysis of health status indicators, public health, socioeconomic, demographic and other qualitative and quantitative data from Brooke, Hancock, Marshall, Ohio and Wetzel Counties in West Virginia as our primary service area covers these five counties. Because of our mission to be a world-class organization, dedicated to providing cost-effective, quality care for children, adolescents, adults, and senior citizens with emotional problems, intellectual disabilities, mental illness and drug and alcohol addictions, the data collected focused on these areas. The data was reviewed and analyzed to determine the top priority needs and issues facing these segments of the community.

The primary purpose of this assessment was to identify the health needs and issues of the selected populations in the primary service area of our organization. In addition, this CHNA provides useful information for public health and health care providers, policy makers, social service agencies, community groups and organizations, religious institutions, businesses, and consumers who are interested in improving the health status of the community and region as well. The results enable the health system as well as other community providers to more strategically identify community health priorities, develop interventions and commit resources to improve the health status of the region.

This report is also offered as a resource to individuals and groups interested in using the information to inform better health care and community agency decision making.

Individually and collectively, improving the health of the community and region is a top priority of Northwood Health Systems. Beyond the education, client care and programs already provided by Northwood Health Systems, we hope the information presented is not only a useful community resource, but also encourages additional activities and collaborative efforts that improve the health status of the community.

Executive Summary

The 2016 Northwood Health Systems Community Health Needs Assessment (CHNA) was conducted to identify health issues and needs as well as to provide critical information to Northwood Health Systems and others in a position to make a positive impact on the health of the region's residents. The results enable the organization and other community partners to more strategically establish priorities, develop interventions and direct resources to improve the health of children, adolescents, adults, and senior citizens with emotional problems, intellectual disabilities, mental illness and drug and alcohol addictions living in the Northwood Health Systems service area.

The assessment followed best practices as outlined by the Association of Community Health Improvement. The assessment was also designed to ensure compliance with current Internal Revenue Service (IRS) guidelines for charitable 501(c) (3) tax-exempt hospitals. This Community Health Needs Assessment included a detailed examination of the following areas:

- Demographics
- General Health Status and Access to Care
- Chronic/Serious Mental Health
- Drug and Alcohol
- Other Environmental Factors and Indicators Impacting Mental and Physical Health

Secondary public health data on disease incidence and mortality as well as behavioral risk factors were gathered from numerous sources including the West Virginia Bureau of Public Health, the Centers for Disease Control, Healthy People 2020, County Health Rankings as well as a number of other reports and publications. Data was collected for Brooke, Hancock, Marshall, Ohio and Wetzel counties, although some selected state and national data is included where local/ regional data was not available. Utilization data was included from Northwood Health Systems' patient records. Primary qualitative data collected specifically for this assessment included 3 focus groups including family members and professionals and 58 in-depth stakeholder interviews, representing the needs and interests of various community groups, topic areas and sub-populations. In addition to gathering input from focus groups and stakeholder interviews, input and guidance also came from health system leaders who served on the Steering Committee. After all primary and secondary data was reviewed and analyzed, issues, needs and possible priority areas for intervention were

identified. The Steering Committee prioritized and discussed the needs and identified improving physical / behavioral healthcare integration, expanding substance abuse services, increasing the number of mental health providers in the areas served and improving access to outpatient psychiatric services as the top priority areas in response to the needs identified in the assessment. The implementation strategies selected by Northwood Health Systems address these needs in a variety of ways.

Needs identified by the CHNA that are not being addressed through these implementation strategies are already being addressed by current programs or existing community assets, necessary resources to meet these needs are lacking, or these needs fall outside of the Northwood Health Systems mission.

Methodology

To guide this assessment, the project managers formed a Steering Committee that consisted of representatives who understood the various needs and issues of the service area population. The Steering Committee provided guidance on the various components of the Community Health Needs Assessment.

Service Area Definition

Consistent with IRS guidelines at the time of data collection, Northwood Health Systems defined the community by geographic location based on the primary service area of the organization. More specifically, the geographic boundary of the primary service area includes Brooke, Hancock, Marshall, Ohio and Wetzel counties.

Asset Inventory

The Northwood Health Systems staff identified existing health care facilities and resources within the community available to respond to the health needs of the community. The information included in the asset inventory includes a listing of youth services, hospitals, homeless services, food services, family services, community services and autism services.

Qualitative and Quantitative Data Collection

In an effort to examine the health related needs of the residents of the county wide service area and to meet current IRS guidelines and requirements, the methodology employed both qualitative and quantitative data collection and analysis methods. The staff and Steering Committee members made significant efforts to ensure that the entire primary service territory, all socio-demographic groups and all potential needs, issues and underrepresented populations were considered in the assessment.

The existing secondary quantitative data collection process included demographic and socioeconomic data obtained from the West Virginia Department of Health and Human Resources; Behavioral Risk Factor Surveillance Survey (BRFSS) data collected by the Centers for Disease Control and Prevention and the Healthy People 2020 goals from HealthyPeople.gov. The BRFSS Data are for a five-year summary period and includes information from participants who were adults over the age of 18. In addition,

various health and health related data from the following sources were also utilized for the assessment: the US Department of Agriculture, and the County Health Rankings (www.countyhealthrankings.org).

The primary data collection process included qualitative data from 58 stakeholder interviews and 3 focus groups conducted by members of the Northwood staff. Interviews and focus groups captured personal perspectives from community members, providers, and leaders with insight and expertise into the health of a specific population group or issue, and the service area overall.

Needs/Issues Prioritization Process

In April 2016 the Steering Committee met to review the primary and secondary data collected through the needs assessment process and discussed needs and issues present in the community. The Steering Committee prioritized the needs and issues identified throughout the assessment in order to identify potential intervention and implementation. Three criteria, including accountable role (the extent to which the health system or another entity in the community should take a leadership role on the issue), magnitude of the problem, and capacity (systems and resources to implement evidence based solutions), were used to evaluate identified needs/issues.

Steering Committee members completed the prioritization exercise using a criteria matrix approach. The group identified physical / behavioral healthcare integration, expanding substance abuse services, increasing the number of mental health providers in the areas served and improving access to outpatient psychiatric services as the top priority areas in response to the needs identified in the assessment.

Implementation Strategy Development Process

Following the prioritization session and based on the greatest needs related to Northwood's mission, current capabilities and focus areas, staff and leadership within the partner organizations involved in the CHNA process identified implementation strategies to meet identified needs.

Implementation strategies were selected by the organization to address the following goals: Improve access to outpatient psychiatric services; Improve Northwood's capacity to provide services to clients with mild, moderate and serious mental illness including children under the age of 18; Improve Northwood's capacity to provide substance abuse treatment services; Improve access to and engagement in treatment for physical health conditions by our existing clients who have a mental illness and / or substance abuse problem. The implementation strategies are outlined in a separate document and are not included in this CHNA report.

Review and Approval

The Northwood Health Systems Board of Directors approved this Executive Summary on June 22, 2016.

General Findings

Demographics

For purposes of this assessment, the geographic scope of this study (also referred to as the service area, community and/or region) is defined as Brooke, Hancock, Marshall, Ohio and Wetzel counties. The overall population of this area as of the 2010 Census was 94,133.

Census bureau estimates reflect the population in the service area has declined from 3 to 5% across the counties served in the past 5 years, and the population decline is expected to continue. The service area has slightly more females than males. While the majority of the population of the service area is between the ages of 25-54, there is a sizable senior population (between 17% and 19%) that is higher than the state. The service area is predominately white non-Hispanic, and the majority of residents are married and living with their spouse.

The majority of the service area has at least a high school education, although between 12 and 16% of the service area county populations lack a high school diploma. Income statistics show that the service area is low to middle class, with an average commute to work of less than 30 minutes.

Asset Inventory

A list of assets and resources that are available in the community to support residents was compiled. The assets identified a listing of community clinics, community services, food services, homeless services, hospitals, intellectual disability services, substance abuse and youth services.

Primary Research

A total of 58 stakeholder interviews and 3 focus groups were conducted representing individuals from throughout the five counties. Stakeholders were identified as experts in a particular field related to their background, experience or professional position and/or someone who understood the needs of a particular underrepresented group or constituency. The interviews and focus groups were conducted across the region with various community constituencies. The results reported herein are qualitative in nature and reflect the perceptions and experiences of interview and focus group participants.

Key Findings – BRFSS & Public Health Data

This assessment reviewed a number of indicators at the county level from the statewide Behavioral Risk Factor Survey (BRFSS) as well as disease incidence and mortality indicators. For this analysis, the service area data was compared to state and national data where possible.

As outlined in the following tables, for many of the BRFSS questions, the service area's data was comparable to the state data, with some slight variability across the indicators. Behavioral risks in the service area where the regional rates were worse than the state/nation or had a negative trend include the percentage of people who rated their health status fair or poor, the percentage of people with no health

insurance, percentage of adults with cardiovascular disease, individuals having serious mental illness of a major depressive episode, percentage of the population having one or more poor mental health days in the last 30 or who are limited due to physical mental or emotional problems.

The region has increasing rates of:

- Obesity
- Hypertension
- High Cholesterol
- Diabetes
- Drug overdose death
- DUI arrests
- Fatal alcohol related automobile accidents
- Hepatitis
- Adults living in poverty

West Virginia overall, and the 5 counties served, also have an increasing rate of substance abuse, particularly of prescription pain killers and heroin.

General Health Status and Access to Care

Access to comprehensive, quality healthcare is important for the achievement of health equity and for increasing the quality of life for everyone in the community.

There are a number of observations and conclusions that can be derived from the data related to General Health Status and Access to Care. They include:

- In West Virginia, between 2013 and 2015, the percentage of adults aged 18 to 64 years of age who lacked health insurance coverage dropped significantly, by 19.9%.
- During this same time frame, 2013 to 2015, the percentage of adults aged 18 to 64 who had public health plan coverage increased by more than 10%.
- In West Virginia between 2007 and 2014, the percentage of adults who needed to see a doctor but could not due to cost ranged between 16%-18%, which is higher than the Healthy People 2020 Goal (4.2%).
- Between 2007 and 2014, the percentage of adults with no health care provider ranged between 21% and 24%, which is above the Healthy People 2020 Goal of 16.1%.
- Hancock, Marshall, Ohio, and Wetzel Counties are all designated as medically underserved areas. Wetzel and Hancock Counties are designated shortage areas for Primary Care, Dental and Mental Health Services. Marshall County is also designated as a Primary Care shortage area.
- Over the last 5 years, demand for Northwood services has increased for psychiatric/medication management and outpatient therapy services.
- Over the last 5 years, demand for Northwood services has increased by approximately 1000% for substance abuse services.

Chronic/Serious Mental Health

Conditions that are long-lasting, relapse, and are characterized by remission and continued persistence are categorized as chronic diseases. Mental Health refers to a broad array of activities directly or indirectly related to the

mental well-being component included in the World Health Organization's definition of health: "A state of complete physical, mental and social well-being, and not merely the absence of disease". Mental health is related to the promotion of well-being, the prevention of mental disorders, and the treatment and rehabilitation of people affected by mental disorders.

Focus group participants discussed a number of needs and issues related to chronic/serious mental health management. Poor health status and the scarcity of resources are seen as contributing factors to the problems and challenges for those with mental illness and disabilities. Because of the stigma that still exists regarding mental health treatment, some people are refusing to get the care they need. There is also a "quick fix" attitude within the system and resources are not appropriately invested in long term solutions that will make a difference for persons with disabilities and those with mental health needs. There is also a need for additional mental health resources and support groups to assist those who are willing to seek treatment.

There are a number of observations and conclusions that can be derived from the data related to Chronic/Serious Mental Health and related issues. These include:

- In 2015, West Virginia ranked third highest of the 50 states in the number of poor mental health days in the past 30.
- In 2015, the number of poor mental health days out of the past 30 was slightly lower than the state rate for all counties in the service area except for Hancock County.
- In 2015, West Virginia ranked highest of the 50 states in the number of poor physical health days in the past 30.
- Adults in Ohio County have the best (lowest) ratings of fair or poor health.
- Based on 2012 data, SAMHSA reported that West Virginia ranked third highest of the 50 states in the percentage of persons with Any Mental Illness.
- Based on 2012 data, SAMHSA reported that West Virginia ranked highest of the 50 states in the percentage of persons with Serious Mental Illness.
- West Virginia has a higher rate of Major Depressive Episode for adults in the past year than the national rate.
- According to the American Foundation for Suicide Prevention, suicide is the 11th leading cause of death overall in West Virginia.
- Suicide is the second leading cause of death for individuals aged 10 to 34 in West Virginia.
- Brooke and Wetzel Counties have the highest rates of suicide death in the counties served and higher than the overall state rate.
- 20 to 25% of the homeless population in the United States suffers from some form of severe mental illness

Drug and Alcohol

According to the World Health Organization, substance abuse refers to the harmful or hazardous use of psychoactive substances, including alcohol and illicit drugs. Psychoactive substance use can lead to dependence syndrome - a cluster of behavioral, cognitive,

and physiological phenomena that develop after repeated substance use and that typically include a strong desire to take the drug, difficulties in controlling its use, persisting in its use despite harmful consequences, a higher priority given to drug use than to other activities and obligations, increased tolerance, and sometimes a physical withdrawal state.

Locally, focus group participants expressed concern that substance abuse continues to be an existing and still growing problem that the current system lacks capacity to adequately and appropriately address. Across the three focus groups conducted for this study, substance abuse was identified as either the top problem or near the top problem in our service area. There is a perceived lack of prevention and early intervention services for alcohol and drug abuse and more options for addiction services are needed, including residential and long term rehab treatment options.

Stakeholders participating in the interviews echoed the discussion from the focus groups stressing that substance abuse continues to be a real and growing problem within the service area counties. Across all interviews substance abuse ranked number one out of all identified problem areas in the service area. Although some community based resources do exist there is a need for more residential acute as well as post-acute substance abuse treatment. Easy access to drugs and the lack of preventive services is contributing to an increased demand for services.

All across the country, within the state of West Virginia as well as in the service area counties, drug and alcohol use and abuse is a growing concern. Although specific local drug and alcohol data is limited, it suggests that the rates of drug and alcohol abuse in the service area counties is at or higher than the state, which has one of the highest rates in the country for drug overdose deaths. Local stakeholders reported in each of the focus groups and interviews that the abuse of opioids, specifically heroin is increasing, and the local system is struggling to keep up with the increase in demand for services, as evidenced by the increase in drug related hospitalizations and mortality over the past few years.

Local leaders indicate that there is a need for increased access to preventative education and early intervention services as well as residential treatment and post-acute support services.

Overall observations and findings from the data include:

- Between 2009 and 2013 Ohio County reported higher rates of binge drinking, compared to Brooke, Hancock, Marshall and Wetzel Counties but less than the state and all were below the Healthy People 2020 goal.
- In our service area in 2010-2012 perceptions of great risk of an alcoholic beverage once or twice a week is slightly lower than the state and appears to be decreasing from 2008 and 2010.
- Between 2010 and 2012 the rate of DUI arrests was higher in Hancock and Ohio Counties when compared to Brooke, Marshall, Wetzel County and the rest of the state.

- Between 2008-2010 and 2009-2013 tobacco use in our region appears to be increasing and is slightly higher than numbers reported across the rest of the state.
- Between 2008-2010 and 2010-2012 perceptions of great risk of smoking marijuana once a month decreased significantly in our region and across the state.
- Between 2001 and 2011 prescription drug overdose deaths steadily increased in West Virginia.
- In 2013 drug overdose / poisoning rates were higher in Brooke, Hancock and Marshall Counties as compared to Ohio, Wetzel Counties and the rest of the state.
- In 2014 West Virginia ranked number one in the nation in drug overdose mortality rates.

Other Environmental Factors and Indicators Impacting Mental and Physical Health

Focus group participants discussed the relationship between environmental characteristics and the impact on mental health and substance abuse. The lack of employment opportunities has led to serious issues for many people. Some attribute the challenges to chronic depression or a lack of awareness that stems from poor parenting, and recognize that issues related to physical health and overall well-being contribute to mental health status.

Stakeholders echoed some of the discussion and concerns expressed in the focus groups related to the poor economy and the depression and stress associated with difficult employment prospects.

The service area counties have a number of environmental and physical health related conditions that are contributing to and impacting the overall well–being and mental health status of their residents, and West Virginia residents also very high rates of unhealthy behaviors including smoking, inactive lifestyles, and excesses of fast food. Residents are also largely inactive. In 2015, obesity rates in West Virginia were one of the two highest in the nation and West Virginia is one of only three states with a prevalence of obesity of 35% or higher, more than a third of the population. The region's incidence and mortality rates for many chronic disease conditions are higher than the state rates and in some cases double the Healthy People 2020 goals.

Although unemployment has decreased in recent years, high poverty rates as well as a lack of education and awareness are seen as contributing factors to mental health needs and issues.

Specific findings in the data include:

- In West Virginia, overall cancer mortality rates have remained steady within the past 5 years.
- In 2015, West Virginia ranked highest nationally in the percentage of adults with hypertension.
- Over 40% of West Virginia adults have been told by a health care professional that they have hypertension.
- In 2015, West Virginia ranked highest nationally in the percentage of adults with diabetes.

- West Virginia has the highest drug overdose death rate in the nation, and those deaths are increasing.
- West Virginia's drug overdose death rate is more than double the national average.
- In 2012, West Virginia ranked third highest of the 50 states in the number of opioid prescriptions written per 100 persons.
- West Virginia has the highest rate of Hepatitis B in the United States.
- In West Virginia, the Hepatitis infection rate is steadily growing while the rate is decreasing across the rest of the country.
- Increasing Hepatitis B rates can be attributed to a corresponding increase in injected street drug use in West Virginia over the past several years.
- West Virginia ranked highest of the 50 states in the percentage of the population over age 18 that smoke.
- In 2015, West Virginia ranked second highest of the 50 states in the percentage of adults with obesity.
- West Virginia is one of only three states with a prevalence of obesity of 35% or higher.
- The percentage of obese adults in the service area was highest in Hancock County (38%) and lowest in Ohio County (29%).
- In 2015, West Virginia ranked second highest of the 50 states in the number of years of potential lost life due to premature death.
- In 2015, West Virginia ranked third highest in the nation in the percentage of adults with high cholesterol.
- More than 40% of West Virginia adults who had their cholesterol checked were told they have high cholesterol.
- In 2015, West Virginia ranked fifth highest of the 50 states in annual deaths due to cardiovascular disease.
- In 2015, West Virginia ranked fourth highest of the 50 states in the percentage of adults reporting physical inactivity.
- Approximately 1 in 3 children in West Virginia live in single-parent households and this rate has been increasing since 2012. Only Marshall County is below the State rate of 33% for the percentage of children living in a single parent household. Brooke, Hancock, Ohio and Wetzel Counties exceed the State rate.
- In Brooke, Hancock, Marshall, Ohio, and Wetzel counties, between 44% and 50% of students are eligible for free lunch.
- For certain census tracts in Marshall, Ohio, and Wetzel counties, more than 46% of the population have low access to a supermarket or large grocery store.
- More than 50% of the restaurants in Brooke, Hancock, Marshall, Ohio and Wetzel Counties are fast food restaurants.
- The violent crime rate between 2012 and 2016 was higher in Ohio County than in Brooke, Hancock, Marshall and Wetzel Counties and the in the State overall.

Action Plan

Northwood Health Systems completed its most recent Community Health Needs Assessment (CHNA) in May, 2016. The CHNA successfully identified several needs related to behavioral health in the community Northwood serves. The top priorities to be addressed were identified, and Northwood has developed an implementation plan to address those needs. Some of the identified needs were outside the scope of Northwood's mission, and others are more effectively addressed by other community organizations. Northwood believes the implementation plan will improve behavioral health in its community. Northwood Health Systems' Action Plan is not included as part of this CHNA report.

Review and Approval

The 2016 Community Health Needs Assessment and Action Plan was presented and approved by the Northwood Health Systems Board of Directors on June 22, 2016. Following Board approval the 2016 Northwood Health Systems CHNA will be published and made widely available to the public.

Northwood
Health Systems

History and Accomplishments

Northwood Health Systems

History and Recent Accomplishments

Community Health Needs Assessments are necessary to meet the regulatory requirements and guidelines for various healthcare organizations, and according to the community benefit provisions for tax-exempt hospitals recently established by the Internal Revenue Service, and the Patient Protection and Affordable Care Act, non-profit hospitals are to conduct a community health assessment at least once every three years. A Community Health Needs Assessment (CHNA) must take into account the broad interests of the community served by the hospitals and must include individuals with expertise in public health. The Community Health Needs Assessment must be made widely available to the public and an action plan must be developed that identifies how the assessment findings are being implemented in a strategic plan.

Northwood Health Systems' mission is to be a world-class organization, dedicated to providing cost-effective, quality care for children, adolescents, adults, and senior citizens with emotional problems, intellectual and developmental disabilities, mental illness, and drug and alcohol addictions. Northwood Health Systems is committed to helping people achieve their highest possible quality of life. Northwood recognizes its role as an integral part of the communities it serves. Please review our award-winning web site at www.northwoodhealth.com for more information on Northwood, its programs and services, and the many other contributions it makes to the community.

Charity Care

Many people are less fortunate and cannot afford the mental health services they need. Providing charity care to poor and indigent patients is a significant part of meeting Northwood's charitable mission. In fiscal year 2015, Northwood provided $1,143,511 in free clinical services for patients who neither have health insurance nor meet Medicaid eligibility criteria. This high level of charity care equates to 4.8% of Northwood's patient service revenue, and 5.0% of its total operating expenses. Northwood has historically provided substantially higher levels of charity care than any other major health care provider in our service area. Northwood's Board of Directors and executive management believe that providing charity care to the poor is one of our greatest accomplishments.

Northwood Health Systems

Financial and In-Kind Contributions to Other Nonprofits

In addition to providing a high level of charity care to patients, Northwood has also made financial contributions to other nonprofit organizations to help them meet their charitable missions. In fiscal year 2015, Northwood made $3,334,443 in financial contributions to other nonprofit organizations. It is very rare for a nonprofit to make direct financial contributions to other nonprofit organizations, and Northwood's contributions have helped provide shelter, develop treatment programs, further education, and improve health for thousands in our communities. This unusual generosity by Northwood has been a significant community benefit.

Subsidized Health Services

In addition to providing a high level of charity care and making generous financial contributions to other nonprofits, Northwood also subsidized $645,404 in programs and services for which there is no, or very limited reimbursement or funding. These subsidized programs and services, while a drain on Northwood's financial resources, play an important role in meeting the needs of the communities we serve. In other words, Northwood operates programs that lose money because those services are important in meeting the needs of the community.

Emergency Homeless Shelter

Northwood continually assesses the needs of the community. Our assessment showed that the collapse of the steel industry and devastation to other associated industries, have resulted in significant job loss and economic depression over the past 30 years. This economic depression has resulted in a decrease in our standard of living, a breakdown in family support systems, and ultimately a significant increase in homelessness. To better serve our community, Northwood made the decision to operate an emergency homeless shelter in our service area. In fiscal year 2015, Northwood spent $204,096 to operate the emergency shelter and care for the homeless in our community. Northwood pays the full cost of operating the homeless shelter, and receives little to no reimbursement or funding for the service.

West Virginia Assessments and Taxes

Nonprofit health care corporations in the state of West Virginia are also faced with the additional burden of supporting many of the state's general revenue obligations through the imposition of taxes and assessments. Nonprofit corporations located in other states are not required to pay sales and other taxes. In fiscal year 2015, Northwood paid more than half a million dollars in taxes and assessments to the state of West Virginia.

Conclusion

As our mission states, Northwood is committed to helping people achieve their highest possible quality of life. During fiscal year 2015, Northwood provided more than $6 million in community benefits, which equates to 23% of our total revenue, and 23.3% of our total expenses. Northwood is not aware of any other non-profit health care provider that provided 23% of its total revenue or 23.3% of its total expenses in community benefits in fiscal year 2015.

Northwood has estimated that its federal and state income tax liability for fiscal year 2015 would have been $885,326 if Northwood had been a for-profit company. Whereas, the community benefit provided by Northwood for fiscal year 2015 was over $7 million. The community benefit provided by Northwood exceeded its federal and state income tax liability by more than $5 million or 700%!

Clearly, Northwood has provided a variety of valuable benefits to the community that far outweigh the value it receives from its status as a tax-exempt organization.

Northwood
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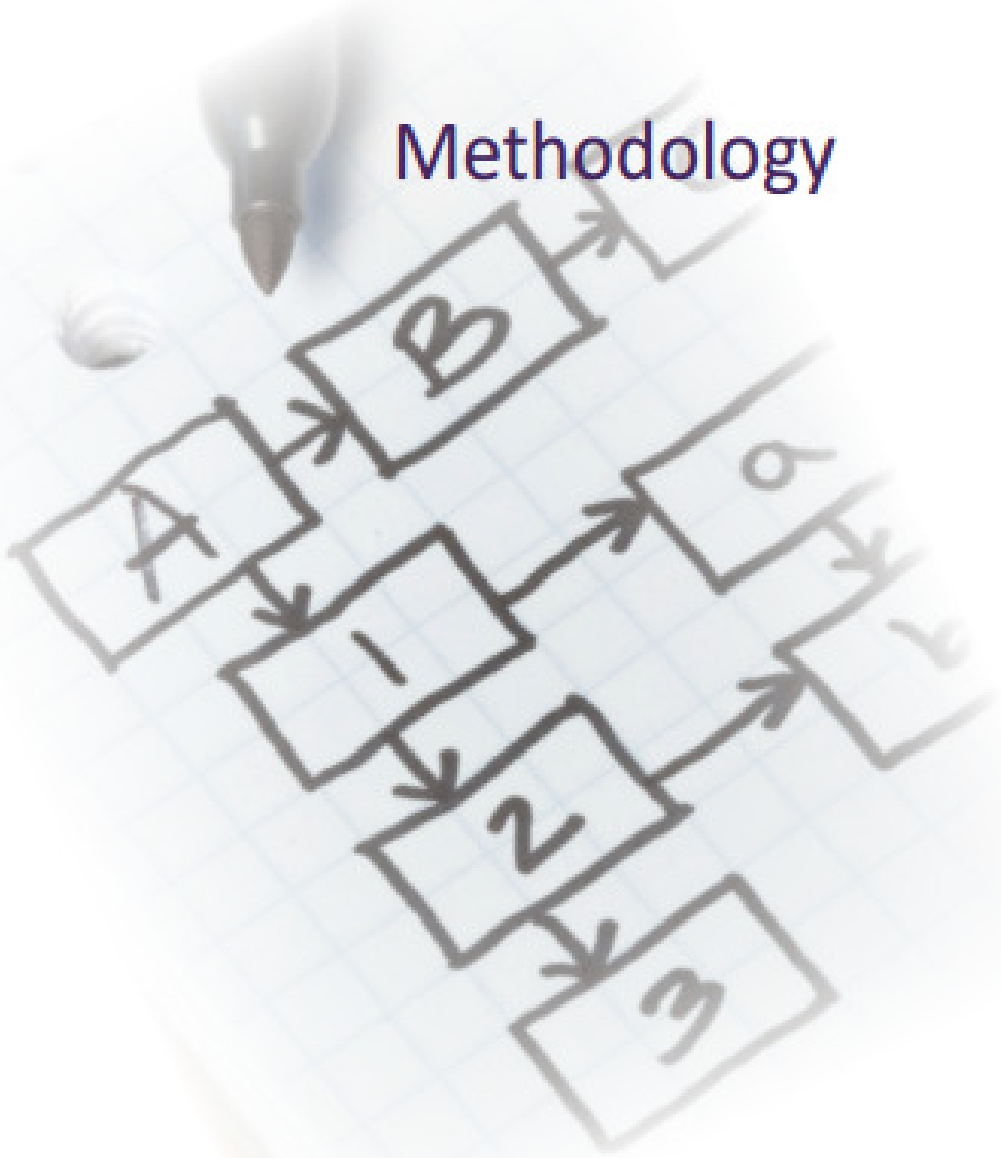
Methodology



Northwood Health Systems

Methodology

Community Health Needs Assessment and Planning Approach

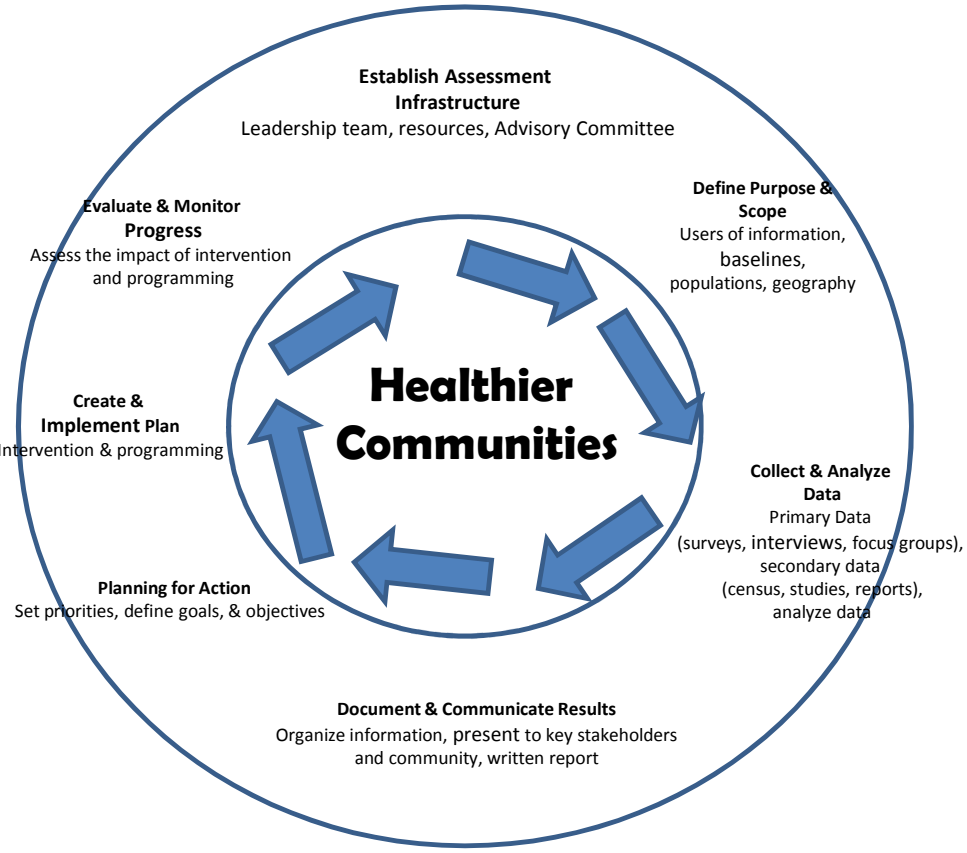
The process of completing the 2016 Northwood Health Systems Community Health Needs Assessment (CHNA) began in February 2016. The purpose of the study is to conduct a comprehensive assessment of the health status and healthcare access needs of residents living in the Northwood Health Systems Primary Service Area.

The Community Health Needs Assessment and planning process is a significant step toward meeting the goal and mission of Northwood Health Systems to be a world-class organization, dedicated to providing cost-effective, quality care for children, adolescents, adults, and senior citizens with emotional problems, mental retardation, mental illness and drug and alcohol addictions. This initiative brought the health system and other community leaders together in a collaborative approach to:

- Identify the current health status of community residents to include baseline data for benchmarking and assessment purposes.
- Identify the availability of treatment services, strengths, service gaps and opportunities.
- Determine unmet community health needs and target priorities.
- Develop a plan to direct community benefit and allocation of resources to meet targeted needs.
- Enhance strategic planning for future services.

As illustrated in **Figure 1**, the CHNA process develops a system that is better able to meet the needs of our communities while avoiding duplicative efforts and achieving economies of scale. This process supports the commitment of a cross section of community agencies and organizations working together to achieve healthier communities. The Community Health Needs Assessment process follows best practices as outlined by the Association of Community Health Improvement, a division of the American Hospital Association in their CHNA Toolkit and follows the latest IRS 990 guidelines.

Figure 1. Schematic of the Community Health Needs Assessment Process



The Northwood Health Systems team assigned to the project includes:

Ed Nolan, Director of Operations, Northwood Health Systems, project director and development of final report

Jeremy Sagun, Operations Manager, research, data collection and analysis, focus group facilitation and assisted with report development and writing

To support the CHNA process, Northwood Health Systems assembled a Steering Committee that included members of the health system management team. The Steering Committee membership is outlined in **Table 1.**

Table 1: Steering Committee Membership

Name	Title	Organization
Mary Ann Kinder	Director of Scheduling & Intake Management	Northwood Health Systems
Rich Stockley	Chief Financial Officer	Northwood Health Systems
Tracey Kinder	Director of Operations for Residential & Day Treatment Services	Northwood Health Systems
Mark Games	President & CEO	Northwood Health Systems
Ed Nolan	Director of Operations	Northwood Health Systems
Jeremy Sagun	Operations Manager	Northwood Health Systems

Table 2 outlines the community providers that supplied input and data to the CHNA process for Northwood Health Systems.

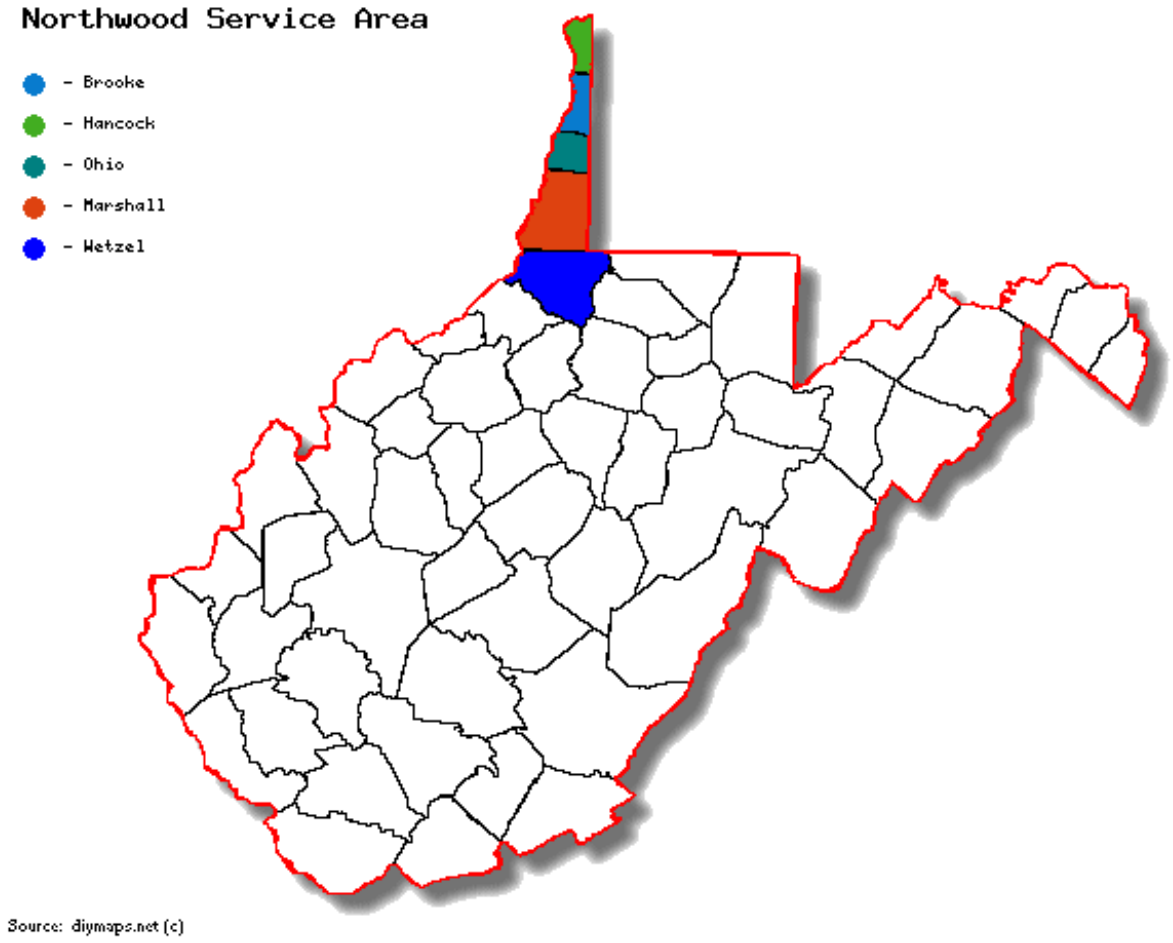
Table 2: Community Providers

Community Providers	
ASAP Community Action	Ohio County Family Resource Network
Brooke Hancock Family Resource Network	Ohio County Health Department
Catholic Charities Neighborhood Center	Ohio County Public Library
Change Inc.	OVMC / Hillcrest
Florence Crittenton Services	Salvation Army Ohio County
Goodwill	Sexual Assault Help Center
Greater Wheeling Coalition for the Homeless	The Unity Center
Habitat for Humanity	United Way of Upper Ohio Valley
Helping Heroes Inc.	Weirton Medical Center
John Marshall High School	Wheeling Police Department
Lee Day Report Center	Wheeling Health Right
Marshall County Family Resource Network	WV Department of Health and Human Resources
NAMI of Greater Wheeling	Youth Services Systems
Northern Panhandle Head Start	YWCA Wheeling

Service Area Definition

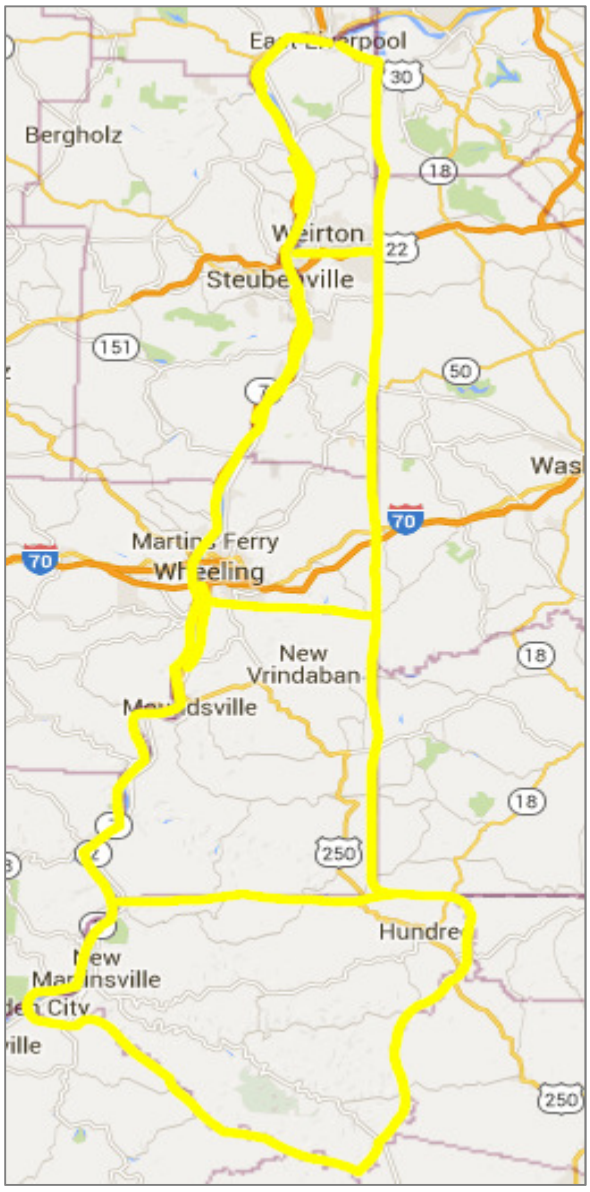
The service area selected for the study is the primary service area of Northwood Health Systems. This area includes Brooke, Hancock, Marshall, Ohio and Wetzel Counties in West Virginia.

Figure 2. Northwood Service Area



The yellow outlined portion of the map in **Figure 3** illustrates the primary service area.

Figure 3: Northwood Health Systems Service Area Map



Brooke County	Hancock County
Zip Code / City	Zip Code / City
26030 Beech Bottom	26034 Chester
26032 Bethany	26047 New Cumberland
26035 Colliers	26050 Newell
26037 Follansbee	26056 New Manchester
26058 Short Creek	26062 Weirton
26070 Wellsburg	
26075 Windsor Heights	

Ohio County	Marshall County
Zip Code / City	Zip Code / City
26003 Wheeling	26031 Benwood
26059 Triadelphia	26033 Cameron
26060 Valley Grove	26036 Dallas
26074 West Liberty	26038 Gelndale
	26039 Glen Easton
	26040 Mcmechen
	26041 Moundsville
	26055 Proctor

Wetzel County	
Zip Code / City	
26155 New Martinsville	26419 Pine Grove
26159 Paden City	26437 Smithfield
26162 Porters Falls	26561 Big Run
26167 Reader	26562 Burton
26348 Folsom	26575 Hundred
26377 Jacksonburg	26581 Littleton

Asset Inventory

Northwood Health Systems identified the existing health care facilities available to respond to the health needs of the community. The information in the asset inventory includes: community clinics, community services, hospitals, youth services, homeless services, food services, family services, substance abuse services and intellectual disability services.

Qualitative and Quantitative Data Collection

In an effort to examine the health related needs of the residents of the service area and to meet all of the IRS guidelines, the assessment team employed both qualitative and quantitative data collection and analysis methods. Qualitative methods ask questions that are exploratory in nature and are typically employed in interviews and focus groups. Quantitative data is data that can be displayed numerically. Secondary data includes data and information that was previously collected and published by some other source.

The assessment team and Steering Committee determined that the data collected would be defined within the following categories (that define the various chapters of this study):

- Demographics
- General Health Status
- Access to Care
- Chronic/Serious Mental Health
- Drug and Alcohol
- Environmental Factors and Indicators Impacting Mental and Physical Health

The Steering Committee members and assessment team made significant efforts to ensure that the entire primary service territory, all socio-demographic groups and all underrepresented populations were included in the study to the extent possible given the resource constraints of the project. This was accomplished by identifying focus groups and key stakeholders that represented various subgroups in the community. In addition, the process included public health participation and input, through extensive use of West Virginia and Centers for Disease Control data and public health department participation in the stakeholder interview process.

The secondary data collection process included:

- West Virginia Bureau for Behavioral Health and Health Facilities 2014 WV County Health Profiles (http://www.dhhr.wv.gov/bhhf).

- Demographic and socioeconomic data obtained from the US Census Bureau (www.census.gov).
- Disease incidence and prevalence data obtained from the West Virginia Department of Health and West Virginia Vital Statistics.
- The Centers for Disease Control and Prevention (CDC) conducts an extensive Behavioral Risk Factor Surveillance Survey (BRFSS) each year. The BRFSS survey is conducted by telephone and includes questions regarding health risk behaviors, preventive health practices, and health care access primarily related to chronic disease and injury. The health related indicators included in this report for West Virginia are BRFSS data collected by the CDC. CDC: http://www.cdc.gov/brfss/).
- CDC Chronic Disease Calculator, available at http://cdc.gov/chronicdisease/resources/calculator/index.htm.
- In 1979, the Surgeon General began a program to set goals for a healthier nation. Since then, Healthy People have set 10 year science-based objectives for the purpose of moving the nation toward better health. Available Healthy People 2020 goals are included in this report (http://www.healthypeople.gov/2020/default.aspx).
- County Health Rankings, A collaboration of the Robert Wood Johnson Foundation and the University of Wisconsin Population Health Institute, www.countyhealthrankings.org.
- A variety of other reports and publications were utilized for selected data, as noted in the individual sections of the report.
- West Virginia State Epidemiological Profile 2013 (http://www.dhhr.wv.gov/bhhf/resources/documents/2013_state_profile.pdf)
- National Survey on Drug Use and Health (https://nsduhweb.rti.org/respweb/homepage.cfm)

The primary data collection process included:

- A total of 58 individual stakeholder interviews conducted by members of the Northwood Health Systems staff to gather a personal perspective from those who have insight into the health of a specific population group or issue, the community or the region.

- A total of 3 focus group sessions conducted, including 41 participants, to gather information directly from various groups that represent a particular interest group or area. Each of the three focus groups was facilitated by members of the Northwood Health Systems Staff.

Focus Groups

In an effort to obtain in-depth feedback related to what community leaders and residents feel are the biggest challenges and assets in the community a series of focus groups were conducted. The goal was to obtain a broad and diverse picture of health care, health-related behaviors, needs and issues that have an impact on the residents of the Northwood Health Systems Service Area. A total of 3 focus groups were completed over the course of the study with various groups. **Table 3** identifies the focus groups and number of participants in each group.

Table 3: Focus Group Participants

Attendees	Organization	Participants	Date
13	Brooke / Hancock County Family Resource Network	Healthways Inc., Unicare West Virginia, Coventry Cares West Virginia, WVU Extension, Brooke County Public Libraries, Youth Services Systems Inc., Light House, Advocates for Substance Abuse Prevention, Weirton Christian Center, Goodwill.	4/5/2016
19	Northern Panhandle Continuum of Care	Change Inc., Helping Heroes Inc., West Virginia Department of Health and Human Resources, First Circuit West Virginia Mental Health / Veterans Court, Salvation Army, National Alliance on Mental Illness, Greater Wheeling Coalition for the Homeless, Catholic Charities Inc., Youth Services System, YWCA Wheeling, Ohio County Public Library, Wheeling Soup Kitchen	4/12/2016
9	Northwood Health Systems	Clinicians, Clinical Managers and Administrators representing a distinct area of service provided by the system	4/21/2016

Key Stakeholder Interviews

In an effort to obtain in-depth input related to what community leaders feel are the biggest challenges and assets in the community key stakeholder interviews were conducted with selected individuals that represented key topic areas, issues or interests. The goal was to obtain a broad and diverse picture of health care, health-related behaviors and issues that have an impact on the residents of the service area region.

Table 4 Key Stakeholder Interview Participants

Participant	Representing	Perspective	Date
Becky Rodocker	Wheeling Soup Kitchen	Executive Director	04/25/2016
Fred McDonald	Lee Day Report Center	Executive Director	03/11/2016
Kathie Brown	Wheeling Health Right	Executive Director	04/04/2016
Michael Parker	WV DHHR	Economic Service Worker	03/30/2016
Amy Gamble	NAMI of Greater Wheeling	Executive Director	03/10/2016
Howard Gamble	Ohio County Health Department	Administrator	03/11/2016
Janet Kowalski	Sexual Assault Help Center	Child Victim Advocate	04/04/2016
Wendy Fleming	Weirton Medical Center	Director Case Management	03/24/2016
Chip Railing	Ohio Valley Medical Center	Outreach Coordinator	02/19/2016
Phil Hammond	The Unity Center	Acting Director / Board Member	02/19/2016
Claudia Raymer	Ohio County Family Resource Network	Executive Director	02/19/2016
Shawn Schwertfeger	Wheeling Police Department	Chief of Police	03/01/2016

Needs/Issues Prioritization Process

In May 2016 the Steering Committee reviewed all of the primary and secondary data collected through the needs assessment process and to discuss the key needs and issues that they felt were present in the community. The Steering Committee prioritized the needs and issues in order to identify potential intervention strategies and an action plan. The group identified criteria by which the issues would be evaluated. These criteria included:

Table 5. Evaluation Criteria

		Scoring		
Item	**Definition**	**Low (1)**	**Medium**	**High (10)**
1. Accountable Organization	The extent to which the issue is an important priority to address in this action planning effort for either the health system or the community	This is an important priority for the community to address	This is important but is not for this action planning effort	This is an important priority for the health system(s)
2. Magnitude of the problem	The degree to which the problem leads to death, disability or impaired quality of life and/or could be an epidemic based on the rate or % of population that is impacted by the issue	Low numbers of people affected; no risk for epidemic	Moderate numbers/ % of people affected and/or moderate risk	High numbers/ % of people affected and/or risk for epidemic
3. Capacity (systems and resources) to implement evidence based solutions	This would include the capacity to and ease of implementing evidence based solutions	There is little or no capacity (systems and resources) to implement evidence based solutions	Some capacity (system and resources) exist to implement evidence based solutions	There is solid capacity (system and resources) to implement evidence based solutions in this area

Action Planning Process

Following the prioritization process, the Northwood Health Systems staff involved in the CHNA process met to discuss the top priorities and identify possible intervention strategies and action plans. The top 4-5 priority need areas were discussed to identify the greatest needs to the organization's mission, current capabilities and focus areas. Following this discussion, clinical and administrative leaders developed an action plan along with the timeframe and budget associated with the activities.

Review and Approval

The final implementation action plan was approved by the Northwood Health Systems Board of Directors on June 22, 2016.

Northwood
Health Systems

Demographics and Assets

Demographic and Socioeconomic Data

For purposes of this assessment, the geographic scope of this study (also referred to as the service area, community and/or region) is defined as Brooke, Hancock, Marshall, Ohio and Wetzel counties in West Virginia. The overall population of this area as of the 2010 Census was 148,878. Adjacent counties having more than 2% of the active client caseload include Tyler County in West Virginia (2.99%) and Belmont County in Ohio (3.05%).

Table 6. Summary Demographic Data

		Brooke	Hancock	Marshall	Ohio	Wetzel
Total Population		23,787	30,369	32,716	43,956	16,314
Race	**White**	96.80%	95.70%	97.80%	93.30%	98.60%
	Black	1.60%	2.60%	0.90%	4.00%	0.10%
	Other	1.50%	1.70%	1.40%	2.70%	1.30%
Median Age		45.7	45.3	44.1	43.1	45.5
Gender	**Male**	48.7%	48.3%	49.1%	47.9%	49.1%
	Female	51.3%	51.7%	50.9%	52.1%	50.9%

Source: United States Census Bureau, 2010-2014 American Community Survey

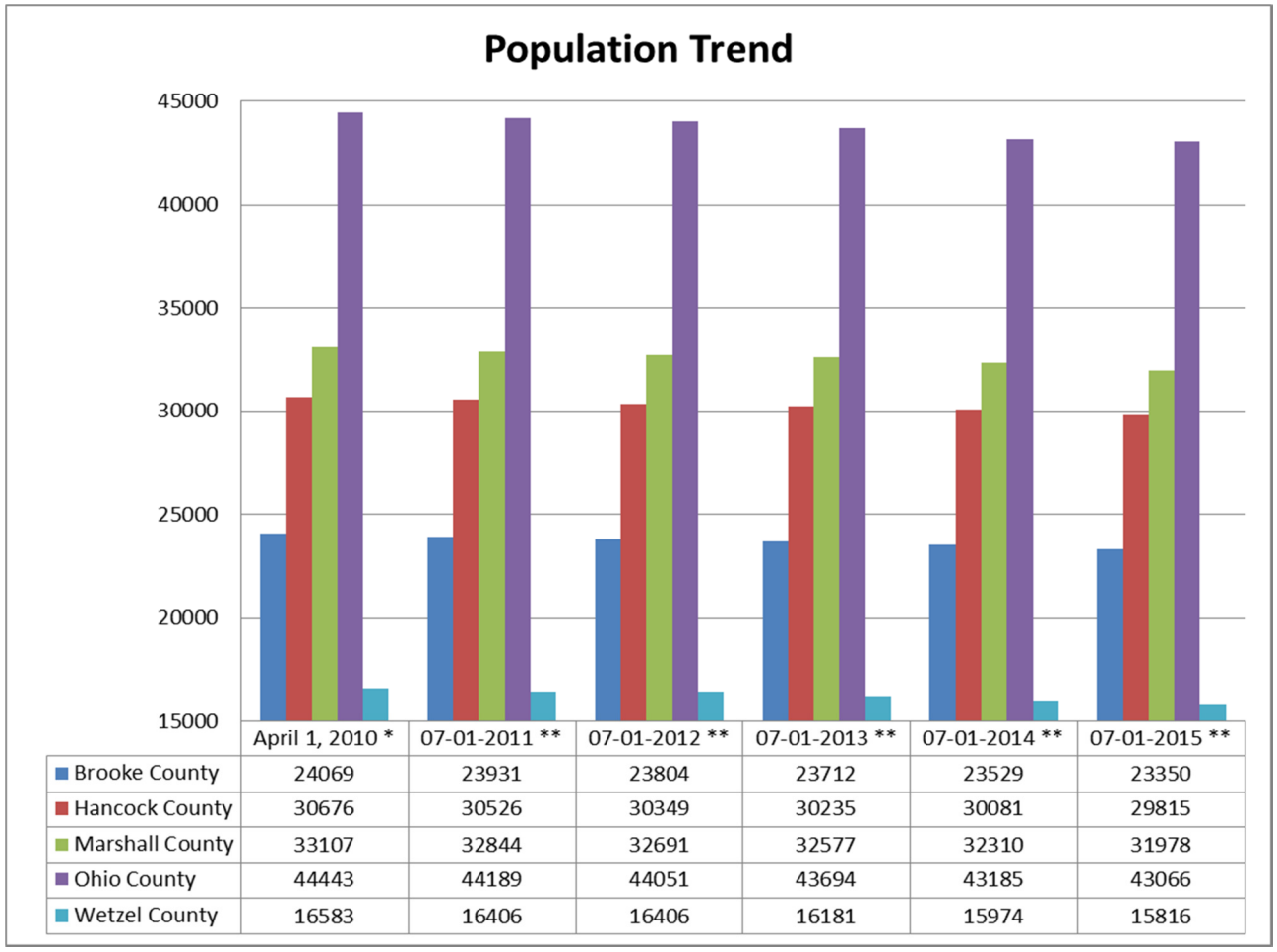
Table 7. Summary of Social and Economic Health Factors

	Brooke	Hancock	Marshall	Ohio	Wetzel
Unemployment Rate	8.1%	7.7%	7.7%	5.8%	8.0%
Median Household Income	$45,507	$40,071	$43,034	$41,351	$38,910
Income Below Poverty Level	13.6%	16.4%	15.1%	16.8%	20.2%
High School Graduate or Higher	90.3%	87.0%	88.8%	91.0%	83.0%
Commute Travel Time	26.4 min.	24.3 min.	22.5 min.	19.9 min.	26.8 min.

Source: United States Census Bureau, 2010-2014 American Community Survey 5-Year Estimates

Figure 4 illustrates the Population Trend in Brooke, Hancock, Marshall, Ohio and Wetzel Counties from the 2010 Census, as well as American Community Survey (ACS) estimates for the five year period from 2011 through 2015. Wetzel County shows the largest population decline (5%) while Brooke, Hancock, Marshall and Ohio counties each show a 3% decline.

Figure 4. Population Trend

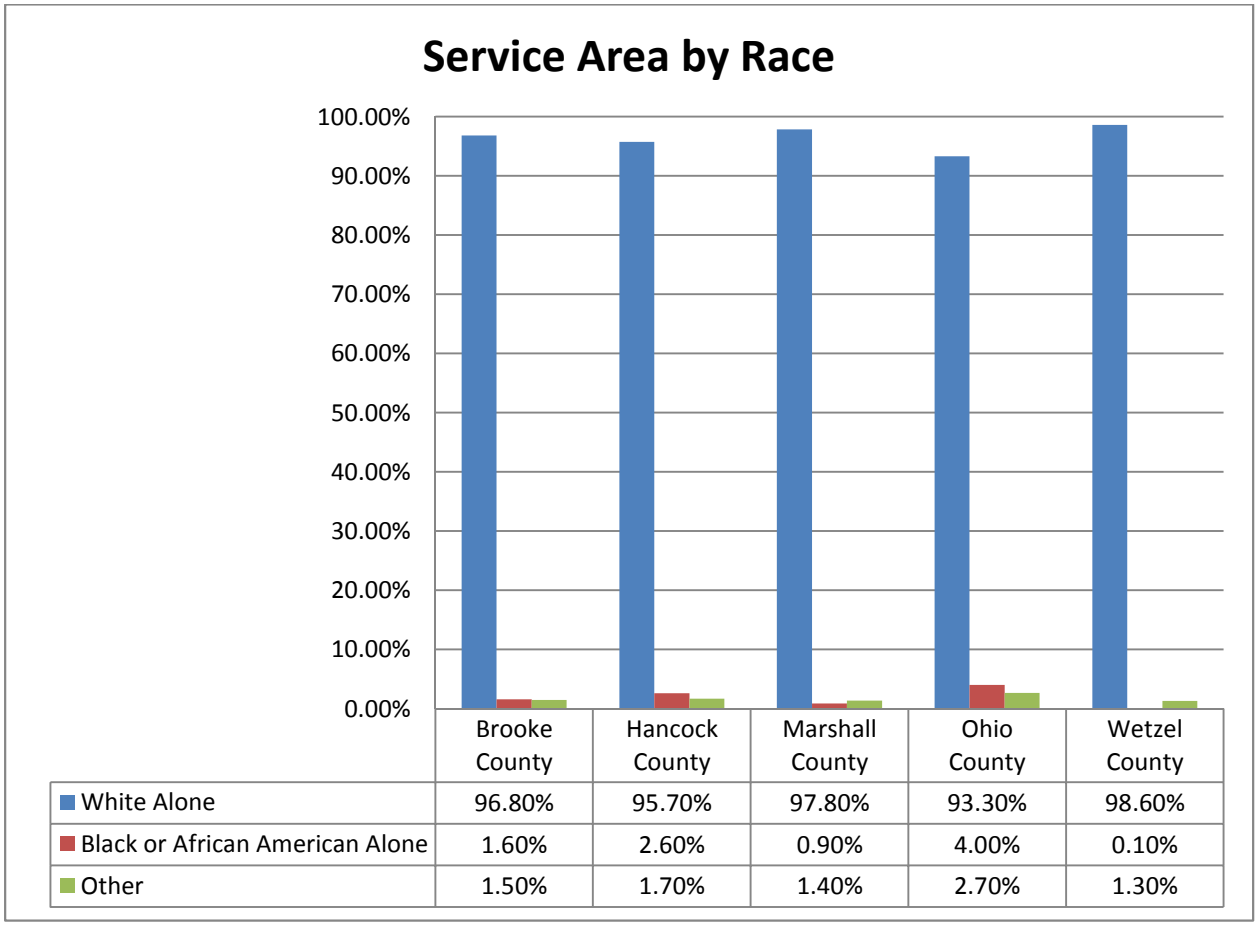


	April 1, 2010 *	07-01-2011 **	07-01-2012 **	07-01-2013 **	07-01-2014 **	07-01-2015 **
Brooke County	24069	23931	23804	23712	23529	23350
Hancock County	30676	30526	30349	30235	30081	29815
Marshall County	33107	32844	32691	32577	32310	31978
Ohio County	44443	44189	44051	43694	43185	43066
Wetzel County	16583	16406	16406	16181	15974	15816

Source: United States Census Bureau, 2010-2014 American Community Survey

Figure 5 illustrates the Service Area Population by Race. The majority of the population in Brooke (96.80%), Hancock (95.7%), Marshall (97.8%), Ohio (93.3%) and Wetzel (98.6%) Counties is 'White Alone'.

Figure 5. Service Area by Race

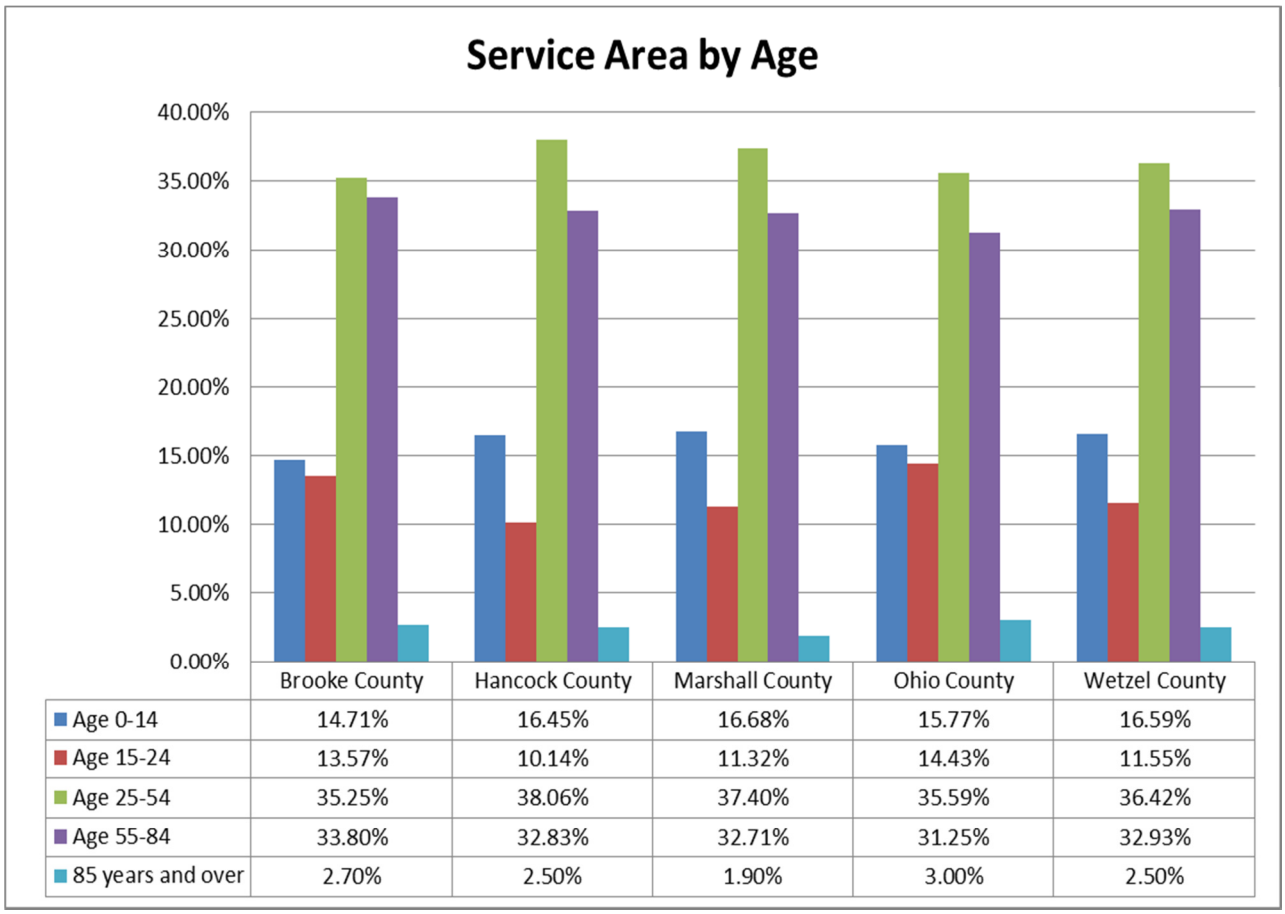


	Brooke County	Hancock County	Marshall County	Ohio County	Wetzel County
White Alone	96.80%	95.70%	97.80%	93.30%	98.60%
Black or African American Alone	1.60%	2.60%	0.90%	4.00%	0.10%
Other	1.50%	1.70%	1.40%	2.70%	1.30%

Source: United States Census Bureau, 2010-2014 American Community Survey

Figure 6 illustrates the Service Area Population by Age. The highest percentage of residents in Marshall County (36.4%), Ohio County (34.8%) and Wetzel County (35.9%) is between the ages of 25-54, while the lowest percentage of residents fall in the over 85 age range in all three counties.

Figure 6. Service Area by Age

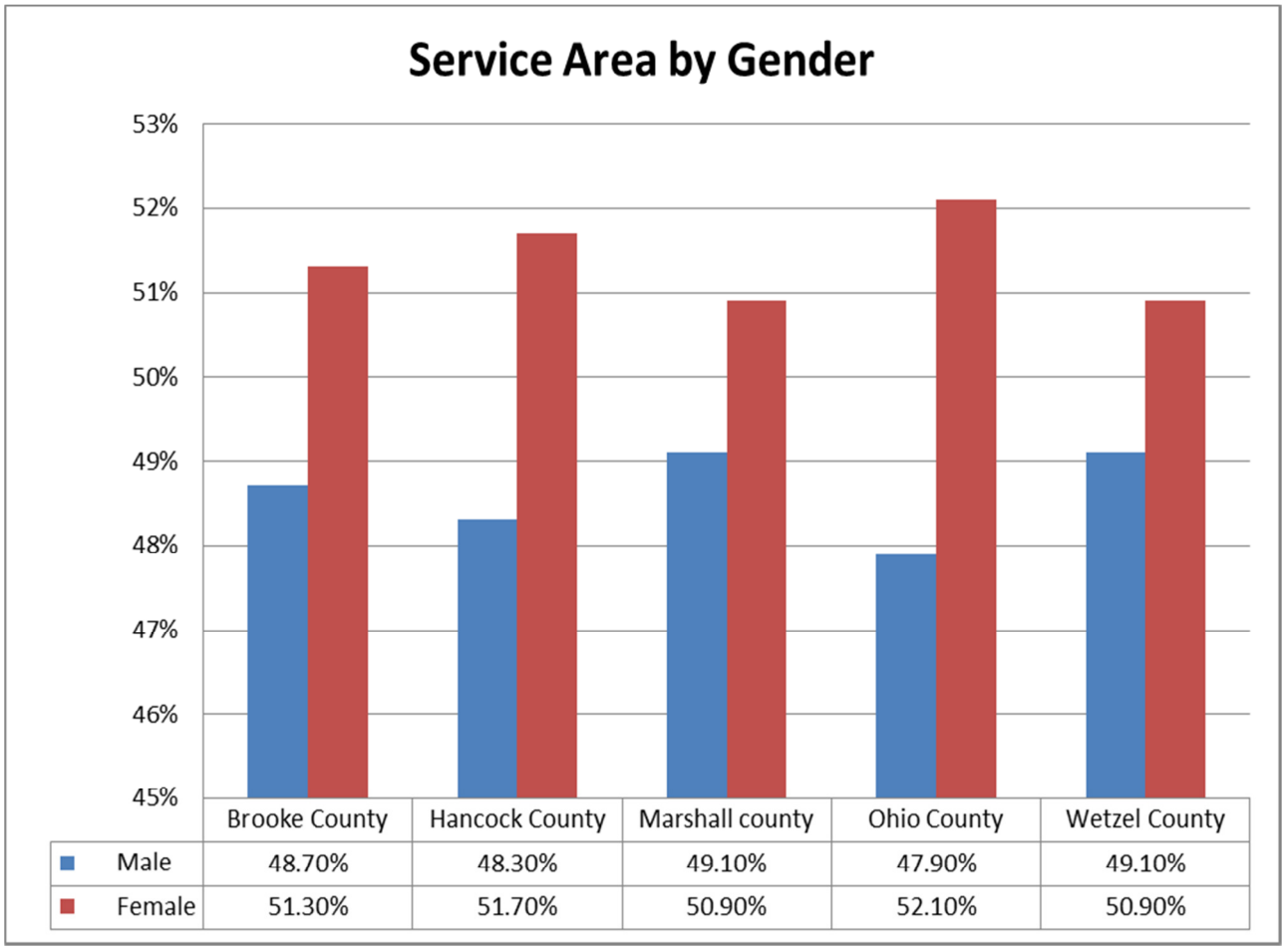


	Brooke County	Hancock County	Marshall County	Ohio County	Wetzel County
Age 0-14	14.71%	16.45%	16.68%	15.77%	16.59%
Age 15-24	13.57%	10.14%	11.32%	14.43%	11.55%
Age 25-54	35.25%	38.06%	37.40%	35.59%	36.42%
Age 55-84	33.80%	32.83%	32.71%	31.25%	32.93%
85 years and over	2.70%	2.50%	1.90%	3.00%	2.50%

Source: United States Census Bureau, 2010-2014 American Community Survey

Figure 7 illustrates Population by Gender in the five county service area. All five Counties have a higher Female Population than male; Brooke (51.3%), Hancock (51.7%), Marshall County (50.9%), Ohio (52.1%) and Wetzel (50.9%).

Figure 7. Service Area by Gender

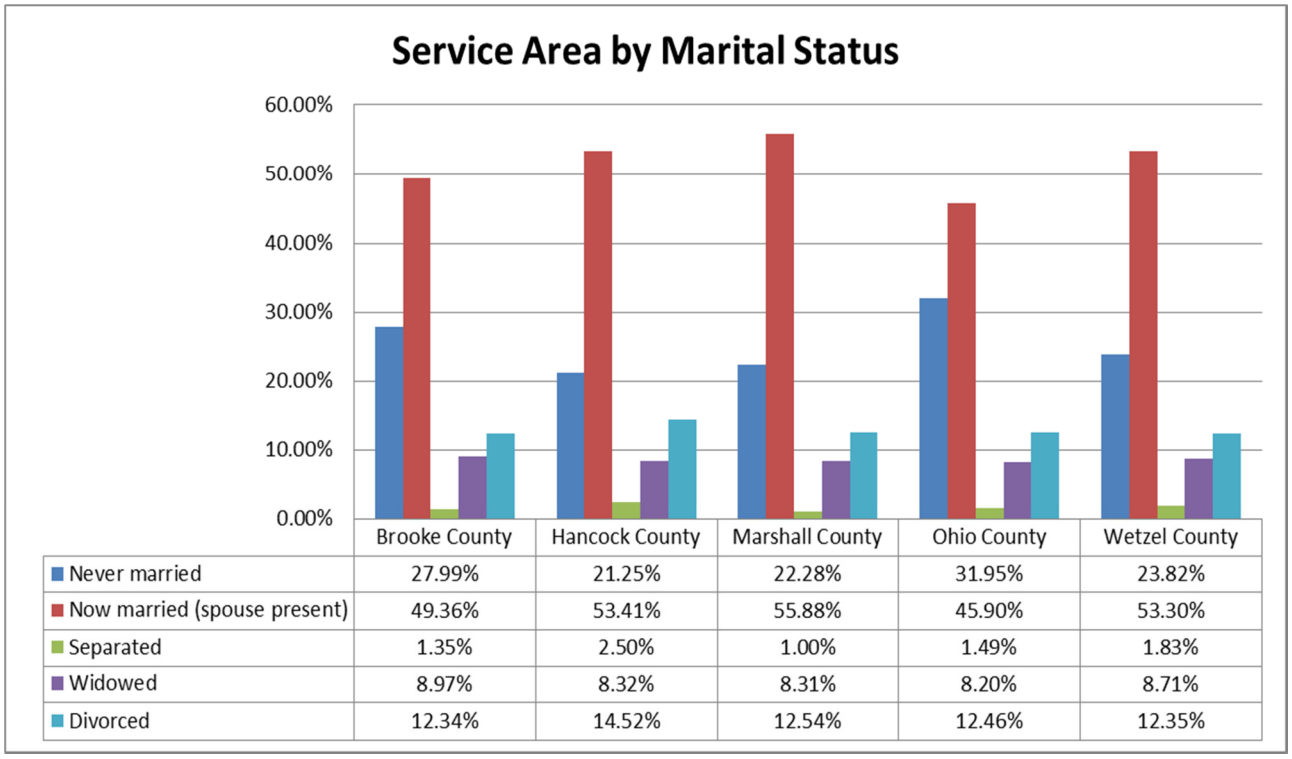


	Brooke County	Hancock County	Marshall county	Ohio County	Wetzel County
Male	48.70%	48.30%	49.10%	47.90%	49.10%
Female	51.30%	51.70%	50.90%	52.10%	50.90%

Source: United States Census Bureau, 2010-2014 American Community Survey

Figure 8 illustrates the Service Area Population by Marital Status. The majority of residents in Wetzel (53.3%) and Marshall (55.88%) and Hancock (53.41%) counties are Married with Spouse Present. Less than half the residents of Brooke (49.36) and Ohio (45.9%) are Married with Spouse Present. Ohio County has the highest percentage (31.95%) of residents Never Married.

Figure 8. Service Area by Marital Status

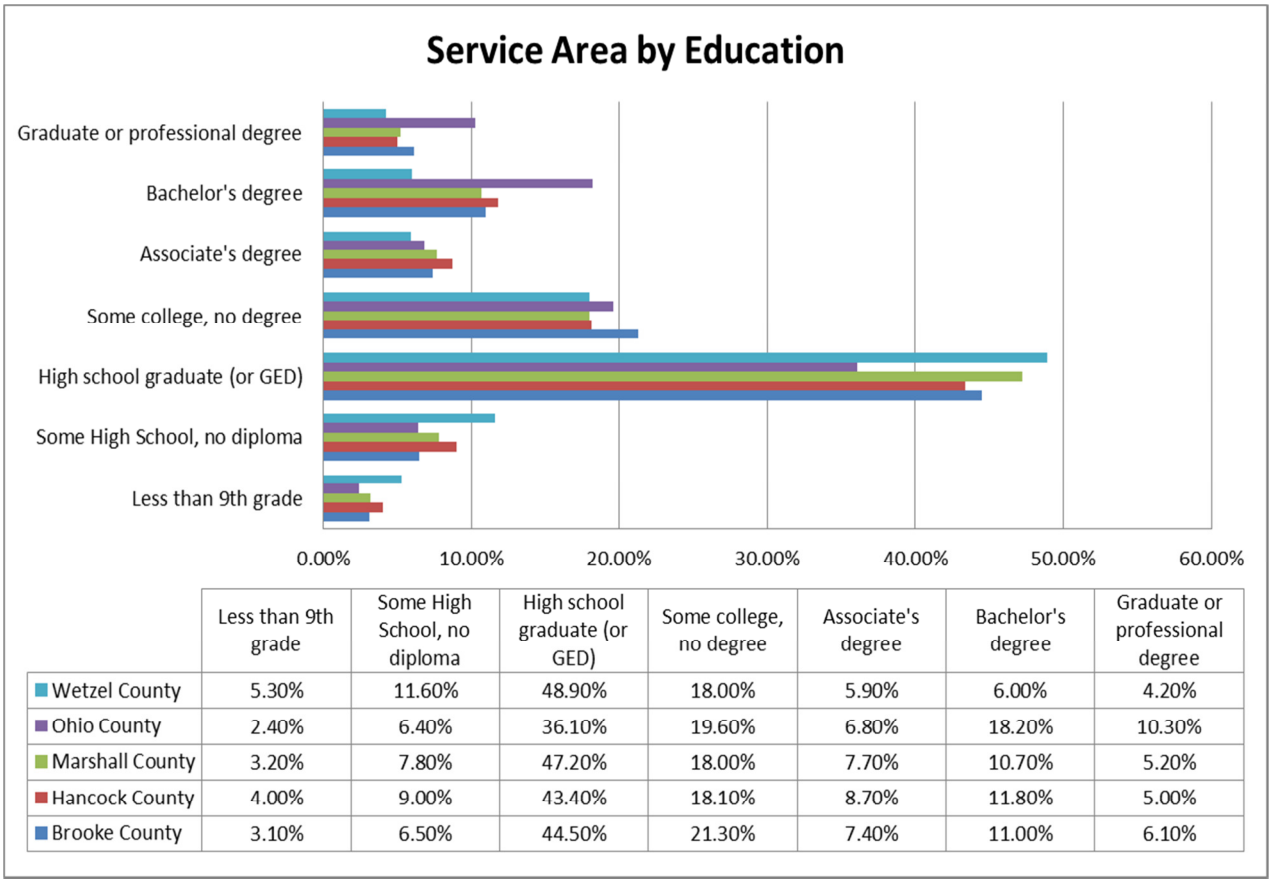


	Brooke County	Hancock County	Marshall County	Ohio County	Wetzel County
Never married	27.99%	21.25%	22.28%	31.95%	23.82%
Now married (spouse present)	49.36%	53.41%	55.88%	45.90%	53.30%
Separated	1.35%	2.50%	1.00%	1.49%	1.83%
Widowed	8.97%	8.32%	8.31%	8.20%	8.71%
Divorced	12.34%	14.52%	12.54%	12.46%	12.35%

Source: United States Census Bureau, 2010-2014 American Community Survey

Figure 9 illustrates Service Area by Education Level. The highest percentage of residents in each county is a High School Graduate or has obtained their GED as follows: Brooke County (44.5%), Hancock County (43.4%), Marshall County (47.2%), Ohio County (36.1%), and Wetzel County (48.9%). In Ohio County, 54.9% of residents have education beyond high school. In Wetzel County, 16.9% of residents have less than a high school education.

Figure 9. Service Area by Education



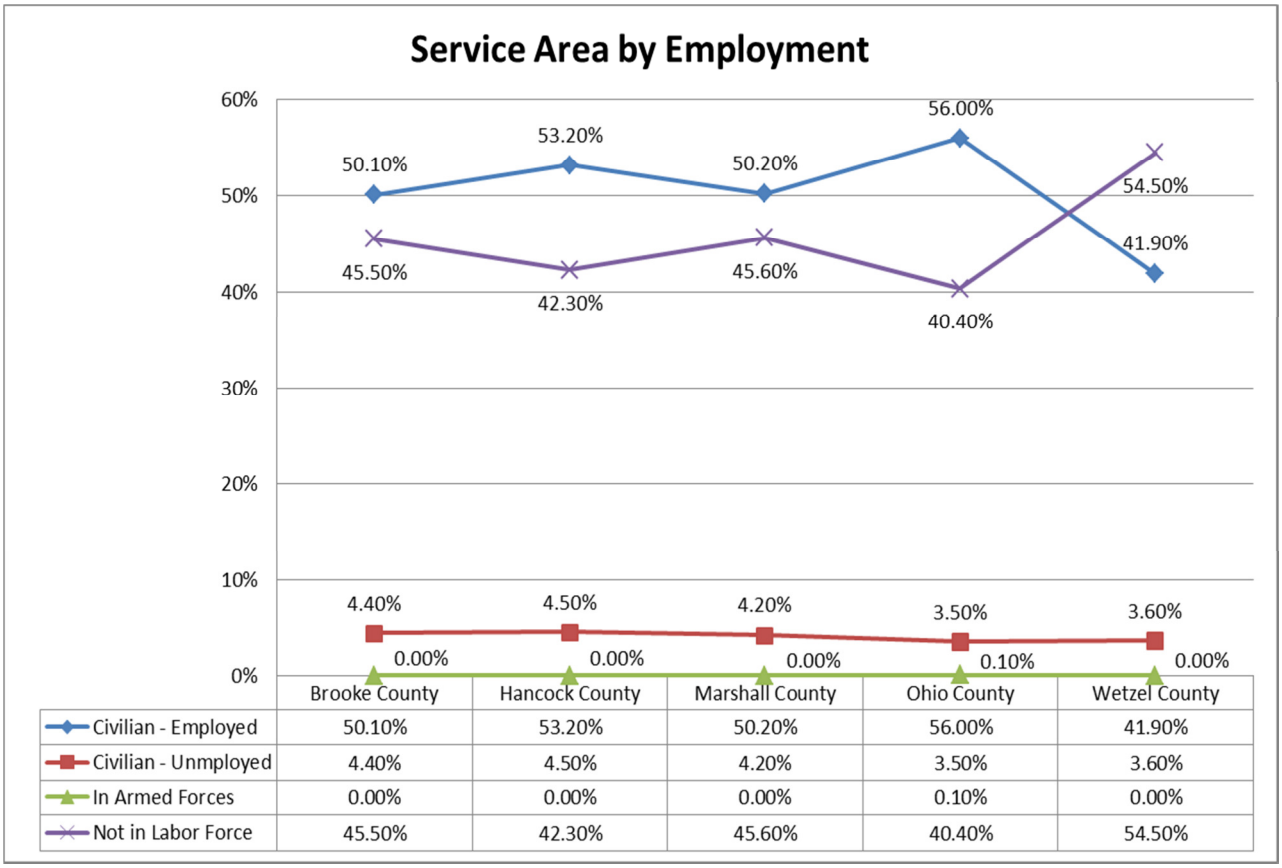
	Less than 9th grade	Some High School, no diploma	High school graduate (or GED)	Some college, no degree	Associate's degree	Bachelor's degree	Graduate or professional degree
Wetzel County	5.30%	11.60%	48.90%	18.00%	5.90%	6.00%	4.20%
Ohio County	2.40%	6.40%	36.10%	19.60%	6.80%	18.20%	10.30%
Marshall County	3.20%	7.80%	47.20%	18.00%	7.70%	10.70%	5.20%
Hancock County	4.00%	9.00%	43.40%	18.10%	8.70%	11.80%	5.00%
Brooke County	3.10%	6.50%	44.50%	21.30%	7.40%	11.00%	6.10%

Source

Source: United States Census Bureau, 2010-2014 American Community Survey

Figure 10 illustrates Service Area Population by Employment. The majority of residents in Brooke, Hancock, Marshall and Ohio Counties are Civilian – Employed with 50.10%, 53.20%, 50.20% and 56.00% of residents in each of these counties respectively in the Workforce. The highest percentage of residents in Wetzel County, 54.50%, is Not in Labor Force.

Figure 10. Service Area by Employment

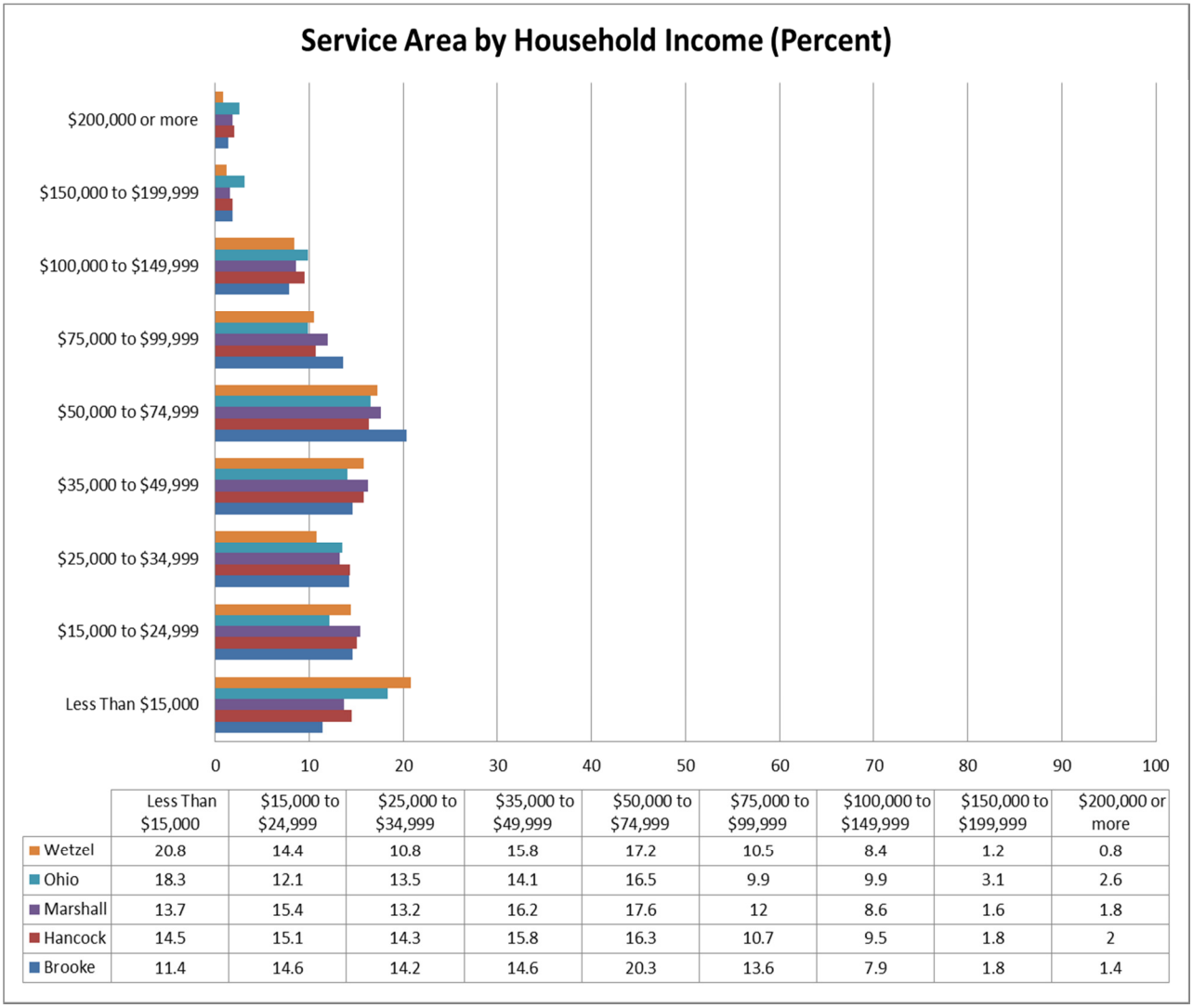


	Brooke County	Hancock County	Marshall County	Ohio County	Wetzel County
Civilian - Employed	50.10%	53.20%	50.20%	56.00%	41.90%
Civilian - Unmployed	4.40%	4.50%	4.20%	3.50%	3.60%
In Armed Forces	0.00%	0.00%	0.00%	0.10%	0.00%
Not in Labor Force	45.50%	42.30%	45.60%	40.40%	54.50%

Source: United States Census Bureau, 2010-2014 American Community Survey 5-Year Estimates

Figure 11 illustrates Service Area Population by Household Income. The highest percentage of residents in Wetzel County (20.8%) and Ohio County (18.3%) make less than $15,000 a year.

Figure 11. Service Area by Income

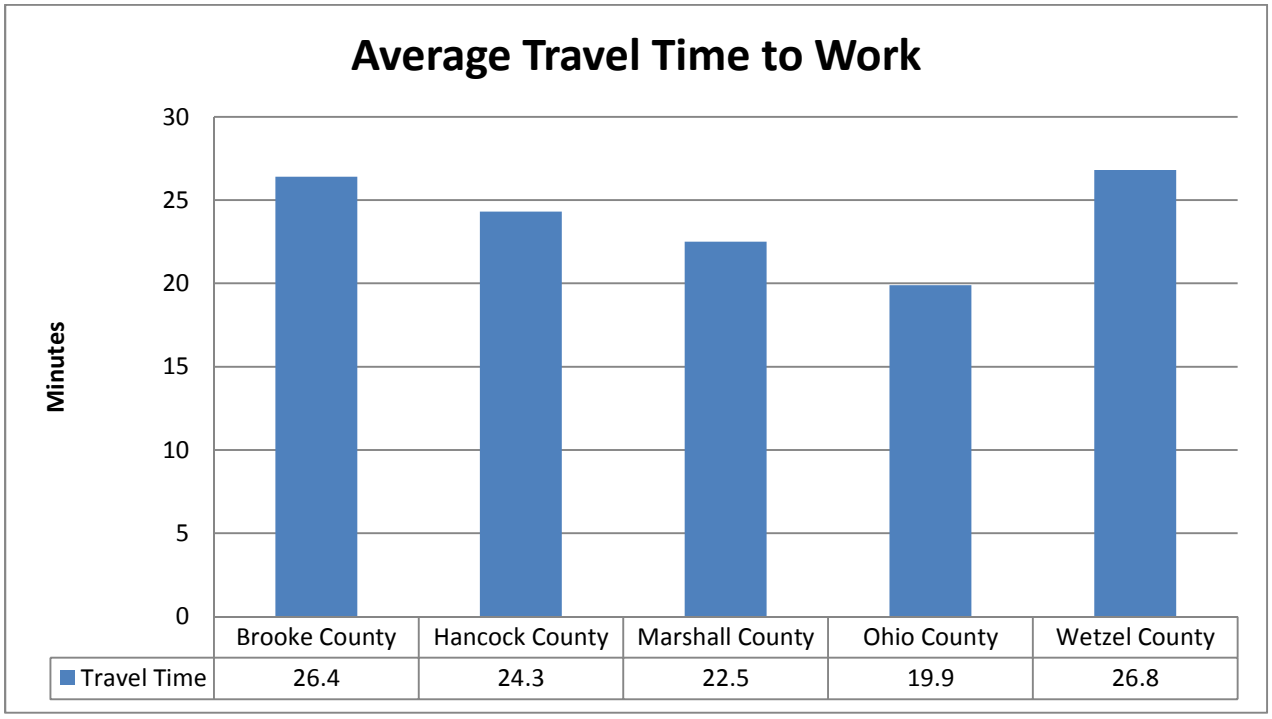


	Less Than $15,000	$15,000 to $24,999	$25,000 to $34,999	$35,000 to $49,999	$50,000 to $74,999	$75,000 to $99,999	$100,000 to $149,999	$150,000 to $199,999	$200,000 or more
Wetzel	20.8	14.4	10.8	15.8	17.2	10.5	8.4	1.2	0.8
Ohio	18.3	12.1	13.5	14.1	16.5	9.9	9.9	3.1	2.6
Marshall	13.7	15.4	13.2	16.2	17.6	12	8.6	1.6	1.8
Hancock	14.5	15.1	14.3	15.8	16.3	10.7	9.5	1.8	2
Brooke	11.4	14.6	14.2	14.6	20.3	13.6	7.9	1.8	1.4

Source: United States Census Bureau, 2010-2014 American Community Survey 5-Year Estimates

Figure 12 illustrates the Travel Time to Work by residents in Marshall, Ohio and Wetzel Counties. The average time it takes residents to get to work in Brooke County is 26.4 minutes, Hancock County is 24.3 minutes, Marshall is 22.5 minutes, and it takes residents in Ohio County an average of 19.9 minutes. Wetzel County residents commute an average of 26.8 minutes to work daily.

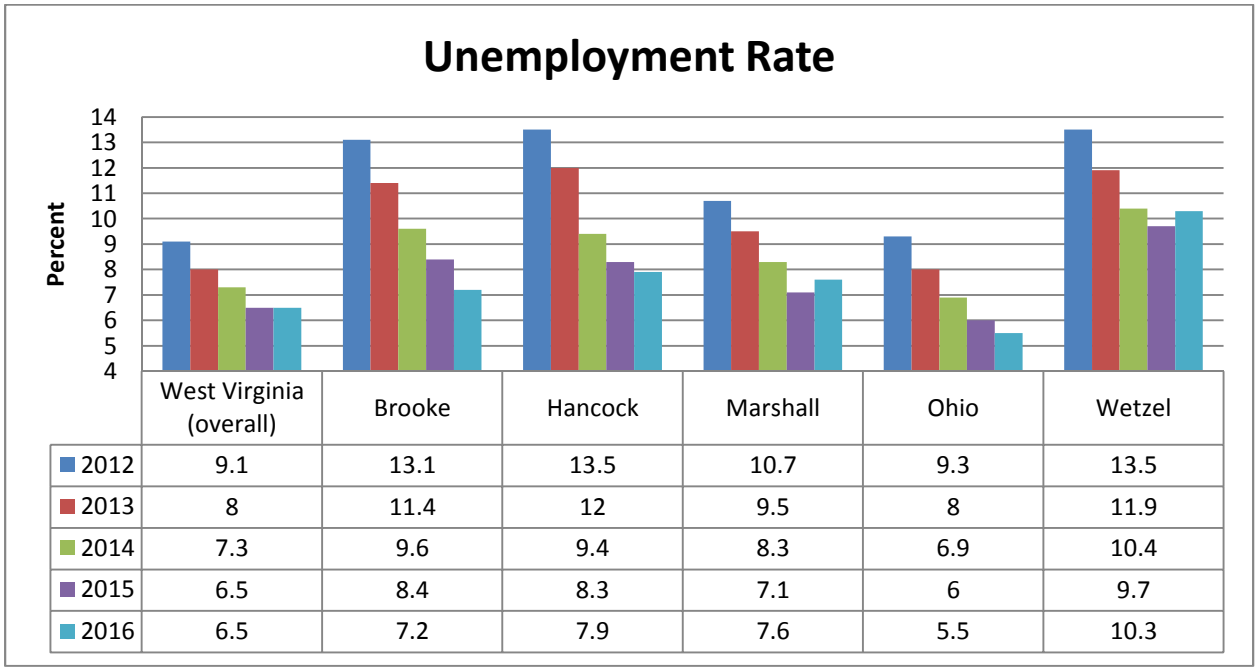
Figure 12. Service Area Average Travel Time to Work (In Minutes)



Source: United States Census Bureau, 2010-2014 American Community Survey 5-Year Estimates

Figure 13 illustrates unemployment rates in West Virginia and the service area counties from 2012 to 2016. All service area counties and the West Virginia (overall) unemployment percentage have decreased from 2012 to 2016. In all of the years reported, Wetzel and Hancock Counties have had the highest unemployment rates of the service area counties. For the most recent year reported, Wetzel County has the highest rate at 10.3% and Brooke, Hancock and Marshall are above the West Virginia (overall) rate (6.5%). Only Ohio County (5.5%) is below the West Virginia (overall) rate.

Figure 13. Unemployment Rate

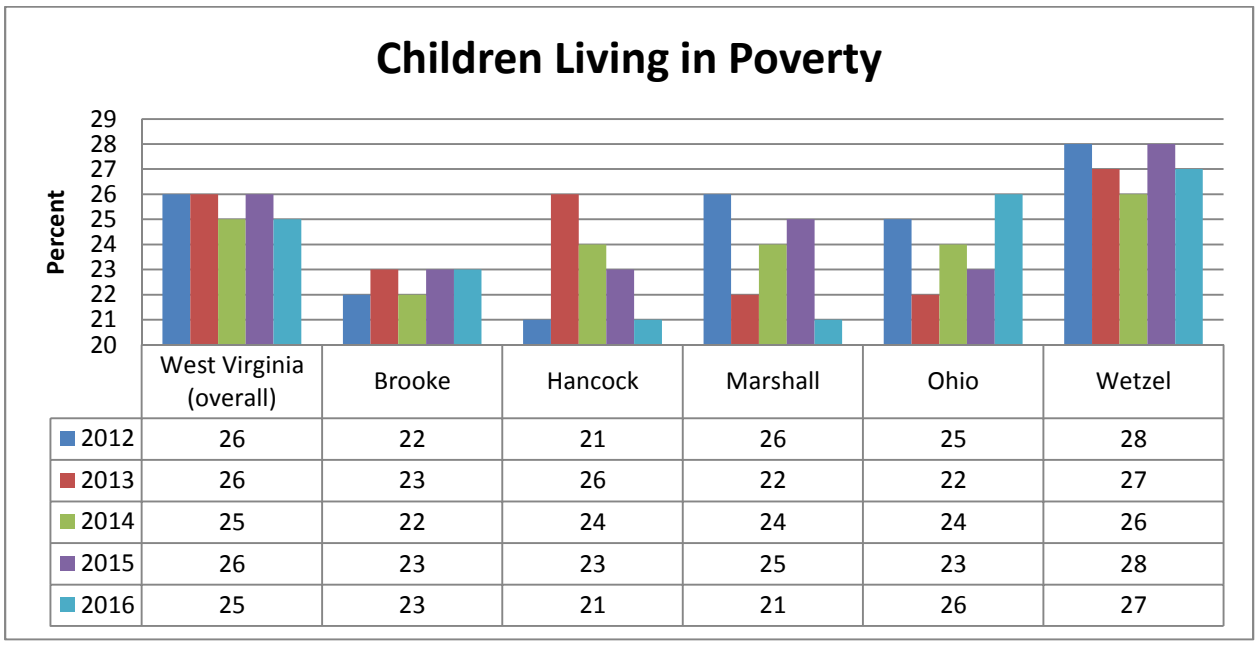


	West Virginia (overall)	Brooke	Hancock	Marshall	Ohio	Wetzel
2012	9.1	13.1	13.5	10.7	9.3	13.5
2013	8	11.4	12	9.5	8	11.9
2014	7.3	9.6	9.4	8.3	6.9	10.4
2015	6.5	8.4	8.3	7.1	6	9.7
2016	6.5	7.2	7.9	7.6	5.5	10.3

http://www.countyhealthrankings.org/

Figure 14 illustrates the percentage of children living in poverty in West Virginia (overall), and in Brooke, Hancock, Marshall, Ohio and Wetzel counties from 2012-2016. Brooke, Ohio and Wetzel counties have had an increase of children living in poverty from 2012 to 2016. West Virginia (overall), Hancock and Marshall counties have shown a decrease. The highest percent of children in poverty reside in Wetzel County, with 27%, followed by Ohio County, with 26%, and West Virginia (overall) with 25.0%. Marshall County's percent of children living in poverty decreased from 26% in 2012 to 21% in 2016.

Figure 14. Percentage of Children Living in Poverty

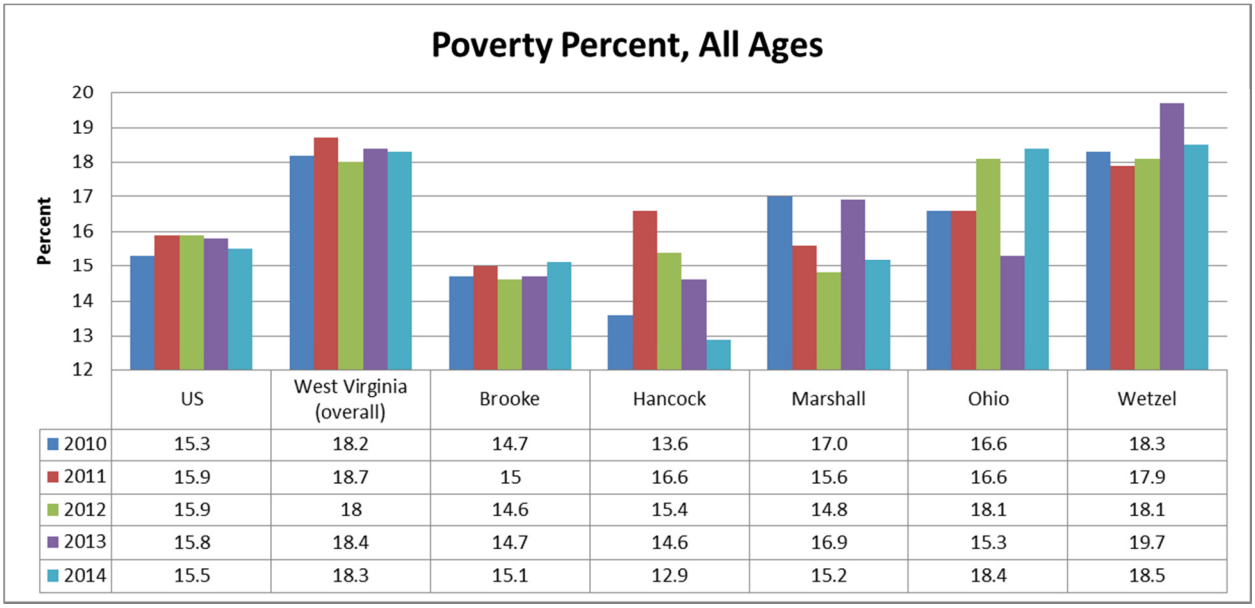


	West Virginia (overall)	Brooke	Hancock	Marshall	Ohio	Wetzel
2012	26	22	21	26	25	28
2013	26	23	26	22	22	27
2014	25	22	24	24	24	26
2015	26	23	23	25	23	28
2016	25	23	21	21	26	27

http://www.countyhealthrankings.org/

Figure 15 illustrates the percentage of individuals living in poverty in the United States, in West Virginia (overall), and in Brooke, Hancock, Marshall, Ohio and Wetzel counties from 2010 through 2014. Wetzel and Ohio Counties have the highest percentage of residents living in poverty in 2014, with rates of 18.5% and 18.4% respectively. Both of these are above the overall state rate of 18.3% and well above the US rate of 15.5%. Brooke, Hancock and Marshall Counties are all below the US and State overall rates in 2014. Poverty in Ohio and Wetzel Counties has increased during the period, while other counties in the service area have decreased or remained about the same.

Figure 15. Percentage Living in Poverty, All Ages

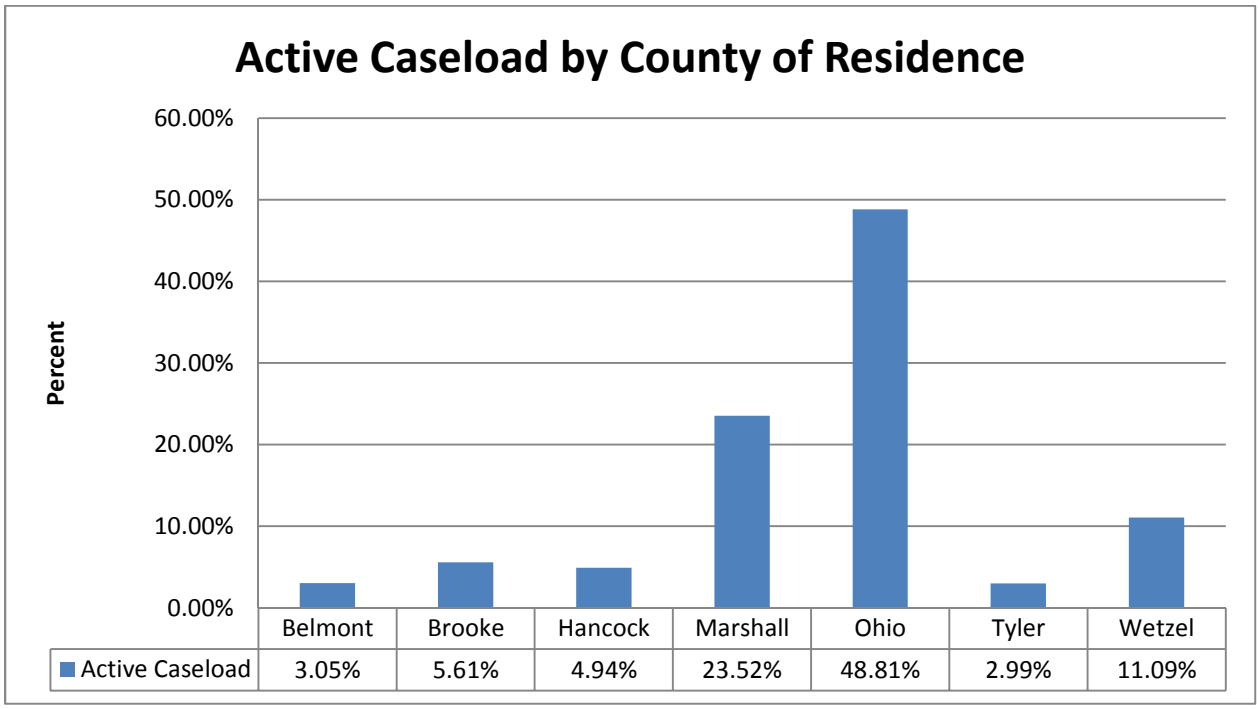


	US	West Virginia (overall)	Brooke	Hancock	Marshall	Ohio	Wetzel
2010	15.3	18.2	14.7	13.6	17.0	16.6	18.3
2011	15.9	18.7	15	16.6	15.6	16.6	17.9
2012	15.9	18	14.6	15.4	14.8	18.1	18.1
2013	15.8	18.4	14.7	14.6	16.9	15.3	19.7
2014	15.5	18.3	15.1	12.9	15.2	18.4	18.5

Source: U.S. Census Bureau, Small Area Income and Poverty Estimates (SAIPE) Program

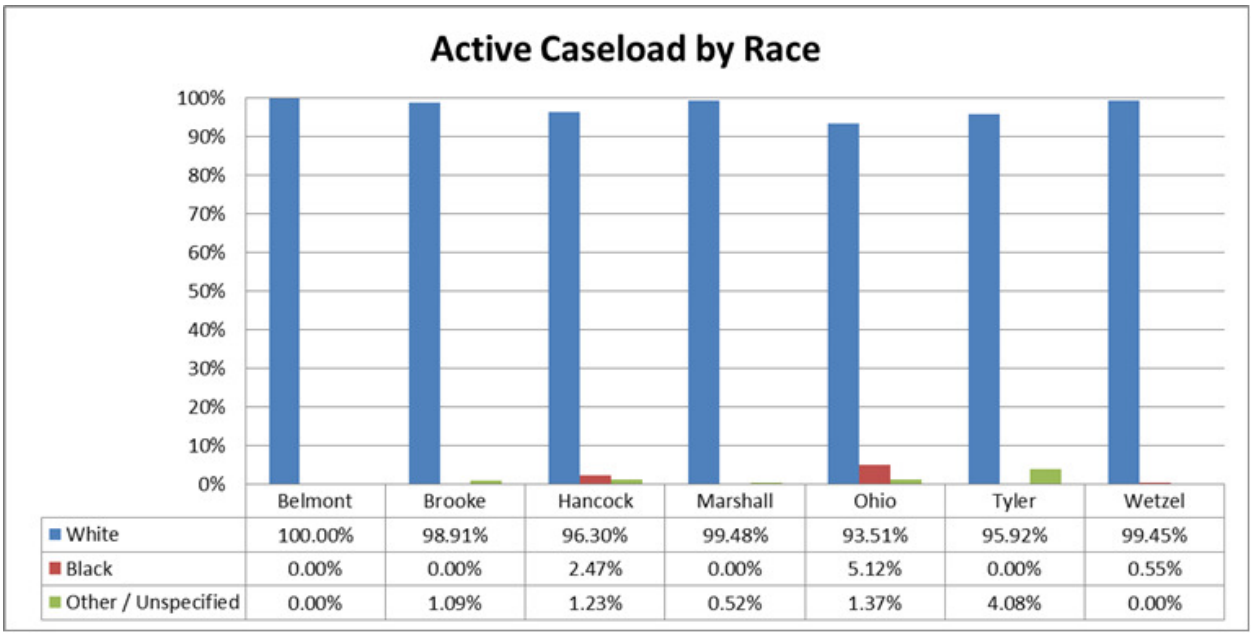
The following tables show demographic information for Northwood's active caseload in contrast to the larger service area.

Figure 16. Active Caseload by County of Residence



Source: Northwood Health Systems

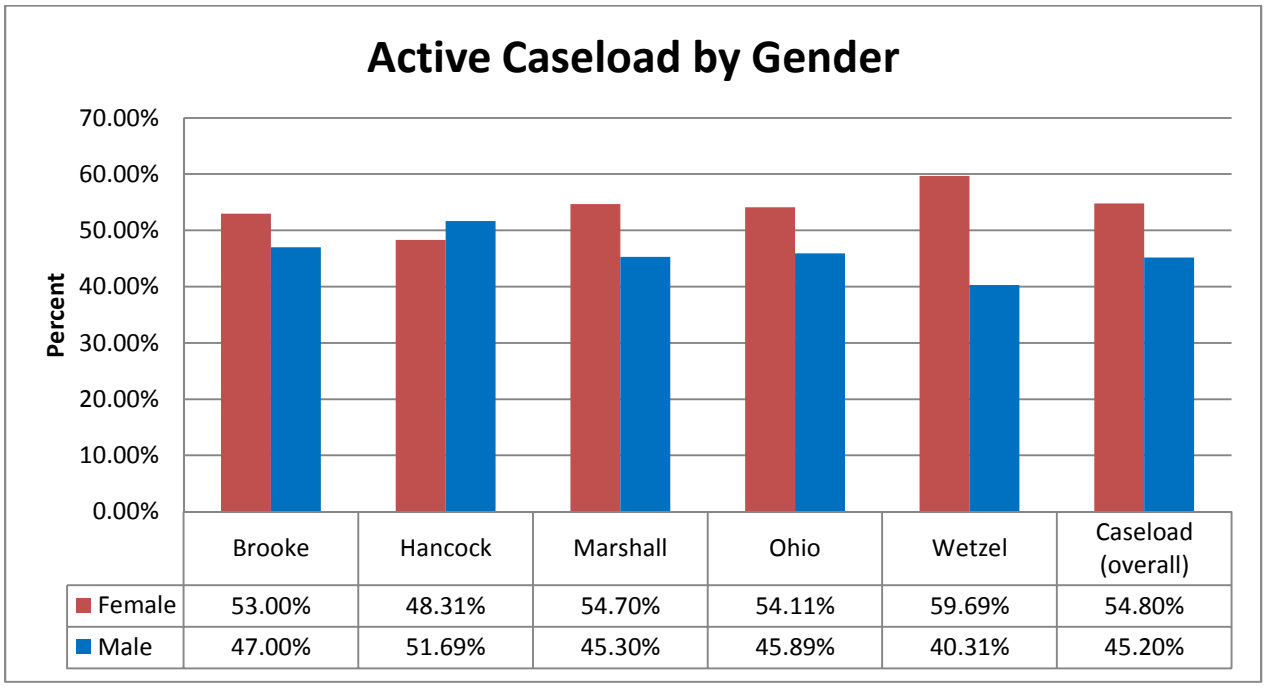
Figure 17. Active Caseload by Race



	Belmont	Brooke	Hancock	Marshall	Ohio	Tyler	Wetzel
White	100.00%	98.91%	96.30%	99.48%	93.51%	95.92%	99.45%
Black	0.00%	0.00%	2.47%	0.00%	5.12%	0.00%	0.55%
Other / Unspecified	0.00%	1.09%	1.23%	0.52%	1.37%	4.08%	0.00%

Source: Northwood Health Systems

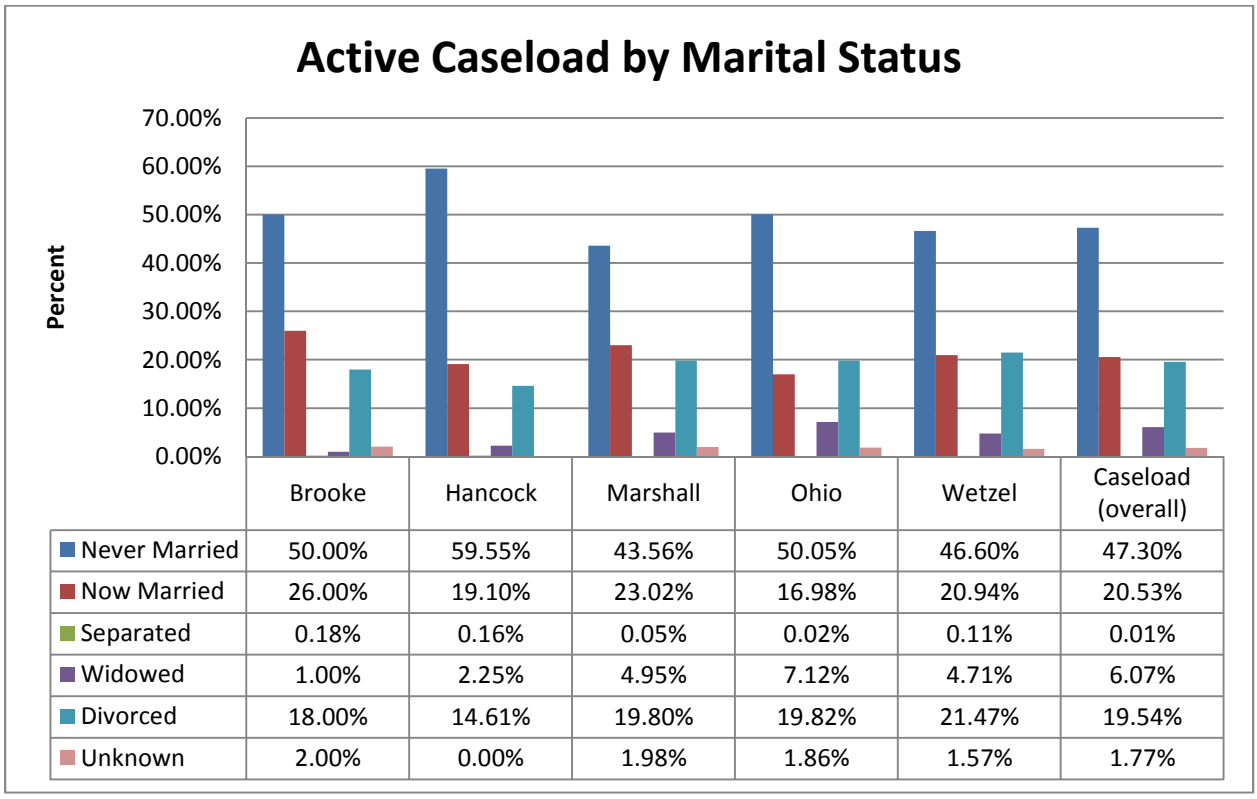
Figure 18. Active Caseload by Gender



	Brooke	Hancock	Marshall	Ohio	Wetzel	Caseload (overall)
Female	53.00%	48.31%	54.70%	54.11%	59.69%	54.80%
Male	47.00%	51.69%	45.30%	45.89%	40.31%	45.20%

Source: Northwood Health Systems

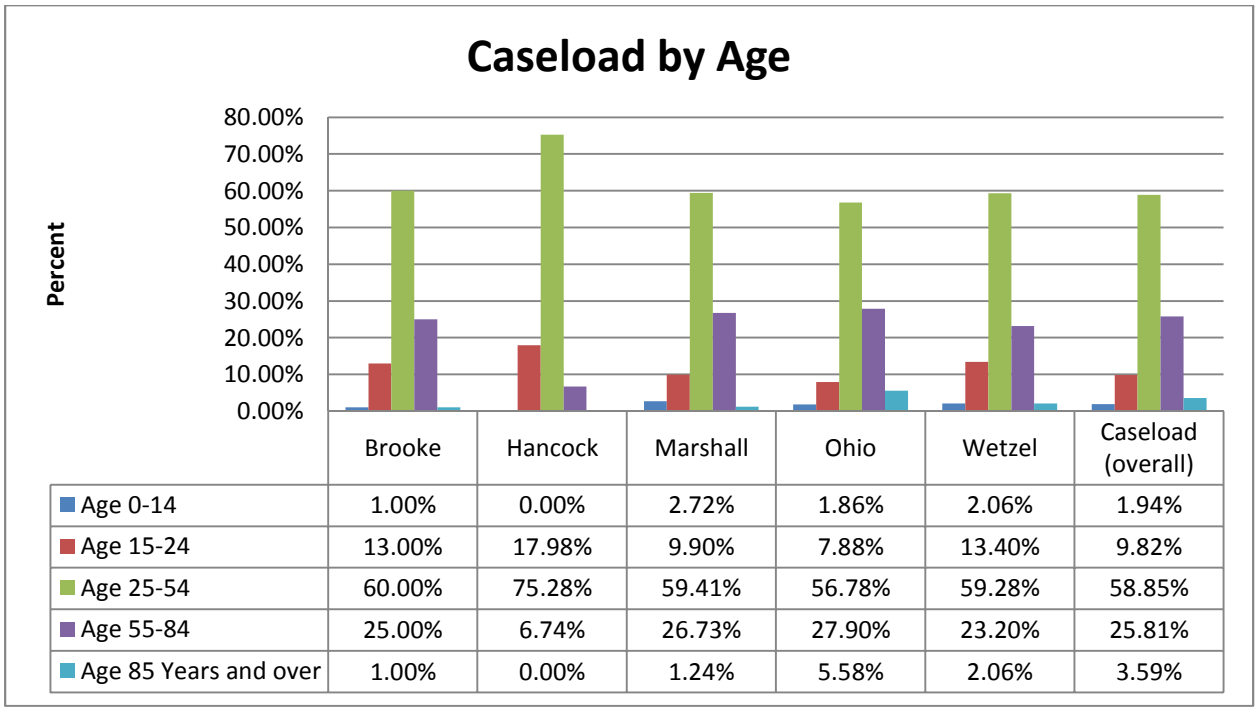
Figure 19. Active Caseload by Marital Status



	Brooke	Hancock	Marshall	Ohio	Wetzel	Caseload (overall)
Never Married	50.00%	59.55%	43.56%	50.05%	46.60%	47.30%
Now Married	26.00%	19.10%	23.02%	16.98%	20.94%	20.53%
Separated	0.18%	0.16%	0.05%	0.02%	0.11%	0.01%
Widowed	1.00%	2.25%	4.95%	7.12%	4.71%	6.07%
Divorced	18.00%	14.61%	19.80%	19.82%	21.47%	19.54%
Unknown	2.00%	0.00%	1.98%	1.86%	1.57%	1.77%

Source: Northwood Health Systems

Figure 20. Active Caseload by Age



	Brooke	Hancock	Marshall	Ohio	Wetzel	Caseload (overall)
Age 0-14	1.00%	0.00%	2.72%	1.86%	2.06%	1.94%
Age 15-24	13.00%	17.98%	9.90%	7.88%	13.40%	9.82%
Age 25-54	60.00%	75.28%	59.41%	56.78%	59.28%	58.85%
Age 55-84	25.00%	6.74%	26.73%	27.90%	23.20%	25.81%
Age 85 Years and over	1.00%	0.00%	1.24%	5.58%	2.06%	3.59%

Source: Northwood Health Systems

Demographic Observations / Conclusions

There are a number of observations and conclusions that can be derived from the data related to Demographics. They include:

- Wetzel County experienced a 5% population decline over the past 5 years. Brooke, Hancock, Marshall and Ohio counties each showed a 3% decline.
- While 'White alone' makes up 77% of the United States population, more than 96% of the service area population is 'White alone'. In Wetzel County, nearly 99% of residents are white.
- Nearly 70% of the service area population is over 24 years of age.
- Females outnumber males in the service area by 1 to 2 %.
- In most of the service area, more than half of the residents are currently married. Ohio County is the exception, having 45.9% currently married and 31.95% of residents having never married.
- Most residents in the service area have a high school diploma or equivalent. Wetzel County has the highest number of residents, nearly 17%, who have less than a high school education. Ohio County has the highest percentage of individuals who have completed a college or professional degree.
- Over the past 5 years, unemployment within the service area has declined. Within the service area, the unemployment rate is highest in Wetzel County (10.3%).
- Within the service area, poverty rates in Ohio County (18.4%) and Wetzel County (18.5%) exceed both the US (15.5%) and West Virginia (18.3%) rates.
- Active Northwood caseloads are highest for Ohio (48.81%) and Marshall (23.52%) Counties residents which is consistent with these counties having the highest populations in the service area.
- Although Brooke and Hancock Counties respectively make up 16% and 20% of Northwood's service area population, active client caseloads from Brooke (5.61%) and Hancock (4.94%) are much lower. These lower caseload percentages are not unexpected since Northwood only recently began providing services in these counties.
- Active Northwood cases by gender is similar to general service area data except in Hancock County where percent Northwood active cases of males (51.69%) exceeds percent active cases of females (48.31%).
- Active Northwood cases report a much higher rate (47.30%) of being never married than that of the general service area (25.45%)
- Active Northwood cases have a much higher percentage of individuals age 25-54 (58.85%) than the population of the general service area (36.54%).

Community Assets

The chart on the following page in **Table 8** identifies a full inventory of community assets and resources for the Northwood Health System service area that the Community Health Needs Assessment Steering Committee identified as important to the health of the community. The community assets are categorized into several areas including: hospitals, youth services, medical centers, homeless services, food services, family services, community services, substance abuse services and intellectual disability services.

Northwood Health Systems

Table 8. Northwood Health Systems Community Assets

Community Clinic	Address	City	State	Zip
Wheeling Health Right	61-29th Street	Wheeling	WV	26003
Community Services	**Address**	**City**	**State**	**Zip**
Family Services Upper Ohio Valley	51-11th Street	Wheeling	WV	26003
United Way of the Upper Ohio Valley	51-11th Street	Wheeling	WV	26003
YWCA Wheeling	1100 Chapline Street	Wheeling	WV	26003
Food Services	**Address**	**City**	**State**	**Zip**
Catholic Charities Neighborhood Center	125-18th Street	Wheeling	WV	26003
The Soup Kitchen of Greater Wheeling	1610 Eoff Street	Wheeling	WV	26003
Homeless Services	**Address**	**City**	**State**	**Zip**
Greater Wheeling Coalition for the Homeless	84-15th Street	Wheeling	WV	26003
Salvation Army Wheeling	140-16th Street	Wheeling	WV	26003
YWCA Wheeling	1100 Chapline Street	Wheeling	WV	26003
Hospital	**Address**	**City**	**State**	**Zip**
Belmont Community Hospital	4697 Harrison Street	Bellaire	OH	43906
East Ohio Regional Hospital	90 N 4th Street	Martins Ferry	OH	43935
Ohio Valley Medical Center	2000 Eoff Street	Wheeling	WV	26003
Reynolds Memorial Hospital	800 Wheeling Avenue	Glen Dale	WV	26038
Sistersville General Hospital	314 South Wells Street	Sistersville	WV	26175
Trinity Health System, Medical Center East	380 Summit Avenue	Steubenville	OH	43952
Trinity Health System, Medical Center West	4000 Johnson Road	Steubenville	OH	43952
Weirton Medical Center	601 Colliers Way	Weirton	WV	26062
Wetzel County Hospital	3 East Benjamin Drive	New Martinsville	WV	26155
Wheeling Hospital	1 Medical Park	Wheeling	WV	26003
Intellectual Disability Services	**Address**	**City**	**State**	**Zip**
ARC of Ohio County	439 Warwood Avenue	Wheeling	WV	26003
Augusta Levy Learning Center	99 Main Street	Wheeling	WV	26003
Easter Seals	1305 National Road	Wheeling	WV	26003
REM Community Options	748 McMechen Street	Benwood	WV	26031
Russell Nesbitt Services	531 Fulton Street	Wheeling	WV	26003
Substance Abuse	**Address**	**City**	**State**	**Zip**
Healthways, Inc.	501 Colliers Way	Weirton	WV	26062
Hillcrest Behavioral Health Services	2000 Jacob Street	Wheeling	WV	26003
Lazarus House	95 E. 11th Street	Wheeling	WV	26003
Miracles Happen	201 Edgington Lane	Wheeling	WV	26003
Wheeling Treatment Center	40 Orrs Lane	Triadelphia	WV	26059
Youth Services System	87 15th Street	Wheeling	WV	26003
YWCA Women Inspired in New Directions	1100 Chapline Street	Wheeling	WV	26003
Youth Services	**Address**	**City**	**State**	**Zip**
Crittenton Services	2606 National Road	Wheeling	WV	26003
Robert C. Byrd Center	2211 Eoff Street	Wheeling	WV	26003
Youth Services System, Inc.	87-15th Street	Wheeling	WV	26003

Northwood
Health Systems

Access

Access to Care

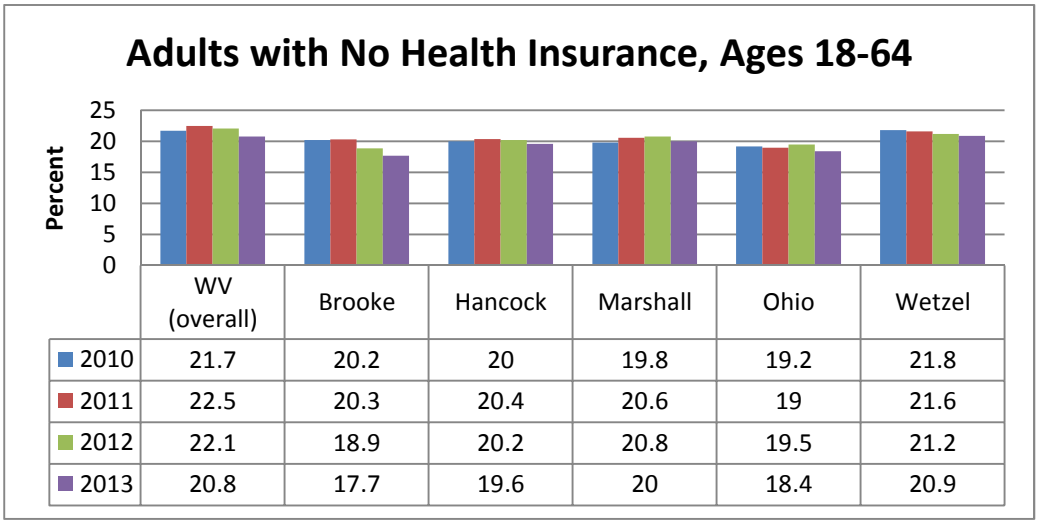
According to the U. S. Department of Health and Human Services, Office of Disease Prevention and Health Promotion (ODPHP), a person's ability to access health services has a profound effect on every aspect of his or her health. Components that comprise access to care include factors such as coverage, workforce, services, and timeliness.

Coverage

People without medical insurance are less likely to have a usual source of medical care, such as a Primary Care Practitioner (PCP), and are more likely to skip routine medical care due to costs, increasing their risk for serious and disabling health conditions. When they do access health services, they are often burdened with large medical bills and out-of-pocket expenses.

Figure 21 illustrates the percentage of adults with no health insurance who were between 18 and 64 years of age from 2010 through 2013. West Virginia as a whole and all of the service area counties saw a slight decrease in the percentage of residents with no health insurance over the years shown below. Generally, each county in the service area had a lower percentage of residents with no health insurance than the overall numbers for West Virginia. The Healthy People 2020 Goal is for all individuals to have health insurance coverage.

Figure 21. Percentage of Adults with No Health Insurance, Ages 18-64

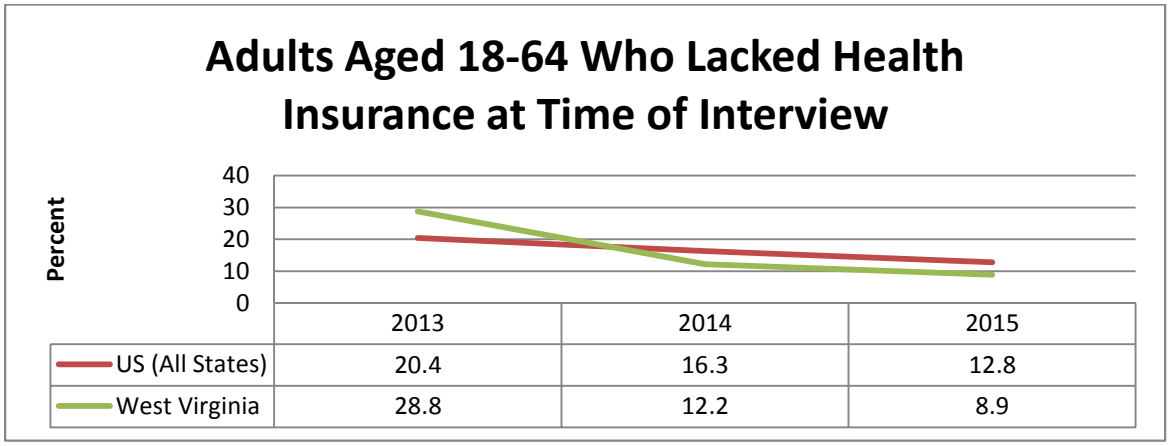


	WV (overall)	Brooke	Hancock	Marshall	Ohio	Wetzel
2010	21.7	20.2	20	19.8	19.2	21.8
2011	22.5	20.3	20.4	20.6	19	21.6
2012	22.1	18.9	20.2	20.8	19.5	21.2
2013	20.8	17.7	19.6	20	18.4	20.9

Data Source: Health Indicators Warehouse, www.healthindicators.gov, (Data Source BRFSS)

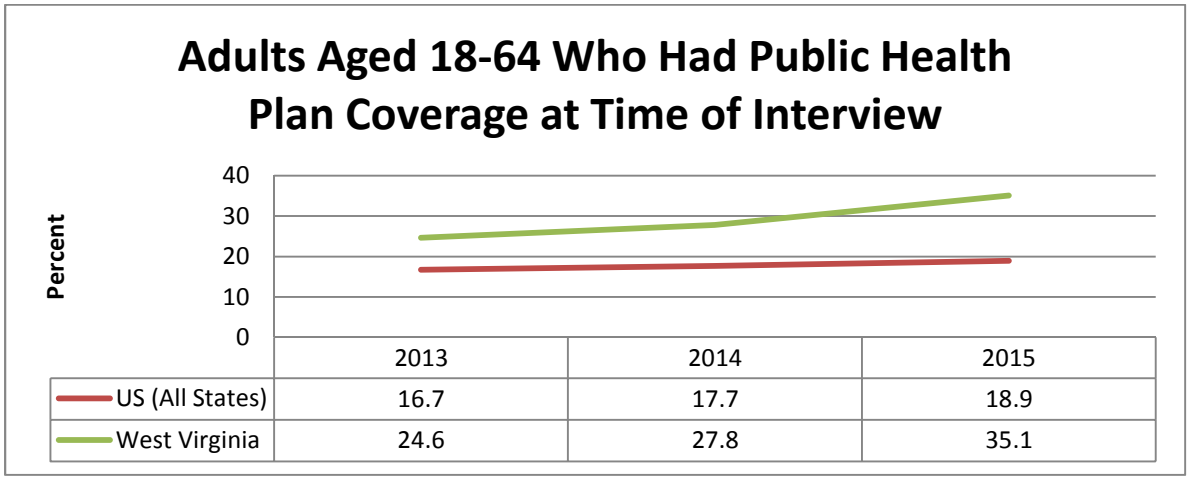
While data is not available at the county level, health care coverage in West Virginia has changed dramatically since 2013. **Figure 22** below shows that the percentage of adults between the ages of 18 and 64 years of age who lacked health insurance coverage dropped significantly, by 19.9 percent, between 2013 and 2015. **Figure 23** below shows a similar trend in the increase of public health plan coverage. These changes are due to implementation of the Affordable Care Act and West Virginia's associated expansion of Medicaid coverage.

Figure 22. Change in Percentage of Adults Aged 18-64 Who Lacked Health Insurance *



	2013	2014	2015
US (All States)	20.4	16.3	12.8
West Virginia	28.8	12.2	8.9

Figure 23. Change in Percentage of Adults Who Had Public Health Plan Coverage *

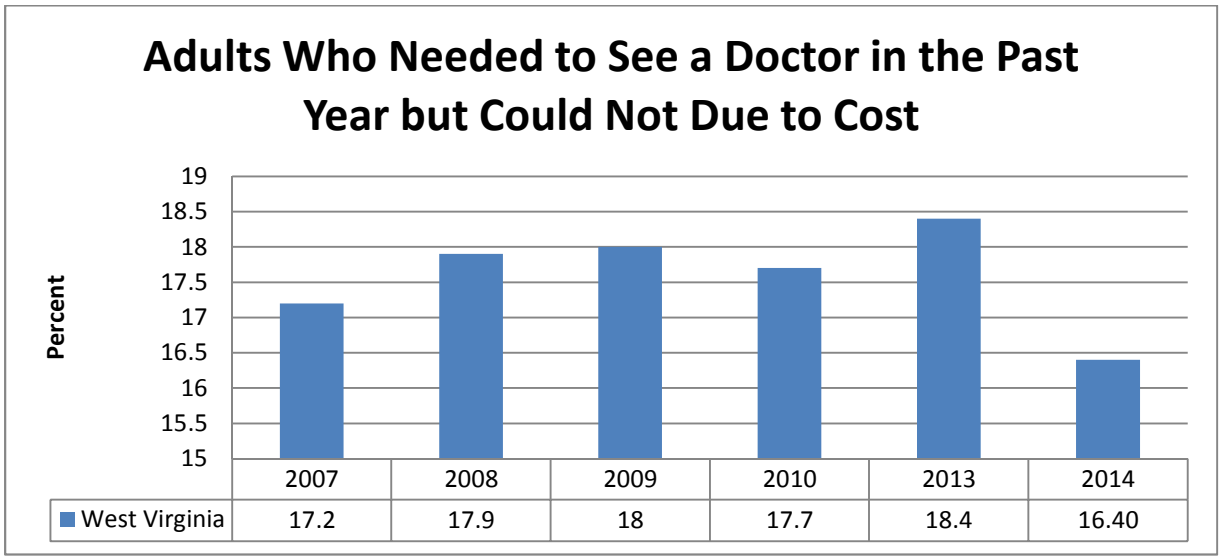


	2013	2014	2015
US (All States)	16.7	17.7	18.9
West Virginia	24.6	27.8	35.1

*Data Source: U. S. Department of Health and Human Services, Centers for Disease Control and Prevention, National Center for Health Statistics, 'Health Insurance Coverage: Early Release of Estimates from the National Health Interview Survey, 2015'

Figure 24 illustrates the percentage of adults who needed to see a doctor in the past year but could not due to cost for the survey years 2007 through 2014. The highest percentage of residents who needed to see a doctor but could not due to cost occurred in 2013 with 18.4%, reflecting a gradual rise since 2007. We believe the decrease noted in 2014 will continue to trend lower due to implementation of the Affordable Care Act and Medicaid expansion. West Virginia has consistently scored above the Healthy People 2020 target of 4.2%.

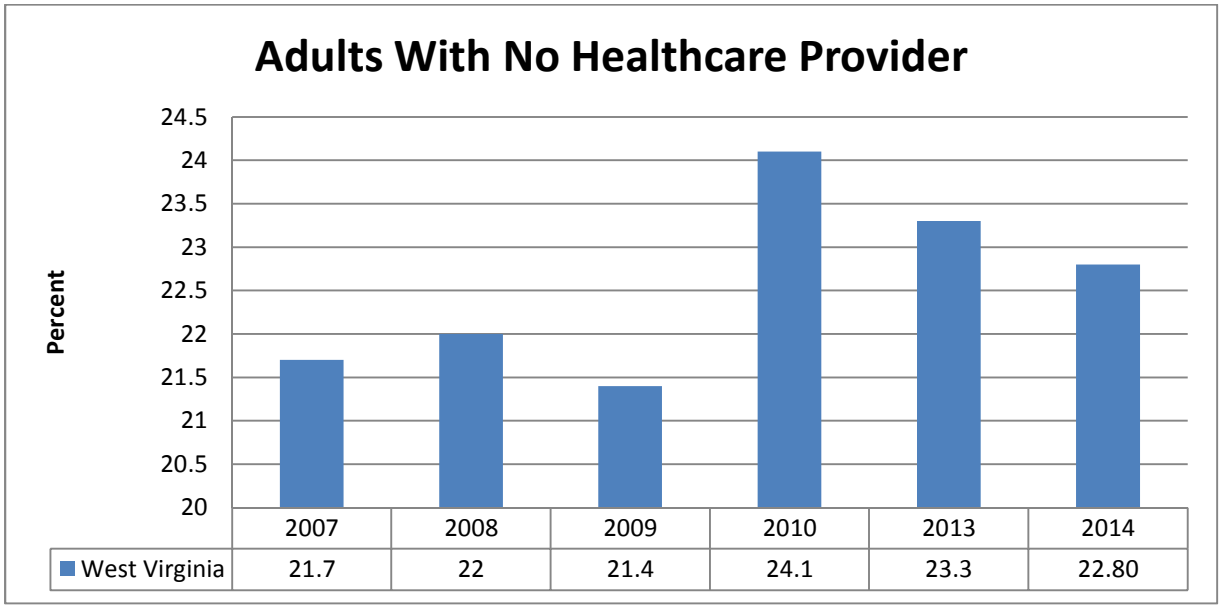
Figure 24. Percentage of Adults Who Needed to See a Doctor in the Past Year but Could Not Due to Cost



Data Source: Behavioral Risk Factor Survey Report (BRFSS)

Figure 25 illustrates the percentage of adults with no health care provider, residing in West Virginia from 2007 through 2014. The highest percentage of residents with no health care provider occurred in 2010 when nearly one out of four adults did not have a health care provider. We believe the decreases noted in 2013 and 2014 will continue to trend lower due to implementation of the Affordable Care Act and Medicaid expansion. Since 2007, West Virginia has consistently scored worse than the Healthy People 2020 target of 16.1%.

Figure 25. Percentage of Adults with No Health Care Provider



Data Source: Behavioral Risk Factor Survey Report (BRFSS)

Workforce

According to information provided by the University of Wisconsin Population Health Institute, thirty percent of the West Virginia population lives in a county designated as a Mental Health Professional Shortage Area.

The Health Resources and Services Administration (HRSA) of the U. S. Department of Health and Human Services develops shortage designation criteria and uses them to decide whether or not a geographic area, population group or facility is a Health Professional Shortage Area or a Medically Underserved Area or Population.

Table 9 illustrates these 2016 federal shortage designations for Brooke, Hancock, Marshall, Ohio and Wetzel Counties. Hancock, Marshall, Ohio, and Wetzel Counties are all designated as medically underserved areas. Hancock County is a designated shortage area for Primary Care and Dental Services. Marshall and Ohio Counties are designated as Primary Care shortage areas. Wetzel County is a designated shortage area for Primary Care, Dental and Mental Health Services.

Table 9. Federal Shortage Designations 2016

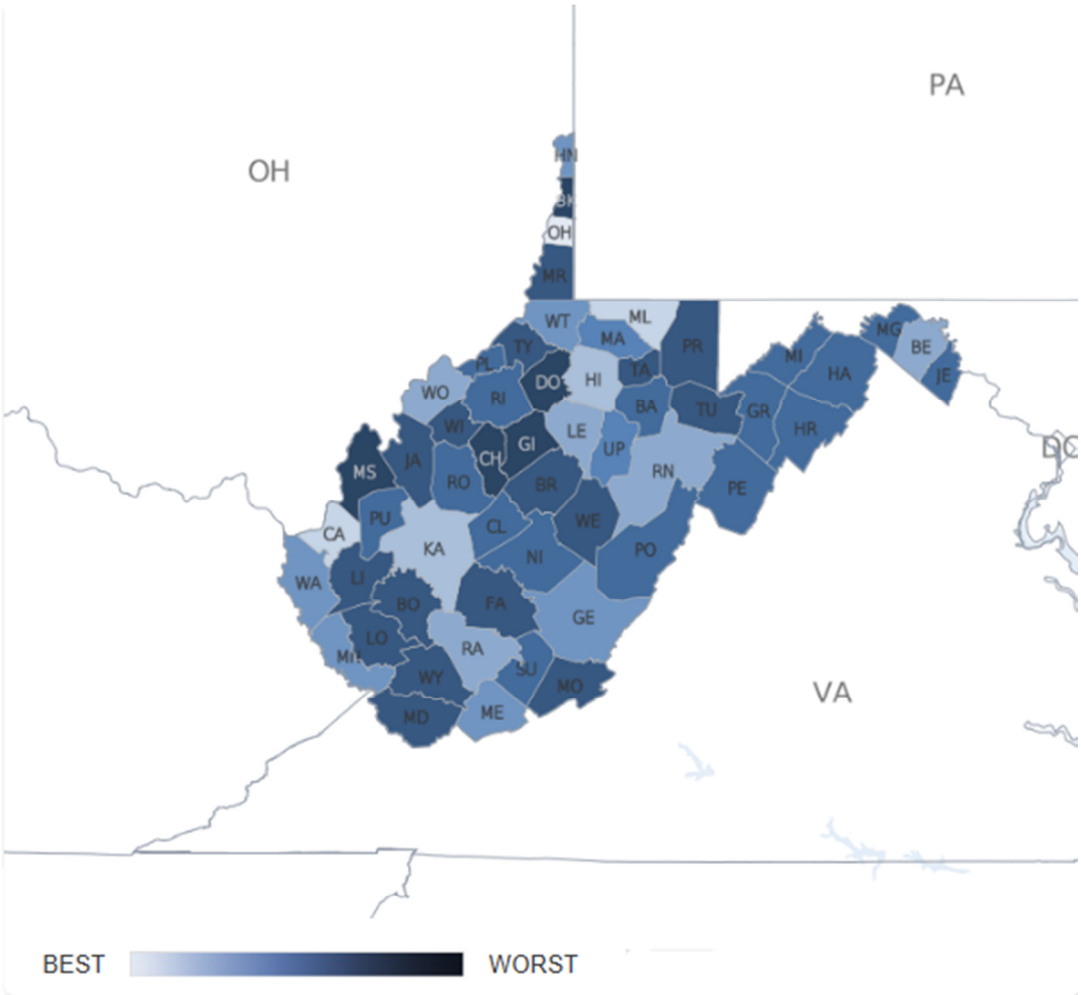
Federal Shortage Designations 2016					
	Brooke County	Hancock County	Marshall County	Ohio County	Wetzel County
Primary Care	No	Yes	Yes	Yes	Yes
Dental	No	Yes	No	No	Yes
Mental Health	No	Yes	No	No	Yes
Medically Underserved Area / Population	No	Yes	Yes	Yes	Yes

Data Source: 2016 Health Resources and Services Administration (HRSA)

Mental Health Providers

According to the University of Wisconsin Population Health Institute, one of the factors that can be used to compare and objectively measure access to care is the ratio of the county population to the number of mental health providers including psychiatrists, psychologists, licensed clinical social workers, counselors, marriage and family therapists, and advanced practice nurses specializing in mental health. Using this measure for the service area counties, Brooke and Marshall Counties score worst, followed by better scores for Wetzel, Hancock and Ohio counties.

Figure 26. Mental Health Providers



Data Source: www.countyhealthrankings.org

Services

Figures 27 and 28 illustrate the Northwood program utilization for Crisis Stabilization services and Psychiatric / Medication Management services. Utilization of these services has increased over the past 6 years.

Figure 27. Northwood Program Utilization – Crisis Services *

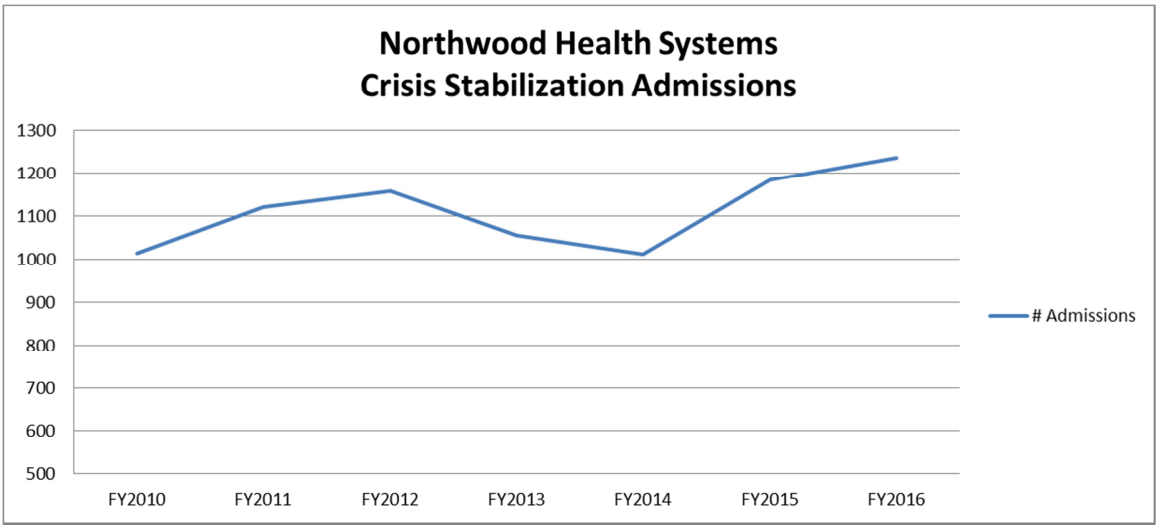
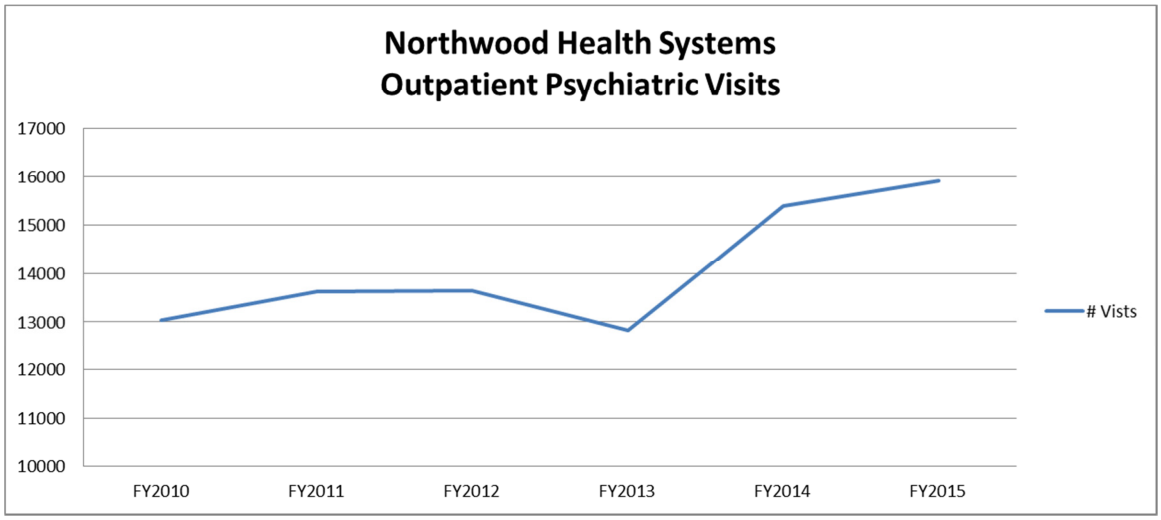


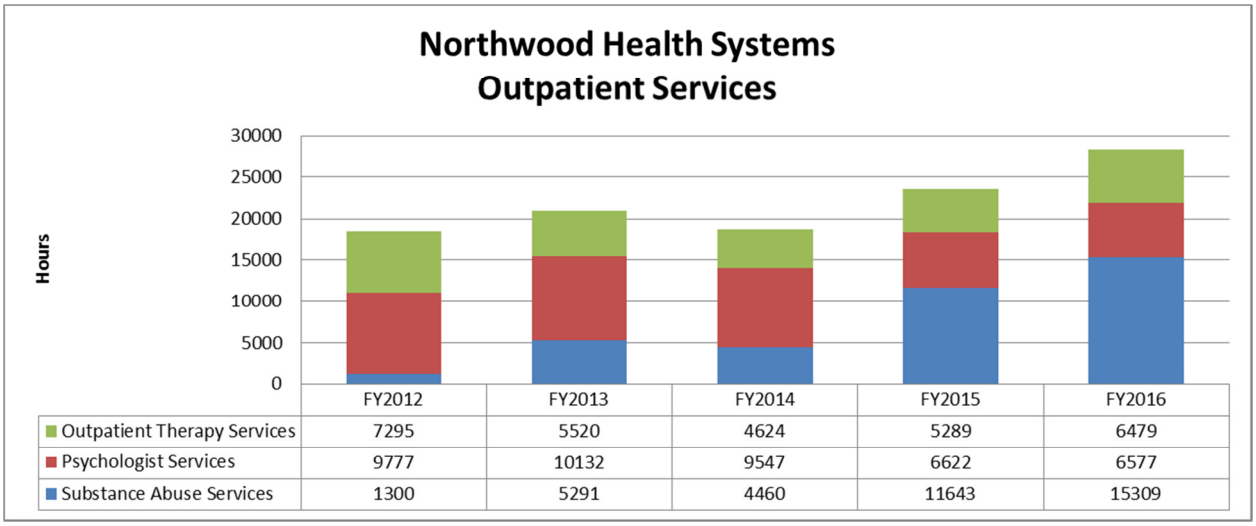
Figure 28. Northwood Program Utilization – Outpatient Psychiatric Visits *



* Data Source: Northwood Health Systems

Figure 29 illustrates Northwood program utilization for the Psychologist, Therapy and Substance Abuse Outpatient Programs. Utilization of these programs has increased over the past five years, with the largest increase (approximately 1000%) in services for substance abuse.

Figure 29. Northwood Program Utilization – Outpatient Services



	FY2012	FY2013	FY2014	FY2015	FY2016
Outpatient Therapy Services	7295	5520	4624	5289	6479
Psychologist Services	9777	10132	9547	6622	6577
Substance Abuse Services	1300	5291	4460	11643	15309

Data Source: Northwood Health Systems

Access Conclusions

There are a number of observations and conclusions that can be derived from the data related to Access to care. They include:

- In West Virginia, between 2013 and 2015, the percentage of adults aged 18 to 64 years of age who lacked health insurance coverage dropped significantly, by 19.9%.
- During this same time frame, 2013 to 2015, the percentage of adults aged 18 to 64 who had public health plan coverage increased by more than 10%.
- In West Virginia between 2007 and 2014, the percentage of adults who needed to see a doctor but could not due to cost ranged between 16%-18%, which is higher than the Healthy People 2020 Goal (4.2%).
- Between 2007 and 2014, the percentage of adults with no health care provider ranged between 21% and 24%, which is above the Healthy People 2020 Goal of 16.1%.
- Hancock, Marshall, Ohio, and Wetzel Counties are all designated as medically underserved areas. Wetzel and Hancock Counties are designated shortage areas for Primary Care, Dental and Mental Health Services. Marshall County is also designated as a Primary Care shortage area.
- Over the last 5 years, demand for Northwood services has increased for psychiatric/medication management and outpatient therapy services.
- Over the last 5 years, demand for Northwood services has increased by approximately 1000% for substance abuse services.

Northwood
Health Systems

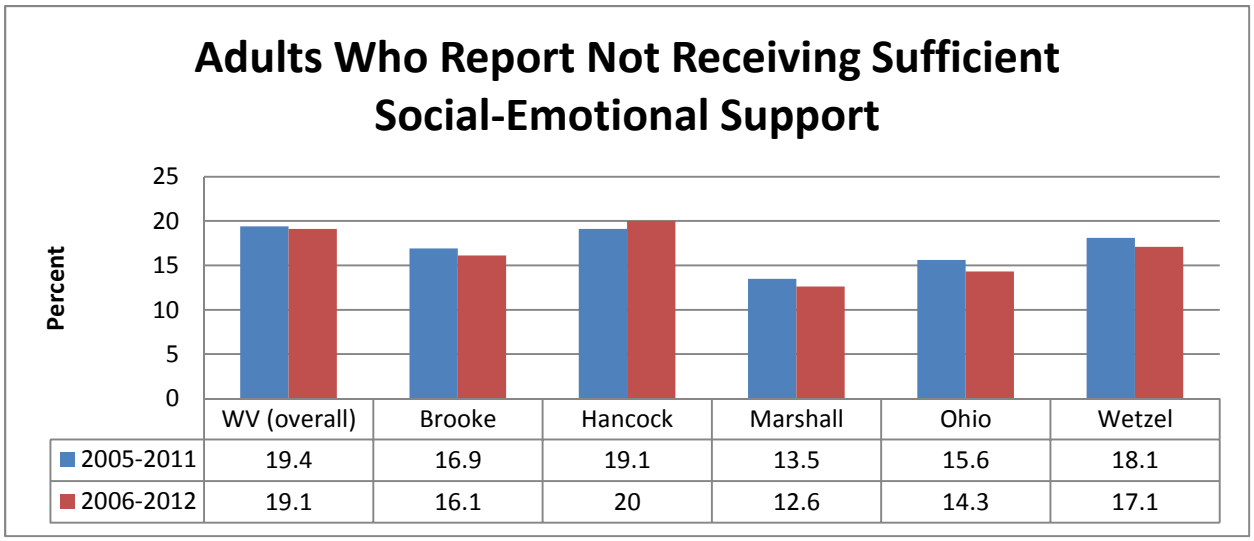
Chronic/Serious Mental Health

Chronic/Serious Mental Health

Conditions that are long-lasting, relapse, and are characterized by remission and continued persistence are categorized as chronic diseases. Mental Health refers to a broad array of activities directly or indirectly related to the mental well-being component included in the World Health Organization's definition of health: "A state of complete physical, mental and social well-being, and not merely the absence of disease." Mental health is related to the promotion of well-being, the prevention of mental disorders, and the treatment and rehabilitation of people affected by mental disorders.

Figure 30 illustrates the percentage of adults who rarely or never get the social or emotional support they need in West Virginia and for each county in the service area from 2005-2011 and 2006-2012. Studies have demonstrated an association between increased levels of social support and reduced risk for physical disease, mental illness, and mortality. West Virginia has a lower percentage of adults who rarely or never get the social or emotional support they need when compared to the United States. West Virginia and the United States both saw a decrease in residents who felt they did not receive the support they need in 2012, with residents in the United States dropping from 21.6% to 19.5% and residents in West Virginia dropping from 19.4% to 19.1%. All counties in the service were below the West Virginia and United States average except Hancock County who was above both at 20% in 2006-2012.

Figure 30 Percentage of Adults Who Rarely Get the Social or Emotional Support They Need



	WV (overall)	Brooke	Hancock	Marshall	Ohio	Wetzel
2005-2011	19.4	16.9	19.1	13.5	15.6	18.1
2006-2012	19.1	16.1	20	12.6	14.3	17.1

Source: Health Indicators Warehouse, www.healthindicators.gov, (Data Source BRFSS)

Healthy Days

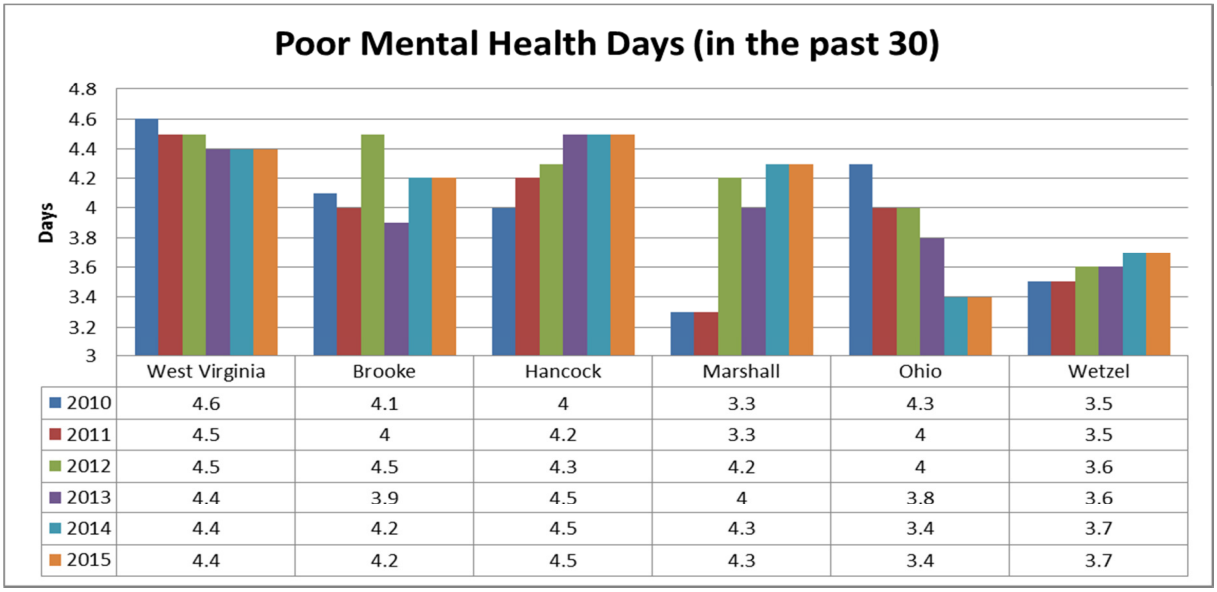
Healthy Days is a popular public health measure that has been correlated with self-rated general physical health, general life satisfaction, medical care utilization, and depression. The core Healthy Days measures assess a person's perceived sense of well-being through questions about health and number of recent days when physical and mental health were not good.

Poor Mental Health Days (in the past 30)

Poor Mental Health Days measures the number of days in the previous 30 days that a person indicates their activities were limited due to mental health difficulties. The measure provides a general indication of wellness, health-related quality of life, and mental distress. In 2015, West Virginia ranked third highest of the 50 states in the number of poor mental health days in the past 30.

Figure 31 illustrates the number of Poor Mental Health Days in the past 30 days for adults in the service area from 2010 to 2015. Ohio County residents showed a consistent decrease in days, going from 4.3 average days in 2010 to 3.4 days in 2015, while residents of the other four counties showed an increase during that time period. All counties except for Hancock (4.5) reported fewer Poor Mental Health Days than the overall State rate (4.4) in 2015.

Figure 31 Poor Mental Health Days (in the Past 30 Days)



	West Virginia	Brooke	Hancock	Marshall	Ohio	Wetzel
2010	4.6	4.1	4	3.3	4.3	3.5
2011	4.5	4	4.2	3.3	4	3.5
2012	4.5	4.5	4.3	4.2	4	3.6
2013	4.4	3.9	4.5	4	3.8	3.6
2014	4.4	4.2	4.5	4.3	3.4	3.7
2015	4.4	4.2	4.5	4.3	3.4	3.7

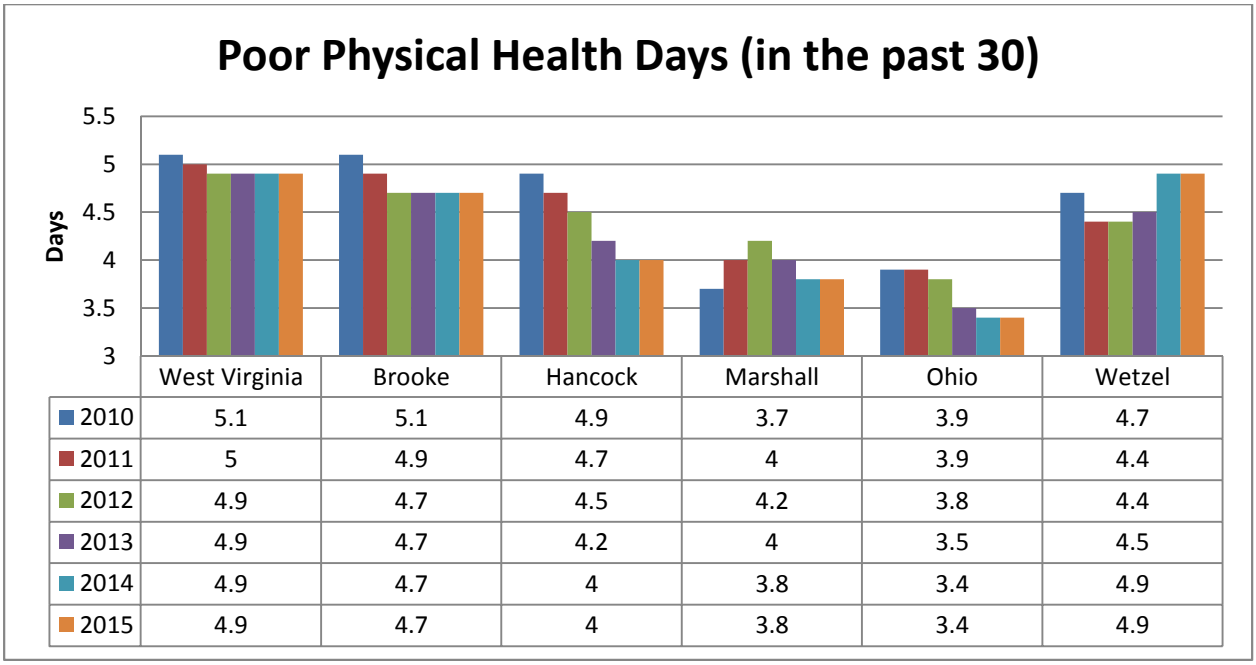
Source: http://www.countyhealthrankings.org/

Poor Physical Health Days (in the past 30)

Poor physical health days are a general indicator of the population's health related quality of life. Along with poor mental health days, it provides insight into overall health.

In 2015, West Virginia ranked highest of the 50 states in the number of poor physical health days in the past 30.

Figure 32. Poor Physical Health Days



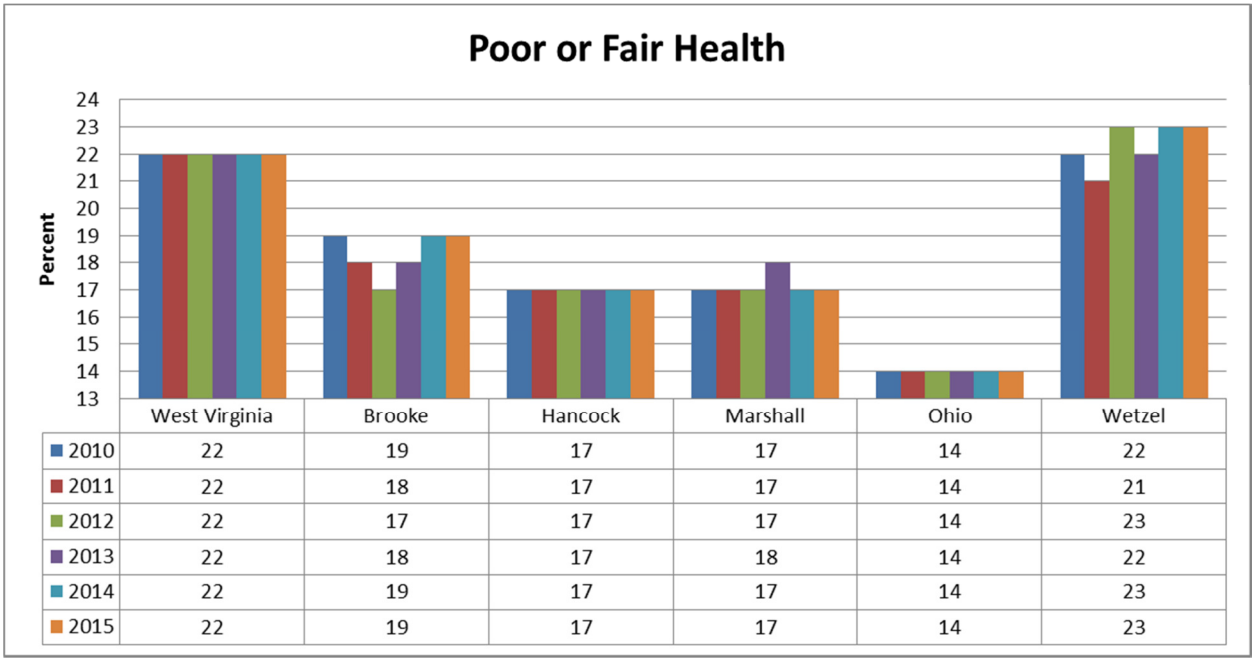
	West Virginia	Brooke	Hancock	Marshall	Ohio	Wetzel
2010	5.1	5.1	4.9	3.7	3.9	4.7
2011	5	4.9	4.7	4	3.9	4.4
2012	4.9	4.7	4.5	4.2	3.8	4.4
2013	4.9	4.7	4.2	4	3.5	4.5
2014	4.9	4.7	4	3.8	3.4	4.9
2015	4.9	4.7	4	3.8	3.4	4.9

Source: http://www.countyhealthrankings.org/

Poor or Fair Health

Figure 33 illustrates the percentage of adults who reported their health as fair or poor by county within the service region from 2010-2015. Wetzel County reported a slight increase of residents with fair or poor health, while all other counties in the service area have stayed consistent. All counties in the service area, except Wetzel County, experienced a lower percentage of residents, with fair or poor health, than West Virginia from 2010-2015. West Virginia and the service area of Brooke, Hancock, Marshall and Wetzel counties all exceeded the National rate of 14.7%.

Figure 33. Percentage of Adults Who Reported Their Health as Poor or Fair



	West Virginia	Brooke	Hancock	Marshall	Ohio	Wetzel
2010	22	19	17	17	14	22
2011	22	18	17	17	14	21
2012	22	17	17	17	14	23
2013	22	18	17	18	14	22
2014	22	19	17	17	14	23
2015	22	19	17	17	14	23

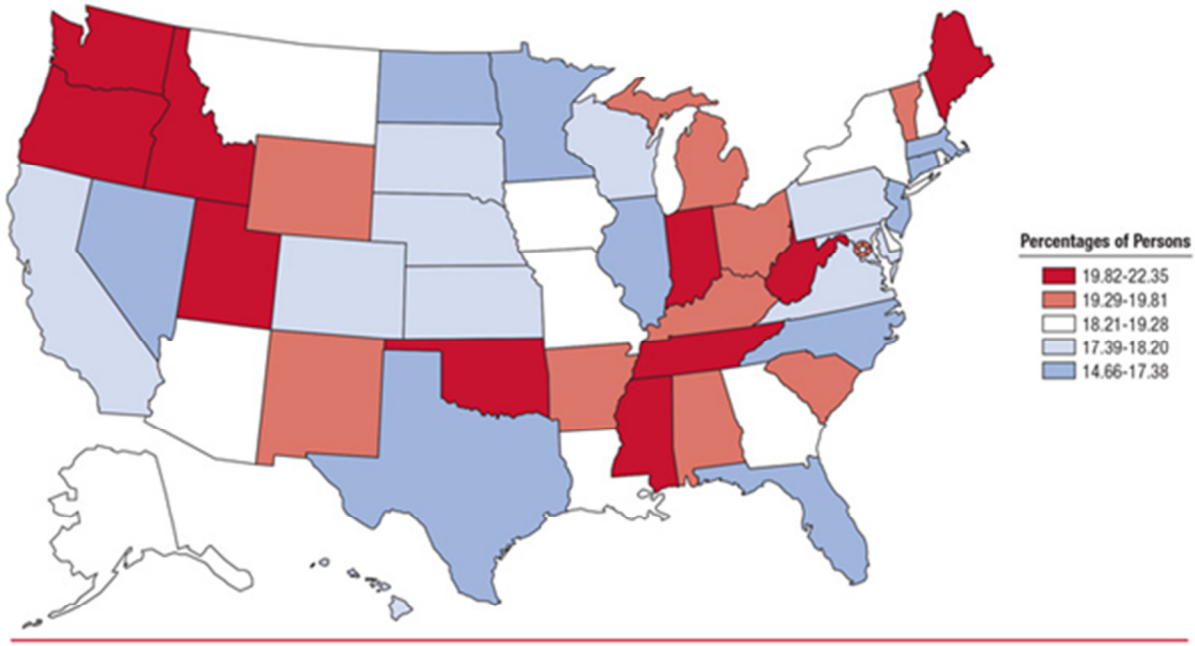
Source: http://www.countyhealthrankings.org/

Any Mental Illness

According to the Substance Abuse and Mental Health Services Administration (SAMHSA), "Any Mental Illness (AMI) is defined as having a diagnosable mental, behavioral, or emotional disorder, other than a developmental or substance use disorder." The Any Mental Illness measure includes persons with mild mental illness, moderate mental illness, and serious mental illness based on the level of functional impairment.

Nationally, 42.5 million adults aged 18 or older experienced any mental illness in the past year, corresponding to a rate of 18.2 percent. Among States, AMI rates ranged from 14.7 percent in New Jersey to 22.4 percent in Utah. Along with Utah, the States with the highest rates include Oklahoma (21.9 percent), West Virginia (21.4 percent), Oregon (20.9 percent), and Washington (20.8 percent).

Figure 34. Any Mental Illness in the Past Year among Persons Aged 18 or Older by State

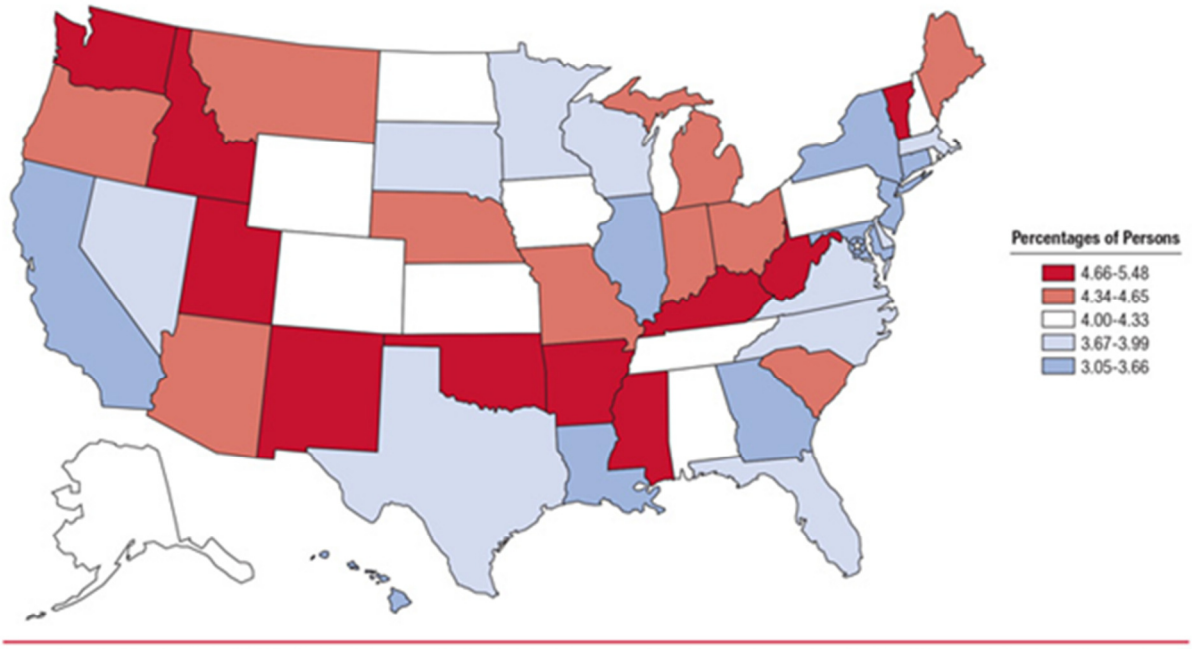


Source: SAMHSA, Center for Behavioral Health Statistics and Quality, National Surveys on Drug Use and Health (NSDUHs), 2011 (revised October 2013) and 2012.

Serious Mental Illness by State

Among adults aged 18 or older, the national rate of Serious Mental Illness was 4.0 percent. Among individual States, the percentage of adults aged 18 or older with SMI ranged from 3.1 percent in New Jersey to 5.5 percent in West Virginia. Along with West Virginia, States with the highest SMI rates include Oklahoma (5.2 percent) and Utah, Washington, and Arkansas (each with a rate of 5.1 percent).

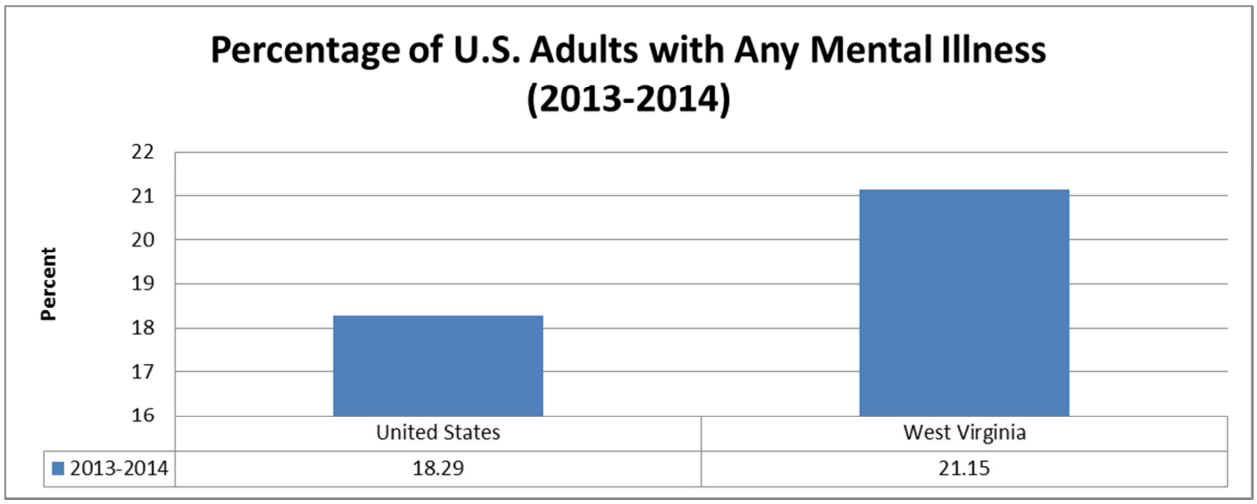
Figure 35. Serious Mental Illness in the Past Year among Persons Aged 18 or Older by State



Source: SAMHSA, Center for Behavioral Health Statistics and Quality, National Surveys on Drug Use and Health (NSDUHs), 2011 (revised October 2013) and 2012.

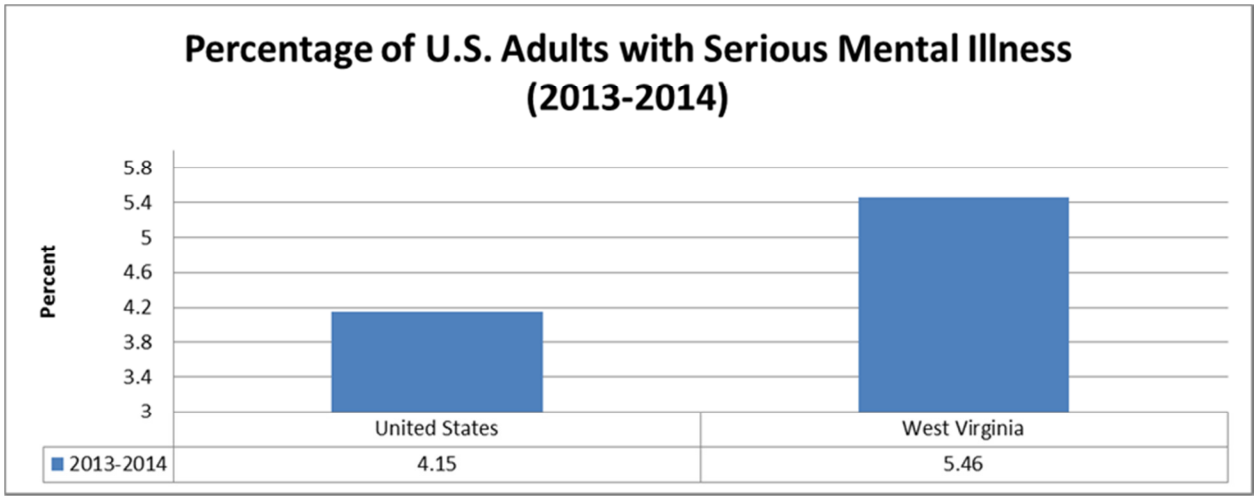
Past Year Mental Health Measures

Figure 36. Percentage of Any Mental Illness among Adults (U.S. and West Virginia)



Source: SAMHSA, Center for Behavioral Health Statistics and Quality, National Survey on Drug Use and Health, 2013 and 2014

Figure 37. Percentage of Serious Mental Illness among Adults (U.S. and West Virginia)



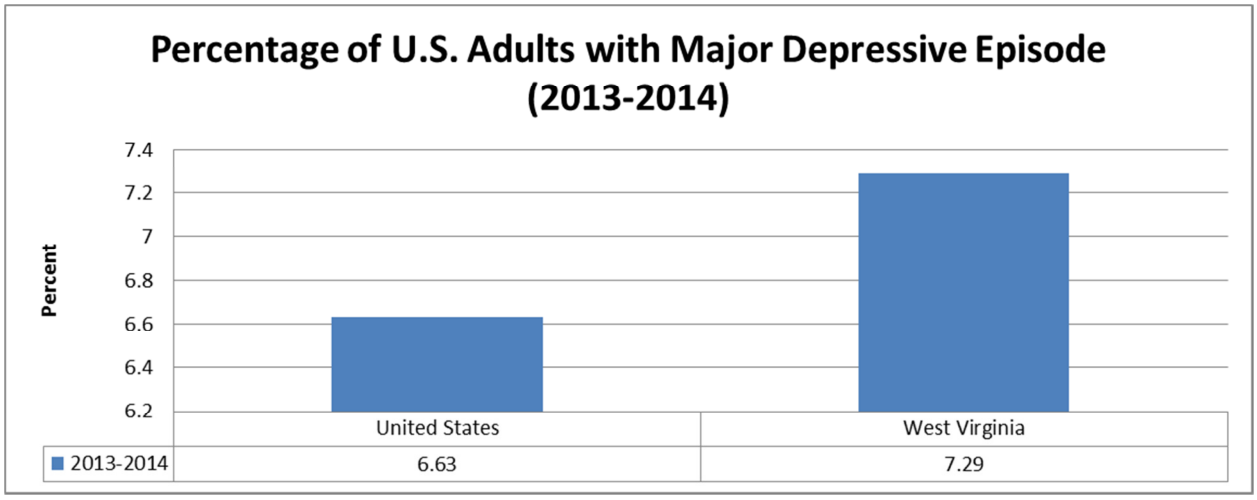
Source: SAMHSA, Center for Behavioral Health Statistics and Quality, National Survey on Drug Use and Health, 2013 and 2014

Past Year Mental Health Measures

According to the National Institute of Mental Health (NIMH), in 2014, an estimated 15.7 million adults aged 18 or older in the United States had at least one major depressive episode in the past year. This number represented 6.7% of all U.S. adults.

Figure 38 illustrates individuals reporting having at least one major depressive episode from the United States and West Virginia in 2013-2014. The rate in West Virginia is higher than the national rate.

Figure 38. Percentage of Adults with Major Depressive Episode Past Year



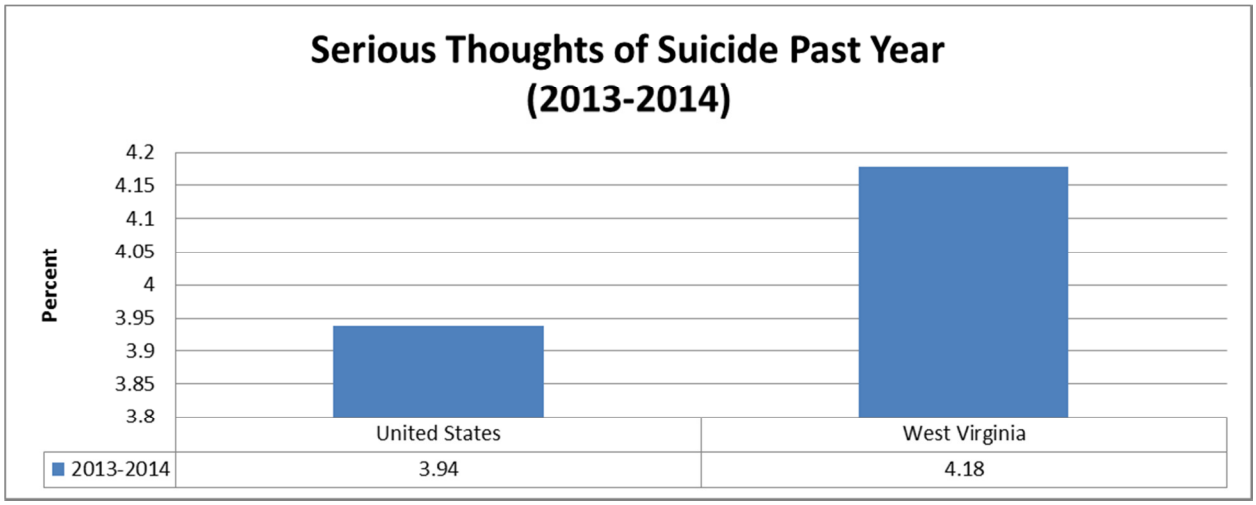
Source: SAMHSA, Center for Behavioral Health Statistics and Quality, National Survey on Drug Use and Health, 2013 and 2014

Suicide

Suicide is a major cause of death in the United States that affects people of all ages, races, and ethnicities. There were more than 41,000 deaths by suicide in 2013, making it the 10th-leading cause of death. There are 2.5 times as many deaths from suicide yearly than from homicide. For each successful suicide there are roughly 10 attempted suicides; many lead to hospitalizations and indicate how poor mental health burdens the population.

Figure 39 illustrates individuals reporting Serious Thoughts of Suicide within the Past Year in the United States and West Virginia from 2013 to 2014. A higher percentage of West Virginia residents reported experiencing serious thoughts of suicide compared to the United States during that time period.

Figure 39. Individuals Reporting Having Serious Thoughts of Suicide Past Year

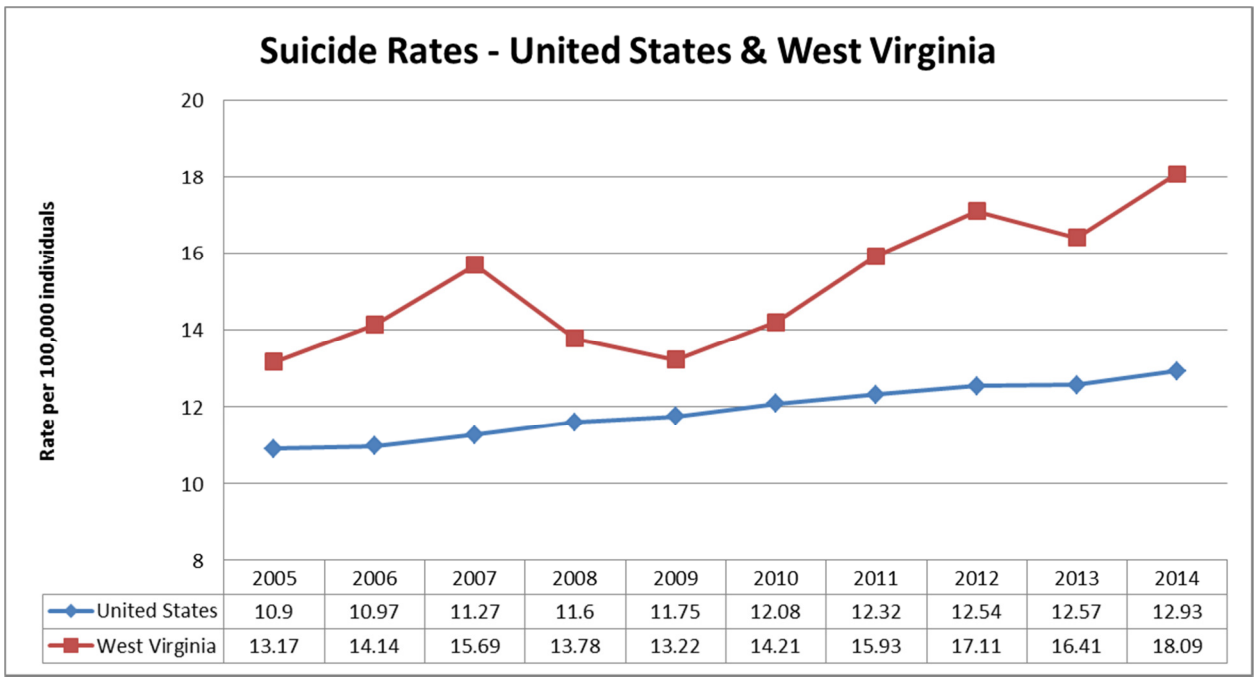


Source: SAMHSA, Center for Behavioral Health Statistics and Quality, National Survey on Drug Use and Health, 2013 and 2014

West Virginia – Annual Suicide Deaths

According to the American Foundation for Suicide Prevention, suicide is the 10th leading cause of death in the US and the 11th leading cause of death overall in West Virginia. In West Virginia, the rate of suicide deaths is 18.09 per 100,000 population compared to a lower rate of 12.93 nationally. Nearly three times as many people die by suicide in West Virginia annually than by homicide. It is the second leading cause of death for ages 10 to 34.

Figure 40. Suicide Rates – United States and West Virginia



	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014
United States	10.9	10.97	11.27	11.6	11.75	12.08	12.32	12.54	12.57	12.93
West Virginia	13.17	14.14	15.69	13.78	13.22	14.21	15.93	17.11	16.41	18.09

Source: American Foundation for Suicide Prevention

Table 10 illustrates the number and rates of deaths from suicide in each of the counties of the service area and West Virginia from 2001 to 2010. Marshall County had the highest number (85) of suicide deaths, of the counties in the service area. Wetzel County had the highest rate (16.7) of suicide deaths, followed by Brooke County (16.47). Both of these counties had higher rates of suicide deaths than the state rate of 15.76. Hancock, Marshall and Ohio Counties all had rates below the state rate during this time period.

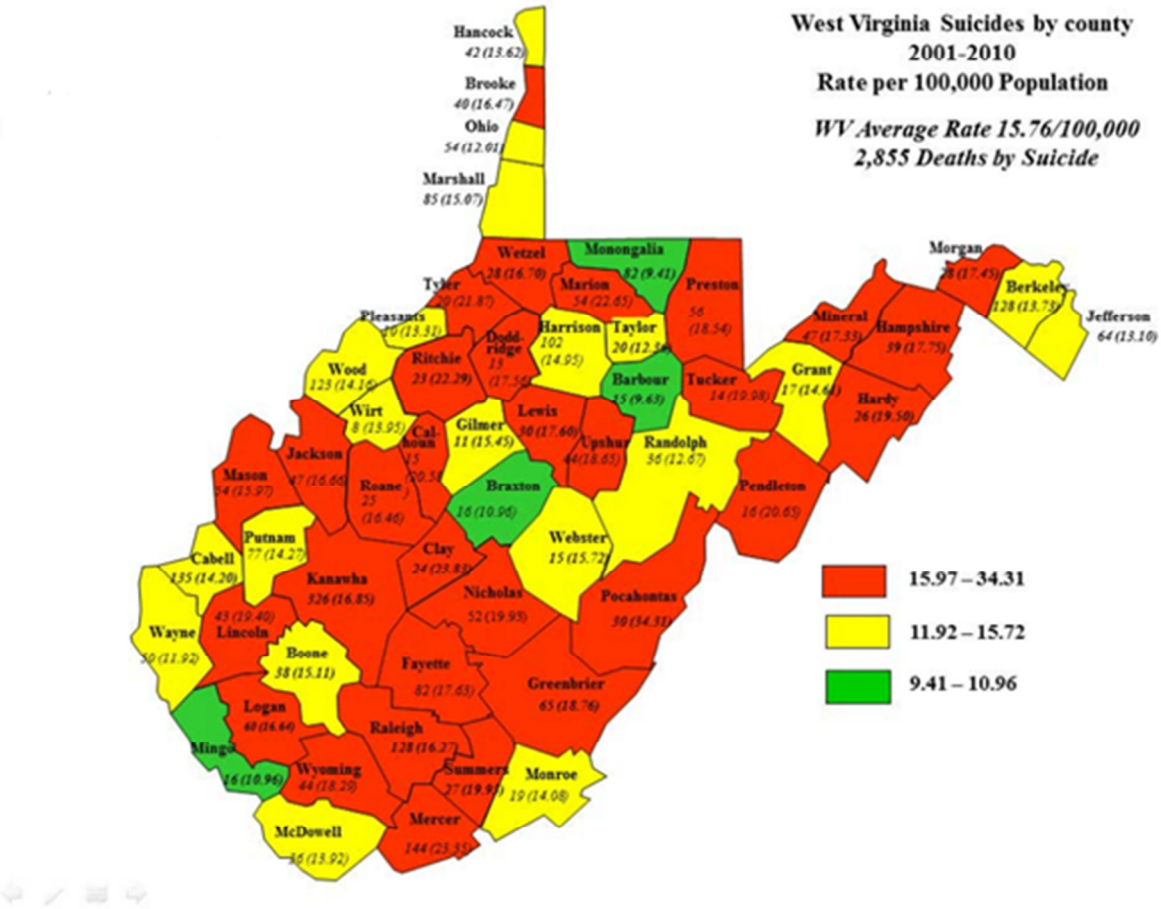
Table 10. Suicide Deaths 2001-2010

2001-2010 Suicide Deaths						
	West Virginia	Brooke County	Hancock County	Marshall County	Ohio County	Wetzel County
Number of Suicides	2,855	40	42	85	54	28
Rate per 100,000	15.76	16.47	13.62	15.07	12.01	16.7

Source: West Virginia Council for the Prevention of Suicide

Figure 41 illustrates suicide rates in West Virginia by County from 2001-2010.

Figure 41. West Virginia Suicide Rates by County



Source: West Virginia Council for the Prevention of Suicide

Leading Causes of Death by Age Group

According to the National Center for Health Statistics, unintentional injuries ranked first as the leading cause of death for West Virginians between the ages of 1 to 44 years, regardless of race, gender or economic status. Unintentional injury deaths result from a variety of causes but a majority of fatal unintentional injuries include motor vehicle traffic crashes, poisoning (including drugs and other substances), and falls.

Suicide is the second leading cause of death in West Virginia for ages 10 to 34.

Figure 42. Leading Causes of Death by Age Group

10 Leading Causes of Death, West Virginia
2014, All Races, Both Sexes

	Age Groups										
Rank	<1	1-4	5-9	10-14	15-24	25-34	35-44	45-54	55-64	65+	All Ages
1	Congenital Anomalies 29	Unintentional Injury 12	Unintentional Injury ---	Unintentional Injury ---	Unintentional Injury 91	Unintentional Injury 181	Unintentional Injury 229	Malignant Neoplasms 376	Malignant Neoplasms 1,007	Heart Disease 3,706	Malignant Neoplasms 4,880
2	Short Gestation 22	Congenital Anomalies ---	Congenital Anomalies ---	Suicide ---	Suicide 44	Suicide 53	Heart Disease 113	Heart Disease 252	Heart Disease 577	Malignant Neoplasms 3,371	Heart Disease ---
3	SIDS 17	Homicide ---	Benign Neoplasms ---	Congenital Anomalies ---	Homicide 17	Heart Disease 34	Malignant Neoplasms 91	Unintentional Injury 248	Chronic Low. Respiratory Disease 214	Chronic Low. Respiratory Disease 1,297	Chronic Low. Respiratory Disease 1,578
4	Unintentional Injury ---	Influenza & Pneumonia ---	Chronic Low. Respiratory Disease ---	Anemias ---	Heart Disease 10	Malignant Neoplasms 24	Suicide 44	Liver Disease 79	Unintentional Injury 160	Cerebro-vascular 938	Unintentional Injury 1,380
5	Bacterial Sepsis ---	Nutritional Deficiencies ---	Diabetes Mellitus ---	---	Malignant Neoplasms ---	Homicide 14	Homicide 25	Diabetes Mellitus 76	Diabetes Mellitus 143	Alzheimer's Disease 612	Cerebro-vascular 1,103
6	Maternal Pregnancy Comp. ---	---	Malignant Neoplasms ---	---	Congenital Anomalies ---	Influenza & Pneumonia ---	Diabetes Mellitus 18	Suicide 71	Liver Disease 112	Diabetes Mellitus 576	Diabetes Mellitus 818
7	Placenta Cord Membranes ---	---	---	---	Chronic Low. Respiratory Disease ---	Cerebro-vascular ---	Cerebro-vascular 16	Chronic Low. Respiratory Disease 52	Cerebro-vascular 100	Unintentional Injury 440	Alzheimer's Disease 620
8	Neonatal Hemorrhage ---	---	---	---	Diabetes Mellitus ---	Congenital Anomalies ---	Liver Disease 16	Cerebro-vascular 42	Suicide 73	Nephritis 407	Nephritis 479
9	Three Tied ---	---	---	---	Influenza & Pneumonia ---	Septicemia ---	Influenza & Pneumonia 11	Septicemia 28	Septicemia 64	Influenza & Pneumonia 380	Influenza & Pneumonia 473
10	Three Tied ---	---	---	---	Four Tied ---	Chronic Low. Respiratory Disease ---	Chronic Low. Respiratory Disease ---	Influenza & Pneumonia 22	Influenza & Pneumonia 47	Septicemia 271	Septicemia 372

Data source: National Center for Health Statistics (NCHS), National Vital Statistics System

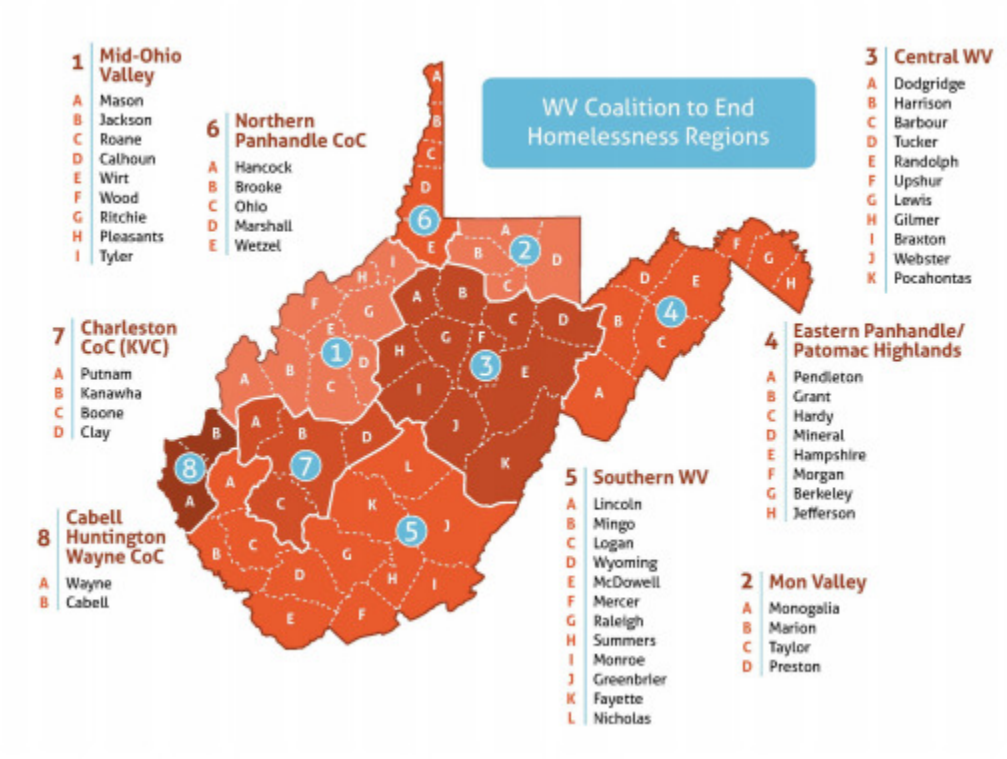
Homelessness and Mental Illness – West Virginia

According to the Substance Abuse and Mental Health Services Administration, 20 to 25% of the homeless population in the United States suffers from some form of severe mental illness.

In 2003, the Substance Abuse and Mental Health Services Administration estimated 38% of homeless people were dependent on alcohol and 26% abused other drugs.

Northwood's service area includes the five counties that comprise the West Virginia Coalition to End Homelessness Region 6 Northern Panhandle Continuum of Care (Brooke, Hancock, Marshall, Ohio and Wetzel Counties).

Figure 43. Northern Panhandle Continuum of Care



Source: West Virginia Coalition to End Homelessness, 2015 Statewide Point in Time Count Report

Chronic/Serious Mental Health Conclusions

There are a number of observations and conclusions that can be derived from the data related to Chronic/Serious Mental Health and related issues. These include:

- In 2015, West Virginia ranked third highest of the 50 states in the number of poor mental health days in the past 30.
- In 2015, the number of poor mental health days out of the past 30 was slightly lower than the state rate for all counties in the service area except for Hancock County.
- In 2015, West Virginia ranked highest of the 50 states in the number of poor physical health days in the past 30.
- Adults in Ohio County have the best (lowest) ratings of fair or poor health, compared to other counties in the service area, and Ohio County is much better than West Virginia overall.
- Based on 2012 data, SAMHSA reported that West Virginia ranked third highest of the 50 states in the percentage of persons with Any Mental Illness.
- Based on 2012 data, SAMHSA reported that West Virginia ranked highest of the 50 states in the percentage of persons with Serious Mental Illness.
- West Virginia has a higher rate of Major Depressive Episode for adults in the past year than the national rate.
- According to the American Foundation for Suicide Prevention, suicide is the 11th leading cause of death overall in West Virginia.
- Suicide is the second leading cause of death for individuals aged 10 to 34 in West Virginia.
- Brooke and Wetzel Counties have the highest rates of suicide death in the counties served and higher than the overall state rate.
- 20 to 25% of the homeless population in the United States suffers from some form of severe mental illness

Northwood
Health Systems

Drug and Alcohol

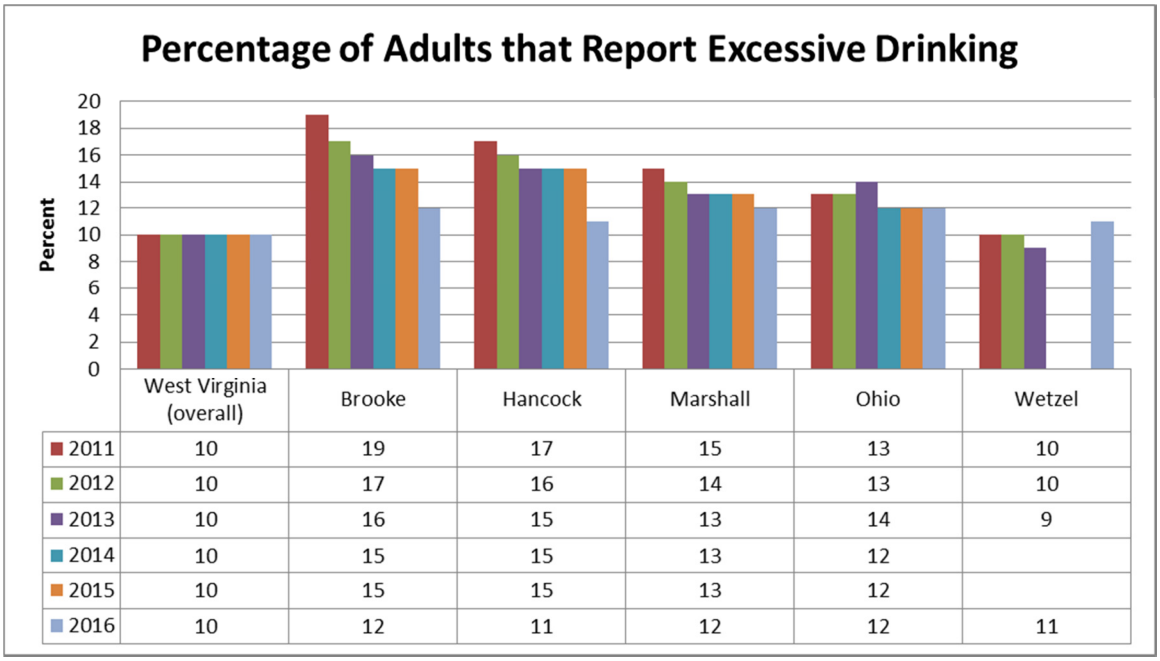
Drug and Alcohol

According to the World Health Organization, substance abuse refers to the harmful or hazardous use of psychoactive substances, including alcohol and illicit drugs. Psychoactive substance use can lead to dependence syndrome - a cluster of behavioral, cognitive, and physiological phenomena that develop after repeated substance use and that typically include a strong desire to take the drug, difficulties in controlling its use, persisting in its use despite harmful consequences, a higher priority given to drug use than to other activities and obligations, increased tolerance, and sometimes a physical withdrawal state.

Alcohol Consumption

Figure 44 illustrates the percentage of adults who reported excessive drinking in West Virginia, Brooke, Hancock, Marshall, Ohio, and Wetzel Counties from 2010 through 2016. All counties except Wetzel County have shown a decrease in residents who report excessive drinking between 2010 and 2016, with the largest decreases reported in Brooke and Hancock Counties. Wetzel County showed a slight increase from 10% in 2010 to 11% in 2016. All counties in the service area are above the West Virginia overall percentage of adults that report excessive drinking.

Figure 44. Percentage of Adults that Report Excessive Drinking



	West Virginia (overall)	Brooke	Hancock	Marshall	Ohio	Wetzel
2011	10	19	17	15	13	10
2012	10	17	16	14	13	10
2013	10	16	15	13	14	9
2014	10	15	15	13	12	
2015	10	15	15	13	12	
2016	10	12	11	12	12	11

Source: http://www.countyhealthrankings.org

Alcohol Risk and Protective Factors

Table 11 illustrates the percentage of residents (12 years or older) in West Virginia and Region 1 counties (Brooke, Hancock, Marshall, Ohio, Wetzel) Alcohol Risk and Protective Factors in 2008-2010 and 2010-2012. Between 2008-2010 and 2010-2012 Region 1 shows a decline in perceptions of great risk of an alcoholic beverage once or twice a week from 42.1% to 41.4%, but a decrease in alcohol dependence or abuse from 6.1% to 5.4%. Region 1 also shows a decrease in residents needing but not receiving treatment for alcohol use from 5.6% to 5.2% between 2008-2010 and 2010-2012. West Virginia as a state shares similar trends with Region 1 across all categories.

Table 11. Alcohol Risk and Protective Factors

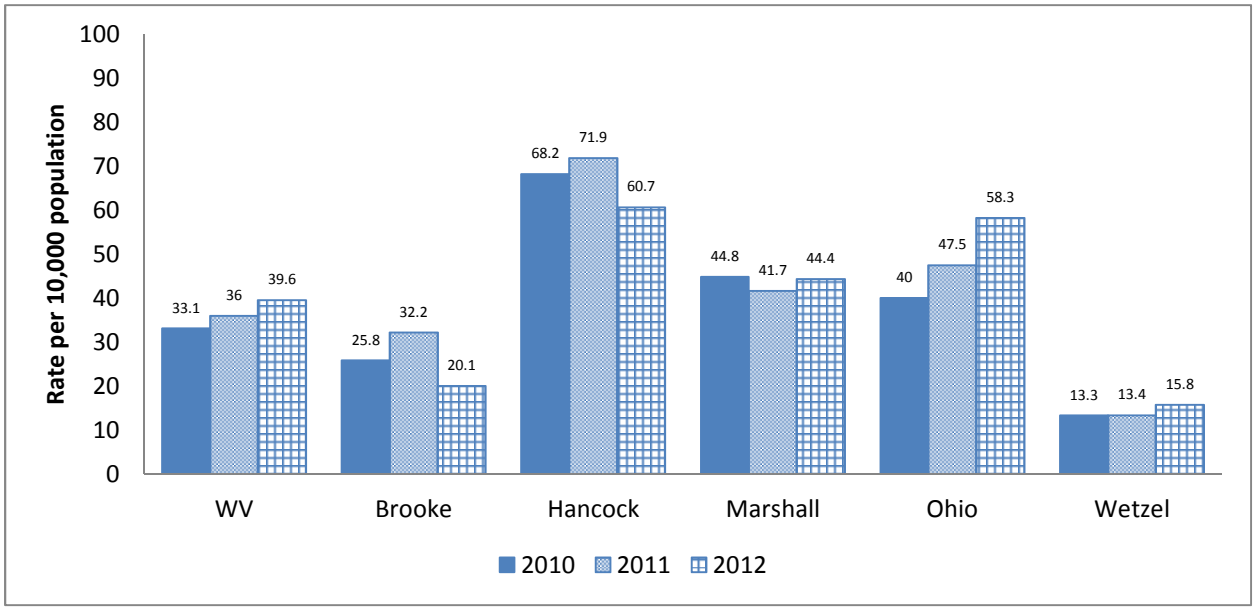
	2008-2010		2010-2012	
	West Virginia	Region 1	West Virginia	Region 1
Perceptions of great risk of an alcoholic beverage once or twice a week (among persons 12 years or older)	43.3%	42.1%	41.4%	41.4%
Alcohol dependence or abuse in the past year (among persons 12 years or	6.1%	6.1%	5.6%	5.4%
Alcohol dependence in the past year (among persons 12 years or older)	3.2%	3.3%	3.0%	2.8%
Needing but not receiving treatment for alcohol use in the past year (among persons 12 years or older)	5.6%	5.6%	5.3%	5.2%

Note: Region 1 is made up of Brooke, Hancock, Marshall, Ohio and Wetzel Counties.
Source: NSDUH 2008-2010, NSDUH 2010-2012

Alcohol Related Consequences

Figure 45 illustrates the driving under the influence (DUI) arrest rate in West Virginia, Brooke, Hancock, Marshall, Ohio and Wetzel counties from 2010-2012. DUI arrests in West Virginia increased from 33.1 to 39.6 between 2010 and 2012, while Brooke and Hancock counties saw a rise from 2010 to 2011, then a decrease from 2011 to 2012. The Ohio County DUI arrest rate has risen in 2012 to a rate of 58.3 compared to a rate of 47.5 in 2011 and 40 in 2010. DUI arrest rates in Hancock, Marshall and Ohio Counties are above the West Virginia average.

Figure 45. Driving Under the Influence (DUI) Arrests



Source: WV Bureau for Behavioral Health & Health Facilities 2014 County Profiles

Tobacco Consumption

Table 12 illustrates the percentage of residents who smoke cigarettes in West Virginia and Brooke, Hancock, Marshall, Ohio, Wetzel counties. Each of the 5 counties in the service area shows a lower percentage cigarette use than the state average except Ohio County at 28.9%. Of the 5 counties in the service area Hancock County has the lowest cigarette usage percentage at 23.6%.

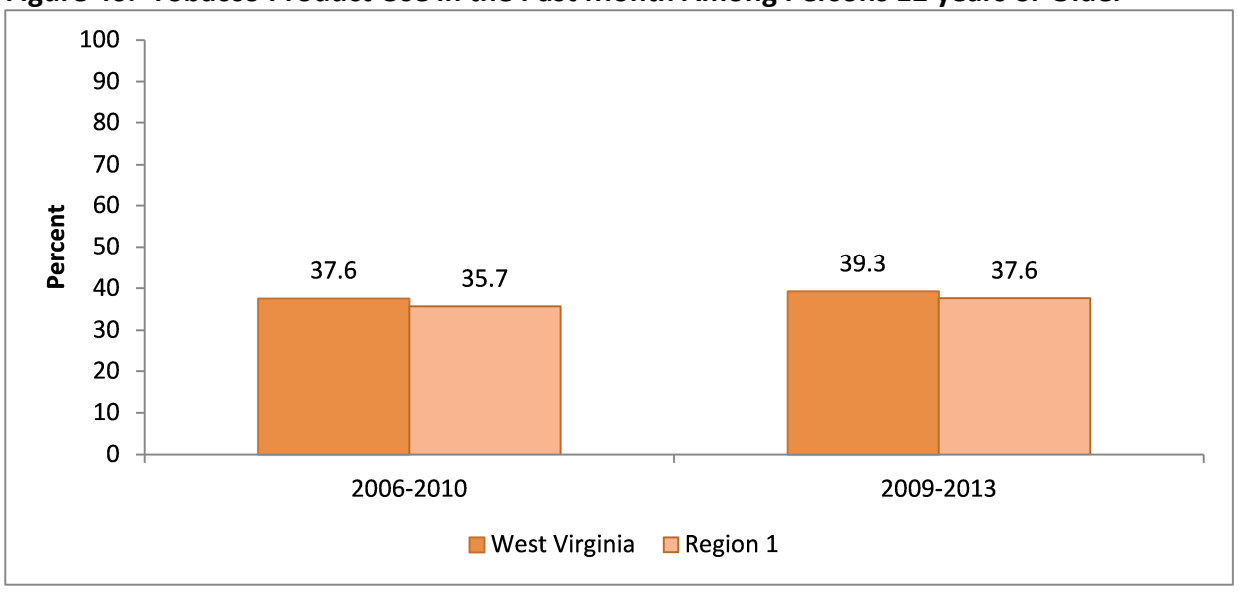
Table 12

Indicator	West Virginia	Brooke	Hancock	Marshall	Ohio	Wetzel
Cigarette Smoking	26.9%	26.8%	23.6%	24.1%	28.9%	24.7%

Source: WV Bureau for Behavioral Health & Health Facilities 2014 County Profiles

Figure 46 illustrates percent of tobacco product use in the past month among persons aged 12 or older by residents in Region 1 and West Virginia. Region 1 (Brooke, Hancock, Marshall, Ohio, Wetzel counties) is below the overall state average for tobacco use over the past month in 2006-2010 and 2009-2013 at 35.7% and 37.6% respectively. Comparing 2006-2010 and 2009-2013 tobacco product use in the past month is on the rise across both the West Virginia state average and Region 1 average.

Figure 46. Tobacco Product Use in the Past Month Among Persons 12 years or Older



Source: WV Bureau for Behavioral Health & Health Facilities 2014 County Profiles

Tobacco Risk and Protective Factors

Table 13 illustrates the percentage of residents 12 years or older who perceive great risk in smoking one or more packs of cigarettes per day. Region one is below the West Virginia state average of perceived risk of cigarette smoking during 2006-2008 and 2010-2012 while above the state average in during 2008-2010. Overall perceived risk of smoking one or more packs of cigarettes per day is on the decline across Region 1 between 2006-2008, 2008-2010 and 2010-2012.

Table 13. Tobacco Risk and Protective Factors

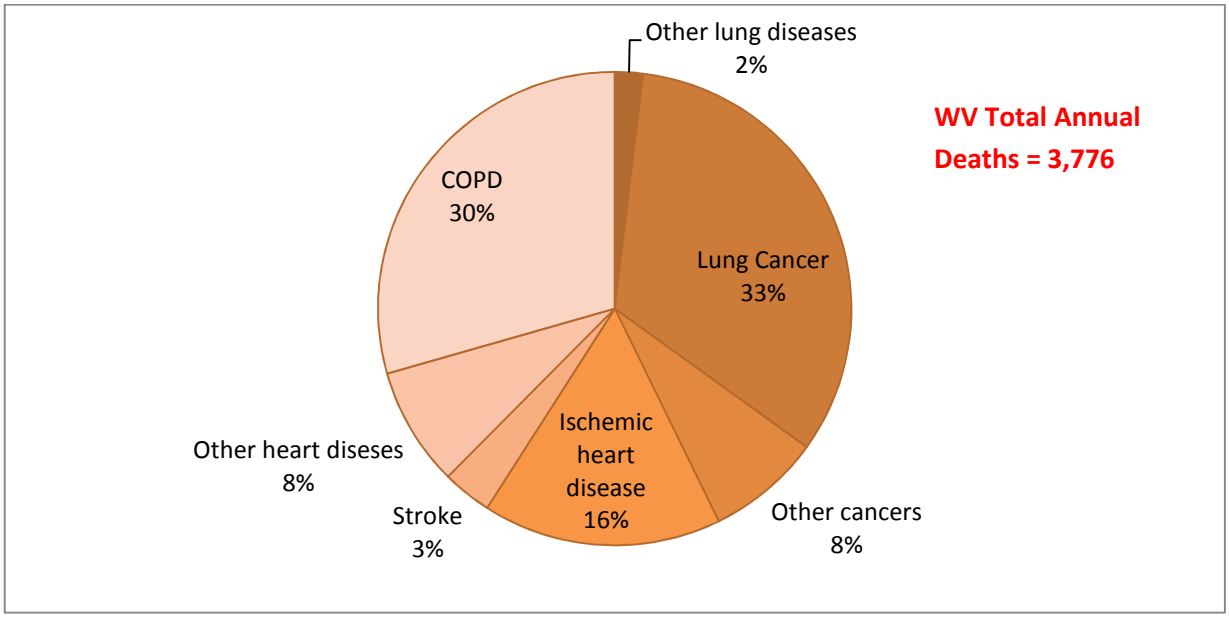
	2006-2008		2008-2010		2010-2012	
	West Virginia	Region 1	West Virginia	Region 1	West Virginia	Region 1
Perceptions of great risk of smoking one or more packs of cigarettes per day (among persons 12 years or older)	68.1%	67.6%	66.0%	66.4%	66.5%	66.2%

Source: NSDUH 2006-2008, 2008-2010, 2010-2012

Tobacco Consequences

Figure 47 illustrates average annual smoking attributable deaths in West Virginia, 2006-2010 among adults 35 and older. The average total annual deaths in West Virginia attributable to smoking are 3,776. As indicated below lung cancer and chronic obstructive pulmonary disease make up over 62% of these deaths.

Figure 47. Average Annual Smoking Attributable Deaths

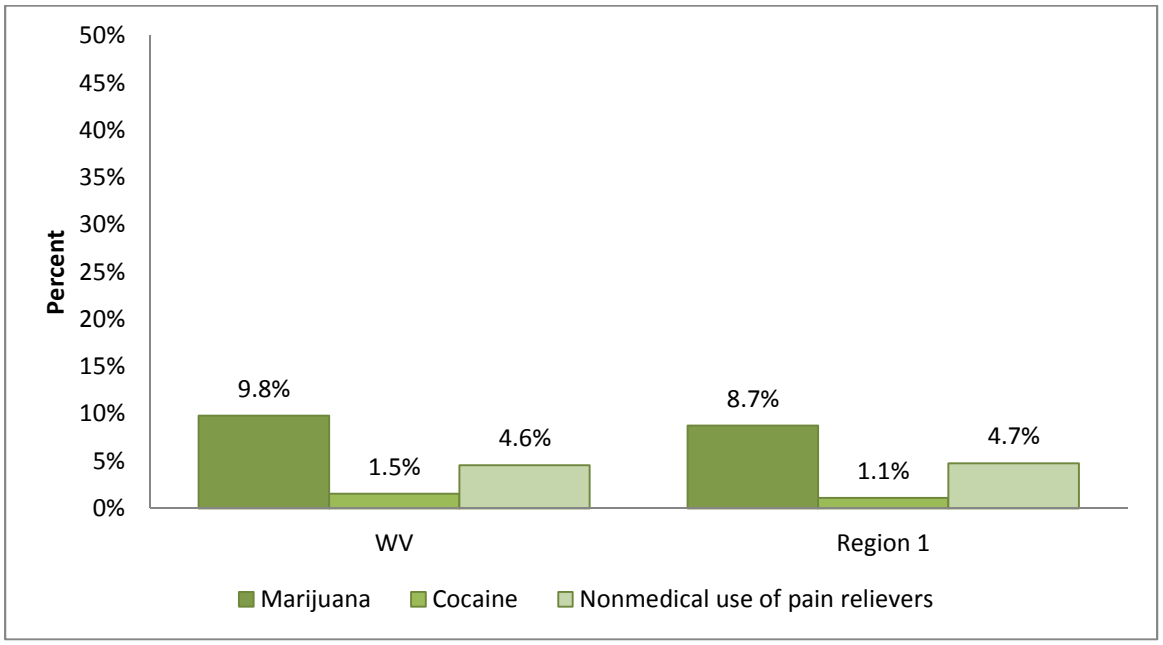


Source: Behavioral Health in West Virginia, State Epidemiological Profile 2013

Drug Consumption

Figure 48 illustrates the percent of marijuana, cocaine and nonmedical pain reliever use in West Virginia and Region 1 during 2010-2012. Region 1 (Brooke, Hancock, Marshall, Ohio, Wetzel counties) is below the West Virginia state rate during this time period across marijuana and cocaine use at 8.7% and 1.1%, however, is slightly above the state rate of nonmedical use of pain relievers at 4.7%.

Figure 48. Marijuana, Cocaine and Nonmedical Pain Reliever Use



Source: NSDUH 2010, 2011, and 2012

Table 14 illustrates the top five primary substance prescription drugs reported to the West Virginia Prescription Drug Quit Line in 2012. Of the top five prescription drugs reported to the West Virginia Quit Line four of the drugs were in the opioid class and one in the benzodiazepine class. Oxycodone, an opioid prescription pain killer, ranked number one at 31.8% of total reported drugs used.

Table 14. Top Five Primary Prescription Drugs

Top Five Primary Substance Prescription Drugs Reported to the West Virginia Prescription Drug Abuse Quitline in 2012				
Drug Name	**Drug Class**	**Brand Names / Street Names**	**Total % Reported Drugs Used**	**# of Callers**
Oxycodone	Opioid	Oxycontin, Tylox, Percodan, Percocet, Combunox	31.8%	96
Hydrocodone	Opioid	Loret, Lortab, Norco, Vicoprofen, Vicodin	13.6%	41
Other / Anything Available	Opioid	Other	11.9%	36
Oxymorphone	Opioid	Opana	6.3%	19
Alprazolam	Benzodiazepine	Xanax	4.3%	13

Source: Behavioral Health in West Virginia, State Epidemiological Profile 2013

Drug Risk and Protective Factors

Figure 49 illustrates drug risk and protective factors among residents 12 years and older in West Virginia and Region 1 during 2008-2010 and 2010-2012. Between 2008-2010 and 2010-2012 perceptions of great risk of smoking marijuana once a month decreased greatly across the state and Region 1. Region 1 saw decreases in illicit drug dependence or abuse, illicit drug dependence, and residents needing but not receiving treatment between 2008-2010 and 2010-2012. Region 1 also charted below state averages across the three categories noted above. Perception of great risk of smoking marijuana once a month was lower in Region 1 than across the state.

Figure 49. Drug Risk and Protective Factors

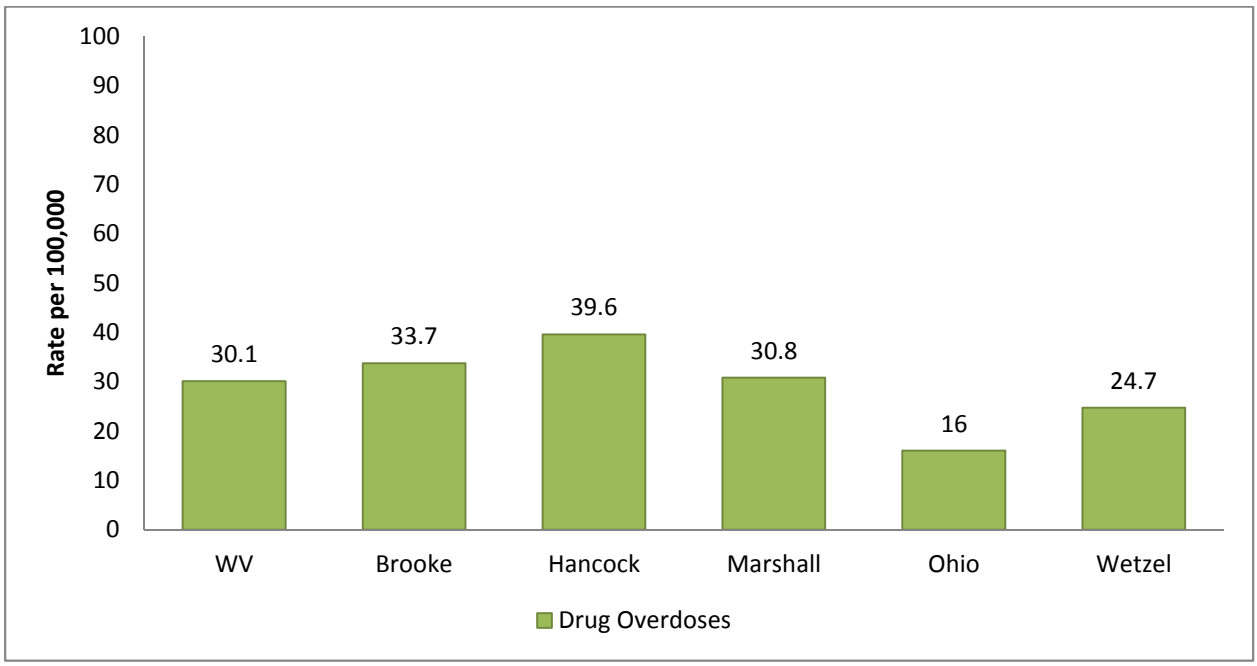
	2008-2010		2010-2012	
	West Virginia	Region 1	West Virginia	Region 1
Perceptions of great risk of smoking marijuana once a month (among persons 12 years or older)	42.0%	41.6%	37.1%	35.4%
Illicit drug dependence or abuse in the past year (among persons 12 years or older)	2.9%	2.9%	2.8%	2.4%
Illicit drug dependence in the past year (among persons 12 years or older)	2.3%	2.3%	2.1%	1.7%
Needing but not receiving treatment for illicit drug use in the past year (among persons 12 years or older)	2.6%	2.5%	2.5%	2.2%

Source: WV BHHF County Profiles 2014, NSDUH 2010-2012

Drug Consequences

Figure 50 illustrates drug overdose/poisoning deaths in West Virginia, Brooke, Hancock, Marshall, Ohio and Wetzel Counties in 2013. Drug overdose rates in Ohio and Wetzel Counties were lower than the state rates in 2013 and Brooke, Hancock and Marshall Counties were higher than the state rates during this same time period. Hancock County had the highest drug overdose mortality rate during this time at 39.6 per 100,000 population while Ohio County had the lowest mortality rate at 16 per 100,000 population.

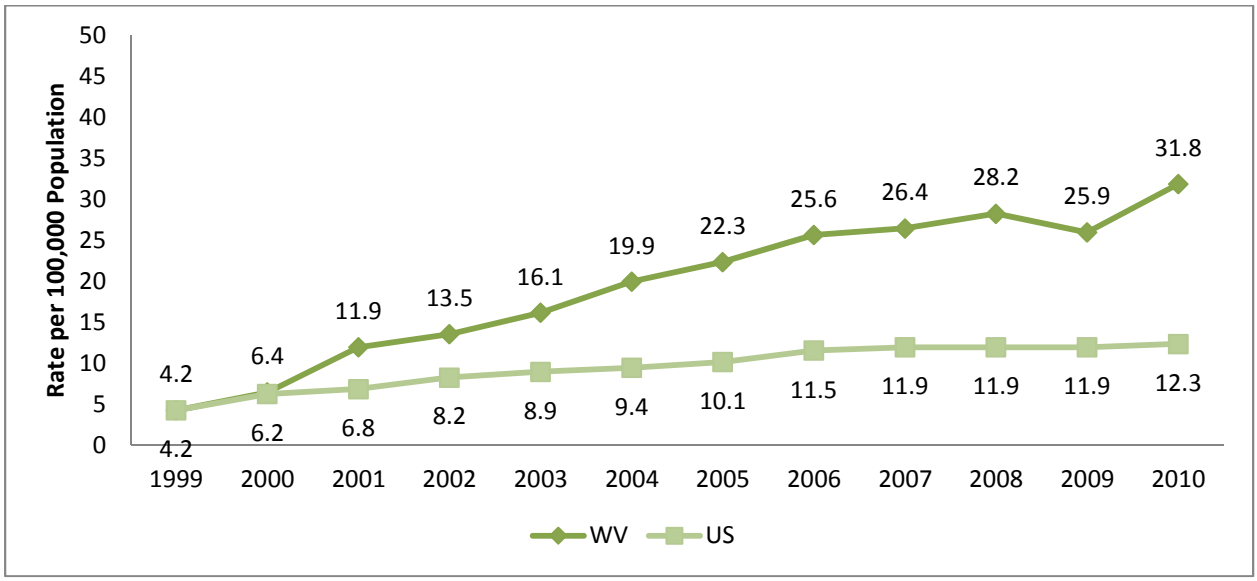
Figure 50. Drug Overdose / Poisoning Mortality Rates per 100,000 Population 2013



Source: WV Vital Statistics 2013
Rate calculated using Accidental Poisoning by and Exposure to Noxious Substances X40-X49

Figure 51 Illustrates age-adjusted death rates from drug overdose / poisoning in West Virginia and United States. West Virginia had significantly higher death rate from drug overdose / poisoning than the rest of the US between 1999-2010.

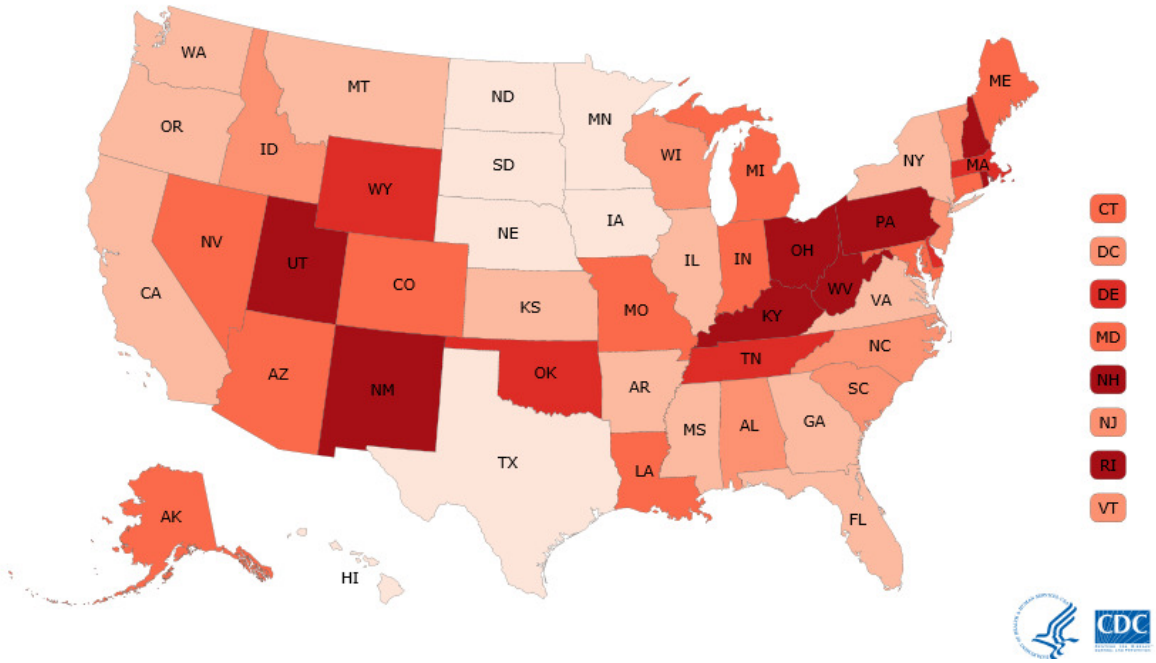
Figure 51. Age-Adjusted Death Rate From Drug Overdose/Poisoning in West Virginia and United States: 1999-2010



Source: Behavioral Health in West Virginia, State Epidemiological Profile 2013

Figure 52 illustrates age-adjusted drug overdose death rates by state in the United States in 2014. The 5 states with the highest drug overdose death rates were West Virginia, New Mexico, New Hampshire, Kentucky and Ohio. 3 out of the top 5 states share a border with West Virginia.

Figure 52. Age-adjusted Rates of Drug Overdose Deaths by State, US 2014.

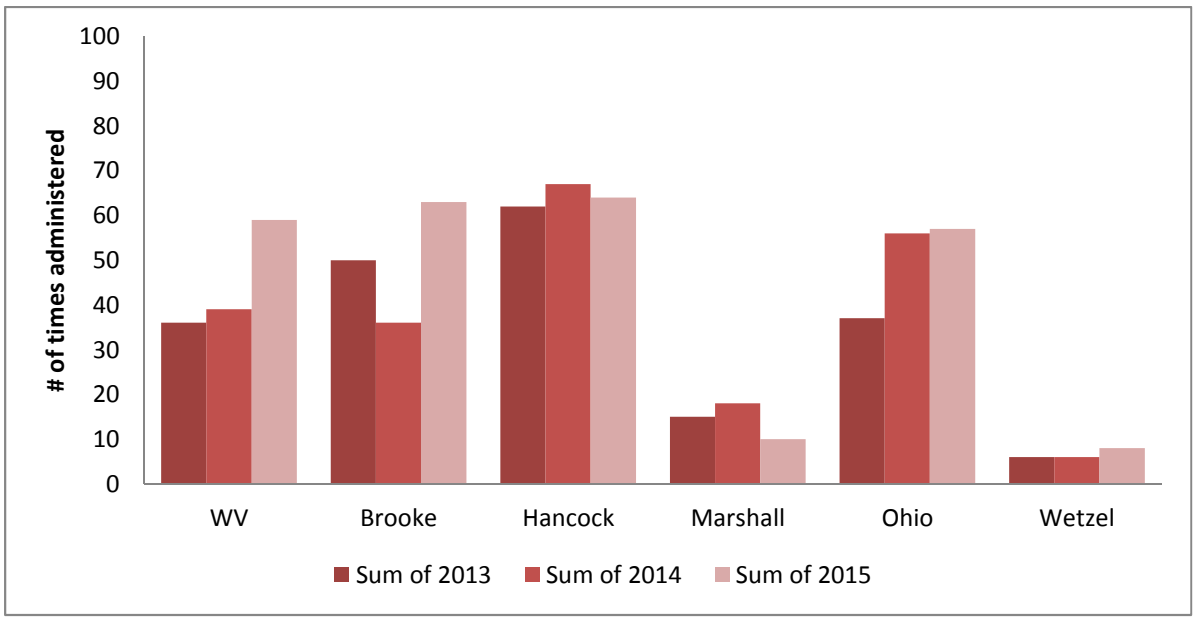


Source: Centers for Disease Control and Prevention 2014

Naloxone, sold under the brand name Narcan, is a medication used to block the effects of opioids especially in overdose situations.

Figure 53 Illustrates Narcan (Naloxone) administered by emergency medical services between 2013-2015 across the counties in the service area and West Virginia. Hancock County reported the highest use of Narcan by emergency medical services while Wetzel County reported the lowest during the same time period. Brooke, Hancock and Ohio County reported on average higher use of Narcan by emergency medical staff than the West Virginia average. Ohio County has seen an increase in Narcan use each year between 2013-2015.

Figure 53. Narcan (Naloxone) Administered by Emergency Medical Services 2013-2015



Source: West Virginia Department of Emergency Medical Services

Focus Groups Input

Locally, focus group participants expressed concern that substance abuse continues to be an existing and still growing problem that the current system lacks capacity to adequately and appropriately address. Across the three focus groups conducted for this study, substance abuse was identified as either the top problem or near the top problem in our service area. There is a perceived lack of prevention and early intervention services for alcohol and drug abuse and more options for addiction services are needed, including residential and long term rehab treatment options. The specific comments included:

- Lack of residential treatment for drug abuse
- Lack of prevention services for substance abuse
- Lack of early intervention for alcohol and substance abuse
- More options are needed in terms of addiction services

Stakeholder Interview Input

Stakeholders participating in the interviews echoed the discussion from the focus groups stressing that substance abuse continues to be a real and growing problem within the service area counties. Across all interviews substance abuse ranked number one out of all identified problem areas in the service area. Although some community based resources do exist there is a need for more residential acute as well as post-acute substance abuse treatment. Easy access to drugs and the lack of preventive services is contributing to an increased demand for services. Specific comments included:

- Substance Abuse (particularly opioids and heroin) is a major problem in our area
- Need for more post hospitalization substance abuse treatment
- Definite need for long term residential treatment for drug and alcohol issues
- Need to focus on the adults and educate them on substance abuse and prevention

Drug & Alcohol Conclusions

All across the country, within the state of West Virginia as well as in the service area counties, drug and alcohol use and abuse is a growing concern. Although specific local drug and alcohol data is limited, it suggests that the rates of drug and alcohol abuse in the service area counties is at or higher than the state, which has one of the highest rates in the country for drug overdose deaths. Local stakeholders reported in each of the focus groups and interviews that the abuse of opioids, specifically heroin is increasing, and the local system is struggling to keep up with the increase in demand for services, as evidenced by the increase in drug related hospitalizations and mortality over the past few years.

Local leaders indicate that there is a need for increased access to preventative education and early intervention services as well as residential treatment and post-acute support services.
Overall observations and findings from the data include:

- Between 2010 and 2016, all counties in the service area except Wetzel County showed a decrease in residents who reported excessive drinking, with the largest decreases in Brooke and Hancock Counties.
- Wetzel County showed a slight increase in adults who report excessive drinking from 10% in 2010 to 11% in 2016.
- The percentage of adults that report excessive drinking in all counties in the service area is higher than the overall West Virginia rate.
- In our service area in 2010-2012 perceptions of great risk of an alcoholic beverage once or twice a week is slightly lower than the state and appears to be decreasing from 2008 and 2010.
- Between 2010 and 2012 the rate of DUI arrests was higher in Hancock and Ohio Counties when compared to Brooke, Marshall, Wetzel County and the rest of the state.
- Between 2008-2010 and 2009-2013 tobacco use in our region appears to be increasing and is slightly higher than numbers reported across the rest of the state.
- Between 2008-2010 and 2010-2012 perceptions of great risk of smoking marijuana once a month decreased significantly in our region and across the state.
- Between 2001 and 2011 prescription drug overdose deaths steadily increased in West Virginia.
- In 2013 drug overdose / poisoning rates were higher in Brooke, Hancock and Marshall Counties as compared to Ohio, Wetzel Counties and the rest of the state.
- In 2014 West Virginia ranked number one in the nation in drug overdose mortality rates.

Northwood
Health Systems

Environmental Factors and Indicators Impacting Mental Health and Physical Health

Environmental Factors and Indicators Impacting Mental and Physical Health

Conditions that are long-lasting, relapse, and are characterized by remission and continued persistence are categorized as chronic diseases. The literature in recent years has been citing the relationship between physical and mental health and as the health care delivery system moves toward population based health management, the intentional integration of mental and physical health programs and services will be an important focus for providers in all disciplines.

Health Related Quality of Life Indicators

There are a number of indicators that can be measured and tracked to compare quality of life across different geographic areas. These include the following measures that are widely used in public health.

Length of Life measures years of potential lost life before age 75 per 100,000 population. Ranking is based on data from the National Center for Health Statistics Mortality files.

Quality of Life is a reflection of data reported from the Behavioral Risk Factor Surveillance System.

Health Behaviors draws upon data from the National Center for Health Statistice, Behavioral Risk Factor Surveillance System, Centers for Disease Control, US Census, and USDA to provide a summary measure of tobacco use, diet and exercise patterns, alcohol and drug use, and sexual activity.

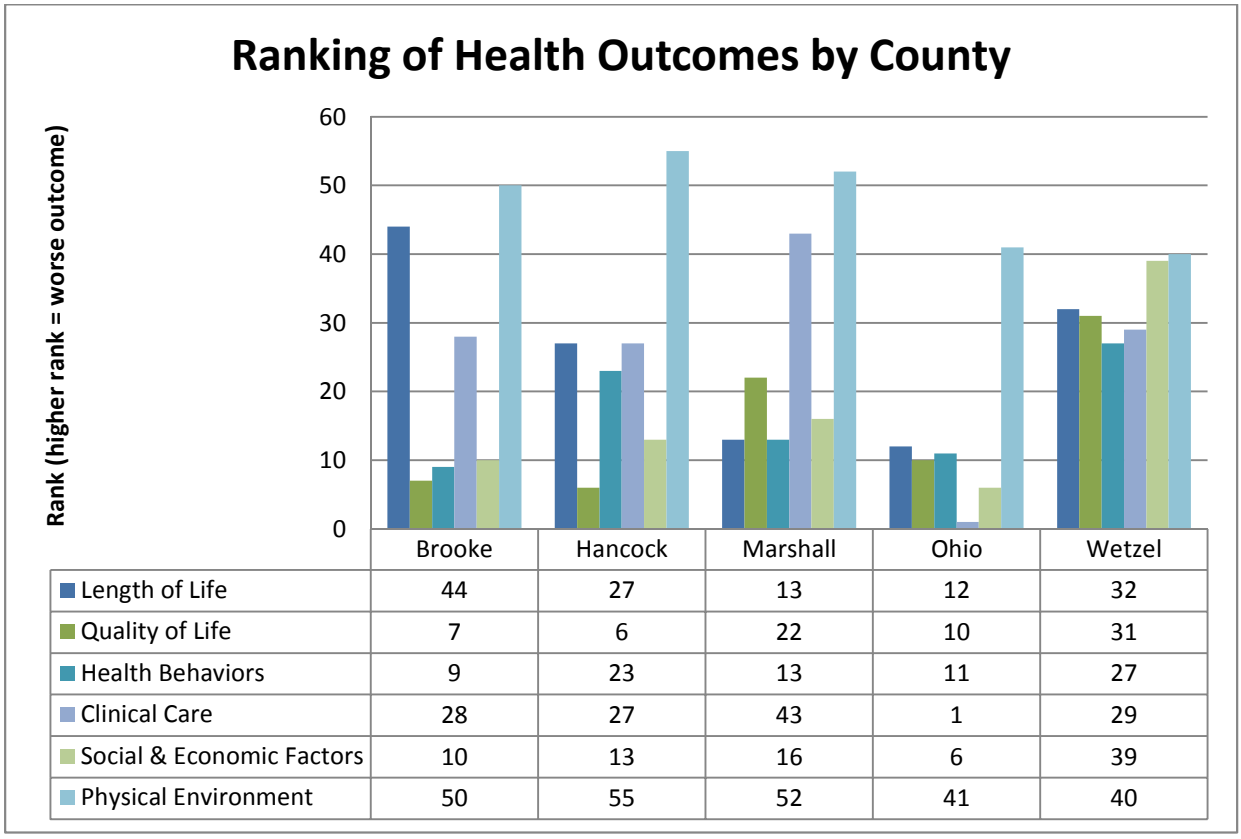
Clinical Care weighs factors that include health insurance coverage, the ratio of population to primary care physicians / dentists / mental health providers, and screening / monitoring for healthcare problems.

Social and Economic Environment score incorporates factors including education, employment, income, family and social support, and community safety.

Physical Envorinment reflects health related concerns about air pollution, drinking water and severe housing problems.

Figure 54 illustrates ranking of health outcomes by county in the service area. Wetzel county overall has the highest (worst) health outcomes across all categories when compared to the other counties in the service area while Ohio county has the lowest (best) health outcomes across all categories. The highest (worst) ranking in each individual category are as follows: Brooke County Length of life, Wetzel County Quality of Life, Wetzel County Health Behaviors, Marshall County Clinical Care, Wetzel County Social & Economic Factors, Hancock county Physical Environment.

Figure 54. Health Related Quality of Life Indicators

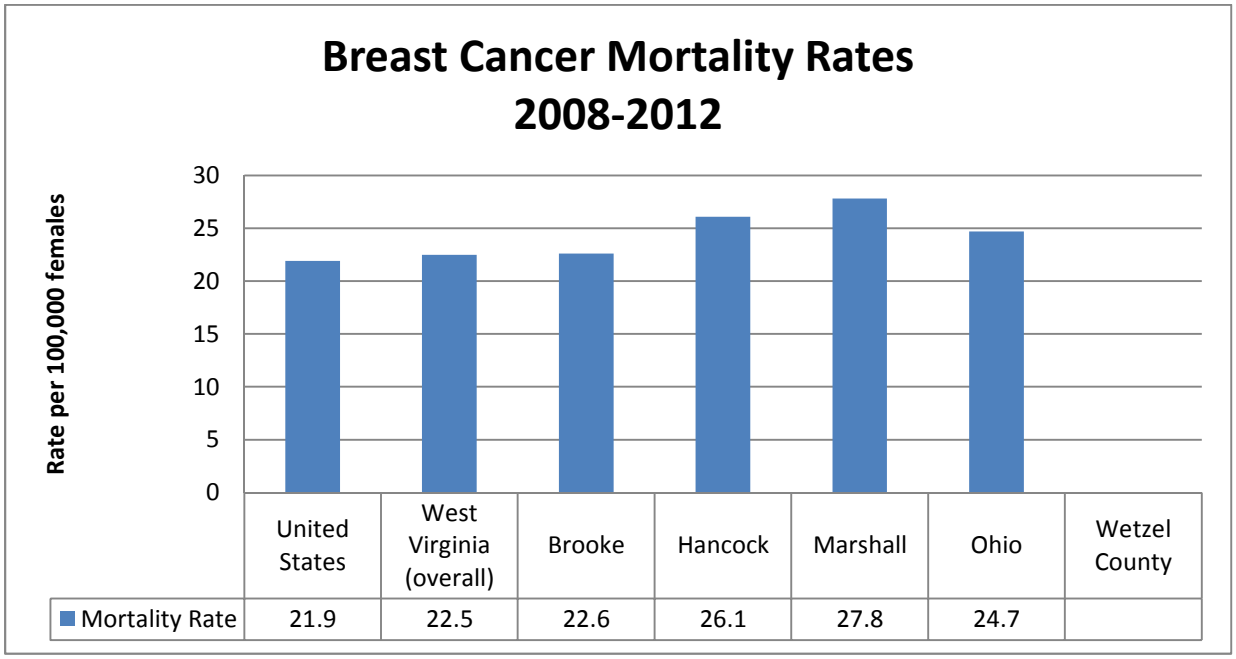


	Brooke	Hancock	Marshall	Ohio	Wetzel
Length of Life	44	27	13	12	32
Quality of Life	7	6	22	10	31
Health Behaviors	9	23	13	11	27
Clinical Care	28	27	43	1	29
Social & Economic Factors	10	13	16	6	39
Physical Environment	50	55	52	41	40

Source: www.countyhealthrankings.org

Figure 55 illustrates breast cancer mortality rates for West Virginia and the service area counties for 2008-2012, where data was available. (Note: Data has been suppressed for Wetzel County to ensure confidentiality and stability of rate estimates.) Although the National Cancer institute reports that breast cancer rates have been falling in the United States and in West Virginia overall, rates have remained stable in each of the service area counties. Each of the counties for which data is reported exceeded the U.S. and West Virginia overall rates and Healthy People 2020 target of 20.7 deaths per 100,000 females.

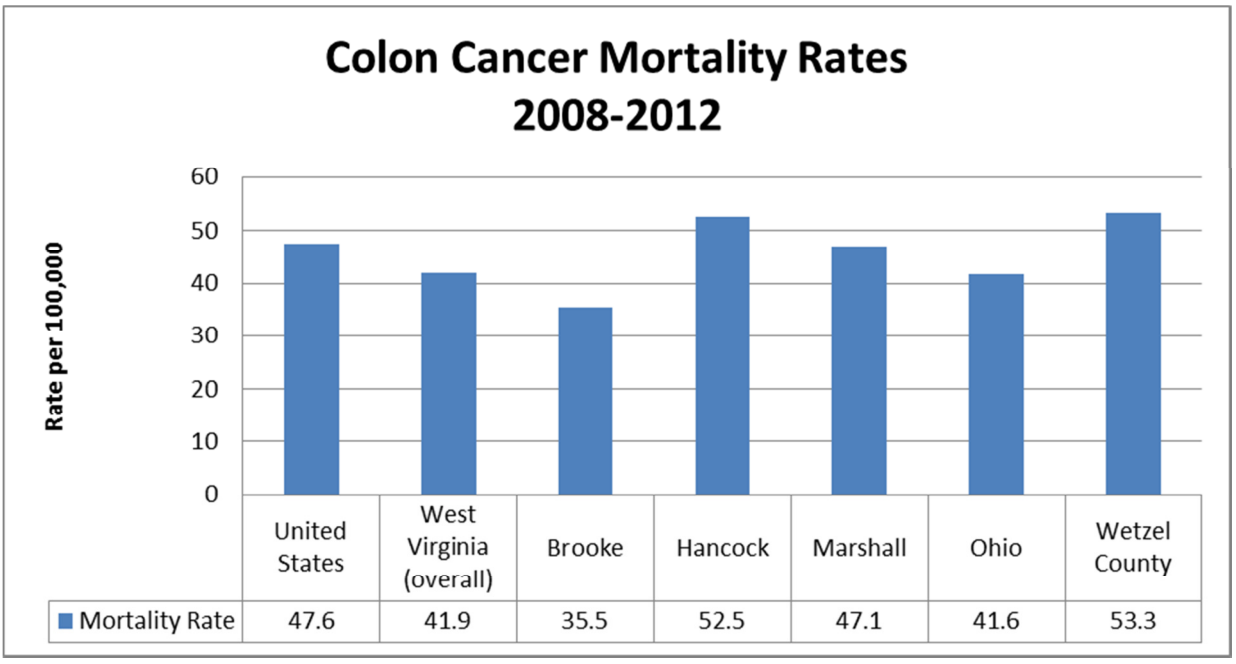
Figure 55. Breast Cancer Mortality Rates



Data Source: State Cancer Profiles – National Cancer Institute, statecancerprofiles.cancer.gov

Figure 56 illustrates the colon cancer mortality rates for West Virginia and the service area counties for 2008-2012. Although the National Cancer institute reports that colon cancer rates have been falling in the United States during the reporting period, overall rates in West Virginia and in Brooke, Hancock, Marshall and Wetzel counties have remained stable. The rate in Ohio county has been falling. The colon cancer mortality rates for Brooke County (35.5) and for Ohio County (41.6) were lower than the United States (47.6) and West Virginia (41.9) rates.

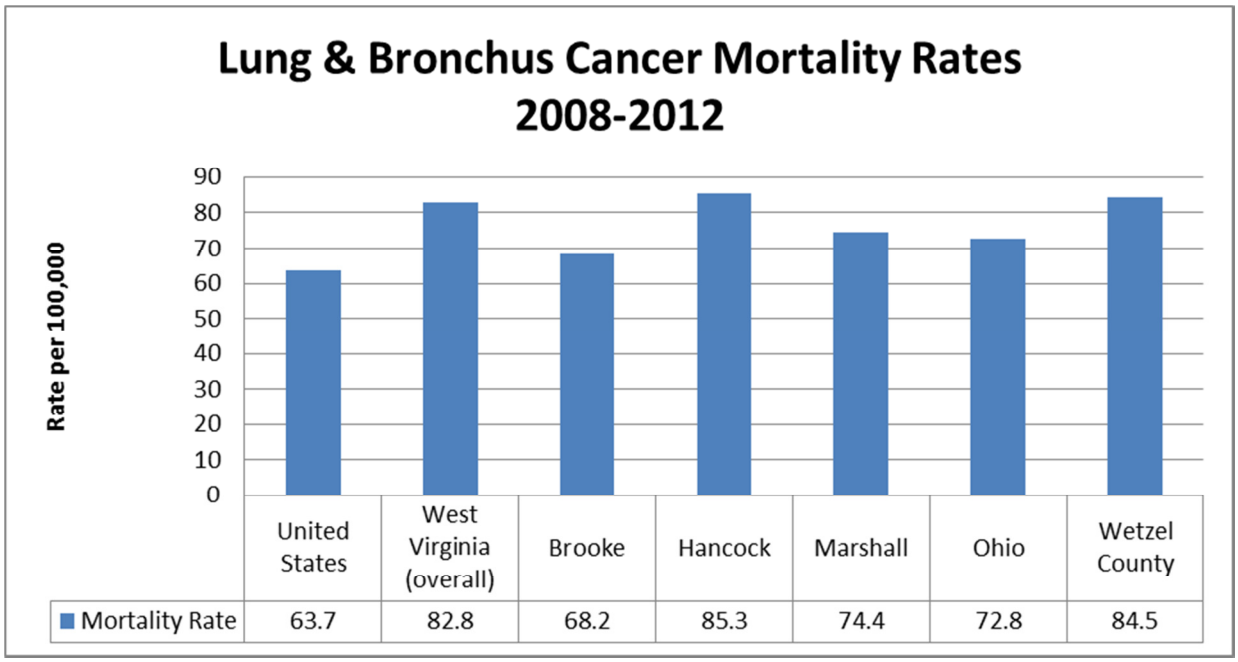
Figure 56. Colon Cancer Mortality Rates



Data Source: State Cancer Profiles – National Cancer Institute, statecancerprofiles.cancer.gov

Figure 57 illustrates Bronchus and Lung Cancer Mortality Rates for West Virginia and for the service area counties from 2008-2012. All service area counties and the state were higher than the Healthy People Goal of 45.5 deaths per 100,000 population. Each of the service area counties had higher rates than the United States rate; however all were lower than the West Virginia overall rate (82.8) except for Hancock County (85.3) and Wetzel County with a mortality rate of 84.5. The National Cancer Institute reports that rates of lung and bronchus cancer have been falling in the United States, in West Virginia, and in Wetzel County during the reporting period, while the rate in Marshall County has risen. Brooke, Hancock, and Ohio County rates have remained stable.

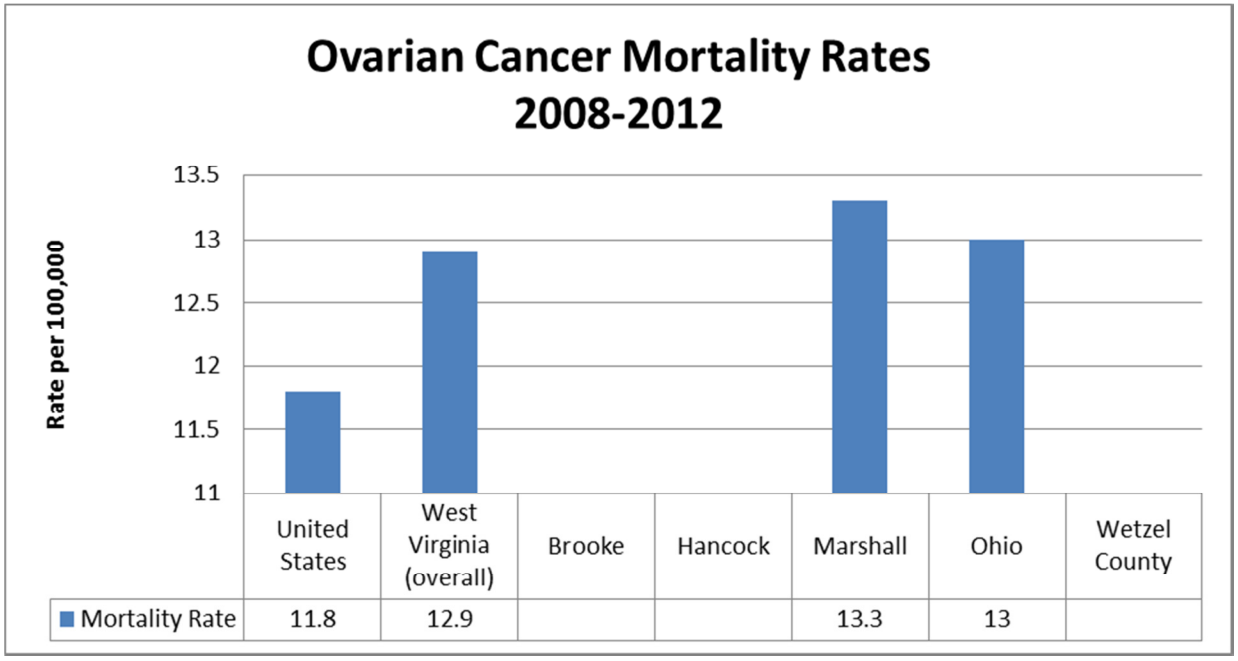
Figure 57. Bronchus and Lung Cancer Mortality Rates



Data Source: State Cancer Profiles – National Cancer Institute, statecancerprofiles.cancer.gov

Figure 58 illustrates ovarian cancer mortality rates per 100,000 people in Marshall, Ohio and Wetzel Counties as well as the United States and West Virginia from 2008 to 2012, where data was available. (Note: Brooke, Hancock and Wetzel Counties had 3 or fewer cases annually during the period and reporting is suppressed for this reason.) The National Cancer Institute reports the rate of ovarian cancer mortality has been falling in the United States but has remained stable in West Virginia during the reporting period.

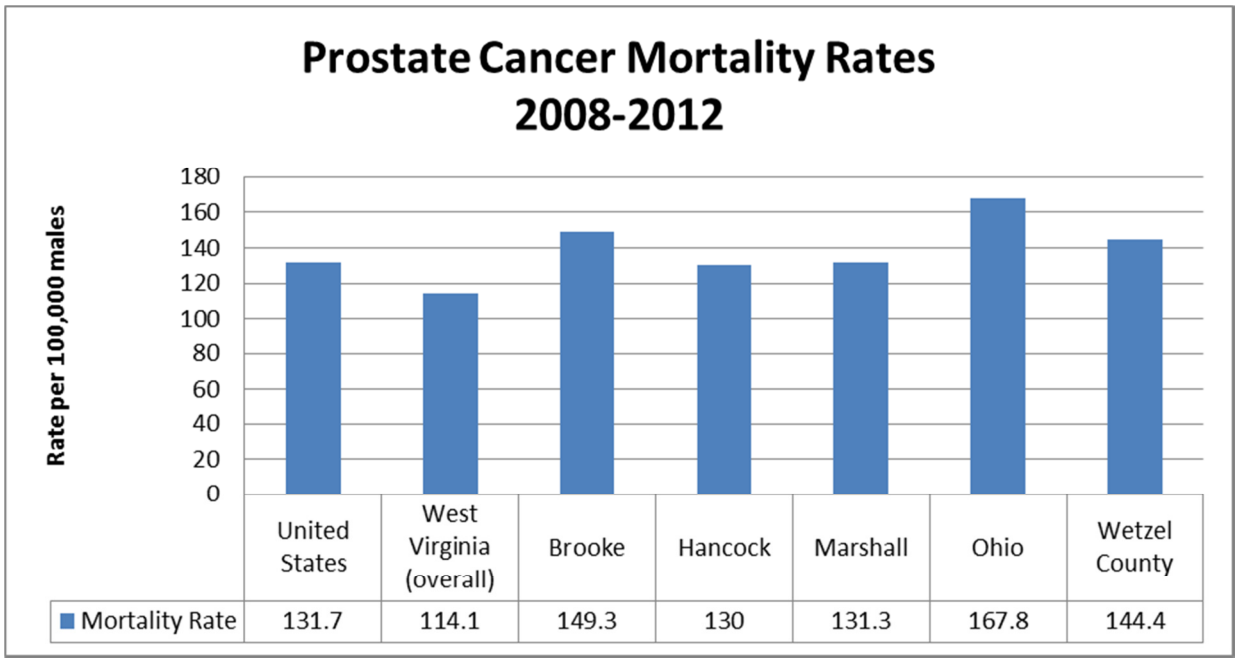
Figure 58. Ovarian Cancer Mortality Rates



Data Source: State Cancer Profiles – National Cancer Institute, statecancerprofiles.cancer.gov

Figure 59 illustrates Prostate Cancer mortality rates for West Virginia and the service area counties for 2008-2012. West Virginia overall, Hancock and Marshall Counties were below the United States rate of 131.7. Although the United States and West Virginia rates have been falling during the reporting period, each of the individual service area counties has remained relatively stable.

Figure 59. Prostate Cancer Mortality Rate



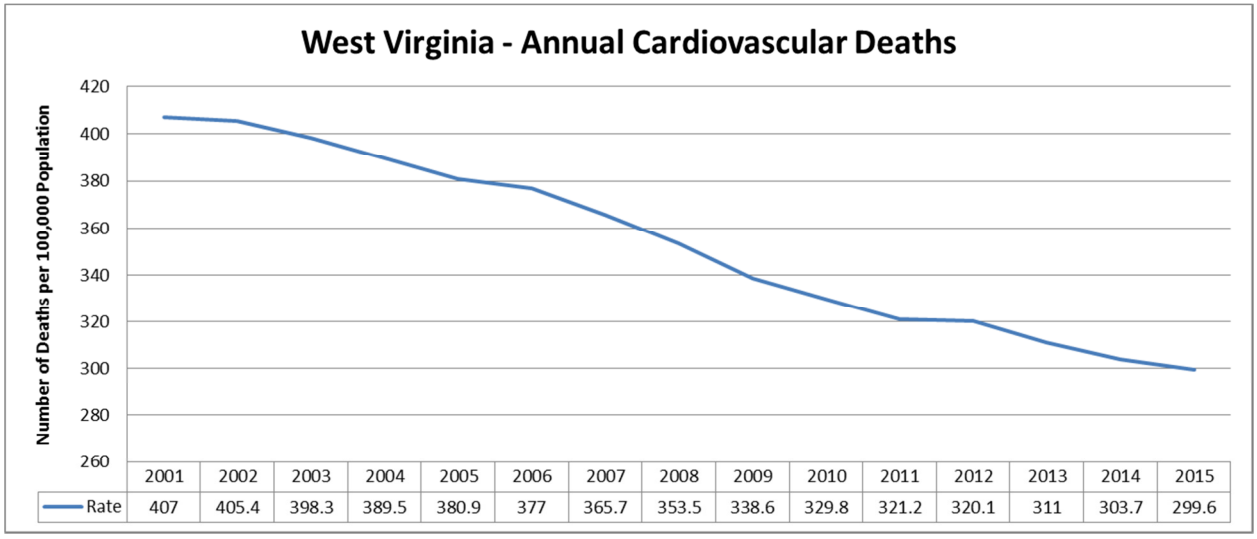
Data Source: State Cancer Profiles – National Cancer Institute, statecancerprofiles.cancer.gov

Cardiovascular Deaths

Heart disease and stroke are the US's leading and 5th leading causes of death, respectively. Heart disease causes 1 in 4 deaths. Heart attacks and strokes are also leading causes of disability in the US with 85.6 million people living with cardiovascular disease or the effects of stroke. Cardiovascular disease is influenced by such modifiable risk factors as smoking, hypertension, high cholesterol, diabetes, obesity, physical inactivity, and poor diet.

In 2015, West Virginia ranked fifth highest of the 50 states in annual deaths due to cardiovascular disease.

Figure 60. Cardiovascular Deaths



	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015
Rate	407	405.4	398.3	389.5	380.9	377	365.7	353.5	338.6	329.8	321.2	320.1	311	303.7	299.6

Source: United Health Foundation, americashealthrankings.org

Diabetes

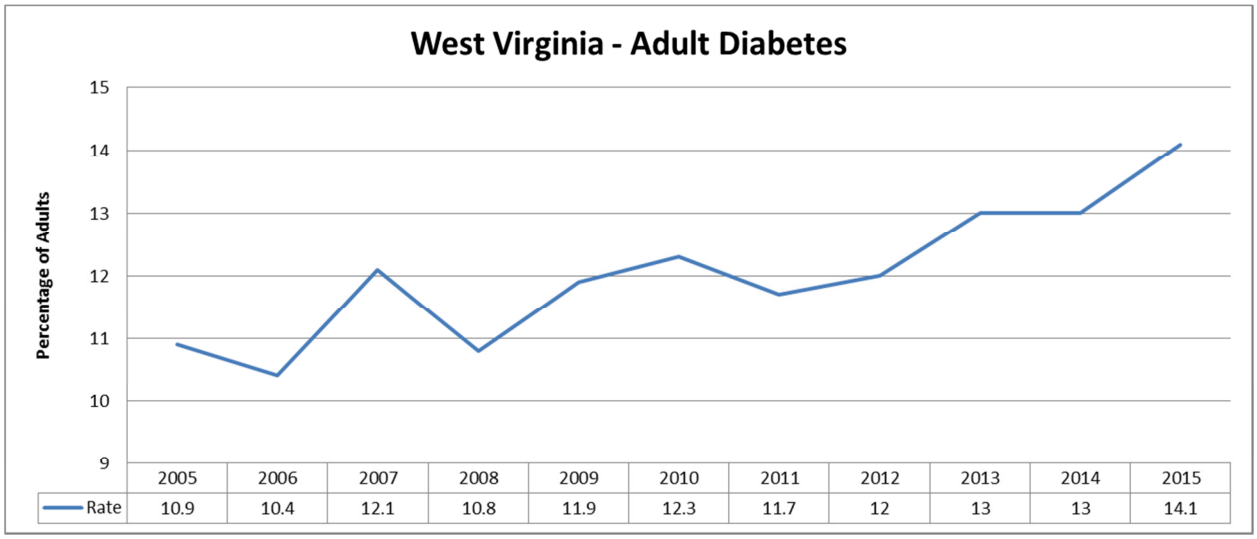
Diabetes is the 7th leading cause of death in the United States and contributes to heart disease and stroke, the leading and 5th-leading causes of death, respectively. According to the Centers for Disease Control and Prevention 2014 National Diabetes Statistics Report, 9.3% of the United States population has diabetes.

Studies show that onset of type 2 diabetes can be largely prevented through losing weight, increasing physical activity, and improving dietary choices. Type 2 diabetes is associated with numerous modifiable behaviors such as smoking, obesity, physical inactivity, and poor diet; thus, it is an ideal target for prevention.

In 2015, West Virginia ranked highest of the 50 states in the percentage of adults with diabetes.

Figure 61 illustrates Percent of Adults (age 18+) ever told by health professional they have diabetes. In 2015, 14.5% of West Virginia residents report being told they have diabetes as compared to the national average at 9.1%.

Figure 61. Percent of Adults Told by Healthcare Professional They have Diabetes

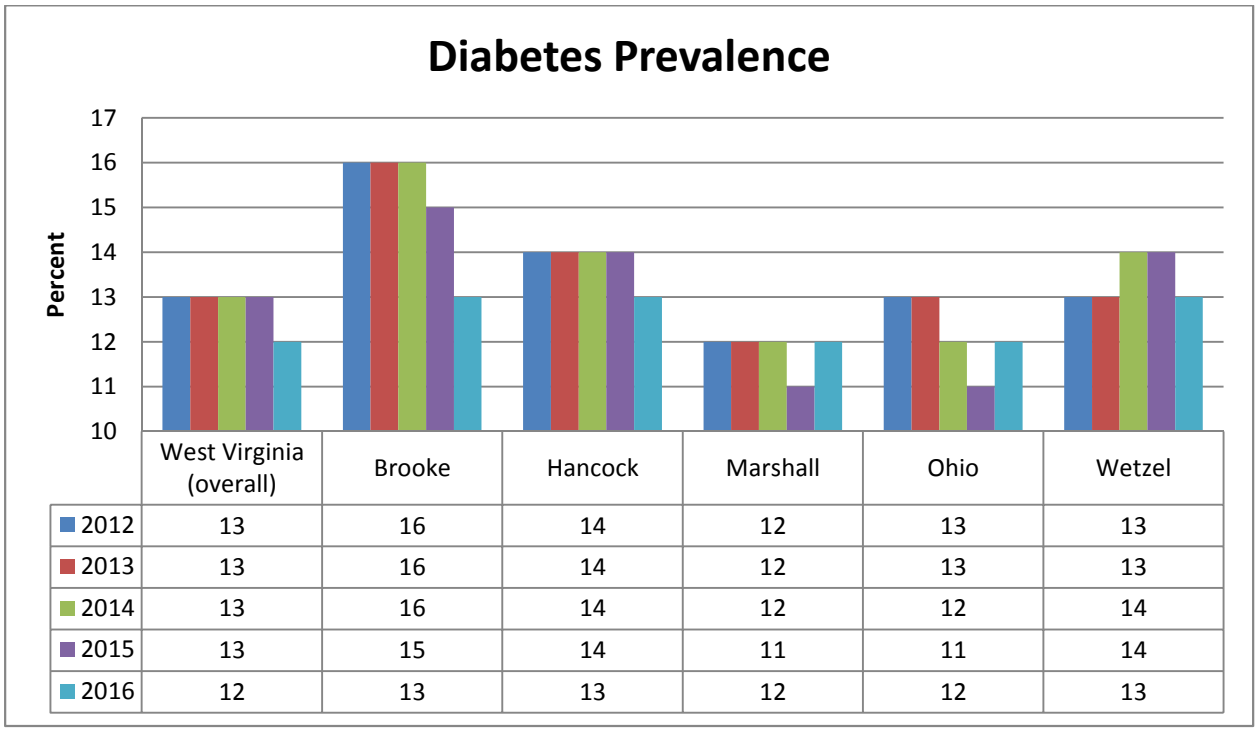


	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015
Rate	10.9	10.4	12.1	10.8	11.9	12.3	11.7	12	13	13	14.1

Source: United Health Foundation, americashealthrankings.org

Figure 62 illustrates diabetes prevalence rates in West Virginia for Brooke, Hancock, Marshall, Ohio and Wetzel counties from 2012 to 2016. Historically, Brooke County has had the highest diabetes prevalence rate, followed by Hancock, Wetzel and Ohio counties. Marshall County has been lowest in the service area counties during the period measures.

Figure 62. Diabetes Prevalence



	West Virginia (overall)	Brooke	Hancock	Marshall	Ohio	Wetzel
2012	13	16	14	12	13	13
2013	13	16	14	12	13	13
2014	13	16	14	12	12	14
2015	13	15	14	11	11	14
2016	12	13	13	12	12	13

http://www.countyhealthrankings.org/

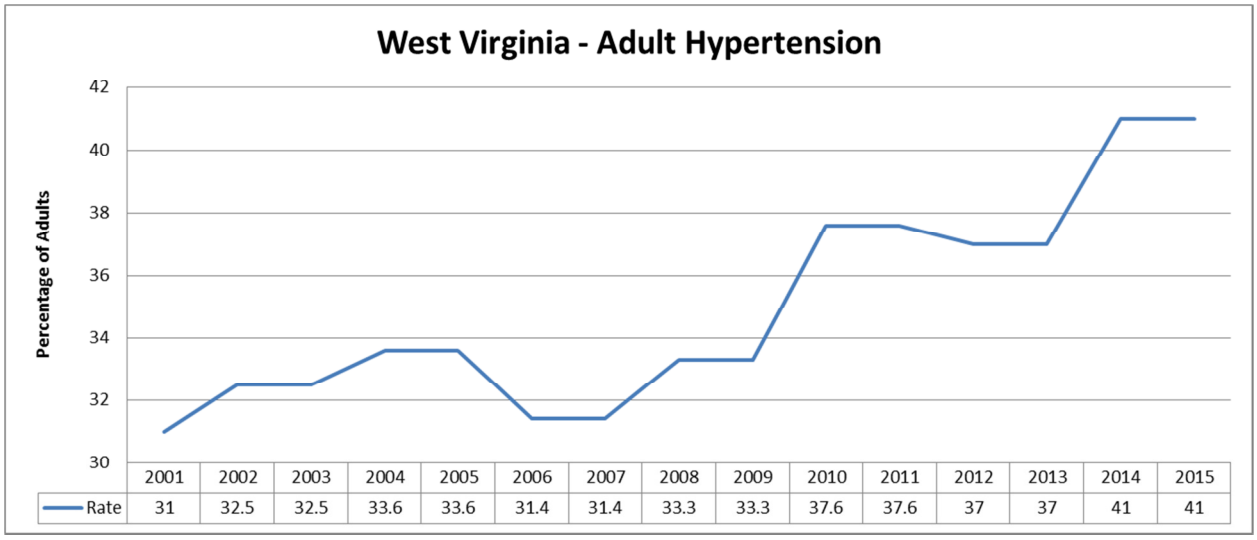
Hypertension

High blood pressure is a major modifiable risk factor for heart disease and stroke.

In 2015, West Virginia ranked highest of the 50 states in the percentage of adults with hypertension.

Figure 63 illustrates Percent of Adults (age 18+) ever told by health professional you have High blood pressure. A higher percentage of West Virginia residents reported being told they have high blood pressure than the national average.

Figure 63. Percentage of Adults Told by Health Professional They have High Blood Pressure



	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015
Rate	31	32.5	32.5	33.6	33.6	31.4	31.4	33.3	33.3	37.6	37.6	37	37	41	41

Source: United Health Foundation, americashealthrankings.org

High Cholesterol

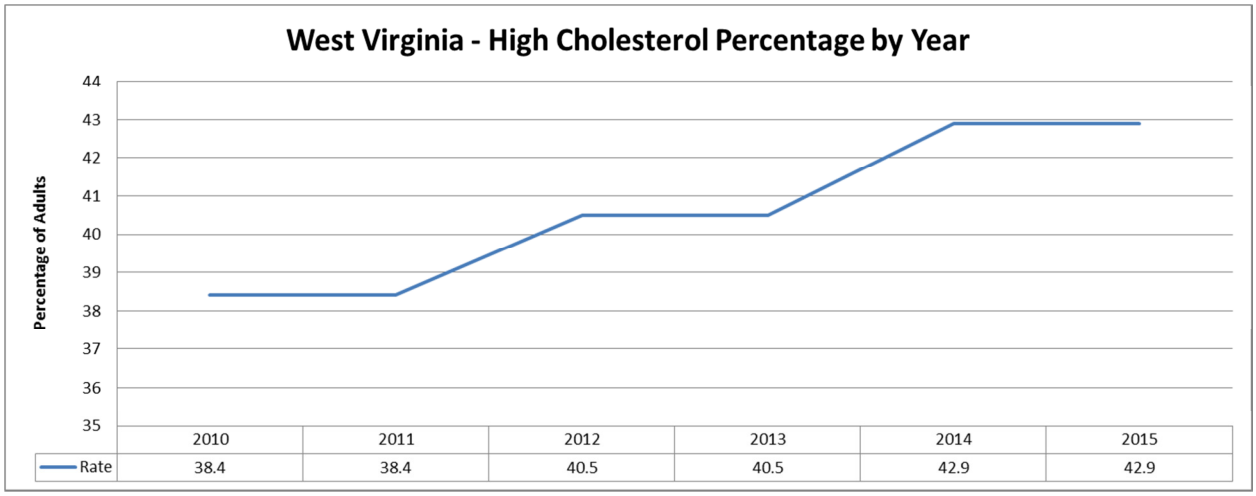
High cholesterol is a major risk factor for heart disease including heart attack and stroke; high cholesterol doubles the risk of heart attack. Among US adults with high cholesterol, only 48.1% of them receive treatment, and less than a third manage their condition.

In 2015, West Virginia ranked third highest of the 50 states in the percentage of adults with high cholesterol.

High Cholesterol

Figure 64 indicates percent of adults who have had their blood cholesterol checked and have been told it was high. West Virginia residents, at 42.9%, reported higher cholesterol than the national average at 38.4%.

Figure 64. Percent of Adults told their Blood Cholesterol was High 2013



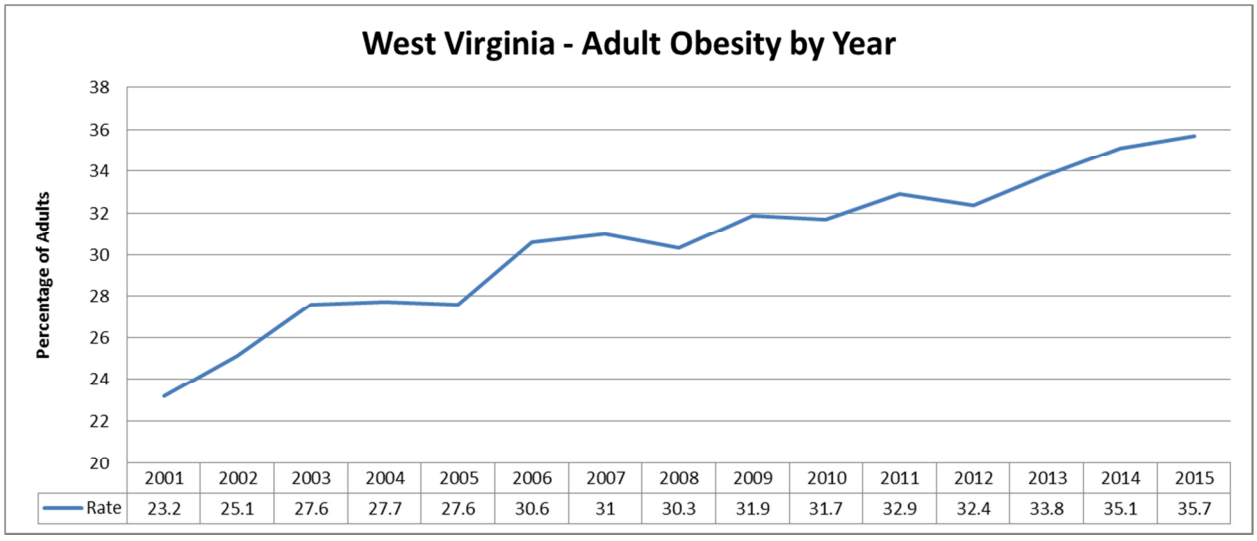
Source: United Health Foundation, americashealthrankings.org

Obesity

During the past 20 years, there has been a dramatic increase in obesity in the United States. One of the greatest health threats to the United States is obesity. It contributes to heart disease, type 2 diabetes, stroke, certain cancers, hypertension, liver disease, kidney disease, Alzheimer's disease, dementia, respiratory conditions, osteoarthritis, and poor general health. More than two-thirds of US adults are overweight or obese, and obesity is a leading factor in preventable diseases causing an estimated 200,000 deaths per year.

In 2015, West Virginia ranked second highest of the 50 states in the percentage of adults with obesity.

Figure 65. Adult Obesity by Year

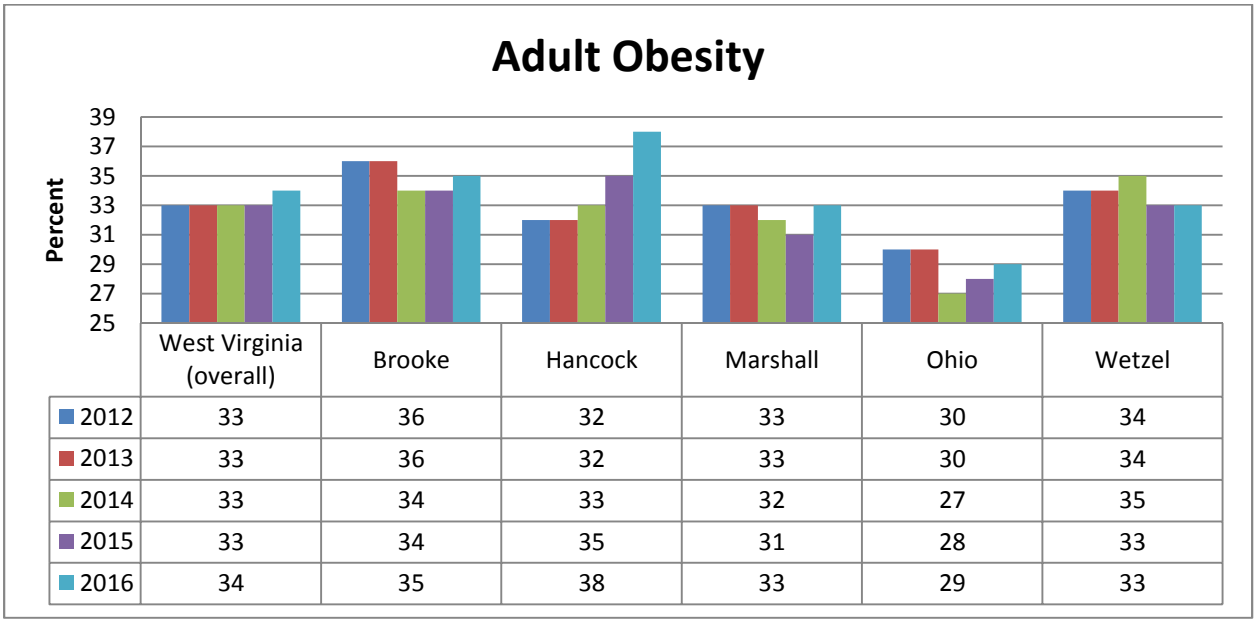


	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015
Rate	23.2	25.1	27.6	27.7	27.6	30.6	31	30.3	31.9	31.7	32.9	32.4	33.8	35.1	35.7

Source: United Health Foundation, americashealthrankings.org

Figure 66 illustrates the percentage of obese adults in Brooke, Hancock, Marshall, Ohio and Wetzel Counties from 2012 to 2016 compared to the West Virginia overall population. With figures for 2016 showing 34% of the state population obese, Brooke (35%) and Hancock (38%) Counties exceeded the State rate and exceeded the Healthy People 2020 goal of (30.5%). Ohio County had the lowest percentage of its population obese, with only 29% of the population obese in the latest year reported.

Figure 66. Percentage of Obese Adults



	West Virginia (overall)	Brooke	Hancock	Marshall	Ohio	Wetzel
2012	33	36	32	33	30	34
2013	33	36	32	33	30	34
2014	33	34	33	32	27	35
2015	33	34	35	31	28	33
2016	34	35	38	33	29	33

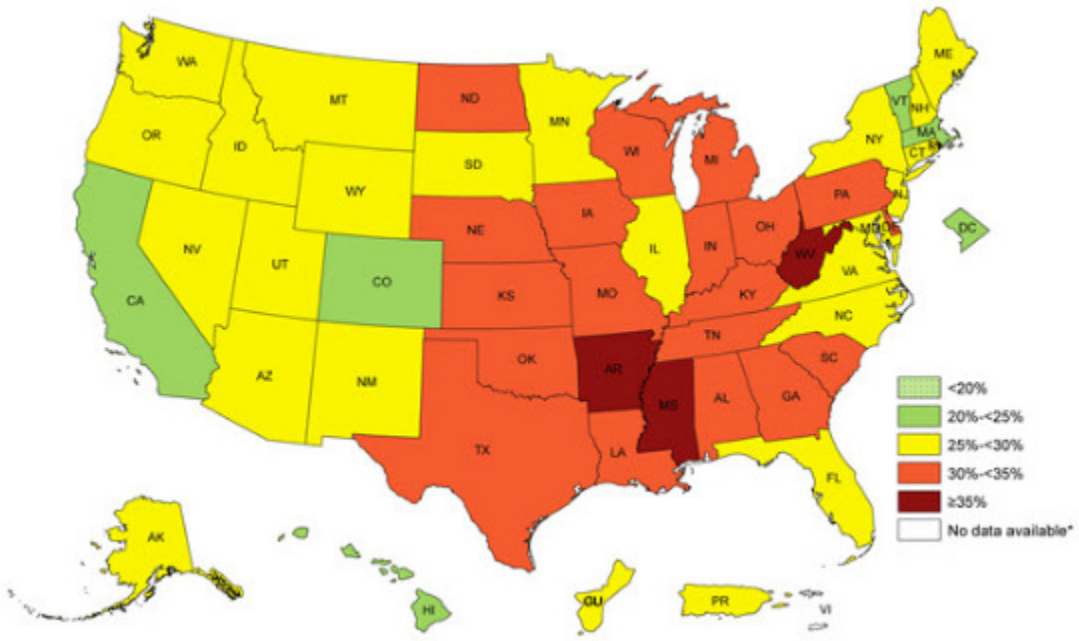
http://www.countyhealthrankings.org/

Figure 67 illustrates obesity trends among U.S. adults in 2014. No state had a prevalence of obesity less than 20%. 5 states and the District of Columbia had a prevalence of obesity between 20% and <25%. 23 states, Guam and Puerto Rico had a prevalence of obesity between 25% and <30%. 19 states had a prevalence of obesity between 30% and <35%.

West Virginia is one of only three states (along with Arkansas and Mississippi) with a prevalence of obesity of 35% or greater.

The Midwest had the highest prevalence of obesity (30.7%), followed by the South (30.6%), the Northeast (27.3%), and the West (25.7%).

Figure 67. Obesity Trends Among U.S. Adults, 2014



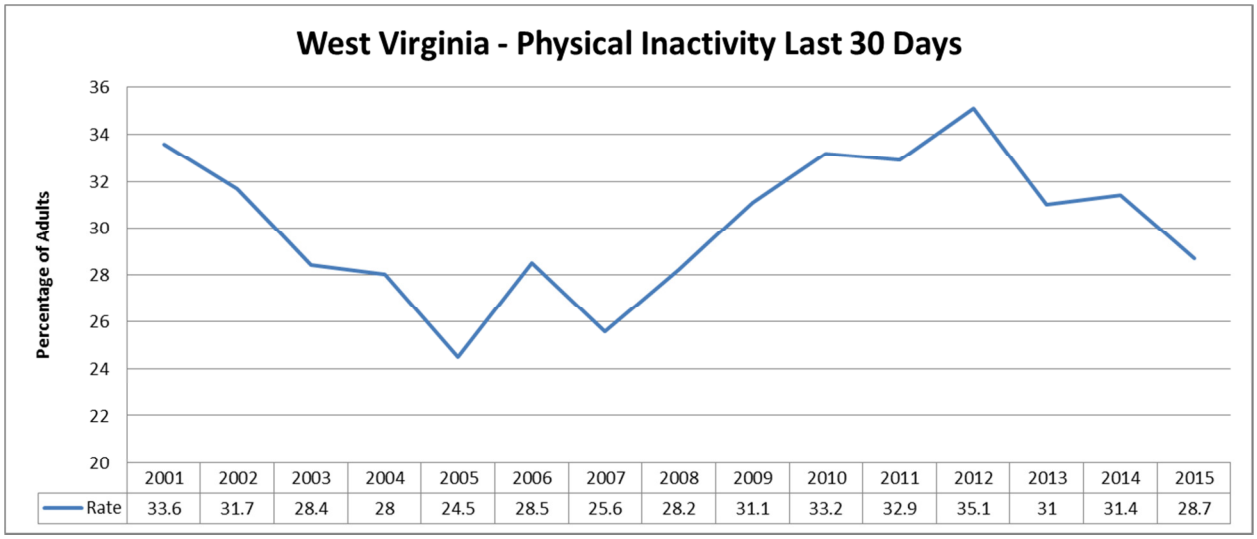
Source: Behavioral Risk Factor Surveillance System, CDC.

Physical Inactivity

According to the World Health Organization, regular physical activity is an important aspect of disease prevention, and inactivity is the fourth largest contributor to global mortality and morbidity.

In 2015, West Virginia ranked fourth highest of the 50 states in the percentage of adults reporting no physical activity outside of work during the last 30 days.

Figure 68. Physical Inactivity Last 30 Days

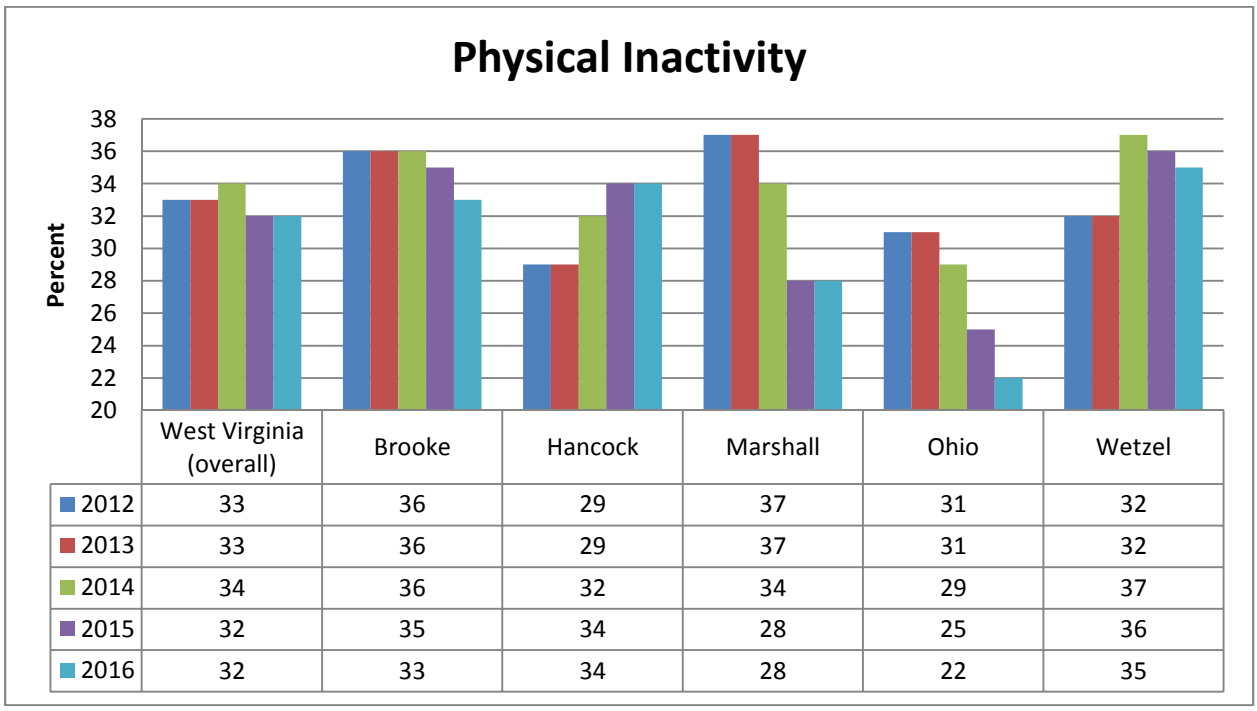


	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015
Rate	33.6	31.7	28.4	28	24.5	28.5	25.6	28.2	31.1	33.2	32.9	35.1	31	31.4	28.7

Source: United Health Foundation, americashealthrankings.org

Figure 69 illustrates the percentage of adults reported as physically inactive in Brooke, Hancock, Marshall, Ohio and Wetzel counties from 2012-2016. Brooke, Hancock and Wetzel counties exceed the West Virginia 2016 inactivity percentage of 32% and Healthy People 2020 Goal of 32.6%. Residents of Ohio County showed the lowest levels of physical inactivity with 22% in 2016.

Figure 69. Percentage of Adults Reported as Physically Inactive



	West Virginia (overall)	Brooke	Hancock	Marshall	Ohio	Wetzel
2012	33	36	29	37	31	32
2013	33	36	29	37	31	32
2014	34	36	32	34	29	37
2015	32	35	34	28	25	36
2016	32	33	34	28	22	35

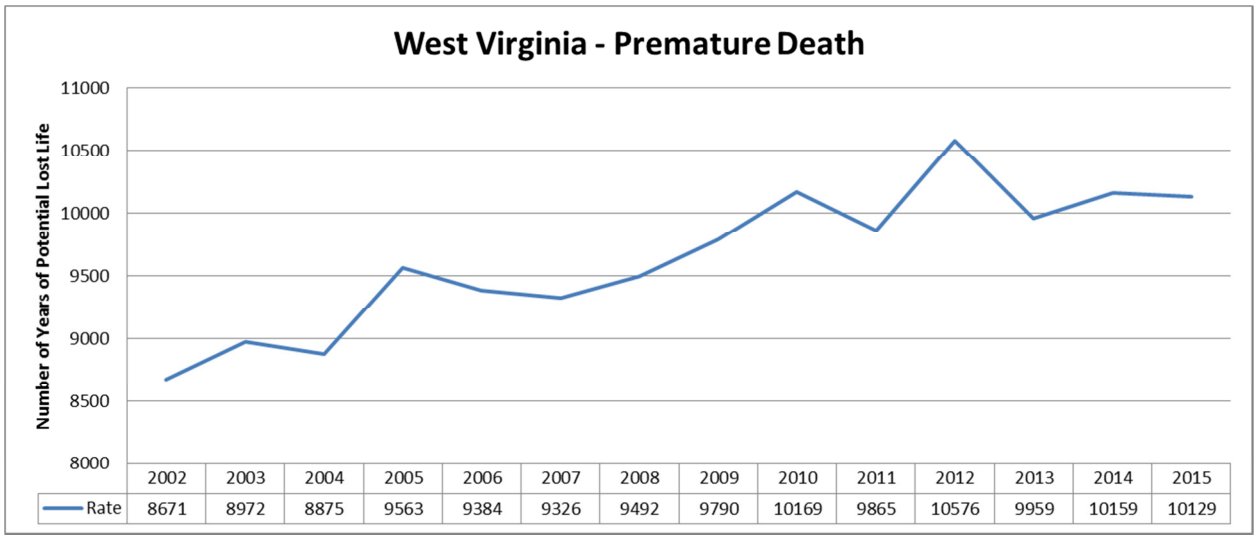
http://www.countyhealthrankings.org/

Premature Death

Premature death is a measure reflecting age of death for persons younger than 75 years of age. Someone dying young causes the measure's value to increase more than someone dying closer to age 75. Young people's deaths are more likely to be preventable than seniors' deaths and often indicate health care system failures and/or lifestyle factors. Heart disease, cancer, unintentional injuries, suicide, and perinatal deaths are the US's top 5 causes of premature death —and many are preventable through lifestyle modifications.

In 2015, West Virginia ranked second highest of the 50 states in the number of years potential life lost due to premature death.

Figure 70. Premature Death



	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015
Rate	8671	8972	8875	9563	9384	9326	9492	9790	10169	9865	10576	9959	10159	10129

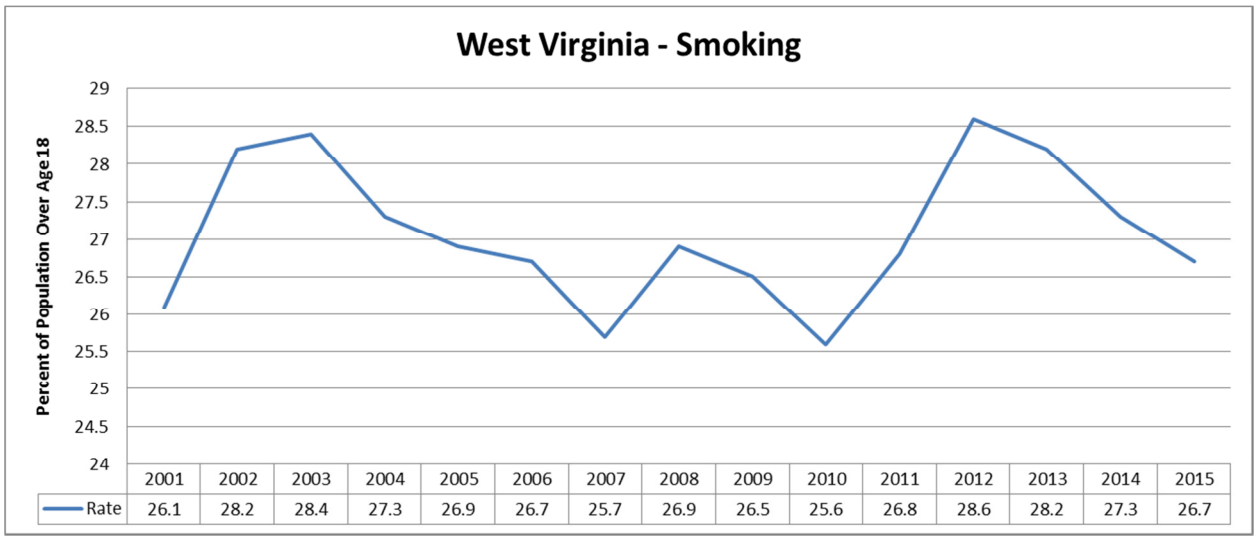
Source: United Health Foundation, americashealthrankings.org

Smoking

Smoking has a well-documented adverse impact on overall health. It is the leading cause of preventable death in the United States; approximately 14 million major medical conditions among adults are attributed to smoking.

In 2015, West Virginia ranked highest of the 50 states in the percentage of the population over age 18 that smoke.

Figure 71. Percentage of Population over Age 18 that Smoke



	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015
Rate	26.1	28.2	28.4	27.3	26.9	26.7	25.7	26.9	26.5	25.6	26.8	28.6	28.2	27.3	26.7

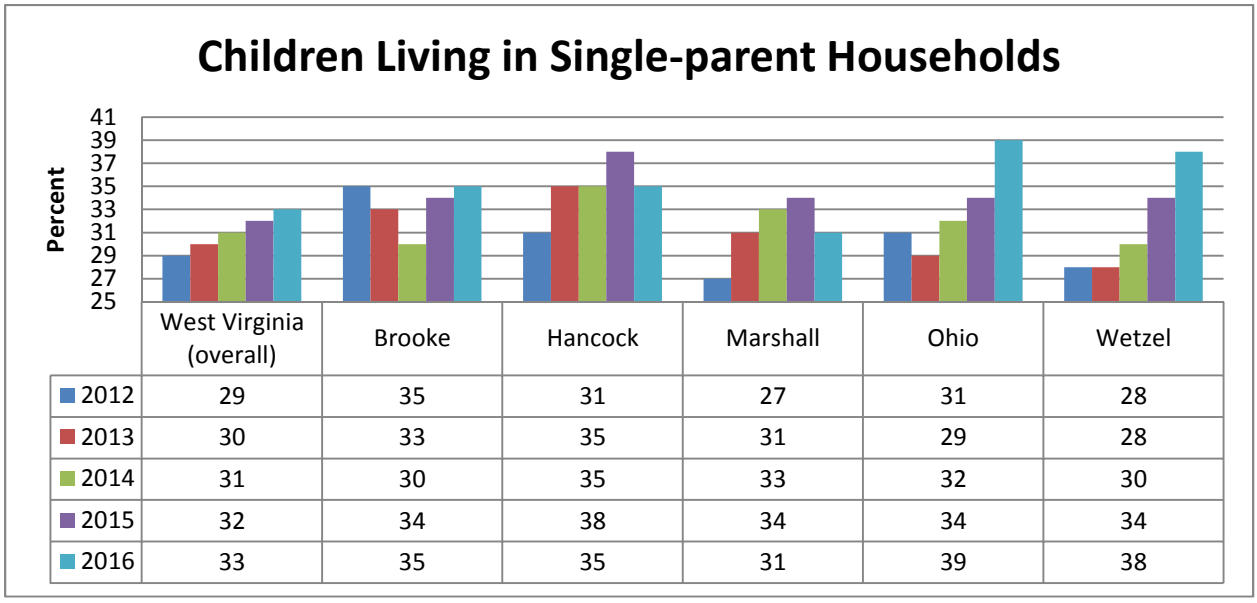
Source: United Health Foundation, americashealthrankings.org

Single Parent Households

Researchers have determined that children growing up with single parents have an elevated risk of cognitive, social, and emotional problems.

Figure 72 illustrates the percentage of children living in single parent households from 2012 to 2016 in West Virginia, Brooke, Hancock, Marshall, Ohio and Wetzel counties. There has been an increase in the state overall and in Hancock, Marshall, Ohio and Wetzel counties during the reporting period. The percentage of children living in single parent households remains the same for Brooke County in 2012 and in 2016.

Figure 72. Percentage of Children Living in Single Parent Households

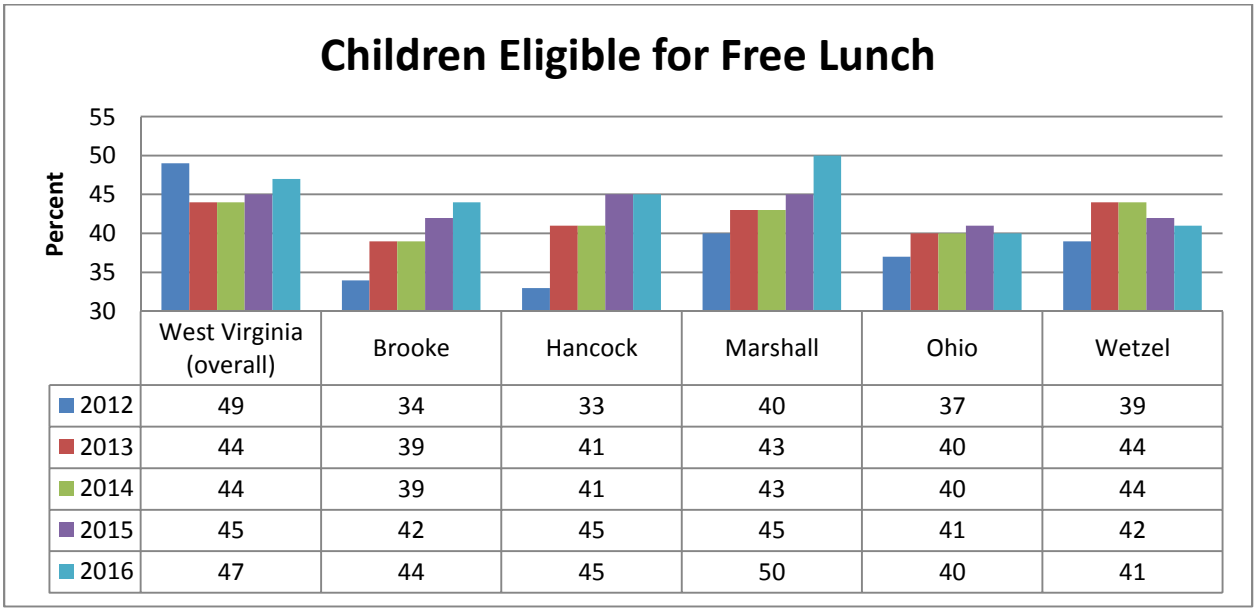


	West Virginia (overall)	Brooke	Hancock	Marshall	Ohio	Wetzel
2012	29	35	31	27	31	28
2013	30	33	35	31	29	28
2014	31	30	35	33	32	30
2015	32	34	38	34	34	34
2016	33	35	35	31	39	38

http://www.countyhealthrankings.org/

Figure 73 illustrates free and reduced price lunch programs in service area counties. Marshall County has the highest percentage of children eligible for the free and reduced price lunch program with 50%, while Ohio County has the lowest eligibility with 40% of children.

Figure 73. Free and Reduced Price Lunch



	West Virginia (overall)	Brooke	Hancock	Marshall	Ohio	Wetzel
2012	49	34	33	40	37	39
2013	44	39	41	43	40	44
2014	44	39	41	43	40	44
2015	45	42	45	45	41	42
2016	47	44	45	50	40	41

http://www.countyhealthrankings.org/

Table 15 illustrates the U.S. Department of Agriculture food desert data for 2011 in Marshall, Ohio and Wetzel counties. Selected census tracts within the service area counties have high percentages of the population (between 46.7% and 100%) that have low access to a grocery store.

The United States Department of Agriculture considers a food desert as a low-income (LI) census tract where a substantial number of residents have low access (LA) to a supermarket or large grocery store. Low access to a healthy food retail outlet is defined as more than 1 mile from a supermarket or large grocery store in urban areas and as more than 10 miles from a supermarket or large grocery store in rural areas.

Table 15. Food Desert Data 2011

US Department of Agriculture Food Desart Data 2011						
County	Census Tract	Percentage of people with low access to a supermarket or large grocery store	Percentage of total population that is low-income and has low access to a supermarket or large grocery store	Percentage of housing units without a vehicle with low access to a supermarket or large grocery store	Percentage of children age 0-17 with low access to a supermarket or large grocery store	Percentage of people age 65+ with low access to a supermarket or large grocery store
Marshall	54051020500	46.7	9.5	9.7	11.7	8.7
Marshall	54051020600	100	20.6	16.1	20.8	22.8
Ohio	54069000800	100	35.9	57.9	17.5	21.1
Ohio	54069002400	100	33.6	42	17.3	22.3
Wetzel	54103030500	56.2	12.7	5.7	13.9	8.2

Source: US Department of Agriculture

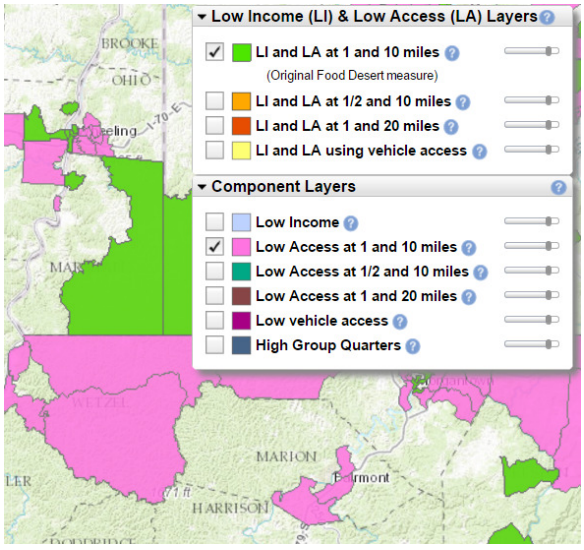
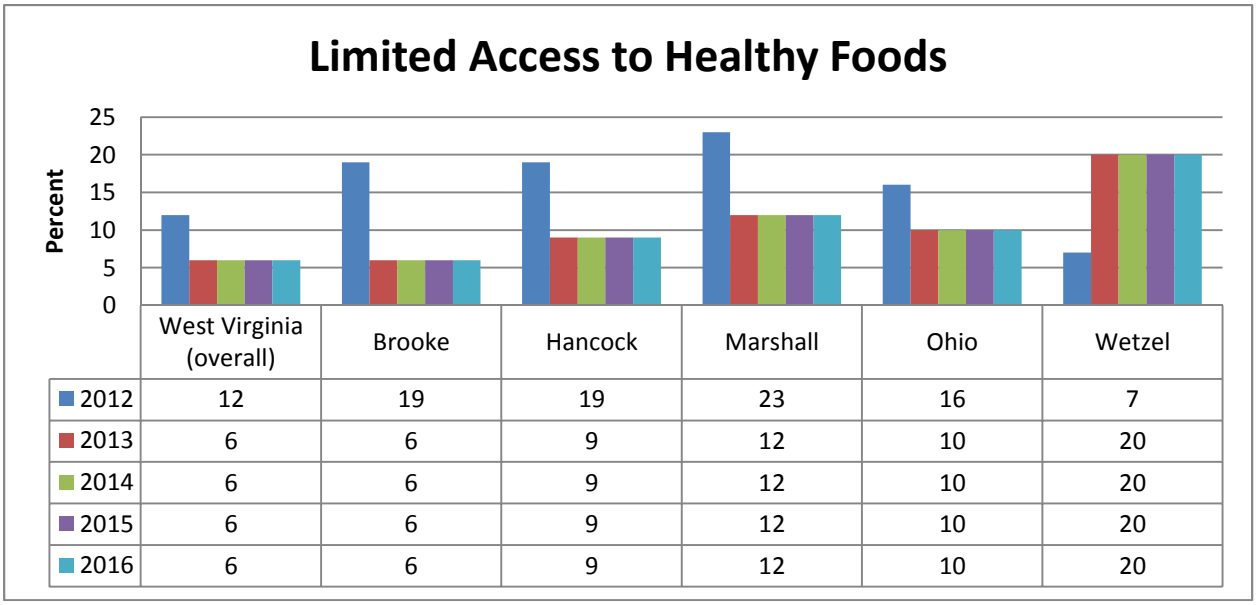


Figure 74 shows access to healthy foods for West Virginia (overall) and for Brooke, Hancock, Marshall, Ohio and Wetzel Counties for the years 2012 through 2016. In each of the geographic areas measured, except for Wetzel County, access to healthy foods has improved between 2012 and 2016. Wetzel County appears to be the exception, with more limited access since 2012, and 20% of the population having limited access to healthy foods in the most recent year reported. Healthy foods can be defined as any food believed to be 'good for you', especially if high in fiber, natural vitamins, fructose, etc. Healthy foods may reduce cholesterol, reduce atherosclerosis and risk of stroke, help control glucose, halt progression of osteoporosis, and reduce the risk of infections and cancer. A community has access to healthy foods if there are grocery stores and supermarkets in the area rather than fast food restaurants and convenience stores to purchase healthy food, such as fruits, vegetables and whole grain foods.

Figure 74. Limited Access to Healthy Foods

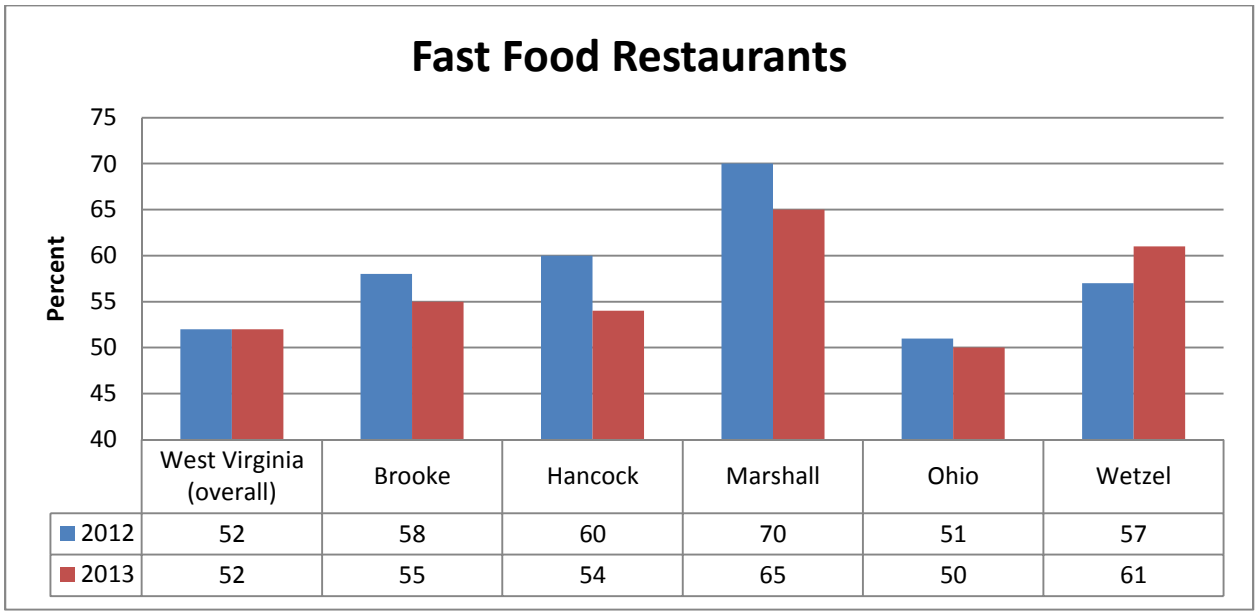


	West Virginia (overall)	Brooke	Hancock	Marshall	Ohio	Wetzel
2012	12	19	19	23	16	7
2013	6	6	9	12	10	20
2014	6	6	9	12	10	20
2015	6	6	9	12	10	20
2016	6	6	9	12	10	20

http://www.countyhealthrankings.org/

Figure 75 illustrates the percentage of restaurants that serve fast food in West Virginia, Marshall, Ohio and Wetzel counties. 70.0% of restaurants in Marshall County serve fast food, compared to 52.0% of restaurants in the state.

Figure 75. Percentage of All Restaurants That Are Fast Food Restaurants

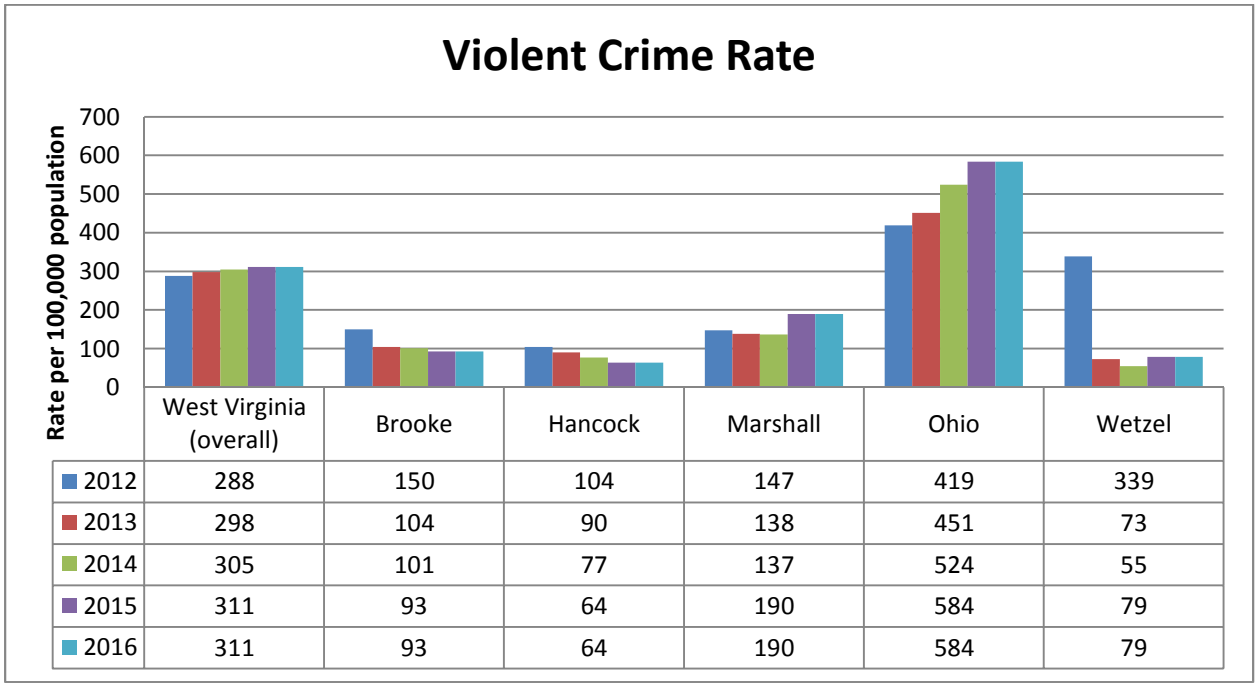


	West Virginia (overall)	Brooke	Hancock	Marshall	Ohio	Wetzel
2012	52	58	60	70	51	57
2013	52	55	54	65	50	61

Source: http://www.countyhealthrankings.org/

Figure 76 illustrates violent crime rates in West Virginia (overall), Brooke, Hancock, Marshall, Ohio and Wetzel counties for 2012 through 2016. Ohio County has the highest rate of violent crimes in all of the years reported with a rate of 584 in the most recent year reported, compared to the state with 311. West Virginia (overall) as well as Marshall and Ohio Counties experienced an increase in rate of violent crimes from 2012 to 2016, while Brooke, Hancock and Wetzel Counties experienced a decrease.

Figure 76. Violent Crime Rate



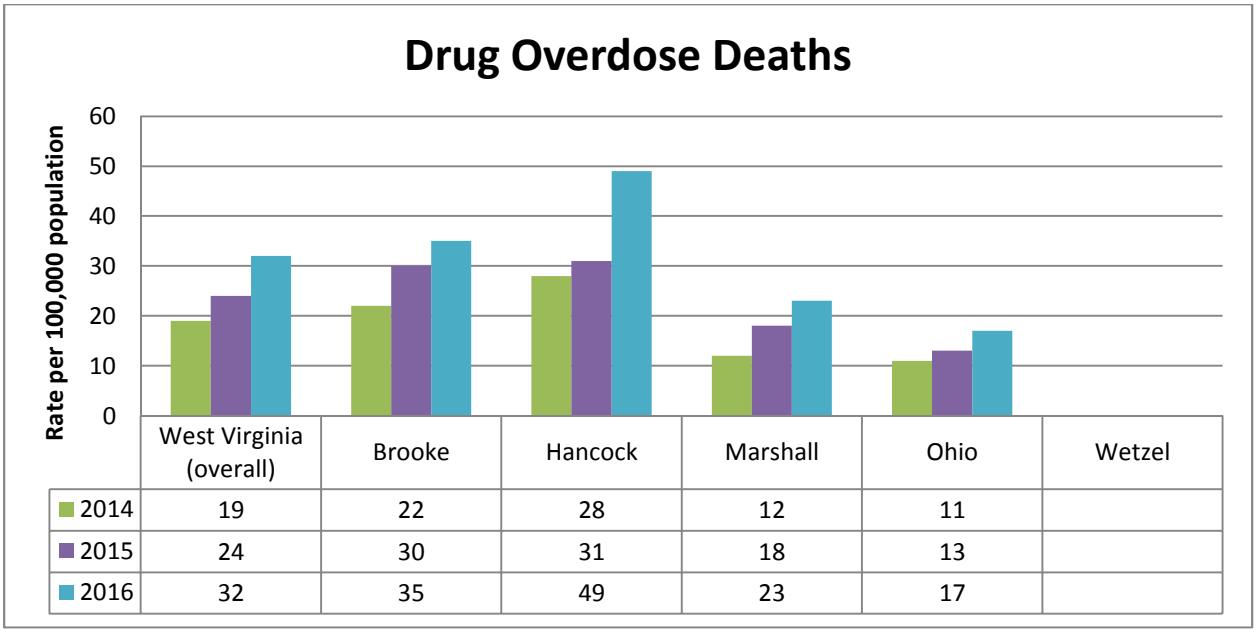
	West Virginia (overall)	Brooke	Hancock	Marshall	Ohio	Wetzel
2012	288	150	104	147	419	339
2013	298	104	90	138	451	73
2014	305	101	77	137	524	55
2015	311	93	64	190	584	79
2016	311	93	64	190	584	79

http://www.countyhealthrankings.org/

Drug Overdose Deaths

According to the CDC, drug poisoning (overdose) is the number one cause of injury-related death in the United States. The age-adjusted drug overdose death rate in the United States has more than doubled from 6.2 per 100,000 persons in 2000 to 14.7 per 100,000 in 2014. West Virginia's drug overdose death rate is more than double the national average and West Virginia now has the highest rate of drug overdose deaths in the U.S. Along with West Virginia, there are four other states ranking among those with the highest rates of drug overdose deaths: New Mexico (27.3), New Hampshire (26.2), Kentucky (24.7) and Ohio (24.6).

Figure 77. Drug Overdose Deaths



	West Virginia (overall)	Brooke	Hancock	Marshall	Ohio	Wetzel
2014	19	22	28	12	11	
2015	24	30	31	18	13	
2016	32	35	49	23	17	

Source: www.countyhealthrankings.org

Painkiller Prescriptions

According to the Centers for Disease Control and Prevention, in 2012, West Virginia ranked third highest of the 50 states (behind Alabama and Tennessee) in the number of painkiller prescriptions written per 100 people. In 2012, health care providers in the highest-prescribing state wrote almost 3 times as many opioid painkiller prescriptions per person as those in the lowest prescribing state.

Figure 78. Opioid Overdoses.

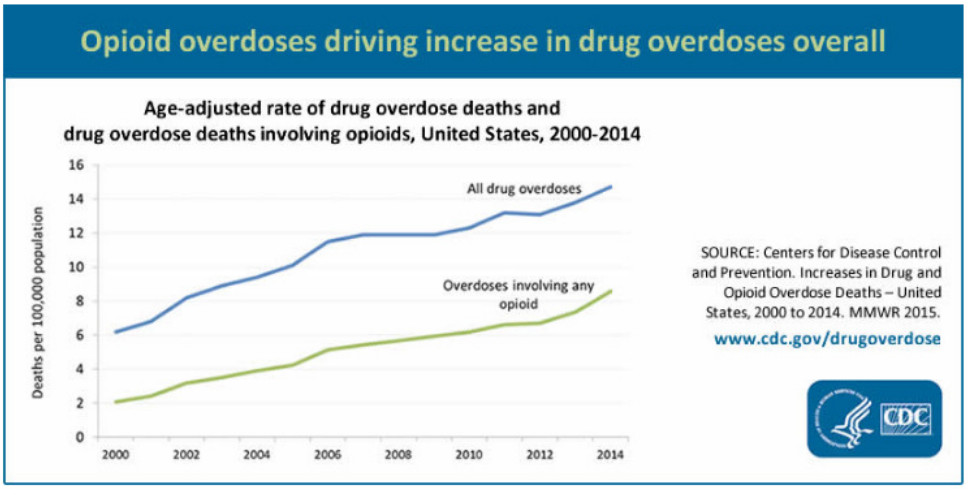
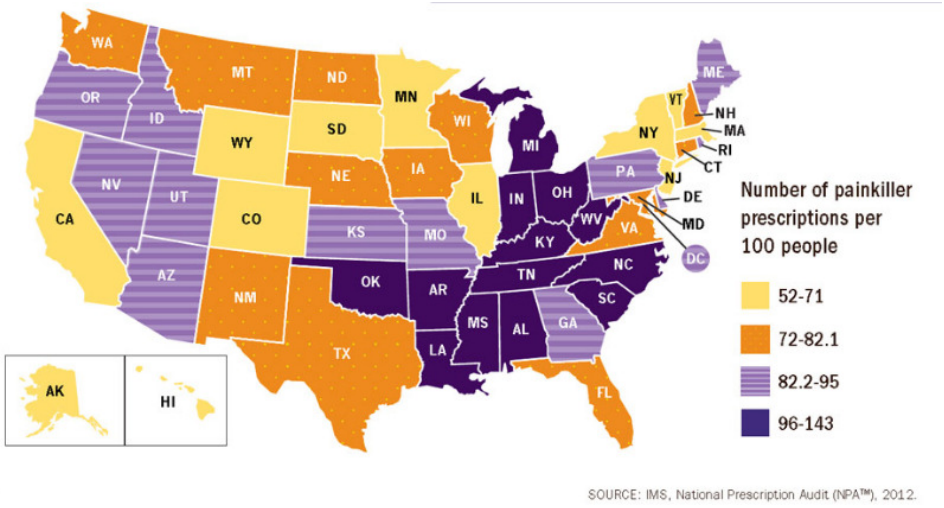


Figure 79. Painkiller Prescription



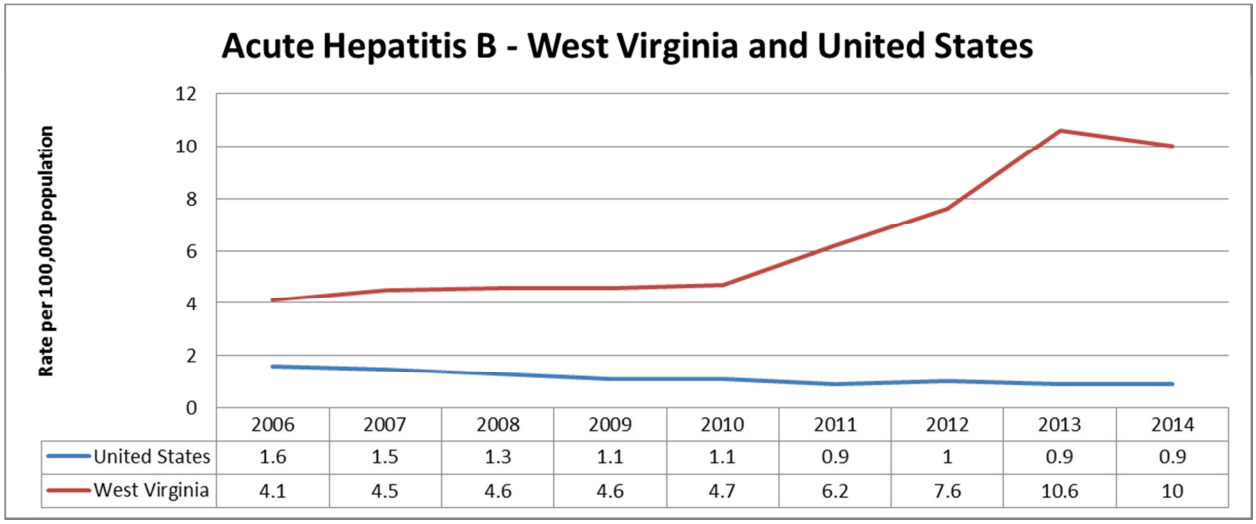
Hepatitis B

Hepatitis B rates have been rising with increased drug abuse. According to the Centers for Disease Control and Prevention, in the United States in 2013, incidence of acute Hepatitis A and Hepatitis B was the lowest ever recorded; however, in West Virginia, between 2009 and 2013,

- Reported rates of acute hepatitis A increased by 33%
- Reported rates of acute hepatitis B increased by 128%.
- Reported rates of acute hepatitis C increased by 82%.

West Virginia has the highest rate of Hepatitis B in the United States.

Figure 80. Acute Hepatitis B 2006 – 2014, West Virginia and United States

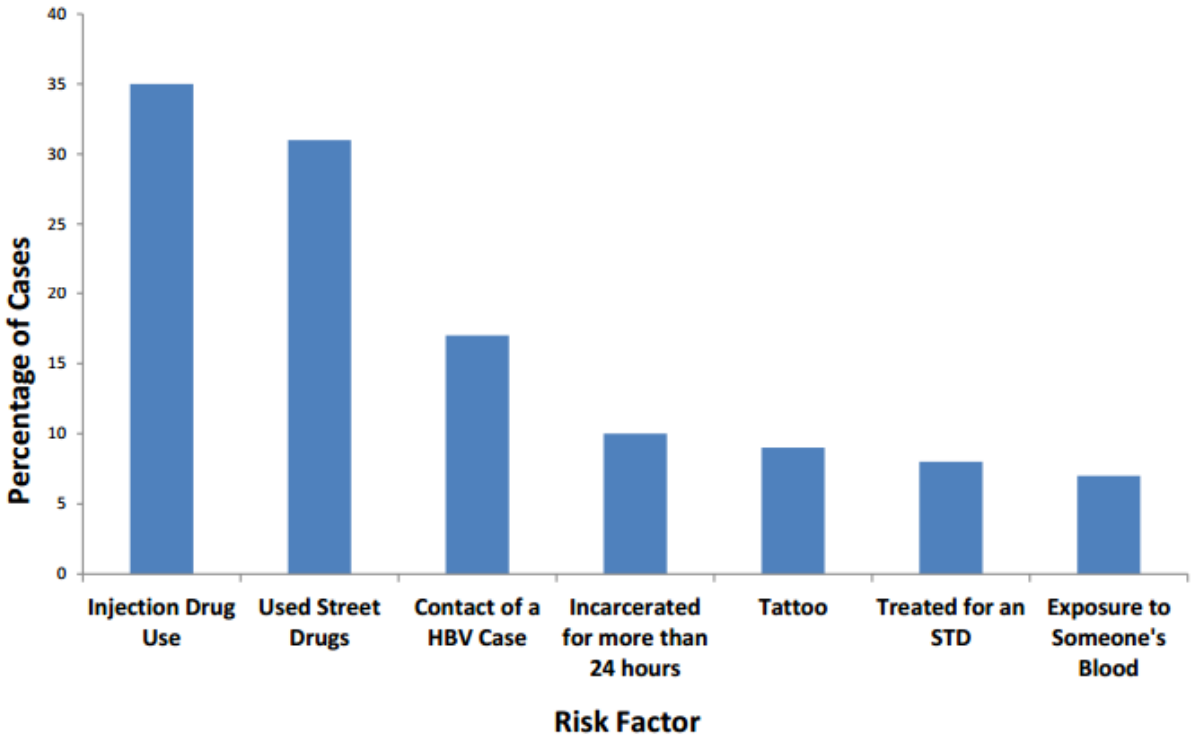


	2006	2007	2008	2009	2010	2011	2012	2013	2014
United States	1.6	1.5	1.3	1.1	1.1	0.9	1	0.9	0.9
West Virginia	4.1	4.5	4.6	4.6	4.7	6.2	7.6	10.6	10

Source: West Virginia Department of Health and Human Resources, Bureau for Public Health

Figure 81 illustrates Hepatitis B risk factors reported in West Virginia in 2014. By a significant margin the two most prominent risks by percentage of cases were injection drug use and use of street drugs.

Figure 81. Acute Hepatitis B Risk Factors Reported, West Virginia, 2014



Source: West Virginia Department of Health and Human Resources, Bureau for Public Health

Environmental Factors and Indicators Impacting Mental and Physical Health Conclusions

An examination of various environmental factors for West Virginia shows that the health of our state population is below that of the rest of the nation in many major categories. Many West Virginians report themselves as having fair or poor health and the data reviewed support this.

Specific findings in the data include:

- In West Virginia, overall cancer mortality rates have remained steady within the past 5 years.
- In 2015, West Virginia ranked highest nationally in the percentage of adults with hypertension.
- Over 40% of West Virginia adults have been told by a health care professional that they have hypertension.
- In 2015, West Virginia ranked highest nationally in the percentage of adults with diabetes.
- West Virginia has the highest drug overdose death rate in the nation, and those deaths are increasing.
- West Virginia's drug overdose death rate is more than double the national average.
- In 2012, West Virginia ranked third highest of the 50 states in the number of opioid prescriptions written per 100 persons.
- West Virginia has the highest rate of Hepatitis B in the United States.
- In West Virginia, the Hepatitis infection rate is steadily growing while the rate is decreasing across the rest of the country.
- Increasing Hepatitis B rates can be attributed to a corresponding increase in injected street drug use in West Virginia over the past several years.
- West Virginia ranked highest of the 50 states in the percentage of the population over age 18 that smoke.
- In 2015, West Virginia ranked second highest of the 50 states in the percentage of adults with obesity.
- West Virginia is one of only three states with a prevalence of obesity of 35% or higher.
- The percentage of obese adults in the service area was highest in Hancock County (38%) and lowest in Ohio County (29%).
- In 2015, West Virginia ranked second highest of the 50 states in the number of years of potential lost life due to premature death.
- In 2015, West Virginia ranked third highest in the nation in the percentage of adults with high cholesterol.
- More than 40% of West Virginia adults who had their cholesterol checked were told they have high cholesterol.

- In 2015, West Virginia ranked fifth highest of the 50 states in annual deaths due to cardiovascular disease.
- In 2015, West Virginia ranked fourth highest of the 50 states in the percentage of adults reporting physical inactivity.
- Approximately 1 in 3 children in West Virginia live in single-parent households and this rate has been increasing since 2012. Only Marshall County is below the State rate of 33% for the percentage of children living in a single parent household. Brooke, Hancock, Ohio and Wetzel Counties exceed the State rate.
- In Brooke, Hancock, Marshall, Ohio, and Wetzel counties, between 44% and 50% of students are eligible for free lunch.
- For certain census tracts in Marshall, Ohio, and Wetzel counties, more than 46% of the population have low access to a supermarket or large grocery store.
- More than 50% of the restaurants in Brooke, Hancock, Marshall, Ohio and Wetzel Counties are fast food restaurants.
- The violent crime rate between 2012 and 2016 was higher in Ohio County than in Brooke, Hancock, Marshall and Wetzel Counties and the in the State overall.

Northwood
Health Systems

Conclusions

Conclusions

Access to Care Conclusions

There are a number of observations and conclusions that can be derived from the data related to Access to care. They include:

- In West Virginia, between 2013 and 2015, the percentage of adults aged 18 to 64 years of age who lacked health insurance coverage dropped significantly, by 19.9%.
- During this same time frame, 2013 to 2015, the percentage of adults aged 18 to 64 who had public health plan coverage increased by more than 10%.
- In West Virginia between 2007 and 2014, the percentage of adults who needed to see a doctor but could not due to cost ranged between 16%-18%, which is higher than the Healthy People 2020 Goal (4.2%).
- Between 2007 and 2014, the percentage of adults with no health care provider ranged between 21% and 24%, which is above the Healthy People 2020 Goal of 16.1%.
- Hancock, Marshall, Ohio, and Wetzel Counties are all designated as medically underserved areas. Wetzel and Hancock Counties are designated shortage areas for Primary Care, Dental and Mental Health Services. Marshall County is also designated as a Primary Care shortage area.
- Over the last 5 years, demand for Northwood services has increased for psychiatric/medication management and outpatient therapy services.
- Over the last 5 years, demand for Northwood services has increased by approximately 1000% for substance abuse services.
- Focus group participants noted that access to services is a challenge, as many in the community are not aware of the resources that are available. Limited outpatient mental health services exist causing long wait times for initial appointments and the need for more psychiatrists and other mental health professionals. Housing and transportation needs were also identified in each of the focus group discussions.
- Stakeholder interview comments echoed the needs identified in the focus groups. Lack of awareness of programs and services as well as lack of adequate providers in certain areas are barriers to care.
- Stakeholders identified the need to integrate physical and mental health services. Housing and transportation were also noted as needs that become a barrier for some to access services.

Chronic/Serious Mental Health Conclusions

There are a number of observations and conclusions that can be derived from the data related to Chronic/Serious Mental Health and related issues. These include:

- In 2015, West Virginia ranked third highest of the 50 states in the number of poor mental health days in the past 30.
- In 2015, the number of poor mental health days out of the past 30 was slightly lower than the state rate for all counties in the service area except for Hancock County.
- In 2015, West Virginia ranked highest of the 50 states in the number of poor physical health days in the past 30.
- Adults in Ohio County have the best (lowest) ratings of fair or poor health.
- Based on 2012 data, SAMHSA reported that West Virginia ranked third highest of the 50 states in the percentage of persons with Any Mental Illness.
- Based on 2012 data, SAMHSA reported that West Virginia ranked highest of the 50 states in the percentage of persons with Serious Mental Illness.
- West Virginia has a higher rate of Major Depressive Episode for adults in the past year than the national rate.
- According to the American Foundation for Suicide Prevention, suicide is the 11th leading cause of death overall in West Virginia.
- Suicide is the second leading cause of death for individuals aged 10 to 34 in West Virginia.
- Brooke and Wetzel Counties have the highest rates of suicide death in the counties served and higher than the overall state rate.
- 20 to 25% of the homeless population in the United States suffers from some form of severe mental illness
- Focus group participants discussed a number of needs and issues related to chronic/serious mental health management, including poor health status and the scarcity of resources as contributing factors to the problems and challenges for those with mental illness and disabilities.
- Focus group participants also discussed that there is also a “quick fix” attitude within the system and resources are not appropriately invested in the long term solutions that will make a difference for persons with disabilities and those with mental health needs.
- Stakeholders identified a number of unmet needs related to mental illness including the lack of access to care due to a lack of resources and expressed that more should be done to manage the more severe mental health needs and issues facing our community.

Drug & Alcohol Conclusions

All across the country, within the state of West Virginia as well as in the service area counties, drug and alcohol use and abuse is a growing concern. Although specific local drug and alcohol data is limited, it suggests that the rates of drug and alcohol abuse in the service area counties is at or higher than the state, which has one of the highest rates in the country for drug overdose deaths. Local stakeholders reported in each of the focus groups and interviews that the abuse of opioids, specifically heroin and prescription painkillers is increasing, and the local system is struggling to keep up with the increase in demand for services, as evidenced by the increase in drug related hospitalizations and mortality over the past few years.

Local leaders indicate that there is a need for increased access to preventative education and early intervention services as well as residential treatment and post-acute support services.
Overall observations and findings from the data include:

- Between 2010 and 2016, all counties in the service area except Wetzel County showed a decrease in residents who reported excessive drinking, with the largest decreases in Brooke and Hancock Counties.
- Wetzel County showed a slight increase in adults who report excessive drinking from 10% in 2010 to 11% in 2016.
- The percentage of adults that report excessive drinking in all counties in the service area is higher than the overall West Virginia rate.
- In our service area in 2010-2012 perceptions of great risk of an alcoholic beverage once or twice a week is slightly lower than the state and appears to be decreasing from 2008 and 2010.
- Between 2010 and 2012 the rate of DUI arrests was higher in Hancock and Ohio Counties when compared to Brooke, Marshall, Wetzel County and the rest of the state.
- Between 2008-2010 and 2009-2013 tobacco use in our region appears to be increasing and is slightly higher than numbers reported across the rest of the state.
- Between 2008-2010 and 2010-2012 perceptions of great risk of smoking marijuana once a month decreased significantly in our region and across the state.
- Between 2001 and 2011 prescription drug overdose deaths steadily increased in West Virginia.
- In 2013 drug overdose / poisoning rates were higher in Brooke, Hancock and Marshall Counties as compared to Ohio, Wetzel Counties and the rest of the state.
- In 2014 West Virginia ranked number one in the nation in drug overdose mortality rates.
- Focus group and stakeholder discussions both identified a lack of long term residential treatment options for substance abuse diagnosed individuals.

Environmental Factors and Indicators Impacting Mental and Physical Health Conclusions

An examination of various environmental factors for West Virginia shows that the health of our state population is below that of the rest of the nation in many major categories. Many West Virginians report themselves as having fair or poor health and the data reviewed support this.

Specific findings in the data include:

- In West Virginia, overall cancer mortality rates have remained steady within the past 5 years.
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- In 2015, West Virginia ranked highest nationally in the percentage of adults with diabetes.
- West Virginia has the highest drug overdose death rate in the nation, and those deaths are increasing.
- West Virginia's drug overdose death rate is more than double the national average.
- In 2012, West Virginia ranked third highest of the 50 states in the number of opioid prescriptions written per 100 persons.
- West Virginia has the highest rate of Hepatitis B in the United States.
- In West Virginia, the Hepatitis infection rate is steadily growing while the rate is decreasing across the rest of the country.
- Increasing Hepatitis B rates can be attributed to a corresponding increase in injected street drug use in West Virginia over the past several years.
- West Virginia ranked highest of the 50 states in the percentage of the population over age 18 that smoke.
- In 2015, West Virginia ranked second highest of the 50 states in the percentage of adults with obesity.
- West Virginia is one of only three states with a prevalence of obesity of 35% or higher.
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- In 2015, West Virginia ranked third highest in the nation in the percentage of adults with high cholesterol.

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- In 2015, West Virginia ranked fifth highest of the 50 states in annual deaths due to cardiovascular disease.
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- For certain census tracts in Marshall, Ohio, and Wetzel counties, more than 46% of the population have low access to a supermarket or large grocery store.
- More than 50% of the restaurants in Brooke, Hancock, Marshall, Ohio and Wetzel Counties are fast food restaurants.
- The violent crime rate between 2012 and 2016 was higher in Ohio County than in Brooke, Hancock, Marshall and Wetzel Counties and the in the State overall.
- Focus group discussions indicated a lack of adequate affordable housing in the area is a major concern.
- Focus groups identified poverty, lack of insurance and lack of transportation as the top factors impacting mental and physical health in our area.
- Overall stakeholders interviewed listed transportation as the third highest priority factor to address the mental and physical health needs in our community behind only substance abuse services and primary/behavioral healthcare integration.

Summary

With input from stakeholders, Northwood Health Systems reviewed these conclusions and identified a number of needs related to Northwood's mission and current capabilities. To address these needs, Northwood developed action steps that we believe will serve to improve the health in our region. These steps are contained in an implementation plan that is maintained separately from this document.

Community Health Needs Assessment

Implementation Plan

Northwood Health Systems completed its most recent Community Health Needs Assessment (CHNA) in May, 2016. The CHNA successfully identified several needs related to behavioral health in the community Northwood serves. The top priorities to be addressed were identified, and Northwood has developed this implementation plan to address those needs. Some of the identified needs were outside the scope of Northwood's mission, and others are more effectively addressed by other community organizations. Northwood believes the implementation plan below will improve behavioral health in its community.

<u>GOAL #1</u> – Improve the access to outpatient psychiatric services.

Northwood's Community Health Needs Assessment indicates the community's access to psychiatric services, such as psychiatric evaluation and medication prescription and management, could be improved. Often those seeking psychiatric services are faced with in delays prior to receiving services.					
OBJECTIVE	**ACTION STEPS**	**ACCOUNTABILITY**	**TIMEFRAME**	**BUDGET**	**MEASURES**
Hire an additional psychiatrist or psychiatric nurse practitioner	Engage recruiters Conduct interviews Hire new psychiatrist or nurse practitioner	Mark Games, CEO Ed Nolan, Director of Operations Dr. Steven Corder, Medical Director	12/31/2017	$250,000 annually	A net increase of one full time equivalent in our psychiatric services department
OBJECTIVE	**ACTION STEPS**	**ACCOUNTABILITY**	**TIMEFRAME**	**BUDGET**	**MEASURES**
Modify operations of Northwood's outpatient clinic to decrease wait time for first service following intake.	Conduct initial evaluations as needed, without scheduling an appointment Decrease the average wait time between the initial appointment and the first therapy service to < 7 days (where possible) Measure the percentage of initial appointments that occur unscheduled, and measure time from initial appt to first therapy service.	Mark Games, CEO Ed Nolan, Director of Operations Mary Ann Kinder, Director of Scheduling Dr. Perry Stanley Clinical Director	12/31/2016	$0	Percentage of total intakes completed the day of the request Percentage of total intakes prescribed therapy who were seen for the first therapy session within 7 days of the initial intake.

<u>GOAL #2</u> – Improve Northwood's capacity to provide services to clients with mild, moderate and serious mental illness including children under the age of 18.

Northwood's Community Health Needs Assessment indicates there are not enough mental health providers in our communities.					
OBJECTIVE	**ACTION STEPS**	**ACCOUNTABILITY**	**TIMEFRAME**	**BUDGET**	**MEASURES**
Hire two additional licensed psychologists.	Advertise for, interview and hire 2 psychologists.	Mark Games, CEO Dr. Perry Stanley, Clinical Director	07/01/2017	$140,000 Annually, including ad costs, benefits, etc.	A net increase of two full time equivalent psychologists
OBJECTIVE	**ACTION STEPS**	**ACCOUNTABILITY**	**TIMEFRAME**	**BUDGET**	**MEASURES**
Begin providing psychologist services to residents of Brooke and Hancock Counties.	Locate one or more psychologists on site in Weirton. Collaborate with other agencies in Brooke and Hancock Counties who may need services of a psychologist.	Mark Games, CEO Ed Nolan, Director of Operations	07/01/2017	Included above	Number of hours of psychologist time on site at Weirton outpatient office
OBJECTIVE	**ACTION STEPS**	**ACCOUNTABILITY**	**TIMEFRAME**	**BUDGET**	**MEASURES**
Hire an additional outpatient therapist with children's experience.	Advertise for, interview and hire 1 therapist with children's experience.	Ed Nolan, Director of Operations Dr. Perry Stanley, Clinical Director	07/30/2017	$35,000 annually	A net increase of one full time equivalent therapist with children's experience in our outpatient department
OBJECTIVE	**ACTION STEPS**	**ACCOUNTABILITY**	**TIMEFRAME**	**BUDGET**	**MEASURES**
Begin providing outpatient mental health counseling in Weirton.	Locate at least one full time equivalent mental health therapist on site in Weirton.	Mark Games, CEO Ed Nolan, Director of Operations	07/30/2017	$35,000 Annually	Number of hours of group and individual counseling provided to mental health clients on site at Weirton outpatient office
OBJECTIVE	**ACTION STEPS**	**ACCOUNTABILITY**	**TIMEFRAME**	**BUDGET**	**MEASURES**
Begin providing transportation services in Marshall county.	Get drivers approved, outfit vans for use, and et vans approved	Tracey Kinder, Director of Operations	12/31/2016	$10,000	Number of van transport trips in Marshall County.

OBJECTIVE	ACTION STEPS	ACCOUNTABILITY	TIMEFRAME	BUDGET	MEASURES
Provide Applied Suicide Skills Intervention Training (ASIST) to community groups.	Train at least one ASIST trainer.	Mark Games, CEO Ed Nolan, Director of Operations	07/30/2017	$2500 annually	Number of community trainings provided.
	Communicate trainer availability to key stakeholders.				
	Provide ASIST community trainings.				

GOAL #3 – Improve Northwood's capacity to provide substance abuse treatment services.

Northwood's Community Health Needs Assessment indicates there is a continuing and growing need for substance abuse services. Northwood currently offers substance abuse services, but will evaluate what, if any steps should be taken to expand or otherwise modify its substance abuse treatment programs.

OBJECTIVE	ACTION STEPS	ACCOUNTABILITY	TIMEFRAME	BUDGET	MEASURES
Increase the number of Northwood clinicians who are certified or pursuing certification by the West Virginia Board for Addiction and Prevention Professionals (or other certifying bodies).	Begin a training initiative to help staff prepare for Alcohol and Drug Counselor (ADC) or Advanced Alcohol and Drug Counselor (AADC) credentials.	Ed Nolan, Director of Operations Dr. Perry Stanley, Clinical Director Jeremy Sagun, Manager of Substance Abuse Services	12/31/2017	$10,000	Number of clinical staff who are credentialed as ADC or AADC. Number of clinical staff who have started the application process for ADC or AADC.
	Implement a program of clinical supervision for staff needing addiction-specific supervision hours toward ADC or AACD certification.				
OBJECTIVE	**ACTION STEPS**	**ACCOUNTABILITY**	**TIMEFRAME**	**BUDGET**	**MEASURES**
Increase the availability of Medication Assisted Treatment (MAT) services.	Clarify regulatory requirements for treatment programs.	Ed Nolan, Director of Operations	12/31/2016	$15000 annually	Completed license or registration application and requirements for MAT treatment locations.
	Become licensed and/or registered as an MAT provider as required by the Medication Assisted Treatment Program licensing act.	Dr. Steven Corder, Medical Director Jeremy Sagun, Manager of Substance Abuse Services	12/31/2016		Number of licensed or registered MAT treatment locations.

	Establish at least one additional Vivitrol clinic to provide Medication Assisted Treatment		12/31/2016		Number of Vivitrol clinic locations.
OBJECTIVE	**ACTION STEPS**	**ACCOUNTABILITY**	**TIMEFRAME**	**BUDGET**	**MEASURES**
More frequent utilization of the State Board of Pharmacy controlled drug monitoring database.	Develop a protocol to address utilization and medical record documentation of results of the CDMP review.	Ed Nolan, Director of Operations Dr. Steven Corder, Medical Director	12/31/2016		Number of CDMP reviews documented.

<u>GOAL #4</u> – Improve access to and engagement in treatment for physical health conditions by our existing clients who have a mental illness and/or substance abuse problem.

Northwood's Community Health Needs Assessment identified significant physical health issues for residents of the service area. Northwood will revise processes and provider roles to integrate physical healthcare into treatment for mental health and substance abuse and Northwood will attempt to increase engagement of this population in treatment to address these physical health problems along with their behavioral health issues.					
OBJECTIVE	**ACTION STEPS**	**ACCOUNTABILITY**	**TIMEFRAME**	**BUDGET**	**MEASURES**
Refer clients without health insurance to DHHR for enrollment assistance.	Continue as it currently exists.	Mark Games, CEO Ed Nolan, Director of Operations	Ongoing	$21,824 annually	Percentage of active clients without health insurance 3 months after intake.
OBJECTIVE	**ACTION STEPS**	**ACCOUNTABILITY**	**TIMEFRAME**	**BUDGET**	**MEASURES**
Provide physical and mental health screenings to individuals in the area who are homeless.	Participate as a core member of the local health department homeless outreach program.	Mark Games, CEO Nancy Pogacich, Crisis Services Manager Ed Nolan, Director of Operations	07/01/17	$2600 Annually	Percentage of individual in Northwood's homeless shelter screened for physical health problems during their stay
	Develop a protocol to address screening, referral and follow-up of homeless individuals with mental health or substance abuse issues.				
	Regularly visit local shelters and other locations frequented by homeless individuals.				

OBJECTIVE	ACTION STEPS	ACCOUNTABILITY	TIMEFRAME	BUDGET	MEASURES
Implement physical examinations for selected clients receiving Crisis Stabilization services.	Develop protocols for Crisis Unit clients who will receive physical examinations. Procure equipment and supplies needed. Implement and document physical examinations	Ed Nolan, Director of Operations Dr. Steven Corder, Medical Director	06/30/2017	$10,000 Annually	Number of physical examinations completed
OBJECTIVE	**ACTION STEPS**	**ACCOUNTABILITY**	**TIMEFRAME**	**BUDGET**	**MEASURES**
Collaborate with a local primary health care provider to offer on-site services.	Develop one or more collaborative agreements with external providers. Procure space, equipment and supplies needed. Implement the integrated service.	Mark Games, CEO Dr. Steven Corder, Medical Director Ed Nolan, Director of Operations	06/30/2017	$6000 Annually	Number of collaborative agreements completed.
OBJECTIVE	**ACTION STEPS**	**ACCOUNTABILITY**	**TIMEFRAME**	**BUDGET**	**MEASURES**
Implement screening, brief intervention and referral to treatment protocols for clients at high risk for diabetes, hepatitis, and hypertension.	Implement and document physical examinations Develop a protocol for to address hepatitis screening, referral and follow-up. Develop a protocol for to address hypertension screening, referral and follow-up.	Ed Nolan, Director of Operations Dr. Steven Corder, Medical Director		$7500 annually	Number of screenings completed.
OBJECTIVE	**ACTION STEPS**	**ACCOUNTABILITY**	**TIMEFRAME**	**BUDGET**	**MEASURES**
Provide opioid antagonist training to the local community.	Train at least one additional trainer. Communicate trainer availability to key stakeholders. Provide community trainings.	Ed Nolan, Director of Operations Jeremy Sagun, Manager of Substance Abuse Services	12/31/2016	$250 Annually	Number of community trainings provided.

OBJECTIVE	ACTION STEPS	ACCOUNTABILITY	TIMEFRAME	BUDGET	MEASURES
Expand an existing needle exchange pilot project operated in cooperation with the local health department.	Meet with local health department officials to discuss opportunities for expansion.	Ed Nolan, Director of Operations Jeremy Sagun, Manager of Substance Abuse Services	12/31/2016	N/A	Number of needle exchange clinics hosted.
OBJECTIVE	**ACTION STEPS**	**ACCOUNTABILITY**	**TIMEFRAME**	**BUDGET**	**MEASURES**
Provide counseling and education to injection drug users about hepatitis infection, health consequences and prevention practices.	Develop a counseling and education module to incorporate into existing treatment programs. Implement the module into outpatient treatment programs.	Ed Nolan, Director of Operations Jeremy Sagun, Manager of Substance Abuse Services	12/31/2016	$1000 annually	Number of counseling and education sessions provided.
OBJECTIVE	**ACTION STEPS**	**ACCOUNTABILITY**	**TIMEFRAME**	**BUDGET**	**MEASURES**
Evaluate the feasibility of implementing a Hepatitis vaccination program targeting injection drug users.	Meet with local health department officials to discuss the project. Implement health department recommendations.	Ed Nolan, Director of Operations Dr. Steven Corder, Medical Director	06/30/2017	$3000 annually	Number of hepatitis vaccinations completed.