2019 Community Health Needs Assessment

Northwood
Health Systems

Northwood Health Systems

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Executive Summary

2019 Community Health Needs Assessment

Northwood Health Systems

Message to the Community

Northwood Health Systems is proud to present our 2019 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 2019 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 2 focus groups including family members and professionals and 107 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 expanding substance abuse treatment services, improving suicide prevention efforts, building capacity to deliver more trauma informed counseling service, and expanding transportation to treatment programs 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, the National Survey on Drug Use and Health (NSDUH) and the County Health Rankings (www.countyhealthrankings.org).

The primary data collection process included qualitative data from 107 stakeholder interviews and 2 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 May 2019 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 expanding substance abuse treatment services, improving suicide prevention efforts, building capacity to deliver more trauma informed counseling service, and expanding transportation to treatment programs 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. 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 21, 2019.

Northwood Health Systems

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 148,878.

Census bureau estimates reflect the population in the service area has declined on average 6.1% across the counties served in the past 7 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 the ages of 55-84. 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 8% 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 107 stakeholder interviews and 2 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: Suicide deaths, cardiovascular disease mortality rates, drug overdose death rates, individuals having serious mental illness or a major depressive episode.

The region has increasing rates of:

- Hypertension
- Diabetes
- Drug overdose death
- Suicide
- Hepatitis A and B

West Virginia overall, and the 5 counties served, also has an increasing rate of substance abuse, particularly tobacco products, synthetic opioids, and heroin. Non-medical use of pain relievers has decreased across the state and in the service area. All counties in the service area except Hancock County recorded percentages higher than the state average for driving deaths with alcohol involvement.

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 2012 and 2017, the percentage of West Virginia residents who lacked health insurance coverage dropped significantly.
- During this same time frame, 2012 to 2017, the percentage West Virginia residents receiving Medicaid coverage increased by 10%.
- In West Virginia between 2013 and 2017, the percentage of adults who needed to see a doctor but could not due to cost dropped from 18.4 to 14.8, which we believe is due to implementation of the Affordable Care Act and Medicaid expansion.
- Hancock, Marshall, and Wetzel Counties are all designated as medically underserved areas. Wetzel and Marshall Counties are designated shortage areas for Primary Care, Dental and Mental Health Services. Hancock County is also designated as a Primary Care shortage area.
- Utilization of Crisis Stabilization Services has increased over the past 5 fiscal years.
- During fiscal years 2014 through 2017, utilization of Northwood psychiatric/medication management services has remained relatively consistent.

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.

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 2018, West Virginia ranked worst of the 50 states in the number of poor mental health days in the past 30.
- In 2018, 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 Wetzel County.
- Adults in Brooke and Ohio Counties have the best ratings of poor or fair health, compared to other counties in the service area, and all counties in the service area are much better than West Virginia overall.
- Based on 2014 data, SAMHSA reported that, of the 50 states, West Virginia ranked in the top three for the highest percentage of persons with Any Mental Illness.
- Based on 2014 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 than the national rate.
- According to the American Foundation for Suicide Prevention, suicide is the 10th leading cause of death overall in West Virginia.
- Suicide is the second leading cause of death for individuals aged 15 to 34 in West Virginia.
- Brooke County has the highest rate of suicide deaths in the counties served and is higher than the overall state rate.
- 35% of the homeless population in West Virginia can be characterized as Seriously Mentally Ill and 33% as chronic substance abusers.

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.

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 equal to or higher than the state, which has by far the highest rate in the country for drug overdose deaths per capita. Local stakeholders reported in each of the focus groups and interviews that the abuse of opioids, specifically fentanyl is increasing, and the local system is struggling to provide access to needed services in our communities, as evidenced by the steady year over year increase in drug related hospitalizations and mortality over the past two decades.

Overall observations and findings from the data include:

- In 2016 Brooke, Marshall and Ohio Counties showed a slightly higher percentage of adult binge drinking compared to the WV state average while Hancock and Wetzel Counties showed percentages equal to that of the state overall.
- Alcohol use by individuals aged 12 and older and Alcohol Use Disorder has decreased in Region 1 (Brooke, Hancock, Marshall, Ohio, Wetzel Counties) between 2012 and 2016.
- Percentage of individuals aged 12 or older needing but not receiving treatment for alcohol use in the past year has increased in Region 1 between 2012 and 2016.
- Between 2013 and 2017 all counties in the service area except Hancock County recorded percentages higher than the state average for driving deaths with alcohol involvement. Brooke and Wetzel County had the highest percentages reported during this time.
- Each of the 5 counties in the service area recorded a lower percentage of cigarette use than the state overall average.
- Region 1 (Brooke, Hancock, Marshall, Ohio, Wetzel Counties) is similar to the West Virginia state average during this time period in use of marijuana, cocaine, and heroin.
- Non-medical use of pain relievers has decreased across the state and in Region 1 between 2010 and 2014.
- Individuals needing but not receiving treatment for illicit drug use in the past year has remained steady between 2010 and 2014 at around 2.3%. This is below the overall state average of 2.5%.
- Drug overdose death rates between 2015 and 2017 in Brooke, Ohio, Marshall, and Wetzel Counties were lower than the overall WV state death rate of 47 per 100,000 population. However, Hancock County was higher than the overall state rate during the same period at 50 deaths per 100,000 population.
- West Virginia had the highest overdose death rate per 100,000 population in 2017 at 57.8. The 5 states with the highest drug overdose death rates were in order West Virginia (57.8 per 100,000), Ohio (46.3 per 100,000), Pennsylvania (44.3 per 100,000), the District of Columbia (44.0 per 100,000), and Kentucky (37.2 per 100,000). 4 out of the top 5 states share a border with West Virginia.
- Synthetic opioids (other than methadone) are currently the main driver of drug overdose deaths. Opioids were involved in 47,600 overdose deaths in 2017 (67.8% of all drug overdose deaths).

Other Environmental Factors and Indicators Impacting Mental and Physical Health

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, breast cancer mortality rates have been declining.
- Colon cancer mortality rates in West Virginia and in each of the 5 service area counties exceed the national average but have been declining within the past 5 years.
- In 2018, West Virginia ranked eighth highest nationally in annual deaths due to cardiovascular disease.
- In 2017, West Virginia was ranked as the least healthy state with regard to hypertension in adults.
- Over 43% of West Virginia adults have been told by a health care professional that they have hypertension.
- In 2018, West Virginia continued to rank highest nationally in the percentage of adults with diabetes.
- West Virginia continues to have the highest drug overdose mortality rate in the nation.
- West Virginia's drug overdose death rate is more than triple the national average.
- In 2017, West Virginia ranked eighth highest of the 50 states in the number of opioid prescriptions written per 100 persons. This number has been trending downward since 2011.
- Hepatitis A is on the rise in West Virginia.
- West Virginia has the highest rate of Hepatitis B in the United States.
- In West Virginia, Hepatitis infection rates are 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.
- In 2018, West Virginia ranked eighth highest of the 50 states in the percentage of adults reporting physical inactivity.
- More than 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 34% for the percentage of children living in a single parent household. Brooke, Hancock, Ohio and Wetzel Counties exceed the State rate.

Action Plan

Northwood Health Systems completed its most recent Community Health Needs Assessment (CHNA) in May, 2019. 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 2019 Community Health Needs Assessment and Action Plan was presented and approved by the Northwood Health Systems Board of Directors on June 21, 2019. Following Board approval the 2019 Northwood Health Systems CHNA will be published and made widely available to the public.

Northwood
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History and Accomplishments

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 2018, Northwood provided $1,363,195 in free clinical services for patients who neither have health insurance nor meet Medicaid eligibility criteria. This high level of charity care equates to 5.8% of Northwood's patient service revenue, and 5.6% 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.

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 2018, Northwood made $2,574,036 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 $580,131 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 35 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 2018, Northwood spent $206,372 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 2018, Northwood paid $314,055 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 2018, Northwood provided more than $5 million in community benefits, which equates to 18.9% of our total revenue, and 21% of our total expenses. Northwood is not aware of any other non-profit health care provider that provided 18.9% of its total revenue or 21% of its total expenses in community benefits in fiscal year 2018.

Northwood has estimated that its federal and state income tax liability for fiscal year 2018 would have been $1,116,255 if Northwood had been a for-profit company. Whereas, the community benefit provided by Northwood for fiscal year 2018 was over $5 million. The community benefit provided by Northwood exceeded its federal and state income tax liability by more than $3 million or 357%!

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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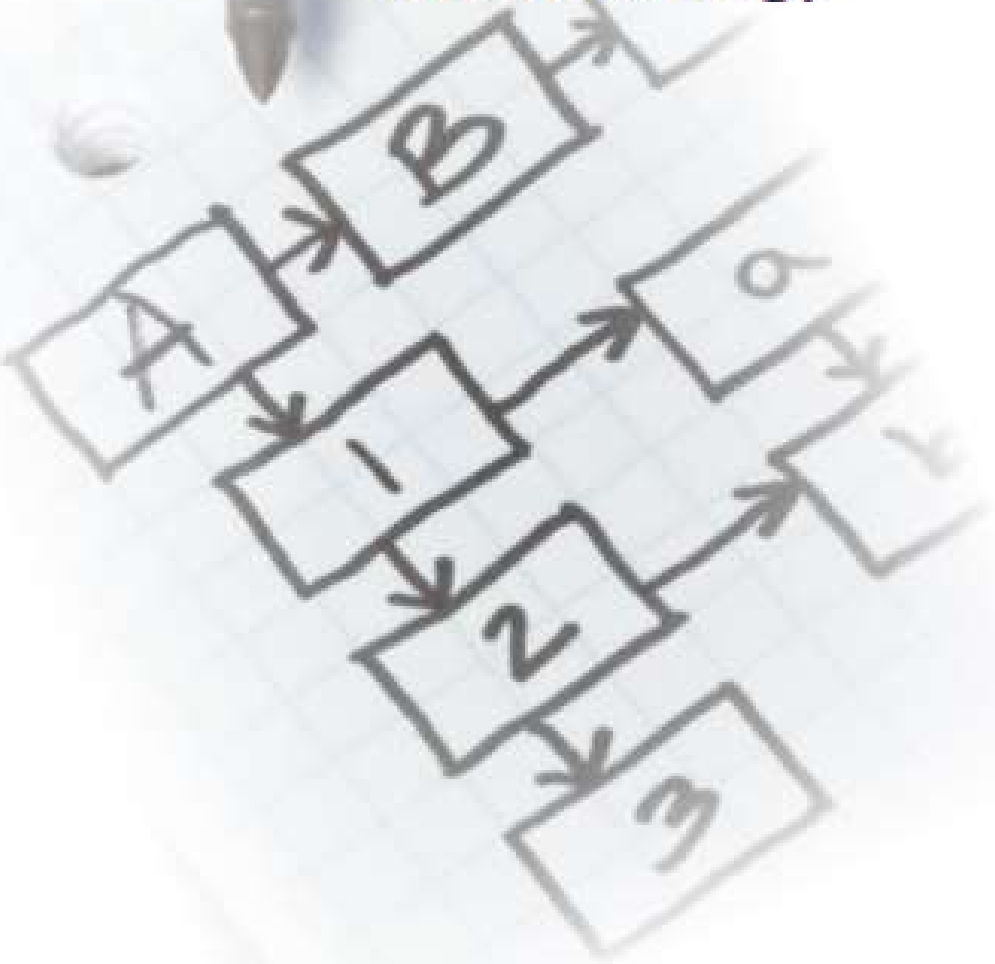
Methodology



Methodology

Community Health Needs Assessment and Planning Approach

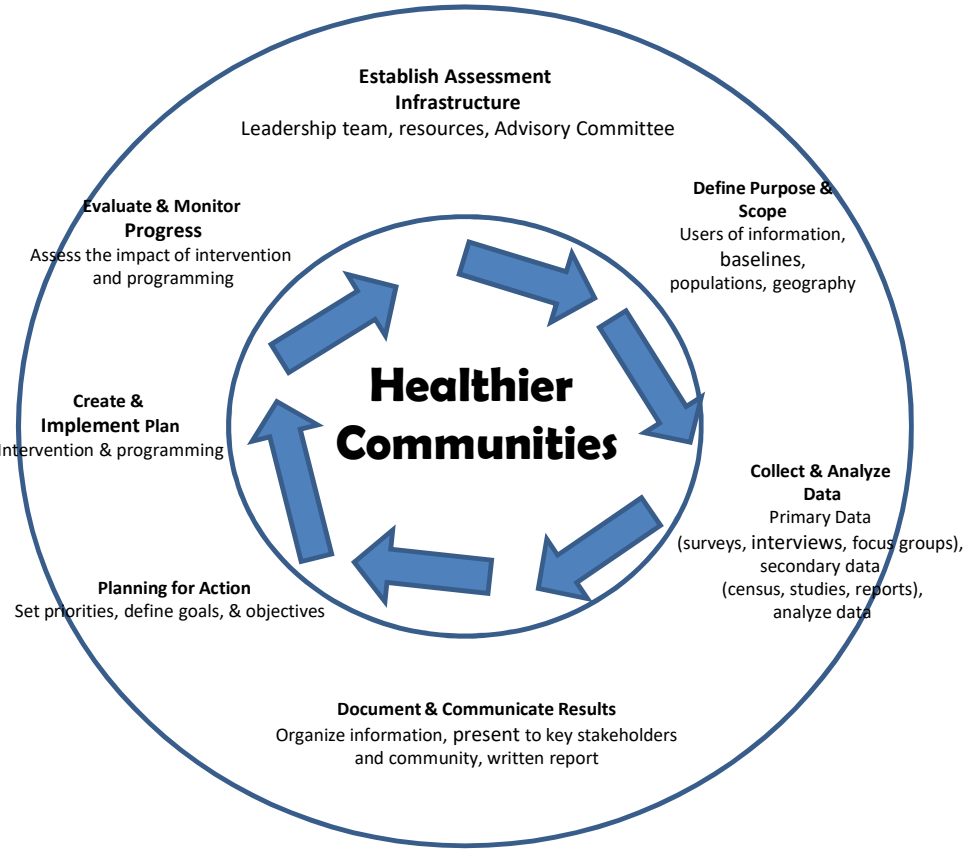
The process of completing the 2019 Northwood Health Systems Community Health Needs Assessment (CHNA) began in February 2019. The purpose of the study is to conduct a comprehensive assessment of the health status and healthcare access needs of residents living in the Northwood Health Systems Primary Service 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, intellectual/development disabilities, 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.

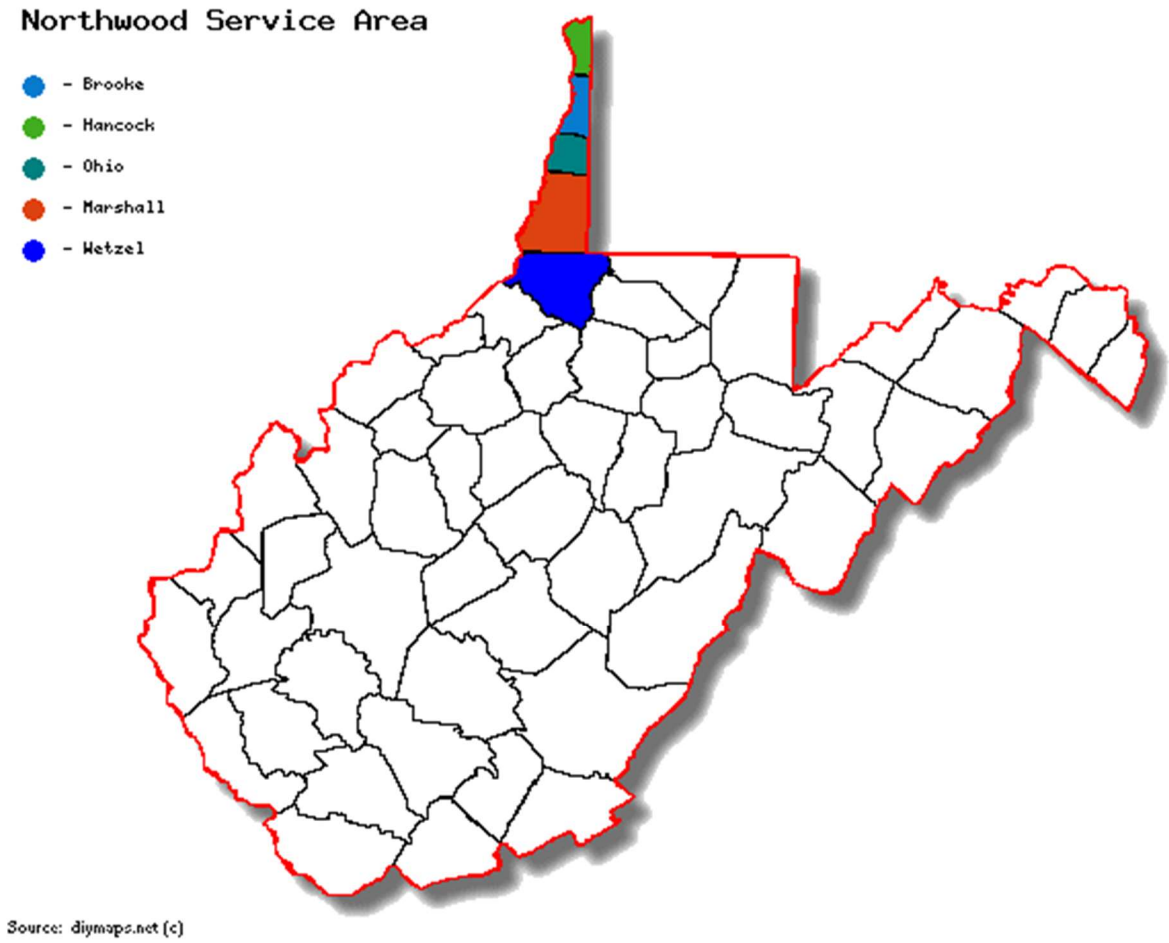
Table 2: Community Providers

Community Providers	
Brooke Hancock Family Resource Network	Sexual Assault Help Center
Catholic Charities Neighborhood Center	The Unity Center
Change Inc.	United Way of Upper Ohio Valley
A Child's Place CASA	Weirton Medical Center
City of Wheeling Economic Development Dept.	Wesbanco
Greater Wheeling Coalition for the Homeless	Wheeling Health Right
The Health Plan	Wheeling Police Department
Helping Heroes Inc.	WV Department of Health and Human Resources
House of Carpenter	WV Division of Rehabilitation Services
Miracles Happen	WVU Extension Service
NAMI of Greater Wheeling	WV Northern Community College
Ohio County Family Resource Network	Youth Services Systems
Ohio County Health Department	YWCA Wheeling
Oxford House WV/PA	

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 Glendale
	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:

- 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.
- 2016 West Virginia County Epidemiological Profiles (https://dhhr.wv.gov/bhhf/Pages/2016-County-Epidemiological-Profiles-.aspx)
- National Survey on Drug Use and Health (https://nsduhweb.rti.org/respweb/homepage.cfm)

The primary data collection process included:

- A total of 107 individual stakeholder interviews conducted electronic survey or 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 2 focus group sessions conducted, including 32 participants, to gather information directly from various groups that represent a particular interest group or area. Each of the 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 2 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
17	Brooke / Hancock County Family Resource Network	Aetna Better Health, WV Division of Rehabilitation Services, A Child's Place CASA, Weirton Medical Center, Oxford House, Youth Services Systems, Change Inc., Catholic Charities Neighborhood Center, WVU Extension Services	4/2/2019
15	Ohio County Family Resource Network	Sexual Assault Help Center, West Virginia Family Health Beacon, Aetna Better Health, Mission WV, WV Birth to Three, West Virginia Northern Community College, Change, Inc., United Way UOV, Youth Services Systems, Information Helpline, The Unity Center	3/26/2019

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
Lisa Werner	Wesbanco	Vice President	04/13/2019
Luanne Decker	Brooke County FRN	Executive Director	04/02/2019
Claudia Raymer	Ohio County FRN	Executive Director	03/26/2019
John Moses	Youth Services Systems	CEO	05/14/2019
Laura Weigel	YWCA	Director, WIND Program	05/15/2019
Michael Parker	WV DHHR	Economic Service Worker	05/15/2019
Howard Gamble	Ohio Co. Health Department	Administrator	05/15/2019
Carole Robison	Miracles Happen	Director	05/23/2019
Patricia Young	NAMI	Board Member	05/23/2019

Needs/Issues Prioritization Process

In May 2019 the Steering Committee reviewed the entire primary and secondary data collected through the needs assessment process and discussed 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 21, 2019.

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 (2.34%).

Table 6: Summary Demographic Data

		Brooke	Hancock	Marshall	Ohio	Wetzel
Total Population		23,067	29,921	32,006	42,906	15,793
Race	**White**	96.50%	95.40%	97.50%	93.20%	98.00%
	Black	1.70%	2.10%	1.00%	4.00%	0.60%
	Other	1.80%	2.5%	1.50%	2.80%	1.40%
Median Age		46.2	46.1	44.9	43.5	45.9
Gender	**Male**	48.9%	48.4%	49.3%	48.2%	48.8%
	Female	51.1%	51.6%	50.7%	51.8%	51.2%

Source: United States Census Bureau, 2013-2017 American Community Survey 5-Year Estimates

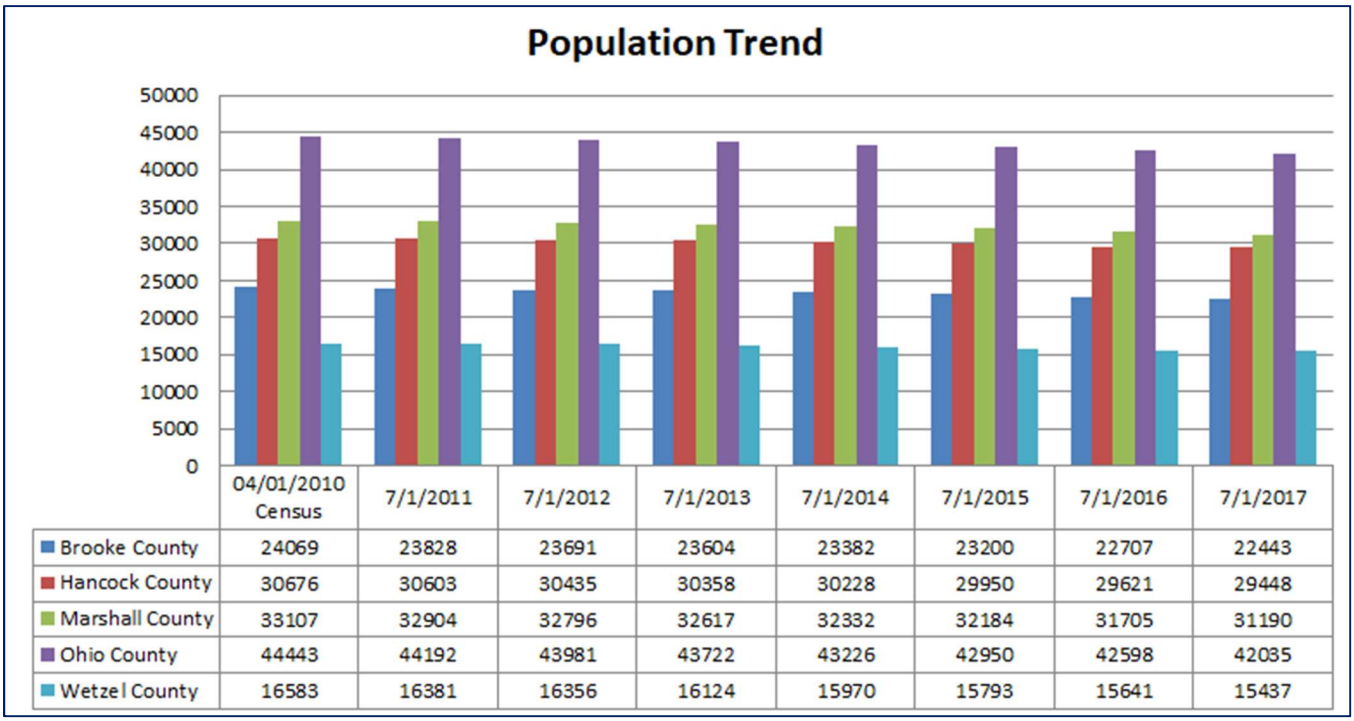
Table 7: Summary of Social and Economic Health Factors

	Brooke	Hancock	Marshall	Ohio	Wetzel
Unemployment Rate	3.5%	7.5%	5.9%	5.1%	6.7%
Median Household Income	$48,835	$43,634	$42,473	$45,777	$40,694
Income Below Poverty Level	13.0%	13.5%	15.2%	13.7%	23.2%
High School Graduate or Higher	90.7%	88.3%	90.3%	92.1%	83.4%
Commute Travel Time	26.1 min.	23.9 min.	25.0 min.	19.7 min.	26.9 min.

Source: United States Census Bureau, 2013-2017 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 from 2011 through 2017. On average, population declined 6.14% across the five counties, ranging from a high of 7.4% in Wetzel County to 4.17% in Hancock County.

Figure 4. Population Trend

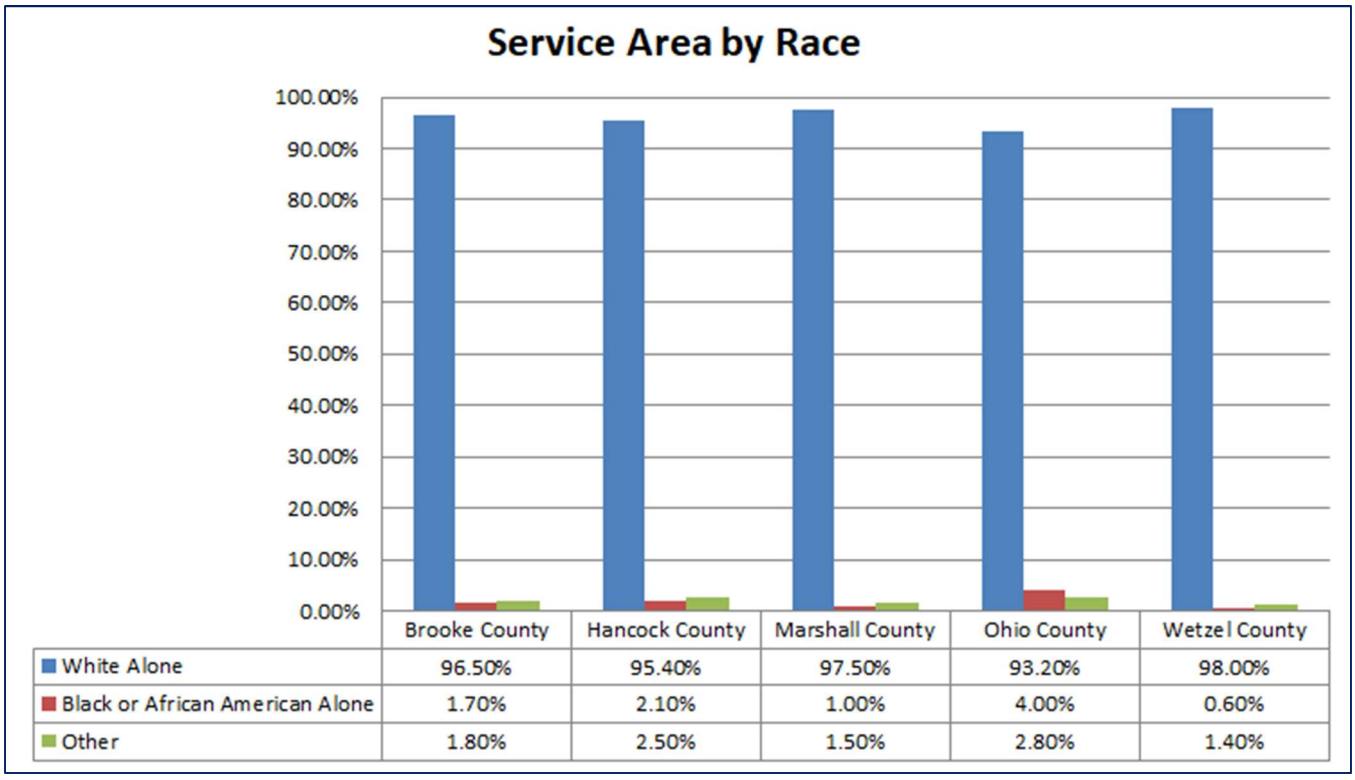


	04/01/2010 Census	7/1/2011	7/1/2012	7/1/2013	7/1/2014	7/1/2015	7/1/2016	7/1/2017
Brooke County	24069	23828	23691	23604	23382	23200	22707	22443
Hancock County	30676	30603	30435	30358	30228	29950	29621	29448
Marshall County	33107	32904	32796	32617	32332	32184	31705	31190
Ohio County	44443	44192	43981	43722	43226	42950	42598	42035
Wetzel County	16583	16381	16356	16124	15970	15793	15641	15437

Source: United States Census Bureau, Annual Estimates of the Resident Population: April 1, 2010 to July 1, 2017

Figure 5 illustrates the Service Area Population by Race. The majority of the population in Brooke (96.50%), Hancock (95.40%), Marshall (97.50%), Ohio (93.20%) and Wetzel (98.00%) Counties are 'White Alone'.

Figure 5. Service Area by Race

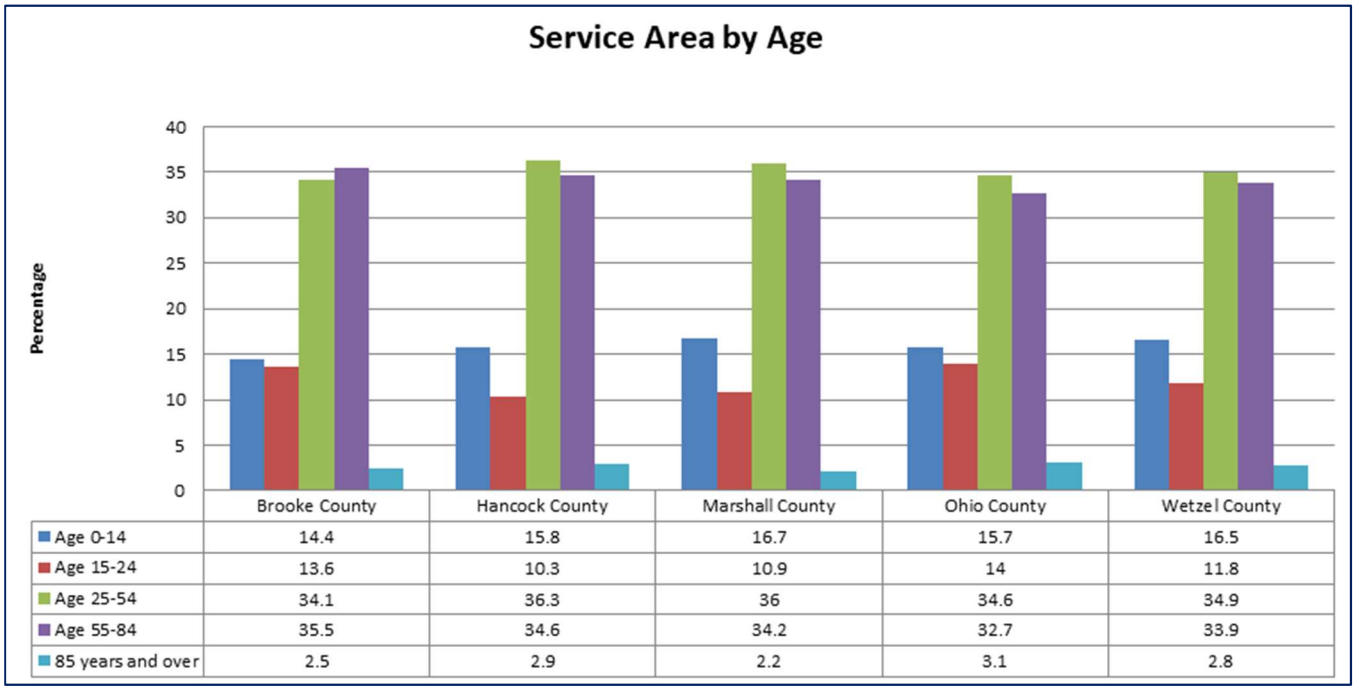


	Brooke County	Hancock County	Marshall County	Ohio County	Wetzel County
White Alone	96.50%	95.40%	97.50%	93.20%	98.00%
Black or African American Alone	1.70%	2.10%	1.00%	4.00%	0.60%
Other	1.80%	2.50%	1.50%	2.80%	1.40%

Source: United States Census Bureau, 2013-2017 American Community Survey 5-Year Estimates

Figure 6 illustrates the Service Area Population by Age. The highest percentage of residents in Hancock County (36.3%), Marshall County (36%), Ohio County (34.6%) and Wetzel County (34.9%) is between the ages of 25-54. Brooke County has a higher percentage of residents (35.5%) between the ages of 55 and 84 than the other counties. The lowest percentage of residents falls in the over 85 age range in all five counties.

Figure 6. Service Area by Age

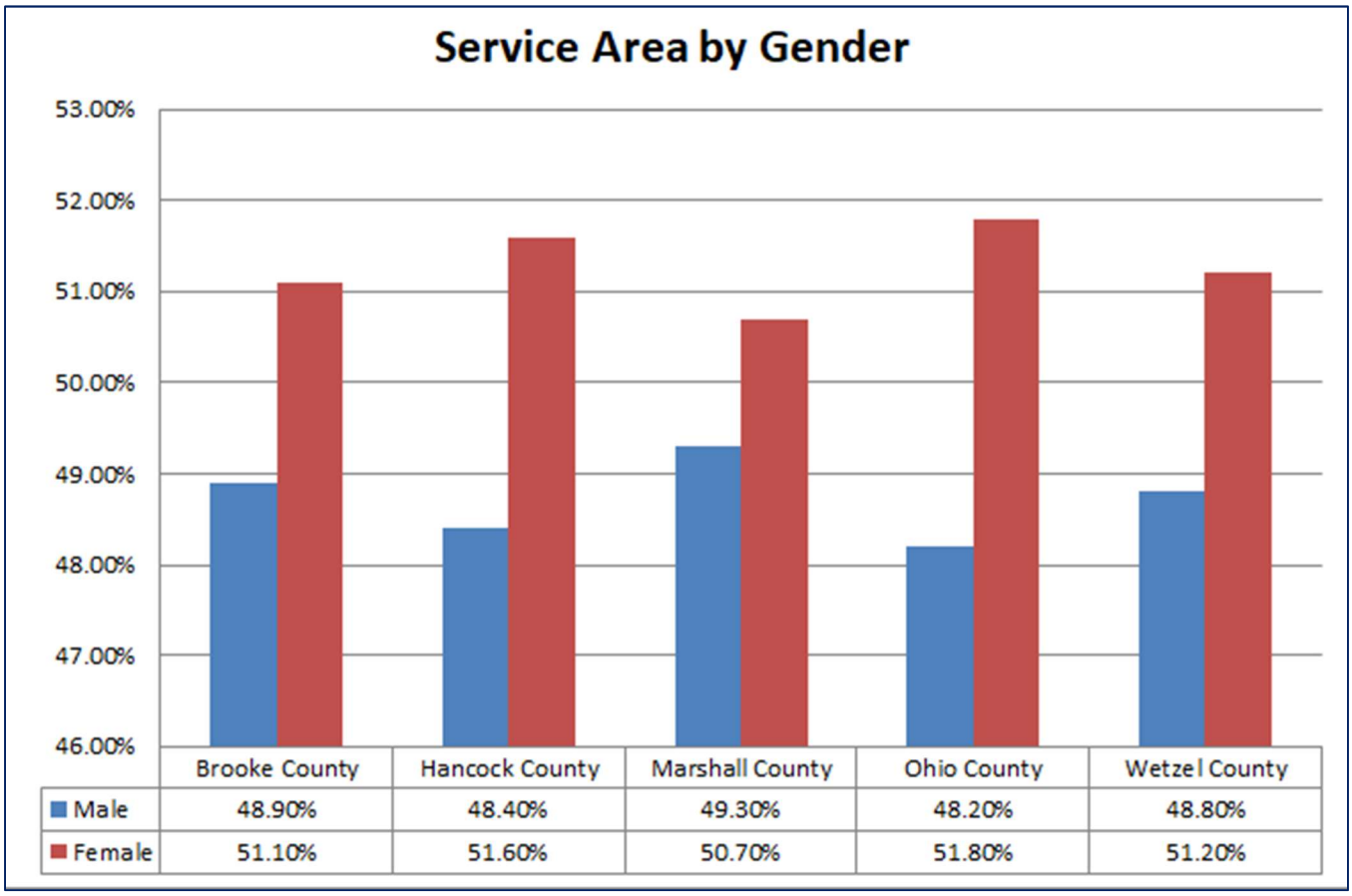


	Brooke County	Hancock County	Marshall County	Ohio County	Wetzel County
Age 0-14	14.4	15.8	16.7	15.7	16.5
Age 15-24	13.6	10.3	10.9	14	11.8
Age 25-54	34.1	36.3	36	34.6	34.9
Age 55-84	35.5	34.6	34.2	32.7	33.9
85 years and over	2.5	2.9	2.2	3.1	2.8

Source: United States Census Bureau, 2013-2017 American Community Survey 5-Year Estimates

Figure 7 illustrates Population by Gender in the five county service area. All five Counties have a higher Female Population than male; Brooke (51.1%), Hancock (51.6%), Marshall (50.7%), Ohio (51.8%) and Wetzel (51.2%).

Figure 7. Service Area by Gender

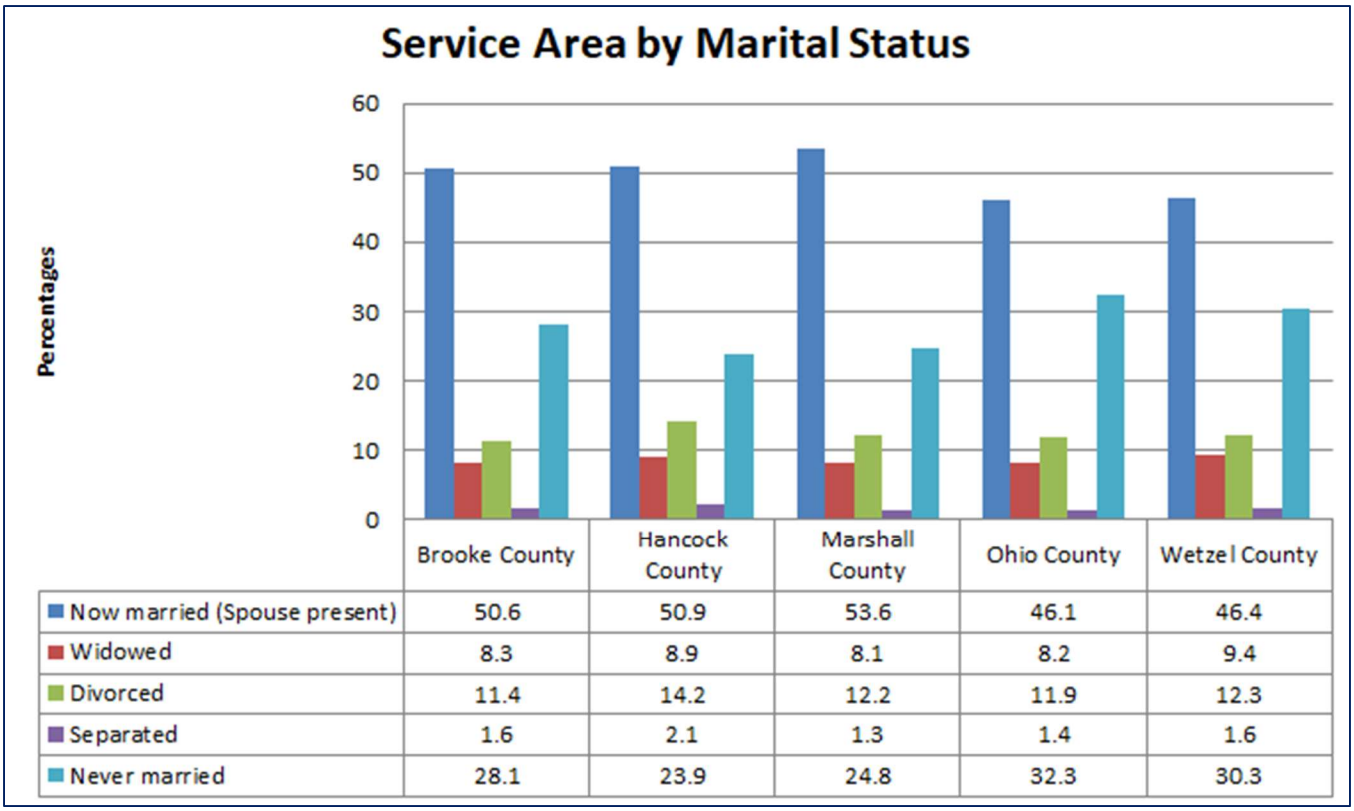


	Brooke County	Hancock County	Marshall County	Ohio County	Wetzel County
Male	48.90%	48.40%	49.30%	48.20%	48.80%
Female	51.10%	51.60%	50.70%	51.80%	51.20%

Source: United States Census Bureau, 2013-2017 American Community Survey 5-Year Estimates

Figure 8 illustrates the Service Area Population by Marital Status. The majority of residents in Brooke (50.6%), Hancock (50.9%), Marshall (53.6%) are Married with Spouse Present. Less than half the residents of Ohio (46.1%) and Wetzel (46.4%) are Married with Spouse Present. Ohio County has the highest percentage (32.3%) of residents Never Married.

Figure 8. Service Area by Marital Status

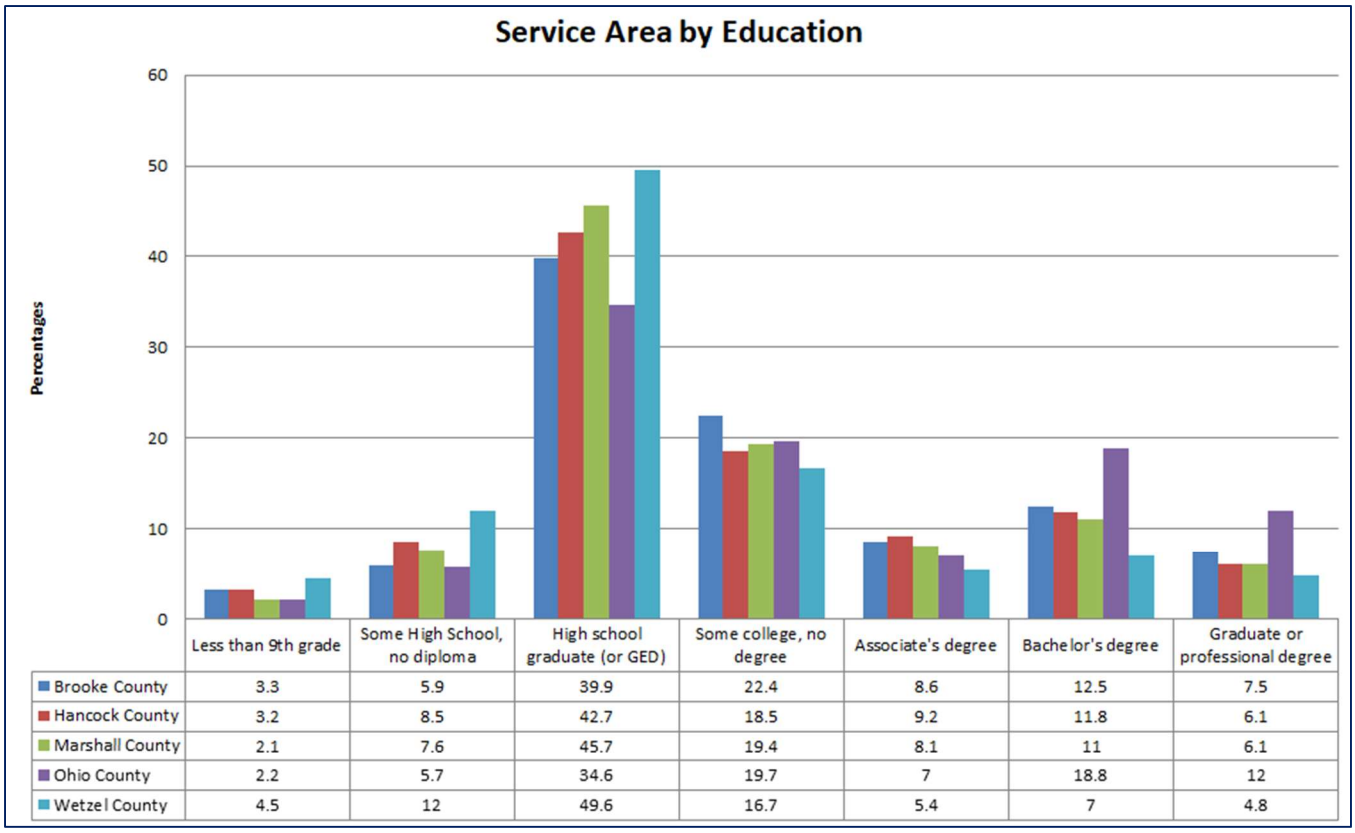


	Brooke County	Hancock County	Marshall County	Ohio County	Wetzel County
Now married (Spouse present)	50.6	50.9	53.6	46.1	46.4
Widowed	8.3	8.9	8.1	8.2	9.4
Divorced	11.4	14.2	12.2	11.9	12.3
Separated	1.6	2.1	1.3	1.4	1.6
Never married	28.1	23.9	24.8	32.3	30.3

Source: United States Census Bureau, 2013-2017 American Community Survey 5-Year Estimates

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 (39.9%), Hancock County (42.7%), Marshall County (45.7%), Ohio County (34.6%), and Wetzel County (49.6%). In Ohio County, 57.5% of residents have education beyond high school. In Wetzel County, 16.5% of residents have less than a high school education.

Figure 9. Service Area by Education

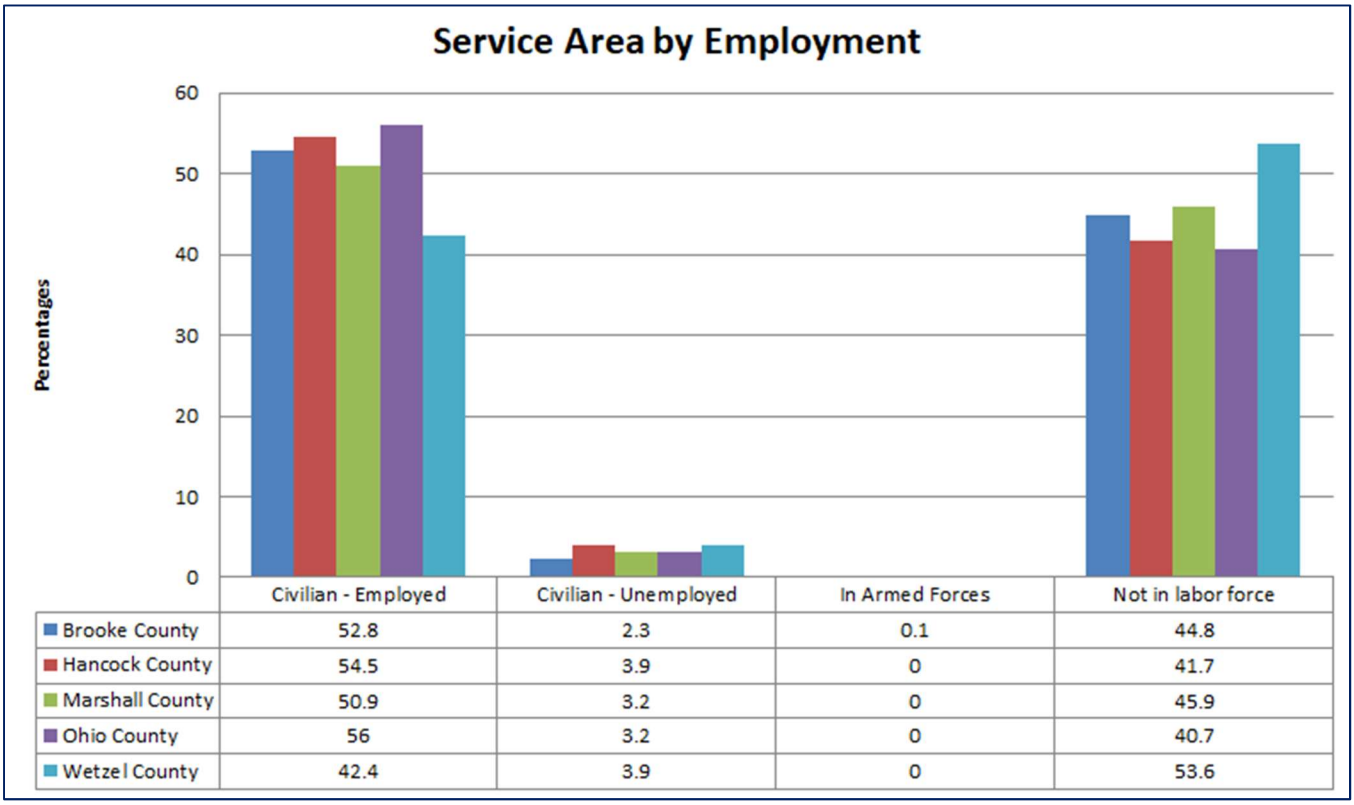


	Less than 9th grade	Some High School, no diploma	High school graduate (or GED)	Some college, no degree	Associate's degree	Bachelor's degree	Graduate or professional degree
Brooke County	3.3	5.9	39.9	22.4	8.6	12.5	7.5
Hancock County	3.2	8.5	42.7	18.5	9.2	11.8	6.1
Marshall County	2.1	7.6	45.7	19.4	8.1	11	6.1
Ohio County	2.2	5.7	34.6	19.7	7	18.8	12
Wetzel County	4.5	12	49.6	16.7	5.4	7	4.8

Source: United States Census Bureau, 2013-2017 American Community Survey 5-Year Estimates

Figure 10 illustrates Service Area Population by Employment. The majority of residents in Brooke, Hancock, Marshall and Ohio Counties are Civilian – Employed with 52.8%, 54.5%, 50.9% and 56% of residents in each of these counties respectively in the Workforce. The highest percentage of residents in Wetzel County, 53.6%, is Not in Labor Force.

Figure 10. Service Area by Employment

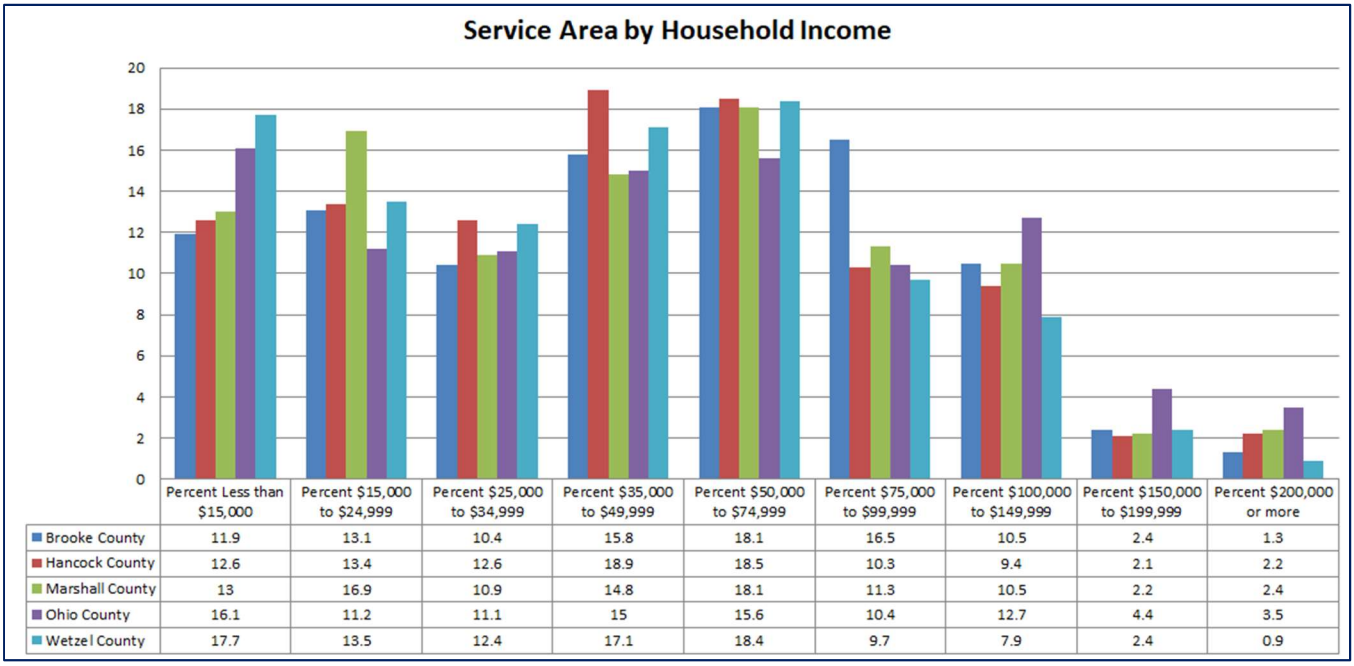


	Civilian - Employed	Civilian - Unemployed	In Armed Forces	Not in labor force
Brooke County	52.8	2.3	0.1	44.8
Hancock County	54.5	3.9	0	41.7
Marshall County	50.9	3.2	0	45.9
Ohio County	56	3.2	0	40.7
Wetzel County	42.4	3.9	0	53.6

Source: United States Census Bureau, 2013-2017 American Community Survey 5-Year Estimates

Figure 11 illustrates Service Area by Household Income. The highest percentage of households in Ohio County (16.1%) make less than $15,000 a year. Brooke, Marshall and Wetzel Counties have higher percentages in the 50,000 to $75,000 income range, while Hancock County has its highest percentage in the $35,000 to $50,000 income range.

Figure 11. Service Area by Income

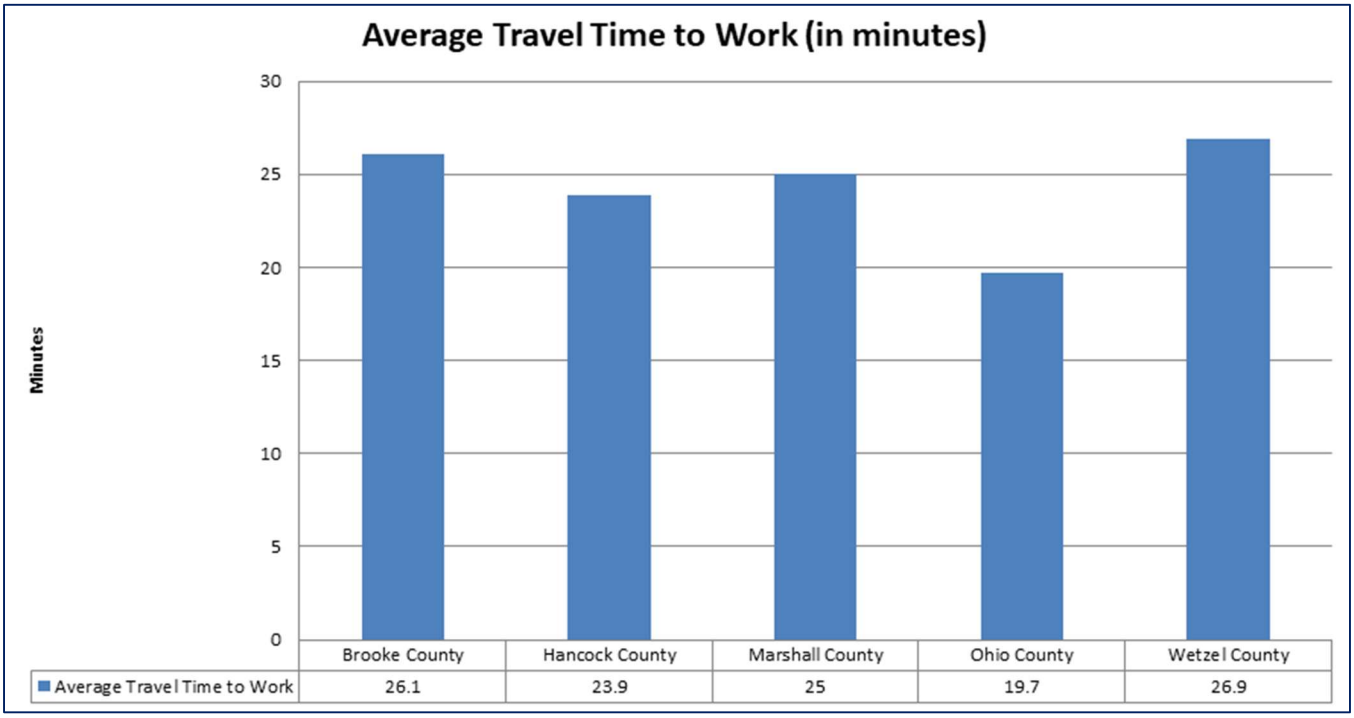


	Percent Less than $15,000	Percent $15,000 to $24,999	Percent $25,000 to $34,999	Percent $35,000 to $49,999	Percent $50,000 to $74,999	Percent $75,000 to $99,999	Percent $100,000 to $149,999	Percent $150,000 to $199,999	Percent $200,000 or more
Brooke County	11.9	13.1	10.4	15.8	18.1	16.5	10.5	2.4	1.3
Hancock County	12.6	13.4	12.6	18.9	18.5	10.3	9.4	2.1	2.2
Marshall County	13	16.9	10.9	14.8	18.1	11.3	10.5	2.2	2.4
Ohio County	16.1	11.2	11.1	15	15.6	10.4	12.7	4.4	3.5
Wetzel County	17.7	13.5	12.4	17.1	18.4	9.7	7.9	2.4	0.9

Source: United States Census Bureau, 2013-2017 American Community Survey 5-Year Estimates

Figure 12 illustrates the Travel Time to Work by residents in Brooke, Hancock, Marshall, Ohio and Wetzel Counties. The average time it takes residents to get to work in Brooke County is 26.1 minutes, Hancock County is 23.9 minutes, Marshall is 25 minutes, and it takes residents in Ohio County an average of 19.7 minutes. Wetzel County residents commute an average of 26.9 minutes to work daily.

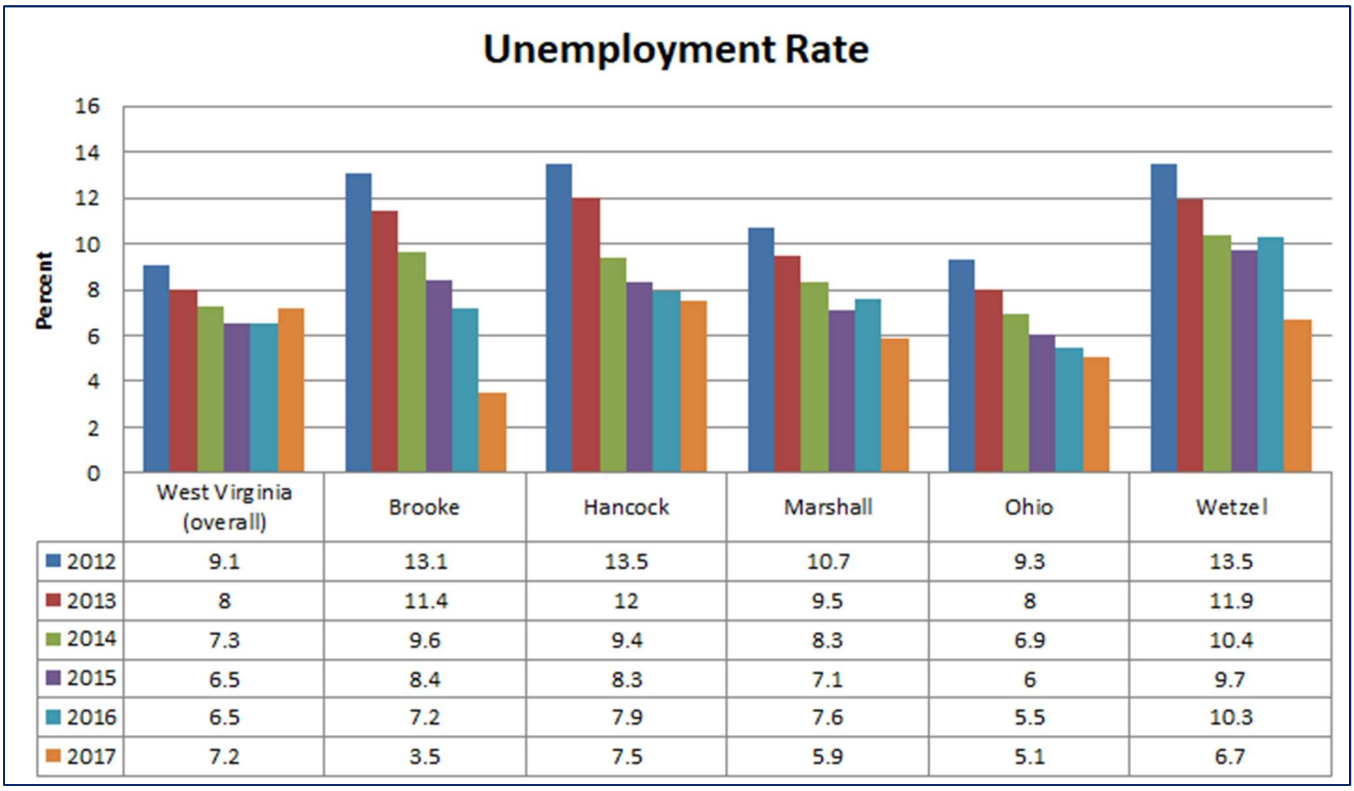
Figure 12. Service Area Average Travel Time to Work (In Minutes)



Source: United States Census Bureau, 2013-2017 American Community Survey 5-Year Estimates

Figure 13 illustrates unemployment rates in West Virginia and the service area counties from 2012 to 2017. The unemployment rate in all of the service area counties has decreased from 2012 to 2017. 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, Hancock County has the highest rate at 7.5% and is above the West Virginia (overall) rate (7.2%). Brooke, Marshall, Ohio and Wetzel Counties are all below the overall West Virginia rate.

Figure 13. Unemployment Rate

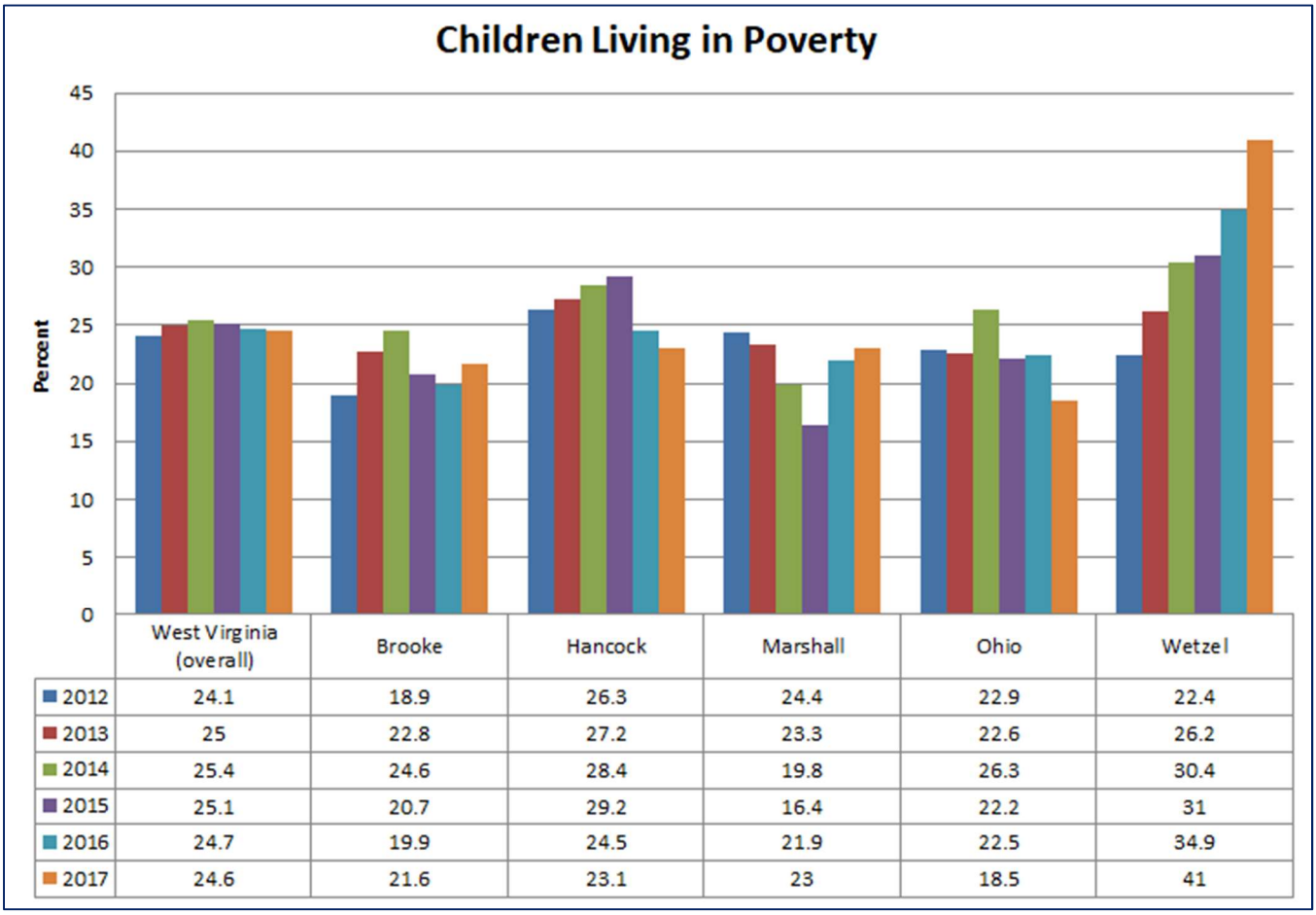


	West Virginia (overall)	Brooke	Hancock	Marshall	Ohio	Wetzel
2012	9.1	13.1	13.5	10.7	9.3	13.5
2013	8	11.4	12	9.5	8	11.9
2014	7.3	9.6	9.4	8.3	6.9	10.4
2015	6.5	8.4	8.3	7.1	6	9.7
2016	6.5	7.2	7.9	7.6	5.5	10.3
2017	7.2	3.5	7.5	5.9	5.1	6.7

Source: United States Census Bureau, 2013-2017 American Community Survey 5-Year Estimates

Figure 14 illustrates the percentage of children living in poverty in West Virginia (overall), and in Brooke, Hancock, Marshall, Ohio and Wetzel counties from 2012-2017. The percentage of children below poverty level in West Virginia (overall) has remained relatively stable. Hancock and Ohio Counties have shown decreases. Wetzel County has had an 18.6% increase of children living in poverty from 2012 to 2017, moving from a 22.4% rate in 2012 to 41% in 2017. In Wetzel County, overall population decreased during the comparison period while the total number of children below the poverty level increased. By far, the highest percent of children in poverty reside in Wetzel County (41%), followed by Hancock County, with 23.1%, Marshall County (23%), Brooke County (21.6%), and Ohio County (18.5%).

Figure 14. Percentage of Children Living in Poverty

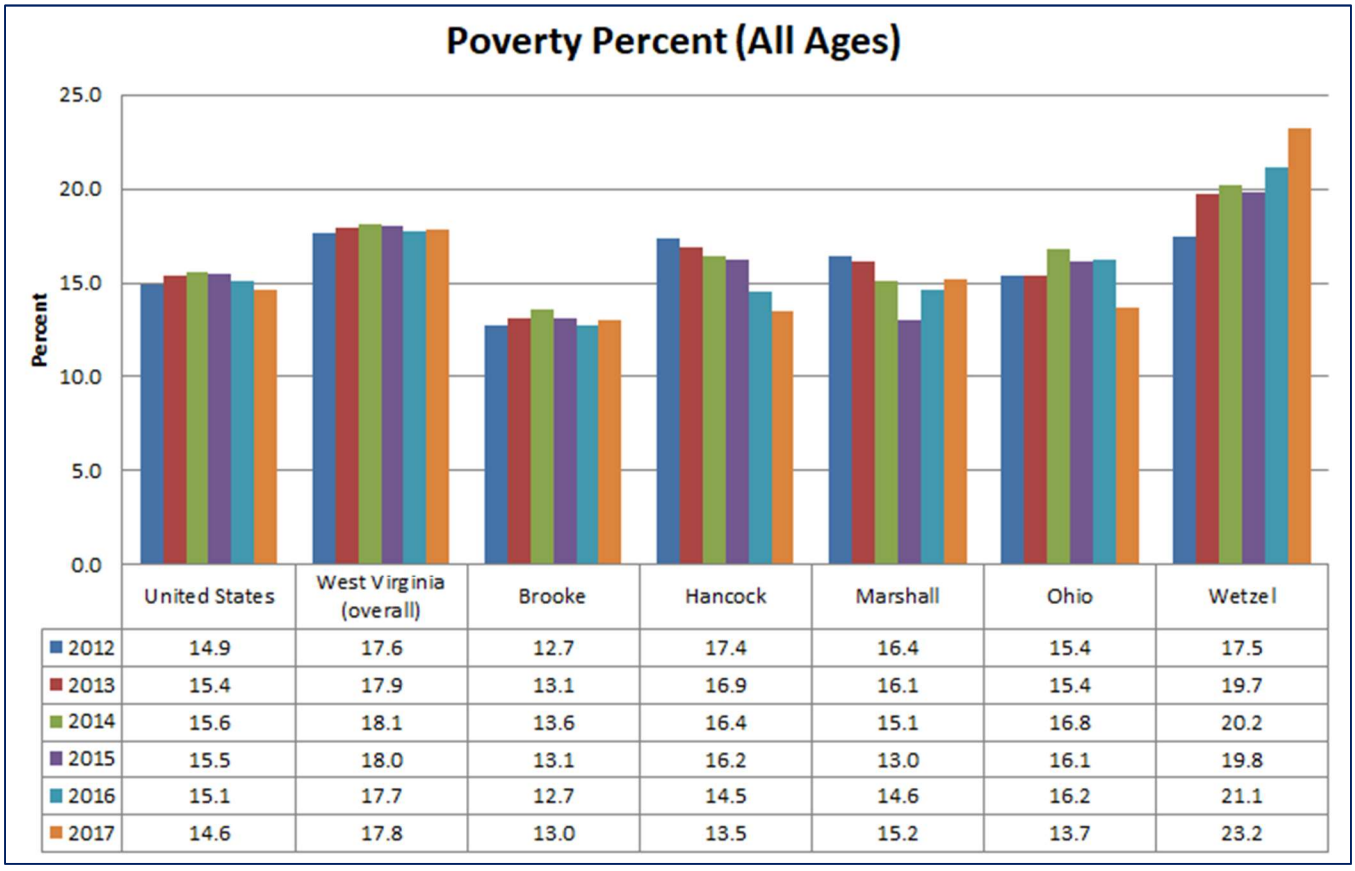


	West Virginia (overall)	Brooke	Hancock	Marshall	Ohio	Wetzel
2012	24.1	18.9	26.3	24.4	22.9	22.4
2013	25	22.8	27.2	23.3	22.6	26.2
2014	25.4	24.6	28.4	19.8	26.3	30.4
2015	25.1	20.7	29.2	16.4	22.2	31
2016	24.7	19.9	24.5	21.9	22.5	34.9
2017	24.6	21.6	23.1	23	18.5	41

Source: United States Census Bureau, 2013-2017 American Community Survey 5-Year Estimates

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 2012 through 2017. Within the area served, Wetzel and Marshall Counties have the highest percentage of residents living in poverty in 2017, with rates of 23.2% and 15.2% respectively, both of which are above the US rate of 14.6%. Brooke, Hancock and Ohio Counties are all below the US and State overall rates in 2017. The rate of poverty in Wetzel County has steadily 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

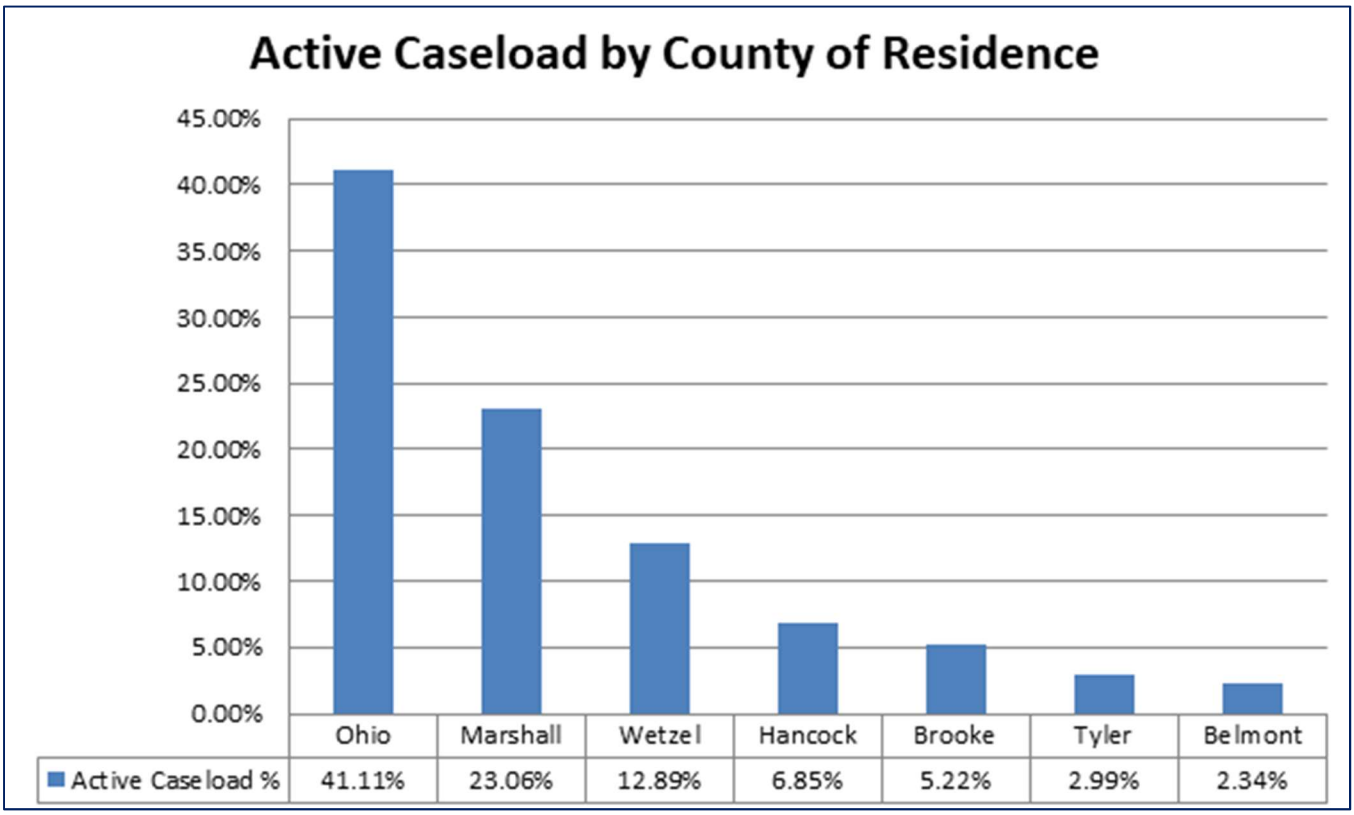


	United States	West Virginia (overall)	Brooke	Hancock	Marshall	Ohio	Wetzel
2012	14.9	17.6	12.7	17.4	16.4	15.4	17.5
2013	15.4	17.9	13.1	16.9	16.1	15.4	19.7
2014	15.6	18.1	13.6	16.4	15.1	16.8	20.2
2015	15.5	18.0	13.1	16.2	13.0	16.1	19.8
2016	15.1	17.7	12.7	14.5	14.6	16.2	21.1
2017	14.6	17.8	13.0	13.5	15.2	13.7	23.2

Source: United States Census Bureau, 2013-2017 American Community Survey 5-Year Estimates

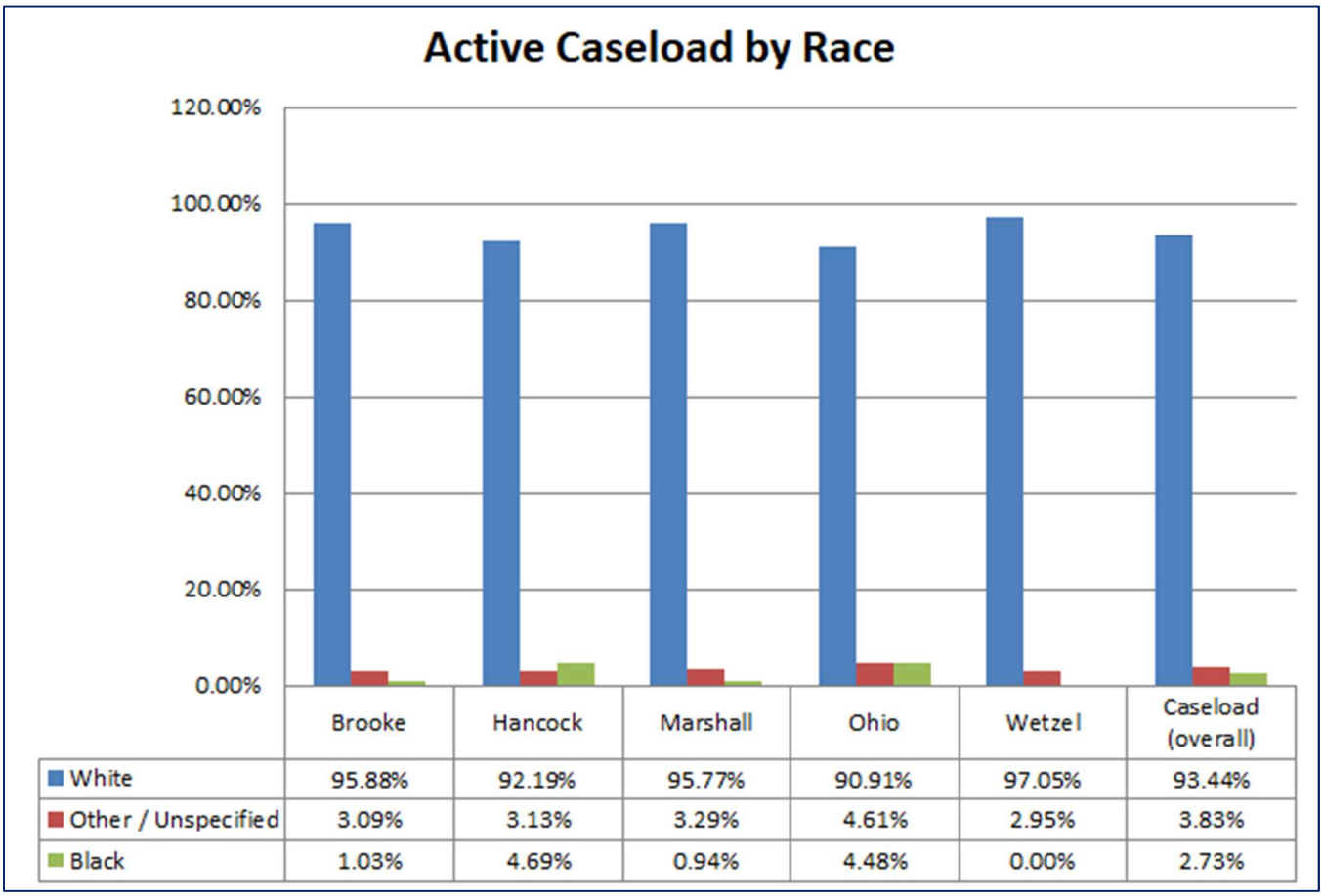
The following tables show demographic information for Northwood's active caseload in contrast to the larger service area.

Figure 16. Active Caseload by County of Residence



Source: Northwood Health Systems

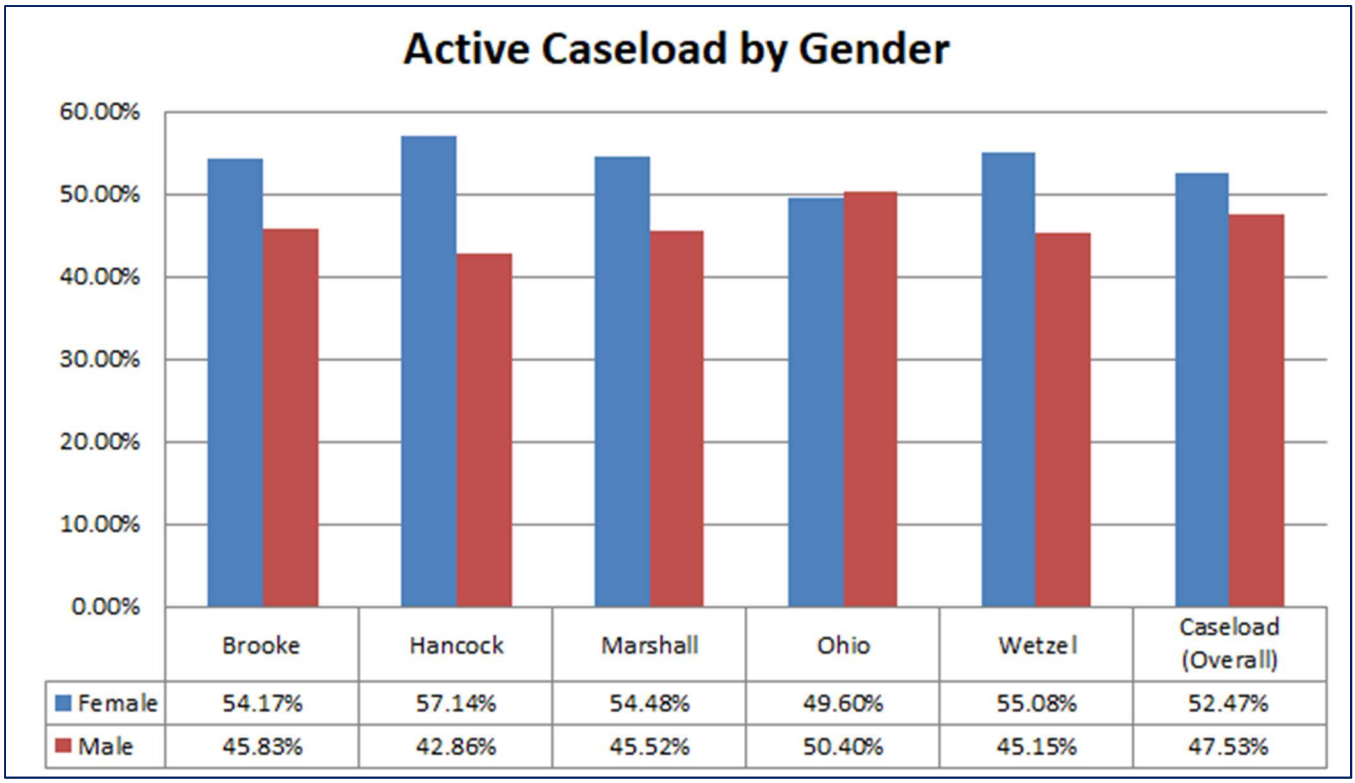
Figure 17. Active Caseload by Race



	Brooke	Hancock	Marshall	Ohio	Wetzel	Caseload (overall)
White	95.88%	92.19%	95.77%	90.91%	97.05%	93.44%
Other / Unspecified	3.09%	3.13%	3.29%	4.61%	2.95%	3.83%
Black	1.03%	4.69%	0.94%	4.48%	0.00%	2.73%

Source: Northwood Health Systems

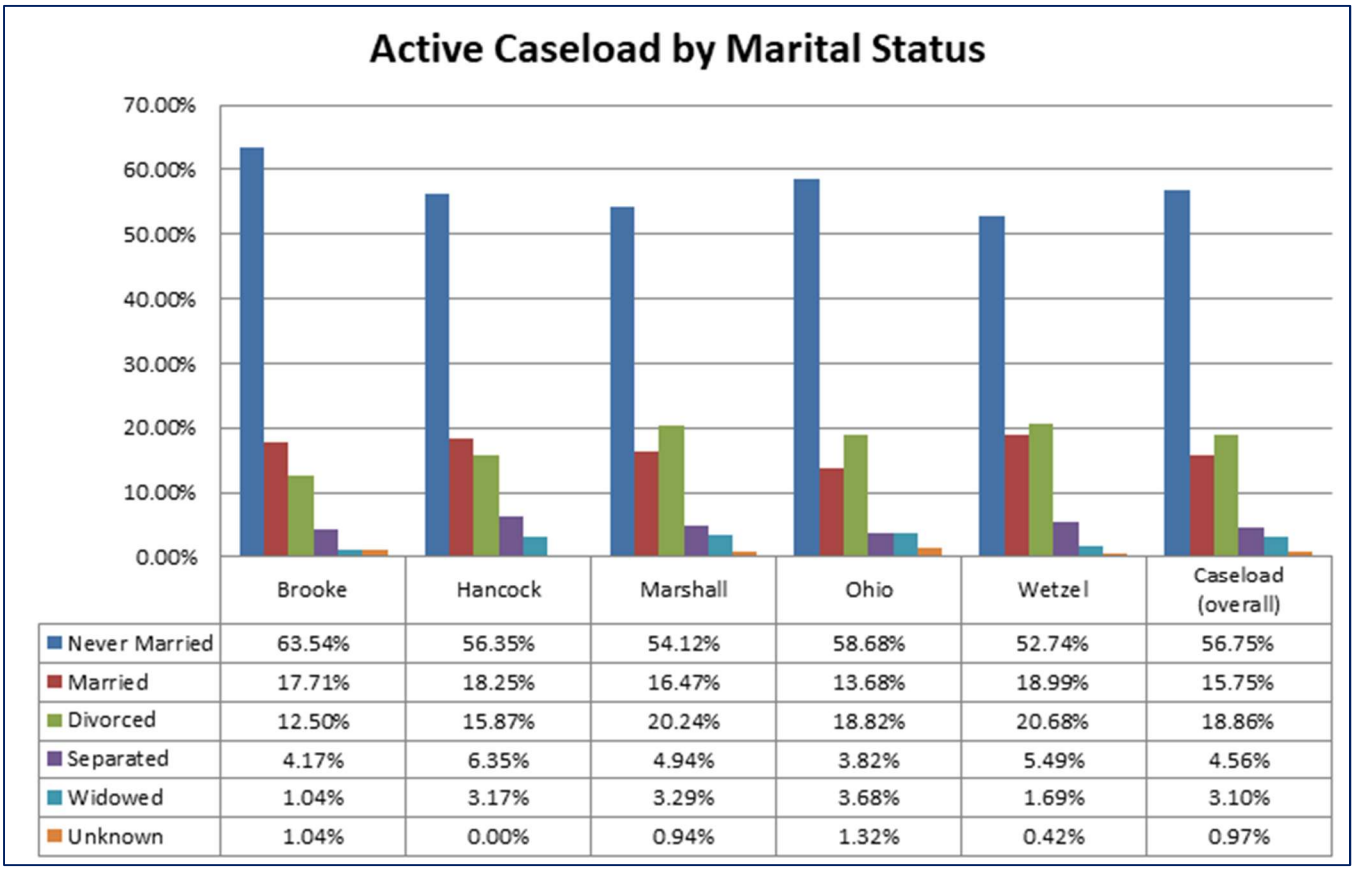
Figure 18. Active Caseload by Gender



	Brooke	Hancock	Marshall	Ohio	Wetzel	Caseload (Overall)
Female	54.17%	57.14%	54.48%	49.60%	55.08%	52.47%
Male	45.83%	42.86%	45.52%	50.40%	45.15%	47.53%

Source: Northwood Health Systems

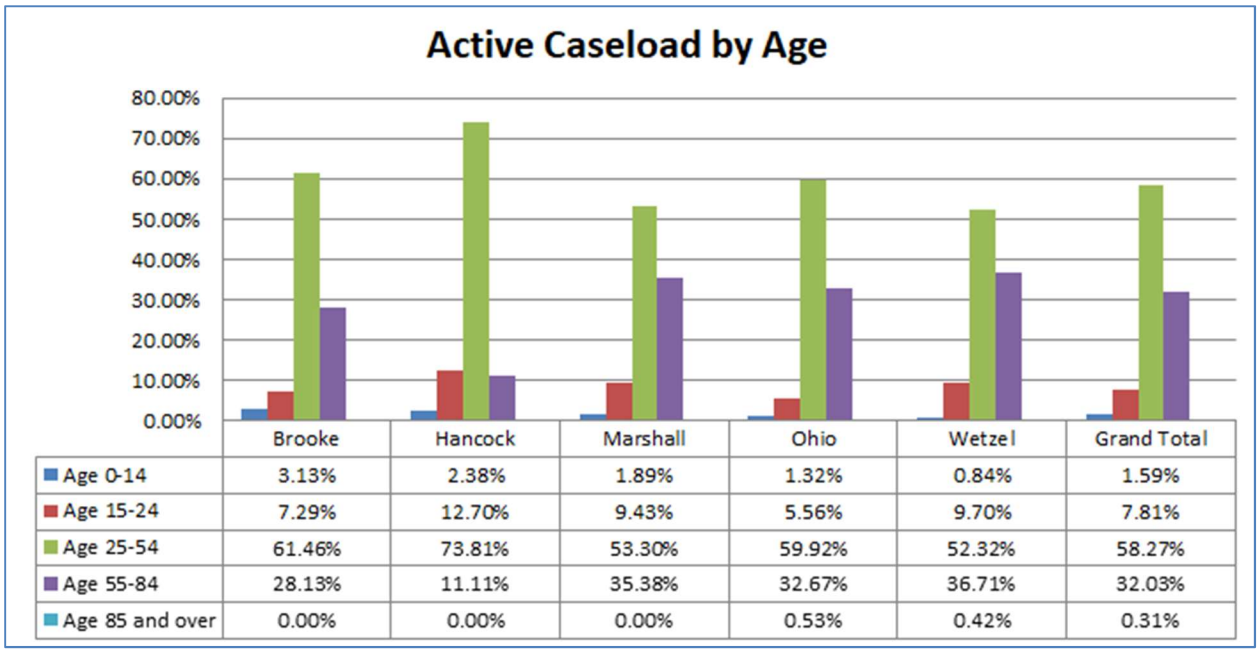
Figure 19. Active Caseload by Marital Status



	Brooke	Hancock	Marshall	Ohio	Wetzel	Caseload (overall)
Never Married	63.54%	56.35%	54.12%	58.68%	52.74%	56.75%
Married	17.71%	18.25%	16.47%	13.68%	18.99%	15.75%
Divorced	12.50%	15.87%	20.24%	18.82%	20.68%	18.86%
Separated	4.17%	6.35%	4.94%	3.82%	5.49%	4.56%
Widowed	1.04%	3.17%	3.29%	3.68%	1.69%	3.10%
Unknown	1.04%	0.00%	0.94%	1.32%	0.42%	0.97%

Source: Northwood Health Systems

Figure 20. Active Caseload by Age



	Brooke	Hancock	Marshall	Ohio	Wetzel	Grand Total
Age 0-14	3.13%	2.38%	1.89%	1.32%	0.84%	1.59%
Age 15-24	7.29%	12.70%	9.43%	5.56%	9.70%	7.81%
Age 25-54	61.46%	73.81%	53.30%	59.92%	52.32%	58.27%
Age 55-84	28.13%	11.11%	35.38%	32.67%	36.71%	32.03%
Age 85 and over	0.00%	0.00%	0.00%	0.53%	0.42%	0.31%

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:

- Brooke and Wetzel Counties experienced population declines of more than 6% since the 2010 census. Hancock, Marshall and Ohio counties showed declines of 4%, 5.7%, and 5.4% respectively.
- While 'White alone' makes up 72% of the United States population based on the 2010 census, more than 96% of the service area population is 'White alone'. In Wetzel County, fully 98% of residents are white.
- More than 70% of the service area population is over 24 years of age.
- Females outnumber males in the service area by 2 %.
- In Brooke, Hancock and Marshall Counties, more than half of the residents are currently married. Ohio and Wetzel Counties have 46.1% and 46.4% of residents now married.
- Most residents in the service area have a high school diploma or equivalent. Wetzel County has the highest number of residents (16.5%) who have less than a high school education. Ohio County has by far the highest percentage of individuals who have completed a college or professional degree.
- Over the past 6 years, unemployment within the service area has declined, with rates in Brooke and Wetzel Counties down more than 50% in the period. Within the service area, the unemployment rate is highest in Hancock County (7.5%).
- Within the service area, poverty rates in Marshall County (15.2%) and Wetzel County (23.2%) both exceed the United States (14.6%) rate. While the poverty rate has declined across all other counties in the service area, the poverty rate in Wetzel County has increased by nearly 6%.
- Active Northwood caseloads are highest for Ohio (41.11%) and Marshall (23.06%) Counties which is consistent with these counties having the highest populations in the service area.
- Although individuals living in Brooke and Hancock Counties respectively make up 16.0% and 20.8% of Northwood's service area population, active client caseloads from Brooke (5.22%) and Hancock (6.85%) counties are much lower.
- The percentage of active Northwood cases who are female exceeds those who are male by nearly 5% overall. In Hancock County female cases outnumber males by nearly 15%. Ohio County is the exception, where males outnumber females by 50.4% to 49.6%.

- Active Northwood cases report a much higher rate (56.75%) of being never married than that of the general service area (between 23.9% and 30.3%).
- Active Northwood cases have a much higher percentage of individuals age 25-54 (58.27%) than the population of the general service area (ranging from 34.1% to 36.3%).

Community Assets

The chart on the following page in **Table 8** identifies a full inventory of community assets and resources for the Northwood Health Systems 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	2200 Main Street	Wheeling	WV	26003
United Way of the Upper Ohio Valley	1307 Chapline 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**
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	431 Fulton Street	Wheeling	WV	26003
Substance Abuse	**Address**	**City**	**State**	**Zip**
Healthways, Inc.	501 Colliers Way	Weirton	WV	26062
Hillcrest Behavioral Health Services	2101 Jacob Street	Wheeling	WV	26003
Lazarus House	95 N. 11th Street	Wheeling	WV	26003
Miracles Happen	201 Edgington Lane	Wheeling	WV	26003
Miracles Blossom	2 Church Street	Beech Bottom	WV	26030
ROOTS in Harmony	1100 Main Street	Wheeling	WV	26003
Serenity Hills Life Center	667 Stone Shannon Rd.	Wheeling	WV	26003
Wheeling Treatment Center	40 Orrs Lane	Triadelphia	WV	26059
Youth Services System, Inc.	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

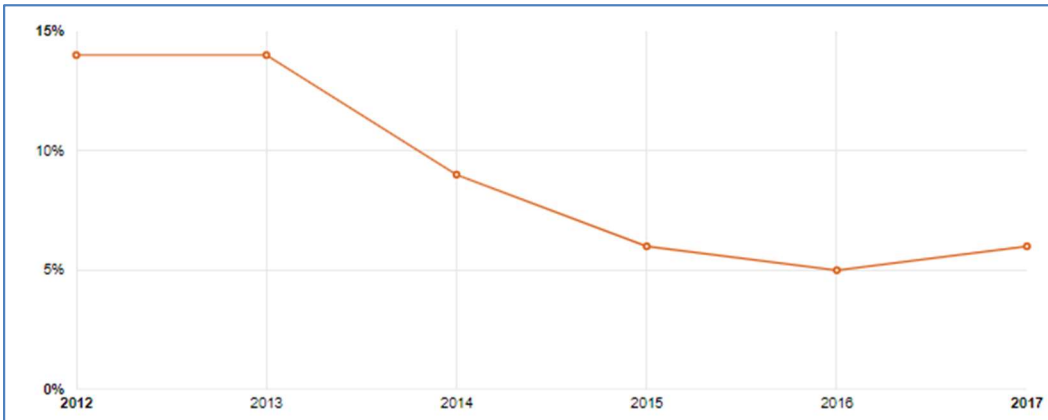
According to the U. S. Department of Health and Human Services, Office of Disease Prevention and Health Promotion (ODPHP), a person's ability to access health services has a profound effect on every aspect of his or her health. Components that comprise access to care include factors such as coverage,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

Coverage

People without health 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.

Health care coverage in West Virginia has improved dramatically since 2012. **Figure 21** below shows a steep decline in the percentage of West Virginia residents who lacked health insurance, moving from 14% in 2012 down to 6% in 2017.

Figure 21. Change in Percentage of West Virginia Residents Who Lacked Health Insurance



Location	2012 Uninsured	2013 Uninsured	2014 Uninsured	2015 Uninsured	2016 Uninsured	2017 Uninsured
West Virginia	14%	14%	9%	6%	5%	6%

Data Source: Kaiser Family Foundation analysis of CDC (BRFSS) 2013-2017 Survey Results.

Figure 22. Medicaid Coverage in West Virginia

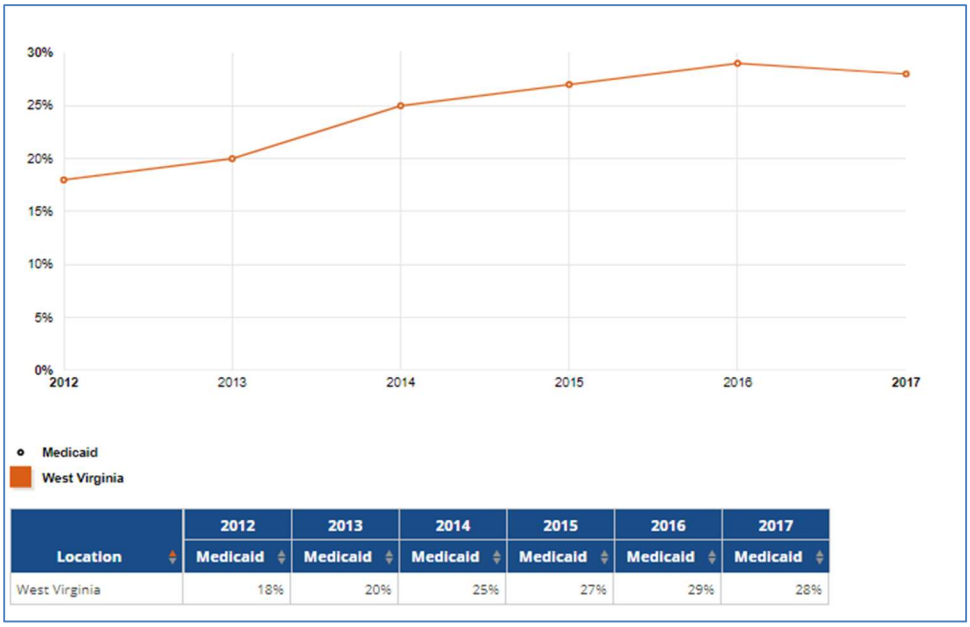
Figure 22 below shows a corresponding increase in Medicaid coverage for West Virginia residents. These changes are due to implementation of the Affordable Care Act and West Virginia's associated expansion of Medicaid coverage.

Over 564,000 people in West Virginia are covered by Medicaid (29% of the population), making West Virginia the state with the highest share of its population enrolled in Medicaid. Three-fourths (74%) of enrollees are children and adults. 87,200 (22%) of West Virginia's Medicare enrollees are also covered by Medicaid.

53% of all children in West Virginia are covered by Medicaid, including 56% of children with special health care needs.

West Virginia has the second lowest per capita income in the country and therefore one of the highest federal Medicaid matching assistance percentages (FMAP) at 73%. For every $1 spent by the state, the Federal government matches $2.55. In Calendar Year 2017, the federal match rate for the Medicaid expansion population was 95%.

Figure 22. Change in Percentage of West Virginia Residents with Medicaid Coverage

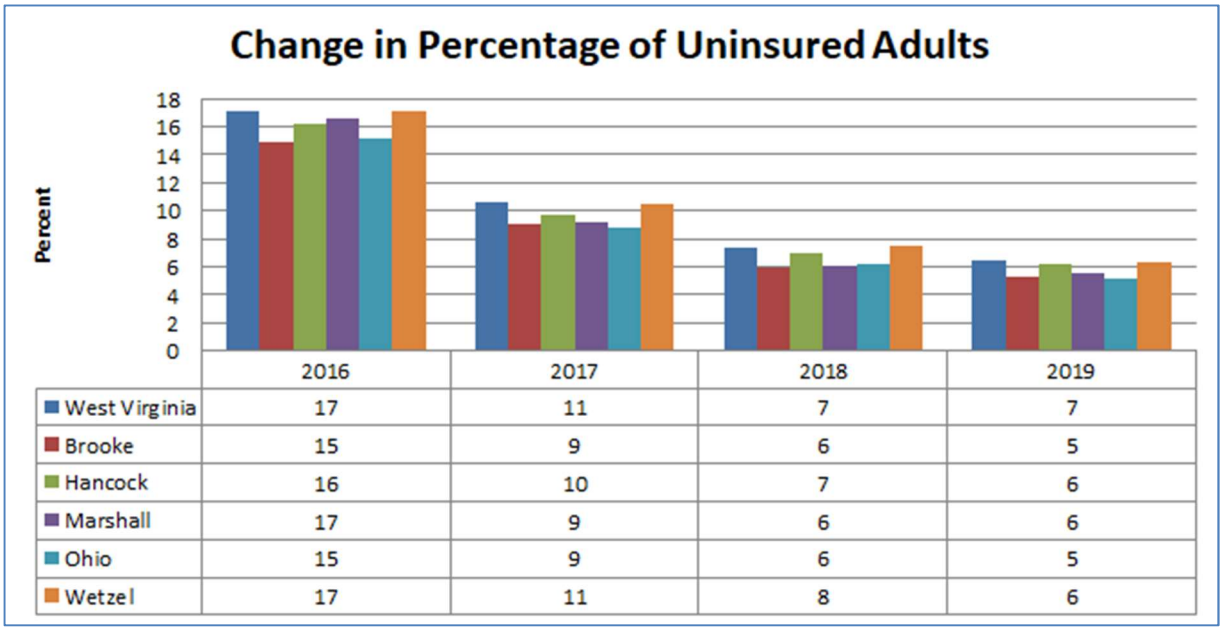


Location	2012 Medicaid	2013 Medicaid	2014 Medicaid	2015 Medicaid	2016 Medicaid	2017 Medicaid
West Virginia	18%	20%	25%	27%	29%	28%

Data Source: Kaiser Family Foundation analysis of CDC (BRFSS) 2013-2017 Survey Results.

Figure 23. Change in Percentage of Uninsured Adults

Between 2016 and 2019, the percentage of uninsured adults in Northwood's service area counties decreased by 10%, mirroring the West Virginia statewide trend. This number corresponds to the increase in West Virginia residents receiving Medicaid coverage.

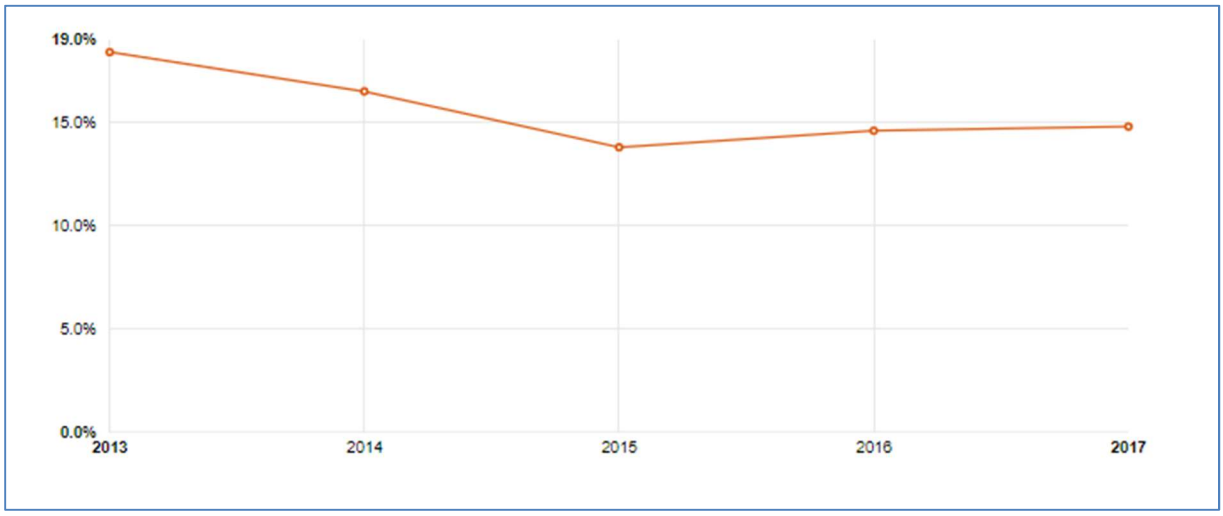


	2016	2017	2018	2019
West Virginia	17	11	7	7
Brooke	15	9	6	5
Hancock	16	10	7	6
Marshall	17	9	6	6
Ohio	15	9	6	5
Wetzel	17	11	8	6

Data Source: Kaiser Family Foundation analysis of CDC (BRFSS) 2013-2017 Survey Results.

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 2013 through 2017. The highest percentage of residents who needed to see a doctor but could not due to cost occurred in 2013 with 18.4%. Following a gradual rise since 2007, rates have trended downward since 2013. We believe the decrease is due to implementation of the Affordable Care Act and Medicaid expansion. West Virginia has consistently scored above (i.e., worse than) 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

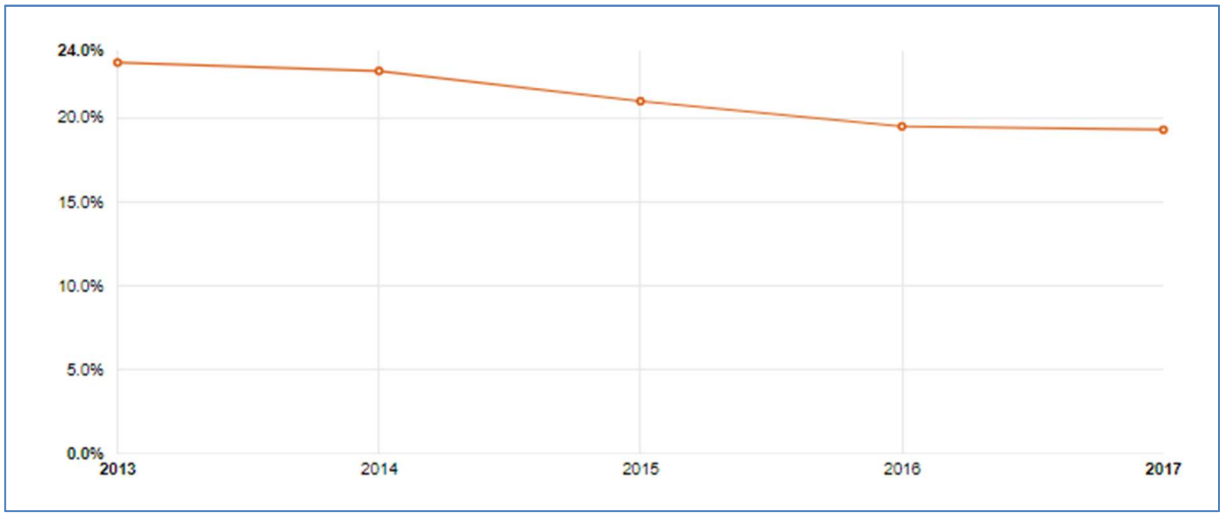


Location	2013	2014	2015	2016	2017
	Could Not See Doctor Because of Cost	Could Not See Doctor Because of Cost	Could Not See Doctor Because of Cost	Could Not See Doctor Because of Cost	Could Not See Doctor Because of Cost
West Virginia	18.4%	16.5%	13.8%	14.6%	14.8%

Data Source: Kaiser Family Foundation analysis of the Center for Disease Control and Prevention (CDC)'s Behavioral Risk Factor Surveillance System (BRFSS) 2013-2017 Survey Results.

Figure 25 illustrates the percentage of adults with no health care provider, residing in West Virginia from 2013 through 2017. The highest percentage of residents with no health care provider occurred in 2013 when nearly one out of four adults did not have a health care provider. We believe the decreases noted since 2013 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



Location	2013	2014	2015	2016	2017
	Does Not Have a Personal Doctor	Does Not Have a Personal Doctor	Does Not Have a Personal Doctor	Does Not Have a Personal Doctor	Does Not Have a Personal Doctor
West Virginia	23.3%	22.8%	21.0%	19.5%	19.3%

Data Source: Kaiser Family Foundation analysis of the Center for Disease Control and Prevention (CDC)'s Behavioral Risk Factor Surveillance System (BRFSS) 2013-2017 Survey Results.

Workforce

Access to care requires not only financial coverage, but also access to providers. 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.

Health Professional Shortage Areas (HPSA) are areas and population groups within the United States that are experiencing a shortage of health professionals. There are three categories of HPSA designation based on the health discipline that is experiencing a shortage: 1) primary medical; 2) dental; and 3) mental health.

Table 9 illustrates these federal shortage designations for Brooke, Hancock, Marshall, Ohio and Wetzel Counties as of May 2019. Hancock County is a designated shortage area for Primary Care. Marshall and Wetzel Counties are designated as shortage areas for Primary Care, Dental Health, and Mental Health.

Table 9: Federal Shortage Designations 2016

Federal Shortage Designations					
2016					
	Brooke County	Hancock County	Marshall County	Ohio County	Wetzel County
Primary Care		Designated	Designated		Designated
Dental			Designated		Designated
Mental Health			Designated		Designated

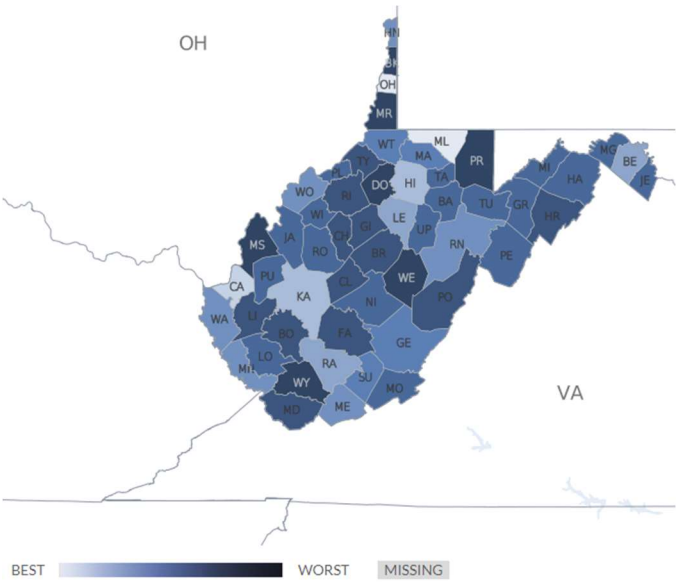
Data Source: Health Resources and Services Administration (HRSA.gov)

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 mental health providers who treat alcohol and other drug abuse, as well as 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

County	Mental Health Providers	Number of Individuals Served by One Mental Health Professional
Ohio	124	340
Hancock	38	770
Wetzel	15	1030
Marshall	6	5200
Brooke	3	7480



Data Source: 2019 County Health Rankings

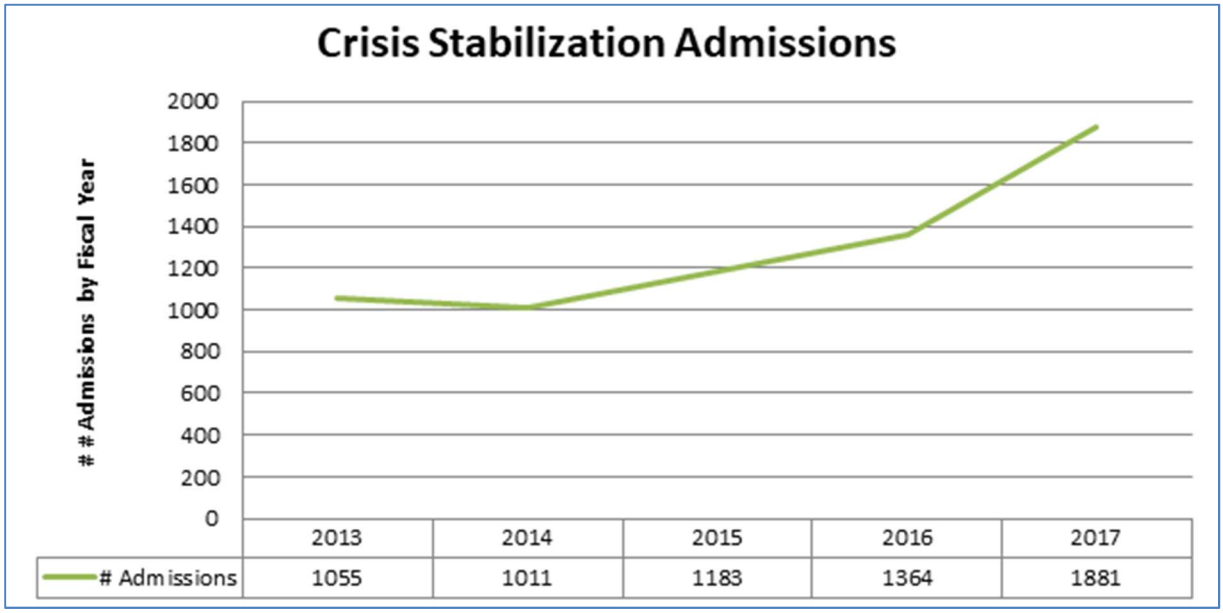
www.countyhealthrankings.org

Northwood Health Systems

Service Utilization

Figures 27 and 28 illustrate the Northwood program utilization of Crisis Stabilization Services and Psychiatric / Medication Management Services. Utilization of Crisis Stabilization Services has increased over the past 5 fiscal years.

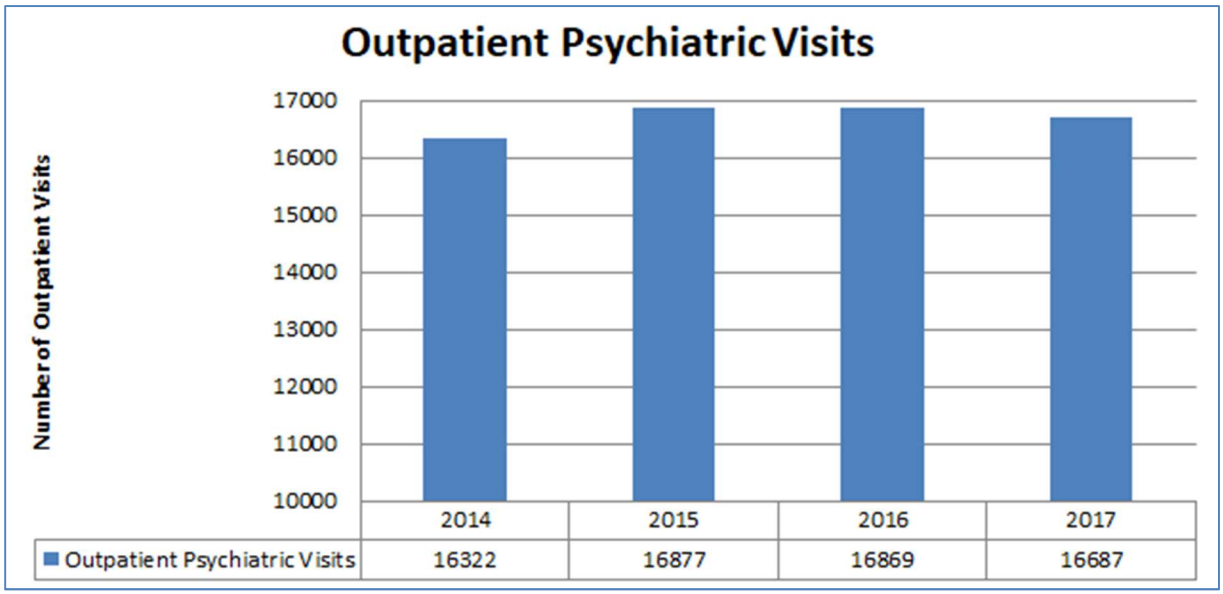
Figure 27. Northwood Program Utilization – Crisis Services



Data Source: Northwood Health Systems

Figure 28. Northwood Program Utilization – Outpatient Psychiatric Visits

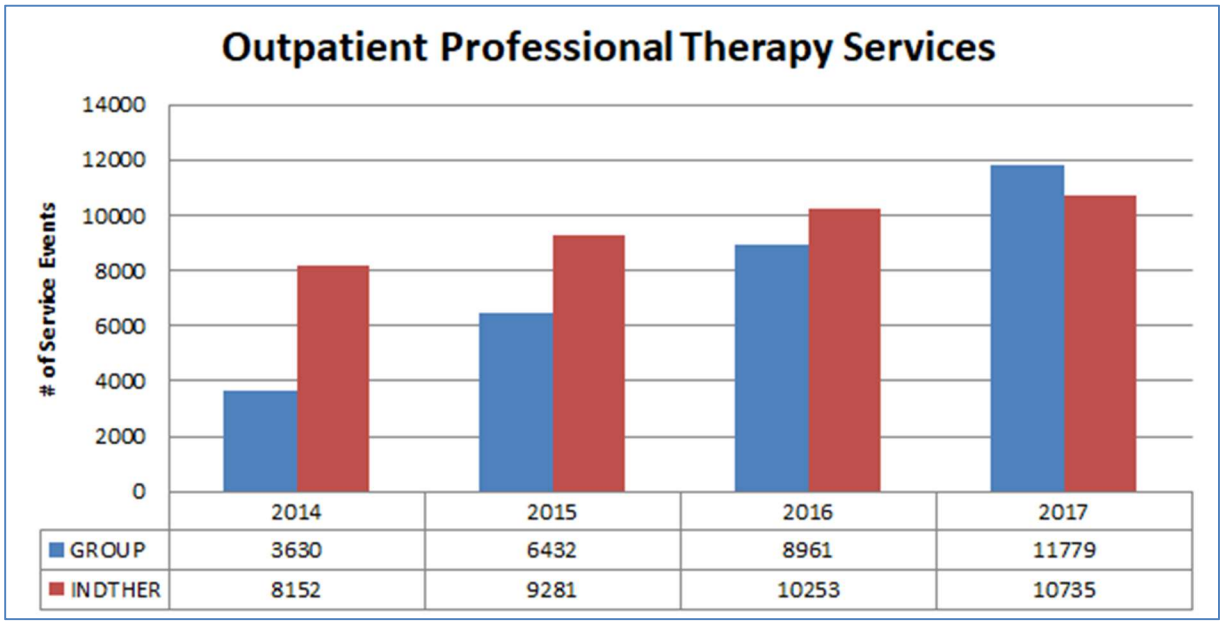
During the fiscal years from 2014 through 2017, the number of outpatient psychiatric services provided by Northwood has remained relatively stable.



Data Source: Northwood Health Systems

Figure 29 illustrates Northwood program utilization for Group and Individual Outpatient Professional Therapy Services. Utilization of both these services increased over the fiscal years from 2014 through 2017, with the largest increase in services for individuals with substance use disorders.

Figure 29. Northwood Program Utilization – Outpatient Professional Therapy



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 2012 and 2017, the percentage of West Virginia residents who lacked health insurance coverage dropped significantly.
- During this same time frame, 2012 to 2017, the percentage West Virginia residents receiving Medicaid coverage increased by 10%.
- In West Virginia between 2013 and 2017, the percentage of adults who needed to see a doctor but could not due to cost dropped from 18.4 to 14.8, which we believe is due to implementation of the Affordable Care Act and Medicaid expansion.
- Between 2007 and 2017, the percentage of adults with no health care provider declined from 23.3% to 19.3%, which is above the Healthy People 2020 Goal of 16.1%.
- Hancock, Marshall, and Wetzel Counties are all designated as medically underserved areas. Wetzel and Marshall Counties are designated shortage areas for Primary Care, Dental and Mental Health Services. Hancock County is also designated as a Primary Care shortage area.
- Utilization of Crisis Stabilization services has increased over the past 5 fiscal years.
- During fiscal years 2014 through 2017, utilization of Northwood psychiatric/medication management services has remained relatively consistent.
- Utilization of Group and Individual Outpatient Professional services has increased over the fiscal years from 2014 through 2017
- Northwood's professional therapy services for individuals with substance use disorders have been a significant component of this increase.

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.

Healthy Days

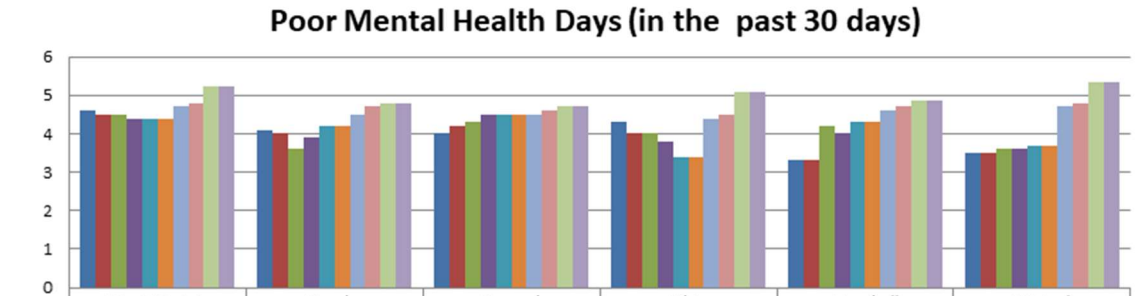
Healthy Days is a popular public health measure that has been correlated with self-rated general physical health, general life satisfaction, medical care utilization, and depression. The core Healthy Days measures assess a person's perceived sense of well-being through questions about health and number 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 2018, West Virginia ranked worst of the 50 states in the number of poor mental health days in the past 30.

Figure 30 illustrates the number of Poor Mental Health Days in the past 30 days for adults in the service area from 2010 to 2019. Overall, the number of Poor Mental Health Days is highest in 2019 for both State and for the individual counties than at any time in the last ten years. Ohio County had shown a decrease from 2010 to 2015 but has now jumped to 5.1 days in 2019.

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



	West Virginia	Brooke	Hancock	Ohio	Marshall	Wetzel
2010	4.6	4.1	4	4.3	3.3	3.5
2011	4.5	4	4.2	4	3.3	3.5
2012	4.5	3.6	4.3	4	4.2	3.6
2013	4.4	3.9	4.5	3.8	4	3.6
2014	4.4	4.2	4.5	3.4	4.3	3.7
2015	4.4	4.2	4.5	3.4	4.3	3.7
2016	4.7	4.5	4.5	4.4	4.6	4.7
2017	4.8	4.7	4.6	4.5	4.7	4.8
2018	5.2	4.8	4.7	5.1	4.9	5.3
2019	5.2	4.8	4.7	5.1	4.9	5.3

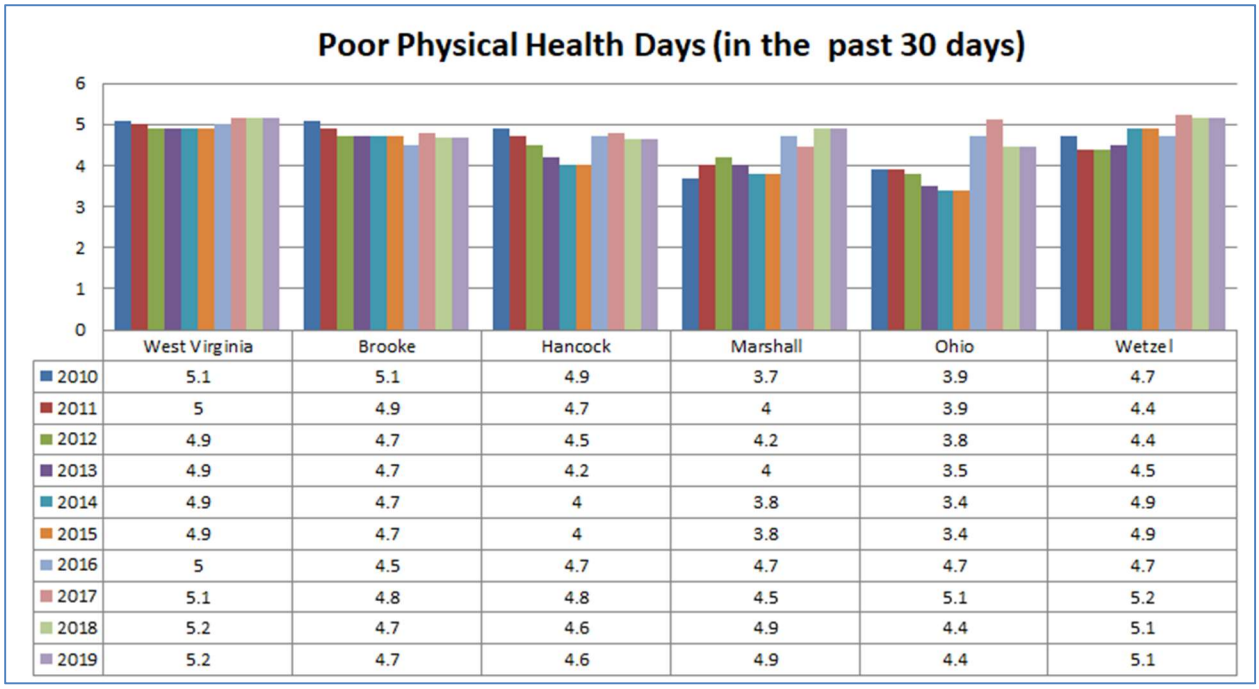
Sources: http://www.countyhealthrankings.org/ and https://www.americsahealthrankings.org Behavioral Risk Factor Surveillance System, 2017

Poor Physical Health Days (in the past 30)

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

In 2017, West Virginia ranked worst of the 50 states in the number of poor physical health days in the past 30.

Figure 31. Poor Physical Health Days



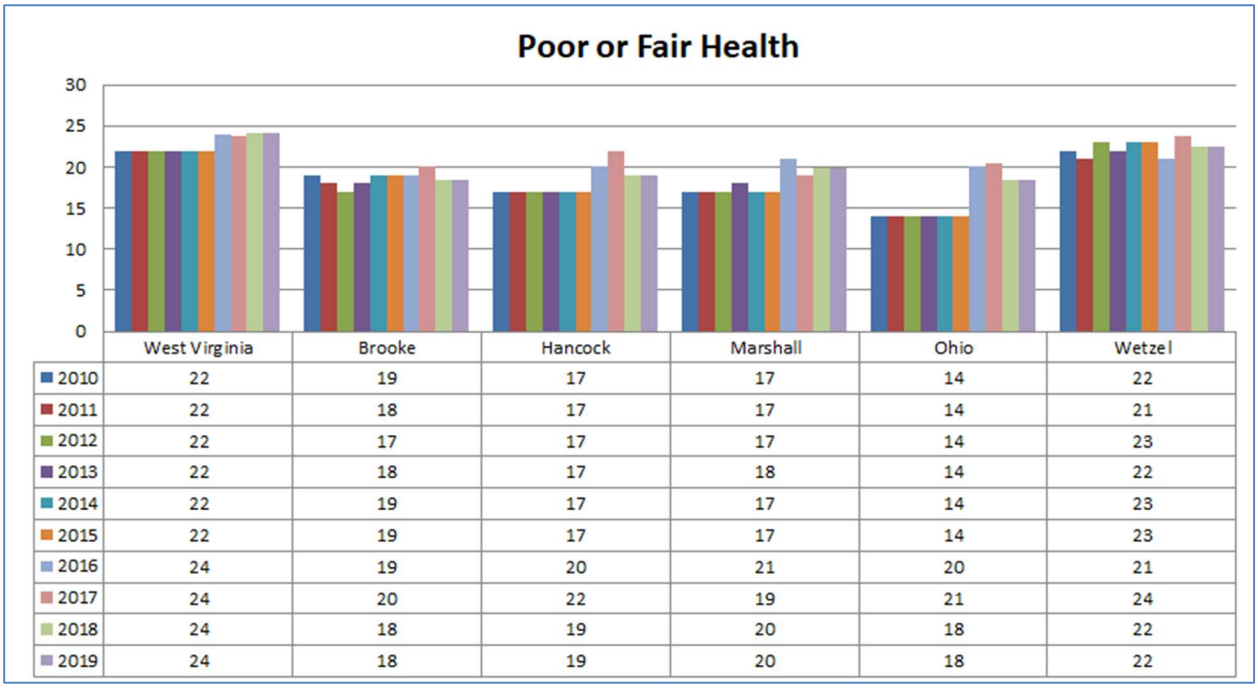
	West Virginia	Brooke	Hancock	Marshall	Ohio	Wetzel
2010	5.1	5.1	4.9	3.7	3.9	4.7
2011	5	4.9	4.7	4	3.9	4.4
2012	4.9	4.7	4.5	4.2	3.8	4.4
2013	4.9	4.7	4.2	4	3.5	4.5
2014	4.9	4.7	4	3.8	3.4	4.9
2015	4.9	4.7	4	3.8	3.4	4.9
2016	5	4.5	4.7	4.7	4.7	4.7
2017	5.1	4.8	4.8	4.5	5.1	5.2
2018	5.2	4.7	4.6	4.9	4.4	5.1
2019	5.2	4.7	4.6	4.9	4.4	5.1

Sources: http://www.countyhealthrankings.org/ and https://www.americsahealthrankings.org Behavioral Risk Factor Surveillance System, 2017

Poor or Fair Health

Figure 32 illustrates the percentage of adults who reported their health as fair or poor by county within the service region from 2010-2019. All counties in the service area, except Wetzel County, experienced a lower percentage of residents, with fair or poor health, than West Virginia overall from 2010-2019. Wetzel County results have been mixed for this comparison across the measurement period, but have decreased in recent years while numbers for the State overall have trended upward. West Virginia and the service area of Brooke, Hancock, Marshall and Wetzel counties all exceeded the National rate of 14.7%.

Figure 32. 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
2016	24	19	20	21	20	21
2017	24	20	22	19	21	24
2018	24	18	19	20	18	22
2019	24	18	19	20	18	22

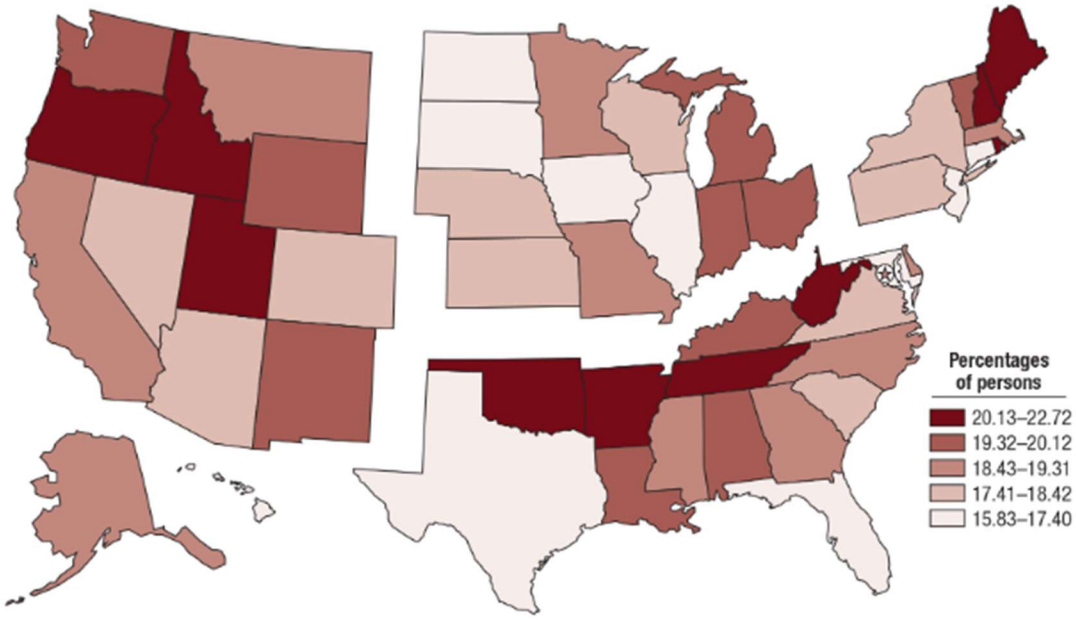
Source: http://www.countyhealthrankings.org/

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, 43.7 million adults aged 18 or older experienced any mental illness in the past year, corresponding to a rate of 18.39 percent of the adult population. Among States, AMI rates ranged from 15.8 percent in New Jersey to 22.7 percent in Oregon. Along with Oregon, the States with the highest rates include Utah, West Virginia, Maine and Rhode Island, all having more than 21 percent of adults with any mental illness.

Figure 33. Any Mental Illness in the Past Year among Persons Aged 18 or Older by State

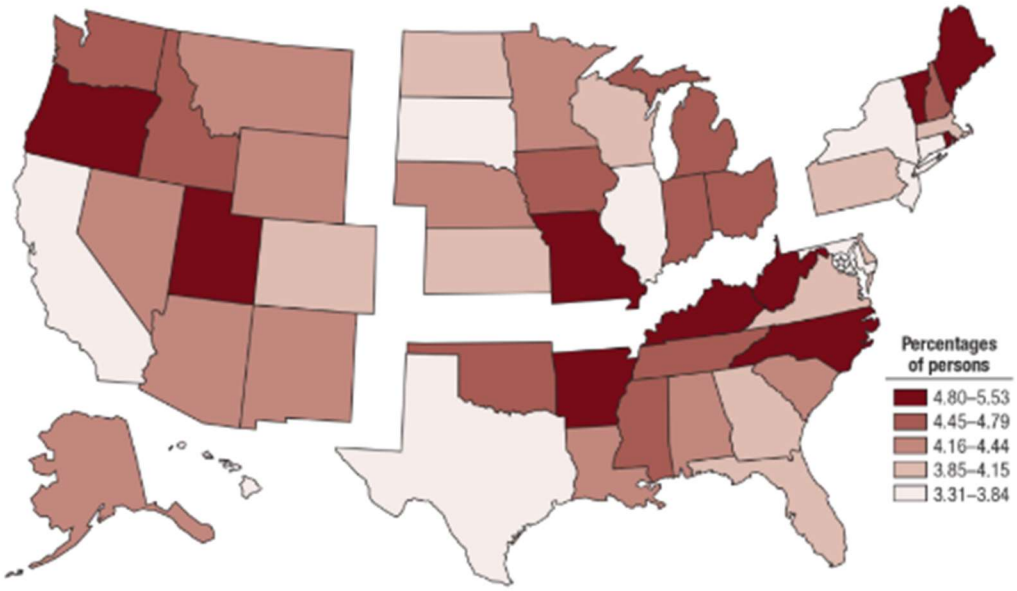


Source: SAMHSA, Center for Behavioral Health Statistics and Quality, National Survey on Drug Use and Health (NSDUH), 2012 to 2014.

Serious Mental Illness by State

According to SAMHSA, West Virginia has the highest rate of Serious Mental Illness (SMI) among all states for adults aged 18 or older. The national rate of Serious Mental Illness (SMI) in the past year was estimated to be 4.13 percent based on combined 2012–2014 NSDUH data. Among individual States, the percentage of adults aged 18 or older with SMI ranged from 3.31 percent in Maryland to 5.53 percent in West Virginia. Along with West Virginia, States with the highest SMI rates include Vermont (5.28 percent), Arkansas (5.2 percent), and Utah (5.17 percent).

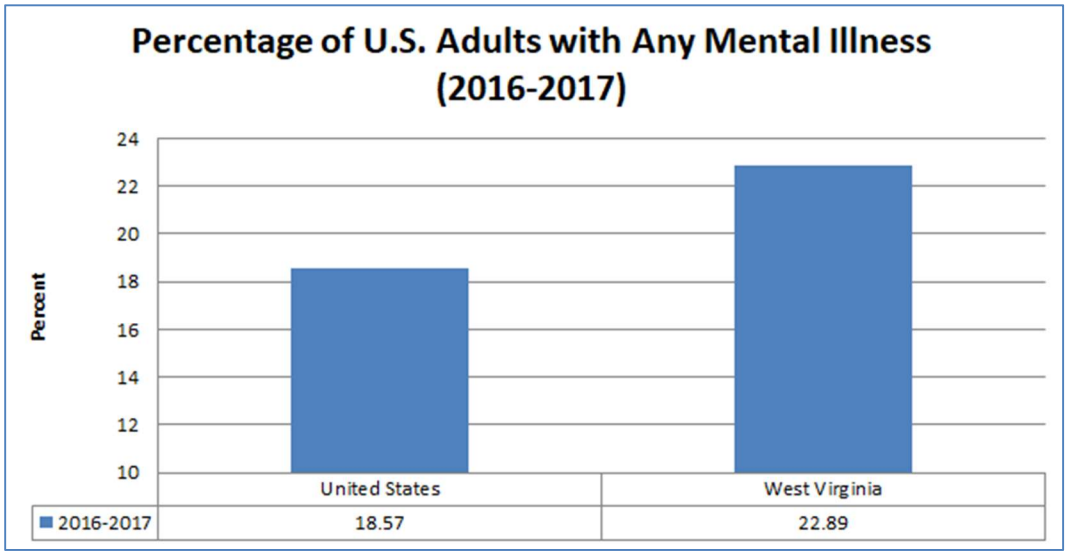
Figure 34. Serious Mental Illness in the Past Year among Persons Aged 18 or Older by State



Source: SAMHSA, Center for Behavioral Health Statistics and Quality, National Survey on Drug Use and Health (NSDUH), 2012 to 2014.

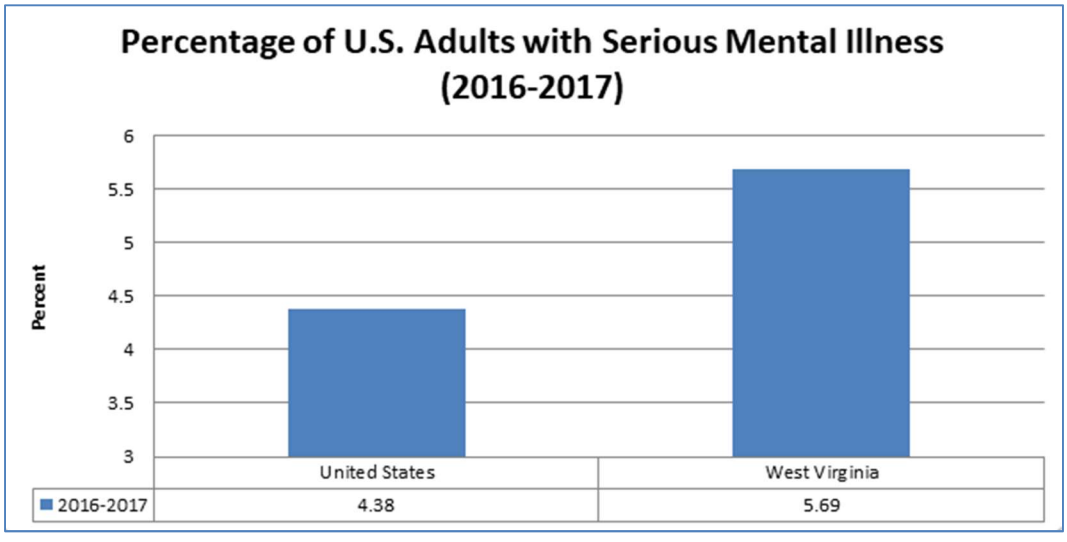
Past Year Mental Health Measures

Figure 35. 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, 2016-2017

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



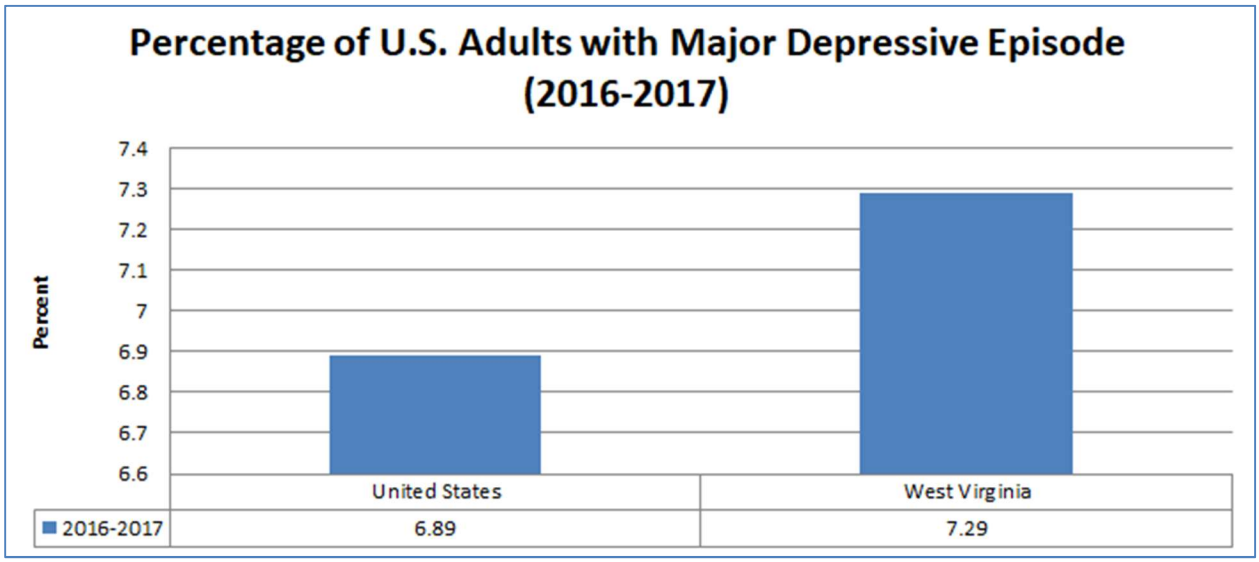
Source: SAMHSA, Center for Behavioral Health Statistics and Quality, National Survey on Drug Use and Health, 2016-2017

Past Year Mental Health Measures

According to the SAMHSA National Survey on Drug Use and Health, in 2017, an estimated 16.9 million adults aged 18 or older in the United States had at least one major depressive episode in the past year. This number represented 6.89% of all U.S. adults.

Figure 37 illustrates individuals reporting having at least one major depressive episode from the United States and West Virginia in 2016-2017. The rate in West Virginia is higher than the national rate.

Figure 37. Percentage of Adults with Major Depressive Episode Past Year



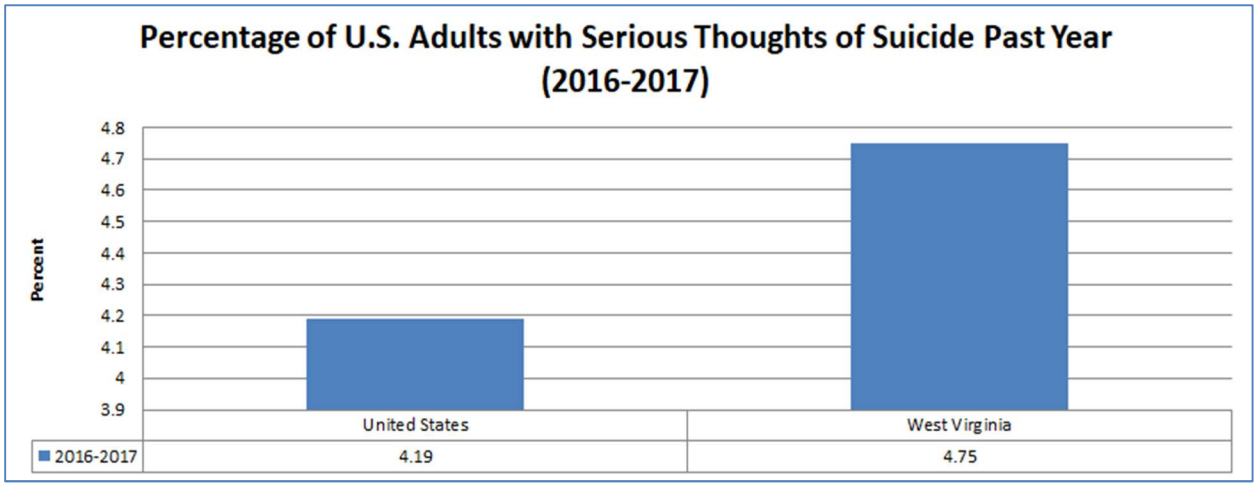
Source: SAMHSA, Center for Behavioral Health Statistics and Quality, National Survey on Drug Use and Health, 2016 and 2017

Suicide

Suicide is a major cause of death in the United States that affects people of all ages, races, and ethnicities. According to the Centers for Disease Control and Prevention, since 2008, suicide has ranked as the 10th leading cause of death for all ages in the United States. It is the second leading cause of death for ages 10–34. The U.S. suicide rate increased by 33% from 1999 through 2017, with the greatest annual percentage increases after 2006. Suicide rates in 2017 were higher for males than for females in all age groups. The suicide rate for the most rural areas is 1.4 times the rate for the most urban areas, and the suicide rate in 2017 for the most rural counties was 53% higher than the rate in 1999. According to the American Foundation for Suicide Prevention, there were more than 47,000 deaths by suicide in 2017.

Figure 38 illustrates individuals reporting Serious Thoughts of Suicide within the Past Year in the United States and West Virginia from 2016 to 2017. A higher percentage of West Virginia residents reported experiencing serious thoughts of suicide compared to the United States overall during that time period.

Figure 38. Individuals Reporting Having Serious Thoughts of Suicide Past Year

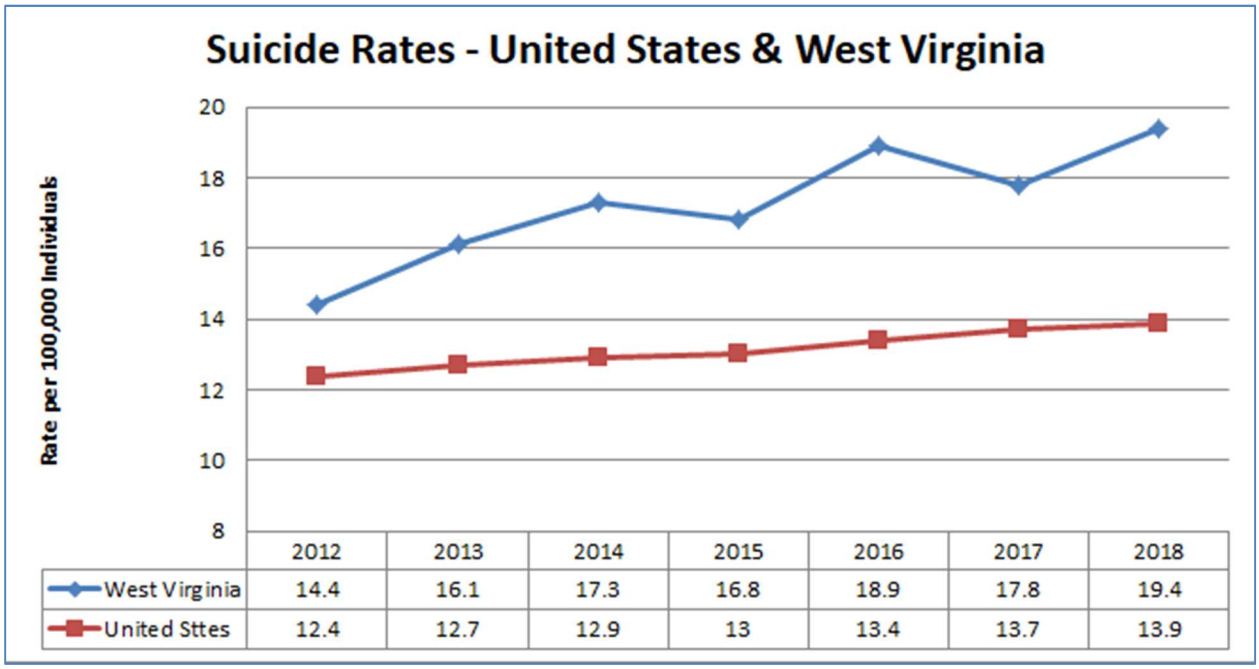


Source: SAMHSA, Center for Behavioral Health Statistics and Quality, National Survey on Drug Use and Health, 2016-2017

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 10th leading cause of death overall in West Virginia. In West Virginia, the rate of suicide deaths is 19.4 per 100,000 population compared to a lower rate of 13.9 nationally for the most recent year available. More than five times as many people die by suicide in West Virginia in 2017 than by alcohol related motor vehicle accidents. It is the second leading cause of death for ages 15 to 34.

Figure 39. Suicide Rates – United States and West Virginia



	2012	2013	2014	2015	2016	2017	2018
West Virginia	14.4	16.1	17.3	16.8	18.9	17.8	19.4
United Sttes	12.4	12.7	12.9	13	13.4	13.7	13.9

Source: America's Health Rankings, CDC WONDER Online Database, Underlying Cause of Death, Multiple Cause of Death files

Table 10 illustrates the number and rates of deaths from suicide in each of the counties of the service area and West Virginia from 2008 to 2017. Ohio County had the highest number (67) of suicide deaths of the counties in the service area. Brooke County had the highest rate (19.9) of suicide deaths, followed by Hancock County (16.9). Brooke County had a higher rate of suicide deaths than the state rate of 17.8. Hancock, Marshall, Ohio and Wetzel Counties all had rates below the state rate during this time period.

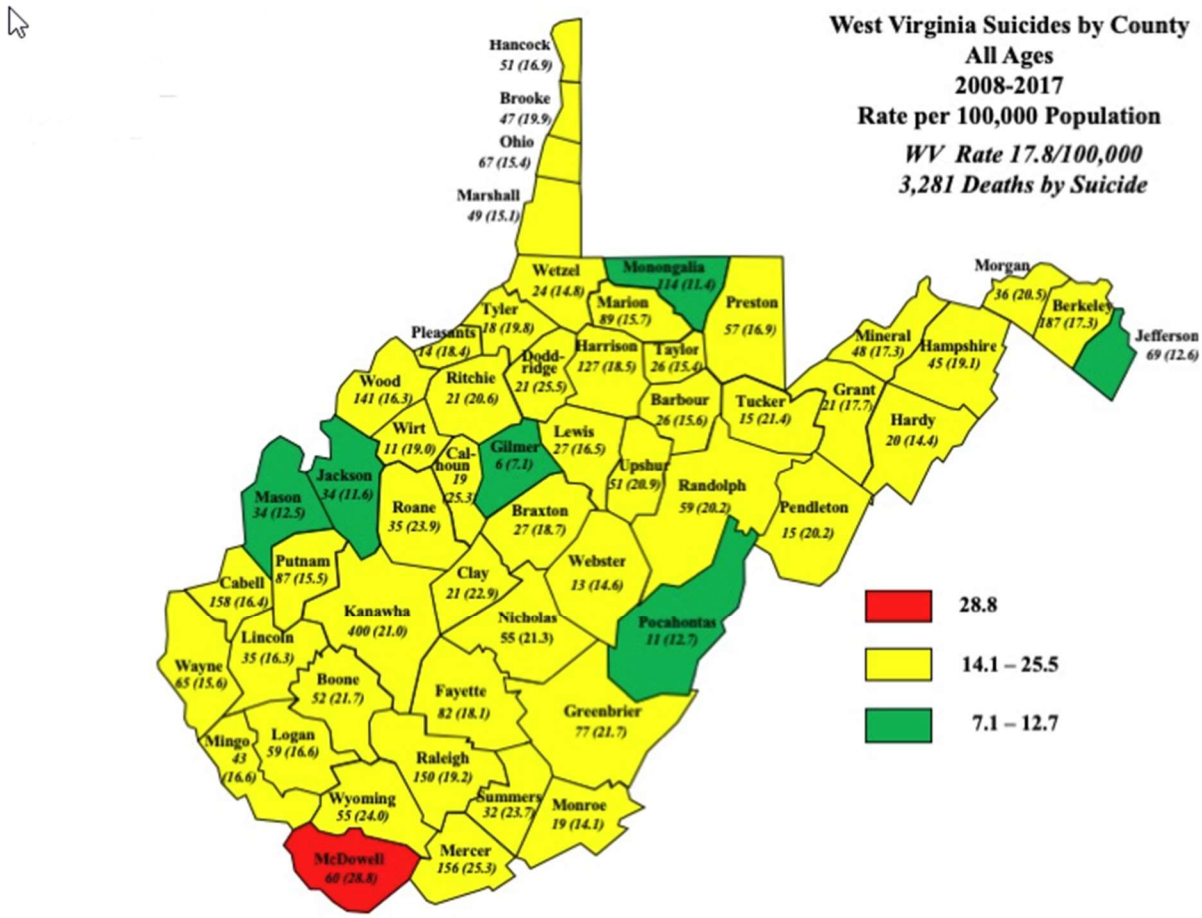
Table 10: Suicide Deaths 2008-2017

2008-2017 Suicide Deaths						
	West Virginia	Brooke County	Hancock County	Marshall County	Ohio County	Wetzel County
Number of Suicides	3,281	47	51	49	67	24
Rate per 100,000	17.8	19.9	16.9	15.1	15.4	14.8

Source: PreventSuicideWV.org

Figure 40 illustrates suicide rates in West Virginia by County from 2008-2017.

Figure 40. West Virginia Suicide Rates by County



Source: PreventSuicideWV.org

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 15 to 34.

Figure 41. Leading Causes of Death by Age Group

10 Leading Causes of Death by Age Group, United States – 2017

	Age Groups										
Rank	<1	1-4	5-9	10-14	15-24	25-34	35-44	45-54	55-64	65+	Total
1	Congenital Anomalies 4,580	Unintentional Injury 1,267	Unintentional Injury 718	Unintentional Injury 860	Unintentional Injury 13,441	Unintentional Injury 25,669	Unintentional Injury 22,828	Malignant Neoplasms 39,266	Malignant Neoplasms 114,810	Heart Disease 519,052	Heart Disease 647,457
2	Short Gestation 3,749	Congenital Anomalies 424	Malignant Neoplasms 418	Suicide 517	Suicide 6,252	Suicide 7,948	Malignant Neoplasms 10,900	Heart Disease 32,658	Heart Disease 80,102	Malignant Neoplasms 427,896	Malignant Neoplasms 599,108
3	Maternal Pregnancy Comp. 1,432	Malignant Neoplasms 325	Congenital Anomalies 188	Malignant Neoplasms 437	Homicide 4,905	Homicide 5,488	Heart Disease 10,401	Unintentional Injury 24,461	Unintentional Injury 23,408	Chronic Low. Respiratory Disease 136,139	Unintentional Injury 169,936
4	SIDS 1,363	Homicide 303	Homicide 154	Congenital Anomalies 191	Malignant Neoplasms 1,374	Heart Disease 3,681	Suicide 7,335	Suicide 8,561	Chronic Low. Respiratory Disease 18,667	Cerebro-vascular 125,653	Chronic Low. Respiratory Disease 160,201
5	Unintentional Injury 1,317	Heart Disease 127	Heart Disease 75	Homicide 178	Heart Disease 913	Malignant Neoplasms 3,616	Homicide 3,351	Liver Disease 8,312	Diabetes Mellitus 14,904	Alzheimer's Disease 120,107	Cerebro-vascular 146,383
6	Placenta Cord. Membranes 843	Influenza & Pneumonia 104	Influenza & Pneumonia 62	Heart Disease 104	Congenital Anomalies 355	Liver Disease 918	Liver Disease 3,000	Diabetes Mellitus 6,409	Liver Disease 13,737	Diabetes Mellitus 59,020	Alzheimer's Disease 121,404
7	Bacterial Sepsis 592	Cerebro-vascular 66	Chronic Low. Respiratory Disease 59	Chronic Low Respiratory Disease 75	Diabetes Mellitus 248	Diabetes Mellitus 823	Diabetes Mellitus 2,118	Cerebro-vascular 5,198	Cerebro-vascular 12,708	Unintentional Injury 55,951	Diabetes Mellitus 83,564
8	Circulatory System Disease 449	Septicemia 48	Cerebro-vascular 41	Cerebro-vascular 56	Influenza & Pneumonia 190	Cerebro-vascular 593	Cerebro-vascular 1,811	Chronic Low. Respiratory Disease 3,975	Suicide 7,982	Influenza & Pneumonia 46,862	Influenza & Pneumonia 55,672
9	Respiratory Distress 440	Benign Neoplasms 44	Septicemia 33	Influenza & Pneumonia 51	Chronic Low. Respiratory Disease 188	HIV 513	Septicemia 854	Septicemia 2,441	Septicemia 5,838	Nephritis 41,670	Nephritis 50,633
10	Neonatal Hemorrhage 379	Perinatal Period 42	Benign Neoplasms 31	Benign Neoplasms 31	Complicated Pregnancy 168	Complicated Pregnancy 512	HIV 831	Homicide 2,275	Nephritis 5,671	Parkinson's Disease 31,177	Suicide 47,173

Data Source: National Vital Statistics System, National Center for Health Statistics, CDC.
Produced by: National Center for Injury Prevention and Control, CDC using WISQARS™.

Centers for Disease Control and Prevention
National Center for Injury Prevention and Control

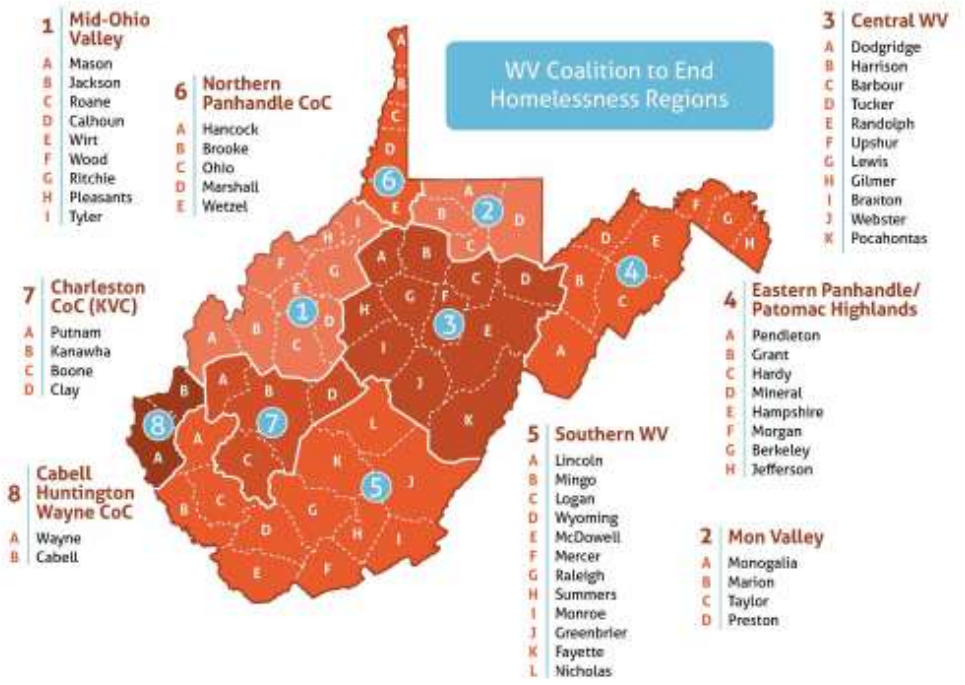
Homelessness and Mental Illness – West Virginia

As of January 2018, The United States Interagency Council on Homelessness reports that West Virginia had an estimated 1,243 experiencing homelessness on any given day, as reported by Continuums of Care to the U.S. Department of Housing and Urban Development (HUD). Of that total, 73 were family households, 131 were Veterans, 61 were unaccompanied young adults (aged 18-24), and 154 were individuals experiencing chronic homelessness.

HUD 2018 Continuum of Care point-in-time data indicates that, of these homeless individuals, 35% could be characterized as Seriously Mentally Ill, 33% as chronic substance abusers, and 12% were victims of domestic violence.

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 42. Northern Panhandle Continuum of Care



Source: HUD 2018 Continuum of Care Homeless Assistance Programs Homeless Populations and Subpopulations

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 2018, West Virginia ranked worst of the 50 states in the number of poor mental health days in the past 30.
- In 2018, 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 Wetzel County.
- Adults in Brooke and Ohio Counties have the best ratings of poor or fair health, compared to other counties in the service area, and all counties in the service area are much better than West Virginia overall.
- Based on 2014 data, SAMHSA reported that, of the 50 states, West Virginia ranked in the top three for the highest percentage of persons with Any Mental Illness.
- Based on 2014 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 than the national rate.
- According to the American Foundation for Suicide Prevention, suicide is the 10th leading cause of death overall in West Virginia.
- Suicide is the second leading cause of death for individuals aged 15 to 34 in West Virginia.
- Brooke County has the highest rate of suicide deaths in the counties served and is higher than the overall state rate.
- 35% of the homeless population in West Virginia can be characterized as Seriously Mentally Ill and 33% as chronic substance abusers.

Northwood
Health Systems

Drug and Alcohol

Drug and Alcohol

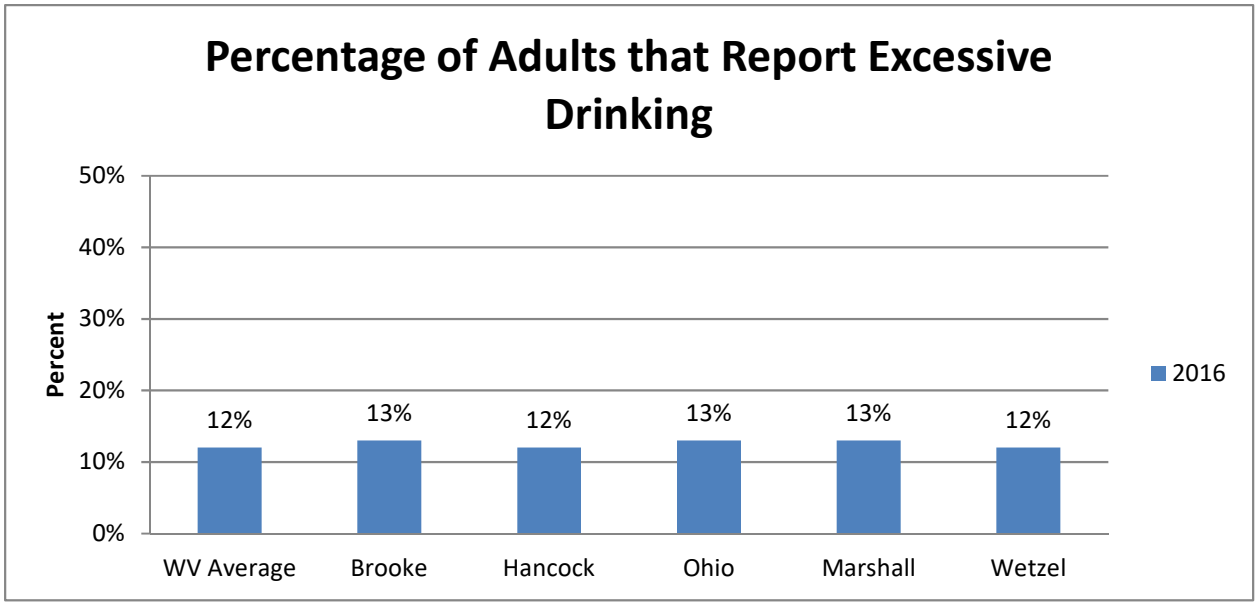
According to the American Society of Addiction Medicine, addiction is a primary, chronic disease of brain reward, motivation, memory and related circuitry. Dysfunction in these circuits leads to characteristic biological, psychological, social and spiritual manifestations. This is reflected in an individual pathologically pursuing reward and/or relief by substance use and other behaviors. A diagnosis of a substance use disorder is based upon a pathological set of behaviors related to substance use categorized into 4 main categories:

1. Impaired Control
2. Social impairment
3. Risky use
4. Tolerance and withdrawal

Alcohol Consumption

Figure 43 illustrates the percentage of adults who reported excessive drinking in the service area and compared to the state average in 2016. Brooke, Marshall and Ohio Counties showed a higher percentage compared to the WV state average while Hancock and Wetzel Counties showed percentages equal to that of the state overall.

Figure 43. Percentage of Adults that Report Excessive Drinking



Source: 2019 County Health Rankings http://www.countyhealthrankings.org

Table 11 illustrates the prevalence of alcohol use and alcohol use disorder by age category in West Virginia and Region 1 counties (Brooke, Hancock, Marshall, Ohio, Wetzel) in 2012-2014 versus 2014-2016. Region 1 shows a decline in alcohol use among individual 12 and older but an increase in alcohol use of individuals aged 12 to 20. Alcohol use disorder has shown a decrease in Region 1. Compared to the state averages Region 1 has a greater prevalence of alcohol use and alcohol use disorder across all survey categories.

Table 11: Alcohol Use and Alcohol Use Disorder

	2012-2014		2014-2016	
	West Virginia	Region 1	West Virginia	Region 1
Alcohol use in the Past Month among Individuals Aged 12 and Older	38.4%	45.5%	39.8%	42.8%
Alcohol use in the Past Month among Individuals Aged 12 to 20	22.2%	22.9%	22.5%	23.8%
Alcohol Use Disorder in the Past Year among Individuals Aged 12 or older	6.2%	6.6%	5.0%	5.2%

Note: Region 1 is made up of Brooke, Hancock, Marshall, Ohio and Wetzel Counties.
Source: NSDUH 2012-2014, NSDUH 2014-2016

Alcohol Risk and Protective Factors

Table 12 compares alcohol risk and treatment received in West Virginia and Region 1 between 2010-2012 and 2012-2014. The perception of risk was similar across categories with no trend however individuals needing but not receiving treatment for alcohol use increased in 2012-2014 and Region 1 had a higher rate than the state overall.

Table 12: Alcohol Perception of Risk and Protective Factors

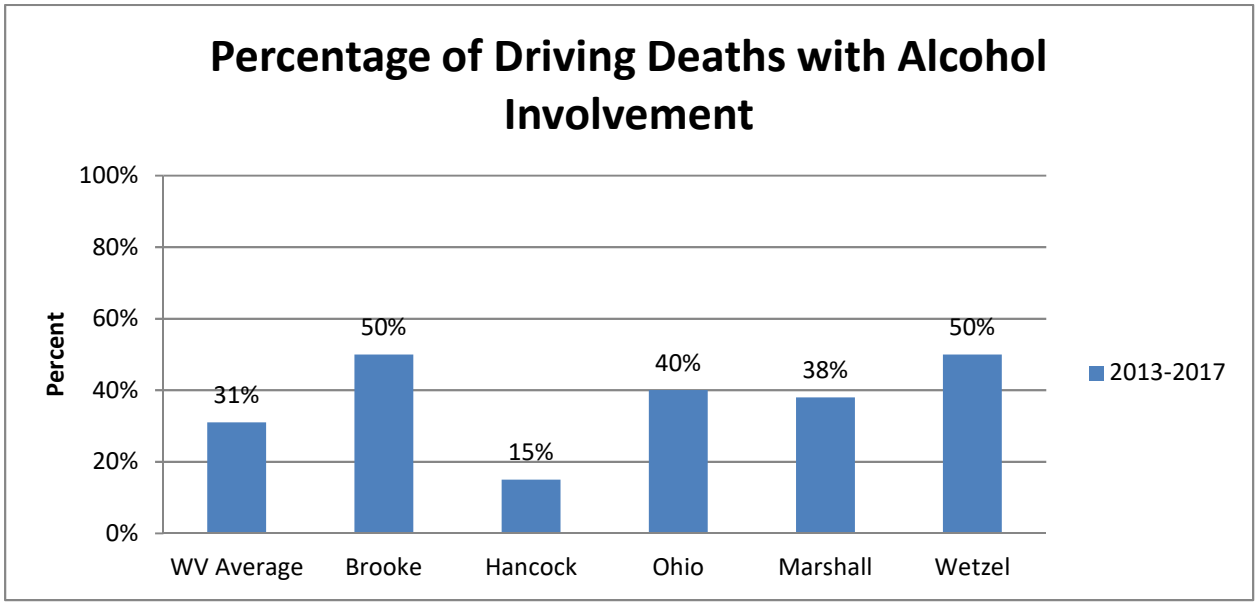
	2010-2012		2012-2014	
	West Virginia	Region 1	West Virginia	Region 1
Perceptions of Great Risk from Having Five or More Drinks of an Alcoholic Beverage Once or Twice a Week among Individuals Aged 12 or Older	41.4%	41.4%	41.6%	41.2%
Needing But Not Receiving Treatment for Alcohol Use in the Past Year among Individuals Aged 12 or Older	5.3%	5.2%	5.9%	6.4%

Source: NSDUH 2010-2012, NSDUH 2012-2014

Alcohol Related Consequences

Figure 44 illustrates the percentage of driving deaths with alcohol involvement by county using data from 2013 through 2017. All counties in the service area except Hancock County recorded percentages higher than the state average. Brooke and Wetzel County had the highest percentages reported during this time.

Figure 44. Percentage of Driving Deaths with Alcohol Involvement

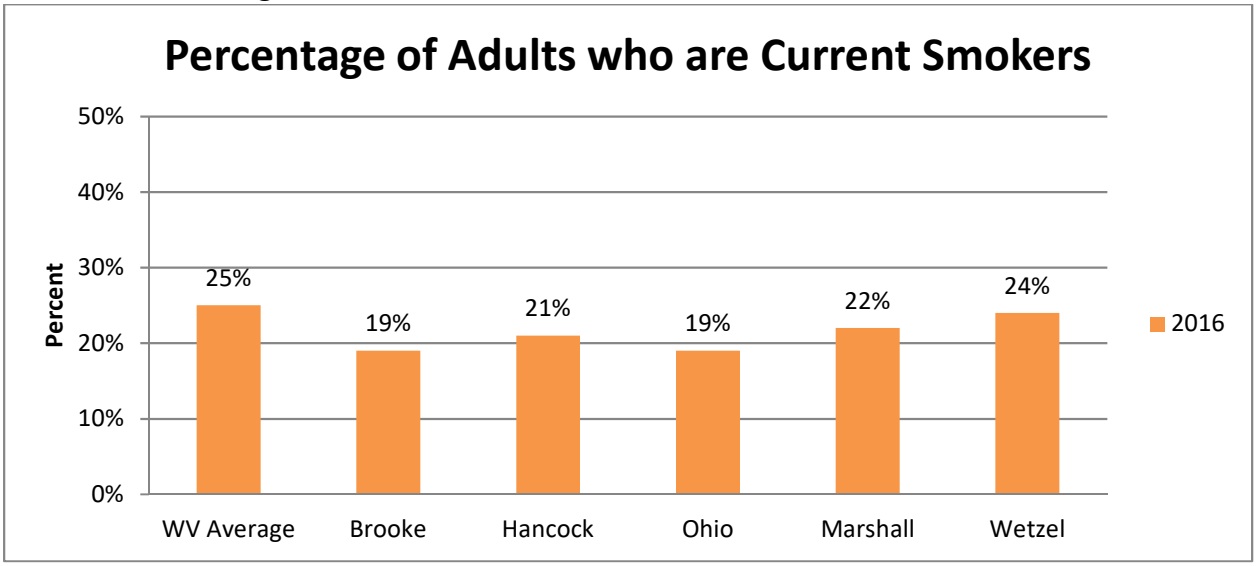


Source: 2019 County Health Rankings http://www.countyhealthrankings.org

Tobacco Consumption

Table 13 illustrates the percentage of residents who smoke cigarettes in West Virginia and in Brooke, Hancock, Marshall, Ohio, Wetzel counties. Each of the 5 counties in the service area shows a lower percentage of cigarette use than the state overall. Of the 5 counties in the service area Wetzel County has the highest percentage of current adult smokers.

Table 13: Percentage of Adults Who Are Current Smokers



Source: 2019 County Health Rankings http://www.countyhealthrankings.org

Figure 45 illustrates percent of tobacco product use and cigarette use in the past month among persons aged 12 or older in Region 1 and West Virginia. Region 1 is below the overall state average for both tobacco and cigarette use in 2012-2014 and 2014-2016. Comparing 2012-2014 and 2014-2016 tobacco product and cigarette use is steady for the state overall but on the rise in Region 1 especially tobacco product use.

Figure 45. Tobacco Product Use in the Past Month among Persons 12 years or Older

	2012-2014		2014-2016	
	West Virginia	Region 1	West Virginia	Region 1
Tobacco Product use in the Past Month among Individuals Aged 12 or Older	37.4%	32.8%	37.6%	36.5%
Cigarette use in the Past Month among Individuals Aged 12 or Older	30.2%	27.3%	29.9%	28.1%

Note: Region 1 is made up of Brooke, Hancock, Marshall, Ohio and Wetzel Counties.
Source: NSDUH 2012-2014, NSDUH 2014-2016

Tobacco Risk and Protective Factors

Table 14 illustrates the percentage of residents aged 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 2010-2012 and 2012-2014 while. Overall perceived risk of smoking one or more packs of cigarettes per day is on the decline across the state and Region 1 between 2010-2012 and 2012-2014.

Table 14: Tobacco Risk and Protective Factors

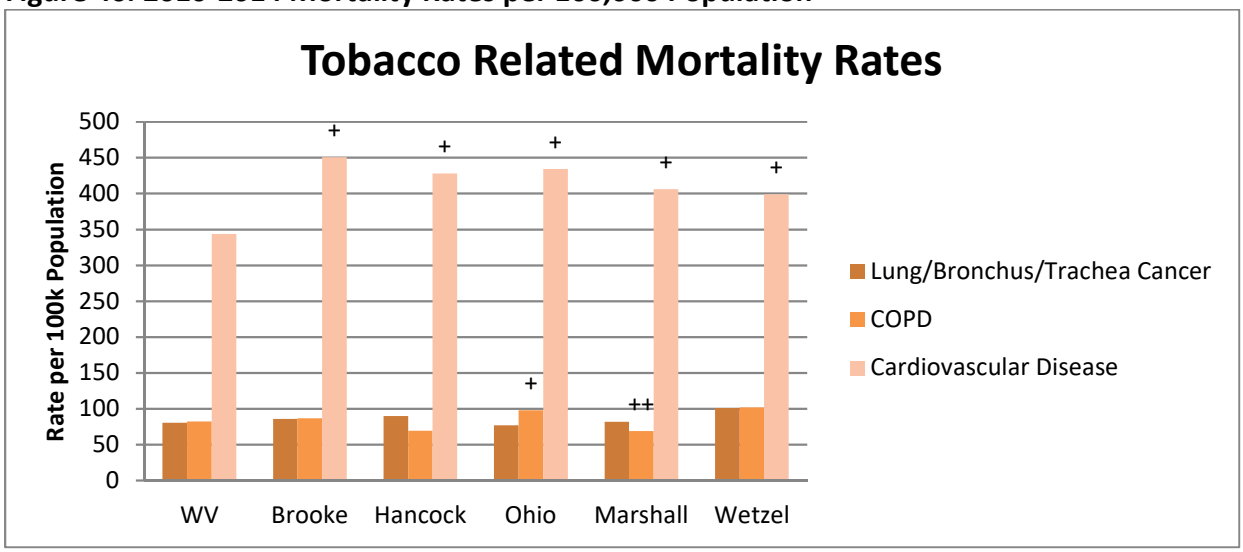
	2010-2012		2012-2014	
	West Virginia	Region 1	West Virginia	Region 1
Perceptions of Great Risk of Smoking One or More Packs of Cigarettes per day among Individuals Aged 12 or Older	66.5%	66.2%	63.6%	63.2%

Note: Region 1 is made up of Brooke, Hancock, Marshall, Ohio and Wetzel Counties.
Source: NSDUH 2010-2012, NSDUH 2012-2014

Tobacco Consequences

Figure 46 illustrates the mortality rates of smoking related diseases per 100,000 population across the state and service area. "+" indicates county was significantly higher than the state. "++" indicates state was significantly higher than the county. All counties in the service area had a significantly higher rate of cardiovascular disease than the state. Ohio County had a significantly higher rate of COPD than the state while Marshall County had a significantly lower rate of COPD than the state.

Figure 46. 2010-2014 Mortality Rates per 100,000 Population

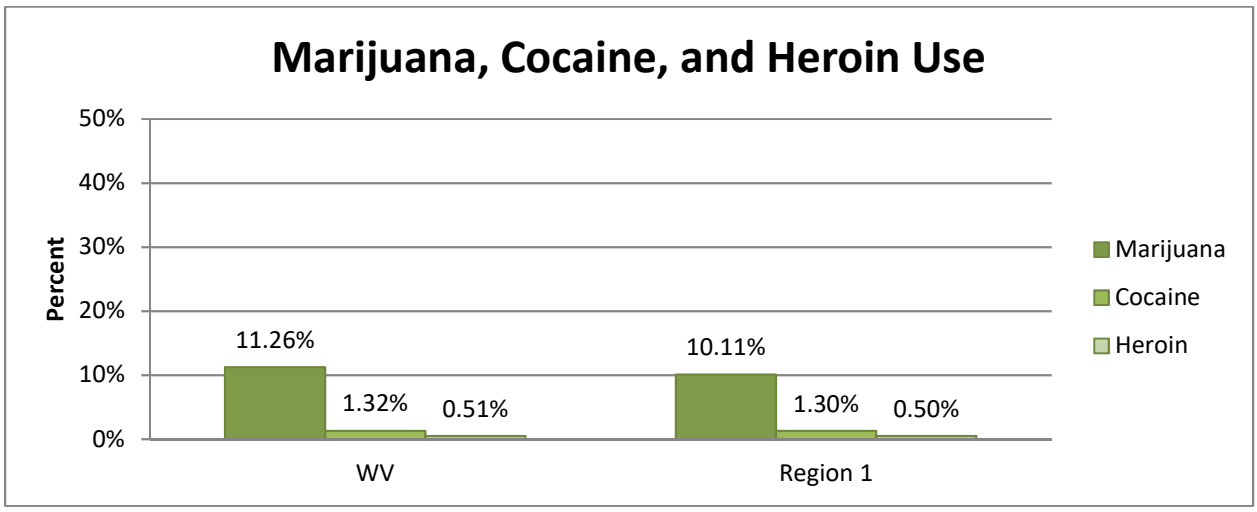


Source: WV Health Statistics Center, Vital Statistics System

Drug Consumption

Figure 47 illustrates percentage of marijuana, cocaine and heroin use in the past year among individuals aged 12 and older in West Virginia and Region 1 in 2014, 2015, and 2016. Region 1 (Brooke, Hancock, Marshall, Ohio, Wetzel counties) is similar to the West Virginia state average during this time period across all substances. Marijuana has the highest usage rate across the three substances.

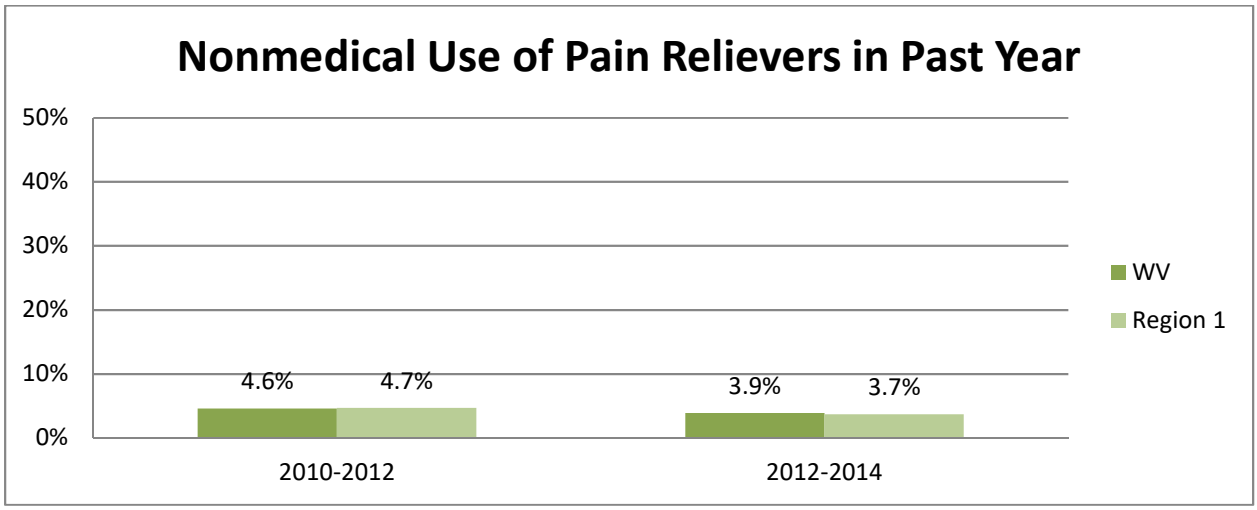
Figure 47. Marijuana, Cocaine, and Heroin Use in the Past Year among Individuals Aged 12 and Older.



Source: NSDUH 2014, 2015, 2016

Table 15 illustrates the percentage of nonmedical use of pain relievers in the past year among persons aged 12 or older in Region 1 and West Virginia between 2010-2014. The usage rates for the state and region 1 are similar. There is a decrease in usage rate across the state and region in 2014 compared to 2010.

Table 15: Nonmedical Use of Pain Relievers in the Past Year among Individuals Aged 12 and Older.



Source: NSDUH 2010-2014

Drug Risk and Protective Factors

Figure 48 illustrates drug risk and protective factors among residents 12 years and older in West Virginia and Region 1 between 2010 and 2014. Perceptions of great risk of smoking marijuana once a month decreased across the state and Region 1. Region 1 recorded lower percentages of illicit drug dependence or abuse than the state. Region 1 also had a lower percentage of individuals needing but not receiving treatment for illicit drug use.

Figure 48. Drug Risk and Protective Factors

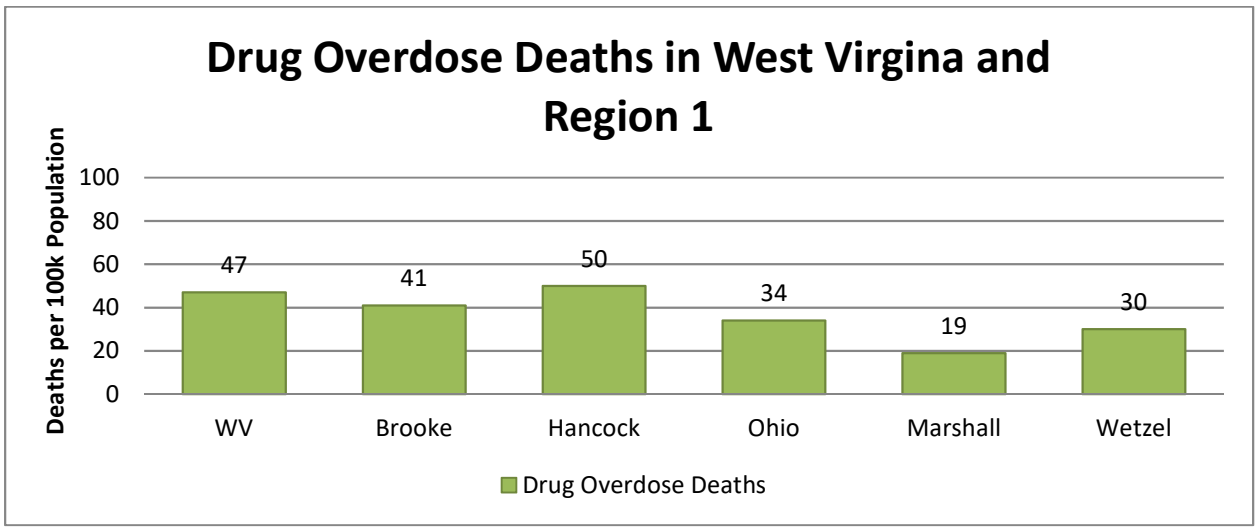
	2010-2012		2012-2014	
	West Virginia	Region 1	West Virginia	Region 1
Perceptions of great risk of smoking marijuana once a month (among persons 12 years or older)	37.1%	35.4%	33.5%	32.3%
Illicit drug dependence or abuse in the past year (among persons 12 years or older)	2.8%	2.4%	2.8%	2.5%
Illicit drug dependence in the past year (among persons 12 years or older)	2.1%	1.7%	2.0%	1.8%
Needing but not receiving treatment for illicit drug use in the past year (among persons 12 years or older)	2.5%	2.2%	2.5%	2.3%

Source: NSDUH 2010-2014

Drug Consequences

Figure 49 illustrates number of drug poisoning deaths in West Virginia, Brooke, Hancock, Marshall, Ohio and Wetzel Counties between 2015 and 2017. Drug overdose rates in Brooke, Ohio, Marshall, and Wetzel Counties were lower than the state rate, however, Hancock County was higher than the overall state rate during the same period. Hancock County had the highest drug overdose death rate at 50 per 100,000 population while Marshall County had the lowest.

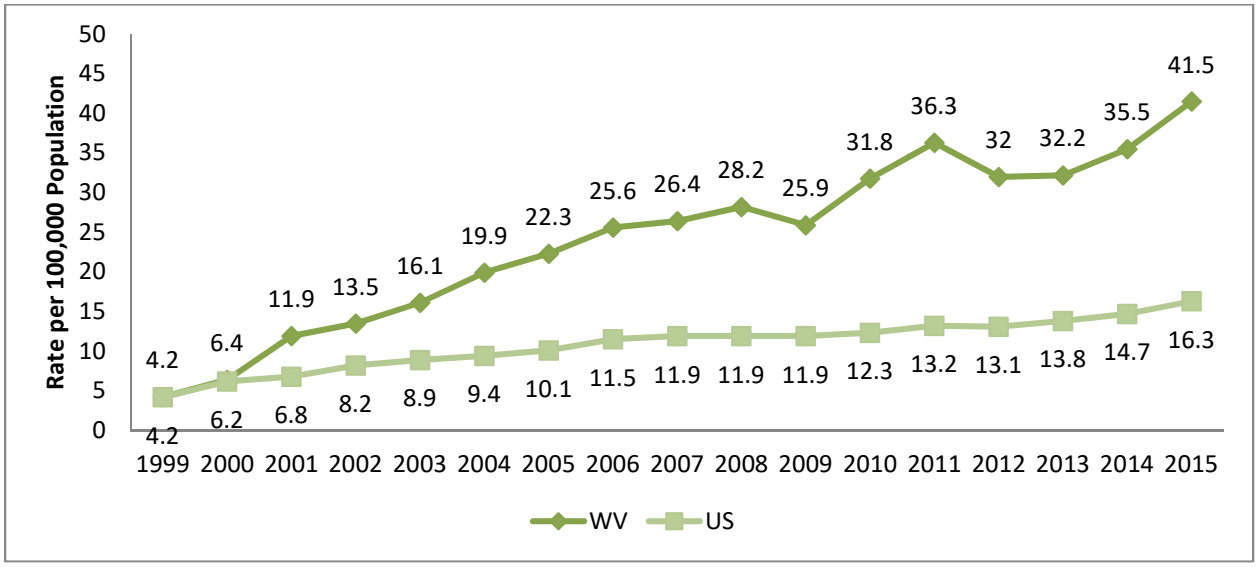
Figure 49. Number of Drug Poisoning Deaths per 100,000 Population in West Virginia and Region 1 from 2015 to 2017.



Source: 2019 County Health Rankings http://www.countyhealthrankings.org

Figure 50 Illustrates age-adjusted drug overdose mortality rates in West Virginia and United States. West Virginia had a significantly higher death rate from drug overdose than the rest of the US between 1999 and 2015.

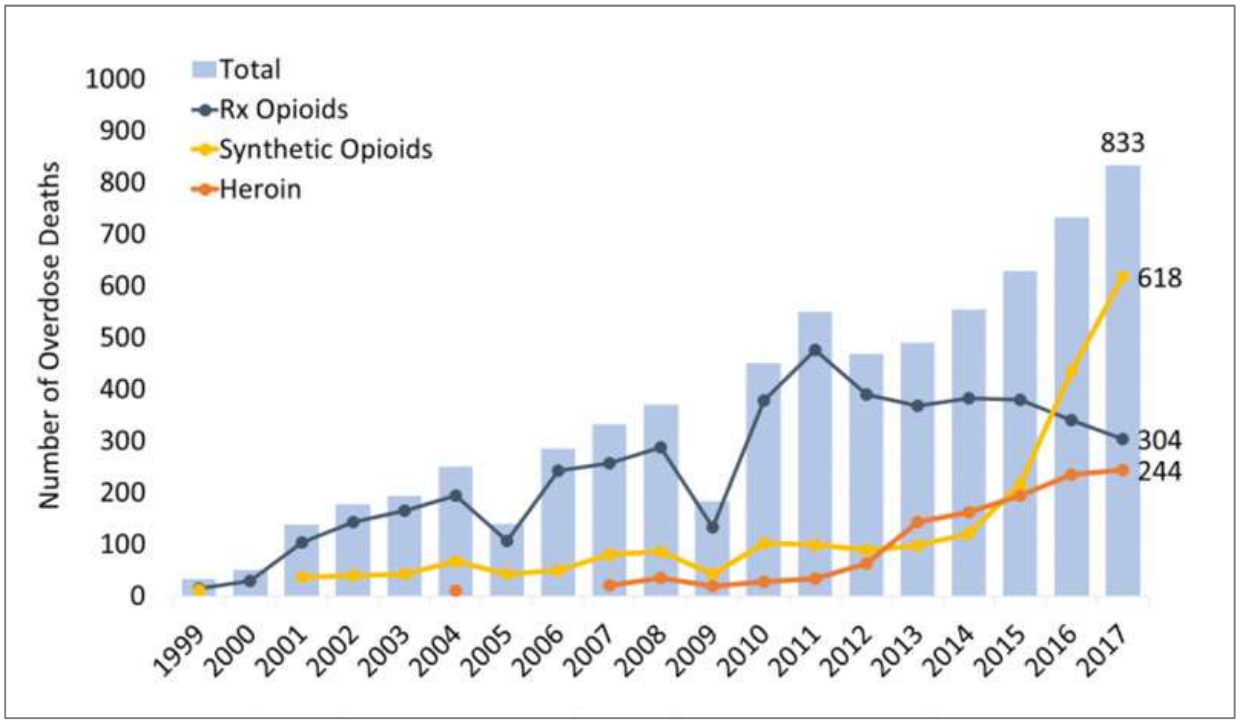
Figure 50. Age-Adjusted Resident Drug Overdose Mortality Rate in West Virginia and United States: 1999-2015.



Source: West Virginia Health Statistics Center, Vital Surveillance System and CDC Wonder

Figure 51 illustrates number of deaths involving opioids by opioid category between 1999 and 2017. The trend over the most recent recorded years shows a decrease in prescription opioid related deaths. Synthetic opioids (other than methadone)—are currently the main driver of drug overdose deaths. Opioids were involved in 47,600 overdose deaths in 2017 (67.8% of all drug overdose deaths).

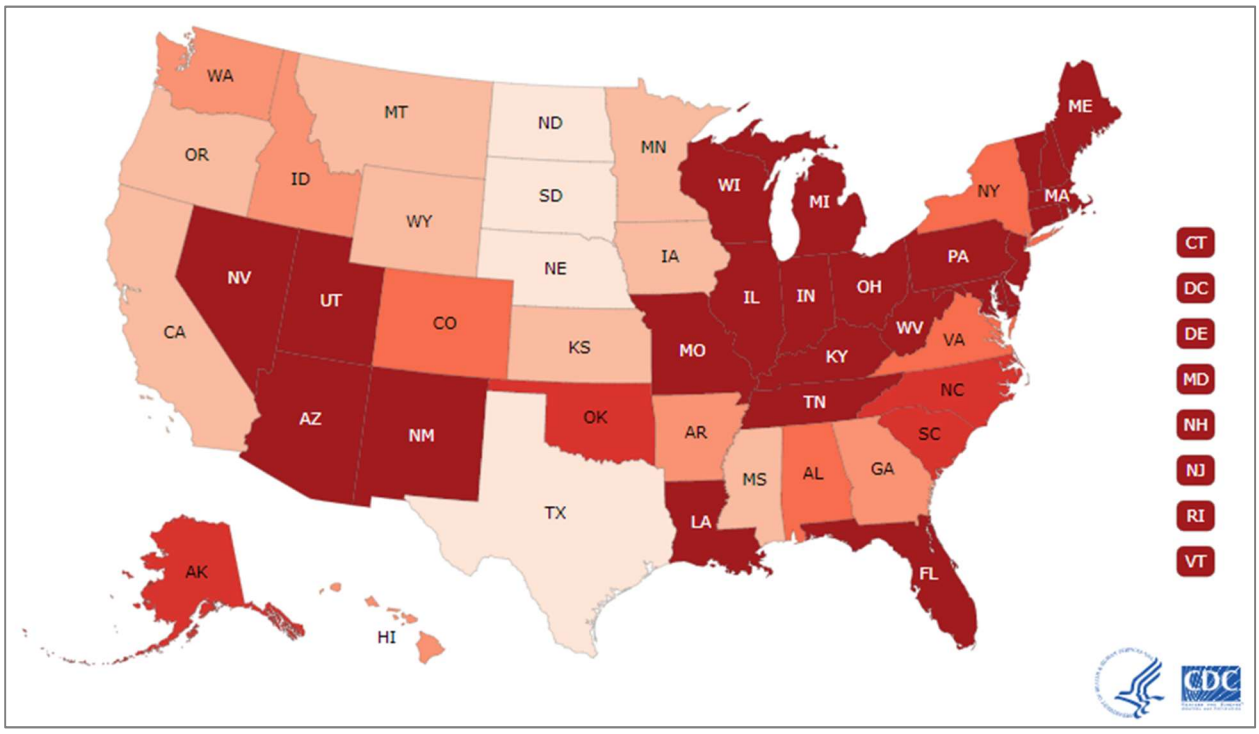
Figure 51. Number of Overdose Deaths Involving Opioids in West Virginia by Opioid Category



Source: CDC Wonder

Figure 52 illustrates age-adjusted drug overdose death rates by state in the United States in 2017. The 5 states with the highest drug overdose death rates were in order West Virginia (57.8 per 100,000), Ohio (46.3 per 100,000), Pennsylvania (44.3 per 100,000), the District of Columbia (44.0 per 100,000), and Kentucky (37.2 per 100,000). 4 out of the top 5 states share a border with West Virginia.

Figure 52. Number and Age-adjusted Rates of Drug Overdose Deaths by State, US 2017.



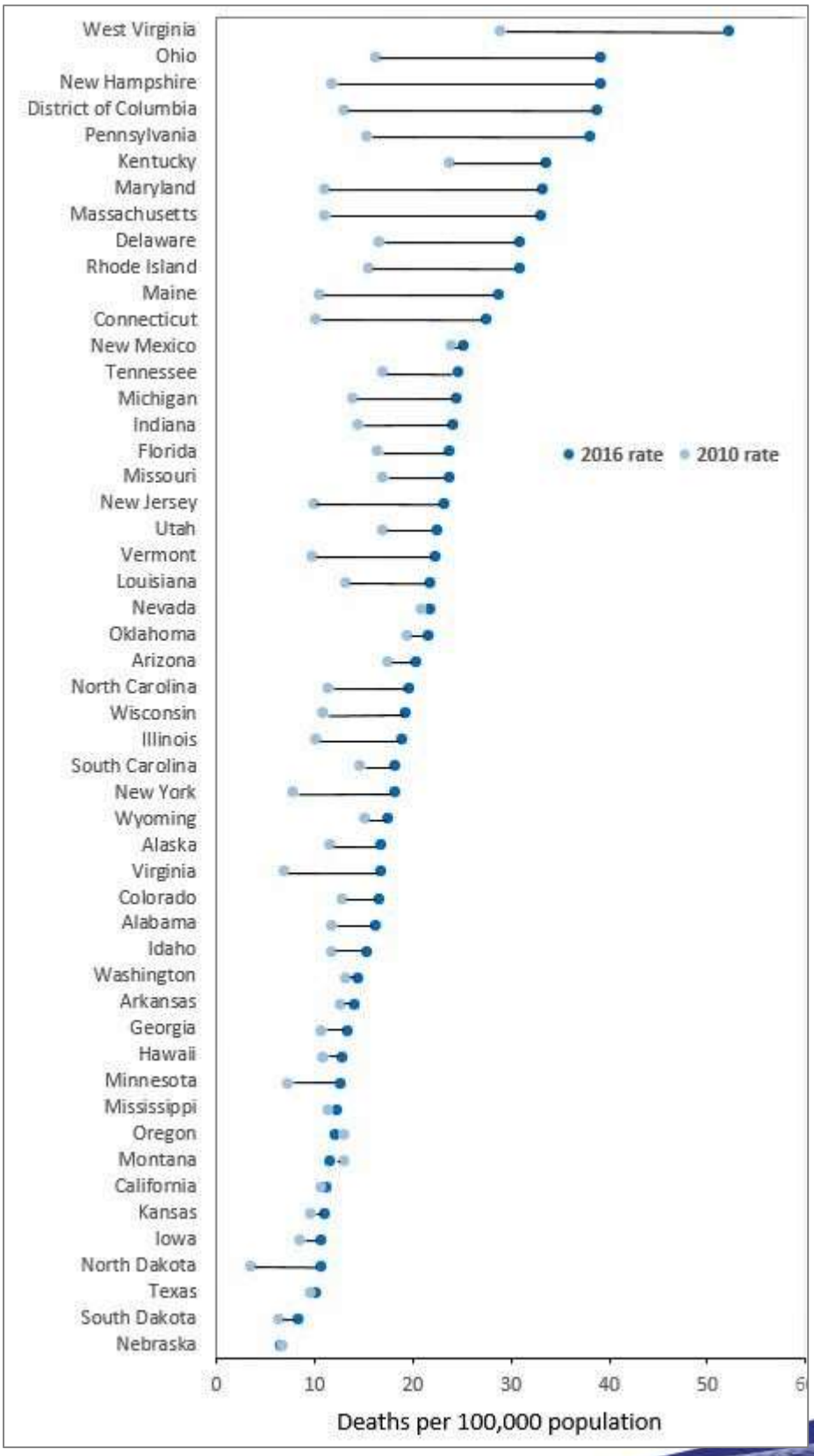
Legend

- 6.9 to 11.0
- 11.1 to 13.5
- 13.6 to 16.0
- 16.1 to 18.5
- 18.6 to 21.0
- 21.1 to 57.0

Source: Centers for Disease Control and Prevention 2018

Northwood Health Systems

Figure 53 illustrates Age-Adjusted rate of overdose deaths by state in 2010 and 2016.



Focus Groups Input

Locally, focus group participants identified substance abuse as one of the issues that most impacts the behavioral health of the community and continues to be the single biggest need that the current system lacks capacity to adequately address. Across the two focus groups conducted for this study, substance abuse was identified as either the top problem or near the top problem in the service area. There is a perceived lack of addiction treatment services including local residential and long term rehab treatment options. Additionally a lack of aftercare and support groups for people in recovery was identified as an issue. Lack of information, lack of reliable transportation, and stigma were identified as major barriers to receiving treatment. The specific comments included:

- Lack of long term local residential substance abuse treatment beds
- Lack of aftercare and recovery support groups
- Stigma is a major problem preventing people from seeking treatment
- Lack of transportation to needed substance abuse services

Stakeholder Interview Input

Stakeholders participating in individual interviews shared similar views to the discussions from the focus groups. Individual stakeholders identified substance abuse as the top problem affecting the community across all surveys. A portion of stakeholders noted there were not enough options for substance abuse treatment available locally while another portion believed the treatment options were available but just weren't being utilized due to poor interagency communication, lack of information/education to the public, stigma, and other barriers such as lack of access.

- Substance Abuse and addiction is a major problem in the community
- Some treatment options available but many people still lack access
- Lack of communication between treatment agencies
- Stigma and transportation present major barriers to treatment

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 equal to or higher than the state, which has by far the highest rate in the country for drug overdose deaths per capita. Local stakeholders reported in each of the focus groups and interviews that the abuse of opioids, specifically fentanyl is increasing, and the local system is struggling to provide access to needed services in our communities, as evidenced by the steady year over year increase in drug related hospitalizations and mortality over the past two decades.

Local leaders indicate that there is a need for increased access to preventative education and anti-stigma messaging as well as increased residential treatment capacity locally and post-acute support services like recovery housing.

Overall observations and findings from the data include:

- In 2016 Brooke, Marshall and Ohio Counties showed a slightly higher percentage of adult binge drinking compared to the WV state average while Hancock and Wetzel Counties showed percentages equal to that of the state overall.
- Alcohol use by individuals aged 12 and older and Alcohol Use Disorder has decreased in Region 1 (Brooke, Hancock, Marshall, Ohio, Wetzel Counties) between 2012 and 2016.
- Percentage of individuals aged 12 or older needing but not receiving treatment for alcohol use in the past year has increased in Region 1 between 2012 and 2016.
- Between 2013 and 2017 all counties in the service area except Hancock County recorded percentages higher than the state average for driving deaths with alcohol involvement. Brooke and Wetzel County had the highest percentages reported during this time.
- Each of the 5 counties in the service area recorded a lower percentage of cigarette use than the state overall average.
- Region 1 (Brooke, Hancock, Marshall, Ohio, Wetzel Counties) is similar to the West Virginia state average during this time period in use of marijuana, cocaine, and heroin.
- Non-medical use of pain relievers has decreased across the state and in Region 1 between 2010 and 2014.

- Individuals needing but not receiving treatment for illicit drug use in the past year has remained steady between 2010 and 2014 at around 2.3%. This is below the overall state average of 2.5%.
- Drug overdose death rates between 2015 and 2017 in Brooke, Ohio, Marshall, and Wetzel Counties were lower than the overall WV state death rate of 47 per 100,000 population. However, Hancock County was higher than the overall state rate during the same period at 50 deaths per 100,000 population.
- West Virginia had the highest overdose death rate per 100,000 population in 2017 at 57.8. The 5 states with the highest drug overdose death rates were in order West Virginia (57.8 per 100,000), Ohio (46.3 per 100,000), Pennsylvania (44.3 per 100,000), the District of Columbia (44.0 per 100,000), and Kentucky (37.2 per 100,000). 4 out of the top 5 states share a border with West Virginia.
- Synthetic opioids (other than methadone) are currently the main driver of drug overdose deaths. Opioids were involved in 47,600 overdose deaths in 2017 (67.8% of all drug overdose deaths).

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 Statistics, 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.

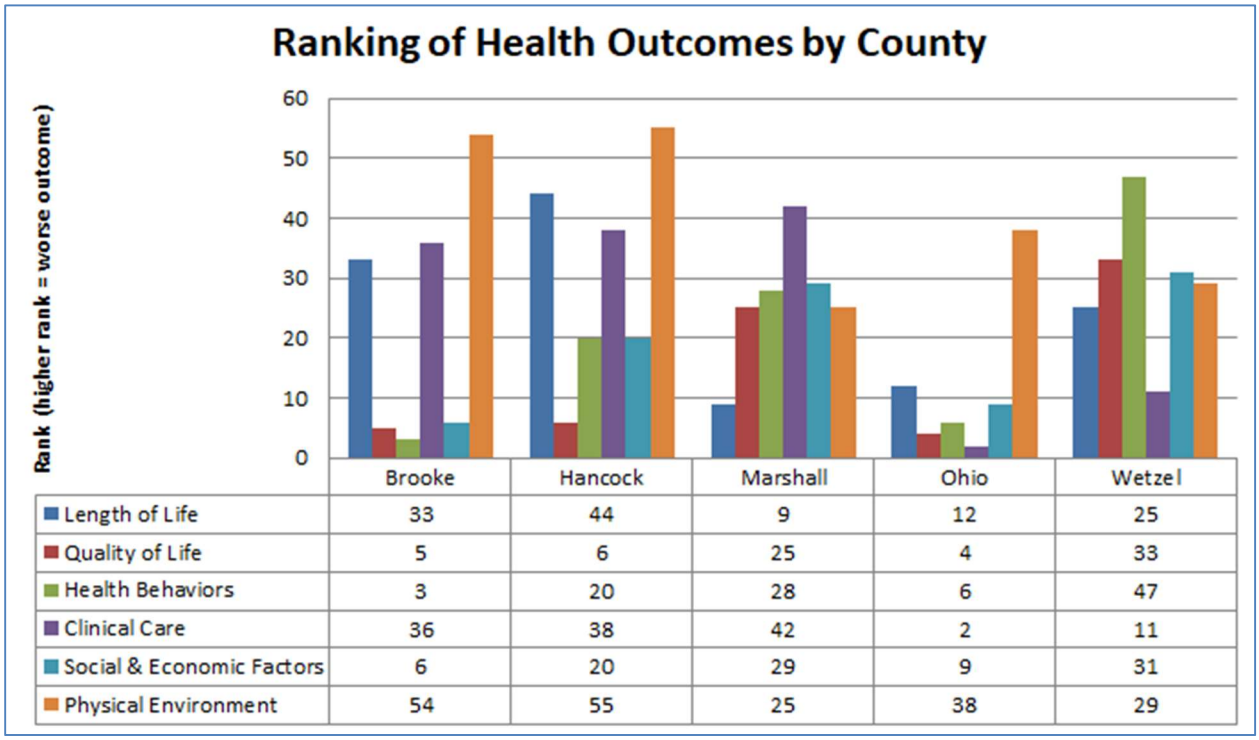
Clinical Care weighs factors that include health insurance coverage, the ratio of population to primary care physicians / dentists / mental health providers, and screening / monitoring for healthcare problems.

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

Physical Environment 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 has the highest (worst) health outcomes across three of the six categories when compared to the other counties in the service area while Ohio County has the lowest (best) health outcomes across three of the six categories. The highest (worst) rankings in each individual category are as follows: Length of Life – Hancock County; Quality of Life -- Wetzel County; Health Behaviors – Wetzel County; Clinical Care – Marshall County; Social & Economic Factors – Wetzel County; and Physical Environment – Hancock County.

Figure 54. Health Related Quality of Life Indicators

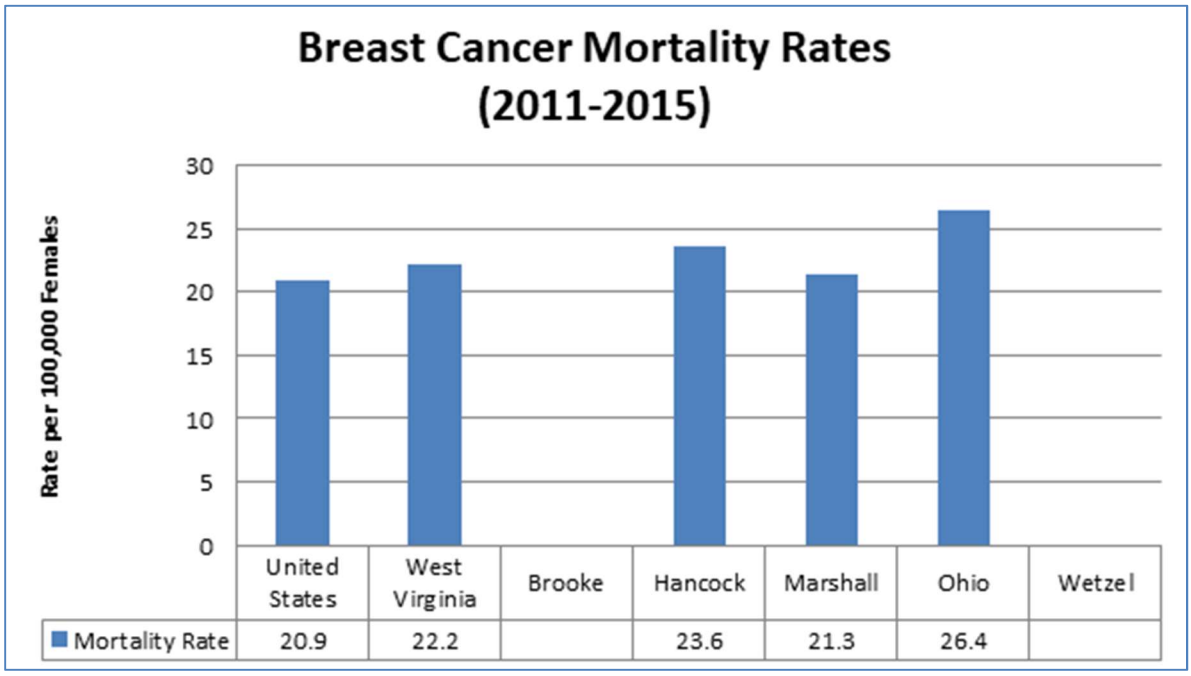


	Brooke	Hancock	Marshall	Ohio	Wetzel
Length of Life	33	44	9	12	25
Quality of Life	5	6	25	4	33
Health Behaviors	3	20	28	6	47
Clinical Care	36	38	42	2	11
Social & Economic Factors	6	20	29	9	31
Physical Environment	54	55	25	38	29

Source: www.countyhealthrankings.org, 2018 County Health Rankings West Virginia Data

Figure 55 illustrates breast cancer mortality rates for West Virginia and the service area counties for 2011-2015, where data was available. (Note: Data has been suppressed for Brooke and Wetzel Counties 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 United States overall rate of 20.9 deaths per 100,000 females.

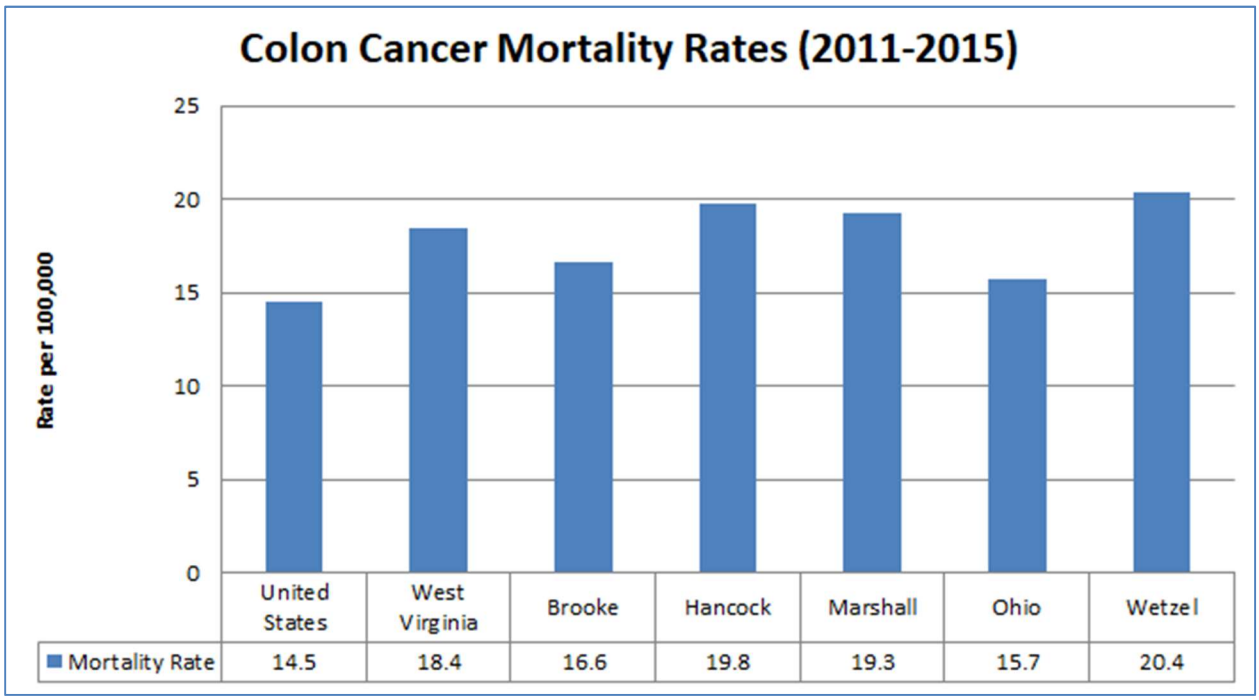
Figure 55. Breast Cancer Mortality Rates



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

Figure 56 illustrates the colon cancer mortality rates for the United States, for West Virginia, and for the service area counties for 2011-2015. The National Cancer institute reports that colon cancer rates have been falling in the United States during the reporting period. Likewise, rates in West Virginia and in Brooke, Hancock, Marshall and Ohio Counties have been falling while Wetzel County has remained stable. The colon cancer mortality rates for West Virginia and for each of the individual service area counties exceed the mortality rate for the United States overall.

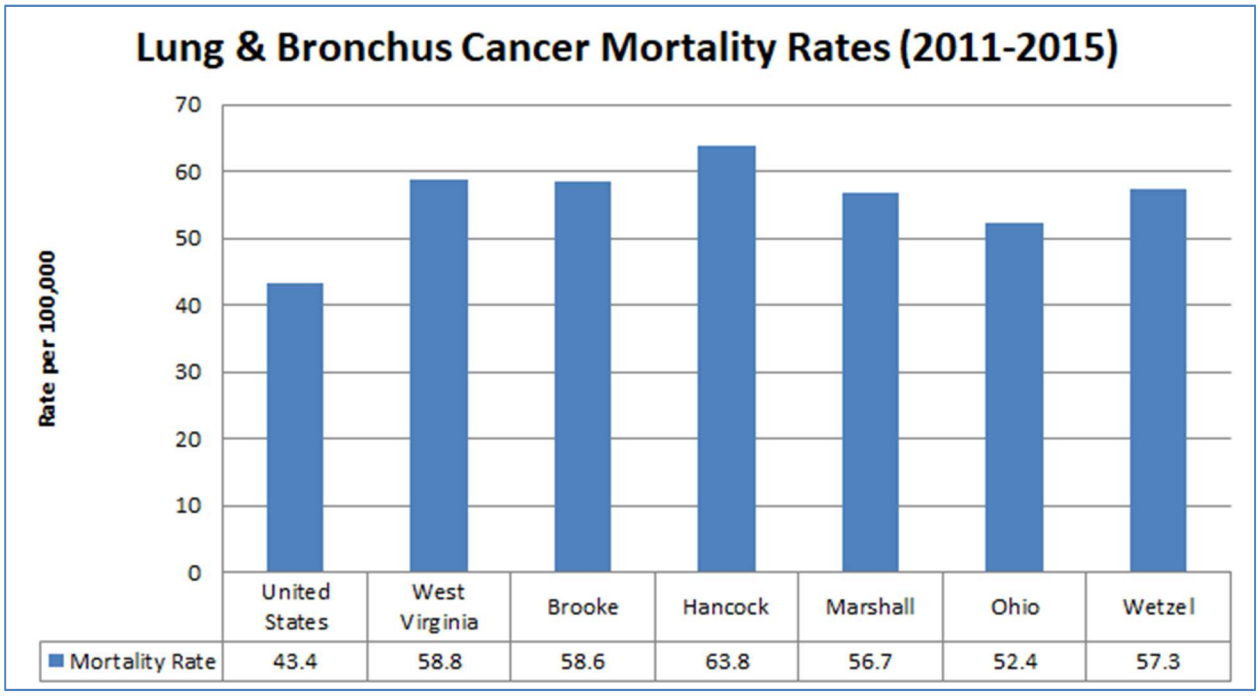
Figure 56. Colon Cancer Mortality Rates



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 2011-2015. 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 (58.8) except for Hancock County with a mortality rate of 63.8. The National Cancer Institute reports that rates of lung and bronchus cancer have been falling in the United States, in West Virginia, and in Ohio and Marshall Counties during the reporting period, while the rates in Brooke, Hancock, and Wetzel Counties have remained stable.

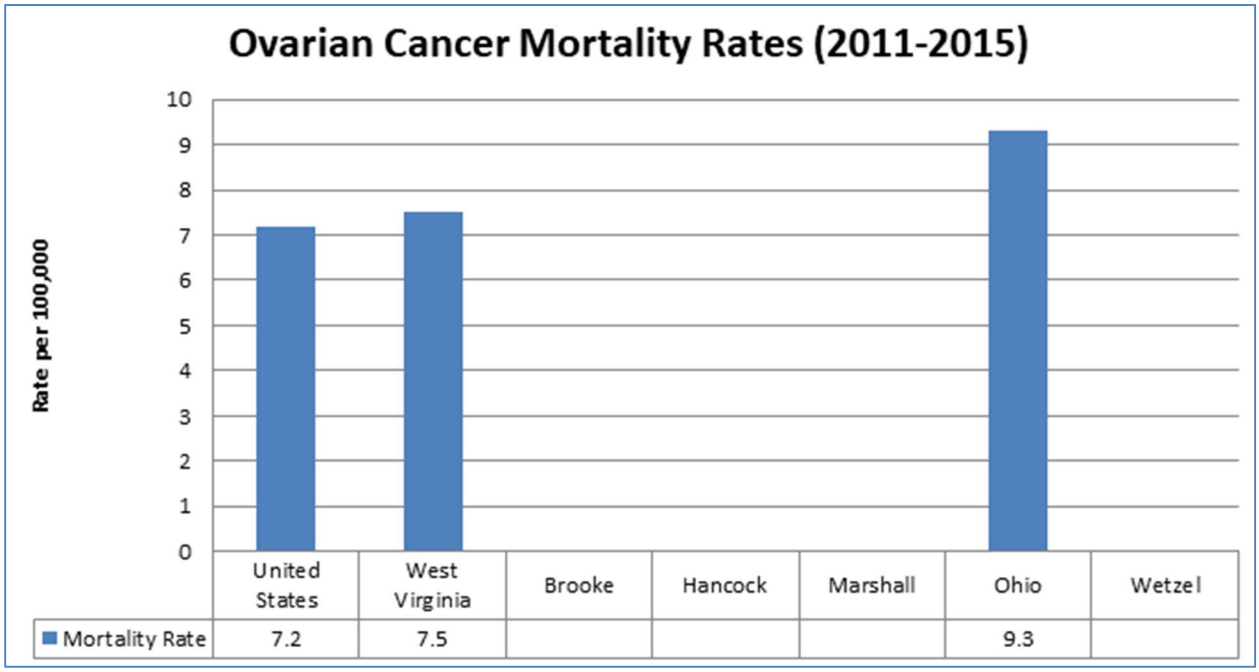
Figure 57. Bronchus and Lung Cancer Mortality Rates



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

Figure 58 illustrates ovarian cancer mortality rates per 100,000 people in Ohio County as well as the United States and West Virginia from 2011 to 2015 where data was available. (Note: Brooke, Hancock, Marshall 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 and in West Virginia during the reporting period.

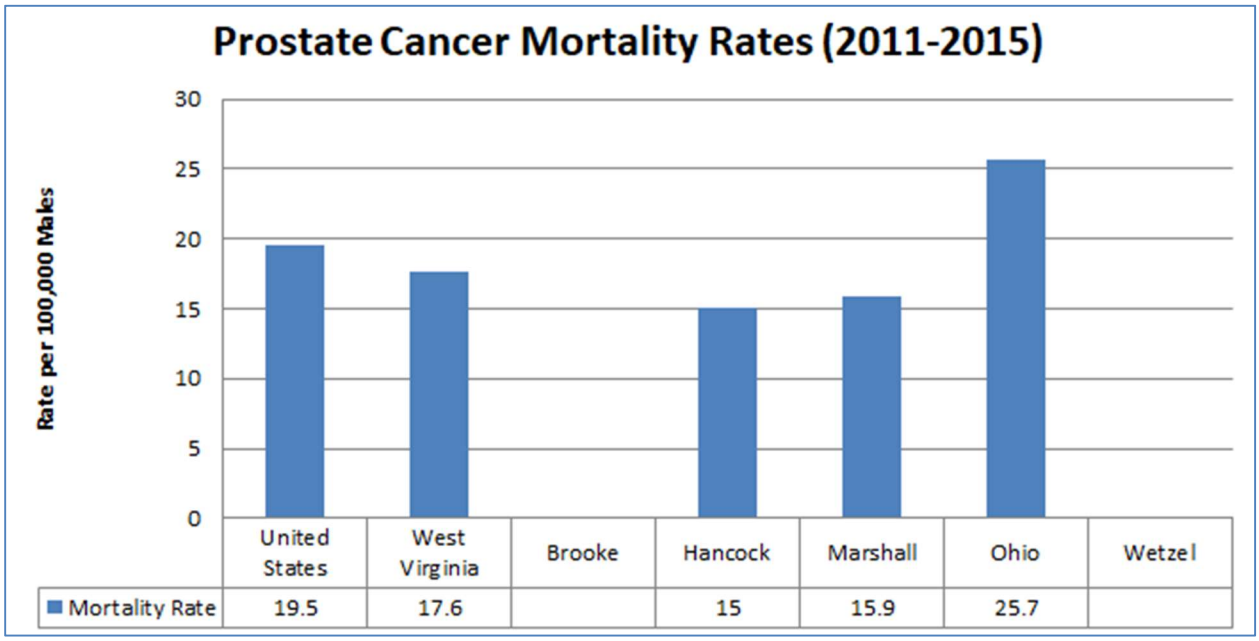
Figure 58. Ovarian Cancer Mortality Rates



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 2011-2015. West Virginia overall, Hancock and Marshall Counties were below the United States rate of 19.5 deaths per 100,000 males, while Ohio County had a rate of 25.7 per 100,000. (Note: Brooke and Wetzel Counties had 3 or fewer cases annually during the period and reporting is suppressed for this reason.) During the reporting period, rates of mortality from prostate cancer have been falling in the United States, in West Virginia, and in the service area counties reported.

Figure 59. Prostate Cancer Mortality Rate



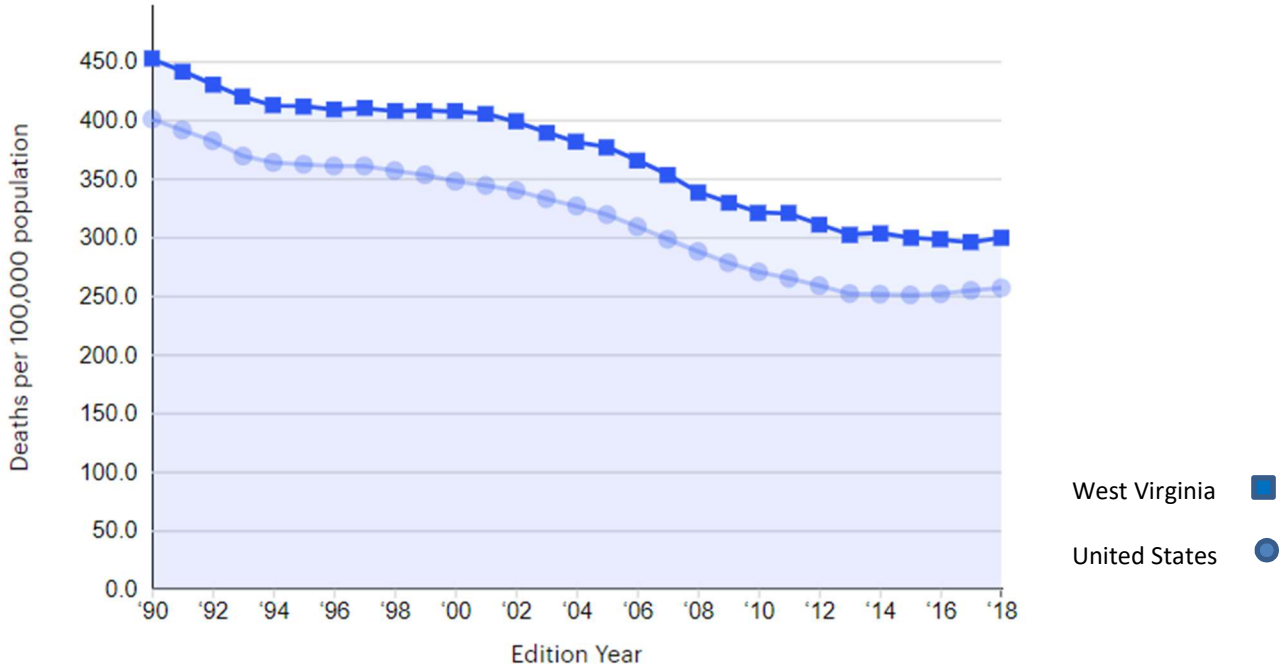
Data Source: State Cancer Profiles – National Cancer Institute, statecancerprofiles.cancer.gov

Cardiovascular Deaths

Heart disease and stroke are the US's leading and 5th leading causes of death, respectively. According to the Centers for Disease Control and Prevention, heart disease causes one of every four deaths in the United States. Stroke kills one of every twenty Americans. An estimated 92.1 million adults have at least one type of cardiovascular disease in the United States. Cardiovascular disease is influenced by such modifiable risk factors as smoking, hypertension, high cholesterol, diabetes, obesity, physical inactivity, poor diet and excessive alcohol use.

In 2017, West Virginia was ranked as the least healthy state with regard to hypertension in adults (43%). In 2018, West Virginia ranked eighth highest of the 50 states in annual deaths due to cardiovascular disease.

Figure 60. Cardiovascular Deaths



Source: United Health Foundation, americashealthrankings.org

Diabetes

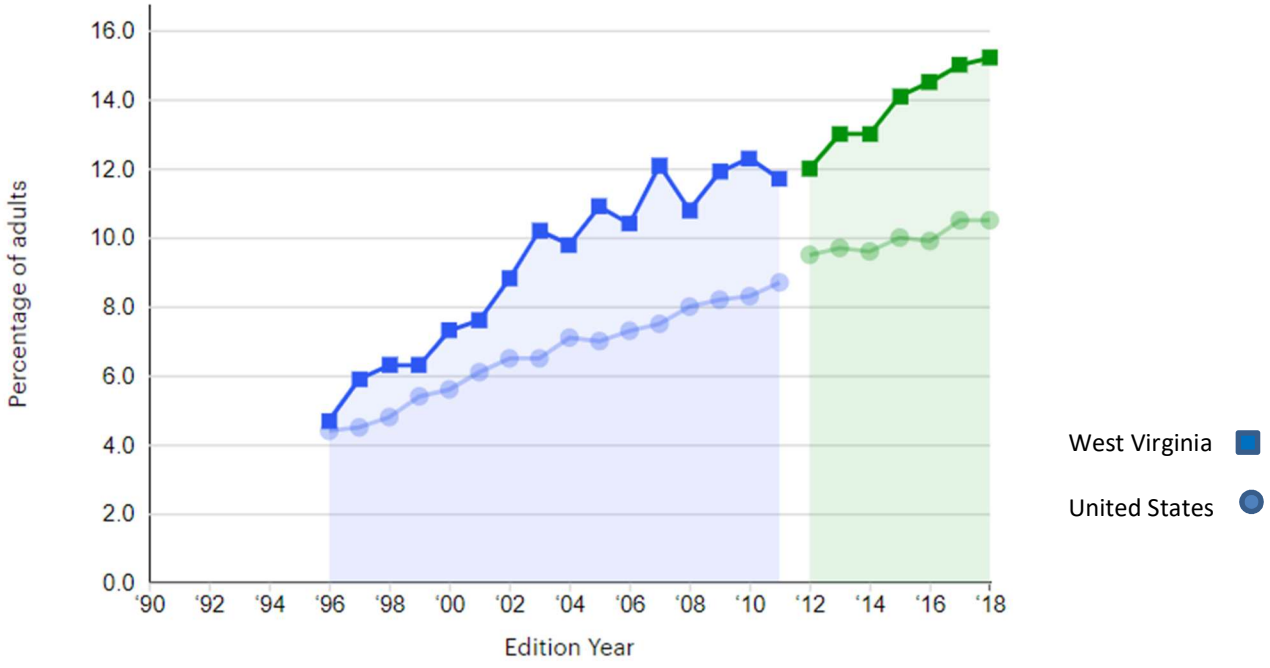
Diabetes is the 7th leading cause of death in the United States and contributes to heart disease and stroke, the leading and 5th-leading causes of death, respectively. According to the Centers for Disease Control and Prevention, 10.5% of the United States population has diabetes.

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 2018, 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 2018, 15.2% of West Virginia residents report being told they have diabetes as compared to the national average at 10.5%.

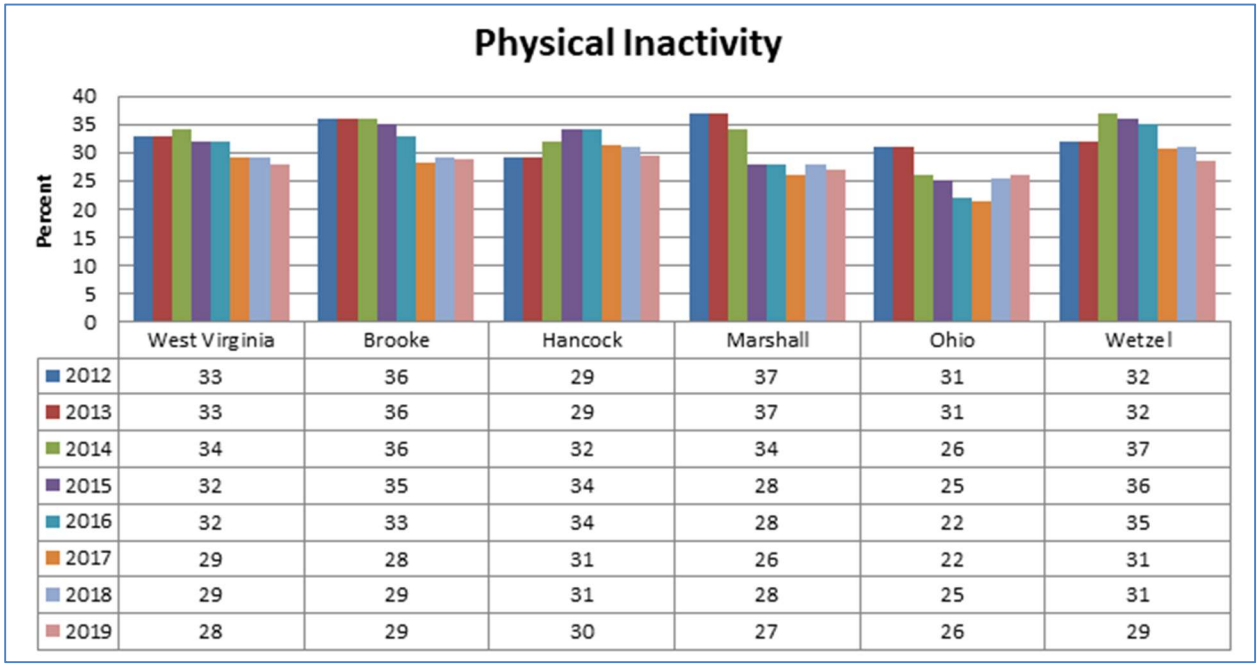
Figure 61. Percent of Adults Told by Healthcare Professional They have Diabetes



Source: United Health Foundation, americashealthrankings.org

Figure 62 illustrates the percentage of adults reported as physically inactive in Brooke, Hancock, Marshall, Ohio and Wetzel counties from 2012-2019. In 2018, West Virginia was ranked 8th lowest by the CDC in the percentage of adults who reported doing no physical activity or exercise in the last 30 days. Brooke, Hancock and Wetzel counties exceed the West Virginia 2019 inactivity percentage of 28% and Healthy People 2020 Goal of 32.6%. Residents of Ohio County showed the lowest levels of physical inactivity with 26% in 2019.

Figure 62. Percentage of Adults Reported as Physically Inactive



	West Virginia	Brooke	Hancock	Marshall	Ohio	Wetzel
2012	33	36	29	37	31	32
2013	33	36	29	37	31	32
2014	34	36	32	34	26	37
2015	32	35	34	28	25	36
2016	32	33	34	28	22	35
2017	29	28	31	26	22	31
2018	29	29	31	28	25	31
2019	28	29	30	27	26	29

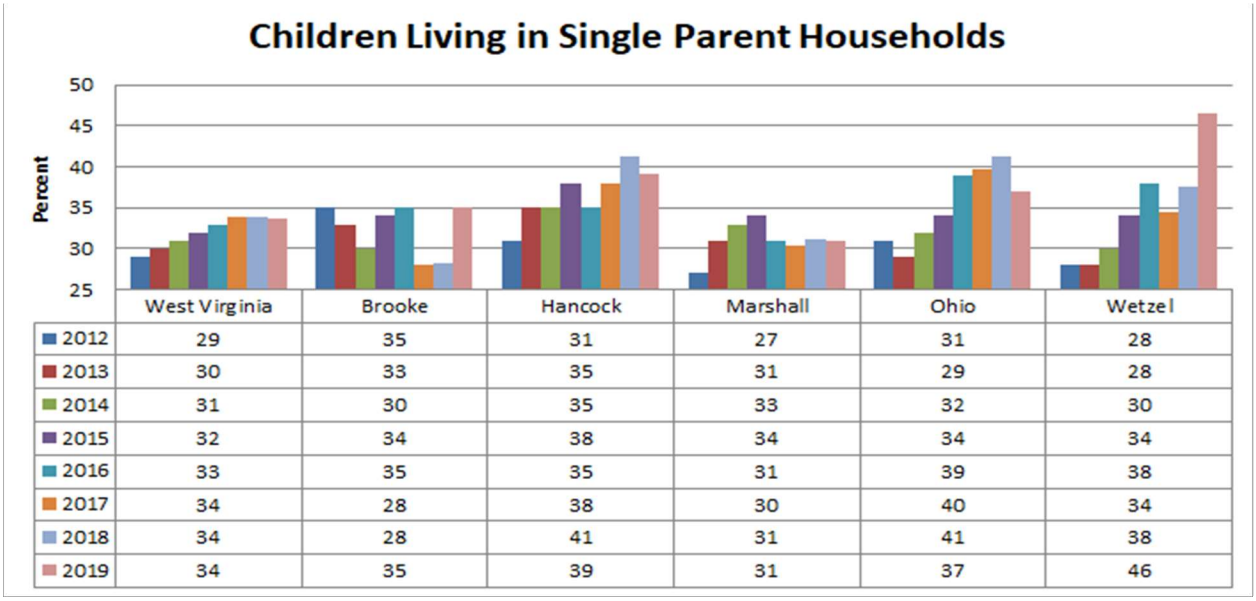
http://www.countyhealthrankings.org/

Single Parent Households

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

Figure 63 illustrates the percentage of children living in single parent households from 2012 to 2019 in West Virginia, Brooke, Hancock, Marshall, Ohio and Wetzel counties. During this period, there has been an increase in the state overall rate from 29% to 34%. The largest service area percentage increase occurred in Wetzel County, with Hancock and Ohio counties showing smaller increases. Marshall County had the smallest increase, and the percentage of children living in single parent households remained the same for Brooke County in 2012 and in 2019.

Figure 63. Percentage of Children Living in Single Parent Households

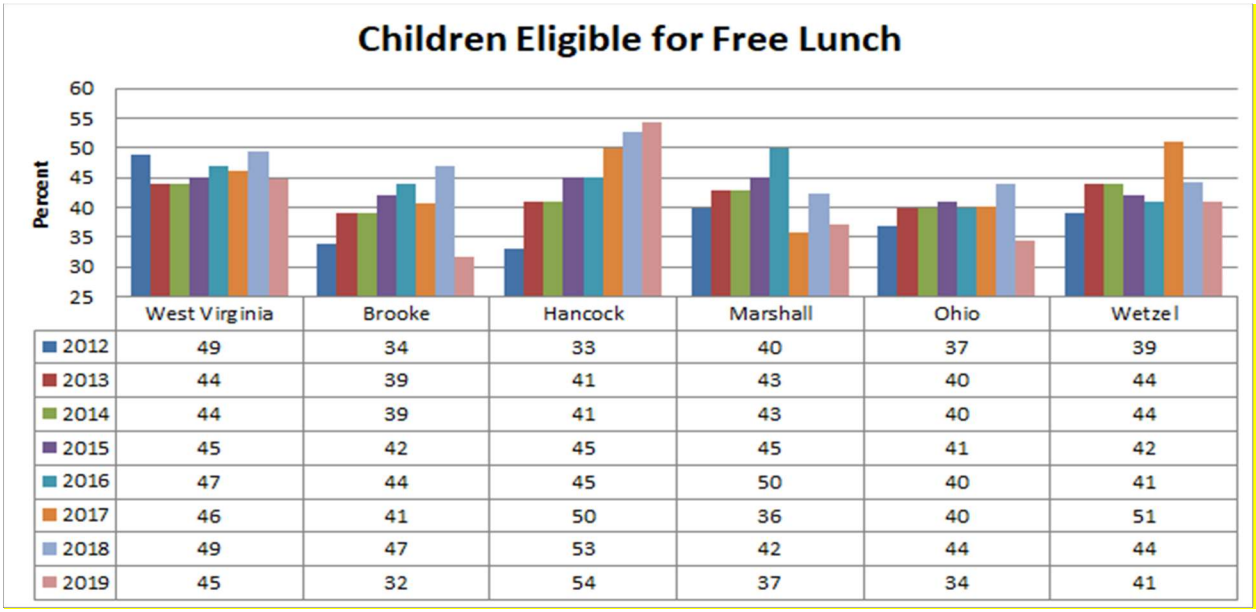


	West Virginia	Brooke	Hancock	Marshall	Ohio	Wetzel
2012	29	35	31	27	31	28
2013	30	33	35	31	29	28
2014	31	30	35	33	32	30
2015	32	34	38	34	34	34
2016	33	35	35	31	39	38
2017	34	28	38	30	40	34
2018	34	28	41	31	41	38
2019	34	35	39	31	37	46

http://www.countyhealthrankings.org/

Figure 64 illustrates free and reduced price lunch programs in the service area counties from 2012 to 2019. For the last two years Hancock County has had the highest percentage of children eligible for the free and reduced price lunch program with 54%. In 2019, Brooke and Ohio Counties have the lowest eligibility percentages.

Figure 64. Free and Reduced Price Lunch



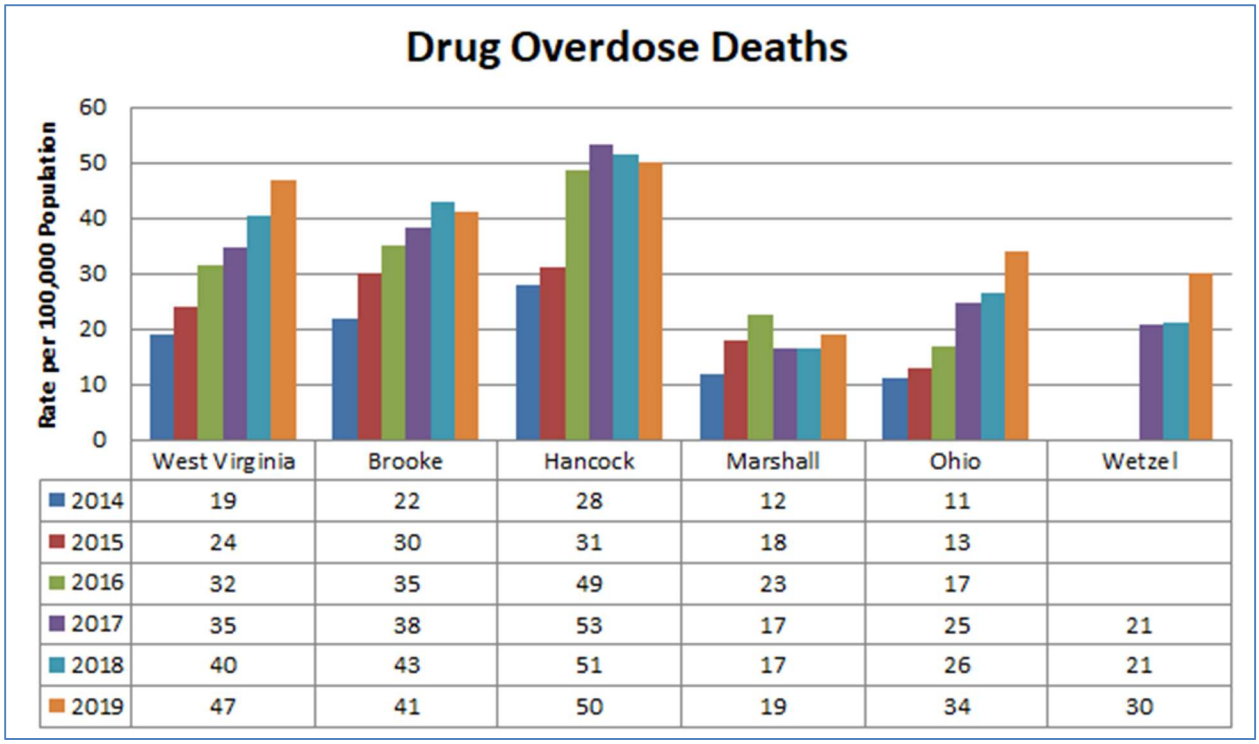
	West Virginia	Brooke	Hancock	Marshall	Ohio	Wetzel
2012	49	34	33	40	37	39
2013	44	39	41	43	40	44
2014	44	39	41	43	40	44
2015	45	42	45	45	41	42
2016	47	44	45	50	40	41
2017	46	41	50	36	40	51
2018	49	47	53	42	44	44
2019	45	32	54	37	34	41

http://www.countyhealthrankings.org/

Drug Overdose Deaths

According to the Centers for Disease Control and Prevention, drug poisoning (overdose) is the number one cause of injury-related death in the United States. Among the 50 states, the CDC ranked West Virginia as having the highest prescription opioid-involved death rates in 2017 and also having the highest synthetic opioid-involved overdose death rates in 2017. In 2017, there were 833 drug overdose deaths involving opioids in West Virginia. This number is double the rate in 2010 and three-fold higher than the national rate.

Figure 65. Drug Overdose Deaths



	West Virginia	Brooke	Hancock	Marshall	Ohio	Wetzel
2014	19	22	28	12	11	
2015	24	30	31	18	13	
2016	32	35	49	23	17	
2017	35	38	53	17	25	21
2018	40	43	51	17	26	21
2019	47	41	50	19	34	30

Source: www.countyhealthrankings.org

Painkiller Prescriptions

According to the Centers for Disease Control and Prevention, in 2011, West Virginia ranked highest of the 50 states (along with Alabama and Tennessee) in the number of painkiller prescriptions written per 100 people. In 2017, West Virginia was ranked 8th highest, with West Virginia providers writing 81.3 opioid prescriptions for every 100 persons, compared to the average U.S. rate of 58.7 prescriptions. Although this was among the top ten rates in the United States that year, it was also the lowest rate in the state since data became available in 2006. The rate of overdose deaths involving opioid prescriptions has also followed a decreasing trend from a peak of 27.3 deaths per 100,000 persons in 2011 to 17.2 deaths per 100,000 persons in 2017.

Figure 66. Overdose Deaths Involving Prescription Opioids.

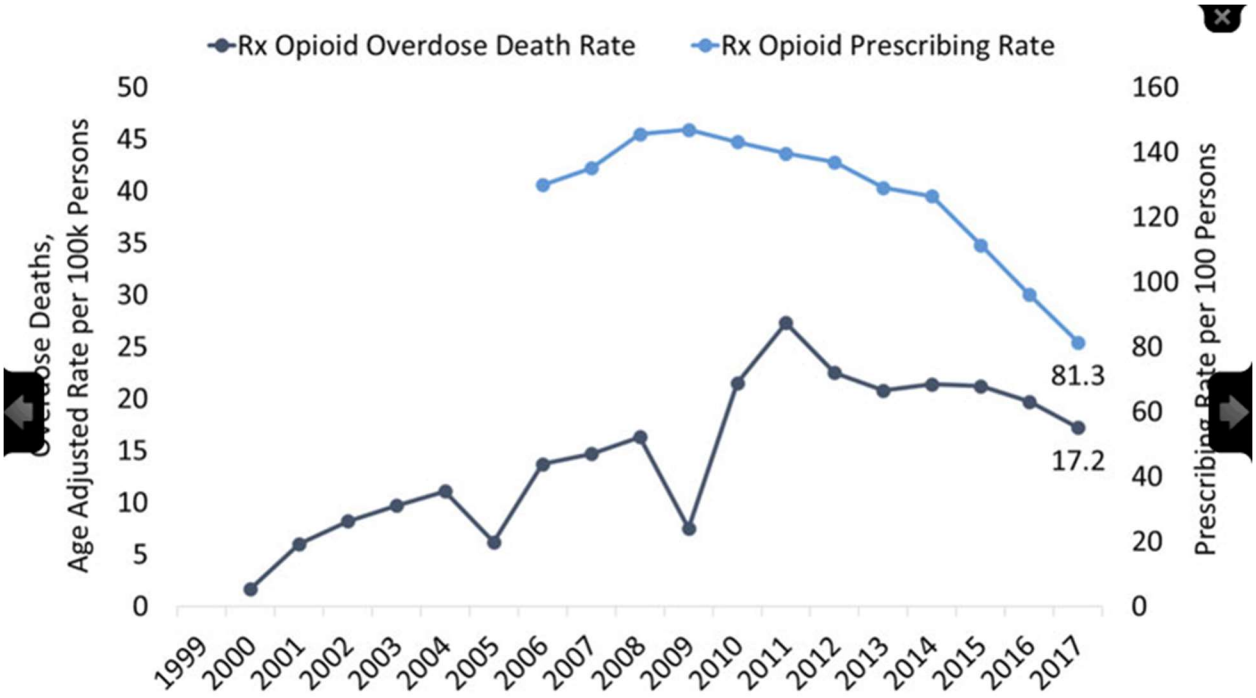
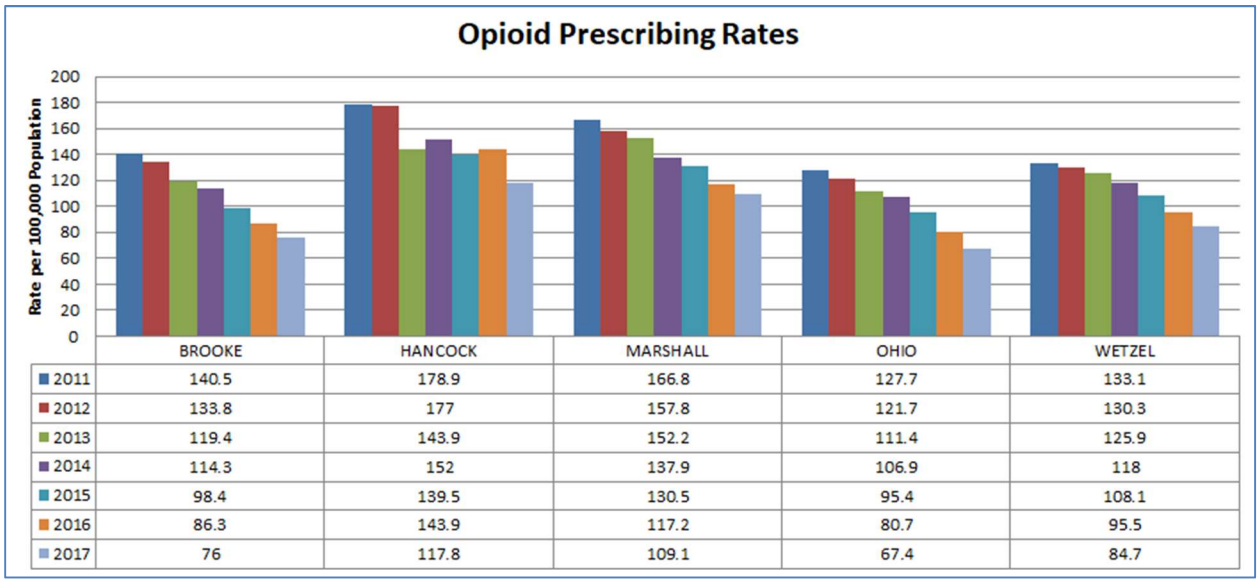


Figure 2. West Virginia age-adjusted rate of overdose deaths involving prescription opioids and the opioid prescribing rate. Source: CDC and CDC WONDER.

Figure 67. Opioid Prescribing Rates

In addition to the steady decline in opioid prescribing rates for West Virginia overall, opioid prescribing rates have shown reductions in each of the counties served by Northwood. Prescribing rates in Hancock, Marshall and Wetzel Counties are still above the overall West Virginia rate, and all are well above the national average of average of 58.7 prescriptions.



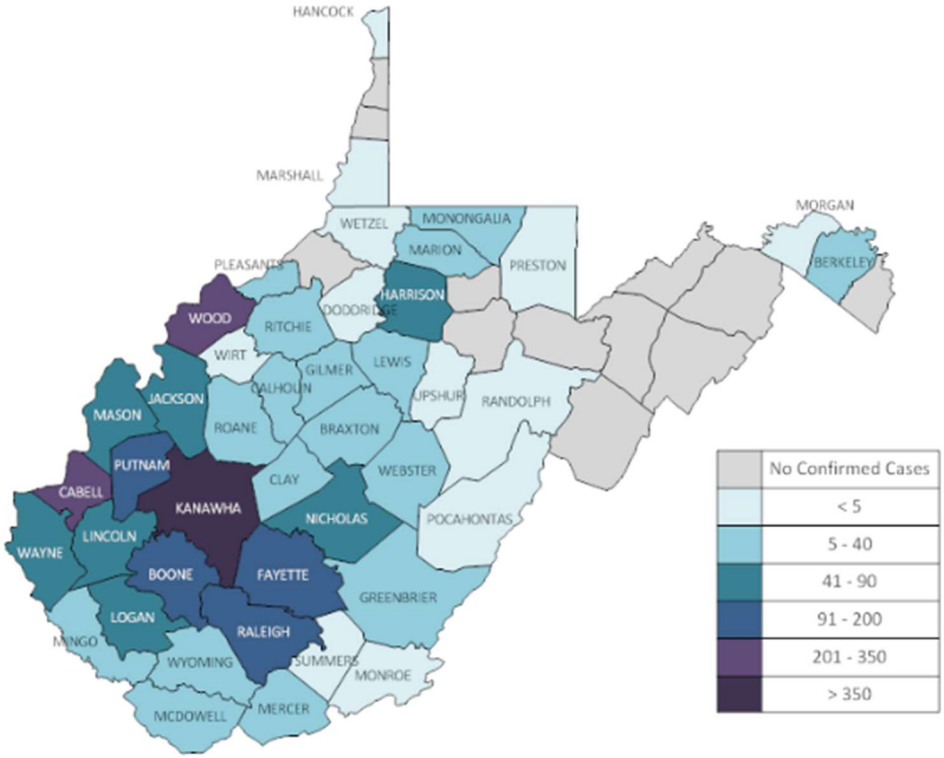
	BROOKE	HANCOCK	MARSHALL	OHIO	WETZEL
2011	140.5	178.9	166.8	127.7	133.1
2012	133.8	177	157.8	121.7	130.3
2013	119.4	143.9	152.2	111.4	125.9
2014	114.3	152	137.9	106.9	118
2015	98.4	139.5	130.5	95.4	108.1
2016	86.3	143.9	117.2	80.7	95.5
2017	76	117.8	109.1	67.4	84.7

Source: cdc.gov

Hepatitis

Since March 2018, the West Virginia Bureau for Public Health has reported an increase in the number of confirmed cases of acute Hepatitis A virus (HAV). This increase in cases has primarily been among injection and non-injection drug users (70%), homeless or mobile individuals (9.4%), and those who have been recently incarcerated. As of May 2019, the state Office of Epidemiology and Prevention Services has published the data shown below. In comparison to other counties in West Virginia, the counties served by Northwood Health Systems have not yet seen significant increases in HAV infection rates.

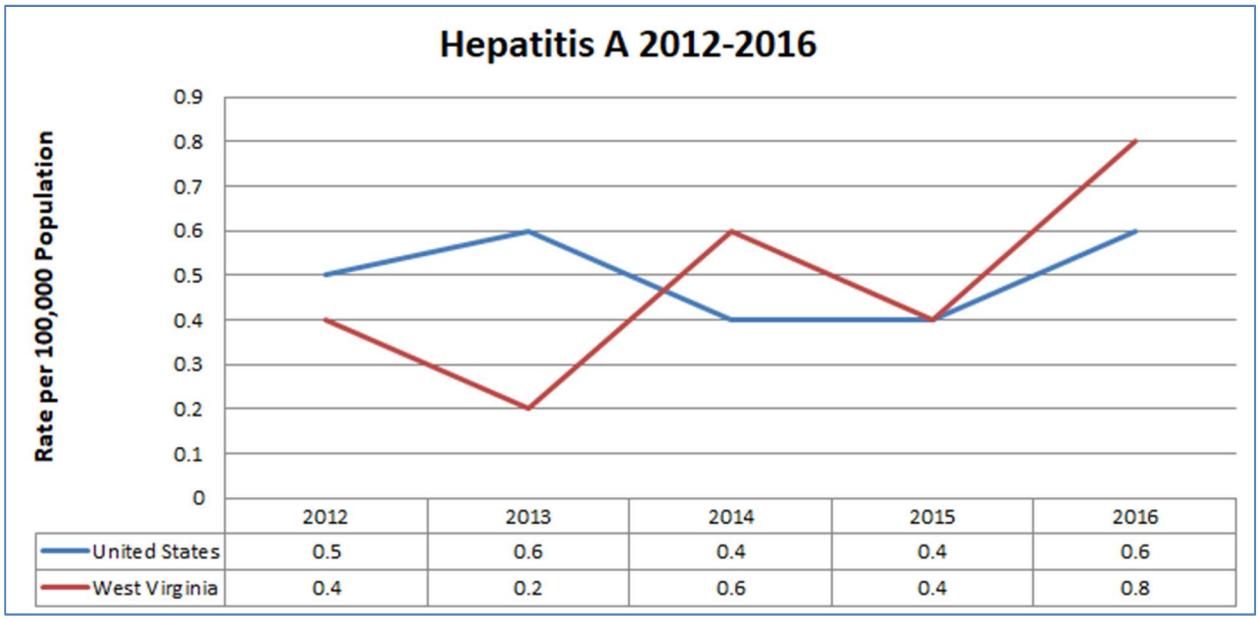
Figure 68. West Virginia Hepatitis A Outbreak Cases as of May 2019



Source: WV Department of Health and Human Resources, Bureau for Public Health, Office of Epidemiology and Prevention Services

Figure 69. Hepatitis A 2012-2016, West Virginia and United States

In both the United States and in West Virginia specifically, Hepatitis A confirmed cases have been trending upward.



	2012	2013	2014	2015	2016
United States	0.5	0.6	0.4	0.4	0.6
West Virginia	0.4	0.2	0.6	0.4	0.8

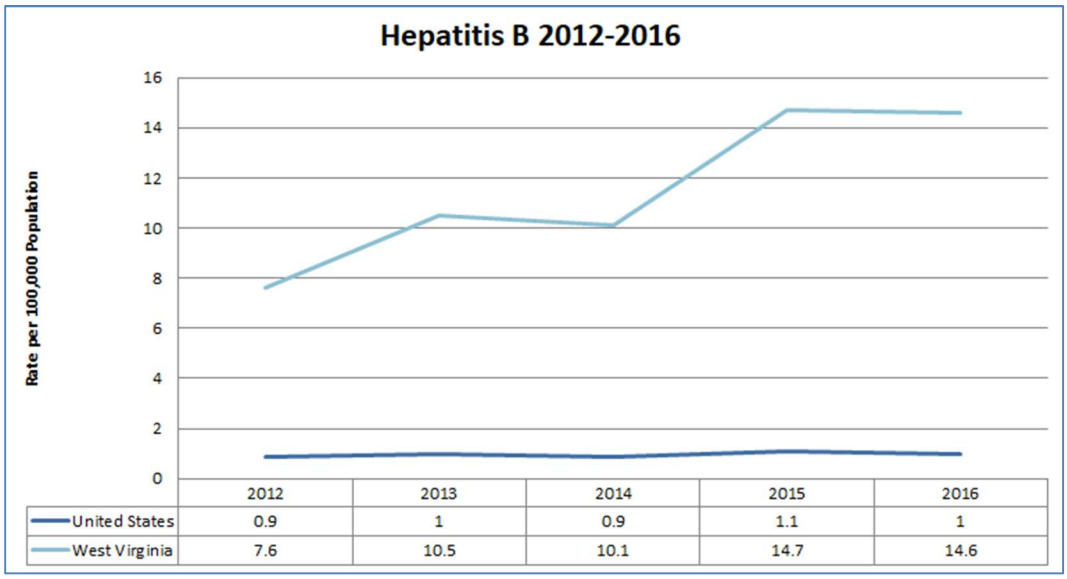
Source: CDC, National Notifiable Diseases Surveillance System.

Figure 70. Hepatitis B 2012 – 2016, West Virginia and United States

Hepatitis B is a liver infection caused by the Hepatitis B virus (HBV). It is transmitted when blood, semen, or another body fluid from a person infected with the Hepatitis B virus enters the body of someone who is not infected. This can happen through sexual contact, sharing needles, syringes, or other drug-injection equipment, or from mother to baby at birth.

Although Hepatitis B rates have been declining nationally since 2006, HBV rates have been rising in West Virginia. By a significant margin, the two most prominent risks by percentage of cases were injection drug use and use of street drugs. According to the Centers for Disease Control and Prevention, in the United States in 2013, the incidence of acute Hepatitis B was the lowest ever recorded; however, in West Virginia, rates are many times the national average and have been increasing steeply since 2013.

According to the West Virginia Department of Health and Human Resources, Bureau for Public Health, there are epidemic levels of Hepatitis B infection in West Virginia. In 2015, West Virginia had the highest rate of Hepatitis B in the United States at 14.7 per 100,000 population.



	2012	2013	2014	2015	2016
United States	0.9	1	0.9	1.1	1
West Virginia	7.6	10.5	10.1	14.7	14.6

Source: Centers for Disease Control and Prevention

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, breast cancer mortality rates have been declining.
- Colon cancer mortality rates in West Virginia and in each of the 5 service area counties exceed the national average but have been declining within the past 5 years.
- In 2018, West Virginia ranked eighth highest nationally in annual deaths due to cardiovascular disease.
- In 2017, West Virginia was ranked as the least healthy state with regard to hypertension in adults.
- Over 43% of West Virginia adults have been told by a health care professional that they have hypertension.
- In 2018, West Virginia continued to rank highest nationally in the percentage of adults with diabetes.
- West Virginia continues to have the highest drug overdose mortality rate in the nation.
- West Virginia's drug overdose death rate is more than triple the national average.
- In 2017, West Virginia ranked eighth highest of the 50 states in the number of opioid prescriptions written per 100 persons. This number has been trending downward since 2011.
- Hepatitis A is on the rise in West Virginia.
- West Virginia has the highest rate of Hepatitis B in the United States.
- In West Virginia, Hepatitis infection rates are 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.
- In 2018, West Virginia ranked eighth highest of the 50 states in the percentage of adults reporting physical inactivity.
- More than 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 34% for the percentage of children living in a single parent household. Brooke, Hancock, Ohio and Wetzel Counties exceed the State rate.

- In Hancock County, 54% of students are eligible for free lunch. Other counties in the service area rate between 32% and 41%, all below the state average of 45%.

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 2012 and 2017, the percentage of West Virginia residents who lacked health insurance coverage dropped significantly.
- During this same time frame, 2012 to 2017, the percentage West Virginia residents receiving Medicaid coverage increased by 10%.
- In West Virginia between 2013 and 2017, the percentage of adults who needed to see a doctor but could not due to cost dropped from 18.4 to 14.8, which we believe is due to implementation of the Affordable Care Act and Medicaid expansion.
- Hancock, Marshall, and Wetzel Counties are all designated as medically underserved areas. Wetzel and Marshall Counties are designated shortage areas for Primary Care, Dental and Mental Health Services. Hancock County is also designated as a Primary Care shortage area.
- Utilization of Crisis Stabilization Services has increased over the past 5 fiscal years.
- During fiscal years 2014 through 2017, utilization of Northwood psychiatric/medication management services has remained relatively consistent.

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 2018, West Virginia ranked worst of the 50 states in the number of poor mental health days in the past 30.
- In 2018, 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 Wetzel County.
- Adults in Brooke and Ohio Counties have the best ratings of poor or fair health, compared to other counties in the service area, and all counties in the service area are much better than West Virginia overall.
- Based on 2014 data, SAMHSA reported that, of the 50 states, West Virginia ranked in the top three for the highest percentage of persons with Any Mental Illness.
- Based on 2014 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 than the national rate.
- According to the American Foundation for Suicide Prevention, suicide is the 10th leading cause of death overall in West Virginia.
- Suicide is the second leading cause of death for individuals aged 15 to 34 in West Virginia.
- Brooke County has the highest rate of suicide deaths in the counties served and is higher than the overall state rate.
- 35% of the homeless population in West Virginia can be characterized as Seriously Mentally Ill and 33% as chronic substance abusers.

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 equal to or higher than the state, which has by far the highest rate in the country for drug overdose deaths per capita. Local stakeholders reported in each of the focus groups and interviews that the abuse of opioids, specifically fentanyl is increasing, and the local system is struggling to provide access to needed services in our communities, as evidenced by the steady year over year increase in drug related hospitalizations and mortality over the past two decades.

Local leaders indicate that there is a need for increased access to preventative education and anti-stigma messaging as well as increased residential treatment capacity locally and post-acute support services like recovery housing.

Overall observations and conclusions from the quantitative and qualitative data include:

- In 2016 Brooke, Marshall and Ohio Counties showed a slightly higher percentage of adult binge drinking compared to the WV state average while Hancock and Wetzel Counties showed percentages equal to that of the state overall.
- Alcohol use by individuals aged 12 and older and Alcohol Use Disorder has decreased in Region 1 (Brooke, Hancock, Marshall, Ohio, Wetzel Counties) between 2012 and 2016.
- Percentage of individuals aged 12 or older needing but not receiving treatment for alcohol use in the past year has increased in Region 1 between 2012 and 2016.
- Between 2013 and 2017 all counties in the service area except Hancock County recorded percentages higher than the state average for driving deaths with alcohol involvement. Brooke and Wetzel County had the highest percentages reported during this time.
- Each of the 5 counties in the service area recorded a lower percentage of cigarette use than the state overall average.
- Region 1 (Brooke, Hancock, Marshall, Ohio, Wetzel Counties) is similar to the West Virginia state average during this time period in use of marijuana, cocaine, and heroin.
- Non-medical use of pain relievers has decreased across the state and in Region 1 between 2010 and 2014.
- Substance Abuse and addiction is a major problem in the community.
- Some treatment options are available but many people still lack access.
- Lack of communication between treatment agencies.
- Stigma and transportation present major barriers to treatment.

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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.