

Boone Memorial Hospital Boone County, West Virginia Community Health Needs Assessment

August 2019





August 31, 2019

Dear Community Resident:

Boone Memorial Hospital is committed to the community we serve throughout southern West Virginia. In an effort to understand more about the health and medical needs of our community, we contracted with Dixon Hughes Goodman, LLC (DHG), a large accounting firm based in Charlotte, NC to assist us with conducting an assessment of better understand these needs. This endeavor is called Community Health Needs Assessment 2019.

The assessment identifies a foundation of knowledge for Boone Memorial Hospital and its board to understand the needs of the community. This will provide valuable information as the board and leadership of the hospital think about strategic responses that can benefit and serve the residents.

We do not have adequate resources to solve all of the problems identified. Some issues are beyond the mission of the hospital; therefore, action is best suited for a response by others in the community. Some improvements will require personal actions by individuals rather than the response of an organization. We view this assessment as a foundation of information for how we, along with other organizations and agencies, can collaborate to bring the best each has to offer to address the more pressing identified needs.

We want to be a vital leader in our region along with other organizations to collaborate together to continue to strive for healthier communities.

Sincerely,

Virgil Underwood

Chief Executive Officer

Virgil Underwood



Our Mission

To create an environment in which qualified physicians and other health care personnel can work together to provide high quality health care service, in an atmosphere of brotherly love and concern, to the residents of Boone County and surrounding areas.

Our Vision

To be recognized as the healthcare facility of choice within the communities we serve.

To be seen as the best place to receive patient-centered care where patients are treated like family.

A Message from the CEO

"In fulfilling our mission, the leadership of Boone Memorial Hospital believes we need to provide high quality services at economical rates within our service area. The hospital further recognizes the responsibility to develop an organizational environment in which providers, employees, volunteers and other health professions are health to high standards of performance and find maximum job satisfaction. Boone Memorial strives to provide a comprehensive range of inpatient and our patient services, including prevention, wellness, diagnosis, treatment and rehabilitation as well as training and guidance to help our patients lead healthy, productive lives."

- Virgil Underwood, Chief Executive Officer

About Boone Memorial Hospital

Since its foundation in 1964, Boone Memorial has grown from a staff of five physicians and 38 employees has expanded more than five-fold in the last five decades, and its commitment to outreach and community health has experienced similar growth. The original hospital reached the end of its viability in meeting the ever changing advances in technology and healthcare demands of our population. Hospital and community members felt strongly that Boone County citizens and neighboring counties deserved a fresh new hospital. Designed by BMH employees, physicians, and community members, the hospital is a welcoming, patient centric hospital ensuring the departments have adequate space and technology to grow well into the future. Boone Memorial Hospital offers many needed services in our community, including:

- Cardiac Rehabilitation
- Emergency Services
- Infusion Therapy
- Laboratory Services
- Nuclear Medicine/Stress Testing
- Physical Therapy & Sports Medicine
- Pulmonary Rehabilitation
- Radiology/Imaging Services

- Social Services
- Swing Bed Program
- Respite Care
- Gastroenterology
- Surgery
- Inpatient Care
- Healthy Lifestyle Program
- The Black Lung Center



- Cardiology
- Pharmacy
- Diabetes Education

- Clinics (Specialty & Rural)
- Speech Therapy
- Dermatology

At Boone Memorial Hospital (BMH), we are dedicated to providing quality healthcare services. Making someone feel better is more than just a procedure or prescription; it comes from a kind gesture or welcoming smile. It comes from understanding each patient on an individual basis, where patients are seen as family, not simply a number.

Process and Methodology

Understanding the community's health needs is an important component to the Boone Memorial Hospital's mission. BMH sought outside assistance from DHG Healthcare (the national healthcare practices of Dixon Hughes Goodman LLP). DHG Healthcare is ranked as the 9th largest privately-held healthcare consulting firm by Modern Healthcare and has 300 professional serving a national footprint. DHG Healthcare demonstrated the necessary capabilities and service offerings to assist BMH on this important project. DHG Healthcare provided the project plan, research and organized the secondary data findings, analyzed and compiled focus group input, and provided support and report of the findings.

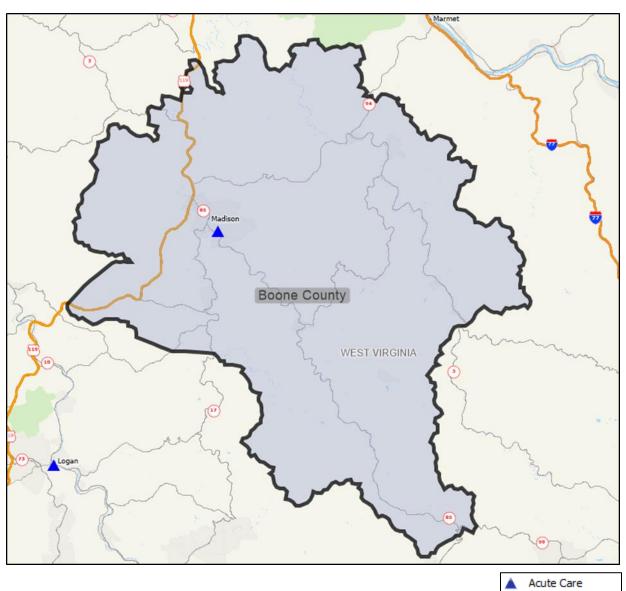
The process has two major elements illustrated below: 1) what do we know? This involved reviewing the secondary information available from a wide variety of sources to understand health needs and behaviors. This included reviewing local, state, and national healthcare and demographic variables. 2) What are we hearing? BMH wanted to gain understanding from the residents we serve. This was a critically important element in this process. We listened as residents shared their thoughts through surveys. Input was sought from public health leaders, physicians, business leaders, religious leaders, former patients, community advocacy groups, and community members.

Data Assessment What Do We Know? • Service Area Definition Confirmation • Review of External and Internal Sources • Population and Demographics • Health Indicators/Rankings Key Findings Vhat Are We Hearing? • Public Health • Underserved Populations • Chronic Disease Populations • Others



Community Served

The definition for this assessment is Boone County, West Virginia.





Data Assessment – Secondary Data

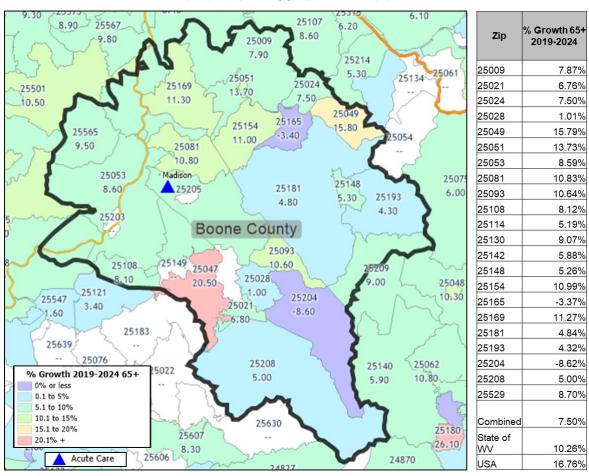
Demographics

An understanding of the demographics of the residents is an important component of understanding health. It is also important to understand the differences between the communities. Neilson demographic information was reviewed for each individual county in comparison to the state and national norms. In the summary table below, there is variation seen in the average median income and the percent of families below poverty compared to the West Virginia average.

	Pop 2019	Pop 2024	% Growth Total Pop 2019-2024	Net Growth Total Pop 2019-2024	% Growth 65+ 2019-2024		Average Median HH Income 2019	
Boone County - WV	21,739	20,593	-5.27%	-1,146	7.43%	315	\$38,655	20.59%
State of WV	1,802,185	1,782,032	-1.12%	-20,153	10.26%	36,932	\$46,164	12.86%
USA	329,236,175	340,950,101	3.56%	11,713,926	16.76%	8,964,296	\$63,174	10.54%

Boone County zip code 25049 shows the highest % growth for the 65+ population in the county.

2019-2024 % Growth 65+



Source: Nielsen, 2019-2024



2019-2024 Net Growth 65+

Net Growth

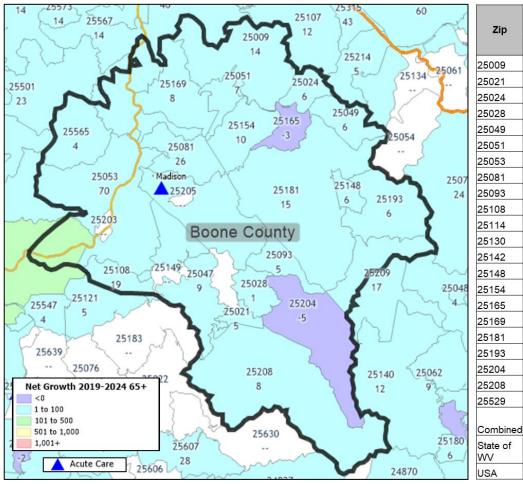
65+2019-2024

-3

-5

36,932

8,964,296



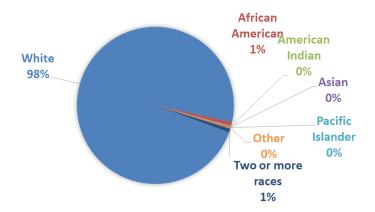
Source: Nielsen, 2019-2024



The following table and pie chart display the current racial and ethnic diversity present and anticipated growth in Boone County, West Virginia.

Race/Ethnicity Table – Boone County

County	Population Breakdown	Total Population	White	African American	American Indian	Asian	Pacific Islander	Other	Two or more races
Boone County	Population 2019	21,034	20,579	165	36	32	0	59	163
Boone County	Population 2024	19,931	19,419	189	33	38	0	70	182
Boone County	Net Growth 2019-2024	-1,103	-1,160	24	-3	6	0	11	19
Boone County	% Growth 2019-2024	-5.24%	-5.64%	14.55%	-8.33%	18.75%		18.64%	11.66%
Boone County	Population Under 65 2019	16,938	16,534	116	31	29	0	54	146
Boone County	Population Under 65 2024	15,528	15,103	133	29	36	0	65	160
Boone County	Net Growth Under 65 2019-2024	-1,410	-1,431	17	-2	7	0	11	14
Boone County	% Growth Under 65 2019-2024	-8.32%	-8.65%	14.66%	-6.45%	24.14%		20.37%	9.59%
Boone County	Population 65+ 2019	4,096	4,045	49	5	3	0	5	17
Boone County	Population 65+ 2024	4,403	4,316	56	4	2	0	5	22
Boone County	Net Growth 65+ 2019-2024	307	271	7	-1	-1	0	0	5
Boone County	% Growth 65+ 2019-2024	7.50%	6.70%	14.29%	-20.00%	-33.33%		0.00%	29.41%



Source: Nielsen, 2019-2024

Other key demographic findings included:

- Zip code 25130 has the highest population in Boone County.
- Zip code 25093 has the smallest population decline in Boone County.
- Zip code 25130 has the largest population and proportionately, the largest population decline.
- Zip Code 25130 has the highest population of age 0-17 in the county, while zip code 25093 has the lowest.
- Zip code 25108 has the smallest % population decrease for 0-17 population.
- Zip Code 25053 has the largest decline of 0-17 population.
- Zip code 25130 has the highest Female 18-44 2019 Population in Boone County.
- Zip code 25169 is the only zip code in the county that does not show a decrease in Female 18-44 population.
- Corresponding with % Growth of 18-44 Female population, 25169 is the zip code that does not show a decrease.
- Zip code 25053 has a population of just 1 more person (45-64) than Zip Code 25130. Together
 they make up almost half of the 45-64 population in Boone County.



2019 Community Health Needs Assessment

- Zip code 25204 is the only zip code that shows positive % growth for the 45-64 population in Boone county.
- Zip Code 25204 again is the only zip code that shows a positive growth (45-64) in the county.
- Zip code 25130 is the largest in the county and has a population (65+) that is only 1 more person than zip code 25053.
- Zip code 25049 shows the highest % growth for the 65+ population in the county
- Zip code 25130 has the highest net growth. All zip codes, except 25165 and 25204, have positive growth.
- Age Group 65-74 has the highest growth in Boone County while 18-44 age population projects a decline of almost 500 lives over 5 years.
- Boone County is 98% White.



Other Secondary Data

In order to present the data in a way that would tell a story of the community and also, identify needs, the framework of Health People 2020 was selected to guide secondary data gathering and community input. This framework was selected based on its national recognition.

Within this framework, 12 topics were chosen as "Leading Health Indicators". These topics guide discussion and research related to this CHNA.

Clinical Environmental Access to Preventive Quality **Health Services Services** Maternal, Injury and Mental Health Infant Child Violence Health Reproduction Nutritional, Oral Health Physical Activity and Sexual and Obesity Health Social Substance Tobacco **Abuse Determinants**



Access to Health Services

Overview and Goal from Health People 2020 – "A person's ability to access health services has a profound effect on every aspect of his or her health, yet at the start of the decade, almost one in four Americans does not have a primary care (PCP) or health center where they can receive regular medical services. Approximately, one in five Americans (children and adults under 65) does not have medical insurance. People without medical insurance are more likely to lack a usual source of

medical care, such as a 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."

Goal: Improve access to comprehensive, quality health care services.

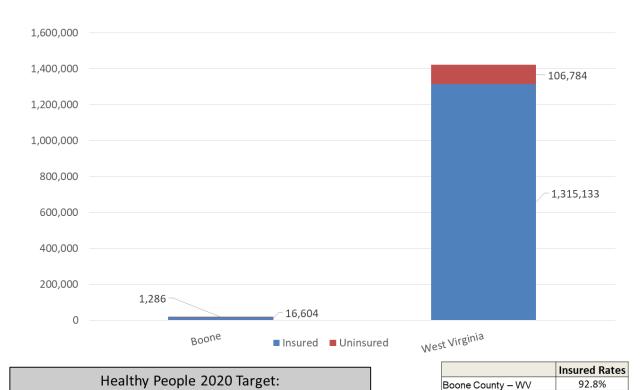
100% persons with medical insurance

Data Source: 2019 U.S. Census bureau, Small Area Health Insurance Estimates - Data as of 2017

Items reviewed included: percent uninsured, health insurance coverage status, primary care ratios per 1,000 population, emergency room projected visits, and urgent care projected visits.

A key finding: Higher than the national average, Boone County does not meet the 2020 target of 100% insured – 7.2% uninsured.

Health Insurance Coverage Status Under 65 | All Races | Both Sexes | All Incomes



92.5%

90%

West Virginia

United States



- Boone County's rate of population to primary care physician is double the state average
- All zips ER visits are projected to decline in 2024. The state average is also projected to decrease.
- All zips in Boone County are projected to see a decline in Urgent Care Visits in 2024.

Clinical Preventive Services

Overview and Goal from Healthy People 2020: "Clinical preventive services, such as routine disease screenings and scheduled immunizations, are key to reducing death and disability and improving the nation's health. These services both prevent and detect illnesses and disease – from diabetes to cancer – in their earlier, more treatable stages, significantly reducing the risk of illness, disability, early death, and medical care costs. Yet, despite the fact that these services are

covered by Medicare, Medicaid, and many private insurance plans under the Affordable Care Act, millions of children, adolescents, and adults go without clinical preventive services that could protect them from developing a number so serious disease or help them treat certain health conditions before they worsen."

Goal: Increasing the number of people who take advantage of and have access to clinical preventative services.

Items reviewed included Percentage of Medicare Beneficiaries with Diabetes including a racial breakdown, Percent of Adults with Diabetes, Percent of Medicare Beneficiaries with Hypertension with a breakdown by race, Hypertension Death Rate/100,000 Population 65+ and a rate by race, Percent of Medicare Beneficiaries with Heart Failure, Heart Disease Death rate per 100,000 65+ and broken down by race, Incidence Rate for All Cancer and by race, Death Rate for Cancer including racial breakdown, Percent of Medicare Enrollees Receiving Mammography Screening, Incidence Rates for Breast Cancer with a breakdown by race, Percent of Adults 50+ Reporting Having a Sigmoidoscopy or Colonoscopy, Incidence Rates for Colon & Rectum Cancer including a racial breakdown, Death Rates for Colon & Rectum Cancer with a breakdown by race.

Some death rates per 100,000 population were measurable against the Healthy People 2020 Targets. The time frame is 2011 – 2015 from State Cancer Profiles. Green text indicates meeting or beating the Health People 2020 target.

Cancer Type	All Cancer Death	Breast Death	Colon Death
Healthy People 2020 Target	161.4/100,000	20.7/100,000 Female	14.5/100,000
Boone County	231.6/100,000	N/A	63.3/100,000
Male	280.8/100,000	N/A	N/A
Female	194.9/100,000	31.2/100,00	N/A
West Virginia	189.4/100,000	21.8/100,000	60.7/100,000
United States	161.0/100,000	20.6/100,000	46.7/100,000



- West Virginia's Prevalence of Medicare Beneficiaries with Diabetes is 4% higher than the United States' Prevalence Rate at 27%. Boone County is 1% higher than the state average of 31%.
- The Prevalence of Medicare Beneficiaries with Diabetes shows no disparity between Males and Females.
- Boone County's percent of adults 20+ with diabetes has increased; the West Virginia state average has also increased.
- Boone County and West Virginia have higher rates of Medicare Beneficiaries with Hypertension than the national average. Boone is 6% higher than national average. The disparity between Male and Female Medicare Beneficiaries with Hypertension is 10%.
- Boone County's Hypertension Death Rate is 4th highest in West Virginia ~300 points higher than the West Virginia state average (833.3), which is still higher than the national average. The Hypertension Death Rate for the Male population is ~250 higher than the Female population. The Male death rate is higher than the state average but the Female death rate is lower.
- Boone County has about the same amount as heart failure as the rest of West Virginia, but both exceed the national average in 2017.
- Boone County's Heart Disease Death Rate is higher than both the state and national average.
 The Heart Disease Death Rate for 65+ Female population is lower than the Male and County Heart Disease Death Rate.
- Boone County is above the state and national rate with an incidence rate of 704.0 for Cancer. Boone County's Male population is above the state and national rate with an incidence rate of 701.3 for Cancer. Boone County's Female population is above the state and national rate with an incidence rate of 706.6 for Cancer.
- Boone County's Cancer death rate (231.6) is above the state average and national average, and
 it does not achieve Healthy People 2020 goal. Boone County's Male Population Cancer death
 rate (280.8) is above the state and national average and does not achieve the Healthy People
 2020 goal. Boone County's Female Population Cancer death rate (194.9) is above the state and
 national average and does not reach the Healthy People 2020 goal.
- The Boone County and West Virginia % of Female Medicare Enrollees (66-74) receiving
 Mammography Screenings have both decreased by more than 20% from 2017 to 2019. Boone
 County's Breast Cancer incidence rating is higher than the state and national at 134.9. Boone
 County Breast Cancer death rate is higher than the state and national at 31.2 and does not
 achieve the Healthy People 2020 Goal.
- For colorectal screenings, Boone County reports 53.1% of people having received a Sigmoidoscopy or a Colonoscopy. Boone County's incidence rate for Colorectal Cancer is lower than the state average but higher than the national average at 140.1.



- Boone County's Male population incidence rate for Colorectal Cancer is higher than the state and national average at 69.6. Boone County's Female population incidence rate for Colorectal Cancer is higher than the state and national average at 60.7.
- Boone County's death rate for Colorectal cancer cases is ~3 points higher than the state average, and is ~15 points highest than the national average. Boone County's Male population death rate for Colorectal Cancer is unavailable due to data suppression based on low volume. Boone County's Female population death rate for Colorectal Cancer is unavailable due to data suppression based on low volume.

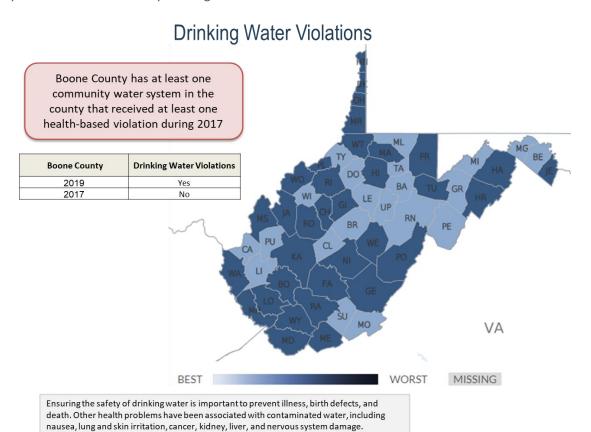
Environmental Quality

Healthy People 2020 Overview — "Poor environmental quality has its greatest impact on people whose health status is already at risk. For example, nearly 1 in 10 children and 1 in 12 adults in the United States have asthma, which caused, triggered, and exacerbated by environmental factors such as air pollution and secondhand smoke."

Goal: Promote health for all through a healthy environment

Items reviewed include: Air Pollution Average Daily Amount of Particulate Matter and Severity of Housing Problems.

A Key Finding: Boone County's water quality has declined since 2017 resulting in a decrease in Boone County's Environmental Quality ranking.



2019 County Health Rankings; Years of Data Used: 2017



- Boone County is higher than the state and national average for air pollution.
- Boone County has a higher percentage of households with a housing problem than the state of West Virginia, and is higher than the US top 10th percentile.

Injury and Violence

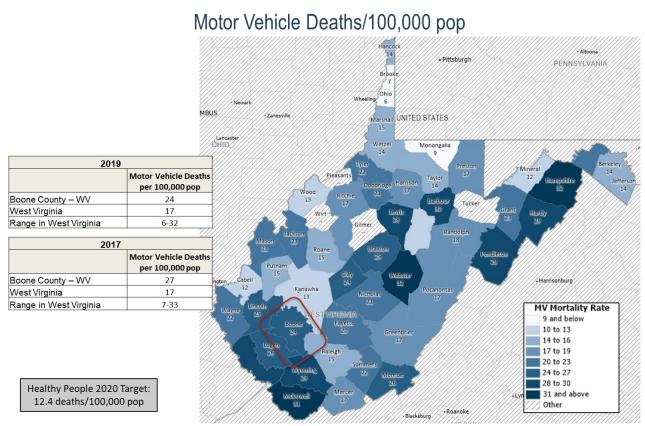
Healthy People 2020 Overview — "Motor vehicle crashes, homicide, domestic and school violence, child abuse and neglect, suicide, and unintentional drug overdoses are important public health concerns in the United States. In addition to their immediate health impact, the effects of injuries and violence extend well beyond the injured person or victim of violence, affecting family members, friends, coworkers, employers, and communities. Witnessing or being a victim of violence is

linked to lifelong negative physical, emotional, and social consequences."

Goal: Prevent unintentional injuries and violence, and reduce their consequences

Items reviewed include Violent Crime rate per 100,000 population, Homicide rate per 100,000 population, and Motor Vehicle Death rate per 100,000 population.

Key Finding: Boone County's rate of Motor Vehicle Deaths decreased from 2017 is still higher than the West Virginia average.



2019 and 2017 County Health Rankings; Years of Data Used: 2011-2017, 2009-2015



- Boone County's Violent Crime Rate is lower than the West Virginia state average but more than triple the top 10th percentile.
- Boone County has a higher homicide rate than the state of West Virginia in 2019. There was no data for Boone County in 2017.

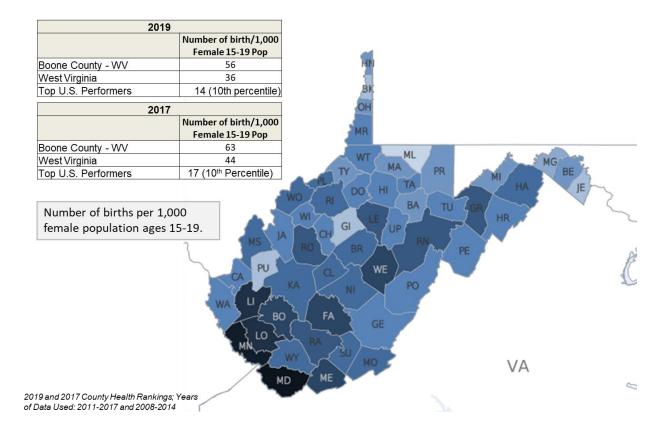
Maternal, Infant Child Health Health People 2020 Overview — "The well-being of mothers, infants, and children determines the health of the next generation and can help predict future public health challenges for families, communities, and the medical care system. Moreover, healthy birth outcomes and early identification and treatment of health conditions among infants can prevent death or disability and enable children to reach their full potential."

Goal: Improve the health and well-being of women, infants, children, and families.

Items review include Child Mortality Rate per 100,000 under 18, Percent of Live Birth with Low Birth Weight, and Rates of Births to Mothers Ages 15 - 17.

Key Findings: Teen pregnancy rates have improved in Boone County but it is higher than the West Virginia average and four times the top performers in the U.S.

Rate of Births to 1,000 Mothers Age 15-19 years





- Boone County has a higher rate of Child Mortality than West Virginia.
- Boone County's % of Live Births with Low Birth Weight has remained the same, but still slightly higher than the state average



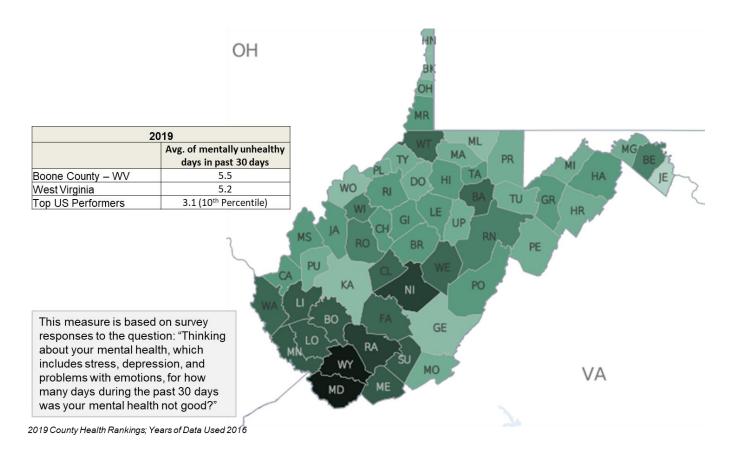
Healthy People 2020 Overview — "Mental health is essential to a person's well-being, healthy family and interpersonal relationships, and the ability to live a full and productive life. People, including children and adolescents, with untreated mental health disorders are at high risk for many unhealthy and unsafe behaviors, including alcohol or drug abuse, violent or self-destructive behavior, and suicide."

Goal: Improve mental health through prevention and by ensuring access to appropriate, quality mental health services

Items reviewed include reported Poor Mental Health Days, Percent of Medicare Beneficiaries Suffering from Depressions, and Mental Health Providers per 100,000 population.

Key Finding: Boone County has a higher rate of Poor Mental Health days than the state average.

Poor Mental Health Days





- Boone County has a higher percentage of Medicare Beneficiaries suffering from depression than the state and national average.
- Boone County has a sizable shortage of mental health providers but does not have the largest shortage in the state.

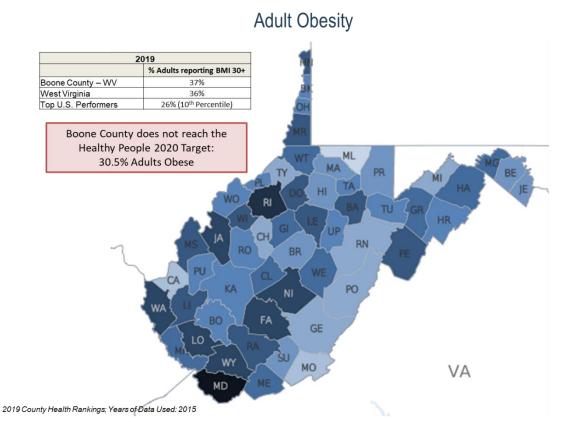
Nutritional, Physical Activity and Obesity Healthy People 2020 Overview – "Good nutrition, physical activity, and a healthy body weight are essential parts of a person's overall health and well-being. Together, these can help decrease a person's risk of developing serious health conditions, such as high blood pressure, high cholesterol, diabetes, heart disease, stroke, and cancer. A healthful diet, regular physical activity, and achieving and maintaining a healthy weight also are paramount to managing health

conditions so they do not worsen over time."

Goal: Promote health and reduce chronic disease risk through the consumption of healthful diets and achievement and maintenance of healthy body weights.

Items reviewed include Percent of Adults who are Obese, Food Insecurity, Percent of Adults who report No Leisure Time Physical Activity, Percent of Population with Access Exercise Opportunities.

Key Finding: Boone County's percent of obese adults is slightly higher than the WV average and >10% higher than the top 10th national percentile





- Boone County's percent of population with food insecurity ranks higher than the West Virginia state average.
- Boone County's Percentage of Adults with No Leisure Time Physical Activity has decreased 2% over the past 2 years while the state average decreased 1% and national goal remained the same.
- Boone County Residents have significantly lower access to exercise opportunities compared to the West Virginia state average. (Second worst in the state)

Oral Health

Healthy People 2020 Overview — "Oral disease ranging from dental caries (cavities) to oral cancers cause pain and disability for millions of Americans. The impact of these disease do not stop at the mouth and teeth. A growing body of evidence has linked oral health, particularly periodontal (gum) disease, to several chronic diseases, including diabetes, heart disease, and stroke."

Goal: Prevent and control oral and craniofacial diseases, conditions, and injuries, and improve access to preventive services and dental care.

Items reviewed include Dentist per 100,000.

Key Finding: Boone County has improved its rate of dentists per 100,000 population; however, Boone's rate is still significantly higher than the state rate.

Reproduction and Sexual Health

Healthy People 2020 Overview — "for many, reproductive and sexual health services are the entry point into the medical care system. These services improve health and reduce costs by not only covering pregnancy prevention, HIV and STD testing and treatment, and prenatal care, but also, by screening for intimate partner violence and reproductive cancers, providing substance abuse treatment referrals, and counseling on nutrition and physical activity."

Goal: Promote healthy sexual behaviors, strengthen community capacity, and increase access to quality services to prevent sexually transmitted diseases (STDs) and their complications.

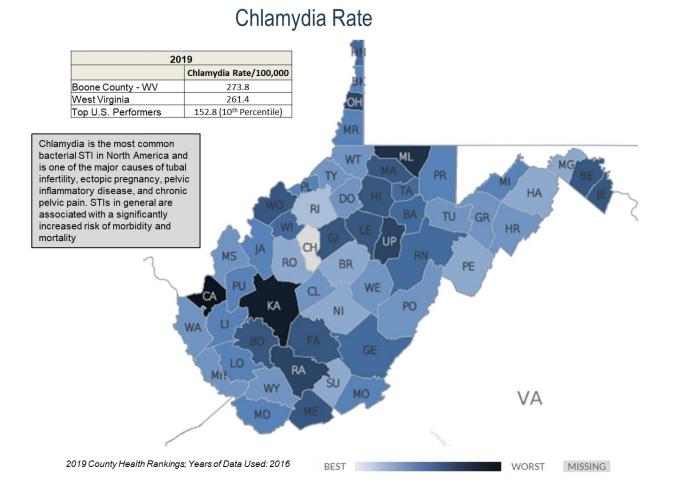
Items reviewed include Chlamydia rates per 100,000 and HIV Prevalence rate per 100,000.

Key Finding: Boone County has a similar rate of Chlamydia as the West Virginia state average but does not achieve the US Top 10th percentile.

Chlamydia is the most common bacterial STI in North America and is one of the major causes of tubal infertility, ectopic pregnancy, pelvic inflammatory disease, and chronic pelvic pain. STIs in general are associated with a significantly increased risk of morbidity and mortality. Boone County's HIV Prevalence Rate has decreased by ~20 since 2017.

See Map on the Following Page.





Social Determinants

Healthy People 2020 Overview — "A range of personal, social, economic, and environmental factors contribute to individual and population health. For example, people with a quality education, stable employment, safe homes and neighborhoods, and access to preventive services tend to be healthier throughout their lives. Conversely, poor health outcomes are often made worse by interaction between

individuals and their social and physical environment."

Goal: Create social and physical environments that promote good health for all.

Items reviewed include Median Household Income, Percent of Families below the Poverty Level, Percent of Unemployment, Percent of Adults with No High School Diploma, Percent of Children in Poverty, and Total Number of Founded Investigations for Child Abuse and Neglect.

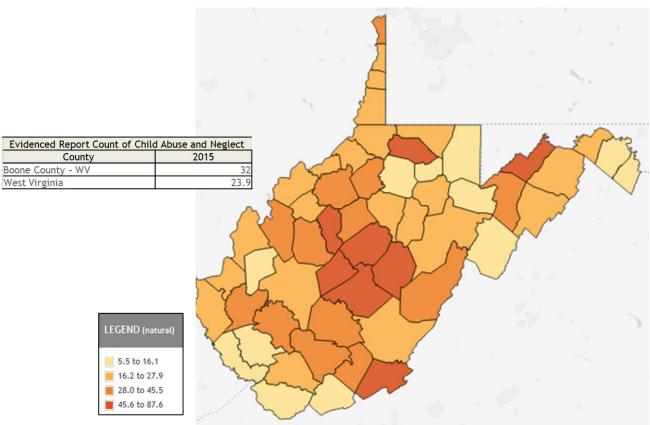
Key Finding: Boone County's Rate of Child Abuse and Neglect has increased from 2012 (30.6) to 2015 (32). The West Virginia average has significantly increased over the last three years from 15.6 in 2012 to 23.9 in 2015.

Map of these findings is on the following page.



Rate of Child Abuse and Neglect

(Founded number of investigations per 1,000 children)



2015 Data Center Kids Count; Years of Data Used: 2015

Other Key Findings:

- The Boone County and State Unemployment Rate have both decreased from 2017 to 2019.
- Boone County's % of Adults with No High School Diploma is higher than the state and national average.
- Boone County's Median Household Income is less than the West Virginia average and significantly less than the United States average.
- Boone County's percent of families below the poverty level is higher than the West Virginia average and almost double the United State average.
- Both Boone County and the State % of Children in Poverty have decreased by 1% since 2017 but still does not reach the top 10th Percentile.



Substance Abuse/Tobacco

Health People 2020 Overview – "Substance abuse – involving drugs, alcohol, or both – is associated with a range of destructive social conditions, including family disruptions, financial problems, lost productivity, failure in school, domestic violence, child abuse, and crime."

"Tobacco use is the single most preventable cause of disease, disability, and death in the United States, yet more deaths are caused each year by tobacco use than by all deaths from human immunodeficiency virus (HIV), illegal drug use, alcohol use, motor vehicle injuries, suicides, and murders combined."

Goal:

- 1. Reduce substance abuse to protect the health, safety, and quality of life for all, especially children.
- 2. Reduce illness, disability, and death related to tobacco use and secondhand smoke exposure.

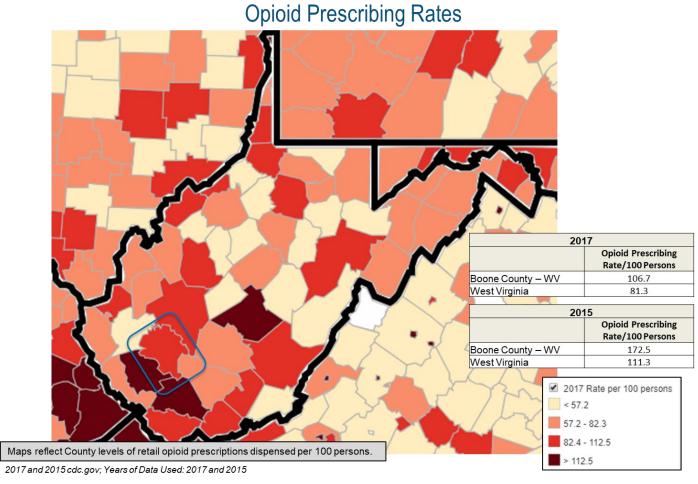
Items reviewed include Percent of Excessive Drinking, Percent of Driving Deaths with Alcohol Impairment, Percent of Adults Smoking, Opioid Prescribing Rates, and Drug Overdose Mortality Rate per 100,000 population.

Key Finding: Boone County's percent of adults smoking has remained the same since 2017 and the West Virginia state average decreased by 1%. Neither obtain the Healthy People 2020 goal.

Adult Smoking 2019 % Adults Smoking Boone County - WV 25% Healthy People 2020 Target: West Virginia 25% 12% Adults who are current smokers Top U.S. Performers 14% (10th Percentile) 2017 % Adults Smoking Boone County - WV 25% West Virginia 26% 14% (10th Percentile) Top U.S. Performers GI PO NI VA 2019 and 2017 County Health Rankings. Years of Data Used: 2016 and 2015 REST WORST MISSING



Key Finding: The Prescribing Rate of Opioids per 100 persons has significantly decreased since 2015 in Boone County.



Other Key Findings:

- Boone County's percentage of adults reporting binge or heavy drinking is equal to the state average, but lower than the national average.
- Boone County's rate of drug overdose has decreased from 2017; however, it is still more than the state average.



Summary of Health Indicators

Metric	West Virginia	Boone
Access to Health Services		
% Uninsured	6.5%	6.4%
% Insured	93.5%	93.6%
PCP Ratio	1269:1	2535:1
Clinical Preventive Services		
% Medicare Beneficiaries with Diabetes	31.0%	32.0%
% Diabetic	14.4%	15.5%
% Medicare Beneficiaries with Hypertension	62.0%	63.0%
Hypertension Death Rate/100,000 65+ Pop	833.3	1256.9
% Medicare Beneficiaries with Heart Failure	15.0%	15.0%
Heart Disease Death Rate/ 100,000 65+ Pop	1191.6	1334.4
All Cancer Incidence Rates	476.0	704.0
All Death Rates	189.4	231.6
% Receiving Mammography	38.0%	32.0%
Breast Cancer Incidence Rates	117.5	134.9
Breast Cancer Death Rates	21.8	31.2
Colon & Rectum Cancer Incidence Rates	143.7	140.1
Colon & Rectum Cancer Death Rates	60.7	63.3
Environmental Quality		
Air Pollution - Average Daily PM2.5	9.6	9.9
% Severe Housing Problems	11.5%	13.6%
Drinking Water Violations		Yes
Injury and Violence		
Violent Crime Rate	329.9	249.6
Homicide Rate	5.2	6.0
Motor Vehicle Mortality Rate/100,000 Pop	16.6	24.2
Maternal, Infant, Child Health		
Child Mortality Rate	61.1	103.4
% Low Birth Weight	9.4%	11.1%
Teen Birth Rate (per 1,000 Mother Age 15-19 Years)	36.2	55.5



Summary of Health Indicators (continued)

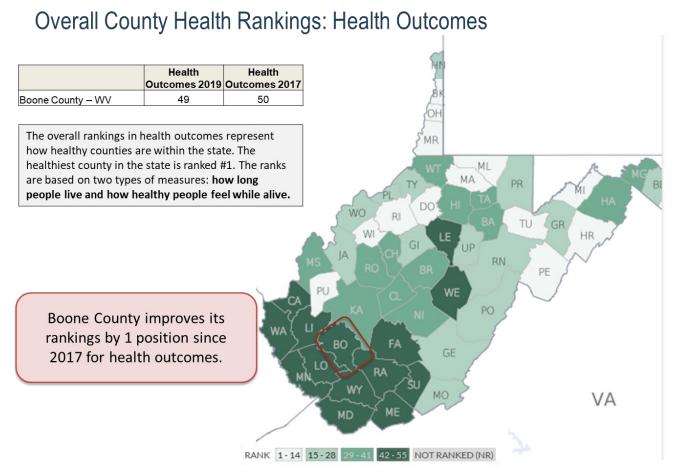
Mental Health		
Mentally Unhealthy Days	5.2	5.5
% of Medicare Beneficiaries with Depression	22.0%	25.0%
Mental Health Provider Ratio	832:1	4470:1
Nutritional, Physical, and Obesity		
% Obese	36.3%	36.9%
% Food Insecure	14.6%	16.8%
% Physically Inactive	27.8%	30.4%
% With Access to Exercise Opportunity	60.4%	4.7%
Oral Health		
Dentist Ratio	1864:1	4470:1
Reproduction and Sexual Health		
Chlamydia Rate	261.4	273.8
HIV Prevalence Rate	113.3	61.0
Social Determinants		
% Unemployed	5.2%	6.3%
% Adult with Some High School, No High School Diploma	9.6%	13.4%
% Adult with <9th Grade, Some High School, No High School Diploma	4.5%	7.2%
2019 Median Household Income	\$ 46,164.00	\$ 38,665.00
2019 % of Families Below Poverty Level	12.9%	20.6%
% Children in Poverty	24.4%	29.7%
Rate of Child Abuse and Neglect	23.9	32.0
Substance Abuse / Tobacco		
% Excessive Drinking	11.8%	12.1%
% Smokers	24.8%	24.7%
Opioid Prescribing Rate/100 people	81.3	106.7
Drug Overdose Mortality Rate	47.0	55.4
Outperforms West Virginia Performance		
Meets West Virginia Performance		
Underperforms West Virginia Performance		



County Ranking

In addition to reviewing the data in Boone County, overall county rankings were also utilized. The County Health Rankings and Roadmaps program is a collaboration between the Robert Wood Johnson Foundation and the University of Wisconsin Population health Institute. Measures for this are based on vital statistics, sexually transmitted infections, and Behavioral Risk Factor Surveillance System survey data and other units of the Centers for Disease Control and Prevention. Measures of health quality were calculated by staff at Dartmouth Institute. This allows us to understand how each county is performing against another.

Health Outcomes: In West Virginia, there are 55 counties. For this ranking, 1 is the healthiest county. The overall county rankings in health outcomes are based on two types of measures: how long people live and how healthy people feel while alive.

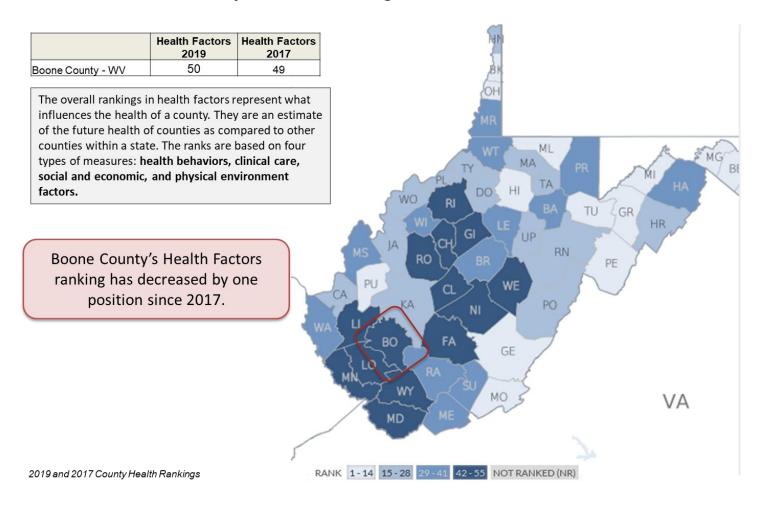


2019 and 2017 County Health Rankings



Health Factors: The overall ranking in health factors represents what influences the health of a county. They are estimates of the future health of the counties as compared to other counties. The ranks are based on four types of measures: health behaviors, clinical care, social and economic, and physical environment factors.

Overall County Health Rankings: Health Factors





Below is a table that represents more details of the metrics that make up health outcomes and health factors scores:

Boone County

(1 = Best, 67 = Worst)

Health Outcomes	49	
Length of Life	48	
Quality of Life	50	
Poor or Fair Health, Poor Mental Health Days, Low Birthweight		

Health Factors		
Health Behaviors		
Adult Smoking, Adult Obesity, Food Environment Index	, Physical	
Inactivity, Access to Exercise Opportunities, Excessive	Drinking,	
Alcohol-Impaired Driving Death, Sexually Transmitted Ir	nfections,	
Teen Births		
Clinical Care	41	
Uninsured, Primary Care Physicians, Dentists, Mental	Health	
Providers, Diabetes Monitoring, Mammography Screeni	ng	
Social & Economic Factors		
High School Graduation, Some College, Unemploymen	t, Children	
in Poverty, Violent Crime, Injury Deaths		
Physical Environment		
Air Pollution - Particulate Matter, Quality of Drinking Wa	ater,	
Severe Housing	•	



Community Input Findings

The last and most important element of the Community Needs Assessment is community input. The Community Needs Assessment Team entered into dialogue with key hospital administrators, physicians, key community members, those with knowledge/expertise in public health, and those serving underserved and chronic disease populations. During this phase, the team conducted focus groups and surveys to gain this knowledge.

The survey participant list in this phase.

- Allstate Insurance
- Anarco LLC
- Appalachian Council Head Start
- BCAA
- BMH Laboratory
- BMH RHC
- Boone County Ambulance Authority
- Boone County Board Of Education
- Boone County Health Dept.
- Boone County Schools
- Boone County VictimVolunteers
- Boone Home Care
- Boone Memorial Hospital
- Chaney Eye Care
- Connect Hearing

- Dignity
- EnAct Inc
- Hygeia Facilities Foundation
- Jeaot Cleaning
- Lares
- Lowes
- Pharmacy Management
- Southern Fitness
- Southern WV Community College
- Wharton Barrett VFD
- WVHA
- WVU
- WVU Research Corporation
- Other Community Members

Each person participating ranked the current health of the community on a scale of 1 to 10, 10 being the best. The score after averaging the nine participants' responses was 4.5.

Respondents were asked what they viewed as the top health issues facing the service area counties and its residents. They were then asked to elaborate on certain barriers, gaps, and access to care issues.

Based on the feedback provided in the Community Input phase of the CHNA, the following barriers and opportunities were identified when evaluating the health of Boone County.

Access / Barriers

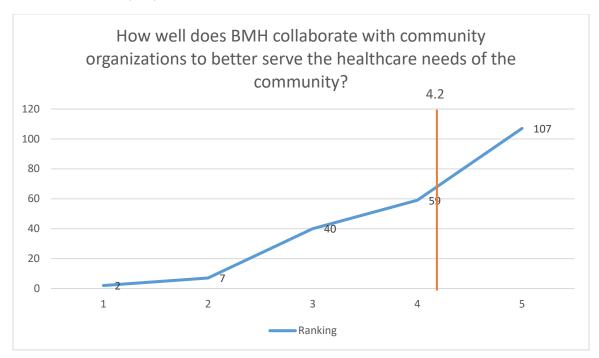
- Healthcare Access / Transportation
- Healthcare Literacy / Education
- Limited Insurance / Financial Resources
- Community Impact of Drug Use

Opportunity

- Partner to educate the population on healthy lifestyle choices and importance of wellness/preventative medicine
- Collaborate with community resources to increase awareness
- Target specific populations to increase accessibility



Another component discussed and explored in the surveys was how well BMH collaborates with other organizations in the community to address health needs. This important to understand since not all community health needs can be impacted within the four walls of the hospital and require community involvement to truly impact overall health.





Prioritization of Needs Identified by Data and Input

By analyzing and combining perceived (by community) and reported (secondary) data, a number of community health issues surfaced.

There were four types of issues identified in the secondary data assessment based on z-scoring for metric categories, which were overlaid with community input to assist in the development of Priorities.

The parameters for the z-scoring categories were developed at county level to identify key issues within the county, which are as follows:

Z Scoring – Boone County

76	Z Score of	-1 to +1	76	
Z Score of -1.0	Z Score of -1.0 to 0	Z Score of 0.0 to 1	Z Score of 1.0+	
	Adult Obesity Excessive Drinking Violent Crime Homicides Uninsured Adults HIV Prevalence Limited Access to Healthy Foods	Mental Health Providers Chlamydia Rates Dentists Ratio Drinking Water Violations Some College Motor Vehicle Deaths High School Graduation Physical Inactivity Primary Care Physicians Children in Poverty Air Pollution Drug Overdose Deaths Diabetes Prevalence Unemployment	Access to Exercise Opportunities Child Mortality Teen Births Severe Housing Problems Poor Mental Health Days Low Birthweight Mammography Screening Adult Smoking	

Once the issues/community needs were identified and organized, a prioritization session was held with members of the Community Health Needs Assessment Steering Committee. This session resulted in the development of a Prioritization Table. The priorities were ranked based on significance of the community need and BMH's ability to impact the need. This process identified priority health issues for Boone County that BMH feels it has an ability to impact at certain levels.



Prioritized 2019 Community Health Needs

Community Needs Selected		
1	Mental Health	
2	Oral Health	
3	Substance Abuse	
4	Nutritional, Physical, And Obesity	
5	Maternal, Infant, And Child	

From this prioritization table, the BMH team identified community needs that would be the basis for the development of the implementation strategy. In accordance with treasury Regulation 1.501(r)-3(c)(3), BMH feels that it can impact key issues within these identified health needs at a personal level with its patients and community individuals and thus, impacting the community's overall health.

Based on the secondary quantitative data, community input, the needs evaluation process, and the prioritization of these needs, the following community needs have be selected for implementation.

- Mental Health— the limited resources addressing mental health within the community has
 motivated BMH to select Mental Health as a key topic of the 2019 CHNA Priorities and develop
 an implementation strategies that would improve the health of their community in this area.
- Oral Health was identified in the data assessment as a top community health need. The lack of
 access to oral health care providers and services was identified as key issues and BMH intends to
 address this needs through specific strategies around access.
- **Substance Abuse** BMH is aware of the impact of the opioid crisis as well as overall substance abuse on the community. Both BMH and community members feel that there is an opportunity to reevaluate prescribing methods, improve substance abuse education, and share resources on accessing recovery programs in the community.
- Nutritional, Physical Activity, and Obesity BMH has identified a need to target healthy
 lifestyle awareness education at in the community to encourage preventive health habits.
 Strategies and action steps have been defined to help BMH address this community need with a
 focus on healthy lifestyle education, enhancing healthy lifestyle campaigns, and collaborating on
 health programs with community organizations, just to name a few.

2019 Community Health Needs Assessment

 Maternal, Infant, and Child—BMH has identified a need to continue education and action to improve Women and Children's health in the community. Some of the action steps outlined build upon previous screening initiatives implemented by BMH and additional education around prenatal care.

Boone Memorial Hospital's Community Needs Assessment Committee will initiate the development of implementation strategies for each health priority identified above. This implementation strategy will be executed upon in collaboration with community partners and health issue experts over the next three years. The following key elements will be used in developing their implementation strategy:

- Identify what other local organization are doing to address the health priority
- Develop support and participation for these approaches to address the health need
- Develop specific and measurable goals so that the effectiveness of these approaches can be measured
- Develop detailed work plans
- Communicate with the assessment team and ensure appropriate coordination with other efforts currently underway to address the issue

The team will utilize and build upon the monitoring method developed in the conclusion of the prior CHNA to provide status updates and outcome notifications of these efforts to improve community health. BMH is committed to conducting another health needs assessment in three years.

In addition, BMH continue to play a leading role in addressing the health needs of their community with a special eye for the underinsured / underserved populations. As such, BMH ensures that community benefit planning is an integral part of their hospital's annual planning and budgeting processes in order to continue effectively meeting and supporting community needs.



Appendix A – Data Sources

