

2022 Community Health Needs Assessment





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Our Commitment to Community Health

Boone Memorial Hospital, Inc., d/b/a Boone Memorial Health (BMH) strives to supply a comprehensive range of inpatient and outpatient services, including prevention, guidance, diagnosis, treatment, restoration, rehabilitation, and other efforts to enable patients to lead healthy, productive lives.

In carrying out its programs, BMH recognizes responsibility to make services available to all persons who can benefit from them and to provide these in an economical manner in compliance with high professional standards. The hospital further recognizes responsibility to develop an organizational environment in which physicians, employees, volunteers, and other individuals constituting its staff are stimulated to high standards of performance and can find maximum satisfaction, achievement, and opportunity.

In 2022, BMH launched the BMH Foundation for Community Health as a new department (and DBA) of BMH. Our mission through the Foundation is to improve community health by addressing the social determinants of health: Economic Stability, Education Access and Quality, Neighborhood and Built Environment, Social and Community Context, and Healthcare Access and Quality. We plan to accomplish these goals through programming and education, managed projects and operations, grantmaking to other non-profits and governmental entities, and community events and partnerships. These functions will be supported by existing hospital financial resources and personnel, fundraising, and by leveraging our community partnerships to not only secure federal, state, and private grant dollars, but work together toward our shared goals.

Boone Memorial Health is committed to providing services that improve the health and well-being of Boone County residents. Our comprehensive health prevention and management programs include the BMH Healthy Lifestyle Program; Diabetes self-management education and support (DSMES); Brighter Futures for patients suffering from substance use disorders; FARMacy to provide families with fresh, locally-grown fruits and vegetables - at no cost; and a dedicated Social Services Department to ensure when patients leave our care they go home to the best environment possible to assure their wellness.

Boone Memorial Health Mission:

The basic mission of Boone Memorial Health is to create an environment in which qualified physicians and other health care personnel can work together to provide high quality, compassionate, accessible, cost-effective health care service, in an atmosphere of love and concern, to the residents of Boone County and the surrounding areas.

Every three years, BMH conducts a Community Health Needs Assessment (CHNA) to better understand and respond to the health and wellness concerns for our community. The 2022 CHNA builds upon previous assessments and will continue to guide our community benefit and community health improvement efforts. Consistent with previous assessments, the 2022 CHNA focused on the health needs of all residents of Boone County.

We invite our community partners to learn more about the CHNA and opportunities for collaboration to address identified health needs. Please visit our website to learn more: [bmh.org](https://www.bmh.org).



2022 CHNA Executive Summary

CHNA Leadership

The 2022 CHNA was overseen by a planning committee of representatives of BMH, with feedback from key community stakeholders. These individuals served as liaisons to the hospital and the communities it serves.

CHNA Planning Committee

Ray Harrell, General Counsel and Chief External Affairs Officer

Chad Hovis, Chief Financial Officer

Karlie Price, Director of Public Relations, Communications, and Grants Management

Our Research Partner

Boone Memorial Health contracted with Community Research Consulting (CRC) to conduct the CHNA. CRC is a woman-owned business that specializes in conducting stakeholder research to illuminate disparities and underlying inequities and transform data into practical and impactful strategies to advance health and social equity. Our interdisciplinary team of researchers and planners have worked with hundreds of health and human service providers and their partners to reimagine policies and achieve measurable impact. Learn more about our work at buildcommunity.com.



Methodology and Community Engagement

The 2022 CHNA included quantitative research methods and community conversations to determine health trends and disparities affecting Boone County residents. Through a comprehensive view of statistical health indicators and community stakeholder feedback, a profile of priority areas was determined. The findings will guide healthcare services and health improvement efforts, as well as serve as a community resource for grant making, advocacy, and to support the many programs provided by health and social service partners.

Community engagement was an integral part of the 2022 CHNA. In assessing community health needs, input was solicited and received from persons who represent the broad interests of the community, as well as underserved, low-income, and minority populations. These individuals provided wide perspectives on health trends, expertise about existing community resources available to meet those needs, and insights into service delivery gaps that contribute to health disparities and inequities.

The following research methods were used to determine community health needs:

- ▶ An analysis of existing secondary data sources, including public health statistics, demographic and social measures, and healthcare utilization
- ▶ An online Key Informant Survey with community representatives to solicit information about local health needs and opportunities for improvement



Community Health Priorities

To work toward health equity, it is imperative to prioritize resources and activities toward the most pressing and cross-cutting health needs within the community. Priorities were determined by the BMH CHNA Planning Committee, taking into consideration research findings and feedback from community stakeholders.

Using feedback from community partners and stakeholders and taking into account the hospital's expertise and resources, BMH will focus efforts on the following community health priorities as part of its 2022-2025 Community Health Improvement Plan:

- ▶ Chronic disease prevention
- ▶ Mental health
- ▶ Substance use disorder

Community Health Improvement Plan strategies will address underlying issues of social determinants of health and access to care barriers.

The CHNA also identified community needs related to oral health and maternal and infant health. Boone Memorial Health will continue to support our community partners to address these health needs. It is also anticipated that the Community Health Improvement Plan strategies to address overall social determinants of health and access to care barriers will have an indirect positive impact on these issues.

Board Approval

The 2022 CHNA was conducted in a timeline to comply with IRS Tax Code 501(r) requirements to conduct a CHNA every three years as set forth by the Affordable Care Act (ACA). The research findings will be used to guide community benefit initiatives for the hospital and to engage local partners to collectively address identified health needs.

Boone Memorial Health is committed to advancing initiatives and community collaboration to support the issues identified through the CHNA. The 2022 CHNA report was presented to the BMH Board of Directors and approved in June 2022.

Following the Board's approval, the CHNA report was made available to the public via the BMH website at [bmh.org](https://www.bmh.org).



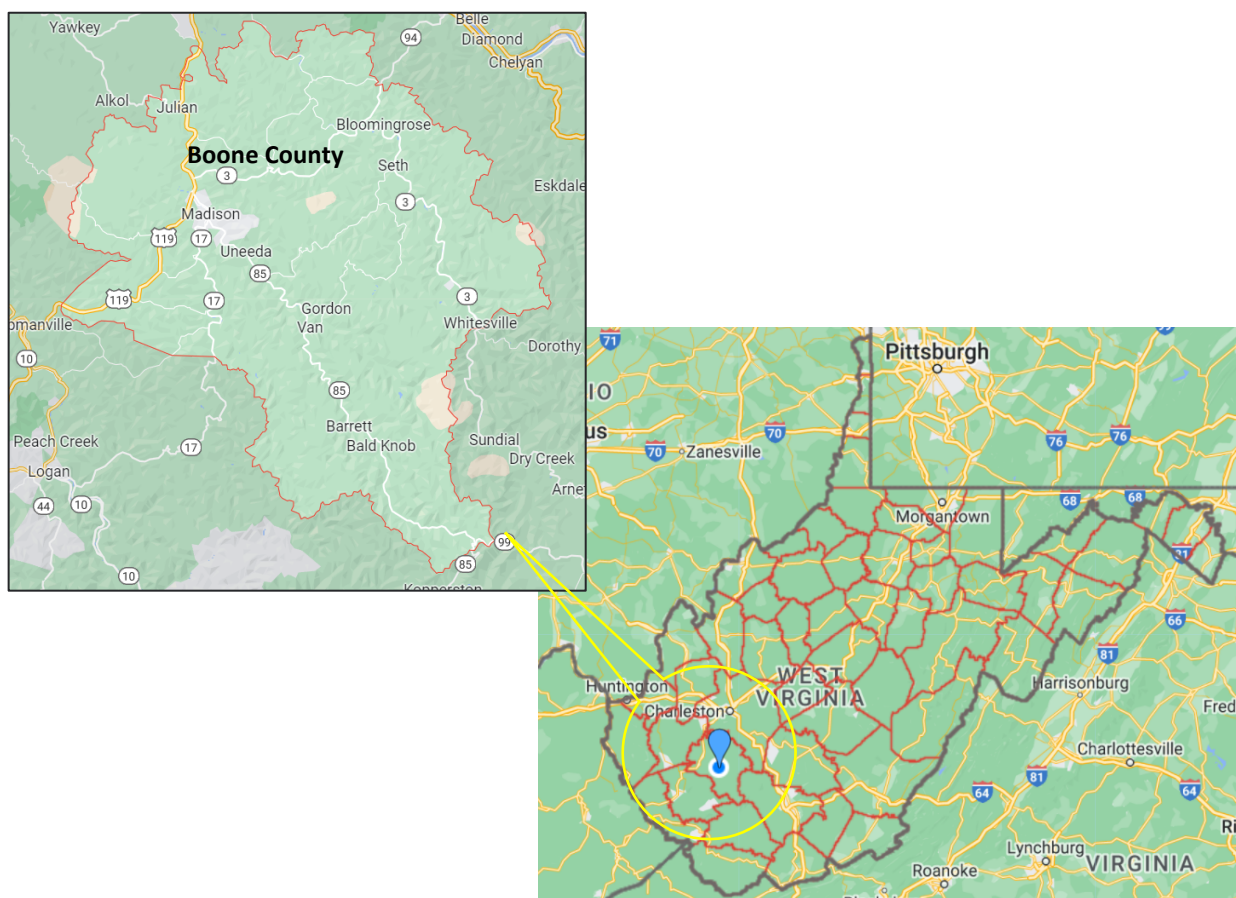
Boone Memorial Health Service Area Description

Boone Memorial Health is a not-for-profit entity that first opened its doors in 1964. The hospital primarily serves residents of Boone County in West Virginia, shown in the map below. The hospital is located in Madison, the county seat of Boone County.

The original team of five BMH physicians and 38 employees has expanded more than five-fold in the last five decades, and their commitment to outreach and community health has experienced similar growth. In 1994, BMH joined 10 other southern West Virginia healthcare organizations to form the Partners in Health Network. Network members work together to initiate a more logical approach to health services delivery, improve the health status of West Virginians, and assure access to essential health services in rural communities.

Boone County is a former coal community and for decades, ranked first or near the top in coal production statistics in West Virginia. Although businesses are diversifying, Boone County people are proud of their coal heritage. The community is also supported by a strong network of health and social partners and Community & Economic Development Corporation. Boone County is home to the Walhonde Water Trail, recognized nationally as one of the premier water trails and the only in-state water trail in West Virginia.

Boone Memorial Health Service Area



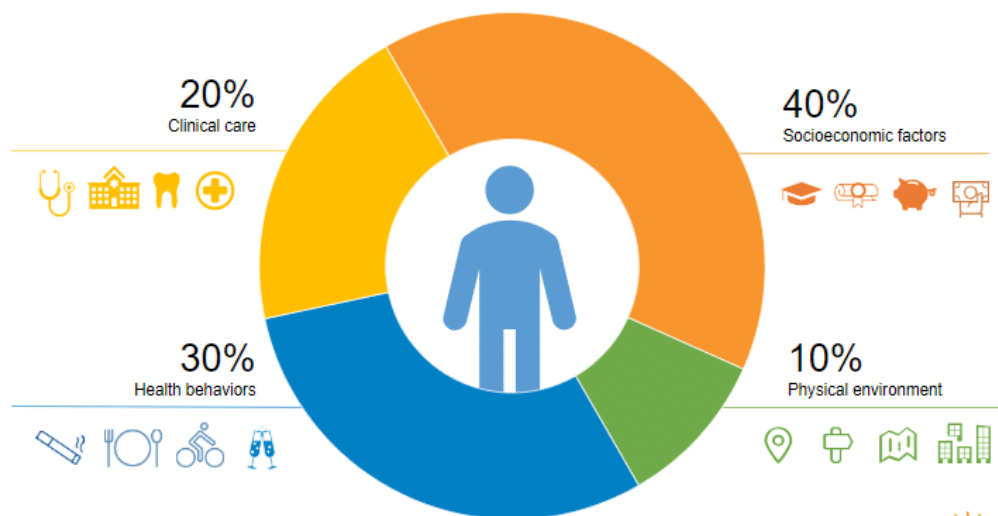


Social Determinants of Health: The connection between our communities and our health

Social determinants of health (SDoH) are the conditions in the environments where people are born, live, learn, work, play, worship, and age that affect a wide range of health risks and outcomes. Healthy People 2030, the CDC's national benchmark for health, recognizes SDoH as central to its framework, naming "social and physical environments that promote good health for all" as one of the four overarching goals for the decade. Healthy People 2030 outlines five key areas of SDoH: economic stability, education access and quality, healthcare access and quality, neighborhood and built environment, and social and community context.

The mix of ingredients that influence each person's overall health profile include individual behaviors, clinical care, environmental factors, and social circumstance. While health improvement efforts have historically targeted health behaviors and clinical care, public health agencies, including the US Centers for Disease Control and Prevention (CDC), widely hold that at least **50% of a person's health profile is determined by SDoH**.

WHAT MAKES US HEALTHY?



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Source: Centers for Disease Control



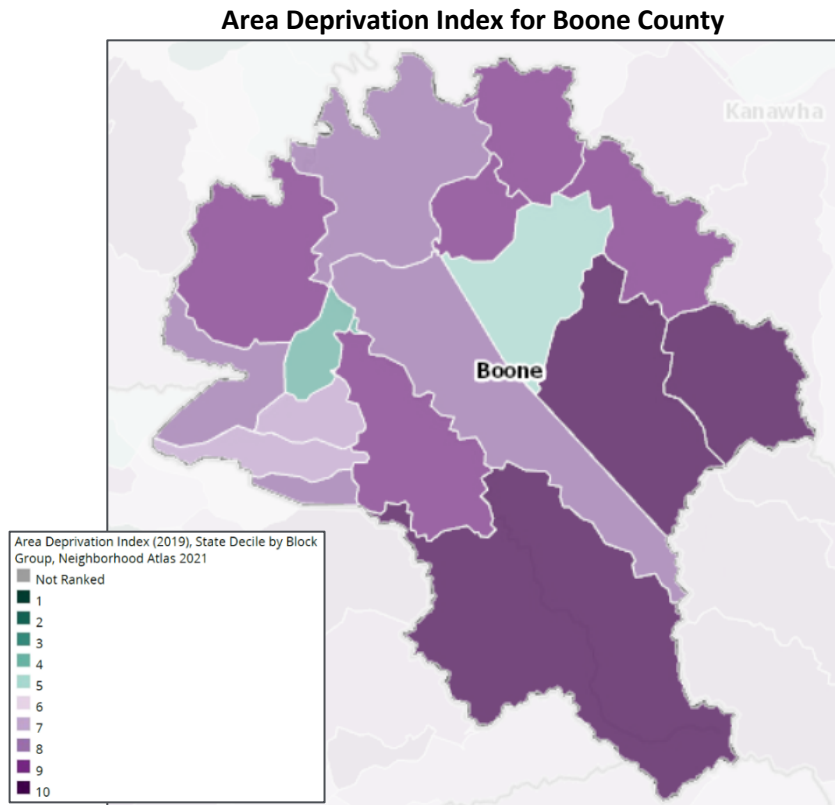
Addressing SDoH is a primary approach to achieving *health equity*. Health equity encompasses a wide range of social, economic, and health measures but can be simply defined as "a fair opportunity for every person to be as healthy as possible." In order to achieve health equity, we need to look beyond the healthcare system to dismantle systematic inequities born through racism and discrimination like power and wealth distribution, education attainment, job opportunities, housing, and safe environments, to build a healthier community for all people now and in the future.



Understanding Health Equity

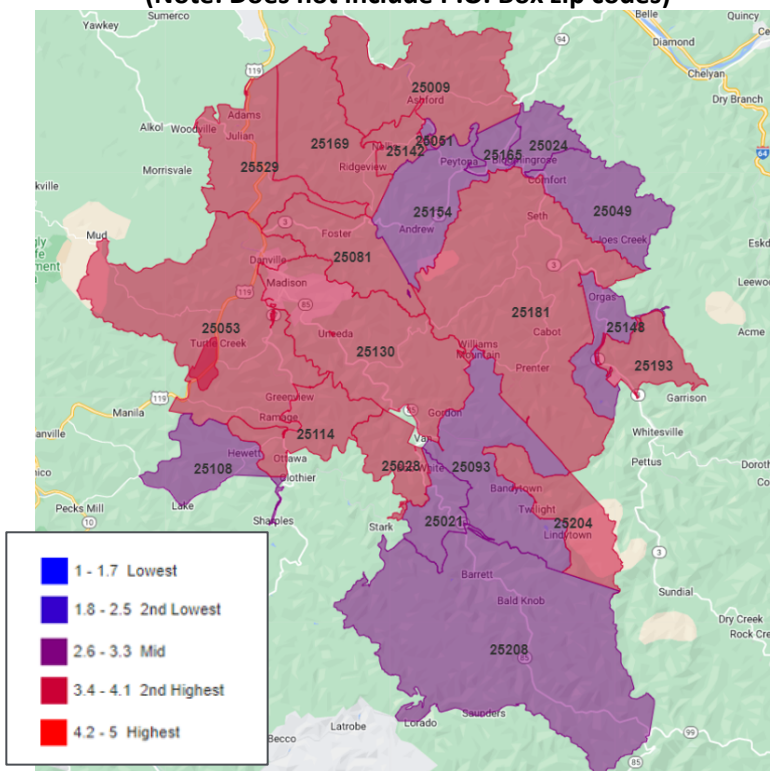
A host of indexes are available to illustrate the potential for health disparities and inequities at the community-level based on SDoH. A description of each index is provided below followed by data visualizations of each tool that show how well Boone County fares compared to state and national benchmarks.

- ▶ **Area Deprivation Index (ADI):** The ADI provides a census block group measure of socioeconomic disadvantage based on income, education, employment, and housing quality. ADI scores are displayed on a scale from 1 (least disadvantaged) to 10 (most disadvantaged). A block group is a subdivision of a census tract and typically contains between 250 and 550 housing units.
- ▶ **Community Need Index (CNI):** The CNI is a zip code-based index of community socioeconomic need calculated nationwide. The CNI scores zip codes on a scale of 1.0 to 5.0, with 1.0 indicating a zip code with the least need and 5.0 indicating a zip code with the most need compared to the US national average of 3.0. The CNI weights, indexes, and scores zip codes by socioeconomic barriers, including income, culture, education, insurance, and housing.
- ▶ **Racial Disparities and Disproportionality Index (RDDI):** The RDDI was developed by the Corporation for Supportive Housing (CSH) to measure whether a racial and/or ethnic group's representation in a particular public system is proportionate to their representation in the overall population. The index can be viewed as the likelihood of one group experiencing an event, compared to the likelihood of another group experiencing that same event.





Community Need Index for Boone County Zip Codes (Note: Does not include P.O. Box zip codes)



Zip Code	Town	CNI Score	Zip Code	Town	CNI Score
25021	Bim	3.0	25093	Gordon	3.2
25051	Costa	3.0	25108	Hewett	3.2
25208	Wharton	3.0	25148	Orgas	3.2
25024	Bloomingrose	3.2	25154	Peytona	3.2
25049	Comfort	3.2	25165	Racine	3.2
25009	Ashford	3.4	25028	Bob White	3.6
25081	Foster	3.4	25053	Danville	3.6
25114	Jeffrey	3.4	25130	Madison	3.6
25142	Nellis	3.4	25181	Seth	3.6
25169	Ridgeview	3.4	25529	Julian	3.6
25204	Twilight	3.4	25193	Sylvester	3.8

Boone County has an average CNI score of 3.5, indicating higher community socioeconomic need. Of the 22 zip codes comprising the county, 12 have a CNI score of 3.4 or higher out of 5. Sylvester zip code 25193 has the highest CNI score of 3.8, largely due to higher concentrations of poverty and lower educational attainment. Pockets of high poverty exist across the county, including Bob White, Jeffrey, and Orgas, where 40% or more of residents and 50-89% of children live in poverty, although the total population of these communities is low at fewer than 500 people each. Based on ADI findings, higher socioeconomic need is also seen in the southern and western portions of Boone County, where communities have a maximum index score of 10.

Comparing health indicators with population statistics demonstrates the adverse impact of social determinants on populations that historically and continually experience inequities, particularly Black/



African Americans. While Boone County is less racially diverse overall, communities benefiting from more diversity experience more socioeconomic barriers. This trend is demonstrated in Bloomingrose, where 28% of residents identify as multiracial and 35% of all residents and 45% of children live in poverty. In this way we can begin to see how inequities perpetuate persistent disparities in health and social outcomes.

2016-2020 Boone County Social Determinants of Health by Geography

ZIP Code	Population in Poverty	Children in Poverty	No High School Diploma	No Health Insurance	CNI Score
25193, Sylvester	19.8%	21.5%	23.7%	3.7%	3.8
25529, Julian	17.3%	31.2%	32.6%	2.6%	3.6
25181, Seth	8.7%	2.7%	9.4%	0.4%	3.6
25130, Madison	17.0%	27.3%	11.3%	4.9%	3.6
25053, Danville	21.1%	26.2%	14.8%	2.5%	3.6
25028, Bob White	41.1%	52.4%	59.2%	0.0%	3.6
25204, Twilight	8.7%	0.0%	23.3%	0.0%	3.4
25169, Ridgeview	33.3%	15.8%	28.2%	6.5%	3.4
25142, Nellis	16.2%	9.3%	28.5%	16.5%	3.4
25114, Jeffrey	55.7%	79.6%	34.0%	4.4%	3.4
25081, Foster	5.3%	0.0%	6.1%	4.8%	3.4
25009, Ashford	27.1%	38.5%	29.0%	2.5%	3.4
25165, Racine	3.3%	0.0%	10.0%	15.7%	3.2
25154, Peytona	9.3%	10.7%	13.5%	0.0%	3.2
25148, Orgas	40.9%	88.9%	14.7%	2.5%	3.2
25108, Hewett	26.7%	36.8%	16.5%	14.2%	3.2
25093, Gordon	19.3%	41.9%	33.0%	0.0%	3.2
25049, Comfort	5.7%	0.0%	19.1%	7.9%	3.2
25024, Bloomingrose	34.7%	44.6%	4.2%	4.5%	3.2
25208, Wharton	14.5%	7.3%	14.5%	8.6%	3.0
25051, Costa	19.2%	0.0%	11.3%	0.0%	3.0
25021, Bim	23.8%	57.4%	8.9%	9.7%	3.0
West Virginia	17.1%	23.1%	12.4%	6.2%	N/A
United States	12.8%	17.5%	11.5%	8.7%	N/A

Source: US Census Bureau, American Community Survey



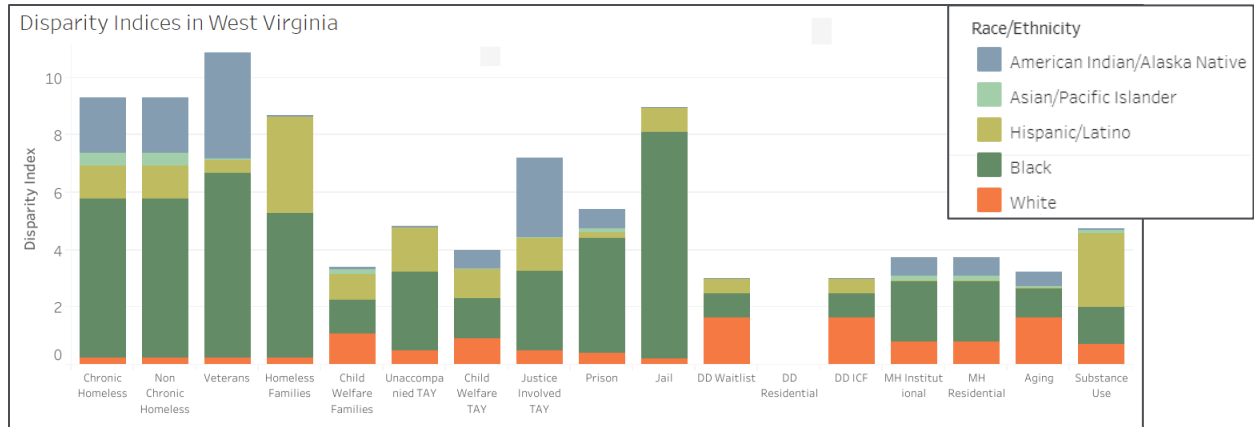
2016-2020 Boone County Population (Pop.) by Prominent Racial and Ethnic Groups

ZIP Code	Total Pop.	White	Black or African American	Two or More Races	Latinx origin (any race)
25193, Sylvester	728	100.0%	0.0%	0.0%	2.7%
25529, Julian	944	98.3%	1.1%	0.6%	0.0%
25181, Seth	1,189	96.5%	0.0%	3.5%	2.2%
25130, Madison	3,241	97.6%	2.4%	0.0%	0.0%
25053, Danville	3,999	99.0%	0.5%	0.5%	0.0%
25028, Bob White	253	100.0%	0.0%	0.0%	0.0%
25204, Twilight	103	100.0%	0.0%	0.0%	0.0%
25169, Ridgeview	598	100.0%	0.0%	0.0%	0.0%
25142, Nellis	401	100.0%	0.0%	0.0%	0.0%
25114, Jeffrey	228	100.0%	0.0%	0.0%	0.0%
25081, Foster	1,274	94.1%	3.2%	2.7%	0.0%
25009, Ashford	1,182	100.0%	0.0%	0.0%	0.0%
25165, Racine	852	100.0%	0.0%	0.0%	0.0%
25154, Peytona	989	100.0%	0.0%	0.0%	0.0%
25148, Orgas	447	97.8%	0.0%	2.2%	0.0%
25108, Hewett	360	100.0%	0.0%	0.0%	0.0%
25093, Gordon	296	100.0%	0.0%	0.0%	0.0%
25049, Comfort	405	100.0%	0.0%	0.0%	0.0%
25024, Bloomingrose	620	70.6%	0.0%	28.4%	0.0%
25208, Wharton	859	100.0%	0.0%	0.0%	0.0%
25051, Costa	182	100.0%	0.0%	0.0%	0.0%
25021, Bim	349	100.0%	0.0%	0.0%	0.0%
West Virginia	1,807,426	92.5%	3.6%	2.4%	1.6%
United States	326,569,308	70.4%	12.6%	5.2%	18.2%

Source: US Census Bureau, American Community Survey

The RDDI measures whether a racial group's representation in a particular public system is proportionate to their representation in the overall population. Public systems include homelessness, veterans, prison/justice systems, child welfare, developmental disabilities, mental health institutions, aging population, and substance use. An index of 1 signifies equal representation; an index below 1 signifies underrepresentation and an index above 1 signifies overrepresentation in a system.

Across West Virginia, Black/African Americans have the highest index score of any other population group at 5.52. This finding indicates overrepresentation in public systems. **Black/African Americans are most often overrepresented among individuals experiencing homelessness and in prison and justice systems.** This finding is consistent with systemic issues of racism within the nation's criminal justice system that leads to disproportionate incarceration and sentencing among people of color.



Source: Corporation for Supportive Housing

*TAY: Transition-age youth; DD: Developmental Disability; MH: Mental Health

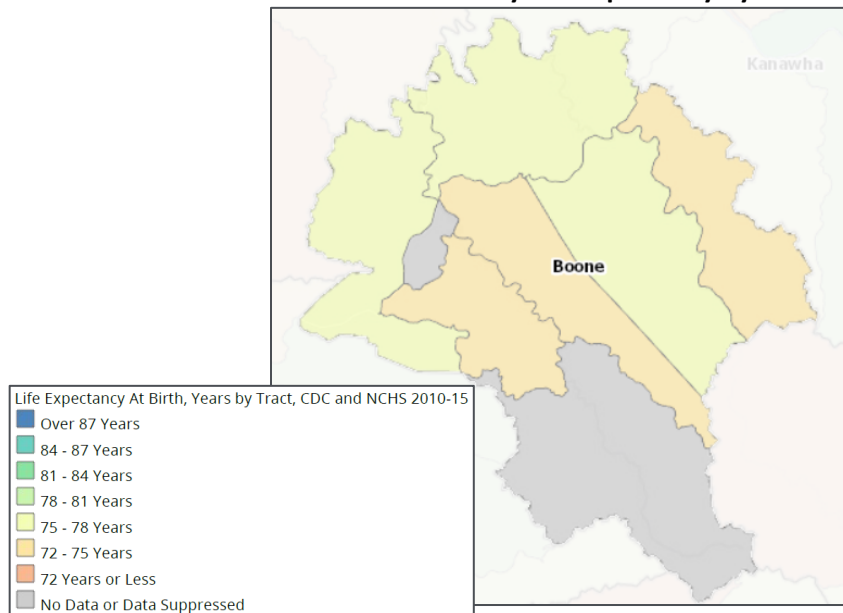
Life expectancy is another measure of the impact of social determinants of health. **Boone County has an average life expectancy of 71.5 years, compared to a statewide average of 74.8 years.** Average life expectancy is generally consistent across the county, as shown in the map below. Statewide, life expectancy is highest for Latinx and Asian residents and lowest for Black/African American residents, a disparity that is reflected in mortality data presented in this report.

2017-2019 Life Expectancy by Race and Ethnicity

	Overall Life Expectancy	Asian	Black	White	Latinx origin (any race)
Boone County	71.5	NA	NA	NA	NA
West Virginia	74.8	88.3	72.7	74.7	102.9

Source: National Vital Statistics System

2010-2015 Boone County Life Expectancy by Census Tract





COVID-19 Demonstrated Inequities

The COVID-19 pandemic both highlighted and deepened socioeconomic and health inequities. Boone County had higher unemployment than the state and nation before the pandemic and it averaged more than 10% in 2020. Child food insecurity was projected to have increased 25% in 2020. While both indicators declined in 2021, the potential long-term economic and social impacts from these experiences should continue to be monitored. Communities experiencing socioeconomic disparity before the pandemic were the most vulnerable to COVID-19 incidence and fatality and will likely require more time to fully recover.

Boone County had a higher rate of COVID-19 cases and deaths than the nation overall. This finding may reflect both lower community vaccination and disease vulnerability among older adults who comprise 20% of the county population. West Virginia overall had lower COVID-19 vaccine coverage than the nation. As of April 2022, approximately 50% of Boone County residents were fully vaccinated.

Approximately 45% of Key Informant Survey participants “agreed” or “strongly agreed” that individuals were susceptible to misinformation about COVID-19 and 35% “agreed” or “strongly agreed” that the people they serve were/are hesitant to receive COVID-19 vaccination. While the CDC was identified among the top sources for trusted COVID-19 information, nearly 20% of informants identified mistrust in CDC guidance among the people their organization serves.



Priority Health Needs

It is imperative to prioritize resources and activities toward the most pressing and cross-cutting health needs within our community. In determining the issues on which to focus efforts over the next three-year cycle, BMH collected feedback from community partners and sought to align with existing or planned community initiatives. Boone Memorial Health will focus efforts on the following community health priorities over the next three-year cycle:

- ▶ Chronic disease prevention
- ▶ Mental health
- ▶ Substance use disorder

Community Health Implementation Plan strategies will address underlying issues of social determinants of health and access to care barriers.

Community Overview

Boone County is a rural community in south-central West Virginia with growing economic, community development, and tourism opportunities. The county had a total population of 21,809 as of the 2020 Census, a decline of -11.4% from the 2010 Census. While most Boone County residents (95%) identify as White, consistent with West Virginia overall, population growth occurred exclusively among non-White individuals. Of note, the multi-racial population more than quadrupled from the 2010 Census.

Boone County is an aging community. Approximately 20% of residents are aged 65 or older, an increase from prior years, and higher than the national average of 16%. While the older adult population increased, youth under age 18 also comprise more than 20% of Boone County residents, reinforcing the potential impact of upstream, preventive initiatives.

Positive SDoH indicators within Boone County include housing affordability and homeownership. Approximately 78% of residents own their home compared to 64% nationally, and fewer than 20% of homeowners are cost burdened by their housing expenses compared to 27% nationwide. Cost burden is defined as spending 30% or more of household income on housing and can negatively impact the health and quality of life of individuals and families. The proportion of Boone County residents living in poverty has also declined, although it remains higher than state and national averages.

Approximately 19% of Boone County residents live in poverty compared to 17% statewide and 13% nationally. Children are disproportionately affected by poverty, and 23% of Boone County and West Virginia children live in poverty compared to 17.5% across the US. Boone County children are also more likely to experience food insecurity, estimated at 27% in 2021. Economic stability, including employment, poverty, and cost of living, was identified as the #1 health and quality of life issue for Boone County residents by 30% of Key Informant Survey participants.

A zip code-level analysis found that areas of higher socioeconomic need exist across Boone County. Notably, 20% of residents of Sylvester live in poverty and nearly one-quarter of adults have not completed high school. Areas of high poverty also exist in Bob White, Jeffrey, and Orgas, where 40% or more of residents and 50-89% of children live in poverty, although the total population of these



communities is low at fewer than 500 people each. The health impact of socioeconomic barriers is demonstrated in life expectancy differences. Boone County has an average life expectancy of 71.5 years compared to a statewide average of 74.8 years.

Access to Care

Access to healthcare is a significant need in Boone County. While the proportion of residents without health insurance has declined and meets the Healthy People 2030 goal, the county is a Health Professional Shortage Area (HPSA) for primary, dental, and mental healthcare services for low-income residents. Approximately 49% of adults in Boone County report receiving recent dental care compared to 56% statewide and 66% nationally. While a high proportion of county adults (78%) receive annual physical checkups, this finding likely does not reflect care access barriers for the nearly 1 in 5 residents living in poverty in a low-income HPSA.

Lack of public transportation limits access to care and other services in Boone County. Key Informant Survey participants identified transportation among the top missing resources or services that are needed to improve health and quality of life for residents.

Chronic Disease

Access to care barriers and other health risk factors contribute to higher prevalence and death due to chronic disease among Boone County residents, although select indicators have improved.

Boone County residents are generally less likely to be physically active, more likely to smoke, and more likely to have high blood pressure and/or high cholesterol than their peers statewide and nationally. The county reports higher prevalence of obesity and diabetes than the nation, mirroring statewide averages, although prevalence declined in 2019. County death rates due to diabetes and heart disease have historically exceeded state and national benchmarks with some variability annually.

Approximately 58.5% of Key Informant Survey participants identified overweight/obesity as a top five health and quality of life issue for residents. Nearly 42% of participants identified diabetes as a top five issue.

Higher reported tobacco use among Boone County residents has also contributed to higher prevalence and death rates due to respiratory disease, including chronic lower respiratory disease (CLRD) and lung cancer. However, it is worth noting that while the CLRD death rate for the county remains higher than the state and nation, it declined significantly in 2020.

Chronic disease prevalence is higher among Boone County's aging population. Approximately 27% of older adult Medicare beneficiaries manage six or more chronic conditions compared to 23% statewide and 18% nationally. Boone County also has a higher rate of emergency department visits among older adults, likely due in part to care access barriers. Other contributors to disease prevalence include social isolation. Nearly 14% of Boone County older adults live alone, a similar proportion as the state, but higher than the national average of 11%.



Behavioral Health

Socioeconomic and physical health outcomes are directly linked to behavioral health outcomes, and vice versa. Adults in West Virginia and Boone County report an average of six poor mental health days per month compared to a national average of four days. Boone County and West Virginia have historically had a higher suicide death rate than the nation, although the county death rate declined in recent years falling below the statewide average.

Provisional data released by the CDC predicts that 2020 and 2021 brought the highest number of overdose deaths ever in the US. From 2019 to 2020, the number of accidental overdose deaths occurring within West Virginia increased 55%. Boone County has historically had more overdose deaths than the state and nation and saw a more than 20-point increase in the death rate in 2020.

Youth are among the most likely to experience behavioral health concerns. Across West Virginia, high school students have historically reported more suicide attempts than the nation overall, and the percentage increased through 2019. Suicide attempts among youth may be due in part to consistent feelings of sadness or hopelessness. The proportion of students feeling consistently sad or hopeless increased nearly 10 points in West Virginia from 2013 to 2019, from 27.5% to 36.4%.

West Virginia high school students also generally report higher use of substances, including traditional cigarettes, e-cigarettes, and alcohol, than their peers across the nation. Notably, while the proportion of students using traditional cigarettes declined, approximately one-third report using e-cigarettes.

Maternal and Infant Health

Consistent maternal and infant health needs in West Virginia include teen births and smoking during pregnancy, although both declined since 2015. Available data for Boone County indicates a higher proportion of teen births than both the state and nation, although the rate has declined over the past two decades.

West Virginia also experiences disparate outcomes for premature and low birth weight births relative to the nation overall. While both White and Black/African American residents of West Virginia experience these disparities, they disproportionately affect Black/African Americans. Available data for Boone County indicate a higher proportion of infants born with low birth weight than the state and nation, and contrary to state and national trends, the proportion has slightly increased in recent years.

A full summary of statistical data findings for Boone County, with comparisons to West Virginia and the nation follows.

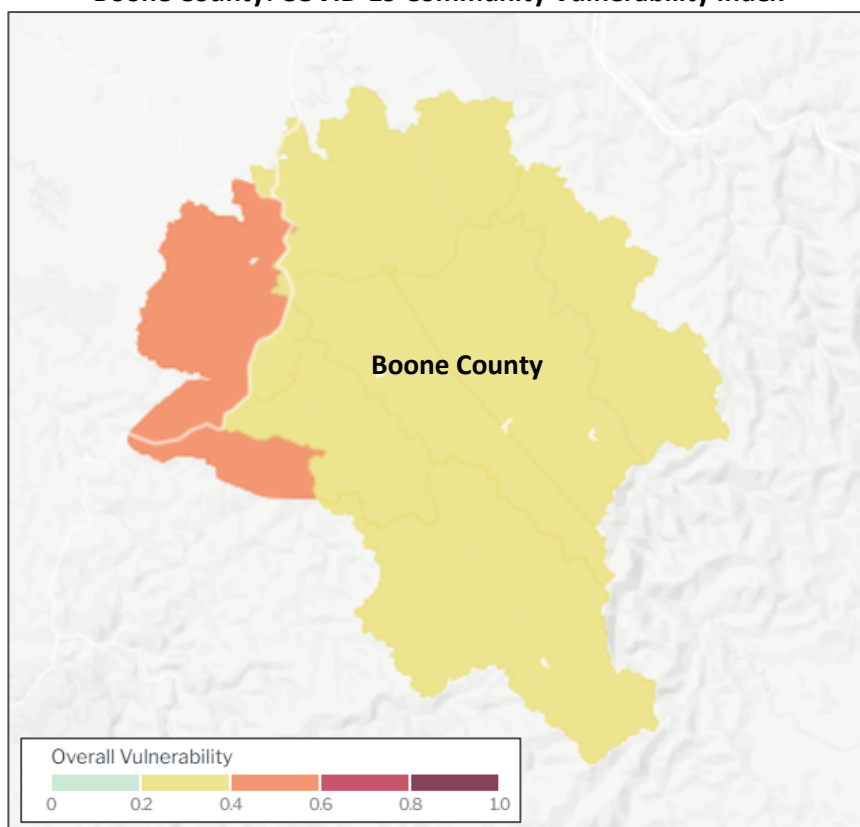


COVID-19 Impact on Communities

COVID-19 is the name of the disease caused by the SARS-CoV-2 virus. "CO" stands for corona, "VI" for virus, and "D" for disease. The number "19" refers to the year 2019 when the first case of COVID-19 was identified. COVID-19 has not impacted all people equally. Rather, certain structural issues—population density, low income, crowded workplaces, etc.—contribute to higher levels of spread and worse outcomes from COVID-19 in select communities. Surgo Ventures developed the Community Vulnerability Index to measure how well any community in the US could respond to the health, economic, and social consequences of COVID-19 without intentional response and additional support.

Using this scale, Boone County has “Low” vulnerability compared to other parts of the US. Among the factors impacting this score are health system resources and living and working conditions. Within the region, Danville has the highest vulnerability to COVID-19. This finding is consistent with existing socioeconomic disadvantages in Danville that may make it hard to respond to and recover from a COVID-19 outbreak.

Boone County: COVID-19 Community Vulnerability Index



Source: COVID Act Now



As of April 15, 2022, Boone County had 5,990 confirmed cases of COVID-19 and 75 related deaths. Based on rates per 100,000, Boone County had a higher rate of COVID-19 cases and deaths than the nation overall. This finding may reflect both lower community vaccination and disease vulnerability among older adults who comprise 20% of the county population.

COVID-19 Cases and Death Rates per 100,000 (as of April 15, 2022)

	Total Confirmed Cases	Case Rate per 100,000*	Total Deaths	Death Rate per 100,000*
Boone County	5,990	27,466	75	344
West Virginia	395,671	22,059	6,794	379
United States	80,403,894	24,258	985,523	297

Source: West Virginia Department of Health & Human Resources, Center for Disease Control and Prevention

*Calculated based on 2020 population counts.

COVID-19 vaccination will be essential to managing the pandemic and healthcare resources. Across West Virginia on April 8, 2022, there were 116 active COVID-19 hospitalizations and 55.2% of patients were unvaccinated. West Virginia overall has lower COVID-19 vaccine coverage than the nation. **Boone County has lower COVID-19 vaccine coverage than the state with 50% of residents fully vaccinated.**

COVID-19 Vaccination among Population Age 5 or Older (as of April 15, 2022)

	Total Vaccinated	
	Partially Vaccinated	Fully Vaccinated
Boone County	56.1%	50.3%
West Virginia	68.3%	60.5%
United States	82.1%	70.0%

Source: Center for Disease Control and Prevention



Service Area Population Statistics

Demographics

Since 2010, West Virginia saw population decline of -3.2% compared to national population growth of +7.4%. Boone County also saw population decline of -11.4%.

2020 Total Population

	Total Population	Percent Change Since 2010
Boone County	21,809	-11.4%
West Virginia	1,793,716	-3.2%
United States	331,449,281	+7.4%

Source: US Census Bureau, Decennial Census

Consistent with state and national benchmarks, population growth within Boone County occurred exclusively among non-White individuals. From 2010 to 2020, the White population declined -14.4%, while the multiracial population more than quadrupled and accounted for 3.6% of the total population in 2020. Despite increasing diversity, Boone County and West Virginia continue to reflect a majority White population.

2020 Population by Race and Ethnicity

	White	Black or African American	Asian	American Indian / Alaska Native	Native Hawaiian / Pacific Islander	Other Race	Two or More Races	Latinx origin (any race)
Boone County	95.3%	0.6%	0.2%	0.2%	0.0%	0.2%	3.6%	0.6%
West Virginia	89.8%	3.7%	0.8%	0.2%	0.0%	0.7%	4.7%	1.9%
United States	61.6%	12.4%	6.0%	1.1%	0.2%	8.4%	10.2%	18.7%

Source: US Census Bureau, Decennial Census

Population Change among Prominent Racial and Ethnic Groups, 2010 to 2020

	White	Black or African American	Asian	Other Race	Two or More Races	Latinx origin (any race)
Boone County	-14.4%	+10.7%	+71.4%	-17.1%	+462.3%	+37.1%
West Virginia	-7.4%	+4.3%	+21.8%	+111.1%	+213.0%	+56.4%
United States	-8.6%	+5.6%	+35.5%	+46.1%	+275.7%	+23.0%

Source: US Census Bureau, Decennial Census

Health needs change as individuals age. Therefore, the age distribution of a community impacts its social and healthcare needs. **The age distribution and median age of Boone County is similar to West Virginia overall and older than the nation.** Nearly 20% of Boone County residents are aged 65 or older compared to 16% nationwide.



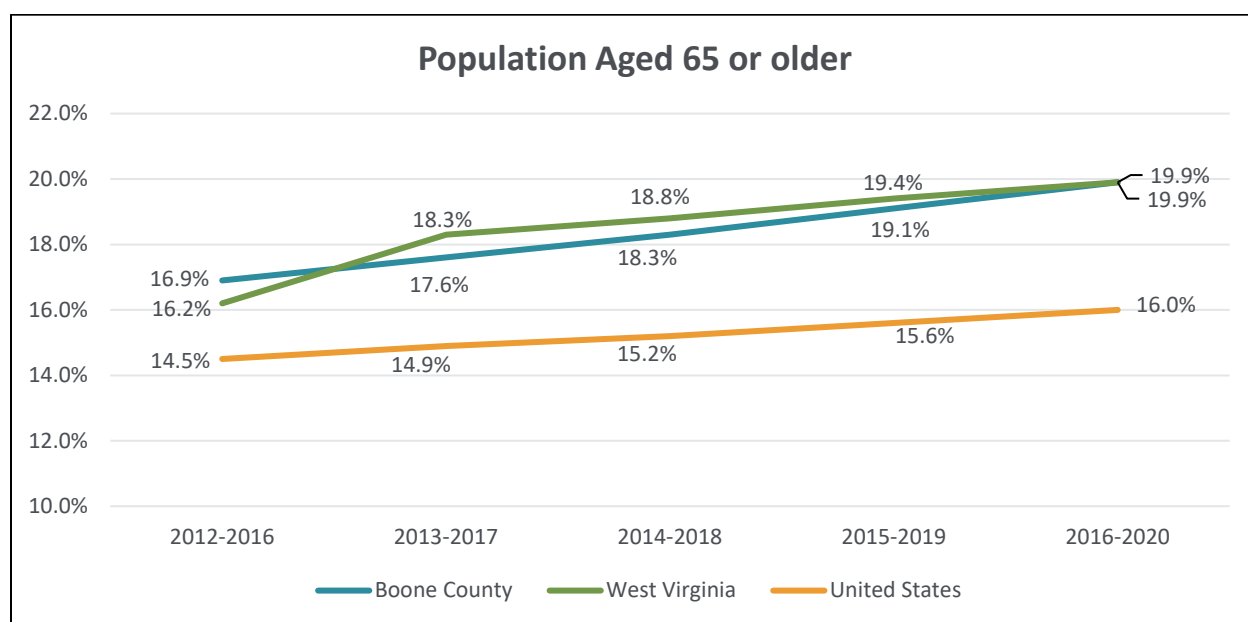
The proportion of older adult residents increased across Boone County, West Virginia, and the nation. Nationally, among older adults aged 65 or older, the 65-74 age category is the fastest growing demographic, largely due to the aging of the baby boomer generation.

While the older adult population increased in Boone County, youth under age 18 comprise more than 1 in 5 residents. This finding reinforces the potential impact of upstream, preventative initiatives.

2016-2020 Population by Age

	Gen Z/ Gen C	Gen Z	Millennial	Millennial/ Gen X	Gen X	Boomers	Boomers/ Silent	Median Age
	Under 18 years	18-24 years	25-34 years	35-44 years	45-54 years	55-64 years	65 years and over	
Boone County	21.3%	7.2%	10.0%	12.9%	13.8%	14.9%	19.9%	44.0
West Virginia	20.2%	8.8%	11.9%	12.0%	12.9%	14.3%	19.9%	42.7
United States	22.4%	9.3%	13.9%	12.6%	12.7%	12.9%	16.0%	38.2

Source: US Census Bureau, American Community Survey



Source: US Census Bureau, American Community Survey

Income and Work

Consistent with West Virginia overall, **a higher proportion of Boone County residents live in poverty when compared to the nation, although poverty has steadily declined over the past five years.** Poverty rates across West Virginia have been stable, but lower than Boone County rates. Children are disproportionately affected by poverty, and approximately 23% of children in Boone County and West Virginia live in poverty compared to 17.5% nationally.



Statewide and nationally, poverty has historically been disproportionately higher among people of color. Statewide, Black/African Americans have the highest poverty rates at nearly double the rate seen among Whites. Poverty data by race and ethnicity are not shown for Boone County due to low counts.

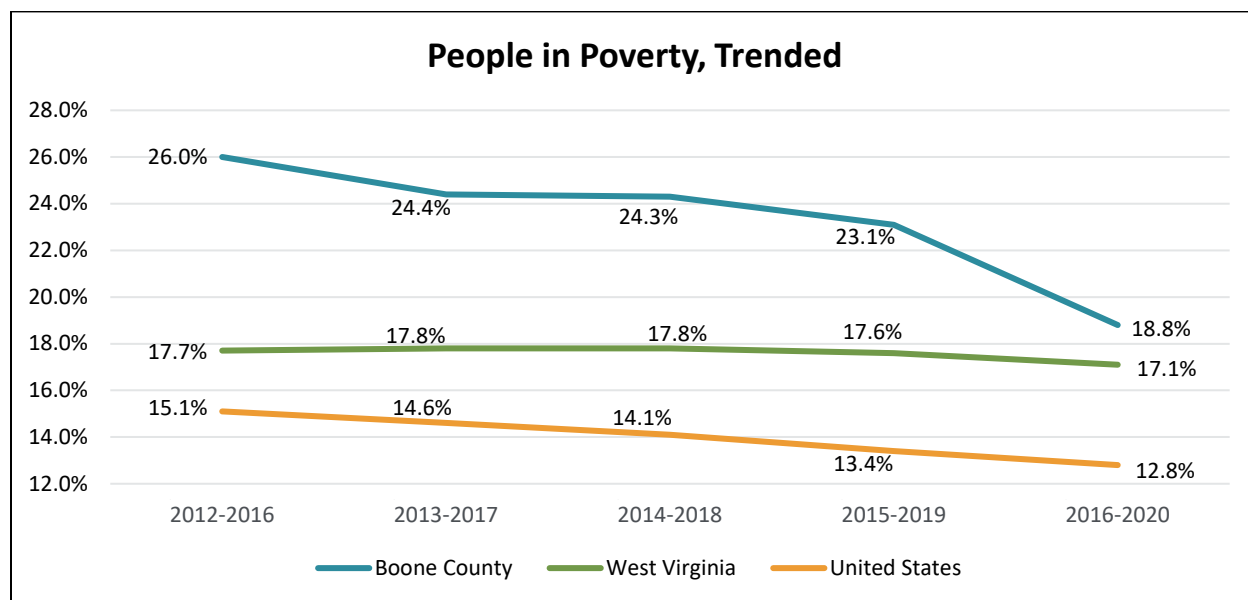
Note, income and poverty data reflect aggregated findings for 2016-2020 and may not demonstrate economic hardship experienced by individuals and families during the pandemic. Unemployment and food insecurity data for 2020 and 2021 provide insight into the economic impact of the pandemic.

COVID-19 had a significant impact on unemployment rates across the nation. By the end of 2020, average unemployment for the US was approximately double what it was at the beginning of the year. **Boone County had higher unemployment than the state and nation before the pandemic and it rose to more than 10% in 2020.** Unemployment in Boone County has since declined, falling below pre-pandemic levels but still exceeding state and national averages.

Economic Indicators

	Boone County	West Virginia	United States
Income and Poverty (2016-2020)			
Median household income	\$45,297	\$48,037	\$64,994
People in poverty	18.8%	17.1%	12.8%
Children in poverty	23.5%	23.1%	17.5%
Older adults (65+) in poverty	7.4%	9.8%	9.3%
Unemployment			
January 2020	6.9%	5.7%	4.0%
2020 average	10.3%	8.2%	8.1%
February 2022	5.3%	4.5%	4.1%

Source: US Census Bureau, American Community Survey & US Bureau of Labor Statistics



Source: US Census Bureau, American Community Survey



2016-2020 People in Poverty among Prominent Racial and Ethnic Groups

	White	Black / African American	Asian	Other Race	Two or More Races	Latinx origin (any race)
West Virginia	16.5%	29.0%	14.6%	28.0%	24.0%	18.9%
United States	10.6%	22.1%	10.6%	19.7%	15.1%	18.3%

Source: US Census Bureau, American Community Survey

Food Insecurity

Food insecurity is defined as not having reliable access to a sufficient amount of nutritious, affordable food. Food insecurity is associated with lower household income and poverty, as well as poorer overall health status. Similar to unemployment rates, COVID-19 had a profound impact on food insecurity, particularly among children. **From 2019 to 2020, the percentage of food insecure children was projected to have increased approximately 6 percentage points across Boone County compared to 4 percentage points statewide.** Prior to 2020, food insecurity among all residents and children was declining.

Projected food insecurity declined in 2021 but continues to be higher than pre-pandemic years. Consistent with having higher reported child poverty, Boone County has a higher proportion of food insecure children than West Virginia and the nation, estimated at nearly 27% in 2021.

Trended and Projected Food Insecurity

	Boone County	West Virginia	United States
All Residents			
2021 (projected)	18.3%	14.0%	12.9%
2020 (projected)	20.2%	15.6%	13.9%
2019	16.8%	13.5%	10.9%
Children			
2021 (projected)	26.6%	19.2%	17.9%
2020 (projected)	30.3%	22.5%	19.9%
2019	24.2%	19.0%	14.6%

Source: Feeding America

Education

High school graduation is one of the strongest predictors of longevity and economic stability. Adult residents of Boone County are less likely to complete high school or pursue higher education when compared to state and nation. Approximately 11.6% of Boone County adults have a bachelor's degree or higher compared to 32.9% nationwide. Educational attainment data by race and ethnicity are not shown for Boone County due to low counts. Statewide and nationally, significant educational attainment disparities affect people of color, particularly Black/African Americans and Latinx.



2016-2020 Educational Attainment

	Less than high school diploma	High school graduate (includes GED)	Some college or associate's degree	Bachelor's degree	Graduate or professional degree
Boone County	16.6%	46.6%	25.2%	6.6%	5.0%
West Virginia	12.4%	40.0%	26.3%	12.7%	8.6%
United States	11.5%	26.7%	28.9%	20.2%	12.7%

Source: US Census Bureau, American Community Survey

2016-2020 Population with a Bachelor's Degree by Prominent Racial and Ethnic Group

	White	Black / African American	Asian	Other Race	Two or More Races	Latinx origin (any race)
West Virginia	21.1%	17.1%	64.1%	22.5%	23.5%	23.8%
United States	34.4%	22.6%	55.0%	13.1%	29.7%	17.6%

Source: US Census Bureau, American Community Survey

Housing

Housing is the largest single expense for most households and should represent 30% of a household's monthly income. Boone County has more affordable housing than the state and nation; **more residents own their home and fewer homeowners are considered housing cost burdened**. The median rent in Boone County is also lower than state and national medians, although 67.1% of renters are considered housing cost burdened, a higher proportion than the state and nation.

Consistent with West Virginia overall, Boone County has older housing stock than the nation with less than 5% of housing units built after 2009.

2016-2020 Housing Indicators

	Owners			Renters		
	Occupied Units	Median Home Value	Cost-Burdened*	Occupied Units	Median Rent	Cost-Burdened*
Boone County	78.2%	\$76,700	19.9%	21.8%	\$657	67.1%
West Virginia	73.7%	\$123,200	21.1%	26.3%	\$732	47.7%
United States	64.4%	\$229,800	27.4%	35.6%	\$1,096	49.1%

Source: US Census Bureau, American Community Survey

*Defined as spending 30% or more of household income on rent or mortgage expenses.

2016-2020 Housing by Year Built

	Before 1980	1980-1999	2000-2009	2010-2013	2014 or Later
Boone County	61.7%	23.7%	10.1%	2.5%	2.0%
West Virginia	58.8%	25.7%	11.3%	2.3%	1.8%
United States	52.9%	27.3%	13.6%	2.7%	3.5%

Source: US Census Bureau, American Community Survey



Quality housing has a direct impact on health. Unhealthy housing puts residents at risk of health issues including lead poisoning, asthma, injury, and other chronic diseases. Housing built before 1979 may contain lead paint and other hazardous materials like asbestos.

West Virginia residents have a higher prevalence of asthma than their peers nationwide. As of 2019, 11.6% of West Virginia adults reported having a current asthma diagnosis compared to 8.9% nationally.

Asthma is the most common chronic condition among children, and a leading cause of hospitalization and school absenteeism. In 2019, nearly 1 in 4 children in West Virginia had ever been diagnosed with asthma, a similar proportion as the nation overall. Nationally, Black/African American children have a disproportionately higher prevalence of asthma compared to other racial and ethnic groups. This finding can be partially attributed to social determinants of health barriers and inequities such as living in lower quality and older housing.

2019 High School Students Ever Diagnosed with Asthma

	West Virginia	United States
Total	22.7%	21.8%
Black or African American	N/A	29.2%
White	22.0%	19.8%
Latinx origin (any race)	N/A	21.0%

Source: Centers for Disease Control and Prevention, YRBS

Related to housing concerns is access to computers and internet service. Termed the "digital divide," there is a growing gap between the underprivileged members of society—especially poor, rural, elderly, and disabled populations—who do not have access to computers or the internet and the wealthy, middle-class, and young Americans living in urban and suburban areas who have access.

Boone County has similar digital access as the state overall with approximately 85% of households reporting access to a computer device and 80% reporting access to broadband internet.

2016-2020 Households by Digital Access

	With Computer Access			With Internet Access	
	Computer Device	Desktop / Laptop	Smartphone	Internet Subscription	Broadband Internet
Boone County	84.5%	66.3%	64.9%	80.3%	80.2%
West Virginia	86.2%	68.6%	73.0%	79.2%	78.9%
United States	91.9%	78.3%	83.7%	85.5%	85.2%

Source: US Census Bureau, American Community Survey



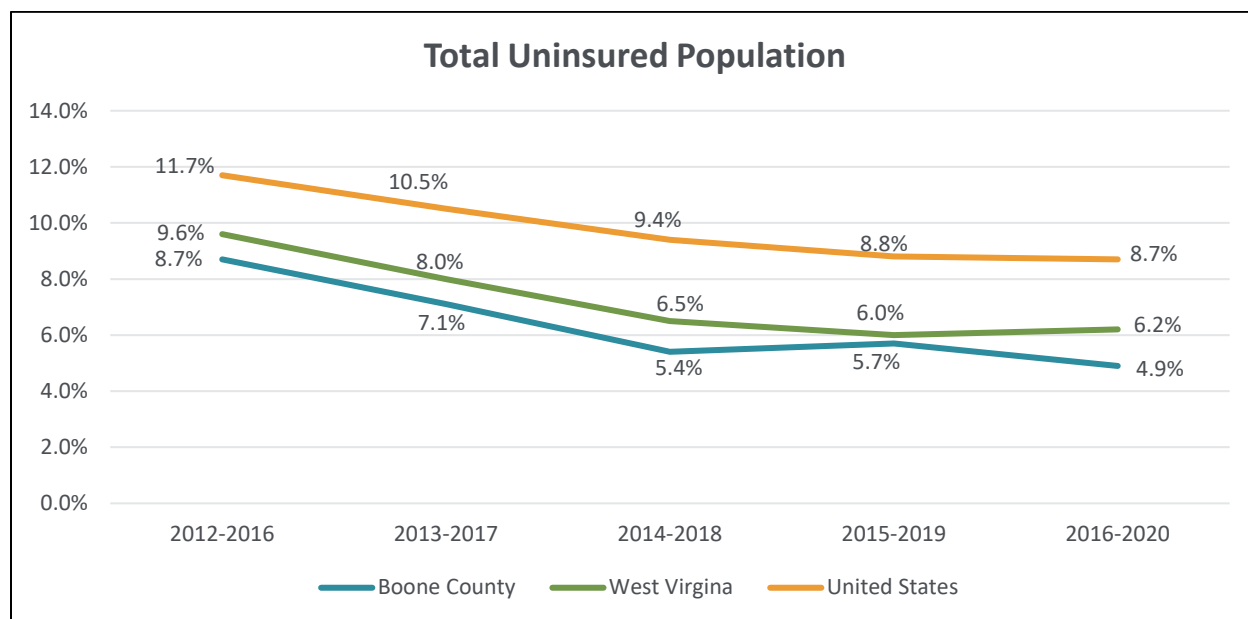
Our Health Status as a Community

Access to Healthcare

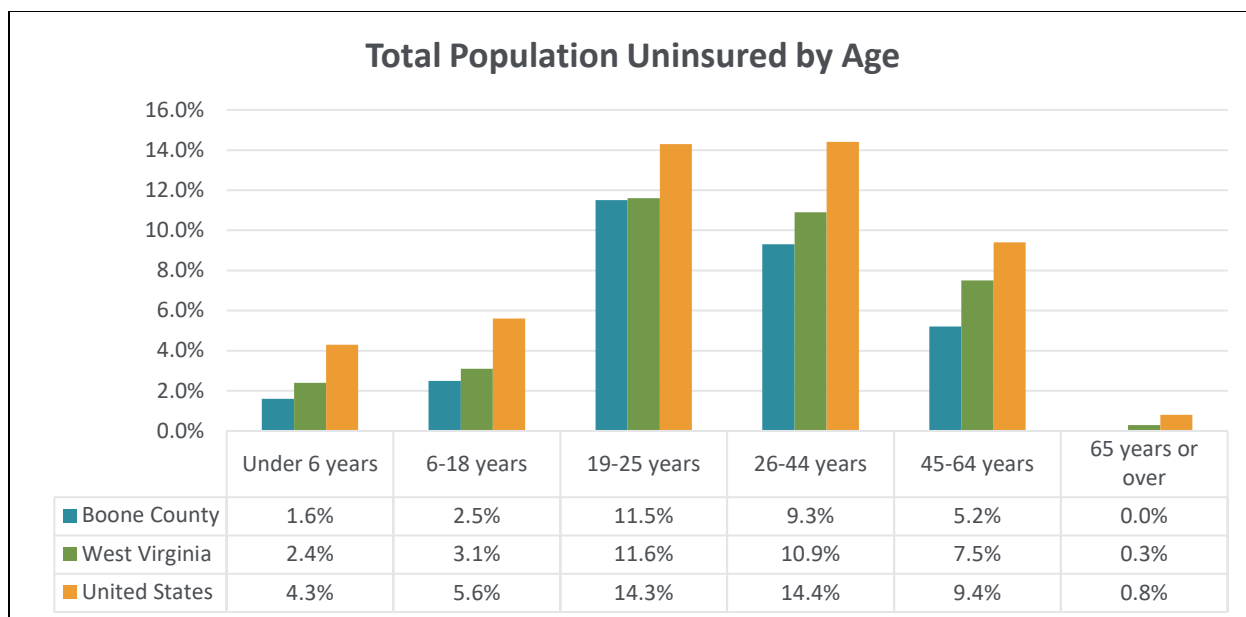
Boone County continues to have fewer uninsured residents than the state and nation and meets the HP2030 goal of 92.1% insured residents. This finding is consistent across age groups.

Among insured Boone County residents, approximately half have employer-based insurance, a similar proportion as the state and nation. **Consistent with age demographics for the county, more than one-quarter of residents have Medicare insurance compared to 17.6% nationally.** A higher proportion of residents are Medicaid insured (35%) compared to the nation (20%).

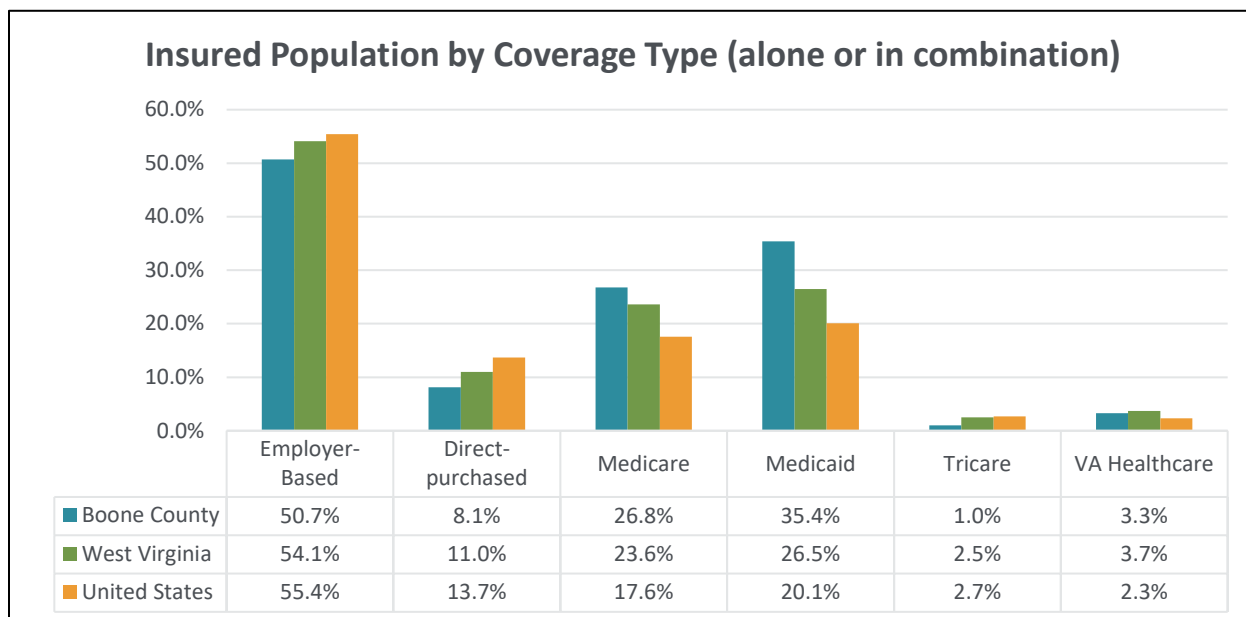
Uninsured data by race and ethnicity are not shown for Boone County due to low counts. Nationally, Latinx have the highest uninsured rate of any racial or ethnic group, estimated at 17.7% compared to the White uninsured rate of 7.6%.



Source: US Census Bureau, American Community Survey



Source: US Census Bureau, American Community Survey



Source: US Census Bureau, American Community Survey

Availability of healthcare providers also impacts access to care and health outcomes. Boone County has fewer primary care providers than the state and nation, as indicated by the rate of primary care physicians per 100,000 population, and is designated as a Health Professional Shortage Area (HPSA) for low-income populations. **Despite having lower provider availability, approximately 78% of adults reported having a routine checkup in 2019, a similar or higher proportion as the state and nation.**



Boone County also has fewer dentists than the state and the nation and is a designated HPSA for low-income populations. **Approximately 49% of adults in Boone County reported receiving recent dental care compared to 56% statewide and 66% nationally.**

COVID-19 had a significant impact on access to care. Nationally, the percentage of adults receiving a routine physical checkup declined from 77.6% in 2019 to 76% in 2020. West Virginia differed from the nation in that the percentage of adults receiving a routine physical checkup increased from 77.6% in 2019 to 79.3% in 2020. Note: county-level data for 2020 are not yet available.

Primary and Dental Provider Rates and Adult Healthcare Access

	Primary Care		Dental Care	
	Physicians per 100,000 Population (2018)	Routine Checkup within Past Year (2019)*	Dentists per 100,000 Population (2019)	Dental Visit within Past Year (2018)*
Boone County	36.4	78.1%	23.3	48.7%
West Virginia	78.2	77.6%	56.8	56.0%
United States	75.8	75.0%	71.4	66.2%

Source: Health Resources and Services Administration & Centers for Disease Control and Prevention, PLACES & BRFSS

*Data are reported as age-adjusted percentages.

Health Risk Factors and Chronic Disease

Residents of Boone County have more health risk factors and higher prevalence and mortality due to chronic disease. **In 2019, more than one-third of county adults reported being physically inactive and 28% reported smoking, higher proportions than the state and nation.**

The following report sections further explore health risk factors and chronic disease, and their connection to underlying social determinants of health. Social determinants of health not only lead to poorer health outcomes and the onset of disease, but they are also likely to impede disease management and treatment efforts, further exacerbating poorer health outcomes.

2019 Age-Adjusted Adult Health Risk Factors

	No Leisure-Time Physical Activity in Past 30 Days	Current Smokers
Boone County	37.2%	28.1%
West Virginia	29.2%	25.4%
United States	25.6%	15.7%

Source: Centers for Disease Control and Prevention, PLACES & BRFSS

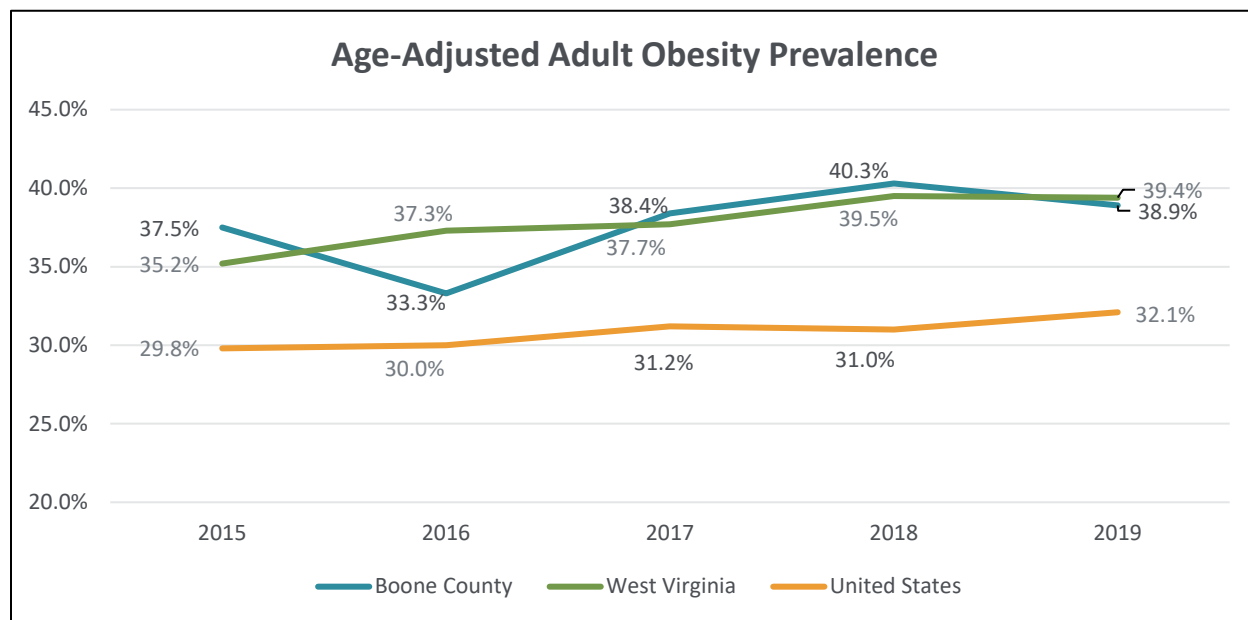
Obesity and Diabetes

West Virginia adults have historically higher prevalence of obesity and diabetes, and a higher death rate due to diabetes, compared to national benchmarks. Statewide prevalence and death rates have generally increased over the past five years. **Boone County also reports higher prevalence of obesity and diabetes, mirroring statewide averages, although prevalence declined in 2019.** The county death

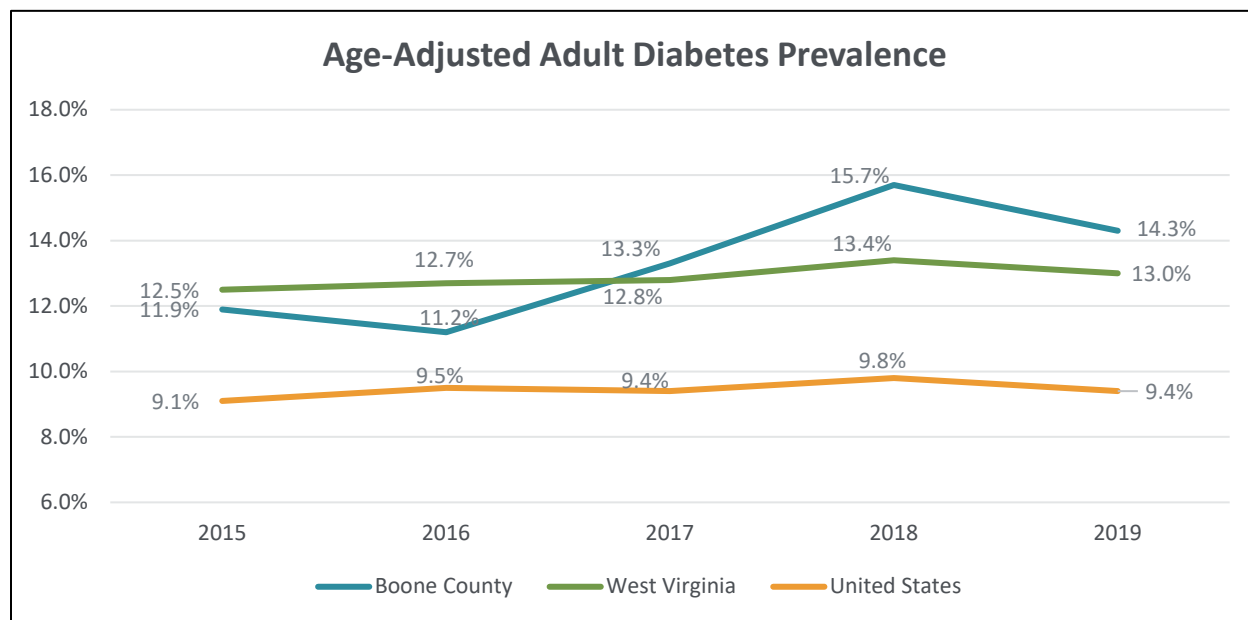


rate due to diabetes has historically exceeded state and national averages, and consistent with the state and nation, increased in 2020. This finding may be due in part to the COVID-19 pandemic and related healthcare barriers and delays.

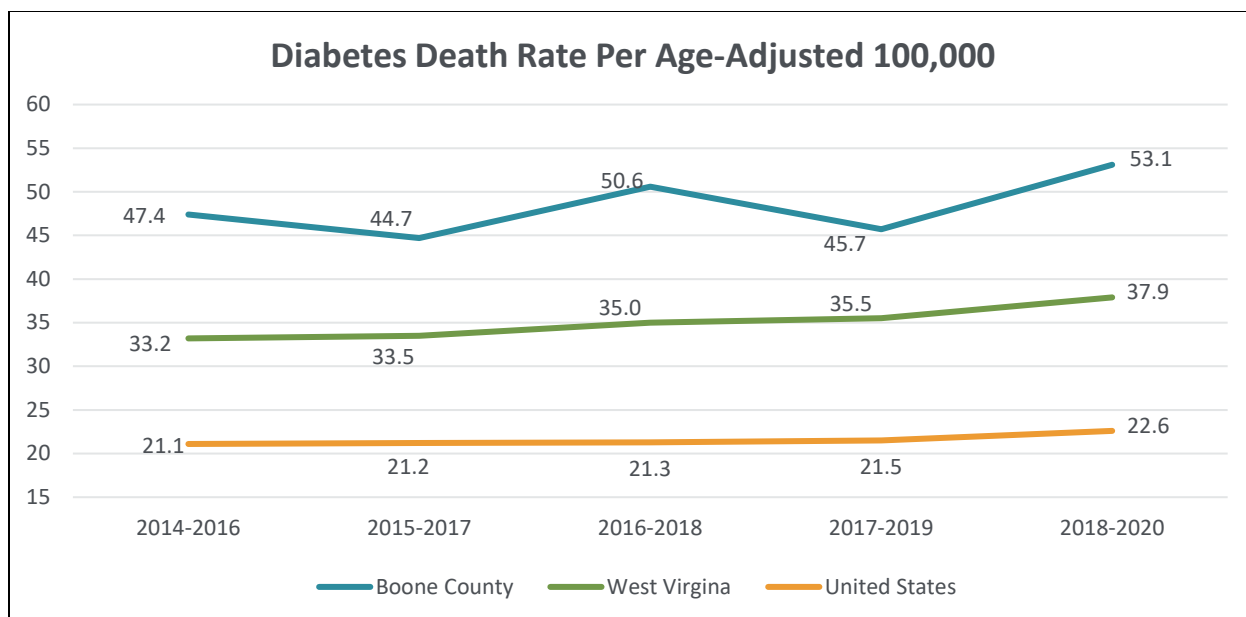
Statewide and nationally, the diabetes death rate for Black/African Americans is more than double the death rate for Whites. Data by race and ethnicity are not reported for Boone County due to low counts.



Source: Centers for Disease Control and Prevention, BRFSS



Source: Centers for Disease Control and Prevention, BRFSS



Source: Centers for Disease Control and Prevention

2018-2020 Diabetes Death Rate per Age-Adjusted 100,000 by Race and Ethnicity

	Boone County	West Virginia	United States
Total Population	53.1	37.9	22.6
White, Non-Hispanic	54.0	37.6	19.7
Black or African American, Non-Hispanic	NA	67.1	41.3
Latinx origin (any race)	NA	NA	27.2

Source: Centers for Disease Control and Prevention

Heart Disease

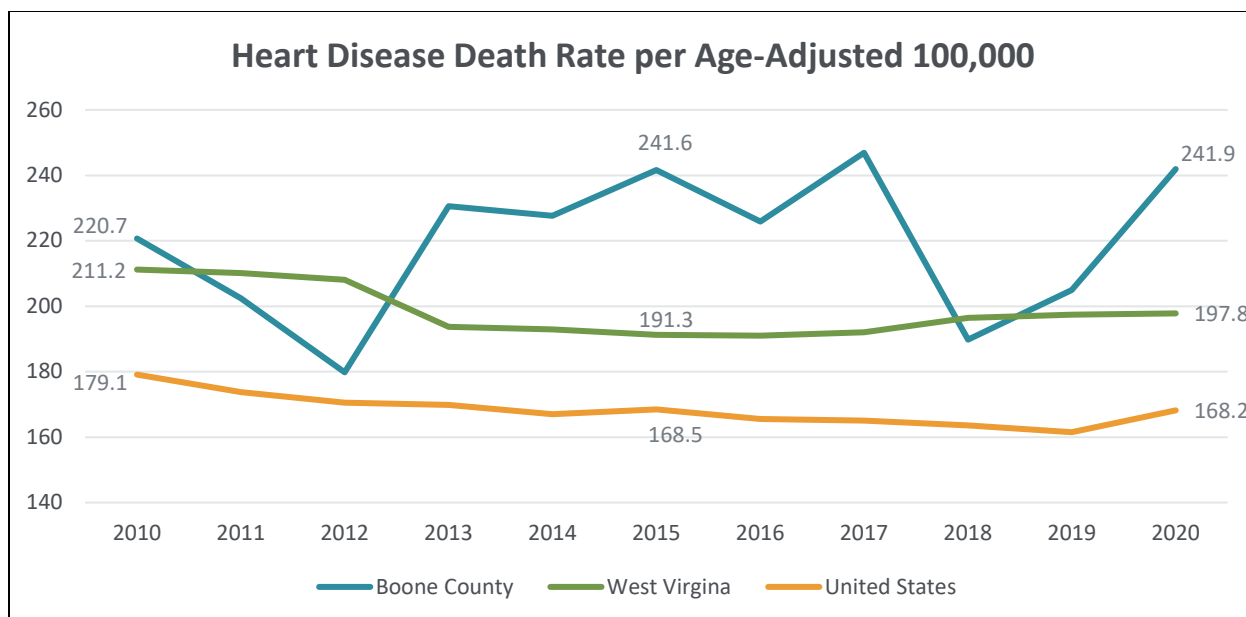
Heart disease is the leading cause of death nationally. High blood pressure and high cholesterol are two of the primary causes of heart disease and can be preventable. **Boone County has a similar prevalence of high blood pressure and high cholesterol as the state, but a higher heart disease death rate.** The county-wide heart disease death rate has historically been variable and increased more than 50 points between 2018 and 2020, a trend that should continue to be monitored.

Nationally, the heart disease death rate is higher for Black/African Americans than other racial groups. West Virginia differs from the nation with a similar death rate for Whites and Black/African Americans.

2019 Age-Adjusted Adult Heart Disease Risk Factors

	Adults with High Blood Pressure	Adults with High Cholesterol
Boone County	40.3%	31.9%
West Virginia	38.5%	33.5%
United States	29.6%	28.7%

Source: Centers for Disease Control and Prevention, PLACES & BRFSS



Source: Centers for Disease Control and Prevention

2020 Heart Disease Death Rate per Age-Adjusted 100,000 by Race and Ethnicity			
	Boone County	West Virginia	United States
Total Population	241.9	197.8	168.2
White, Non-Hispanic	264.8	200.1	170.1
Black or African American, Non-Hispanic	NA	205.3	228.6
Latinx origin (any race)	NA	NA	122.7

Source: Centers for Disease Control and Prevention

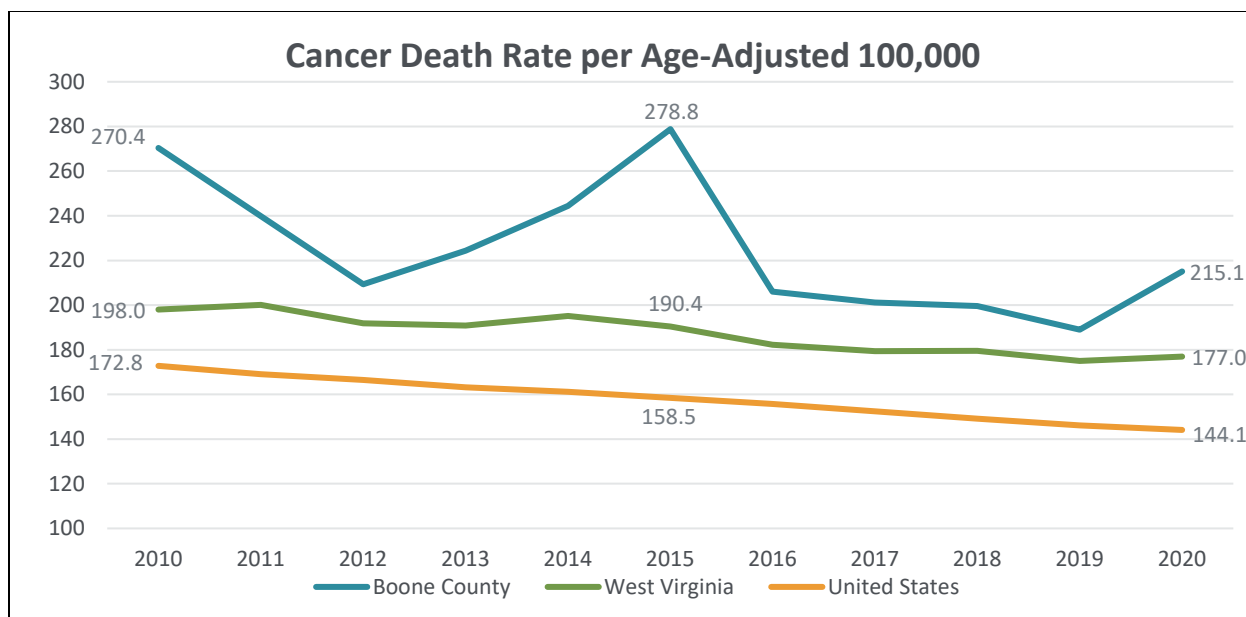
Cancer

Cancer is the second leading cause of death nationally. Boone County has higher cancer incidence and death rates than the state and nation overall, although death rates generally declined through 2019. An increase in cancer-related deaths in Boone County in 2020 may be due to pandemic-related healthcare barriers and should continue to be monitored.

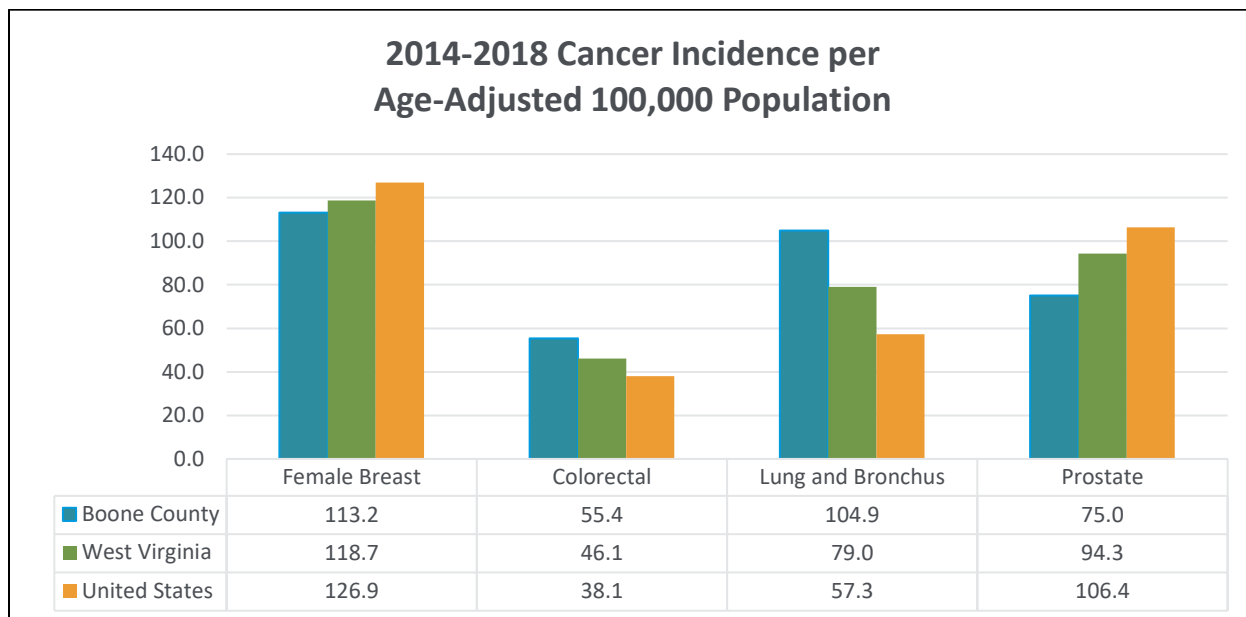
Cancer deaths in Boone County are largely due to disparities in female breast and lung cancers. While the county has a lower incidence of female breast cancer, the death rate exceeds state and national averages. This finding is often indicative of delayed screening practices and later stage diagnosis and treatment. The lung cancer death rate is nearly twice as high in Boone County compared to the nation, likely reflecting overall higher smoking rates.

2014-2018 Cancer Incidence (All Types) per Age-Adjusted 100,000		
Boone County	West Virginia	United States
544.4	483.5	448.6

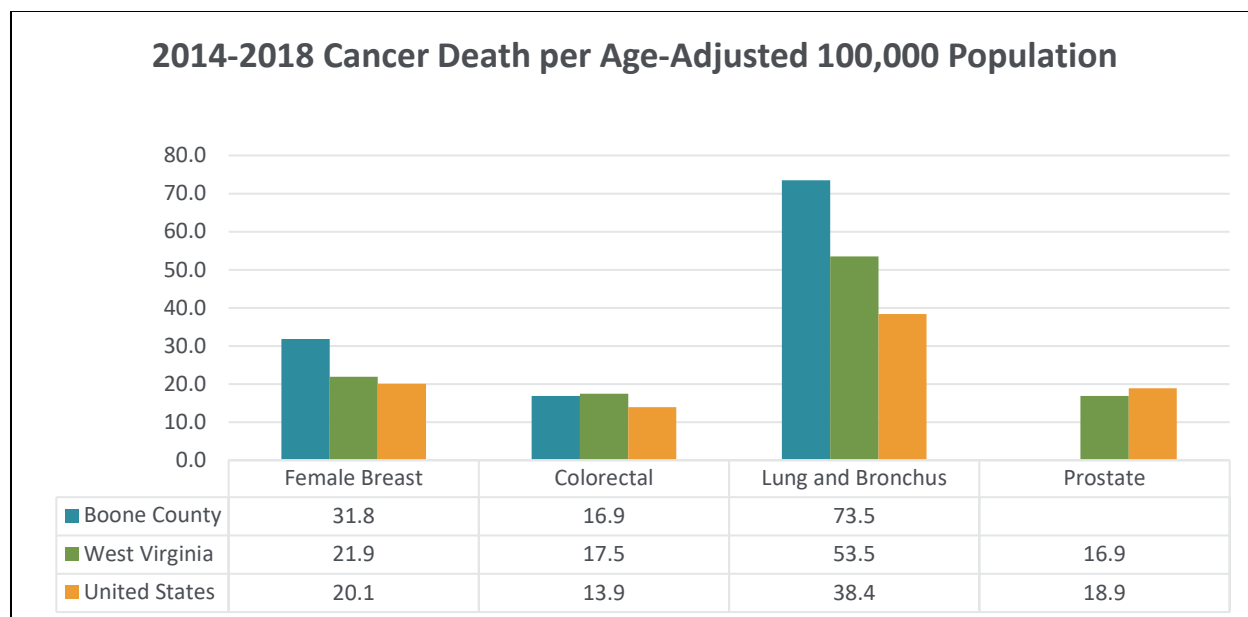
Source: Centers for Disease Control and Prevention, United States Cancer Statistics



Source: Centers for Disease Control and Prevention



Source: Centers for Disease Control and Prevention, United States Cancer Statistics



Source: Centers for Disease Control and Prevention

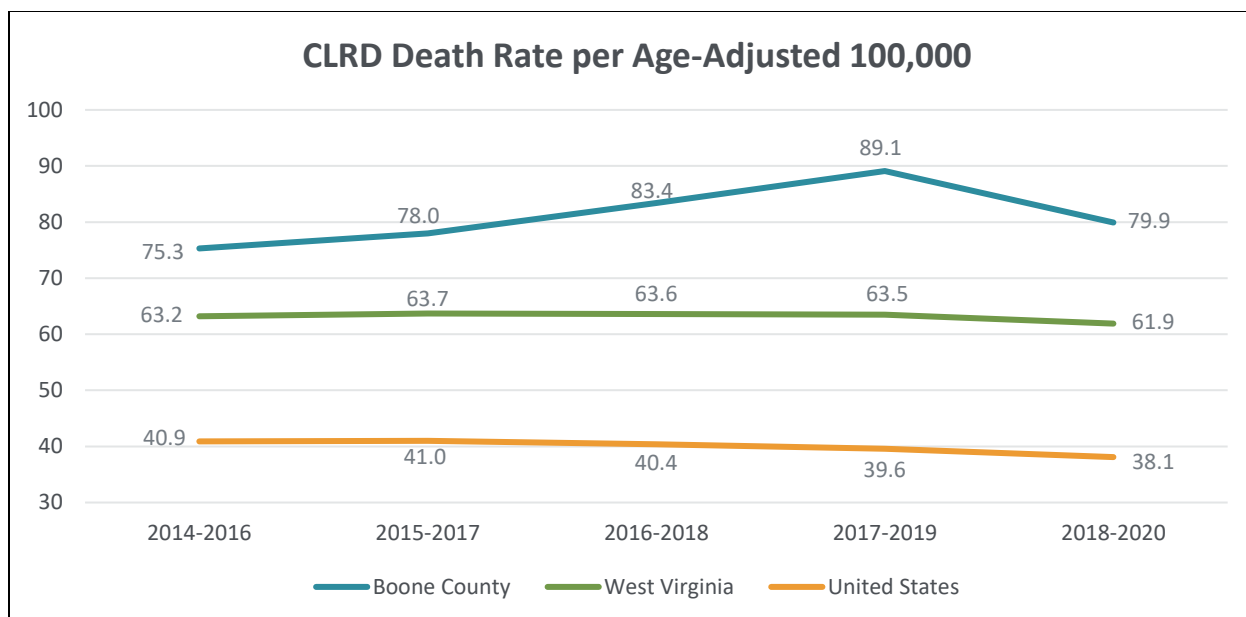
Respiratory Disease

Chronic lower respiratory disease (CLRD) includes several chronic conditions of the respiratory tract, including chronic obstructive pulmonary disease (COPD). Adults living in West Virginia, including Boone County, have a higher prevalence of COPD than the nation overall. This finding is consistent with higher reported tobacco use among residents. Boone County also has a higher rate of death due to CLRD, although the death rate declined in 2020.

2019 Age-Adjusted Adult COPD Diagnosis

	Adults with COPD
Boone County	11.3%
West Virginia	10.5%
United States	5.9%

Source: Centers for Disease Control and Prevention, PLACES & BRFSS



Source: Centers for Disease Control and Prevention

Aging Population

Boone County is an aging community, and older adult residents are generally less healthy than their peers statewide and nationally. Among Medicare beneficiaries aged 65 or older, approximately 79% in Boone County have two or more chronic conditions compared to state and national averages of 75% and 70% respectively. **Approximately 27% of Boone County older adult Medicare beneficiaries have six or more chronic conditions compared to 23% statewide and 18% nationally.**

2018 Chronic Condition Comorbidities among Medicare Beneficiaries 65 Years or Older

	0 to 1 Condition	2 to 3 Conditions	4 to 5 Conditions	6 or More Conditions
Boone County	20.7%	24.9%	27.2%	27.3%
West Virginia	24.9%	27.6%	24.8%	22.7%
United States	29.7%	29.4%	22.8%	18.2%

Source: Centers for Medicare & Medicaid Services

Older adult healthcare utilization and costs increase significantly with a higher number of reported chronic diseases. Tracking these indicators helps plan allocation of resources to best anticipate and serve need in the community. When compared to the nation, Boone County generally has lower per capita spending among older adult Medicare beneficiaries. Contrary to this finding, Boone County has a higher rate of emergency department (ED) visits among beneficiaries. This finding may be due in part to overall access to care barriers experienced by residents.



2018 Per Capita Standardized Spending* for Medicare Beneficiaries Aged 65 Years or Older

	0 to 1 Condition	2 to 3 Conditions	4 to 5 Conditions	6 or More Conditions
Boone County	\$1,114	\$4,662	\$8,174	\$27,275
West Virginia	\$1,410	\$4,470	\$9,084	\$26,896
United States	\$1,944	\$5,502	\$10,509	\$29,045

Source: Centers for Medicare & Medicaid Services

*Standardized spending takes into account payment factors that are unrelated to the care provided (e.g. geographic variation in Medicare payment amounts).

2018 ED Visits per 1,000 Medicare Beneficiaries Aged 65 Years or Older

	0 to 1 Condition	2 to 3 Conditions	4 to 5 Conditions	6 or More Conditions
Boone County	139	440	723	2,094
West Virginia	134	352	672	1,916
United States	123	318	621	1,719

Source: Centers for Medicare & Medicaid Services

Nationally, the most common chronic conditions among older adult Medicare beneficiaries, in order of prevalence, are hypertension, high cholesterol, and arthritis. This finding is consistent for West Virginia and Boone County.

West Virginia older adult Medicare beneficiaries generally have a higher prevalence of chronic conditions compared to their peers across the nation, and Boone County older adults generally have a higher prevalence than the state. **Boone County older adult Medicare beneficiaries have a notably higher prevalence of arthritis, chronic kidney disease, COPD, depression, diabetes, heart failure, hypertension, and ischemic heart disease.**

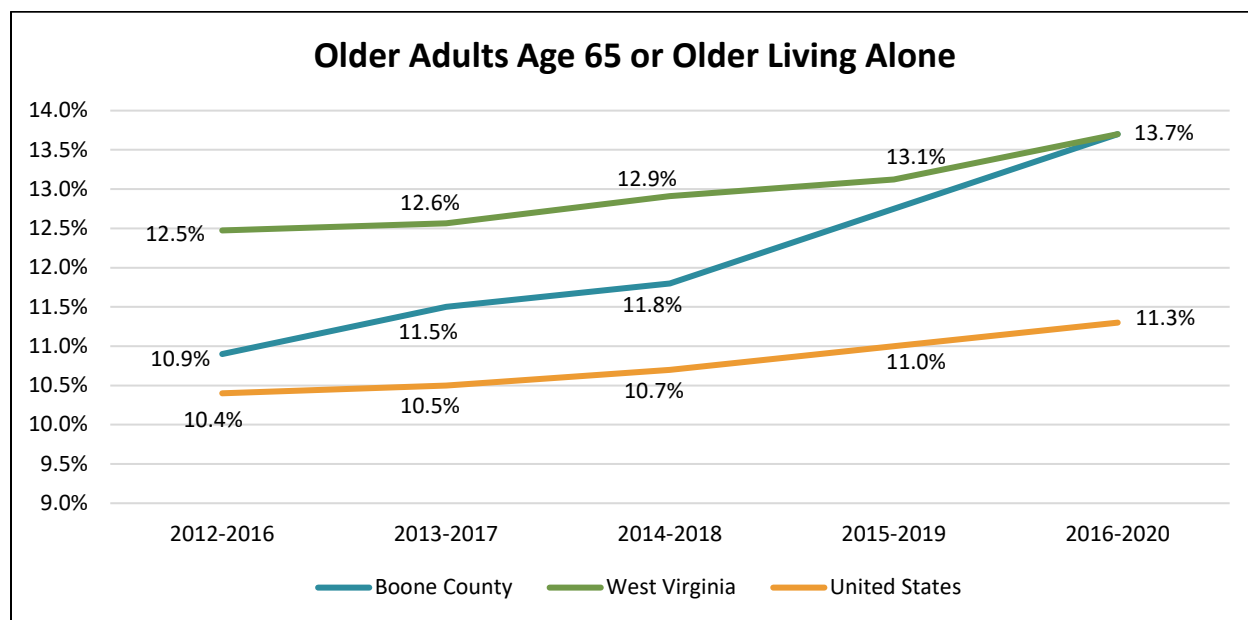
2018 Chronic Condition Prevalence among Medicare Beneficiaries Aged 65 Years or Older

	Boone County	West Virginia	United States
Alzheimer's Disease	13.7%	12.1%	11.9%
Arthritis	43.0%	38.8%	34.6%
Asthma	4.4%	4.5%	4.5%
Cancer	7.3%	8.4%	9.3%
Chronic Kidney Disease	33.2%	27.8%	24.9%
COPD	20.9%	17.1%	11.4%
Depression	22.3%	19.5%	16.0%
Diabetes	34.5%	31.3%	27.1%
Heart Failure	18.7%	16.5%	14.6%
High Cholesterol	55.8%	54.8%	50.5%
Hypertension	70.0%	66.1%	59.8%
Ischemic Heart Disease	42.2%	34.5%	28.6%
Stroke	4.3%	3.9%	3.9%

Source: Centers for Medicare & Medicaid Services



In older adults, chronic illness often leads to diminished quality of life and increased social isolation. Social isolation may also impede effective chronic illness management and accelerate the negative impact of chronic diseases. One indicator of social isolation among older adults is the percentage of adults aged 65 or older who live alone. **West Virginia and Boone County older adults are more likely to live alone when compared to their peers across the nation.** Consistent with the nation, the proportion of older adults living alone has increased.



Source: US Census Bureau, American Community Survey

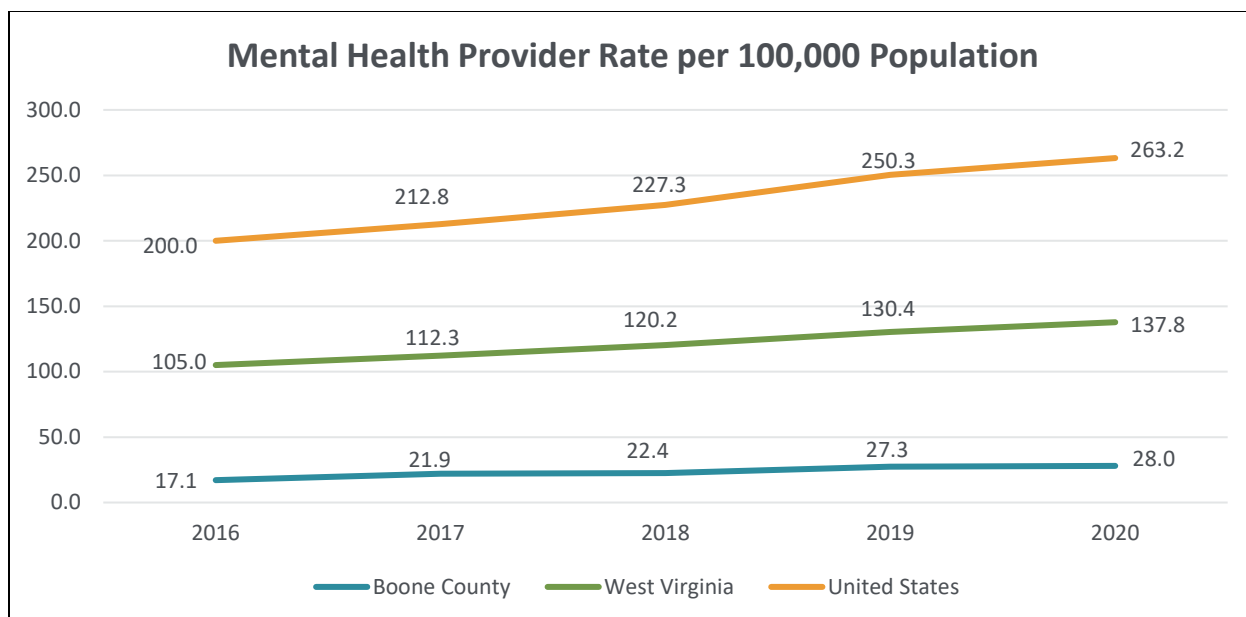
*Data for Boone County are not reported for 2015-2019.

Mental Health and Substance Use Disorder

Consistent with the state and nation, access to mental healthcare is improving within Boone County, although the rate of providers remains approximately one-fifth of the statewide rate. Boone County is a designated mental healthcare HPSA for low-income populations.

Note: The mental health provider rate includes psychiatrists, psychologists, licensed clinical social workers, counselors, and mental health providers that treat alcohol and other drug abuse, among others. It does not account for potential shortages in specific provider types.

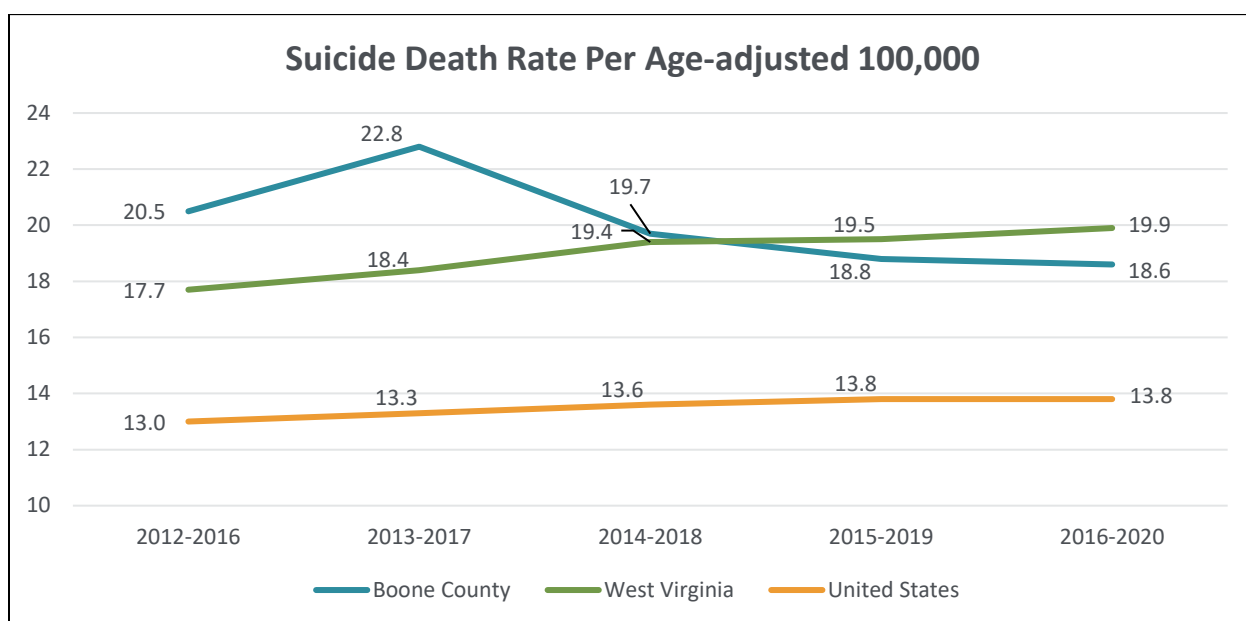
Adults in West Virginia and Boone County report an average of six poor mental health days per month, a higher average than the nation overall. Frequent mental distress is a risk factor suicide. West Virginia has historically had a higher suicide death rate than the nation, and the death rate increased over the last decade. **Boone County has also had a historically higher suicide death rate, although it declined in recent years falling below the statewide average.**



Source: Centers for Medicare and Medicaid Services

2018 Age-Adjusted Adult (Age 18+) Poor Mental Health Days	
	Average Mentally Unhealthy Days per Month
Boone County	7.0
West Virginia	5.8
United States	4.1

Source: Centers for Disease Control and Prevention, BRFSS



Source: Centers for Disease Control and Prevention



Substance use disorder affects a person’s brain and behaviors and leads to an inability to control the use of substances which include alcohol, marijuana, and opioids, among others. Alcohol use disorder is the most prevalent addictive substance used among adults.

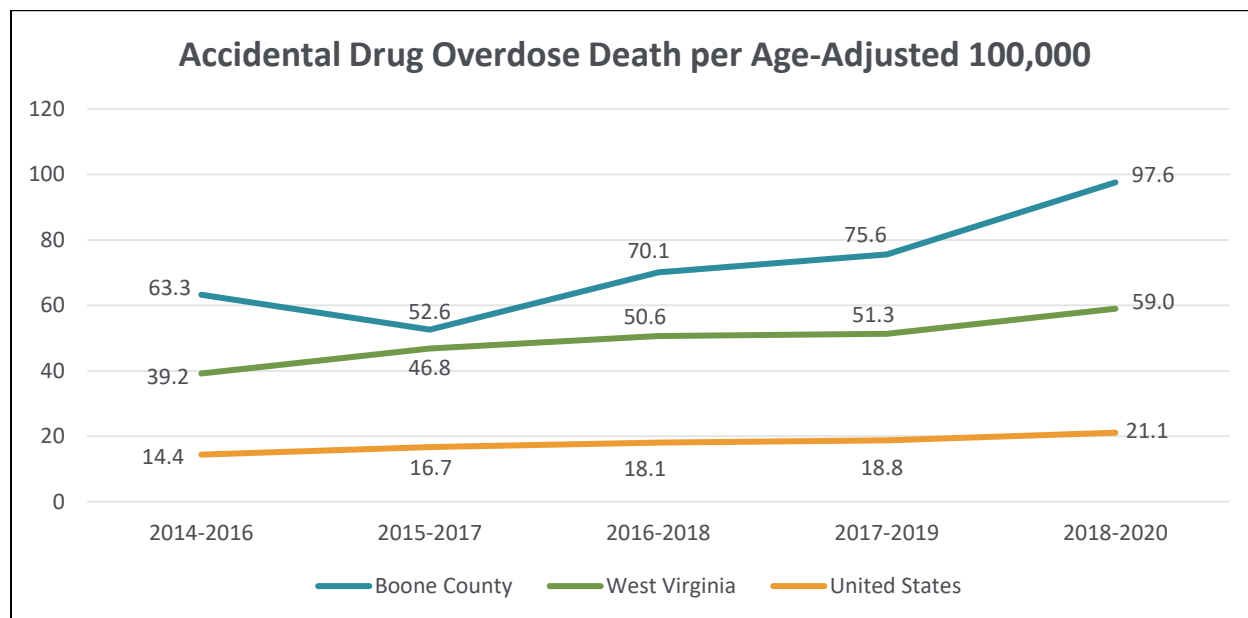
Consistent with West Virginia, **Boone County has a lower proportion of adults who report binge drinking than the national average.** Boone County also reports a lower proportion of driving deaths due to alcohol impairment than both the state and the nation.

Alcohol Use Disorder Indicators

	2019 Adults Reporting Binge Drinking (age-adjusted)	2015-2019 Driving Deaths due to Alcohol Impairment
Boone County	14.0%	11.8%
West Virginia	14.1%	25.2%
United States	17.9%	27.0%

Source: Centers for Disease Control and Prevention, BRFSS

Provisional data released by the CDC predicts that 2020 and 2021 brought the highest number of overdose deaths ever in the US. West Virginia has historically had more accidental drug overdose deaths than the nation and saw a significant increase in deaths in 2020. From 2019 to 2020, the number of accidental overdose deaths occurring within West Virginia increased 55% from 826 to 1,283. **Boone County has historically had more accidental drug overdose deaths than the state and nation and saw a significant increase in deaths in 2020, likely due in part to pandemic-related factors.**



Source: Centers for Disease Control and Prevention



Youth Health

Overweight and Obesity

Childhood obesity is a persistent and significant threat to the long-term health of today's youth. The CDC reports that children who have obesity are more likely to have high blood pressure and high cholesterol; glucose intolerance, insulin resistance, and type 2 diabetes; breathing problems like asthma and sleep apnea; joint and musculoskeletal problems; and psychological and social problems, such as anxiety, depression, low self-esteem, and bullying; among other concerns.

West Virginia high school students have historically higher prevalence of obesity than the nation, and prevalence increased annually since 2013. In 2019, nearly 1 in 4 high school students in West Virginia had obesity. The most at-risk populations for youth obesity in West Virginia in 2019 were males and students identifying as lesbian, gay, or bisexual (LGB).

High School Students with Obesity

	2013	2015	2017	2019
West Virginia	15.6%	17.9%	19.5%	22.9%
United States	13.7%	13.9%	14.8%	15.5%

Source: Centers for Disease Control and Prevention, YRBS

2019 High School Students with Obesity

	West Virginia	United States
Gender		
Female	20.2%	11.9%
Male	25.5%	18.9%
Race and Ethnicity		
White	22.4%	13.1%
Black or African American	N/A	21.1%
Latinx origin (any race)	N/A	19.2%
Sexual Identity		
Lesbian, Gay, Bisexual (LGB)	27.1%	21.0%
Straight	21.7%	14.4%

Source: Centers for Disease Control and Prevention, YRBS

Behavioral Health and Substance Use Disorder

West Virginia students have also historically reported more suicide attempts compared to the nation overall, and the percentage increased through 2019. **In 2019, more than 11% of West Virginia high school students reported an attempted suicide, an increase from 7.5% in 2013.** Consistent with the nation, suicide attempts were more likely among females and students identifying as LGB.

Suicide attempts among youth may be due in part to consistent feelings of sadness or hopelessness. **The proportion of students feeling consistently sad or hopeless increased nearly 10 points in West Virginia from 2013 to 2019, from 27.5% to 36.4%.**



High School Students Reporting an Attempted Suicide

	2013	2015	2017	2019
West Virginia	7.5%	9.9%	N/A	11.2%
United States	8.0%	8.6%	7.4%	8.9%

Source: Centers for Disease Control and Prevention, YRBS

2019 High School Students Reporting an Attempted Suicide

	West Virginia	United States
Gender		
Female	13.3%	11.0%
Male	8.5%	6.6%
Race and Ethnicity		
White	10.1%	7.9%
Black or African American	NA	11.8%
Latinx origin (any race)	NA	8.9%
Sexual Identity		
Lesbian, Gay, Bisexual (LGB)	32.1%	23.4%
Straight	7.3%	6.4%

Source: Centers for Disease Control and Prevention, YRBS

West Virginia high school students generally report higher use of substances, including traditional cigarettes, e-cigarettes, and alcohol, than their peers across the nation.

The proportion of West Virginia high school students using traditional cigarettes declined from 2013 to 2019, although it remains higher than the nation (13.5% vs. 6%). **West Virginia high school students are slightly more likely to report using e-cigarettes, with approximately one-third of students reporting use in 2019.** Reported use was generally higher among White students and students identifying as LGB.

Consistent with the nation, alcohol is the most commonly used substance among West Virginia high school students. **Contrary to national trends, overall alcohol use increased in 2019, a trend that should continue to be monitored.**

High School Students Reporting Current (within past 30 days) E-Cigarette Use

	2015	2017	2019
West Virginia	31.2%	14.3%	35.7%
United States	24.1%	13.2%	32.7%

Source: Centers for Disease Control and Prevention, YRBS



2019 High School Students Reporting Current (within past 30 days) E-Cigarette Use

	West Virginia	United States
Gender		
Female	36.2%	33.5%
Male	34.7%	32.0%
Race and Ethnicity		
White	36.7%	38.3%
Black or African American	NA	19.7%
Latinx origin (any race)	NA	31.2%
Sexual Identity		
Lesbian, Gay, Bisexual (LGB)	40.3%	34.1%
Straight	34.7%	32.8%

Source: Centers for Disease Control and Prevention, YRBS

High School Students Reporting Current (within past 30 days) Alcohol Use

	2013	2015	2017	2019
West Virginia	37.1%	31.1%	27.9%	30.0%
United States	34.9%	32.8%	29.8%	29.1%

Source: Centers for Disease Control and Prevention, YRBS

Maternal and Infant Health

Consistent with the nation, the birth rate has declined across West Virginia. As of 2020, West Virginia had a slightly lower birth rate than the nation with the highest rate of births among Latinx. This finding is consistent with racial and ethnic population and growth trends.

2020 Births and Birth Rate per 1,000 Population by Race and Ethnicity

	Total Births	Birth Rate per 1,000	White, Non-Hispanic Birth Rate	Black/African American, Non-Hispanic Birth Rate	Latinx Birth Rate
West Virginia	17,323	9.7	9.6	9.5	11.7
United States	3,613,647	11.0	9.4	12.8	14.1

Source: Centers for Disease Control and Prevention

Consistent maternal and infant health needs in West Virginia include teen births and smoking during pregnancy, although both declined since 2015. The teen birth rate is 50% higher in West Virginia than the nation, and approximately 23% of pregnant people report smoking during pregnancy.

West Virginia also experiences disparate outcomes for premature and low birth weight births relative to the nation overall. **While both White and Black/African American residents of West Virginia experience these disparities, they disproportionately affect Black/African Americans.** Nearly 1 in 5 Black/African American infants in West Virginia are born premature and/or with low birth weight



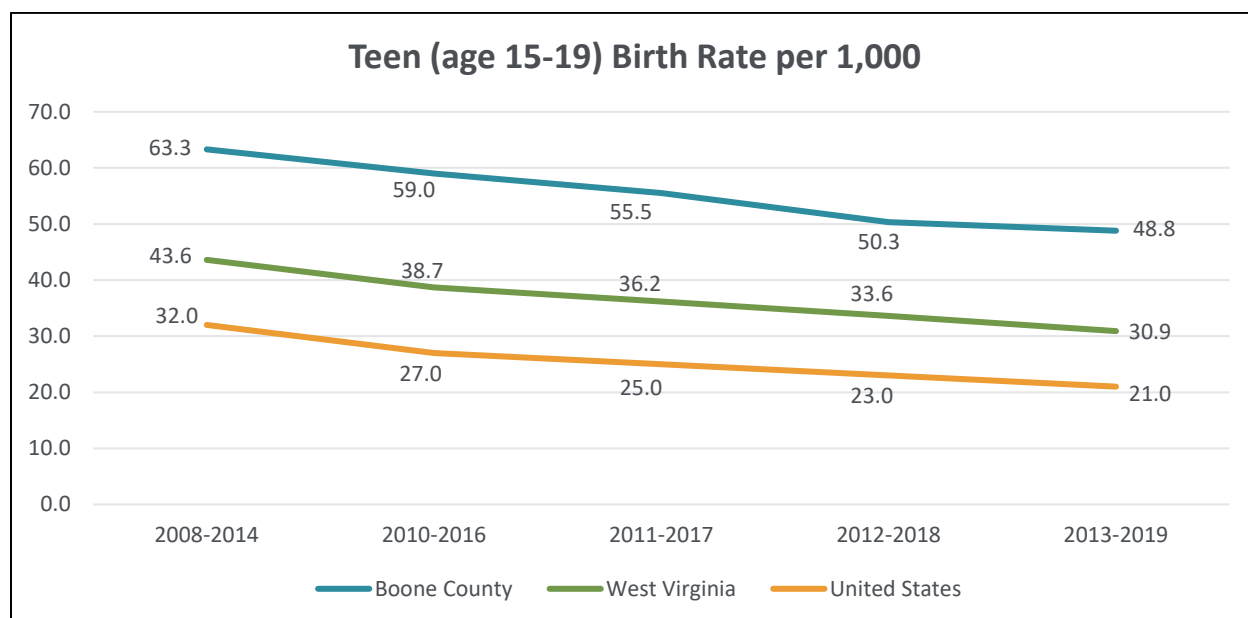
compared to approximately 1 in 10 White infants. It is worth noting that these disparities exist despite overall positive prenatal care access among pregnant people.

2019 State and National Maternal and Infant Health Indicators by Race and Ethnicity

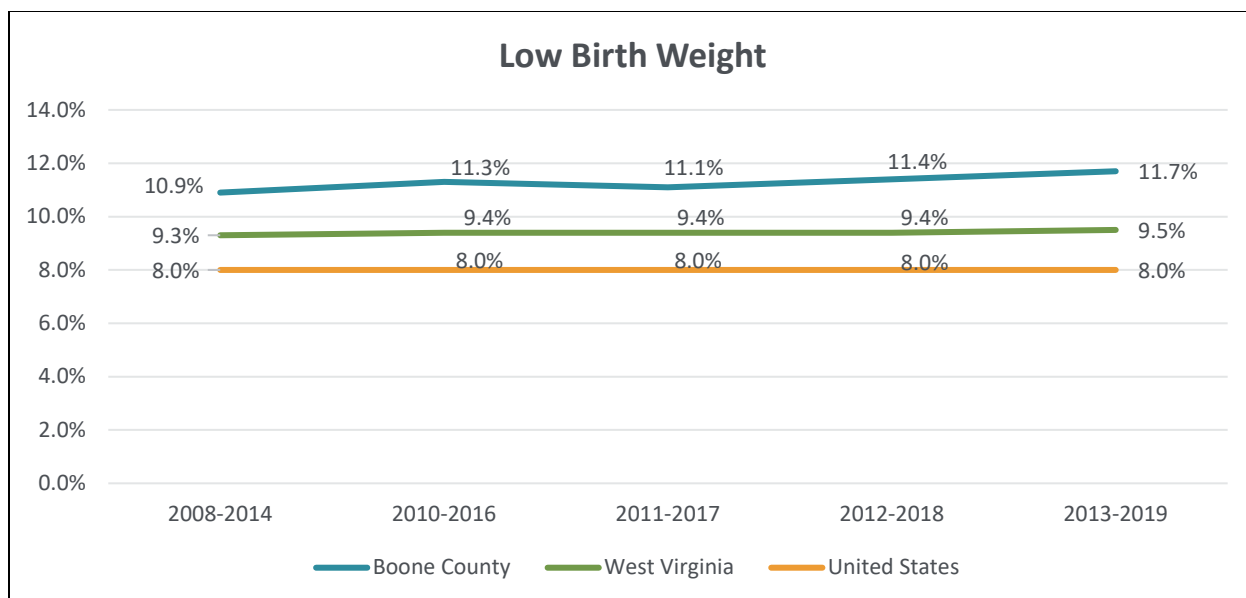
	Teen (15-19) Birth Rate per 1,000	First Trimester Prenatal Care	Premature Births	Low Birth Weight Births	Non-Smoking during Pregnancy
West Virginia	25.2	79.6%	12.6%	9.8%	77.0%
White, Non-Hispanic	25.2	80.3%	12.5%	9.5%	76.7%
Black/African American, Non-Hispanic	25.9	77.4%	17.6%	17.1%	80.5%
Latinx (any origin)	20.0	67.1%	8.4%	6.8%	88.3%
United States	16.7	77.6%	10.2%	8.3%	94.0%
White, Non-Hispanic	11.4	82.8%	9.3%	6.9%	91.2%
Black/African American, Non-Hispanic	25.8	67.6%	14.4%	14.2%	95.2%
Latinx (any origin)	25.3	72.1%	10.0%	7.6%	98.5%
HP2030 Goal	NA	80.5%	9.4%	NA	95.7%

Source: Centers for Disease Control and Prevention

Select maternal and infant health data for Boone County are trended as available. Consistent with the state and nation, teen births declined in Boone County, although the teen birth rate remains higher than both benchmarks. Boone County also has a higher proportion of infants born with low birth weight than the state and nation, and contrary to state and national trends, the proportion has slightly increased in recent years.



Source: Centers for Disease Control and Prevention, National Vital Statistics



Source: Centers for Disease Control and Prevention, National Vital Statistics

The tables below depict infant, child, and maternal death rates by geography as available. West Virginia has a similar overall infant death rate as the US, but consistent with nationally reported disparities, the death rate is twice as high for Black/African Americans than Whites. A similar disparity is seen for child and maternal death rates. Of note, Boone County reports a higher child death rate than both the state and nation. A total of 14 child deaths occurred in Boone County from 2016 to 2019.

Infant and Child Deaths

	2013-2019 Infant Deaths per 1,000 Live Births	2016-2019 Child Deaths Under Age 18 per 100,000
Boone County	NA	74.0 (n=14)
West Virginia	7.0 (n=955)	57.5 (n=844)
White, Non-Hispanic	6.8	56.0
Black/African American, Non-Hispanic	12.3	101.0
Latinx (any origin)	NA	36.7
United States	6.0	50.0
HP2030 Goal	5.0	NA

Source: Centers for Disease Control and Prevention

2019 Maternal Deaths* per 100,000 Live Births

	Total Death Rate	White, Non-Hispanic	Black/African American, Non-Hispanic	Latinx Death Rate
West Virginia	NA	NA	NA	NA
United States	20.1	17.9	44.0	12.6
HP2030 Goal	15.7	--	--	--

Source: Centers for Disease Control and Prevention, America's Health Rankings

*Maternal deaths include deaths of pregnant people or within 42 days of termination of pregnancy, from any cause related to pregnancy or its management.



Key Informant Survey

Background

An online Key Informant Survey was conducted with community representatives of Boone County to solicit information about local health needs and opportunities for improvement. Community representatives included healthcare and social service providers; public health experts; civic, social, and faith-based organizations; policy makers and elected officials; and others representing diverse community populations.

A total of 54 individuals responded to the survey. A list of the represented community organizations and the participants' respective titles is included in Appendix B.

Approximately 72% of informants served Boone County, while 13% served all of West Virginia state. Other geographies served by informants included the City of Madison within Boone County, and surrounding counties, primarily Lincoln and Logan. More than 80% of informants served all populations. Among informants who served specific population groups, the most served populations were older adults/elderly, low-income/poor individuals or families, and young adults.

Primary Populations Served by Key Informant Survey Participants

	Number of Participants	Percent of Total
No specific focus-serve all populations	44	81.5%
Older adults/Elderly	10	18.5%
Low Income/Poor individuals or families	8	14.8%
Young adults (19-24)	7	13.0%
Adolescents (age 12-18)	6	11.1%
Uninsured/Underinsured	6	11.1%
Disabled/Differently abled	5	9.3%
Homeless individuals or families	5	9.3%
LGBTQ+ Community	4	7.4%
Pregnant or postpartum people	4	7.4%
Faith-based community	4	7.4%
Children (age 0-11)	3	5.6%
African American/Black	2	3.7%
American Indian/Alaska Native/Indigenous	2	3.7%
Hispanic/Latinx	2	3.7%
Asian/South Asian	1	1.9%
Pacific Islander/Native Hawaiian	1	1.9%
New Americans/Immigrants/Refugees	1	1.9%
Other	1	1.9%

Key informants were asked a series of questions about perceived health priorities, perspectives on emerging health trends, including COVID-19, and recommendations to advance community health improvement strategies. A summary of their responses follows.



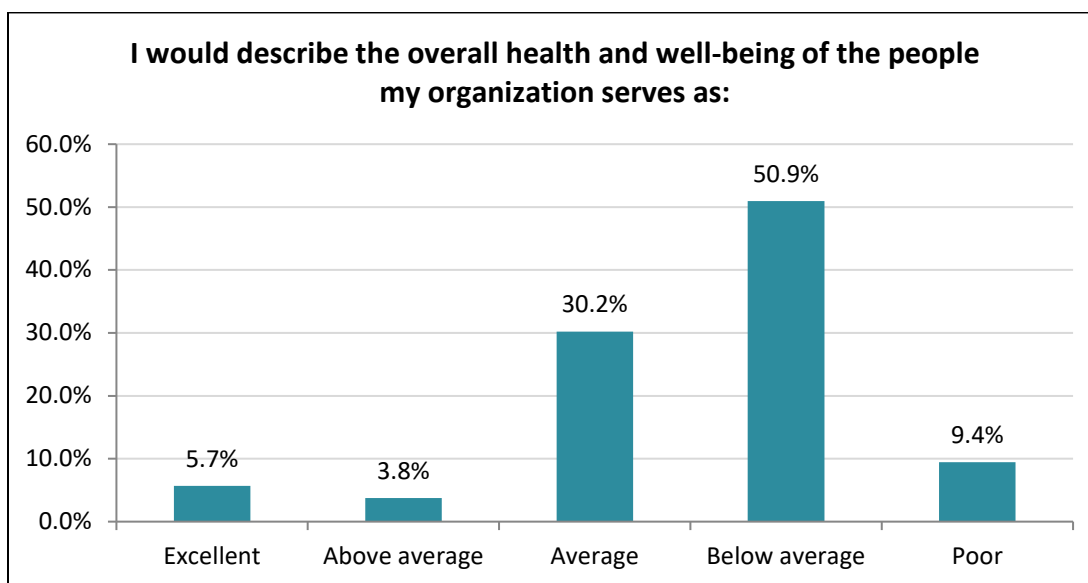
Survey Findings

Health and Quality of Life

Thinking about the people their organization serves, key informants were asked to describe the overall health and well-being of individuals and the most critical health and quality of life issues affecting them. Key informants rank ordered up to five issues, selecting from a wide-ranging list of options. An option to “write in” any issue not included on the list was provided.

Approximately 30% of informants described overall health and well-being as “average.” Nearly 61% of informants described overall health and well-being as “below average” or “poor,” indicating widespread perceptions of opportunity for health improvement.

When asked to identify the most critical health and quality of life issues affecting the people their organization serves, the largest proportion of key informants selected economic stability as both the #1 issue (30.2%) and a top five issue (60.4%). A similar proportion of informants also selected overweight/obesity as both the #1 issue (22.6%) and a top five issue (58.5%). Other concerns identified by more than 40% of informants included diabetes and substance use disorder.





What do you consider the most critical health and quality of life issues for the people your organization serves? Top Key Informant Selections.

	Selected as #1 Issue		Selected as a Top 5 Issue	
	Number of Participants	Percent of Total	Number of Participants	Percent of Total
Economic stability (employment, poverty, cost of living)	16	30.2%	32	60.4%
Overweight/Obesity	12	22.6%	31	58.5%
Diabetes	5	9.4%	22	41.5%
Substance use disorder (dependence/ misuse of opiates, heroin, etc.)	3	5.7%	28	52.8%
Heart disease and stroke	3	5.7%	18	34.0%
Ability to afford healthcare	3	5.7%	8	15.1%
Older adult health concerns	3	5.7%	7	13.2%
Alcohol use disorder	2	3.8%	2	3.8%
Availability of healthy food options	1	1.9%	9	17.0%
Health literacy (ability to understand health information)	1	1.9%	9	17.0%
Respiratory disease	1	1.9%	9	17.0%

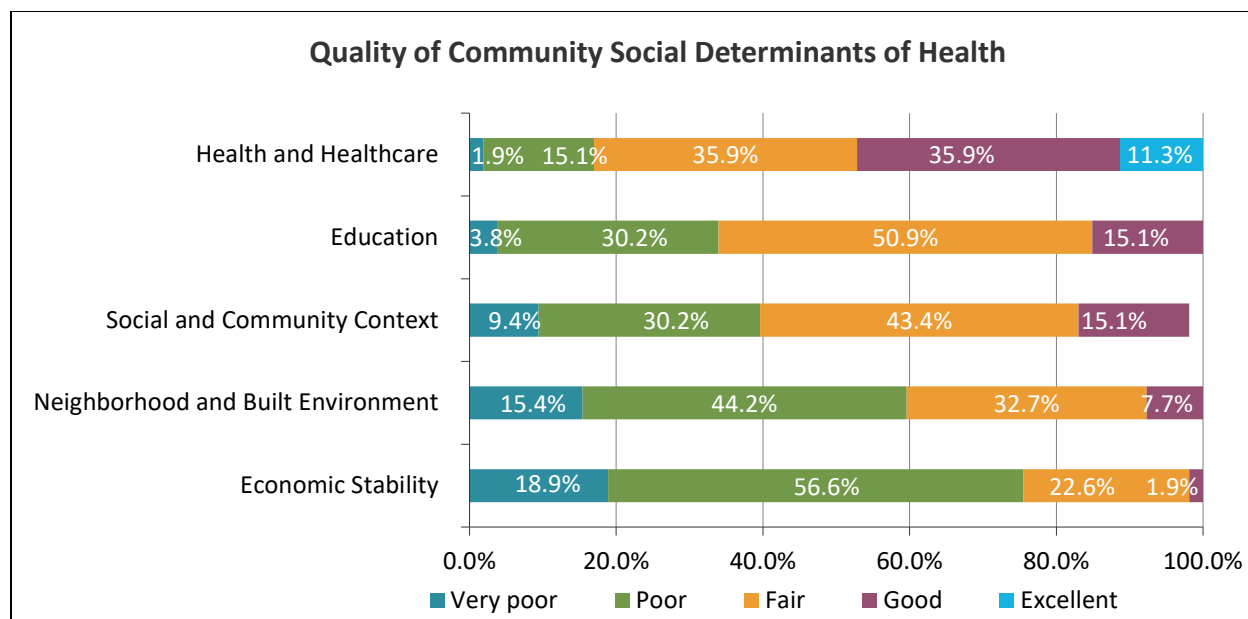
In a follow-up question, key stakeholders were asked to rate the quality of the social determinants of health (SDoH) within the community their organization serves, focusing on the five key domains identified by Healthy People 2030: economic stability, education access and quality, healthcare access and quality, neighborhood and built environment, and social and community context. Ratings were provided using a scale of (1) “very poor” to (5) “excellent.”

The mean score for each SDoH domain is listed in the table below in rank order, followed by a graph showing the scoring frequency. Health and healthcare was seen as the strongest community SDoH with the highest overall mean score and 11.3% of stakeholders rating it as “excellent.” Consistent with the top identified health and quality of life issue affecting residents, economic stability was seen as the weakest SDoH, with 18.9% rating it as “very poor” and 56.6% rating it as “poor.”

Approximately 24.5% (n=13) of stakeholders stated that their organization currently screens the people their organization serves for the needs related to SDoH.

Ranking of Social Determinants of Health in Descending Order by Mean Score

	Mean Score
Health and Healthcare (e.g., access to healthcare, access to primary care, health literacy)	3.40
Education (e.g., high school graduation, enrollment in higher education, language and literacy, early childhood education and development)	2.77
Social and Community Context (e.g., sense of community, civic participation, perceptions of discrimination and equity, incarceration/institutionalization)	2.65
Neighborhood and Built Environment (e.g., access to healthy foods, quality of housing, crime and violence, environmental conditions, transportation)	2.33
Economic Stability (e.g., poverty, employment, food security, housing stability)	2.08



COVID-19 Insights and Perspectives

COVID-19 had a significant impact on key stakeholder organizations. Approximately 35.3% “agreed” and 43.1% “strongly agreed” that more people needed their organization’s services since the pandemic.

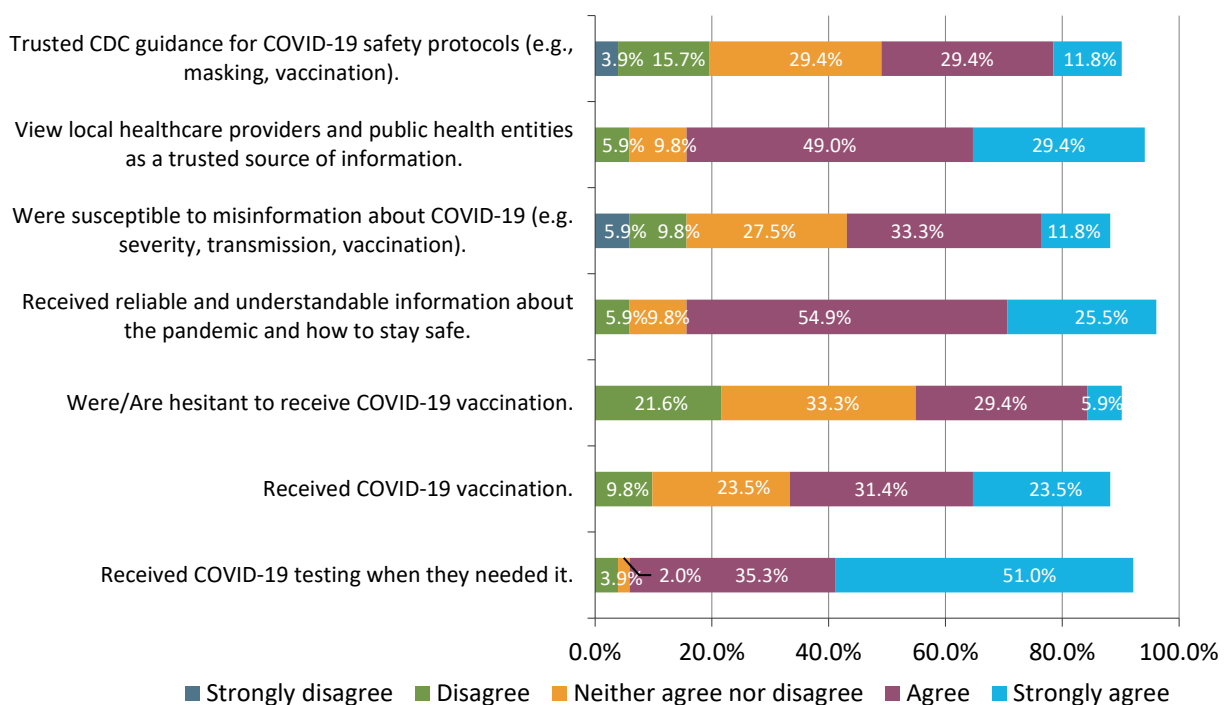
Thinking about the people their organization serves, key stakeholders were asked to rate their level of agreement with a variety of statements about COVID-19, including availability of testing, vaccination, and reliable information; susceptibility to misinformation; and likeliness to follow recommended safety protocols. Their responses are shown in the graph on the following page.

The majority of key stakeholders “agreed” or “strongly agreed” that COVID-19 testing and reliable information were available to the people their organization serves. It is worth noting that despite access to these services, only 55% of informants “agreed” or “strongly agreed” that the individuals they serve received COVID-19 vaccination and 35% of individuals were/are hesitant to receive COVID-19 vaccination.

Approximately 45% of informants “agreed” or “strongly agreed” that individuals were susceptible to misinformation about COVID-19. While the CDC was identified among the top sources for trusted COVID-19 information, nearly 20% of informants identified mistrust in CDC guidance among the people their organization serves. Other top sources for trusted COVID-19 information included local healthcare providers and public health entities, including Boone Memorial Health.



COVID-19 Insights and Perspectives: Most people my organization serves...



What were the most trusted sources of information about COVID-19 among the people your organization serves?

	Selected as #1 Source		Selected as a Top 3 Source	
	Number of Participants	Percent of Total	Number of Participants	Percent of Total
Centers for Disease Control and Prevention (CDC)	13	27.1%	17	35.4%
Boone Memorial Health	9	18.8%	25	52.1%
Local or state health departments	8	16.7%	22	45.8%
Their family doctor	7	14.6%	27	56.3%
National news source/media	3	6.3%	9	18.8%
Social media	3	6.3%	6	12.5%
Political leaders	3	6.3%	5	10.4%
Local news source/media	1	2.1%	5	10.4%
Friends/Family	0	0.0%	14	29.2%
Other healthcare providers	0	0.0%	5	10.4%
Religious/Faith leaders	0	0.0%	2	4.2%



Key Informants were asked to share recommendations for how communication about COVID-19 could have been improved for the populations their organization serves. Recommendations identified the need for clear language that is provided directly to community members by trusted sources. Select verbatim comments by informants are included below.

- *“Be more consistent and quit changing advice. Make health decisions based on science and not politics.”*
- *“Boone Memorial did a great job communicating with everyone in our community.”*
- *“Doing a mailing on information as to where the public would be able to get tested.”*
- *“Misinformation from social media presented a barrier to communicate effectively to the patient population.”*
- *“More clear and concise messaging about the importance of masks, vaccines, and strategies for reducing transmission.”*
- *“More direct to patient information in the community directly from providers.”*
- *“Not sure communication could have improved other than more community-wide meetings to talk about the state of the pandemic and how we were to prevent transmission among the population/area around us.”*
- *“People seemed to distrust anyone related to the government. I think more information from health care providers and less from government agencies.”*
- *“Perhaps more pop-up tent/fair regarding public information on COVID-19.”*
- *“Providers the time to educate patients about Covid virus transmission and complications and the efficacy and safety of vaccines.”*

Community Resources to Impact Health

Key informants were asked to identify resources or services that are needed within the community to improve health and quality of life for residents. Informants’ rank ordered up to three free-form responses with #1 as the top missing resource or service. The following table summarizes the top identified needs by category and number of mentions by participants.

Community Resources or Services	#1 Need	Top 3 Need
	Number of Mentions	Number of Mentions
Transportation	9	15
Community health education (healthy lifestyles, substance use, chronic disease management)	7	18
Economic opportunity/living wages	6	9
Access to affordable, healthy foods (grocery stores, food banks, restaurants)	4	14
Affordable healthcare (prescriptions, insurance, free clinic)	3	7
Specialty care (urology, cancer, neurology, orthopedics, general surgery, diabetes, gynecology)	3	10
Affordable housing	2	4
Accessible and affordable exercise opportunities	1	6
Substance use disorder treatment/prevention	1	5
Mental health services	0	3



Community Health Improvement Recommendations

Lastly, key informants were asked how local health and human service organizations, including Boone Memorial Health, could improve health and well-being for residents. Informants were invited to provide free-form comments about the topics. Select verbatim comments are included below.

- *“Access to free exercise facilities, develop a relationship with Boone County Schools to improve health education from k to 12th grade.”*
- *“Creation of mobile health teams regularly to promote vaccination and other health maintenance procedures to include the entire county.”*
- *“Encourage new businesses and job opportunities in the area for the younger generation to help deter drug use. Begin job training in high school with more drug deterrent programs.”*
- *“I have watched BMH grow throughout the years, and I believe the access to specialists and addiction treatments have been wonderful. BMH is progressing to meet the needs of the people in our area and beyond.”*
- *“Local food markets. Information about the dangers of tobacco of varied forms of delivery.”*
- *“More access to transportation, healthy lifestyle options.”*
- *“More free health fairs (at least quarterly-yearly is too far for some patients to receive treatment in a timely manner).”*
- *“More interaction with localities to better understand the needs of those underserved and collaborate for solutions.”*
- *“Partner with larger health systems for specialties to be available at BMH to assist the patients who don't have reliable travel to larger facilities.”*
- *“Services need to be provided in the communities instead of asking people to come to one location.”*
- *“Work in partnership with school system to promote physical and nutritional health education.”*



Evaluation of Health Impact: 2019-2022 Community Health Improvement Plan Progress

In 2019, BMH completed a CHNA and developed a supporting three-year Implementation Plan for community health improvement. The Implementation Plan outlined our strategies for measurable impact on identified priority health needs, including Mental Health; Oral Health; Substance Use Disorder; Nutritional, Physical Activity, and Obesity; and Maternal, Infant, and Child Health. Within six months of the release of the 2019 Implementation Plan, the COVID-19 pandemic shifted the priorities of our community and BMH adapted our work to respond to the emergent needs of residents. The following sections outline our work to impact the priority health needs and respond to COVID-19 in our communities.

COVID-19

Boone Memorial Health has committed significant personnel, resources, and time to COVID-19 response measures since March 2020. One major initiative was the relocation of the “Walk-In Clinic” portion of our BMH Family Medical Center Rural Health Clinic. As permitted by CMS in response to the Public Health Emergency, BMH relocated the Walk-In Clinic in an effort to protect patients from exposure to COVID-19. In addition to treating patients with COVID-19 symptoms, the expansion site conducted regular drive-through and drive-up COVID testing at varying frequencies based on active case levels in the region.

Boone Memorial Health also expended millions of dollars in laboratory equipment and supplies to expand COVID-19 testing capabilities and turnaround times. Further, BMH increased its Laboratory Department personnel by approximately 20% to meet increased demand.

While treating and testing patients with COVID-19, BMH maintained an unwavering commitment to patient and personnel safety. Boone Memorial Health formed an interdisciplinary COVID-19 Task Force to develop and regularly update its COVID-19 Protocols and Procedures consistent with guidelines and requirements set forth by CMS, CDC, The Joint Commission, OSHA, and other agencies. These Protocols and Procedures included our COVID-19 Staging and Response Plan, Infection Control Plan for COVID-19, Employee Guidelines for COVID-19 Exposure and Symptoms, Strategies to Reduce Supply Waste, Elective Surgery Continuum of Care, OR Management During COVID-19, and Personal Protective Equipment Protocols and Policies, among others. Dozens of measures were implemented by the Task Force to reduce COVID-19 transmission within BMH facilities, including the procurement and mandate of personal protective equipment, social distancing, barriers for employee work areas and patient areas, and separation of COVID-19 patients where possible, among others.

Other response measures included administration of COVID-19 vaccinations; community outreach, education, and marketing efforts regarding COVID-19 vaccination; and community education regarding COVID-19.

BMH received the 2021 West Virginia Rural Health Leaders Award, in part, for our COVID-19 response efforts.



Mental Health

Boone Memorial Health's 2019 CHNA identified the limited resources addressing mental health within the community, which motivated BMH to select mental health as a key topic of the 2019 CHNA priorities and develop implementation strategies that would improve the health of the community in this area.

In response, BMH hired a full-time psychiatrist in late 2019. The BMH Psychiatry team focuses on the diagnosis, treatment, and prevention of mental, emotional, and behavioral disorders. The addition of psychiatry has significantly expanded access to mental health treatment in the community.

As discussed below, BMH has also taken steps to improve mental health through its Brighter Futures program.

Substance Use Disorder

Boone County faces the unforgiving effects of the opioid epidemic that is costing the economy an estimated \$206.5 million a year. According to a report by the American Enterprise Institute, Boone County has the highest per-capita burden of any county in the United States. Our 2019 CHNA identified an opportunity to reevaluate prescribing methods, improve substance abuse education, and share resources on accessing recovery programs in the community.

In 2020, BMH launched its "Brighter Futures" substance and mental health treatment program, which provides both recovery treatment and counseling services to patients suffering from substance use disorder. This program and partnership was made possible through a grant award from the State Opioid Response (SOR) SAMHSA Funding Opportunity, a community innovation for treatment access and retention. In addition, the BMH Board of Directors earmarked additional funding to further develop and strengthen the initiative. Brighter Futures is led by a physician medical director and executive director, and includes a physician assistant, counselors, and other key staff members.

Since the launch of Brighter Futures in 2020, the program has seen more than 450 patients and made contact with hundreds of community members through education, food/clothing delivery, and other resources. In 2022, Brighter Futures was licensed as a behavioral health center, which will allow it to expand its services.

Nutrition, Physical Activity, and Obesity

Boone Memorial Health's 2019 CHNA identified a need to target healthy lifestyle awareness education in the community to encourage preventive health habits. In response and after nearly a year of planning, BMH launched the BMH Foundation for Community Health in 2022 as a new department (and DBA) of BMH by utilizing existing personnel.

Our mission through the Foundation is to improve community health by addressing the social determinants of health: Economic Stability, Education Access and Quality, Neighborhood and Built Environment, Social and Community Context, and Healthcare Access and Quality. We plan to accomplish these goals through programming and education, managed projects and operations (including this project), grantmaking to other non-profits and governmental entities, and community events and partnerships. These functions will be supported by existing hospital financial resources and personnel,



fundraising, and by leveraging our community partnerships to not only secure federal, state, and private grant dollars, but work together toward our shared goals.

Among other programs, the Foundation continues the work started by BMH in 2018 with its Healthy Lifestyles Program. The year-long program, which was restarted in 2022 after being suspended during the first two years of the COVID-19 pandemic, has been researched and certified by the CDC and is offered free of charge to participants. Participants are expected to attend classes once per week for the first six months, and twice per month during the second six months. Classes last approximately one hour and include education and resources regarding nutrition, stress reduction, healthy living, and diabetes prevention. Specific topics include healthy diet, including how to read food labels, calorie or carbohydrate counting, portion sizes, eating more fruits and vegetables, decreasing sugary drinks, and drinking more water. In addition, participants learn about mindless and emotional eating as well as physical activity and the importance of getting adequate sleep. Weigh-ins are held weekly, which are private. Finally, all participants are permitted free access to the BMH Employee Fitness Center.

Other Foundation work to address these issues includes the FARMacy program. FARMacy is a 15-week program that helps families improve their health by providing fresh, locally grown fruits and vegetables - at no cost. The program is made available through grants from the Walmart Foundation and the Boone County Community Foundation. The FARMacy Program is a partnership between BMH and the WVU Extension Service, Mountaineer Food Bank, Griffith's Produce, and others.

At Boone Memorial Hospital our goal is to ensure when patients leave our care they go home to the best environment possible to assure their wellness. Our Social Services Department assists patients, their families, and healthcare providers by providing social services that meet the physical, emotional, and spiritual need of our patients. Our Social Services staff helps patients fully utilize medical care and services by:

- Explaining health care resources and policies to patients, family, and professional staff
- Helping plan for post-hospital needs by arranging for services at another facility or in the home
- Explaining to patients the epidemiology of diseases, including social environment risk factors
- Helping patients and families receive needed follow-up care by referral to health care resources
- Understanding the social, cultural and religious variables that contribute to patients' responses to illness and their use of health care resources
- Providing advocacy through appropriate organizations

BMH looks to expand its education and programming to address nutritional, physical activity, and obesity issues in our service areas.

Other Priority Areas

The 2019 CHNA also identified community needs related to oral health and maternal and infant health. While BMH planned to address these areas as part of its community health improvement efforts, resources were redirected to respond to emerging needs related to the COVID-19 pandemic. Boone Memorial Health will continue to support our community partners addressing these health needs.



Appendix A: Public Health Secondary Data References

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Appendix B: Key Informant Survey Participants

- Allstate Insurance, Owner
- Appalachian Community Theatre, President
- Boone Backpack Buddies, Committee member
- Boone Career and Technical Center, Hospitality and Tourism
- Boone County Ambulance Authority, Executive Director
- Boone County Economic Development Authority, Director
- Boone County Schools, Board President
- Boone County Schools, Teacher
- Boone Memorial Foundation for Community Health, Community Health Coordinator
- Boone Memorial Health, CDO
- Boone Memorial Health, CFO / Chief Financial Officer
- Boone Memorial Health, Charge Master Coordinator
- Boone Memorial Health, Chief Medical Officer and Family Physician
- Boone Memorial Health, Chief Operating Officer
- Boone Memorial Health, Credentialing Coordinator
- Boone Memorial Health, Dermatologist
- Boone Memorial Health, Director - Outpatient Pharmacy Services
- Boone Memorial Health, Director of Facility Experience and External Relationship Management
- Boone Memorial Health, Director of Infection Prevention, Clinical Quality and Environmental Services
- Boone Memorial Health, Director of Materials Management
- Boone Memorial Health, Director of Pharmacy
- Boone Memorial Health, Director of Public Relations, Communications, and Grants Management
- Boone Memorial Health, DO
- Boone Memorial Health, ED Physician
- Boone Memorial Health, Executive Assistant
- Boone Memorial Health, Executive Director of Ancillary Services
- Boone Memorial Health, MD
- Boone Memorial Health, MD
- Boone Memorial Health, Nutritional Services Director
- Boone Memorial Health, Patient Accounts Representative
- Boone Memorial Health, Patient Service Specialist & Call Center Supervisor
- Boone Memorial Health, Pharmacist
- Boone Memorial Health, Physician Assistant
- Boone Memorial Health, Physician Assistant
- Boone Memorial Health, Physician, Chief of Staff, Trauma Medical Director
- Boone Memorial Health, Psychiatrist
- Boone Memorial Health, Respiratory Therapist
- Boone Memorial Health, Director of Rehab Services
- Boone Memorial Health, Executive Director
- Boone Memorial Health, Physician
- Boone Memorial Health, Physician Assistant
- Boone Memorial Health, RN Educator



- City of Madison, Councilman
- City of Madison Emergency Management, Director
- Hero House, Co- Director
- Madison Development Authority, Treasurer
- Madison Development Authority, Vice Chairman
- Shaffer & Shaffer, Member
- Sheriff's Office, Sheriff
- Southern West Virginia Community and Technical College, President
- Southern WV Community and Technical College, Development Coordinator
- Town of Danville, Administrative Assistant
- Town of Danville, Rebekah Assembly of West Virginia, Scott High School, Boone County Board of Education
- West Virginia Sheriffs' Association, Executive Director