

## 2019 Community Health Needs Assessment

# North Mississippi

Baptist Memorial Hospital-Booneville • Baptist Memorial Hospital-Calhoun  
Baptist Memorial Hospital-Golden Triangle • Baptist Memorial Hospital-  
North Mississippi • Baptist Memorial Hospital-Union County



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## Our Commitment to Community Health

Baptist Memorial Health Care is dedicated to the health and well-being of the many communities we serve across the Mid-South. We believe strongly in corporate citizenship and the importance of collaboration with local organizations to build stronger and healthier communities.

To help us track community health and identify emerging concerns, Baptist conducts a Community Health Needs Assessment (CHNA) every three years. We use this comprehensive study to ensure our initiatives, activities and partnerships align with community needs.

Some of our key initiatives are listed below.

### **Providing access to high-quality health care**

Baptist ensures residents can receive care when they need it across the region. We reinvest resources in technology to bring the highest level of health care to people across the Mid-South. We invest in hospitals and health services to deliver care to communities the federal government considers as Medically Underserved Areas or Health Professional Shortage Areas. We extend our care through community clinics and mobile services to reach people who might not otherwise receive care. We subsidize services, such as emergency care, free and reduced services for the uninsured and preventive screenings that are essential for health, but not adequately covered by federal and state funding.

Healthy communities lead to lower health care costs, robust community partnerships and an overall enhanced quality of life.

### **Developing community partnerships**

We recognize that our hospitals are vital organizations within the communities we serve and we know that we cannot address every community need by ourselves. In order to promote health and quality of life, we collaborate with community partners who have expertise in social needs, specialty services, faith leadership, advocacy and essential resources. We also foster ongoing relationships with these partners and provide financial and in-kind gifts to support their work.

### **Investing in health care education and research**

Baptist supports excellence in health care training and education through programs that focus on math, science and related subjects to prepare tomorrow's health care workforce. As we plan for the future, we provide training opportunities for emerging health care professionals and encourage students to pursue medicine, nursing and other allied health careers. Through leading-edge research and clinical trials, we help to advance learning in the medical field and develop new treatments for cancer and other diseases.

In these and many other ways, we demonstrate our commitment to the people we serve and our communities. In undertaking and funding regular community health needs assessments, we ensure our hospitals will be stronger partners in our neighborhoods and prepared to meet the future needs of all those who live there.

## A Systemwide Approach to Community Health Improvement

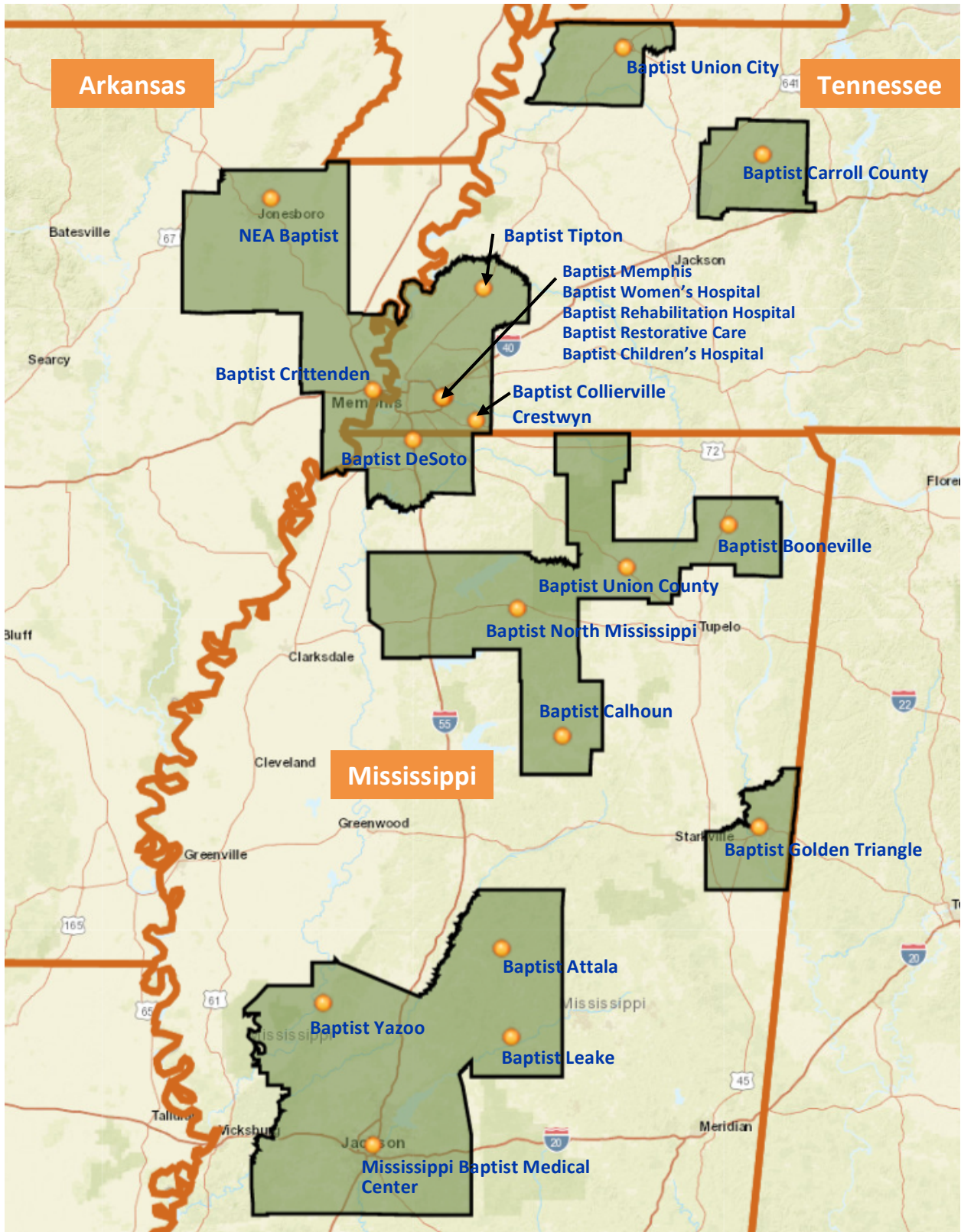
Baptist Memorial Health Care has 22 affiliate hospitals serving residents in three states. The CHNA focused on the primary service county of each not for profit Baptist Memorial hospital to identify health trends and unique disparities within these communities. Hospitals with overlapping service areas were grouped into regions for comparisons of health and socioeconomic data. Systemwide priorities were determined to address common health needs across the Mid-South. Specific strategies were outlined in each not for profit hospital’s Implementation Plan to guide local efforts and collaboration with community partners.

**2019 CHNA Geographic Regions and Primary Service Areas**

Region	Primary Service Counties	Hospitals
Memphis Metro	Shelby County, TN	Baptist Memorial Hospital–Memphis Baptist Memorial Hospital–Collierville Baptist Memorial Hospital for Women Baptist Memorial Rehabilitation Hospital* Baptist Memorial Restorative Care Hospital Crestwyn Behavioral Health* Spence and Becky Wilson Baptist Children’s Hospital
	Tipton County, TN	Baptist Memorial Hospital–Tipton
	DeSoto County, MS	Baptist Memorial Hospital–DeSoto
Northeast Arkansas	Craighead & Poinsett counties, AR	NEA Baptist Memorial Hospital
	Crittenden County, AR	Baptist Memorial Hospital–Crittenden
West Tennessee	Carroll County, TN	Baptist Memorial Hospital–Carroll County
	Obion County, TN	Baptist Memorial Hospital–Union City
North Mississippi	Lafayette & Panola counties, MS	Baptist Memorial Hospital–North Mississippi
	Benton and Union counties, MS	Baptist Memorial Hospital–Union County
	Prentiss County, MS	Baptist Memorial Hospital–Booneville
	Lowndes County, MS	Baptist Memorial Hospital–Golden Triangle
	Calhoun County, MS	Baptist Memorial Hospital–Calhoun
Central Mississippi	Attala, Hinds, Leake, Madison, Rankin and Yazoo counties, MS	Baptist Memorial Hospital–Mississippi Baptist Medical Center
	Attala County, MS	Baptist Memorial Hospital–Attala
	Leake County, MS	Baptist Memorial Hospital–Leake
	Yazoo County, MS	Baptist Memorial Hospital–Yazoo

\*These entities are not required to conduct a CHNA.

## Baptist's Affiliate Hospitals and Primary Service Counties



## North Mississippi Service Area 2019 CHNA Executive Summary

### CHNA Hospital Partners and Study Service Area

Baptist Memorial Health Care has five hospitals in the North Mississippi Service Area, which collaborated on the 2019 CHNA. The study encompassed seven Mississippi counties located along the Tennessee and/or Alabama border. The following hospitals participated in the 2019 CHNA for the North Mississippi Service Area.

- > Baptist Booneville
- > Baptist Calhoun
- > Baptist Golden Triangle
- > Baptist North Mississippi
- > Baptist Union County

### CHNA Leadership

A Baptist Memorial Health Care steering committee, along with community representatives and partners, oversaw the 2019 CHNA. Community health consultants assisted in all phases of the CHNA, including project management, data collection and analysis, report writing and development of Implementation Plans.

#### Baptist 2019 CHNA Steering Committee

Donna Baugus, Manager of Survey Research

Cynthia Bradford, System Community Involvement Manager

Scott Fountain, Senior Vice President and Chief Development Officer

Tom Gladney, Director of Data Management and Decision Support

Bill Griffin, Executive Vice President and Chief Financial Officer

Caitlin Hayden, System Community Outreach and Special Events Coordinator

Kelley Jerome, General Counsel

Jeff Lann, Manager of Research and Marketing Development

Debbie Lassiter, Health Services Research Consultant

Cheryl Lee, Director of Tax and Compliance

Jim Messineo, Director of Revenue and Operations Audits

Brenna Piccirilli, Cost Accounting Analyst in Decision Support

Kellie Prescott, Cancer Program Coordinator

Anne Sullivan, MD, Chief Quality and Academic Officer

Henry Sullivant, MD, Vice President and Chief Medical Officer

Morgan Thornton, Finance and Health Research Intern

Kimmie McNeil Vaulx, System Director of Corporate Communications

Ann Marie Watkins Wallace, System Senior Community Outreach Coordinator

#### Consulting Team

Colleen Milligan, MBA, Director, Community and Population Health Planning

Catherine Birdsey, MPH, Research Manager

Jessica Losito, BA, Research Consultant

## CHNA Methodology

The 2019 CHNA for Baptist's North Mississippi Service Area was conducted from August 2018 to August 2019. Quantitative and qualitative methods, representing both primary and secondary research, were used to illustrate and compare health trends and disparities across each hospital's service area. The following research methods were used to determine community health needs.

- > A review of public health and demographic data portraying the health and socioeconomic status of the community. A full listing of data references is included in Appendix A.
- > A Key Informant Survey of 79 community representatives serving the North Mississippi Service Area to identify community health priorities, underserved populations, partnership opportunities and other insights. A list of key informants and their respective organizations is included in Appendix B.
- > Focus groups with 98 cancer survivors or caregivers to collect perspectives about their experiences, preferences and attitudes related to cancer diagnosis and care.
- > Criteria-based prioritization of health issues to determine the most pressing health needs affecting the health status of North Mississippi residents.

## Community Engagement

Community engagement was an integral part of the CHNA research. In assessing the health needs of the community, Baptist solicited and received input from community leaders and residents who represent the broad interests of the community, including those with expertise in public health and members or representatives of medically underserved, low-income and minority populations. These individuals provided valuable information about health trends, insights about existing resources and gaps in services and perspectives about factors that contribute to health disparities.

## Overview of the North Mississippi Service Area

The socioeconomic makeup of the North Mississippi Service Area is generally consistent across all service counties, with the exception of Lafayette. Home to the University of Mississippi, Lafayette County fares better than other counties in terms of income levels, education attainment, people in poverty, insurance coverage, and other social measures. The age distribution across Lafayette trends younger than other counties and is more racially and ethnically diverse, which is likely attributed to the university population.

The population across other counties in the service area is predominately a mix of Whites and Blacks/African Americans, with fewer Hispanics/Latinos and Asians than the nation. The age distribution among the counties is generally consistent with the nation. Roughly, 1 in 4 people and 1 in 3 children lives in poverty, a higher proportion than the nation in general. The median household income for all counties is lower than the national median. Adults in the service area are more likely to complete high school, but less likely to complete a bachelor's degree when compared to the nation.

People in the North Mississippi Service Area generally obtain insurance through their employer. All counties except Lafayette have a higher uninsured rate than the nation. Lafayette County adults are more likely to purchase their own insurance than in other counties. Calhoun, Panola and Prentiss counties have the largest percentage of Medicaid beneficiaries, while Benton County has the highest percentage of uninsured. The percentage of uninsured children in Benton County is double the national average.

### Community Health Priorities

To improve community health, it is important to direct resources and activities to the most pressing and wide-ranging health needs in the community. Baptist determined health priorities for the 2019–2022 reporting cycle by using feedback from community partners and stakeholders, and taking into account its expertise and resources within the North Mississippi Service Area. The prioritized health concerns, shown in alphabetical order, include the following:

**Behavioral Health:** Increase behavioral health screenings to initiate early treatment and improved outcomes for residents at all stages of life.

**Cancer:** Provide early detection and treatment to reduce death from breast, colorectal and lung cancers and improve quality of life for patients.

**Chronic Disease:** Promote health as a community priority and increase healthy lifestyle choices.

**Maternal and Child Health:** Improve birth outcomes for women and infants.

The rationale and criteria used to select these priorities included the following:

- > Prevalence of disease and number of community members affected
- > Rate of disease compared to state and national benchmarks
- > Health disparities among racial and ethnic minorities
- > Existing programs, resources and expertise to address the issue
- > Input from representatives of underserved populations
- > Alignment with concurrent public health and social service organization initiatives



## Priority Health Needs in the North Mississippi Service Area

### Behavioral Health

Behavioral health encompasses mental wellbeing and substance use disorders. Mental health conditions and substance abuse were the top health concerns across the service area in the Key Informant Survey.

The age-adjusted death rate due to mental and behavioral disorders is higher than the state and national rates in Lafayette, Lowndes and Union counties. Alcohol and other substance abuse are lower within the North Mississippi Service Area compared to national averages, contributing to lower drug-induced deaths than national rates. Consistent with the nation, overdose deaths associated with opioids have more than doubled across Mississippi in recent years, although the opioid-related overdose death rate is half that of the nation. Prescription opioids remain the leading cause of overdose. Related, the rate of Mississippi neonatal hospital stays associated with substance use spiked from 113 in 2010 to 689 in 2017.

Alzheimer's disease is also a concern across the North Mississippi Service Area. The prevalence of Alzheimer's disease among senior Medicare beneficiaries residing in the service area is similar to or lower than state and national trends, but the death rate due to Alzheimer's disease is higher than the state and nation. Calhoun County has the highest percentage of residents 65 years old or older, and the highest age-adjusted death rate due to Alzheimer's disease. Stakeholder feedback indicated that increased resources for patients and caregivers were needed across the region.

### Cancer

While the incidence rates of cancer in the North Mississippi Service Area are generally consistent with national rates, the death rates due to cancer are higher than national rates in all counties except Lafayette. This trend may reflect later stage diagnosis, which is consistent with qualitative research findings. Feedback from focus group participants confirmed that fears and perceptions coupled with lack of access to early screening and treatment delay preventive measures and treatment. These attitudes are slowly changing due to targeted outreach within the community, faith-based initiatives, and increased mortality among cancer patients. Secondary screening protocols for lung cancer also show success in early identification of lung cancer.

### Chronic Disease

Residents in the North Mississippi Service Area have more risk factors for chronic disease than the average American. Lack of physical activity, high smoking rates, food insecurity and higher socioeconomic needs contribute to higher risk for chronic disease. Adult and child obesity continues to climb in most counties. It is higher than the national average and does not meet the Healthy People 2020 goal. Measures and outcomes related to heart disease, cancer, chronic lower respiratory disease (CLRD), diabetes, and stroke are generally less favorable across the North Mississippi Service Area when compared to the U.S. averages.

Reducing smoking rates and improving health behaviors related to obesity could have a strong impact on a variety of chronic diseases such as heart disease, stroke, cancer and CLRD, which contributes to a greater number of deaths in the service area.

### **Maternal and Child Health**

Maternal and child health indicators, such as early access to prenatal care, teen births, low birth weight and premature births, are generally improving across the North Mississippi Service Area, although not all counties meet the Healthy People 2020 goals in these categories. While data gaps exist, related to Neonatal Abstinence Syndrome (NAS), past data compared with national trends suggest that NAS births are likely occurring across the region at two to five times the rates of a decade ago.

Significant disparities exist among Black/African American and Hispanic/Latina mothers with regards to maternal and child health measures. Targeted intervention to increase access to early prenatal care among women of color is needed to improve outcomes for both mothers and babies.

### **Implementation Plan**

Each of Baptist's five hospitals in the North Mississippi Service Area developed an Implementation Plan to guide community health improvement activities during the 2019–2022 cycle. The plans detail the resources and strategies each hospital will undertake to address priority areas and unique needs within each service area. Where applicable, the Baptist hospitals will coordinate efforts and leverage system resources to reduce health disparities. Each hospital's Implementation Plan, along with this 2019 CHNA report, can be found on the Baptist Memorial Health Care website at <https://www.baptistonline.org/about/chna>.

### **Board Approval**

Baptist Memorial Health Care's board of directors approved the CHNA report and Implementation Plan on Tuesday, Sept. 24, 2019.

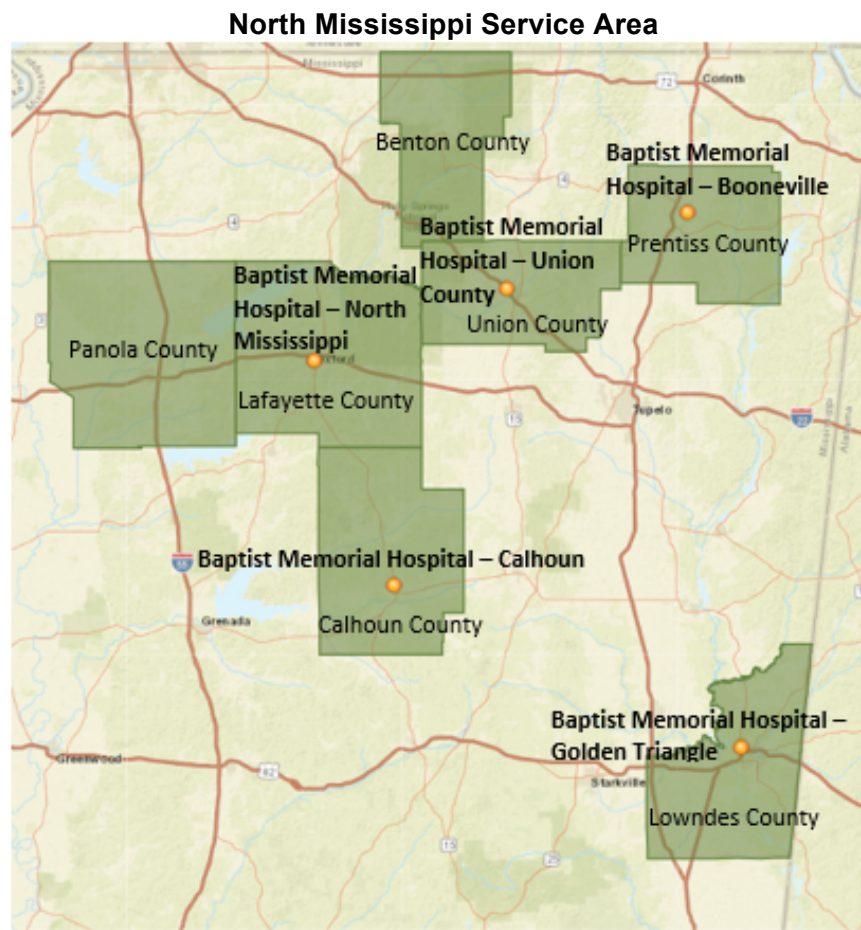
**Full Report of 2019 CHNA  
North Mississippi Service Area**

## Baptist’s North Mississippi Service Area

### CHNA Hospital Partners and Study Service Area

Baptist Memorial Health Care operates the following five hospitals in the North Mississippi Service Area. All of these hospitals collaborated on the 2019 CHNA. The study encompassed Benton, Calhoun, Lafayette, Lowndes, Panola, Prentiss and Union counties.

- Baptist Booneville
- Baptist Calhoun
- Baptist Golden Triangle
- Baptist North Mississippi
- Baptist Union County



## North Mississippi Service Area Demographic Data Analysis

### Background

Analyses of demographic and socioeconomic data are essential to understanding health trends and determining key drivers of health status. Socioeconomic indicators play a significant role in community and individual health. Known as **social determinants of health**, they are defined as factors within the environment in which people live, work and play that can affect health and quality of life. Social determinants of health are often the root causes of **health disparities**. Healthy People 2020 defines a health disparity as “a particular type of health difference that is closely linked with social, economic or environmental disadvantage.”

Social determinants of health are factors within the environment in which people live, work and play that can affect health and quality of life.

North Mississippi Service Area data are shown with state and national data sets to demonstrate broad trends and areas of strength and opportunity. Demographic analysis by ZIP Code provides a detailed view of population statistics. All reported data were provided by Environmental Systems Research Institute (ESRI) Business Analyst, 2018 and the U.S. Census Bureau unless otherwise noted.

### Population Overview

The 2018 total population of the North Mississippi Service Area is 229,625; Lafayette and Lowndes counties account for 50% of the population. The Lafayette County population experienced the most growth from 2010 (19%) and is projected to increase 9% through 2023. The Union County population increased 6% from 2010 and is projected to increase by 3% through 2023. The populations of the remaining counties are projected to remain stable or decrease slightly through 2023.

**Population Growth**

	2018 Population	% Growth from 2010	% Growth by 2023
Benton County	8,621	-1.2%	-1.9%
Calhoun County	14,741	-1.5%	-2.4%
Lafayette County	56,405	19.1%	9.2%
Lowndes County	60,602	1.4%	1.1%
Panola County	35,106	1.1%	-0.1%
Prentiss County	25,416	0.6%	-0.2%
Union County	28,734	5.9%	3.3%
Mississippi	3,051,594	2.8%	1.4%

**2018 Total Population by Race**

	White	Black or African American	Asian	Hispanic or Latino (any race)	Language Other Than English Spoken at Home*
Benton County	61.7%	34.9%	0.1%	2.7%	2.8%
Calhoun County	66.4%	28.2%	0.1%	5.8%	5.1%
Lafayette County	71.5%	23.5%	2.1%	2.6%	5.4%
Lowndes County	52.6%	44.0%	1.0%	2.1%	5.1%
Panola County	47.3%	50.4%	0.2%	1.6%	1.7%
Prentiss County	83.2%	14.4%	0.4%	1.4%	1.6%
Union County	79.8%	15.2%	0.2%	4.3%	4.1%
Mississippi	57.7%	37.7%	1.1%	3.2%	3.9%
United States	70.0%	12.9%	5.7%	18.3%	21.1%

\*Data are reported for 2012–2016 based on availability.

The racial makeup of the North Mississippi Service Area differs by county and in relation to the state and the nation. All of the counties in the service area are proportionately more Black/African American and less Asian and Hispanic/Latino than the nation. However, Prentiss, Union and Lafayette counties also have proportionately more Whites than both the nation and Mississippi. Panola and Lowndes counties differ from the state and the nation with a roughly 50–50 split in the White and Black/African American populations. The racial makeup of Benton and Calhoun counties is more closely aligned with that of the state.

The population change by race and ethnicity for North Mississippi is generally consistent with the population change anticipated in the nation, which is marked by a decrease in the proportion of Whites and an increase in the proportion of people of color. The Black/African American population is projected to experience the greatest growth. The exception to this trend is Benton County, which will experience a decline in the Black/African American population and growth in the White population.

**2010–2023 Population Change as a Percentage of Total Population by Race**

	White		Black/African American		Asian		Hispanic/Latino	
	2010	2023	2010	2023	2010	2023	2010	2023
Benton County	60.5%	62.0%	37.3%	33.6%	0.1%	0.1%	1.7%	3.6%
Calhoun County	67.5%	65.6%	27.7%	28.3%	0.1%	0.1%	5.4%	6.2%
Lafayette County	71.8%	71.0%	23.7%	23.7%	2.1%	2.2%	2.3%	2.9%
Lowndes County	54.0%	51.6%	43.5%	44.3%	0.7%	1.4%	1.5%	2.6%
Panola County	49.5%	47.3%	48.6%	50.4%	0.2%	0.2%	1.4%	1.6%
Prentiss County	84.3%	83.2%	13.8%	14.4%	0.1%	0.4%	1.2%	1.4%
Union County	81.0%	79.1%	14.5%	15.6%	0.2%	0.2%	4.5%	4.3%
Mississippi	59.1%	56.8%	37.0%	38.0%	0.9%	1.3%	2.8%	3.6%
United States	72.4%	68.2%	12.6%	13.0%	4.8%	6.4%	16.4%	19.8%

The age distribution of the counties in the North Mississippi Service Area varies. Lowndes, Panola, Prentiss and Union counties have similar age distributions and median ages as the state and nation. Benton and Calhoun counties have more people ages 55 or over and a higher median age than Mississippi and the nation. Lafayette County has a median age noticeably younger than the state, nation and the other counties. The difference in median age for Lafayette County is primarily due to a higher percentage of residents ages 15–24, which is likely driven by University of Mississippi students.

**2018 Population by Age**

	Under 14 years	15–24 years	25–34 years	35–54 years	55–64 years	65+ years	Median Age
Benton County	19.2%	11.0%	12.7%	25.9%	13.8%	17.5%	40.6
Calhoun County	19.7%	10.7%	12.2%	24.6%	13.7%	19.1%	41.2
Lafayette County	14.4%	28.2%	15.4%	19.1%	9.9%	13.0%	29.2
Lowndes County	19.3%	13.4%	14.0%	24.0%	13.3%	16.1%	37.7
Panola County	20.6%	12.4%	13.1%	24.7%	13.5%	15.6%	38.1
Prentiss County	18.1%	13.2%	12.8%	24.0%	13.5%	18.3%	39.8
Union County	20.2%	11.4%	13.3%	25.8%	12.6%	16.6%	38.9
Mississippi	19.8%	13.4%	13.8%	24.6%	12.8%	15.6%	37.4
United States	18.6%	13.3%	13.9%	25.3%	13.0%	16.0%	38.3

**Income and Poverty Status**

Mississippi and the counties in North Mississippi have a lower median household income, a greater proportion of people in poverty and more households with Food Stamp/Supplemental Nutrition Assistance Program (SNAP) benefits than the nation in general. However, both

Lafayette and Lowndes counties have a higher median income than the state, and Lafayette County has fewer households with Food Stamp/SNAP benefits than the state or nation.

**2012–2016 Household Income and Poverty Status**

	Median Household Income	People in Poverty	Children in Poverty	Households with Food Stamp/SNAP Benefits
Benton County	\$36,302	22.7%	18.5%	19.6%
Calhoun County	\$31,141	26.3%	40.3%	18.3%
Lafayette County	\$43,162	25.3%	23.2%	7.6%
Lowndes County	\$41,219	21.9%	31.5%	21.4%
Panola County	\$37,556	22.4%	32.8%	20.5%
Prentiss County	\$33,509	22.7%	33.2%	20.8%
Union County	\$37,898	19.1%	28.3%	14.3%
Mississippi	\$40,528	22.3%	31.5%	18.1%
United States	\$55,322	15.1%	21.2%	13.1%

Within the seven counties in the North Mississippi Service Area, workers are more likely to be engaged in blue-collar work than the national average, and the 2018 estimated unemployment rate is higher in all seven counties than the national rate. However, as of October 2018, all counties reported a lower than expected unemployment rate, and only Benton and Panola counties exceeded the state and national unemployment rates.

**2018 Population by Occupation and Unemployment**

	White-Collar Workforce	Blue-Collar Workforce	Unemployment Rate (2018 estimate)	Unemployment Rate (October 2018)
Benton County	42.0%	58.0%	8.1%	5.3%
Calhoun County	41.0%	59.0%	5.6%	3.5%
Lafayette County	59.0%	41.0%	6.3%	3.5%
Lowndes County	54.0%	46.0%	8.3%	4.3%
Panola County	53.0%	47.0%	6.6%	5.2%
Prentiss County	48.0%	52.0%	6.2%	4.1%
Union County	48.0%	52.0%	5.9%	3.3%
Mississippi	55.0%	45.0%	6.4%	4.2%
United States	61.0%	39.0%	4.8%	3.5%

Note: Unemployment data are estimated for 2018 as the most recent actual rate reported by the Bureau of Labor Services is October 2018.



**Housing Measures**

The median home value in Mississippi and in all seven counties is lower than the national median. Residents of the North Mississippi Service Area counties are generally more likely to own their home than residents across Mississippi or the nation. The exception is Lafayette and Lowndes counties, where the median home value exceeds the state and residents are more likely to rent their home.

**2018 Population by Household Type**

	Renter-Occupied	Owner-Occupied	Median Home Value
Benton County	17.1%	82.9%	\$89,032
Calhoun County	26.2%	73.8%	\$76,342
Lafayette County	47.0%	53.0%	\$184,042
Lowndes County	41.6%	58.4%	\$135,050
Panola County	30.0%	70.0%	\$89,338
Prentiss County	33.2%	66.8%	\$85,229
Union County	30.9%	69.1%	\$102,320
Mississippi	33.0%	67.0%	\$118,021
United States	36.9%	63.1%	\$218,492

Home owners in the North Mississippi Service Area are generally less likely to be considered housing-cost burdened, paying more than 30% of their income for mortgage expenses. The exceptions are Benton and Prentiss counties. Benton County home owners in particular are impacted by housing costs. More than 80% of residents own their home and nearly 50% spend 30% or more of their income on their mortgage.

Housing-cost burden among renters in the seven counties is comparable to the nation, except in Lafayette County where 64.5% of renters pay 30% or more of their income on rent. The Lafayette County percentage is likely driven by university students.

**2012–2016 Housing-Cost Burden**

	Percentage of Renters Paying 30% or More of Income on Rent	Percentage of Mortgages Costing 30% or More of Household Income
Benton County	47.9%	49.8%
Calhoun County	52.4%	31.6%
Lafayette County	64.5%	23.5%
Lowndes County	52.3%	30.1%
Panola County	48.3%	26.8%
Prentiss County	43.8%	34.1%
Union County	41.1%	30.9%
Mississippi	51.6%	29.9%
United States	51.1%	30.8%

**Education Measures**

In comparison to the state and the nation, a higher percentage of residents in all counties except Lafayette either did not graduate from high school or terminated their education with a high school diploma. Roughly half of the adults living in Benton, Calhoun, Lowndes, Panola, Prentiss and Union counties have a high school diploma or less. In Lafayette County, more than 40% of adults completed a bachelor’s degree, higher than the state and the nation.

**2018 Population (25 Years Old or Older) by Educational Attainment**

	Less than a High School Diploma	High School Graduate/GED	Bachelor’s Degree or Higher
Benton County	21.8%	37.8%	12.2%
Calhoun County	23.3%	35.2%	11.7%
Lafayette County	9.6%	20.8%	41.3%
Lowndes County	14.4%	30.6%	23.6%
Panola County	18.7%	37.2%	16.5%
Prentiss County	21.9%	32.4%	12.7%
Union County	21.7%	32.4%	16.5%
Mississippi	15.5%	30.8%	22.2%
United States	12.3%	27.0%	31.8%

**Health Disparities**

When stratified by race, Whites in all North Mississippi Service Area counties except Lowndes are more likely to live in poverty than Whites across Mississippi. Among Blacks/African Americans, the percentage of people living in poverty is comparable to the state for all counties except Union (lower percentage) and Prentiss (higher percentage). Across all counties, a higher percentage of Blacks/African Americans live in poverty compared to Whites. While the total number of Hispanics/Latinos in all seven counties is relatively small, more than half of all Hispanics/Latinos in Calhoun and Union counties live in poverty.

**2012–2016 Poverty by Race**

	White		Black/African American		Hispanic/Latino	
	Count	Percent	Count	Percent	Count	Percent
Benton County	837	16.5%	1,002	32.7%	0	0.0%
Calhoun County	1,942	20.0%	1,462	37.1%	445	58.2%
Lafayette County	7,542	22.6%	3,935	33.2%	511	43.7%
Lowndes County	3,596	11.4%	8,931	35.3%	291	25.4%
Panola County	2,234	13.5%	5,158	30.0%	84	15.1%
Prentiss County	3,634	17.8%	1,460	47.0%	75	25.3%
Union County	3,881	17.0%	1,094	27.7%	700	57.6%
Mississippi	242,180	14.1%	377,645	35.0%	24,294	30.5%

The percentage of unemployed Whites is higher than the statewide percentage in Calhoun, Union, Panola and Benton counties. Among Blacks/African Americans, the percentage of unemployed adults is higher in Lowndes and Prentiss counties and lower in Panola County. Across all counties, a higher percentage of Blacks/African Americans are unemployed compared to Whites. While the total number of Hispanic/Latino people living in all of the seven counties combined is small, the percentage of unemployed adults is double or more than the statewide percentage in Lowndes, Panola and Union counties.

### 2012–2016 Unemployment by Race

	White		Black/African American		Hispanic/Latino	
	Count	Percent	Count	Percent	Count	Percent
Benton County	4,226	12.7%	2,352	13.4%	97	0.0%
Calhoun County	8,031	7.7%	3,148	15.4%	453	11.7%
Lafayette County	32,123	6.1%	10,054	11.1%	957	6.4%
Lowndes County	26,236	6.1%	19,709	18.2%	802	16.8%
Panola County	13,738	9.0%	12,563	9.6%	348	23.1%
Prentiss County	17,005	6.8%	2,784	21.7%	192	1.1%
Union County	18,044	8.4%	3,195	13.3%	751	26.8%
Mississippi	1,426,046	6.5%	842,349	14.8%	59,534	7.9%

When stratified by race, Whites in all counties except Lafayette and Lowndes are less likely to have completed a bachelor's degree or higher than Whites across Mississippi. Blacks/African Americans are also less likely to have completed a bachelor's degree or higher than their statewide peers, except in Lafayette County. In all counties, fewer Blacks/African Americans have attained higher education than Whites. Among Hispanics/Latinos, residents of Lowndes County are nearly four times as likely as their statewide peers to attain a bachelor's degree or higher. A higher percentage of Hispanic/Latino residents in Lowndes and Benton Counties, attain higher education than Whites or Blacks/African Americans.

### 2012–2016 Bachelor's Degree or Higher by Race

	White		Black/African American		Hispanic/Latino	
	Count	Percent	Count	Percent	Count	Percent
Benton County	437	12.1%	219	10.9%	17	19.1%
Calhoun County	941	13.3%	138	5.4%	8	2.3%
Lafayette County	9,907	46.3%	1,284	18.1%	111	20.1%
Lowndes County	6,431	28.4%	1,961	12.3%	319	44.9%
Panola County	2,230	18.5%	1,235	12.2%	2	0.6%
Prentiss County	1,886	13.0%	95	4.6%	0	0.0%
Union County	2,628	16.9%	224	8.4%	21	3.6%
Mississippi	299,029	24.5%	97,953	14.6%	5,992	12.9%

## ZIP Code Analysis

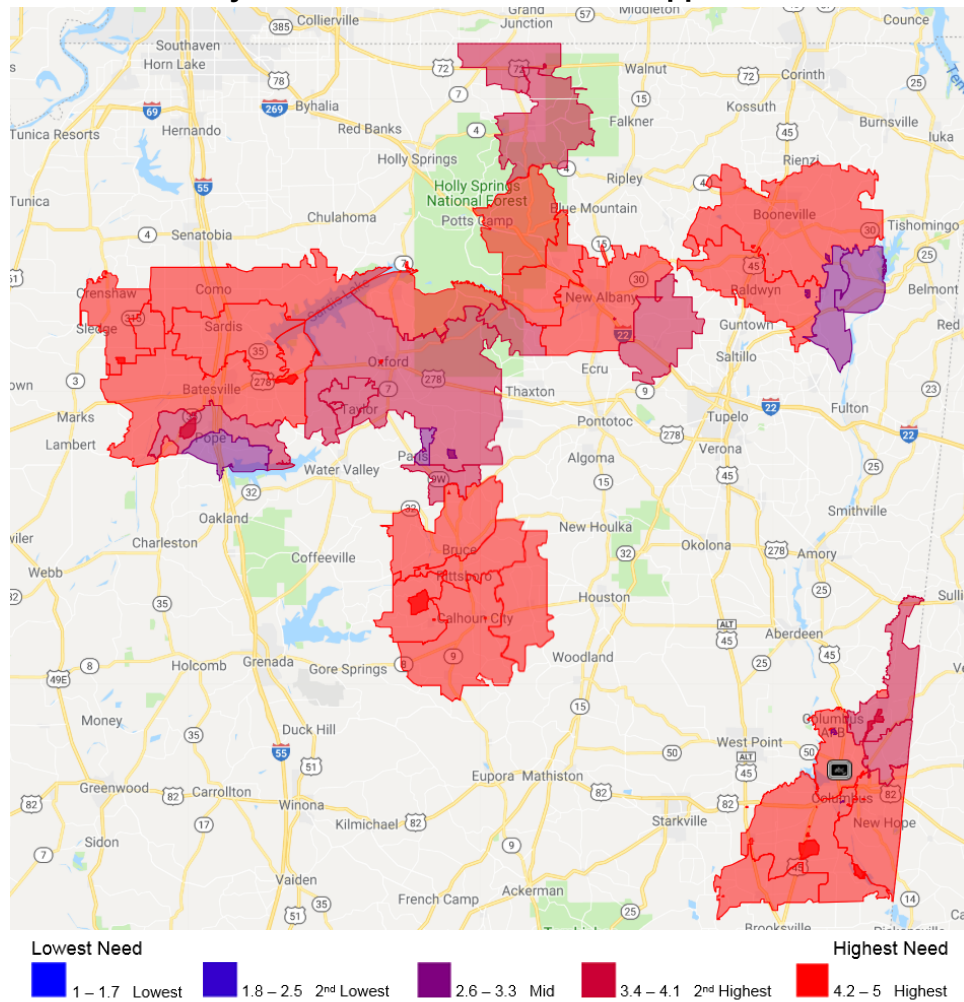
ZIP code of residence is one of the most important predictors of health outcomes and disparity. The Community Need Index (CNI) was developed by Dignity Health and Truven Health Analytics to illustrate the potential for health disparity at the ZIP code-level. The CNI scores ZIP codes on a scale of 1.0 (low need) to 5.0 (high need) based on data indicators across five socioeconomic barriers listed below.

- > Income: Poverty among elderly households, families with children and single female-headed families with children
- > Culture/Language: Minority populations and English-language barriers
- > Education: Population 25 years old or older without a high school diploma
- > Insurance coverage: Unemployment rate among population age 16 or over and population without health insurance
- > Housing status: Householders renting their home

The weighted average CNI score for North Mississippi is 4.3, indicating a higher than average overall community need.

The CNI score map on the following page reflects similar data findings as detailed within the county-level analysis and provides a closer look at health disparities. A full analysis of socioeconomic factors is included for each ZIP code with a CNI score of 3.4 or greater, which is useful in pinpointing high-risk populations and prioritizing communities and neighborhoods on which to focus community health improvement efforts.

### Community Need Index for North Mississippi Service Area



The following tables list the social determinants of health that contribute to ZIP code CNI scores and are often indicative of health disparities. ZIP codes with a CNI score of 3.4 or greater are shown in comparison to their respective county and the state, and are presented in descending order by CNI score. Cells highlighted in **yellow** are more than two percentage points higher than the county statistic, but not necessarily statistically significant.

The tables below indicate consistent socioeconomic trends across the North Mississippi Service Area. All of the counties have a CNI score greater than 4.0, indicating higher overall community need. Additionally, all of the counties except Lafayette mirror the state of Mississippi for higher poverty and lower educational attainment and insurance coverage. Calhoun and Lowndes counties have the highest CNI scores in the service area and report higher socioeconomic disparity. Within the two counties, Calhoun City in Calhoun County and Columbus in Lowndes County experience the greatest socioeconomic barriers.

Lafayette County differs from the other counties in the service area with socioeconomic indicators that more closely mirror the nation. The county has lower poverty, higher education

attainment and higher health insurance coverage than any other county in the service area and the state. Lafayette County is home to the University of Mississippi, the state's largest university by enrollment. Many of the socioeconomic indicators for Lafayette County are likely impacted by university students.

The racial makeup of the service area is predominantly a mix of White and Black/African American residents. However, the racial proportion varies by county with Lafayette and Prentiss counties having a mostly homogeneous White population, and the other counties having a more prominent Black/African American population. In all counties, the proportion of Asian and Hispanic/Latino residents is small at less than 2% or 6% respectively.

**Benton County**  
**Social Determinants of Health Indicators for ZIP Codes With CNI Score ≥3.4**

	Households in Poverty	Households Receiving Food Stamps/ SNAP	Children in Poverty	Language Other than English Spoken at Home	Unemployment	Less than HS Diploma	Without Health Insurance	CNI Score
<b>Benton County</b>	<b>23.6%</b>	<b>19.6%</b>	<b>18.5%</b>	<b>2.8%</b>	<b>8.1%</b>	<b>21.8%</b>	<b>18.4%</b>	<b>4.1</b>
38633, Hickory Flat	28.2%	27.2%	45.9%	2.4%	8.6%	22.9%	14.4%	4.4
38603, Ashland	17.2%	15.7%	7.4%	3.3%	7.2%	24.1%	15.5%	4.0
38647, Michigan City	24.8%	21.1%	16.0%	5.1%	12.7%	23.2%	25.2%	3.8
<b>Mississippi</b>	<b>21.2%</b>	<b>18.1%</b>	<b>31.5%</b>	<b>3.9%</b>	<b>6.4%</b>	<b>15.5%</b>	<b>14.6%</b>	

**Benton County**  
**Demographic Indicators for ZIP Codes With CNI Score ≥3.4**

	White	Black/ African American	Hispanic/ Latino	18–24	25–34	35–44	45–54	55–64	65+
<b>Benton County</b>	<b>61.7%</b>	<b>34.9%</b>	<b>2.7%</b>	<b>7.5%</b>	<b>12.7%</b>	<b>12.4%</b>	<b>13.4%</b>	<b>13.8%</b>	<b>17.5%</b>
38633, Hickory Flat	84.3%	12.6%	1.2%	8.4%	12.7%	13.5%	13.8%	12.1%	16.0%
38603, Ashland	70.0%	26.6%	2.3%	6.3%	11.6%	12.0%	13.4%	15.0%	21.2%
38647, Michigan City	47.1%	49.5%	3.3%	7.1%	13.4%	12.1%	13.4%	14.4%	16.2%
<b>Mississippi</b>	<b>57.7%</b>	<b>37.7%</b>	<b>3.2%</b>	<b>9.8%</b>	<b>13.8%</b>	<b>12.3%</b>	<b>12.4%</b>	<b>12.8%</b>	<b>15.6%</b>

**Calhoun County**  
**Social Determinants of Health Indicators for ZIP Codes With CNI Score ≥3.4**

	Households in Poverty	Households Receiving Food Stamps/ SNAP	Children in Poverty	Language Other than English Spoken at Home	Unemployment	Less than HS Diploma	Without Health Insurance	CNI Score
<b>Calhoun County</b>	<b>25.4%</b>	<b>18.3%</b>	<b>40.3%</b>	<b>5.1%</b>	<b>5.6%</b>	<b>23.3%</b>	<b>14.7%</b>	<b>4.5</b>
38878, Vardaman	25.9%	14.6%	30.1%	9.9%	4.7%	26.0%	18.6%	4.6
38915, Bruce	26.1%	16.9%	44.9%	4.4%	4.3%	20.1%	16.0%	4.6
38916, Calhoun City	27.7%	24.9%	52.2%	3.3%	7.3%	24.4%	13.5%	4.6
38914, Big Creek	22.9%	18.9%	4.5%	1.1%	6.3%	25.7%	11.4%	4.2
38951, Pittsboro	20.9%	10.6%	33.2%	3.6%	4.3%	18.3%	7.2%	4.2
38913, Banner	10.1%	1.4%	0.0%	2.7%	7.3%	28.8%	12.6%	3.6
<b>Mississippi</b>	<b>21.2%</b>	<b>18.1%</b>	<b>31.5%</b>	<b>3.9%</b>	<b>6.4%</b>	<b>15.5%</b>	<b>14.6%</b>	

**Calhoun County**  
**Demographic Indicators for ZIP Codes With CNI Score ≥3.4**

	White	Black/ African American	Hispanic/ Latino	18–24	25–34	35–44	45–54	55–64	65+
<b>Calhoun County</b>	<b>66.4%</b>	<b>28.2%</b>	<b>5.8%</b>	<b>7.3%</b>	<b>12.2%</b>	<b>11.7%</b>	<b>12.9%</b>	<b>13.7%</b>	<b>19.1%</b>
38878, Vardaman	64.0%	21.6%	19.0%	8.5%	12.8%	12.4%	12.1%	12.3%	17.3%
38915, Bruce	66.4%	29.6%	3.2%	7.1%	12.1%	11.9%	13.5%	13.7%	18.5%
38916, Calhoun City	63.4%	34.0%	1.5%	6.9%	12.2%	11.1%	12.6%	13.9%	20.2%
38914, Big Creek	75.2%	23.9%	0.4%	6.5%	10.7%	11.6%	14.9%	14.6%	21.3%
38951, Pittsboro	58.9%	39.2%	1.4%	7.3%	11.9%	11.0%	13.2%	15.2%	20.9%
38913, Banner	89.8%	6.0%	3.3%	6.6%	11.8%	12.2%	13.5%	14.9%	18.9%
<b>Mississippi</b>	<b>57.7%</b>	<b>37.7%</b>	<b>3.2%</b>	<b>9.8%</b>	<b>13.8%</b>	<b>12.3%</b>	<b>12.4%</b>	<b>12.8%</b>	<b>15.6%</b>



**Lafayette County**  
**Social Determinants of Health Indicators for ZIP Codes With CNI Score ≥3.4**

	Households in Poverty	Households Receiving Food Stamps/ SNAP	Children in Poverty	Language Other than English Spoken at Home	Unemployment	Less than HS Diploma	Without Health Insurance	CNI Score
<b>Lafayette County</b>	<b>24.2%</b>	<b>7.6%</b>	<b>23.2%</b>	<b>5.4%</b>	<b>6.3%</b>	<b>9.6%</b>	<b>10.4%</b>	<b>4.1</b>
38677, University	96.9%	75.0%	100.0%	2.8%	19.0%	17.1%	3.5%	4.8
38601, Abbeville	14.7%	10.8%	25.9%	3.8%	7.3%	22.4%	14.8%	4.6
38655, Oxford	24.8%	6.8%	22.0%	6.1%	5.6%	8.3%	10.9%	4.0
38673, Taylor	26.2%	5.0%	6.9%	6.3%	7.5%	8.1%	12.1%	3.6
<b>Mississippi</b>	<b>21.2%</b>	<b>18.1%</b>	<b>31.5%</b>	<b>3.9%</b>	<b>6.4%</b>	<b>15.5%</b>	<b>14.6%</b>	

**Lafayette County**  
**Demographic Indicators for ZIP Codes With CNI Score ≥3.4**

	White	Black/ African American	Hispanic/ Latino	18–24	25–34	35–44	45–54	55–64	65+
<b>Lafayette County</b>	<b>71.5%</b>	<b>23.5%</b>	<b>2.6%</b>	<b>25.7%</b>	<b>15.4%</b>	<b>9.9%</b>	<b>9.2%</b>	<b>9.9%</b>	<b>13.0%</b>
38677, University	78.4%	16.0%	2.9%	95.1%	2.7%	0.7%	0.2%	0.3%	0.1%
38601, Abbeville	47.9%	50.0%	1.0%	8.2%	11.1%	14.1%	13.3%	14.6%	15.3%
38655, Oxford	70.7%	24.1%	2.7%	20.3%	17.5%	10.5%	9.6%	10.2%	13.8%
38673, Taylor	67.0%	29.0%	1.6%	16.1%	14.6%	11.2%	11.0%	12.3%	16.7%
<b>Mississippi</b>	<b>57.7%</b>	<b>37.7%</b>	<b>3.2%</b>	<b>9.8%</b>	<b>13.8%</b>	<b>12.3%</b>	<b>12.4%</b>	<b>12.8%</b>	<b>15.6%</b>

**Lowndes County**

**Social Determinants of Health Indicators for ZIP Codes With CNI Score ≥3.4**

	Households in Poverty	Households Receiving Food Stamps/ SNAP	Children in Poverty	Language Other than English Spoken at Home	Unemployment	Less than HS Diploma	Without Health Insurance	CNI Score
<b>Lowndes County</b>	<b>21.6%</b>	<b>21.4%</b>	<b>31.5%</b>	<b>5.1%</b>	<b>8.3%</b>	<b>14.4%</b>	<b>14.3%</b>	<b>4.5</b>
39701, Columbus	34.1%	29.5%	46.4%	6.2%	14.1%	21.5%	19.7%	5.0
39702, Columbus	20.9%	24.1%	32.7%	3.5%	7.5%	12.2%	14.1%	4.6
39743, Crawford	27.2%	28.5%	62.6%	4.7%	8.9%	24.1%	9.0%	4.4
39705, Columbus	15.7%	14.2%	22.5%	7.5%	5.5%	9.3%	11.5%	4.2
39740, Caledonia	12.9%	8.8%	7.7%	4.8%	6.3%	15.4%	8.9%	3.6
39766, Steens	8.5%	16.5%	15.8%	2.0%	5.1%	16.7%	18.3%	3.4
<b>Mississippi</b>	<b>21.2%</b>	<b>18.1%</b>	<b>31.5%</b>	<b>3.9%</b>	<b>6.4%</b>	<b>15.5%</b>	<b>14.6%</b>	

**Lowndes County**

**Demographic Indicators for ZIP Codes With CNI Score ≥3.4**

	White	Black/ African American	Hispanic/ Latino	18–24	25–34	35–44	45–54	55–64	65+
<b>Lowndes County</b>	<b>52.6%</b>	<b>44.0%</b>	<b>2.1%</b>	<b>9.8%</b>	<b>14.0%</b>	<b>11.7%</b>	<b>12.2%</b>	<b>13.3%</b>	<b>16.1%</b>
39701, Columbus	28.0%	69.4%	1.3%	12.5%	13.9%	11.5%	11.1%	12.9%	15.3%
39702, Columbus	53.0%	45.1%	1.3%	8.6%	13.0%	11.6%	12.6%	13.2%	16.8%
39743, Crawford	17.0%	81.5%	0.5%	8.1%	14.4%	11.3%	13.1%	14.3%	15.0%
39705, Columbus	64.9%	27.7%	4.6%	9.7%	16.1%	11.8%	11.4%	13.5%	16.6%
39740, Caledonia	87.7%	9.6%	2.1%	8.9%	13.2%	12.5%	14.8%	13.6%	14.3%
39766, Steens	73.8%	24.0%	2.0%	7.5%	13.1%	13.0%	14.3%	14.7%	16.8%
<b>Mississippi</b>	<b>57.7%</b>	<b>37.7%</b>	<b>3.2%</b>	<b>9.8%</b>	<b>13.8%</b>	<b>12.3%</b>	<b>12.4%</b>	<b>12.8%</b>	<b>15.6%</b>

**Panola County**  
**Social Determinants of Health Indicators for ZIP Codes With CNI Score ≥3.4**

	Households in Poverty	Households Receiving Food Stamps/ SNAP	Children in Poverty	Language Other than English Spoken at Home	Unemployment	Less than HS Diploma	Without Health Insurance	CNI Score
<b>Panola County</b>	<b>20.6%</b>	<b>20.5%</b>	<b>32.8%</b>	<b>1.7%</b>	<b>6.6%</b>	<b>18.7%</b>	<b>15.6%</b>	<b>4.2</b>
38621, Crenshaw	24.0%	34.1%	71.9%	0.4%	13.3%	28.4%	15.1%	4.8
38666, Sardis	21.3%	22.9%	39.8%	0.9%	7.3%	20.9%	14.4%	4.8
38619, Como	30.9%	29.7%	51.8%	0.0%	11.6%	24.3%	16.1%	4.6
38606, Batesville	19.7%	16.9%	27.0%	1.6%	5.7%	15.8%	15.8%	4.2
38620, Courtland	14.4%	18.3%	25.0%	6.2%	6.6%	16.5%	16.5%	3.4
<b>Mississippi</b>	<b>21.2%</b>	<b>18.1%</b>	<b>31.5%</b>	<b>3.9%</b>	<b>6.4%</b>	<b>15.5%</b>	<b>14.6%</b>	

**Panola County**  
**Demographic Indicators for ZIP Codes With CNI Score ≥3.4**

	White	Black/ African American	Hispanic / Latino	18–24	25–34	35–44	45–54	55–64	65+
<b>Panola County</b>	<b>47.3%</b>	<b>50.4%</b>	<b>1.6%</b>	<b>8.6%</b>	<b>13.1%</b>	<b>12.1%</b>	<b>12.6%</b>	<b>13.5%</b>	<b>15.6%</b>
38621, Crenshaw	34.5%	63.8%	1.7%	7.8%	13.6%	12.1%	12.0%	13.1%	14.6%
38666, Sardis	36.8%	61.0%	1.4%	8.0%	13.2%	11.3%	12.4%	13.9%	16.8%
38619, Como	43.7%	54.5%	1.1%	8.4%	12.3%	11.3%	13.5%	15.2%	18.5%
38606, Batesville	52.5%	44.4%	2.1%	8.7%	13.4%	12.5%	12.2%	12.6%	15.2%
38620, Courtland	51.5%	46.7%	1.3%	10.3%	12.6%	12.1%	13.6%	14.2%	13.9%
<b>Mississippi</b>	<b>57.7%</b>	<b>37.7%</b>	<b>3.2%</b>	<b>9.8%</b>	<b>13.8%</b>	<b>12.3%</b>	<b>12.4%</b>	<b>12.8%</b>	<b>15.6%</b>

**Prentiss County**  
**Social Determinants of Health Indicators for ZIP Codes With CNI Score ≥3.4**

	Households in Poverty	Households Receiving Food Stamps/ SNAP	Children in Poverty	Language Other than English Spoken at Home	Unemployment	Less than HS Diploma	Without Health Insurance	CNI Score
<b>Prentiss County</b>	<b>22.6%</b>	<b>20.8%</b>	<b>33.2%</b>	<b>1.6%</b>	<b>6.2%</b>	<b>21.9%</b>	<b>15.7%</b>	<b>4.2</b>
38824, Baldwyn	25.3%	23.2%	38.7%	1.4%	5.8%	21.3%	14.0%	4.4
38829, Booneville	21.9%	19.5%	33.2%	1.5%	6.7%	22.8%	15.6%	4.2
<b>Mississippi</b>	<b>21.2%</b>	<b>18.1%</b>	<b>31.5%</b>	<b>3.9%</b>	<b>6.4%</b>	<b>15.5%</b>	<b>14.6%</b>	

**Prentiss County**  
**Demographic Indicators for ZIP Codes With CNI Score ≥3.4**

	White	Black/ African American	Hispanic / Latino	18–24	25–34	35–44	45–54	55–64	65+
<b>Prentiss County</b>	<b>83.2%</b>	<b>14.4%</b>	<b>1.4%</b>	<b>9.9%</b>	<b>12.8%</b>	<b>11.6%</b>	<b>12.4%</b>	<b>13.5%</b>	<b>18.3%</b>
38824, Baldwyn	74.0%	23.8%	1.2%	8.0%	13.2%	12.1%	13.4%	13.5%	17.7%
38829, Booneville	84.9%	12.4%	1.5%	10.8%	12.8%	11.4%	12.1%	13.2%	18.3%
<b>Mississippi</b>	<b>57.7%</b>	<b>37.7%</b>	<b>3.2%</b>	<b>9.8%</b>	<b>13.8%</b>	<b>12.3%</b>	<b>12.4%</b>	<b>12.8%</b>	<b>15.6%</b>

**Union County  
Social Determinants of Health Indicators for ZIP Codes With CNI Score ≥3.4**

	Households in Poverty	Households Receiving Food Stamps/ SNAP	Children in Poverty	Language Other than English Spoken at Home	Unemployment	Less than HS Diploma	Without Health Insurance	CNI Score
<b>Union County</b>	<b>17.1%</b>	<b>14.3%</b>	<b>28.3%</b>	<b>4.1%</b>	<b>5.9%</b>	<b>21.7%</b>	<b>14.9%</b>	<b>4.3</b>
38652, New Albany	17.0%	13.0%	31.2%	5.9%	6.2%	19.8%	15.5%	4.4
38650, Myrtle	17.8%	21.5%	36.7%	0.7%	5.8%	27.6%	15.2%	4.2
38828, Blue Springs	14.6%	12.2%	8.7%	1.1%	5.5%	22.2%	13.3%	4.0
38627, Etta	22.4%	16.7%	20.6%	5.4%	5.7%	20.3%	13.7%	3.6
<b>Mississippi</b>	<b>21.2%</b>	<b>18.1%</b>	<b>31.5%</b>	<b>3.9%</b>	<b>6.4%</b>	<b>15.5%</b>	<b>14.6%</b>	

**Union County  
Demographic Indicators for ZIP Codes With CNI Score ≥3.4**

	White	Black/ African American	Hispanic / Latino	18–24	25–34	35–44	45–54	55–64	65+
<b>Union County</b>	<b>79.8%</b>	<b>15.2%</b>	<b>4.3%</b>	<b>7.8%</b>	<b>13.4%</b>	<b>12.8%</b>	<b>13.0%</b>	<b>12.6%</b>	<b>16.6%</b>
38652, New Albany	73.5%	20.2%	5.7%	7.9%	13.4%	12.6%	13.0%	12.4%	17.0%
38650, Myrtle	86.7%	9.5%	3.0%	7.5%	13.6%	13.5%	12.7%	12.5%	15.1%
38828, Blue Springs	87.8%	8.7%	2.4%	7.5%	12.7%	12.6%	13.8%	13.9%	16.1%
38627, Etta	91.1%	7.3%	1.2%	8.0%	13.7%	12.8%	12.0%	13.8%	18.0%
<b>Mississippi</b>	<b>57.7%</b>	<b>37.7%</b>	<b>3.2%</b>	<b>9.8%</b>	<b>13.8%</b>	<b>12.3%</b>	<b>12.4%</b>	<b>12.8%</b>	<b>15.6%</b>

## Statistical Analysis of Health Indicators

Health indicators were analyzed across a number of health issues, including access to care, health behaviors and outcomes, chronic disease morbidity and mortality, mental health and substance use disorder trends and maternal and child health measures.

Data were compiled from secondary sources, including the Mississippi Department of Health, the Centers for Disease Control and Prevention (CDC), the University of Wisconsin County Health Rankings & Roadmaps program, among other sources. A comprehensive list of data sources can be found in Appendix A.

Health data focus on county-level reporting, which is generally the most recent and consistent data available. Health data for Baptist's service counties are compared to state and national averages and Healthy People 2020 (HP 2020) goals, where applicable, to provide benchmark comparisons. Healthy People is a U.S. Department of Health and Human Services health promotion and disease prevention initiative that sets science-based, 10-year national objectives for improving the health of all Americans.

Age-adjusted rates are referenced throughout the report to depict the burden of disease among residents. Age-adjusted rates are summary measures adjusted for differences in age distributions so that data from one year to another, or between one geographic area and another, can be compared as if the communities reflected the same age distribution.

The Behavioral Risk Factor Surveillance System (BRFSS) is a telephone survey of residents age 18 or over conducted nationally by states as required by the CDC. A consistent survey tool is used across the United States to assess health risk behaviors, prevalence of chronic health conditions, access to care, preventive health measures and other health indicators. BRFSS results included in this report were provided by the Mississippi Department of Health.

The most recent data available at the time of this study were used unless otherwise noted.

### Access to Health Care

According to the University of Wisconsin County Health Rankings & Roadmaps program, counties in Baptist’s North Mississippi Service Area counties received the following rankings for clinical care out of 82 counties in Mississippi. The rankings are based on a number of indicators, including health insurance coverage and provider access, with a rank of No. 1 being the best in the state.

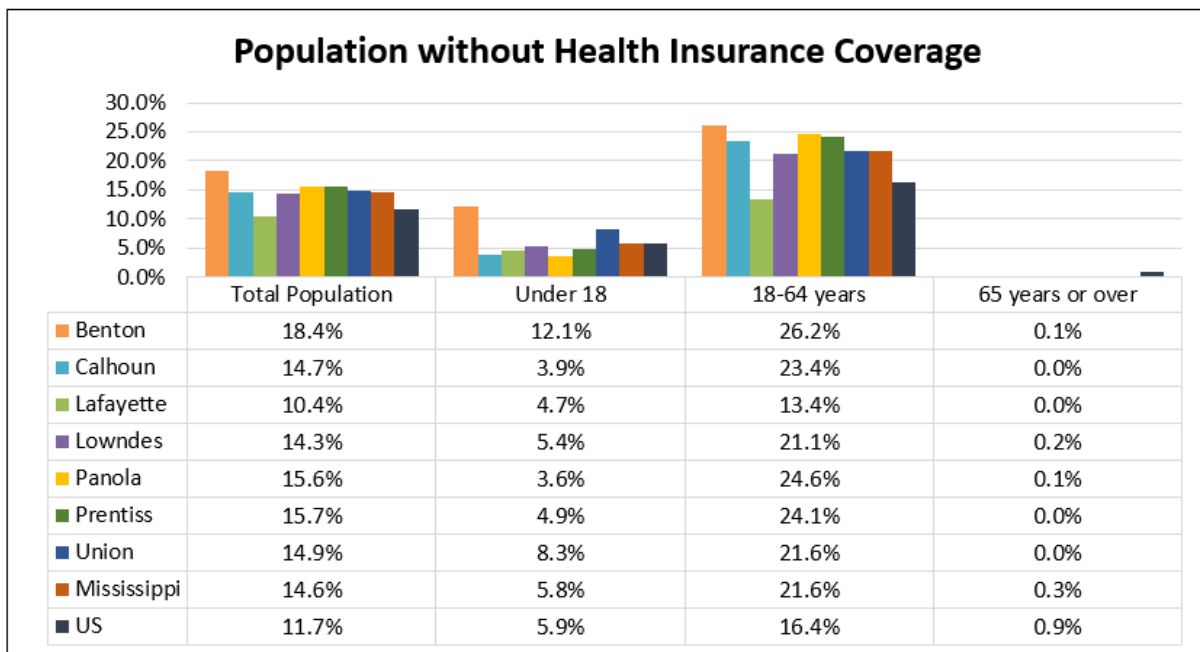
**2018 Clinical Care County Health Rankings**

- No. 5 Lafayette County (No. 5 in 2015)
- No. 10 Lowndes County (No. 9 in 2015)
- No. 21 Union County (No. 32 in 2015)
- No. 42 Prentiss County (No. 23 in 2015)
- No. 46 Panola County (No. 53 in 2015)
- No. 48 Benton County (No. 40 in 2015)
- No. 70 Calhoun County (No. 73 in 2015)

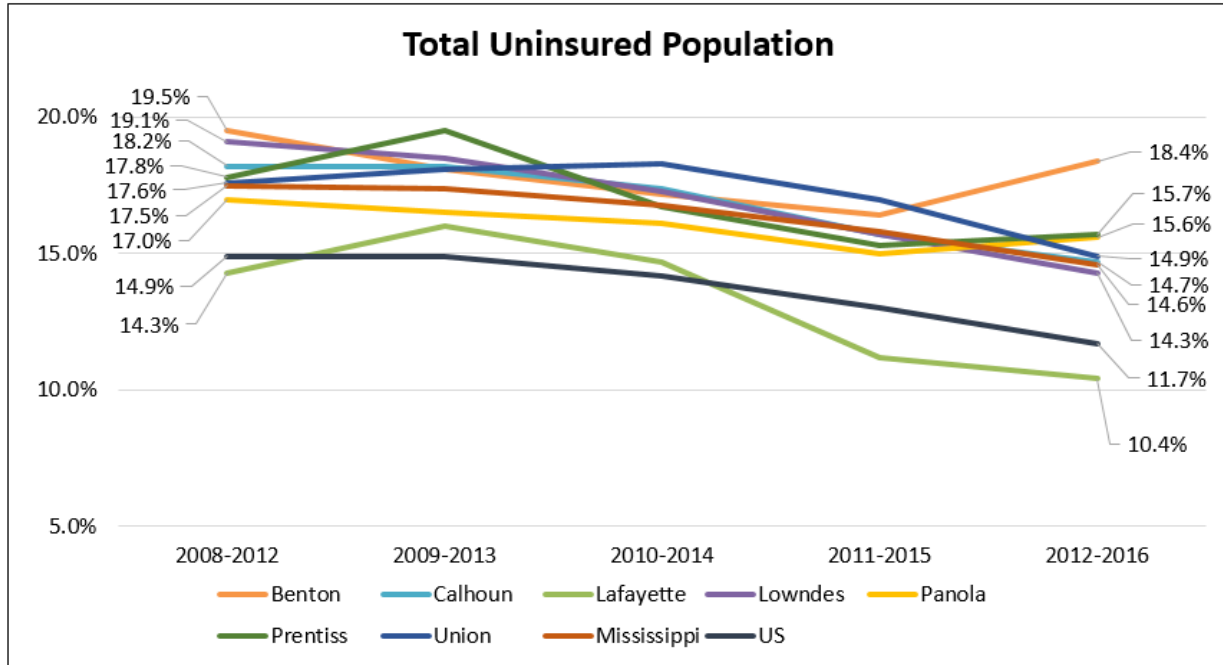
### Health Insurance Coverage

There are more people without health insurance in all North Mississippi Service Area counties, except Lafayette, when compared to the nation. This finding holds true for almost all age groups in all counties. Of note is Benton County, where the percentage of uninsured is the highest of all of the geographies and increased. Children in Benton County are among the most likely to be uninsured; the current percentage is double the national average.

All counties except Lafayette have a higher uninsured rate than the nation; Benton County is particularly affected.



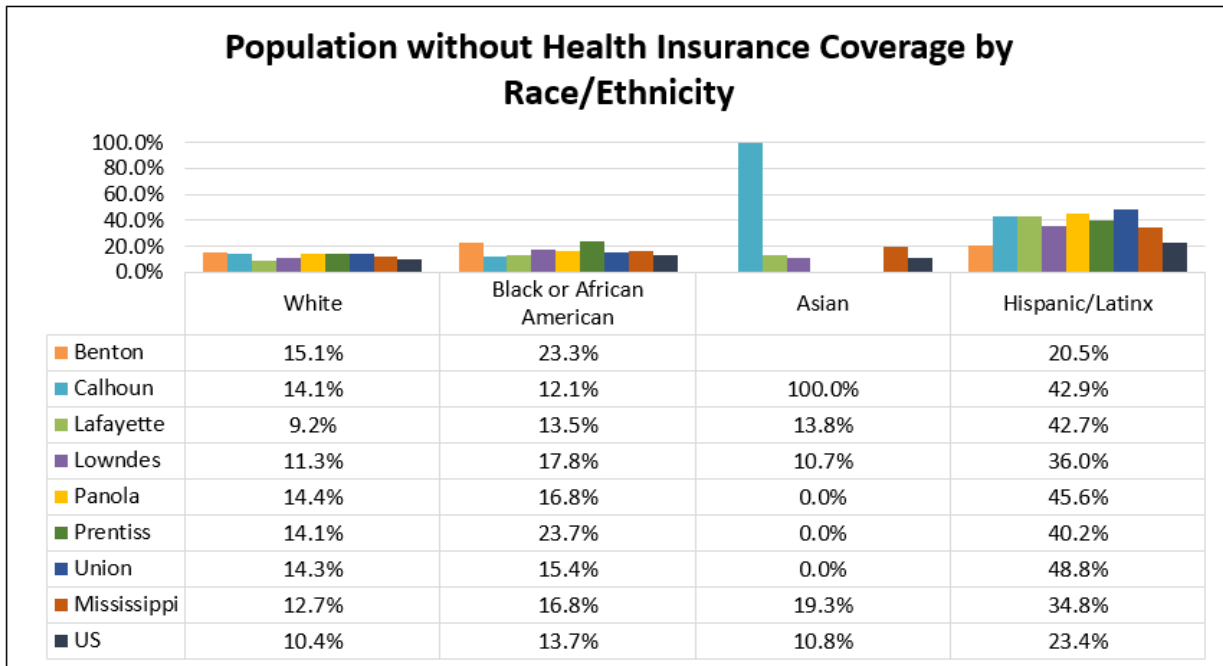
Source: U.S. Census Bureau, 2012–2016



Source: U.S. Census Bureau, 2008–2012 to 2012–2016

When stratified by race, health insurance coverage is generally comparable to national findings with higher percentages among Blacks/African Americans and Hispanics/Latinos compared to Whites. Note: In Calhoun County, 100% of Asians are uninsured, but comprise 0.1% of the county population.

Uninsured rates are highest among Black/African American and/or Hispanic/Latino residents.



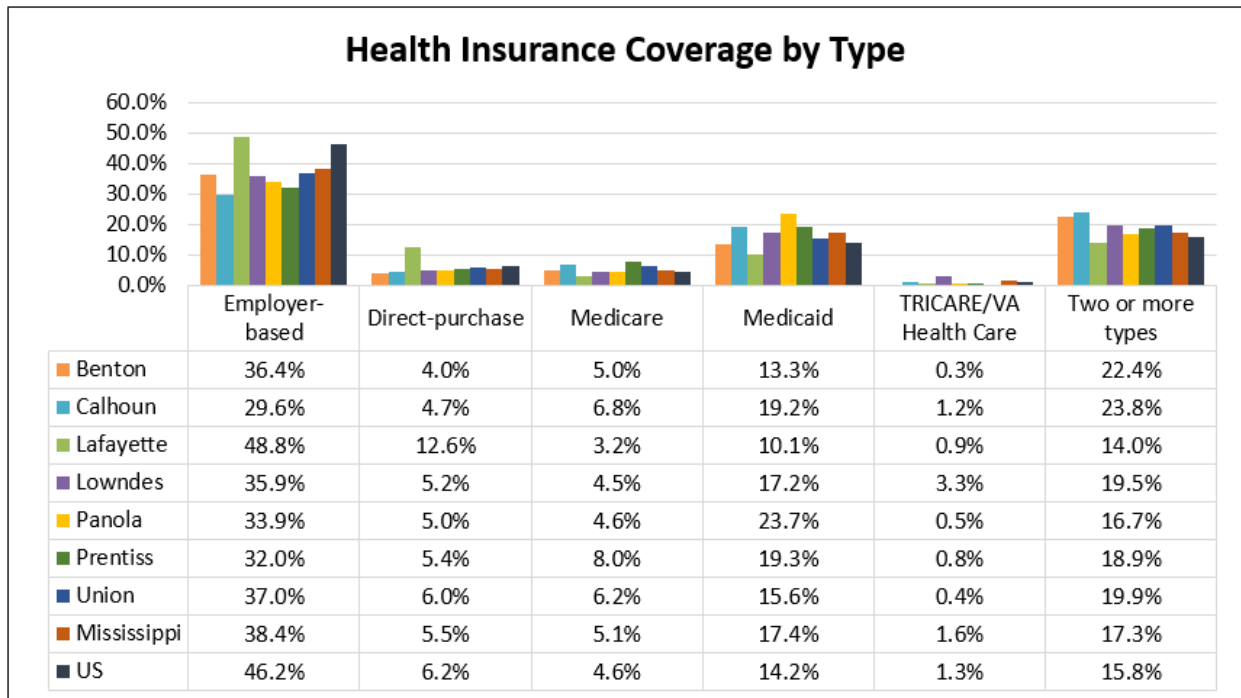
Source: U.S. Census Bureau, 2012–2016

\*Asian rates are not available for Benton County due to low counts.



Consistent with the state and the nation, most residents in the North Mississippi Service Area obtain health insurance through their employer. A higher percentage of residents in Calhoun, Panola and Prentiss counties are insured by Medicaid compared to the state and the nation. In Lafayette County, nearly 13% of residents purchase their health insurance, double the national percentage.

More residents in Calhoun, Panola and Prentiss counties are insured by Medicaid.



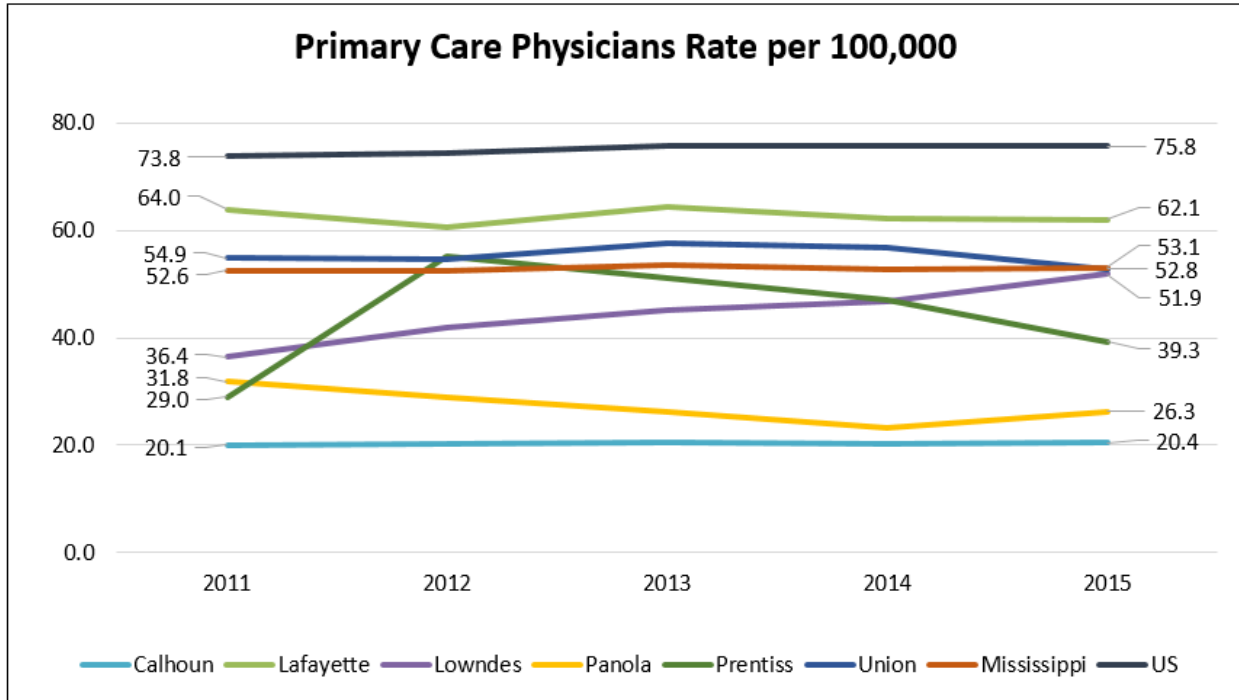
Source: U.S. Census Bureau, 2012–2016

### Provider Access

Provider rates are measured by the number of providers per 100,000 people and are measured against state and national benchmarks for primary, dental and mental health care.

The provider rates in the North Mississippi Service Area are lower than national rates for primary care physicians, dentists and mental health providers and have generally held at a steady rate since 2011.

All counties have lower primary and dental health provider rates than the nation.

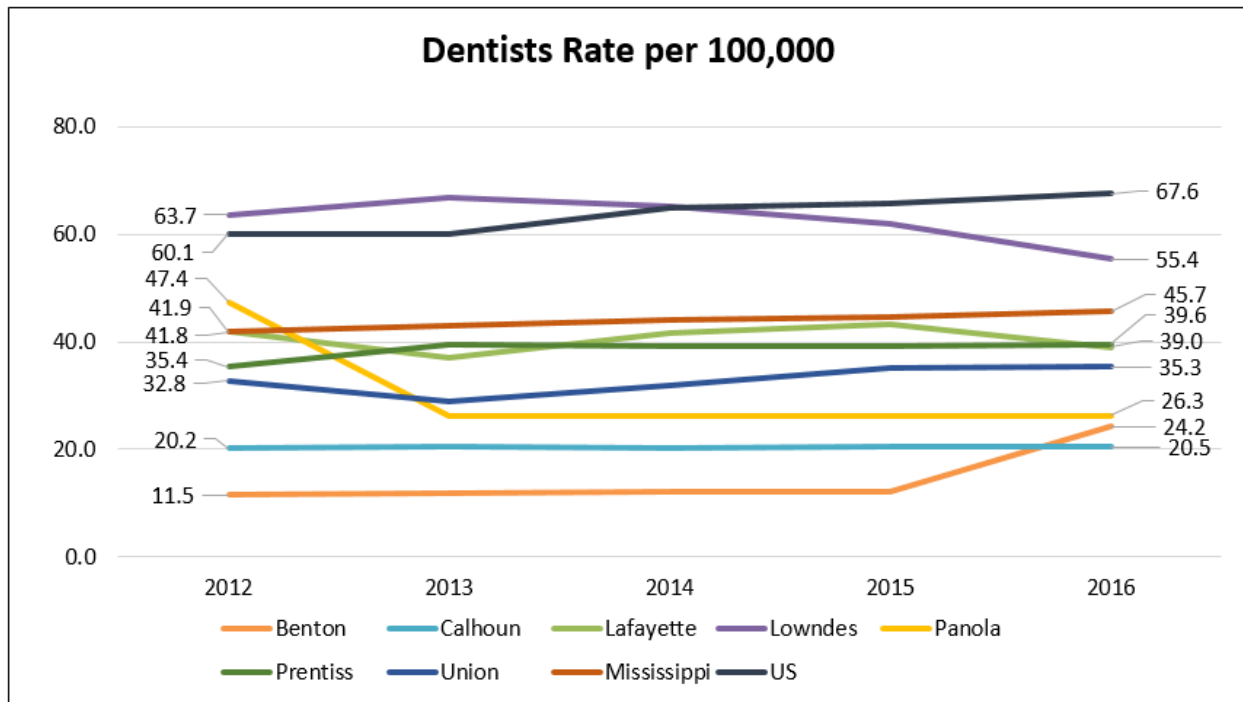


Source: Health Resources & Services Administration, 2011–2015

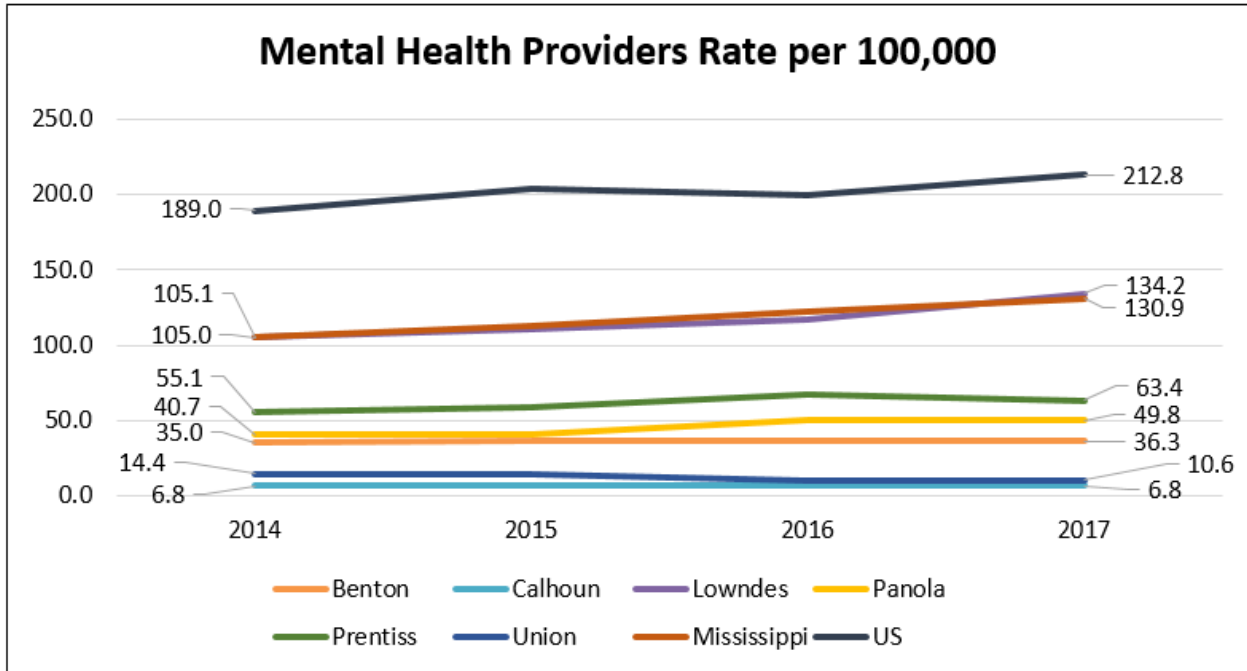
Note: Providers are identified by the location of their preferred professional/business mailing address.

Provider rates do not take into account providers who serve multiple counties or who have satellite clinics.

\*Benton County is not shown due to limited data availability.

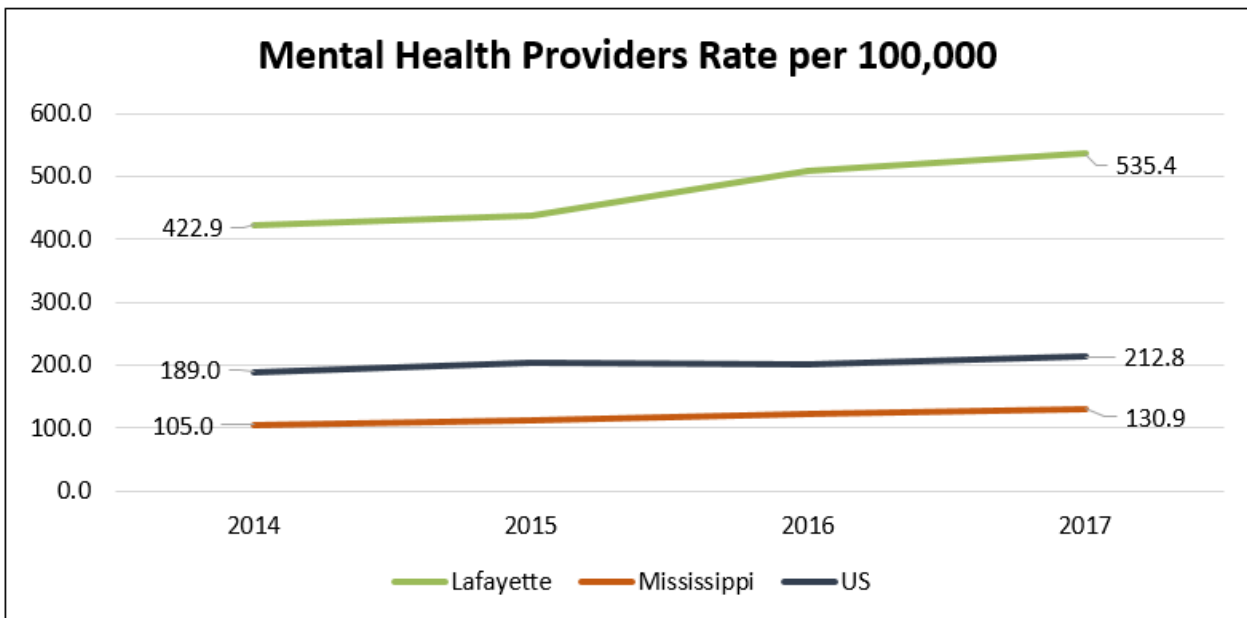


Source: Health Resources & Services Administration, 2012–2016



Source: Centers for Medicare and Medicaid Services, 2014–2017

Note: An error occurred in the County Health Rankings method for identifying mental health providers in 2013. Data prior to 2014 are not shown.



Source: Centers for Medicare and Medicaid Services, 2014–2017

\*Lafayette County is shown separately to better illustrate the high rate of mental health providers in the county.

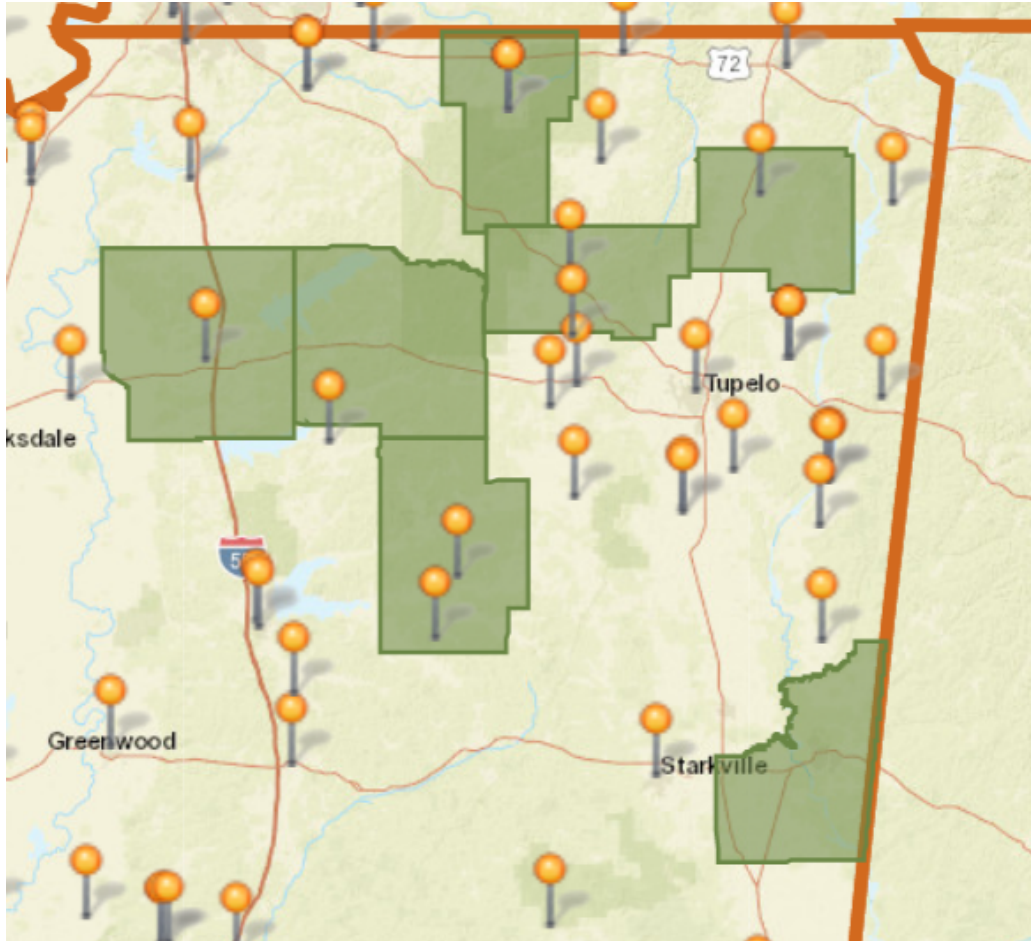
The Health Resources & Services Administration (HRSA) is responsible for designating Health Professional Shortage Areas (HPSAs), as well as Medically Underserved Areas (MUAs). Shortage areas are determined by a defined ratio of total health professionals versus the total population. Medically Underserved Areas are areas designated as having too few primary care providers, high infant mortality, high poverty or a large elderly population. The following HPSAs and MUAs are located in the North Mississippi Service Area.

**Health Professional Shortage Areas and Medically Underserved Areas  
in the North Mississippi Service Area**

<b>Geographic Area</b>	<b>Medically Underserved Area</b>	<b>Health Professional Shortage Area(s)</b>
Benton County (All)	x	Primary care, dental care (high need area); Mental health care
Calhoun County (All)	x	Primary care, dental care (high need area); Mental health care
Lafayette County (All)	x	Dental care (high need area); Mental health care; Low-income population (primary care)
Lowndes County (All)	x	Dental care, mental health care (high need area)
Panola County (All)	x	Primary care, dental care (high need area); Mental health care
Prentiss County (All)	x	Primary care, mental health care (high need area); Low-income population (dental care)
Union County (All)	x	Dental care (high need area); Mental health care; Low-income population (primary care)

The Health Resources & Services Administration also plays a role in designating Federally Qualified Health Centers (FQHCs). Federally Qualified Health Centers are defined as “community-based health care providers that receive funds from the HRSA Health Center Program to provide primary care services in underserved areas.” Services are provided on a sliding fee scale based on patients’ ability to pay. A map of FQHC locations within the North Mississippi Service Area is below. A listing of FQHCs within the service area can be found in Appendix C.

**FQHC Locations In and Around the North Mississippi Service Area**



**Overall Health Status**

According to the University of Wisconsin County Health Rankings & Roadmaps program, North Mississippi Service Area counties received the following rankings for health outcomes out of 82 counties in Mississippi. Health outcomes are measured in relation to premature death (before age 75) and quality of life, with a ranking of No. 1 being the best in the state.

**2018 Health Outcomes County Health Rankings**

- No. 5 Lafayette County (No. 2 in 2015)
- No. 10 Union County (No. 11 in 2015)
- No. 21 Lowndes County (No. 8 in 2015)
- No. 29 Prentiss County (No. 48 in 2015)
- No. 49 Calhoun County (No. 44 in 2015)
- No. 50 Benton County (No. 41 in 2015)
- No. 52 Panola County (No. 62 in 2015)

The following table indicates that for all four identified health outcome measures, Mississippi and all of the reported counties rank below the nation. Benton, Calhoun, Panola and Prentiss counties also rank below Mississippi, reporting higher premature death rates and lower quality of life.

Residents in all counties and Mississippi have a higher premature death rate and report lower quality of life than the nation.

**Health Outcomes Indicators  
(Red = Higher than the State and Nation)**

	Premature Death Rate per 100,000	Adults with "Poor" or "Fair" Health Status	30-Day Average –Poor Physical Health Days	30-Day Average –Poor Mental Health Days
Benton County	12,079	22.7%	4.3	4.3
Calhoun County	12,162	25.1%	4.4	4.3
Lafayette County	7,171	19.1%	4.1	4.2
Lowndes County	10,085	21.2%	3.9	4.1
Panola County	12,800	24.0%	4.2	4.1
Prentiss County	10,509	23.5%	4.5	4.3
Union County	8,268	19.0%	3.9	4.1
Mississippi	10,234	22.2%	4.4	4.4
United States	6,700	16.0%	3.7	3.8

Source: National Center for Health Statistics, 2014–2016; Centers for Disease Control and Prevention, 2016

## Health Behaviors

Individual health behaviors include risky behaviors, such as tobacco use and obesity, or positive behaviors, such as exercise, good nutrition and stress management. Health behaviors may increase or reduce the likelihood of disease or early death. The prevalence of these health behaviors is provided below, with benchmark comparisons, as available.

### Smoking

Smoking is a significant contributor to heart disease, cancer, stroke, respiratory health, low birth weight, early death and other conditions. Healthy People 2020 sets a national target of no more than 12% of adults reporting smoking. With one out of five adults in the service area reporting smoking, there is work to be done to align with the national rate of 17% and to meet the Healthy People 2020 target.

1 in 5 service area adults report smoking, exceeding the Healthy People 2020 goal of 12%.

**Tobacco Use Among Adults**

	Adult Smoking	
	2014	2016
Benton County	21.0%	20.3%
Calhoun County	19.9%	20.6%
Lafayette County	19.6%	18.5%
Lowndes County	19.6%	20.6%
Panola County	21.4%	21.2%
Prentiss County	20.1%	19.9%
Union County	20.2%	18.6%
Mississippi	23.0%	22.7%
United States	17.0%	17.0%
Healthy People 2020	12.0%	12.0%

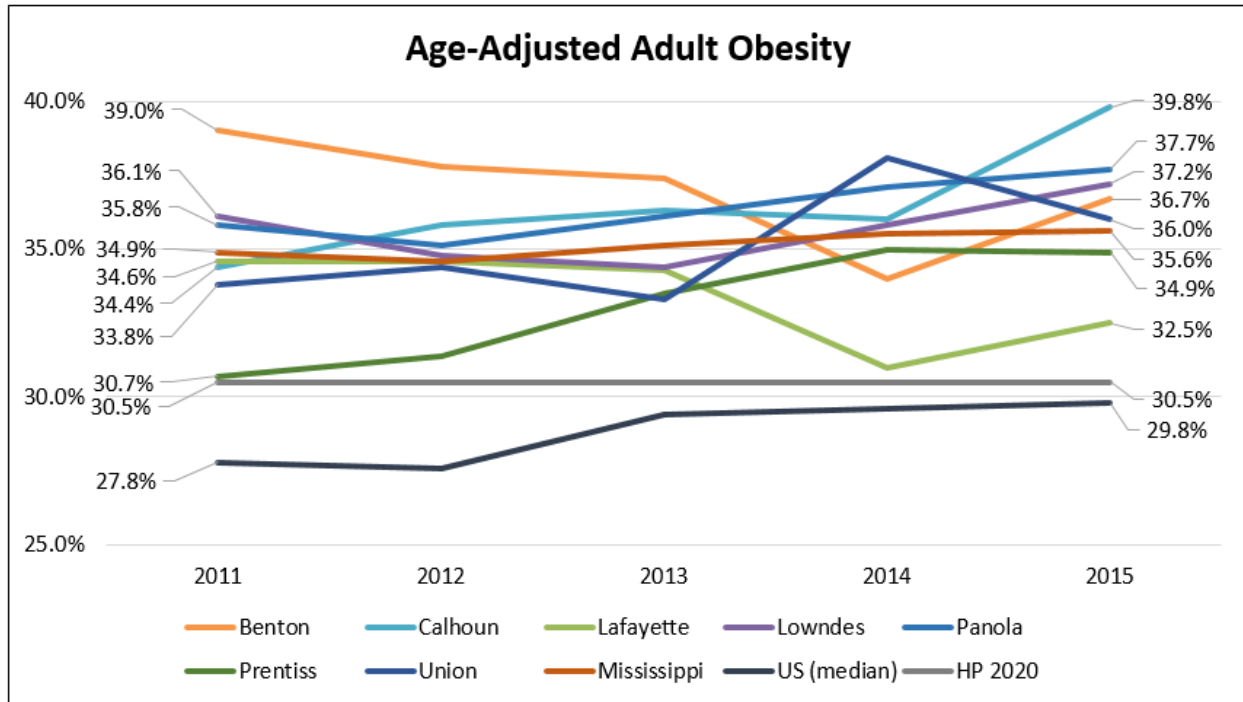
Source: Centers for Disease Control and Prevention, 2014 & 2016; Healthy People 2020

### Obesity

Overweight and obesity are associated with greater risk for a variety of diseases, including heart disease and diabetes, and contribute to decreased quality of life. The Healthy People 2020 target for adult obesity is no more than 30.5% of the population.

The nation in general has met this target. While the percentage of obese adults has varied over the years in many of the counties in the North Mississippi Service Area, none of the counties meets the Healthy People 2020 target or national percentages. Obesity percentages increased in all counties except Benton and Lafayette.

Approximately 30–40% of adults in all counties are obese.



Source: Centers for Disease Control and Prevention, 2011–2015

**Healthy Eating and Food Insecurity**

Food insecurity, defined as being without a consistent source of sufficient and affordable nutritious food, negatively impacts the opportunity for healthy eating and healthy weight management. Food insecurity reflects a variety of social factors, including employment, income, access to healthy food options, transportation, housing and other factors.

A higher percentage of residents in all counties are food insecure compared to the nation.

All of the counties in the North Mississippi Service Area have a larger percentage of food insecure residents than the nation in general. Roughly one out of five people living in the service area are food insecure. Food insecurity is more common among children, impacting roughly one out of four children in all counties.

Access to free and reduced-price lunch for low-income school children can improve food insecurity for households with children. Eligibility for free lunch includes households with an income at or below 130% of the poverty threshold, while eligibility for reduced-price lunch includes households with an income between 130% and 185% of the poverty threshold.

Nearly all children in North Mississippi Service Area counties qualify for free or reduced-price lunch.

Roughly seven out of 10 children in the service area are eligible for free or reduced-price lunch. The exception is Lafayette County, where roughly half of all children are eligible for these programs.



**Food Insecurity  
(Red = Higher than the State and Nation)**

	All Residents	Children
Benton County	18.6%	20.8%
Calhoun County	18.4%	25.7%
Lafayette County	18.9%	20.2%
Lowndes County	21.0%	23.7%
Panola County	21.6%	24.8%
Prentiss County	16.5%	25.1%
Union County	14.5%	22.4%
Mississippi	20.1%	24.4%
United States	12.9%	17.5%

Source: Feeding America, 2016

**Children Eligible for Free or Reduced-Price Lunch**

	Percent
Benton County	88.2%
Calhoun County	80.2%
Lafayette County	52.1%
Lowndes County	77.6%
Panola County	85.3%
Prentiss County	68.2%
Union County	63.4%
Mississippi	74.9%

Source: National Center for Education Statistics, 2015–2016

**Healthy Living**

Healthy habits, such as regular exercise, are important for establishing and maintaining a healthy lifestyle. Access to physical activity opportunities promotes regular exercise. This includes access to parks, gyms, pools and other safe venues designed to facilitate activity.

All counties have less access to physical activity and more physically inactive adults than the nation.

Mississippi in general has less access to physical activity and more physically inactive adults than the nation. While there is variability in access to physical activity and in the proportion of physically inactive adults across the service area, all of the counties in the North Mississippi Service Area fall below national averages. This means that adults in the North Mississippi Service Area do not exercise as often as most Americans, indicating an opportunity for positive intervention to improve healthy lifestyle habits in these communities.

Calhoun, Panola and Prentiss counties have the highest percentages of food insecure children and physically inactive adults.

**Physical Activity**  
**(Red = Lower Access and Higher Inactivity Than the State and/or Nation)**

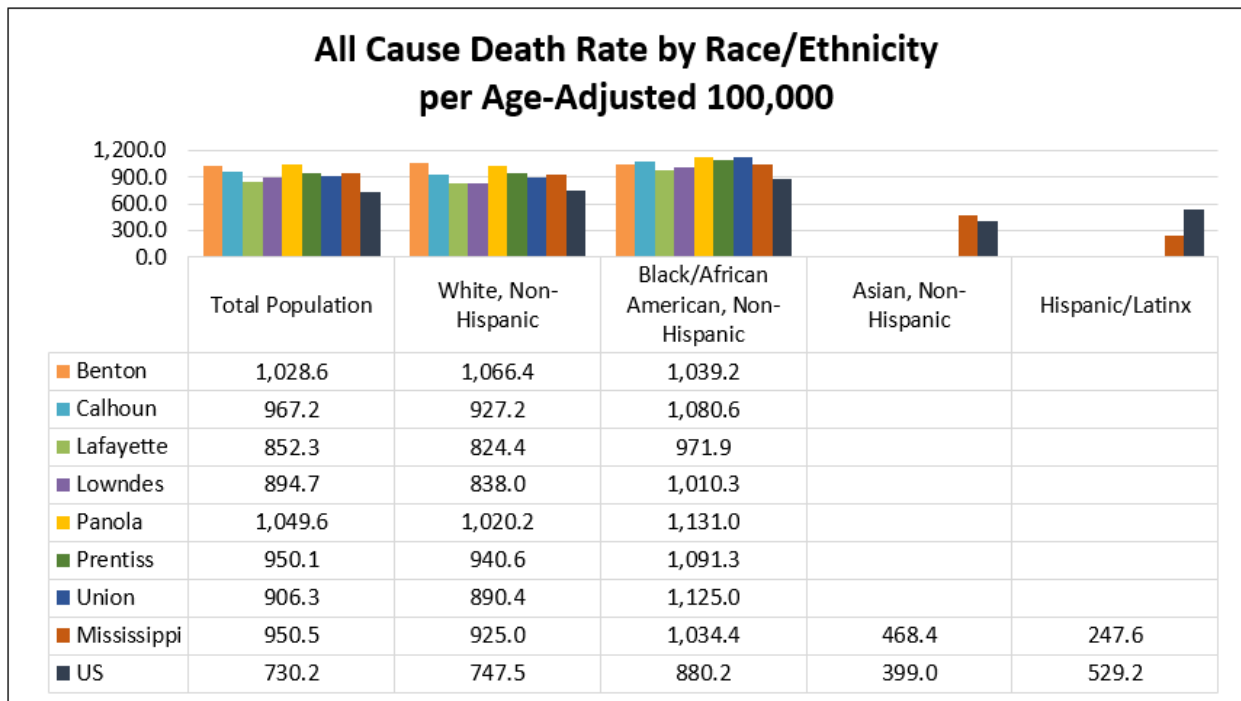
	Access to Physical Activity	Physically Inactive Adults
Benton County	74.5%	34.5%
Calhoun County	29.7%	36.4%
Lafayette County	72.5%	29.7%
Lowndes County	57.4%	29.7%
Panola County	33.3%	38.0%
Prentiss County	51.8%	42.6%
Union County	61.1%	35.0%
Mississippi	57.7%	34.0%
United States	83.0%	23.0%

Source: Business Analyst, Delorme Map Data, ESRI, & U.S. Census Tigerline Files, 2010 & 2016; Centers for Disease Control and Prevention, 2014

**Mortality**

The following graph depicts the all cause age-adjusted death rate by county and by race/ethnicity. The state of Mississippi and all seven counties in the North Mississippi Service Area have higher death rates than the nation both for the overall population and when stratified by race.

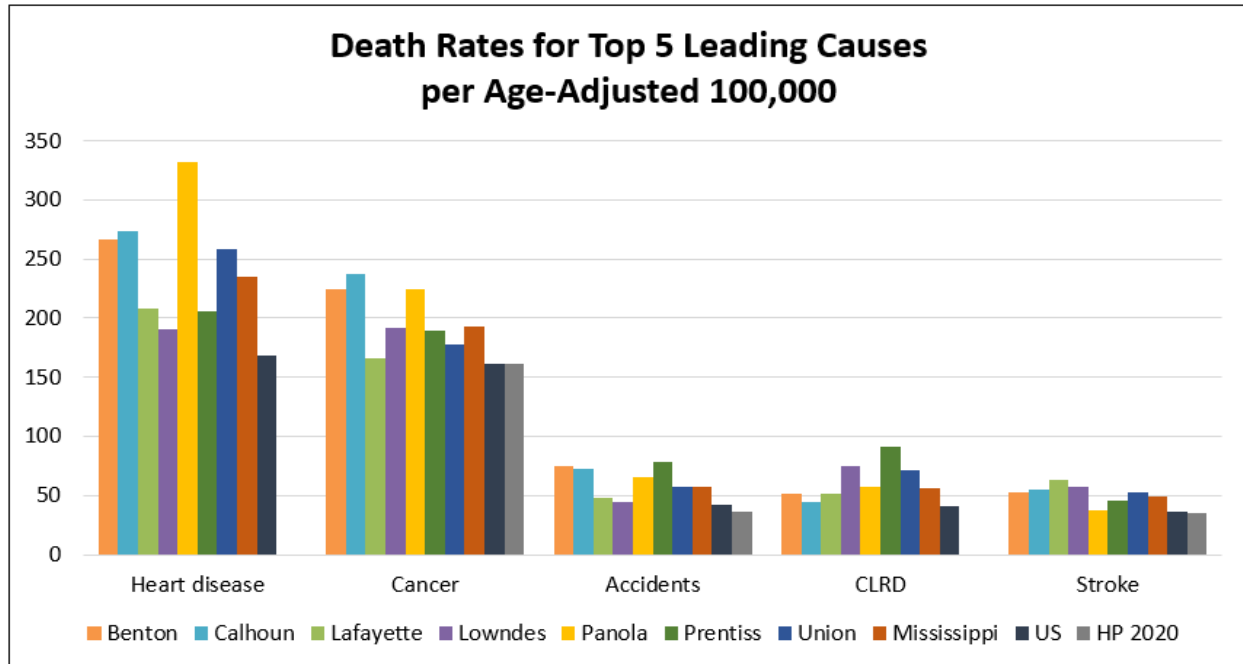
All counties have a higher overall rate of death than the nation.



Source: Centers for Disease Control and Prevention, 2012–2016

\*Asian and Hispanic/Latino death rates are not available at the county level due to low counts.

The top five causes of death in the nation, in rank order, are heart disease, cancer, accidents, chronic lower respiratory disease (CLRD) and stroke. The following chart profiles death rates for the top five causes by county and for Mississippi. The death rates in the seven counties in the North Mississippi Service Area as well as Mississippi are generally higher than national rates for the top five leading causes of death. None of the geographies in the North Mississippi Service Area meet the Healthy People 2020 targets in these categories.



Source: Centers for Disease Control and Prevention, 2012–2016; Healthy People 2020

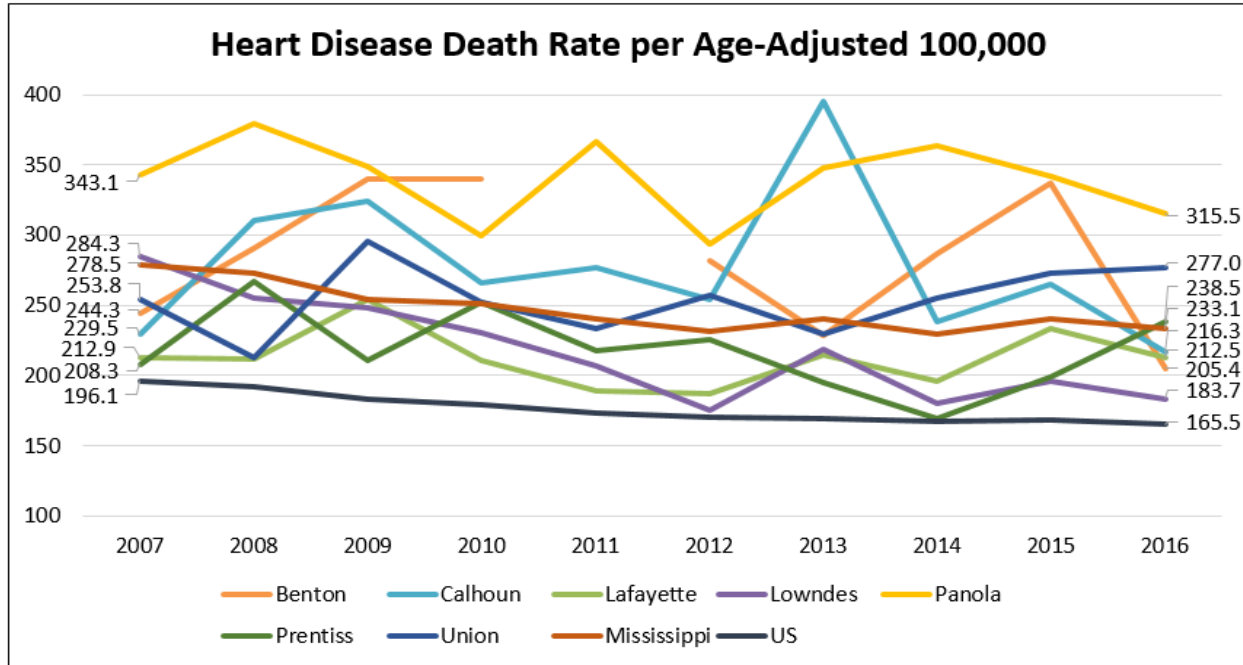
### Chronic Diseases

Chronic diseases are the leading causes of death and disability in the nation and disease rates continue to increase. Chronic diseases are often preventable through reduced health risk behaviors, such as not smoking and limiting alcohol use, increased physical activity, good nutrition and early detection of risk factors.

#### Heart Disease

Heart disease is a leading cause of death in the nation, and in the geographies in Baptist’s North Mississippi Service Area. There is variability over time and between the counties regarding the heart disease death rate since 2007. However, the death rate for the seven counties is consistently higher than the national rate every year.

The heart disease death rate is consistently higher in all counties compared to the nation.



Source: Centers for Disease Control and Prevention, 2007–2016  
 \*Data for Benton County is reported as available due to low counts.

When stratified by race, the death rate from heart disease remains above the national rate for Whites in all counties. The rate of death from heart disease for Blacks/African Americans is below the national rate in Benton, Lowndes and Prentiss counties and higher than the national rate in all other counties. Across all counties except Benton and Prentiss, the rate of death is higher among Blacks/African Americans compared to Whites.

**Heart Disease Death Rates per Age-Adjusted 100,000 by Race**

	White, Non-Hispanic Death Rate	Black/African American, Non-Hispanic Death Rate	Hispanic/Latino Death Rate
Benton County	288.9	206.0	NA*
Calhoun County	249.7	358.2	NA*
Lafayette County	199.3	233.8	NA*
Lowndes County	180.8	193.9	NA*
Panola County	310.0	370.9	NA*
Prentiss County	210.3	157.7	NA*
Union County	246.7	393.3	NA*
Mississippi	226.5	260.6	46.6
United States	170.9	212.6	118.2

Source: Centers for Disease Control and Prevention, 2012–2016  
 \*Hispanic/Latino death rates are not available at the county level due to low counts.

**Coronary Heart Disease and Stroke**

Coronary heart disease (CHD) is characterized by the buildup of plaque inside the coronary arteries. Several types of heart disease, including coronary heart disease, are risk factors for stroke. Lafayette, Lowndes and Prentiss counties meet the Healthy People 2020 target for coronary heart disease death. In comparison, Benton, Calhoun, Panola and Union counties exceed all state and national benchmarks for coronary heart disease death.

Lafayette, Lowndes and Prentiss counties meet the Healthy People 2020 goal for CHD.

None of the geographies in Baptist’s North Mississippi Service Area meet the Healthy People 2020 target for stroke death. All counties also have a higher rate of death than the nation. Union County has the highest rates of coronary heart disease and stroke death in the service area.

Union County has the highest rates of death due to CHD and stroke in the service area.

**Coronary Heart Disease and Stroke Death Rates  
(Red = Higher than the State and Nation)**

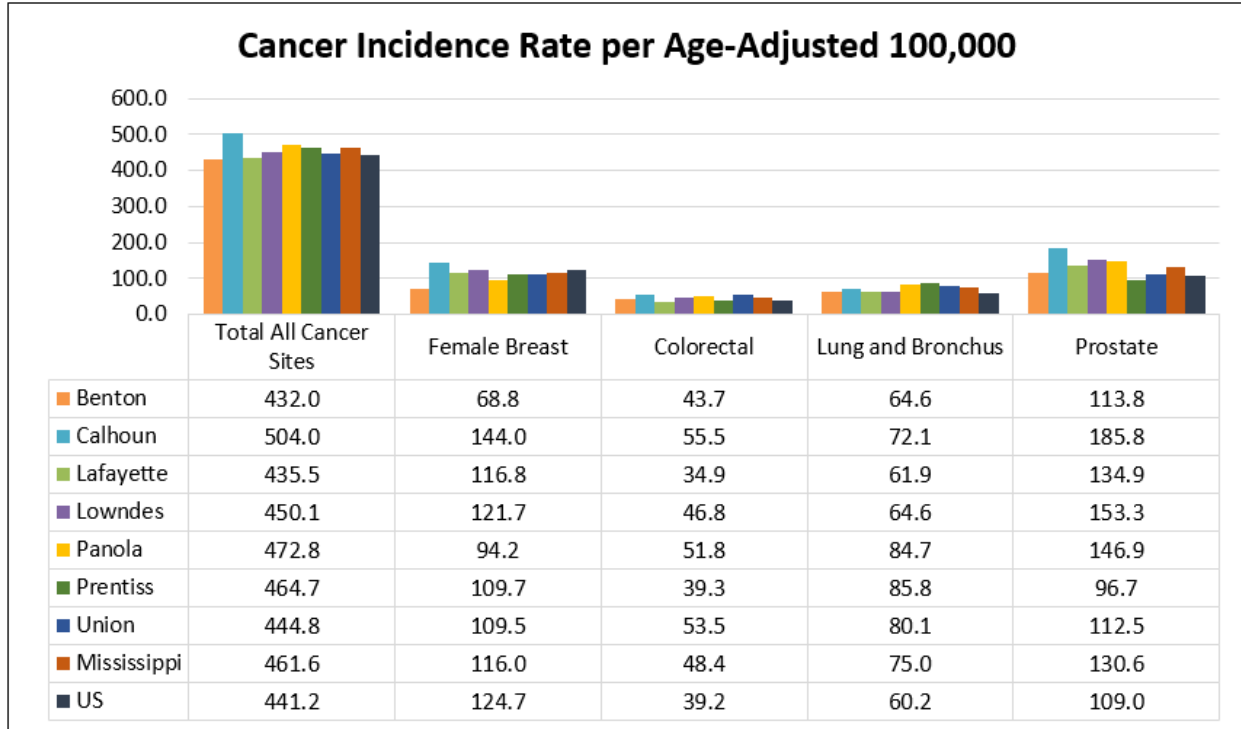
	Coronary Heart Disease Death per Age-Adjusted 100,000	Stroke Death per Age-Adjusted 100,000
Benton County	118.3	NA*
Calhoun County	143.4	54.2
Lafayette County	84.7	58.4
Lowndes County	100.1	59.4
Panola County	113.6	39.6
Prentiss County	86.9	50.5
Union County	140.5	62.3
Mississippi	107.7	50.7
United States	99.6	36.9
Healthy People 2020	103.4	34.8

Source: Centers for Disease Control and Prevention, 2014–2016  
\*Stroke death rates are not available for Benton County due to low counts.

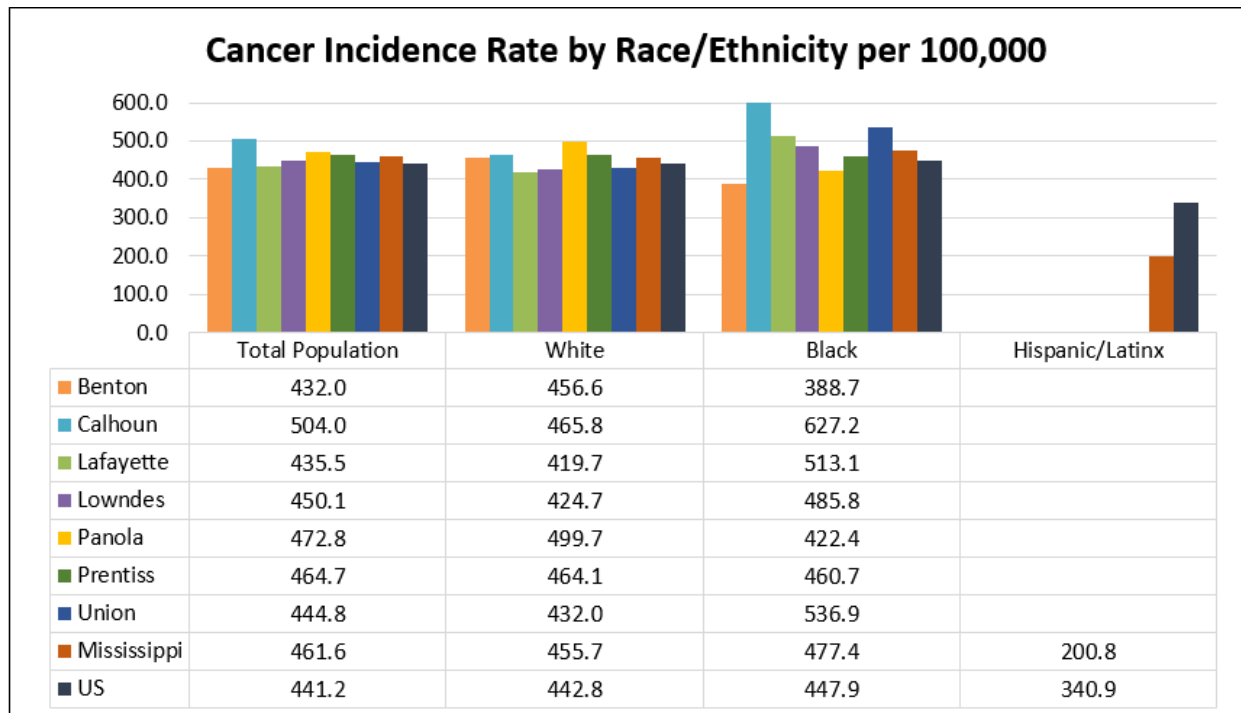
**Cancer**

Cancer remains a leading cause of death, but if detected early, can often be effectively treated. The incidence of cancer of all types in Baptist’s North Mississippi Service Area is generally consistent with national rates, even when stratified by race. The exception is Calhoun County, where incidence of all forms of cancer is higher, particularly among Blacks/African Americans. Lowndes and Panola counties also report a higher incidence of colorectal, lung and/or prostate cancer.

Cancer incidence in the North Mississippi Service Area is generally consistent with state and national rates, except in Calhoun County.

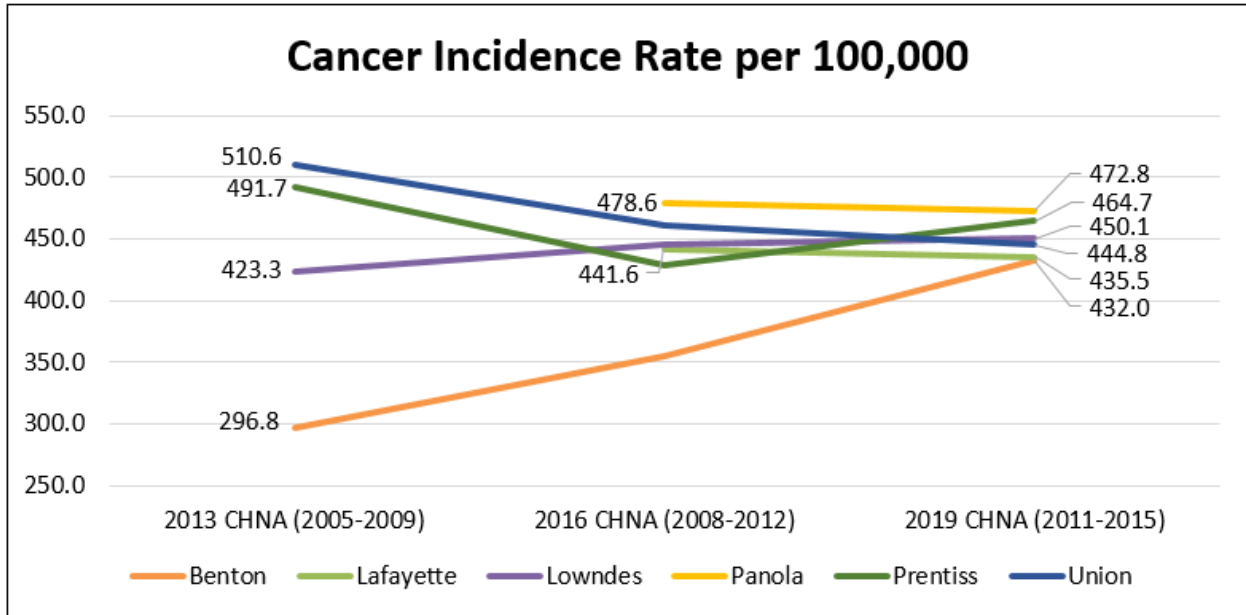


Source: National Cancer Institute, 2011–2015



Source: National Cancer Institute, 2011–2015

\*Hispanic/Latino cancer incidence data reported as available.



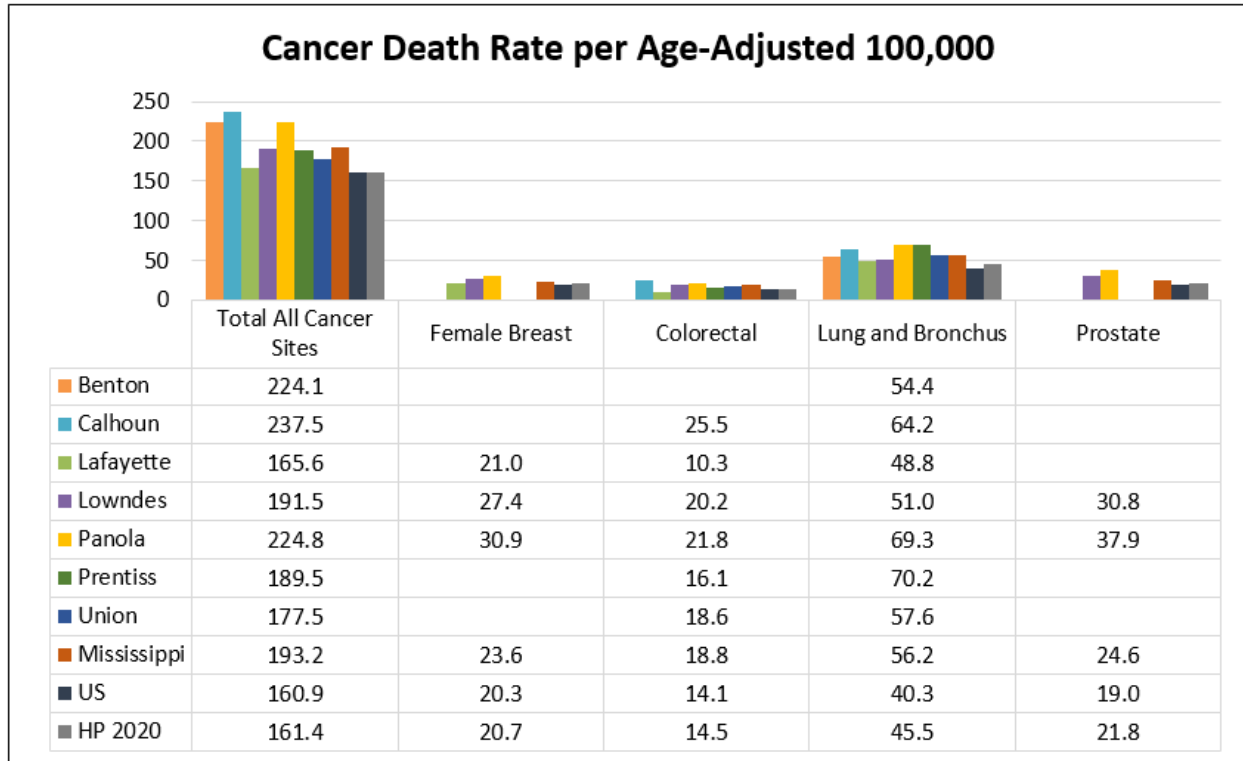
Source: National Cancer Institute, 2005–2009 to 2011–2015

\*2005-2009 cancer incidence data for Lafayette and Panola counties are not available. Calhoun County is a new service county for the 2019 CHNA; prior data are not available.

The rates of death due to cancer in the North Mississippi Service Area are in general higher than national rates and do not meet Healthy People 2020 targets. The exception is Lafayette County, which meets the Healthy People 2020 target for colorectal cancer and nearly meets the Healthy People 2020 targets for all other reported cancers.

This finding represents an opportunity for intervention targeted at early detection, effective treatment and consistent screening for cancers. Interventions may target Black/African American residents who have higher incidence and death rates due to cancer in nearly all counties.

Lafayette County is the only county to meet a Healthy People 2020 goal for cancer death (colorectal).



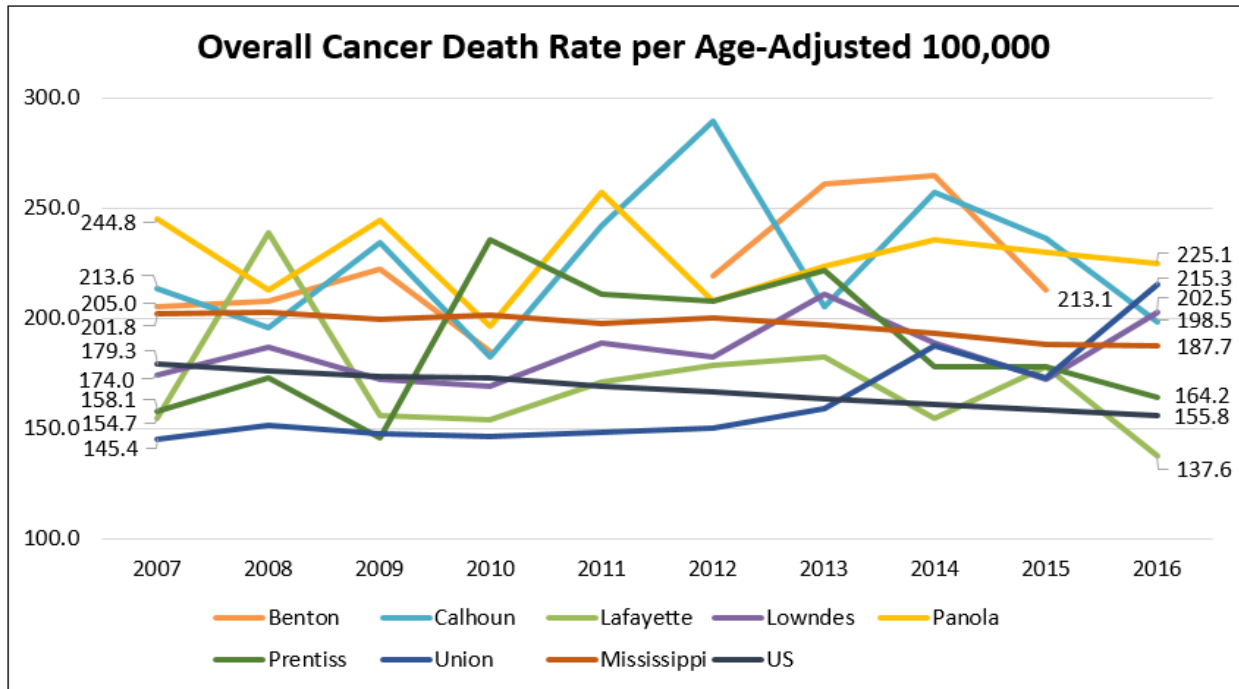
Source: Centers for Disease Control and Prevention, 2012–2016; Healthy People 2020  
 \*Cancer death data by county reported as available.

### Cancer Death Rates per Age-Adjusted 100,000 by Race

	White, Non-Hispanic Death Rate	Black/African American, Non-Hispanic Death Rate	Hispanic/Latino Death Rate
Benton County	229.3	228.2	NA*
Calhoun County	238.1	255.8	NA*
Lafayette County	151.5	237.2	NA*
Lowndes County	174.4	227.6	NA*
Panola County	219.2	244.9	NA*
Prentiss County	187.9	227.8	NA*
Union County	174.0	220.6	NA*
Mississippi	186.3	216.7	48.9
United States	165.7	190.0	112.6

Source: Centers for Disease Control and Prevention, 2012–2016  
 \*Hispanic/Latino death rates are not available at the county level due to low counts.





Source: Centers for Disease Control and Prevention, 2007–2016  
 \*Data for Benton County is reported as available due to low counts.

The rate of death due to CLRD is higher in all counties compared to the nation.

**Chronic Lower Respiratory Disease**

Chronic lower respiratory disease (CLRD) is the third most common cause of death in the nation. CLRD encompasses such diseases as chronic obstructive pulmonary disorder (COPD), emphysema and asthma, all of which contribute to lower quality of life and increased risk of early death. The rate of death from CLRD is higher in all areas in the North Mississippi Service Area than the nation, including when stratified by race. Across Mississippi, the nation and all reportable counties, CLRD death rates are highest among Whites than any other racial/ethnic group.

**CLRD Death Rates per Age-Adjusted 100,000 by Race**

	Total Population	White, Non-Hispanic Death Rate	Black/African American, Non-Hispanic Death Rate	Hispanic/Latino Death Rate
Benton County	51.7	63.3	NA*	NA*
Calhoun County	45.0	52.2	NA*	NA*
Lafayette County	51.0	54.9	NA*	NA*
Lowndes County	74.9	77.0	74.8	NA*
Panola County	57.9	64.6	45.8	NA*
Prentiss County	91.7	92.8	NA*	NA*
Union County	71.8	77.0	NA*	NA*
Mississippi	56.1	65.0	34.0	NA*
United States	41.2	46.3	29.7	17.8

Source: Centers for Disease Control and Prevention, 2012–2016  
 \*Data are reported as available due to low counts. Hispanic/Latino death rates are not available at the county level due to low counts.

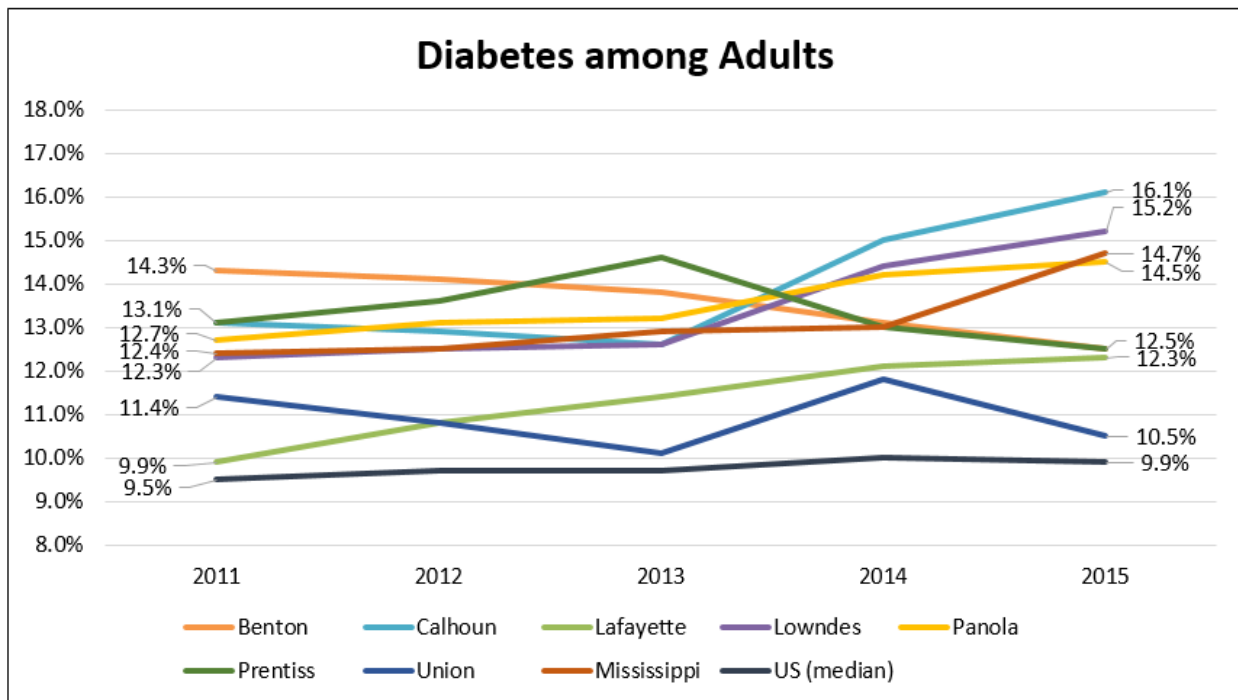
**Diabetes**

According to the American Diabetes Association, diabetes and prediabetes affect more than 110 million Americans and cost the nation \$322 billion per year. Type 2 diabetes, the most common form, is preventable, and if diagnosed early, can often be reversed through improved diet and increased exercise.

The proportion of the adult population diagnosed with diabetes is higher in all North Mississippi counties than the nation. Diabetes prevalence increased by two to three percentage points in Calhoun, Lafayette, Lowndes and Panola counties from 2011 to 2015.

All counties have a higher prevalence of adult diabetes than the nation.

However, the rate of death from diabetes is lower than the national rate in Calhoun, Lafayette, Lowndes and Union counties. Across Mississippi, the nation and all reportable counties, diabetes death rates are highest among Blacks/African Americans than any other racial/ethnic group.



Source: Centers for Disease Control and Prevention, 2011–2015

**Diabetes Death Rates per Age-Adjusted 100,000 by Race**

	Total Population	White, Non-Hispanic Death Rate	Black/African American, Non-Hispanic Death Rate	Hispanic/Latino Death Rate
Benton County	39.4	NA*	NA*	NA*
Calhoun County	19.9	NA*	NA*	NA*
Lafayette County	10.5	NA*	NA*	NA*
Lowndes County	18.3	NA*	43.0	NA*
Panola County	26.7	NA*	48.6	NA*
Prentiss County	33.0	27.8	NA*	NA*
Union County	13.4	NA*	NA*	NA*
Mississippi	32.0	22.6	56.5	NA*
United States	21.1	18.6	38.6	25.6

Source: Centers for Disease Control and Prevention, 2012–2016

\*Data are reported as available due to low counts. Hispanic/Latino death rates are not available at the county level due to low counts.

**Chronic Conditions Among Seniors**

According to the CDC, “Among Medicare fee-for-service beneficiaries, people with multiple chronic conditions account for 93% of total Medicare spending.” The tables below indicate the percentages of Medicare beneficiaries within Baptist’s North Mississippi Service Area who have been diagnosed with specific chronic conditions, followed by the percentage of beneficiaries and the average number of chronic disease diagnosis by county.

The burden of chronic conditions among Medicare beneficiaries is greater in Benton, Lowndes, Panola and Prentiss counties where more than 40% of seniors manage four or more conditions. Senior Medicare beneficiaries in Lafayette County are the least likely to manage multiple chronic conditions; the county mirrors the nation for most indicators.

The burden of chronic disease among senior Medicare beneficiaries is greater in Benton, Lowndes, Panola and Prentiss counties.

**Chronic Conditions Among Medicare Beneficiaries 65 Years Old or Older**  
**(Red = Higher Than the State and Nation; Green = Lower Than the State and Nation)**

	Benton County	Calhoun County	Lafayette County	Lowndes County	Mississippi	US
Alzheimer's	12.0%	10.3%	9.8%	11.9%	12.6%	11.3%
Arthritis	34.8%	33.1%	31.4%	35.9%	34.4%	31.3%
Asthma	8.2%	5.8%	4.7%	6.8%	7.3%	7.6%
Cancer	7.7%	8.4%	8.2%	7.6%	8.1%	8.9%
COPD	13.7%	12.0%	8.2%	11.7%	12.3%	11.2%
Depression	16.4%	11.9%	9.1%	10.0%	13.7%	14.1%
Diabetes	32.7%	27.2%	26.6%	32.4%	29.6%	26.8%
Heart Failure	18.7%	16.5%	15.9%	14.4%	16.2%	14.3%
High Cholesterol	48.8%	34.0%	46.1%	50.0%	43.8%	47.8%
Hypertension	68.9%	60.9%	59.6%	67.9%	64.6%	58.1%
Ischemic Heart Disease	32.4%	32.9%	29.4%	25.1%	30.0%	28.6%
Stroke	5.2%	NA*	4.3%	4.7%	4.4%	4.2%

Source: Centers for Medicare & Medicaid Services, 2015

\*Data not reported due to low counts.

**Chronic Conditions Among Medicare Beneficiaries 65 Years Old or Older**  
**(Red = Higher Than the State and Nation; Green = Lower Than the State and Nation)**

	Panola County	Prentiss County	Union County	Mississippi	US
Alzheimer's	10.8%	12.4%	10.4%	12.6%	11.3%
Arthritis	32.4%	38.8%	32.5%	34.4%	31.3%
Asthma	7.4%	13.5%	6.1%	7.3%	7.6%
Cancer	7.6%	7.0%	6.9%	8.1%	8.9%
COPD	12.7%	18.4%	12.7%	12.3%	11.2%
Depression	12.1%	14.8%	13.5%	13.7%	14.1%
Diabetes	30.2%	32.0%	26.9%	29.6%	26.8%
Heart Failure	22.3%	16.1%	17.7%	16.2%	14.3%
High Cholesterol	44.1%	51.0%	43.8%	43.8%	47.8%
Hypertension	68.6%	70.4%	64.0%	64.6%	58.1%
Ischemic Heart Disease	31.9%	33.7%	29.8%	30.0%	28.6%
Stroke	3.8%	4.5%	3.8%	4.4%	4.2%

Source: Centers for Medicare & Medicaid Services, 2015

**Number of Chronic Conditions Among Medicare Beneficiaries 65 Years Old or Older  
(Red = Higher Than the State and Nation)**

Number of Chronic Condition Diagnosis	Benton County	Calhoun County	Lafayette County	Lowndes County	Mississippi	US
0 to 1	27.5%	33.5%	32.2%	26.9%	29.9%	32.3%
2 to 3	29.2%	30.4%	32.4%	32.8%	30.9%	30.0%
4 to 5	23.9%	20.5%	22.0%	25.1%	22.5%	21.6%
6 or more	19.4%	15.7%	13.5%	15.2%	16.8%	16.2%

Source: Centers for Medicare & Medicaid Services, 2015

**Number of Chronic Conditions Among Medicare Beneficiaries 65 Years Old or Older  
(Red = Higher Than the State and Nation)**

Number of Chronic Condition Diagnosis	Panola County	Prentiss County	Union County	Mississippi	US
0 to 1	29.3%	24.0%	30.1%	29.9%	32.3%
2 to 3	30.0%	31.7%	32.3%	30.9%	30.0%
4 to 5	22.5%	24.5%	22.3%	22.5%	21.6%
6 or more	18.1%	19.9%	15.4%	16.8%	16.2%

Source: Centers for Medicare & Medicaid Services, 2015

Regular screenings are essential for the early detection and management of chronic conditions. The following table lists diabetes and mammogram screenings among Medicare enrollees. Seniors living in the North Mississippi Service Area are screened for diabetes (HbA1c) and breast cancer (mammogram) at similar levels as seniors in the state or nation in general.

**Chronic Disease Screenings Among Medicare Enrollees**

	Diabetes Screening (65–75 Years) Annual HbA1c Test	Breast Cancer Screening (Females 67–69 Years) Mammogram in Past Two Years
Benton County	87.9%	52.9%
Calhoun County	84.6%	53.5%
Lafayette County	89.1%	61.4%
Lowndes County	85.0%	55.4%
Panola County	84.4%	54.1%
Prentiss County	87.8%	50.2%
Union County	90.8%	59.4%
Mississippi	84.1%	57.3%
United States	85.0%	63.0%

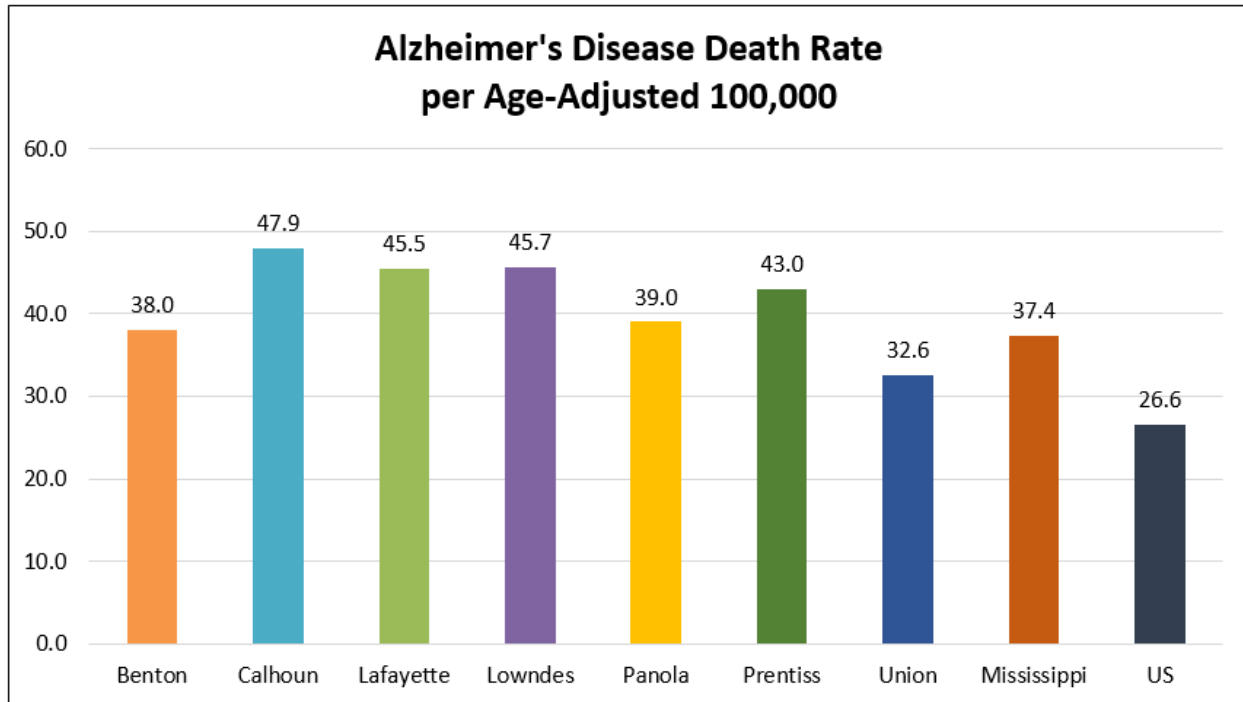
Source: Dartmouth Atlas of Health Care, 2014

Alzheimer's disease is a type of dementia that causes problems with memory, thinking and behavior. Symptoms usually develop slowly and get worse over time, becoming severe enough to interfere with daily tasks. The disease weakens the body's defense mechanisms, increasing susceptibility to catastrophic infection and other causes of death related to frailty. Alzheimer's is

the sixth leading cause of death in the United States. While there is no cure, treatment is focused on helping people maintain mental function, manage behavioral symptoms and slow or delay the symptoms of the disease.

The Alzheimer's death rate is higher in all counties compared to the nation.

The death rate due to Alzheimer's disease is higher in all North Mississippi Service Area counties than the nation. In Calhoun, Lafayette, Lowndes and Prentiss counties the death rate is roughly 1.5 times higher than the national rate.

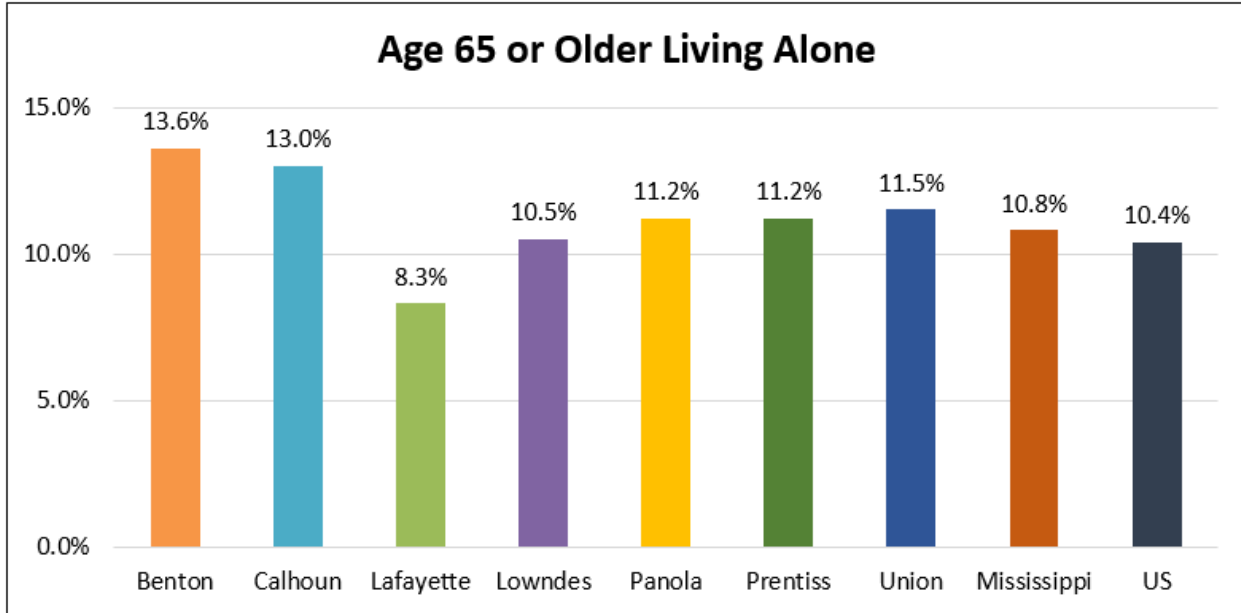


Source: Centers for Disease Control and Prevention, 2012–2016

Categorizations for cause of death can vary among reporting entities. Given the propensity for Alzheimer's to increase risk factors for other diseases, cause of death for individuals with the disease is not always attributed solely to Alzheimer's. Additional exploration of procedures for categorization of cause of death may further illuminate trends.

As seniors age, they are at risk for isolation due to physical limitations and decreasing social circles. One indicator of isolation is the percentage of seniors age 65 or older who live alone. Seniors living in Lafayette County are less likely to live alone than in other counties, Mississippi and the nation. Seniors living in Benton and Calhoun counties are more likely to live alone than seniors in the state or the nation. In all other counties, a similar percentage of seniors live alone compared to the state and the nation.

Benton and Calhoun County seniors are more likely to live alone.



Source: American Community Survey, 2012–2016

## Behavioral Health

### Mental Health

Mental and behavioral health disorders include a wide range of conditions, including disorders from psychoactive substance use, anxiety disorders, schizophrenia and other delusional disorders, and mood or personality disorders. These disorders are not induced by alcohol and other psychoactive substances, but they may result from substance abuse. The age-adjusted death rate due to mental and behavioral disorders is higher than the state and national rates in Lafayette, Lowndes and Union counties. However, the death rates account for a combined 431 deaths across the three counties over a five-year period.

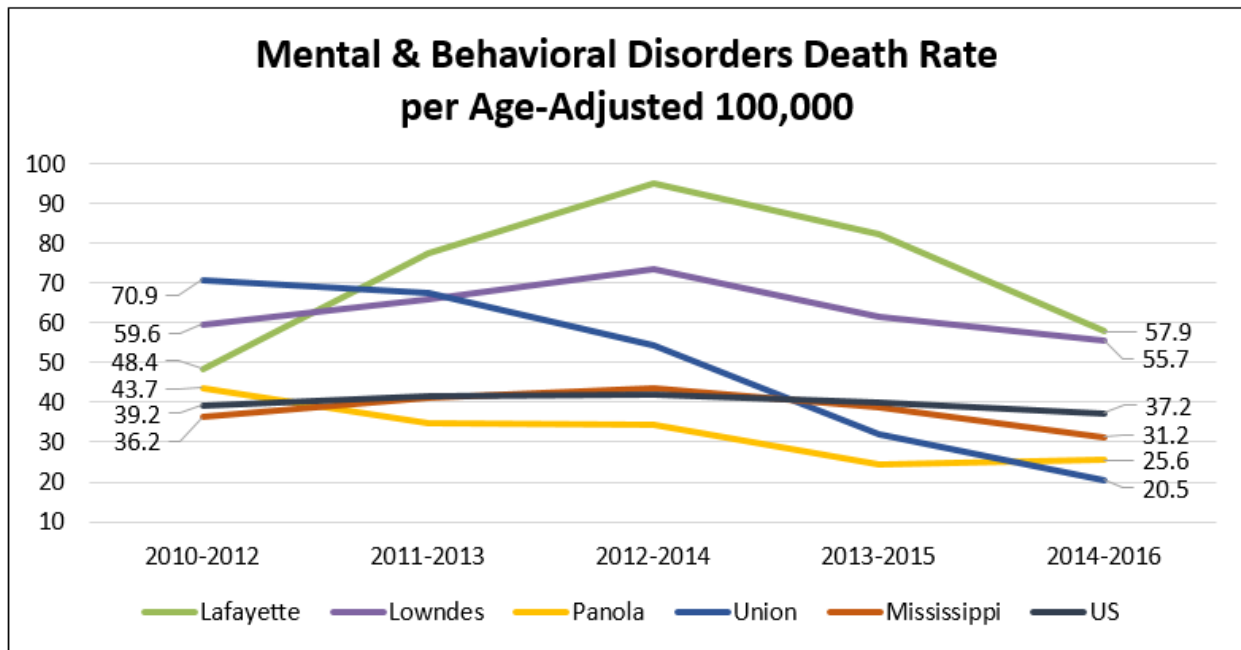
Living with behavioral health conditions can reduce an individual’s life expectancy, particularly if they have co-occurring chronic conditions, such as heart disease or diabetes, or engage in such risky health behaviors as tobacco, alcohol or drug use. Behavioral health disorders can reduce a patient’s ability to effectively manage other chronic diseases, increasing disease complications and the need for medical care.

**Mental Health Measures (5-Year Trends)**  
**(Red = Higher Than State and National Benchmarks)**

	Suicide Deaths	Suicide Rate per Age-Adjusted 100,000	Mental & Behavioral Disorders Deaths	Mental & Behavioral Disorders Death Rate per Age-Adjusted 100,000
Benton County	NA*	NA*	NA*	NA*
Calhoun County	11	NA*	15	NA*
Lafayette County	29	11.7	158	74.3
Lowndes County	32	9.9	209	62.8
Panola County	35	20.8	51	28.4
Prentiss County	18	NA*	24	14.5
Union County	14	NA*	64	39.7
Mississippi	1,992	13.2	5,697	36.2
United States	213,733	13.0	724,640	39.3
Healthy People 2020	NA	10.2	NA	NA

Source: Centers for Disease Control and Prevention, 2012–2016; Healthy People 2020

\*Suicide and mental and behavioral disorders death data reported as available.



Source: Centers for Disease Control and Prevention, 2010–2012 to 2014–2016

\*Note: Mental and behavioral disorder deaths are trended as three-year aggregates to depict a more current state of disease. Suicide deaths are trended as five-year aggregates due to low death counts. Benton, Calhoun, and Prentiss counties are not trended due to data availability.

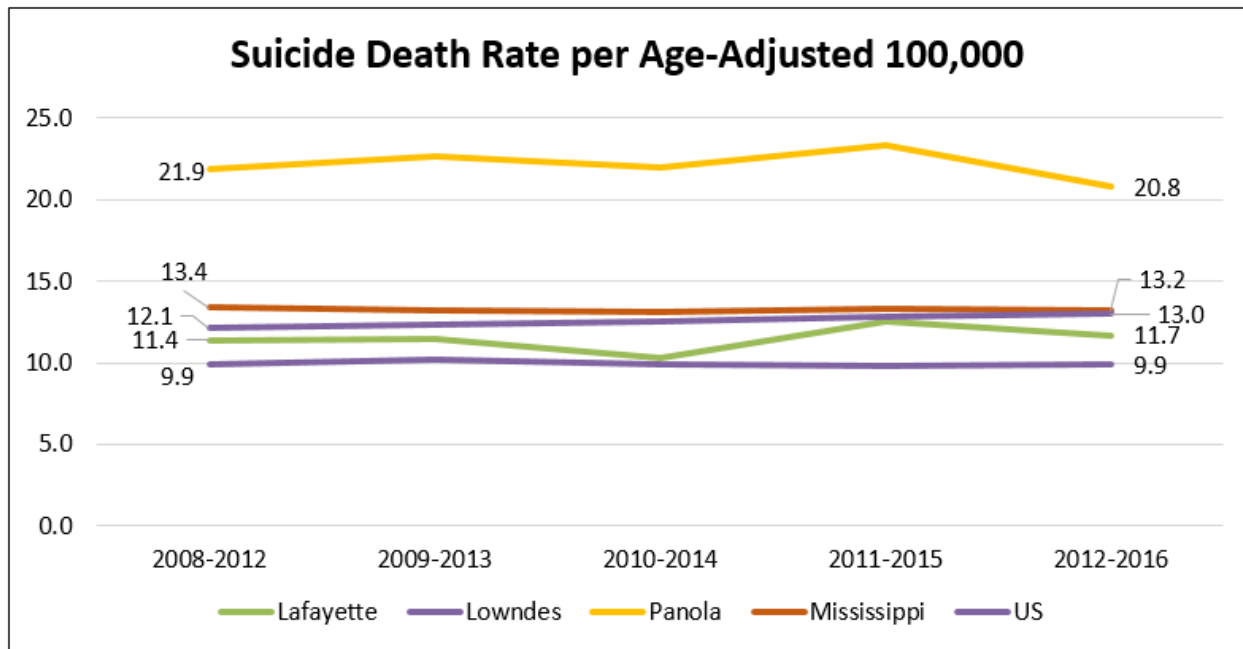
A myriad of barriers — including stigma, availability of providers, ability to afford or otherwise access care, among other individual and social constraints — can keep individuals from getting help with behavioral health needs.



Healthy People 2020 provides a benchmark for age-adjusted suicide death per 100,000 at 10.2. The suicide rate in Mississippi is consistent with the national rate, but does not yet meet the Healthy People 2020 target for this indicator. Only three counties in the North Mississippi Service Area have a reportable suicide rate: Lafayette, Lowndes and Panola.

The suicide death rate in Panola County is twice the Healthy People 2020 goal, accounting for 35 deaths from 2012-2016.

Lafayette and Lowndes County suicide rates are lower than state and national benchmarks, but the Panola County rate is twice the Healthy People 2020 target. While the Panola County death rate accounts for 35 deaths over a five-year period, a review of the data points over time suggests little change in the indicator.



Source: Centers for Disease Control and Prevention, 2008–2012 to 2012–2016  
 \*Benton, Calhoun, Prentiss and Union counties are not trended due to data availability.

**Substance Use Disorder**

Excessive drinking includes heavy drinking (two or more drinks a day for men; one or more drinks a day for women) and binge drinking (five or more drinks on one occasion for men; four or more drinks on one occasion for women). The percentage of adults reporting excessive drinking is lower in Mississippi than in the nation, and lower in nearly all service area counties than in Mississippi. The exceptions are Lafayette County, where the percentage is similar to the national percentage, and Union County, where the percentage is slightly higher than the state percentage. The percentage of driving deaths from driving under the influence (DUI) is also generally lower than the state and/or national percentages with the exception of Prentiss County.

Adults in all counties report less excessive drinking than the nation. The percentage of driving deaths due to DUI is lower in all counties except Prentiss compared to the nation.

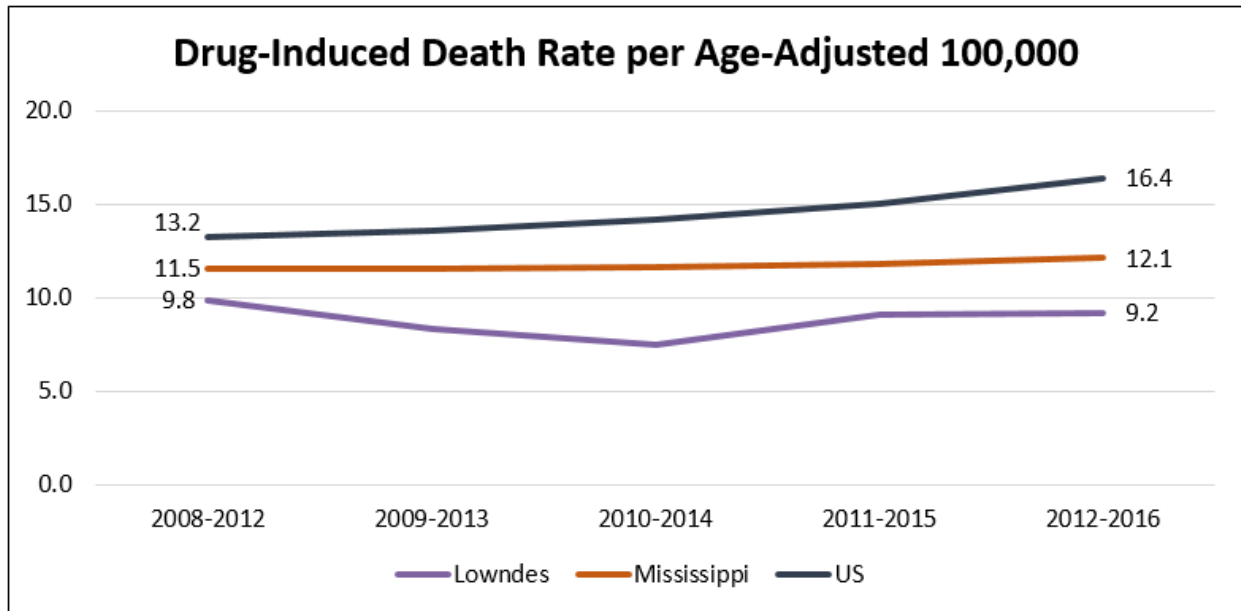
Drug-induced deaths include all deaths for which drugs are the underlying cause, including drug overdoses and deaths from medical conditions resulting from chronic drug use. The drug-induced death rate is lower than national rates in all of the counties where data are available.

**Substance Use Disorder Measures  
(Red = Higher Than the State and Nation)**

	Excessive Drinking (Adults)	Percentage of Driving Deaths From DUI	Drug-Induced Deaths	Drug-Induced Death Rate per Age-Adjusted 100,000
Benton County	12.4%	18.8%	NA*	NA*
Calhoun County	12.0%	20.0%	NA*	NA*
Lafayette County	17.1%	24.3%	12	NA*
Lowndes County	13.0%	9.1%	26	9.2
Panola County	12.9%	28.6%	20	12.9
Prentiss County	13.5%	33.3%	13	NA*
Union County	14.6%	28.6%	NA*	NA*
Mississippi	13.7%	22.7%	1,759	12.1
United States	18.0%	29.0%	262,672	16.4

Source: Centers for Disease Control and Prevention, 2012–2016 & 2016; National Highway Traffic Safety Administration, 2012–2016

\*Drug-induced deaths data reported as available.

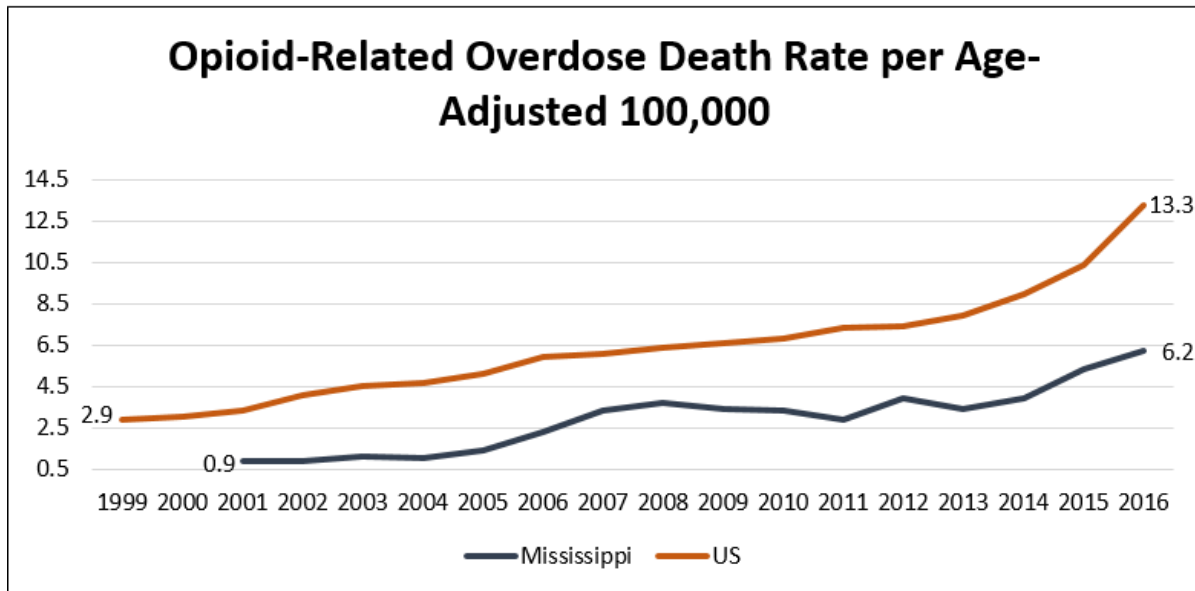


Source: Centers for Disease Control and Prevention, 2008–2012 to 2012–2016

\*Data trended by county as available.

**Opioids**

A significant contributor to the number of drug-induced deaths across the nation and within Baptist’s North Mississippi Service Area is opioid overdose. According to the National Institute on Drug Abuse, in 2016, there were 180 opioid-related overdose deaths in Mississippi — a rate of 6.2 deaths per 100,000 persons compared to the national death rate of 13.3. Between 2013 and 2016, the number of deaths in Mississippi from heroin overdose increased from 10 to 33; deaths from synthetic opioid overdose increased from 24 to 45; and deaths from prescription opioid overdose increased from 66 to 103.



Source: Centers for Disease Control and Prevention, 1999–2016

Medication Assisted Treatment (MAT) has been found to be an effective treatment for people struggling with opioid addiction. MAT uses FDA-approved medications, including buprenorphine (Suboxone, Subutex), methadone and extended release naltrexone (Vivitrol), in combination with counseling and behavioral therapies to provide a “whole-patient” approach to the treatment of substance use disorders. There are 24 facilities in Mississippi providing some form of MAT; two of these facilities are within Baptist’s North Mississippi Service Area, as shown below.

**Opioid Treatment Services**

	Facilities Providing Medication Assisted Treatment
Benton County	0
Calhoun County	0
Lafayette County	1
Lowndes County	1
Panola County	0
Prentiss County	0
Union County	0
Mississippi	24
United States	5,470

Source: American Foundation for AIDS Research, 2018

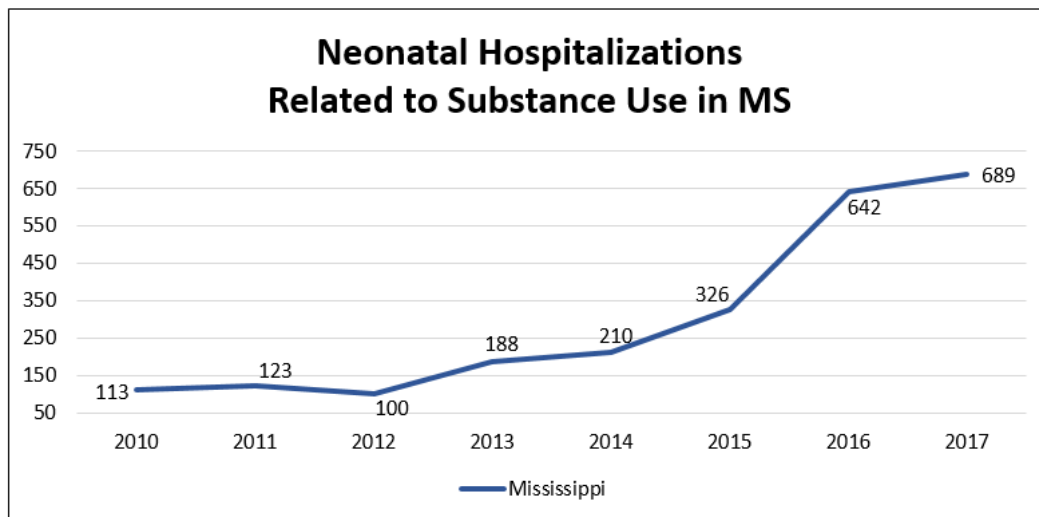
**Neonatal Abstinence Syndrome (NAS)**

Neonatal abstinence syndrome (NAS) is a group of conditions caused when a baby withdraws from certain drugs he or she has been exposed to in the womb. Although most commonly associated with opioid exposure, other substances can also cause NAS, including antidepressants and benzodiazepines. In addition to the specific difficulties of withdrawal after birth, problems in the baby may include premature birth, seizures, respiratory distress, birth defects, poor growth and other developmental problems.

Due to a variety of challenges in screening infants for NAS, data is not consistently collected among health providers or state entities. Some states have mandated NAS reporting, yet data is likely underreported given the aforementioned challenges.

In May 2019, the Mississippi Department of Health published the Neonatal Hospitalizations Related to Substance Use in Mississippi: Surveillance Report, 2010–2017. The Department of Health identified the following key findings within the report:

- > In Mississippi, neonatal hospital stays related to substance use spiked from 113 in 2010 to 689 in 2017.
- > During 2016–2017, neonatal stays associated with substance use were nearly three times as costly as all other neonatal stays (\$32,451 versus \$12,555). Medicaid was responsible for 77.0% of total hospital charges. Hospital charges increased by 16.6%, from \$19,936,930 in 2016 to \$23,255,948 in 2017.
- > During 2016–2017, comorbidities were highly prevalent among infant stays related to substance exposure — 26.7% had coexisting respiratory conditions, 26.7% had a coexisting low birth weight and 13.9% had a coexisting congenital disease.
- > During 2016–2017, several clusters of high hospitalization rates for infants affected by substance use were identified — the northeastern corner of the state, the Gulf Coast area and the Pine Belt region of southeast Mississippi.

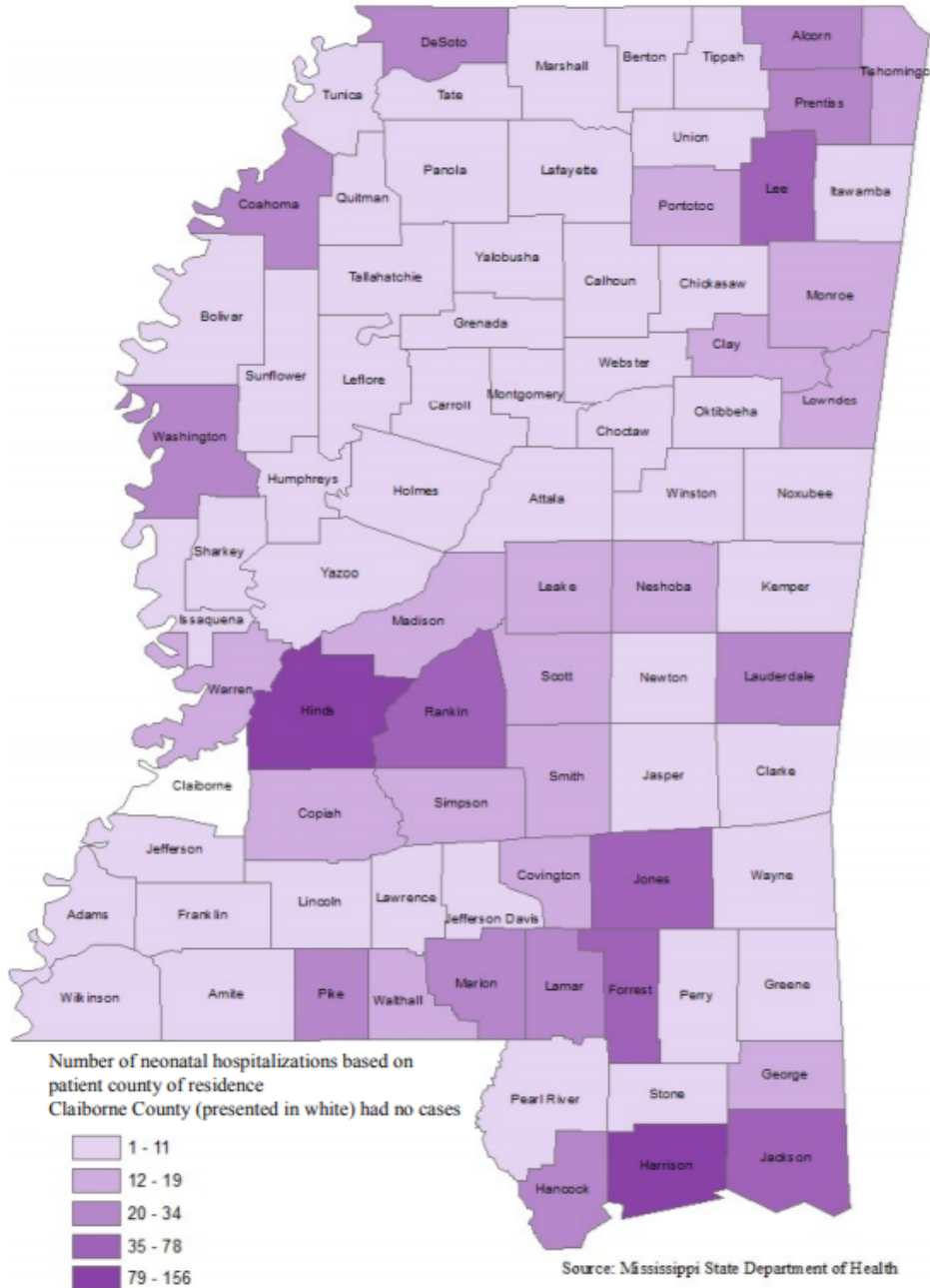


Source: Mississippi Department of Health, 2010–2017

Note: The increase in the number of infant hospitalizations due to substance exposure in 2015 may be attributed to the implementation of new diagnostic codes that allowed for coding of non-specific drug abuse versus specific coding for only three different substances: narcotics, hallucinogens and cocaine.

The statewide rate for infant hospitalizations related to substance use was 16.5 in 2016 and 17.9 in 2017 per 1,000 live births, representing an 8.5% increase. Rates reflect Mississippi residents only and are based on patient’s county of residence. The map below shows the number of neonatal hospitalizations related to substance use by county.

**Neonatal Hospitalizations Related to Substance Use in Mississippi, Combined Data for 2016–2017**



The table below shows the number of neonatal hospitalizations related to substance use and the rate per 1,000 live births for Mississippi counties that reported 20 or more cases. Of the 17 Mississippi counties that reported 20 or more cases, Prentiss County ranked No. 2 based on hospitalization rates per 1,000 live births.

**Neonatal Hospitalizations Related to Substance Use  
for Counties With More Than 20 Cases**

	Number of Neonatal Hospitalizations Related to Substance Use	Rate per 1,000 Live Births
Alcorn	34	39.9
<b>Prentiss</b>	<b>25</b>	<b>39.8</b>
Marion	22	37.1
Lee	78	32.8
Coahoma	23	31.0
Pike	33	30.0
Harrison	156	28.5
Hancock	22	24.1
Forrest	43	21.5
Jones	39	21.3
Hinds	132	21.1
Lamar	32	19.8
Washington	21	16.2
Lauderdale	29	14.8
Jackson	40	12.1
Rankin	38	10.7
DeSoto	25	5.8

Source: Mississippi Department of Health, 2016–2017

**Maternal and Infant Health**

**Total Births**

All North Mississippi Service Area counties except Panola have a similar or lower birth rate than the state. Despite having a higher birth rate, the Panola County population is projected to remain stable over the next five years. This difference is likely impacted by the premature death rate in Panola County, which is the highest in the service area. Consistent with their racial and ethnic makeup, Lowndes and Panola counties have the highest percentage of births to non-White mothers. In 2016, approximately 50% of births in both counties were to Black/African American mothers.

**2016 Births by Race**

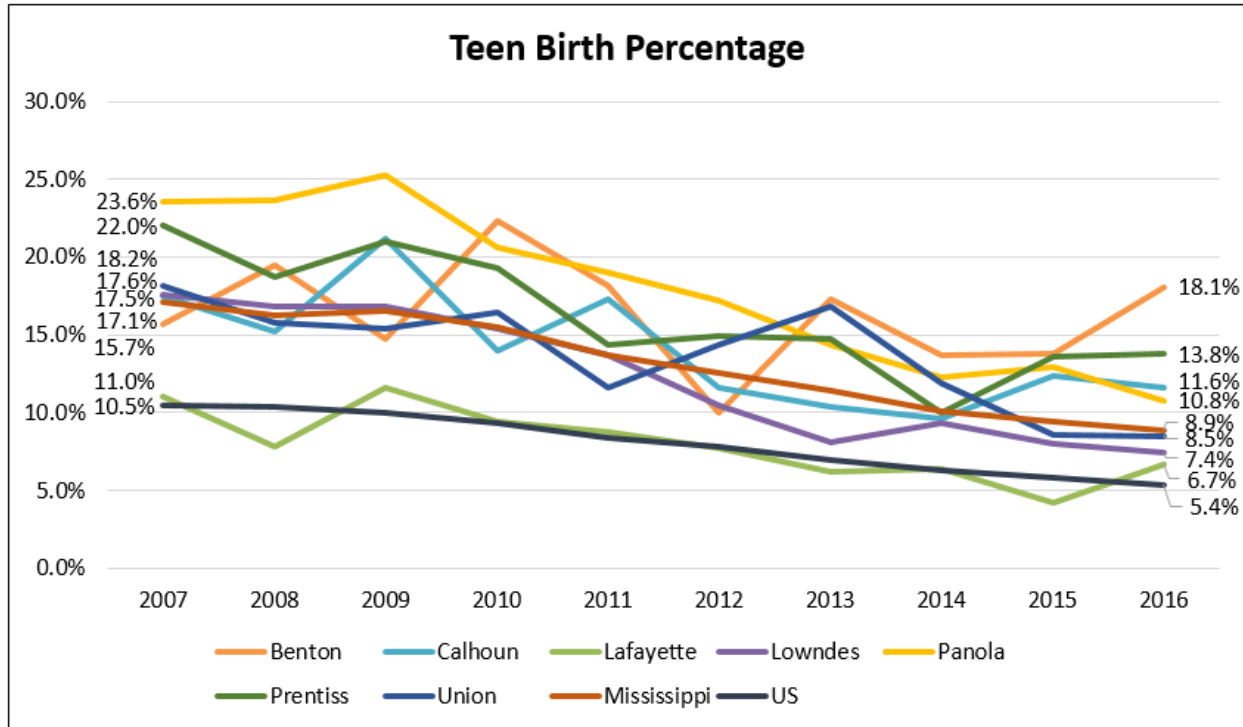
	Total Births	Birth Rate per 1,000	Percentage of Total Births to White, Non-Hispanic Mothers	Percentage of Total Births to Black/ African American, Non-Hispanic Mothers	Percentage of Total Births to Hispanic/Latina Mothers
Benton County	105	12.7	63.8%	35.2%	1.0%
Calhoun County	155	10.6	60.0%	23.9%	16.1%
Lafayette County	556	10.3	64.9%	25.0%	5.9%
Lowndes County	799	13.4	48.8%	47.8%	1.4%
Panola County	517	15.1	42.6%	55.7%	1.7%
Prentiss County	333	13.2	80.2%	16.5%	1.8%
Union County	388	13.7	74.2%	17.0%	8.2%
Mississippi	37,928	12.7	51.2%	41.8%	4.4%

Source: Mississippi Department of Health, 2016

**Births to Teens**

The percentage of live births to teens 19 years old or younger is higher in the North Mississippi Service Area than the nation, but generally decreasing. The exceptions are Benton and Lafayette counties, where the percentages increased from 2015 to 2016.

Teen birth percentages decreased in nearly all counties but are still higher than the nation.



Source: Centers for Disease Control and Prevention, 2007–2016; Mississippi Department of Health, 2007–2016

**Prenatal Care**

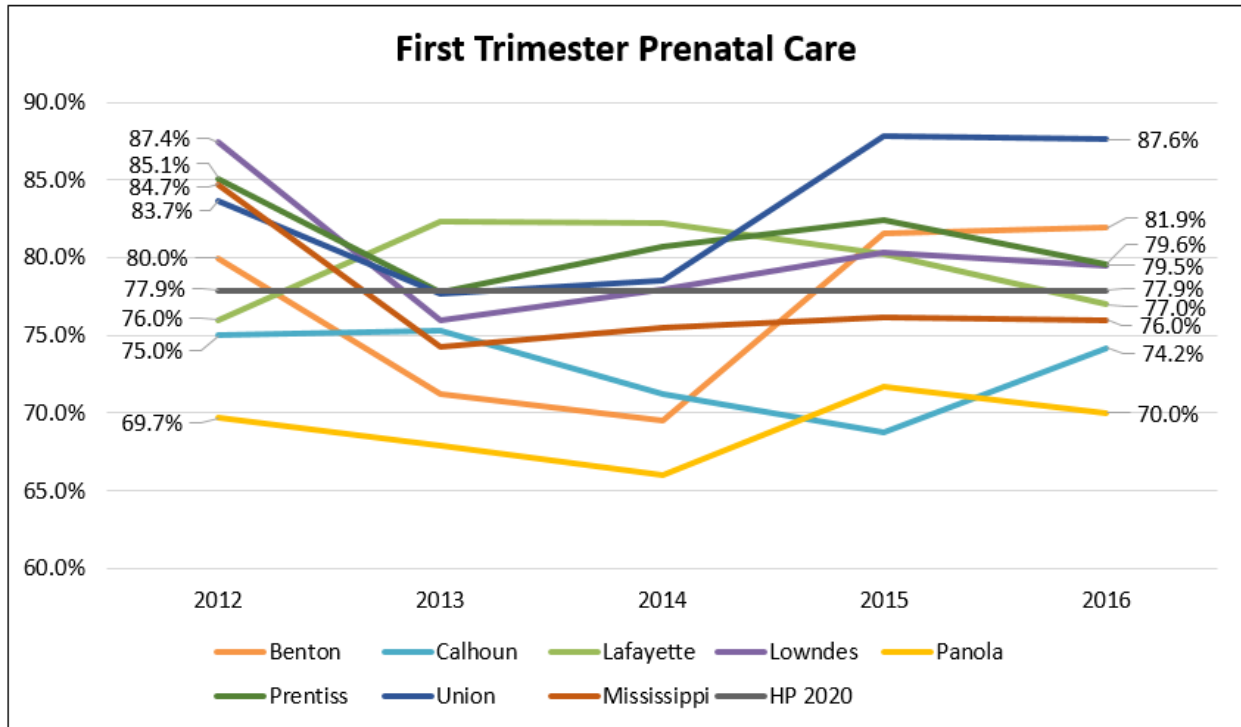
Engaging in prenatal care within the first trimester of pregnancy increases the chances that a mother and her baby will have a healthy pregnancy and a healthy birth. Entry into prenatal care after the first trimester can suggest barriers to care, such as lack of information, lack of access to health care, transportation challenges or behavioral health needs.

Benton, Lowndes, Prentiss and Union counties meet the Healthy People 2020 goal for first trimester prenatal care; all other counties except Panola nearly meet the goal.

Healthy People 2020 sets a target of 77.9% of all pregnant women engaging in prenatal care in the first trimester of pregnancy. Union, Prentiss, Benton and Lowndes counties meet the Healthy People 2020 target, and all other counties except Panola nearly meet the target. From 2013 to 2016, the percentage of mothers accessing first trimester prenatal care increased in all counties except Calhoun and Lafayette.

Note: In 2013, the Mississippi Department of Health started using the clinical estimate of gestation, instead of gestational age based upon last menstrual period, which was used in previous years. This change in methodology accounts for the decrease in women receiving first trimester prenatal care from 2012 to 2013.





Source: Mississippi Department of Health, 2012–2016; Healthy People 2020

Note: Starting in 2016, all of the U.S. reported data based on the 2003 U.S. Certificate of Live Birth, providing national indicators for timing of prenatal care. In 2016, 77.1% of mothers across the nation accessed first trimester prenatal care. Data prior to 2016 are not reported.

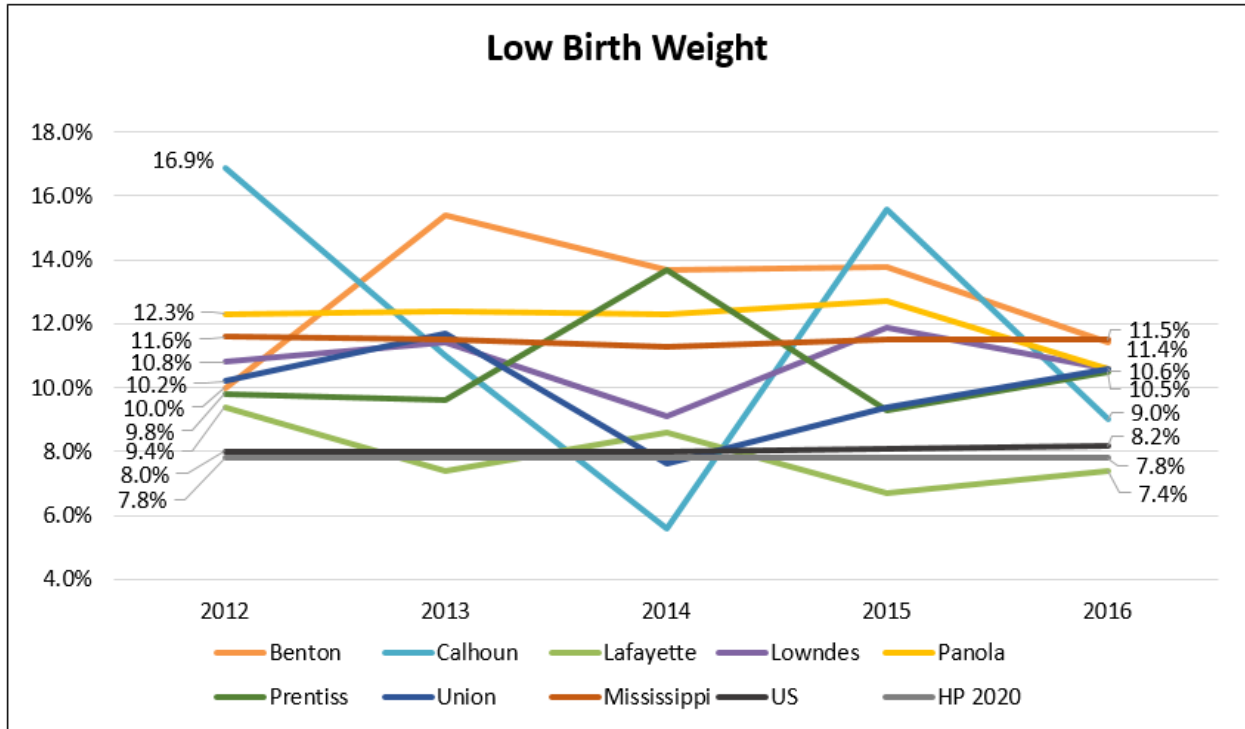
**Low Birth Weight and Premature Birth**

Delayed prenatal care can contribute to low birth weight and premature births. Premature birth is defined as birth before 37 weeks of pregnancy, and can contribute to infant death or disability. Low birth weight is defined as a birth weight of less than five pounds, eight ounces. It is often a result of premature birth, fetal growth restrictions or birth defects. It can be associated with a variety of negative birth outcomes.

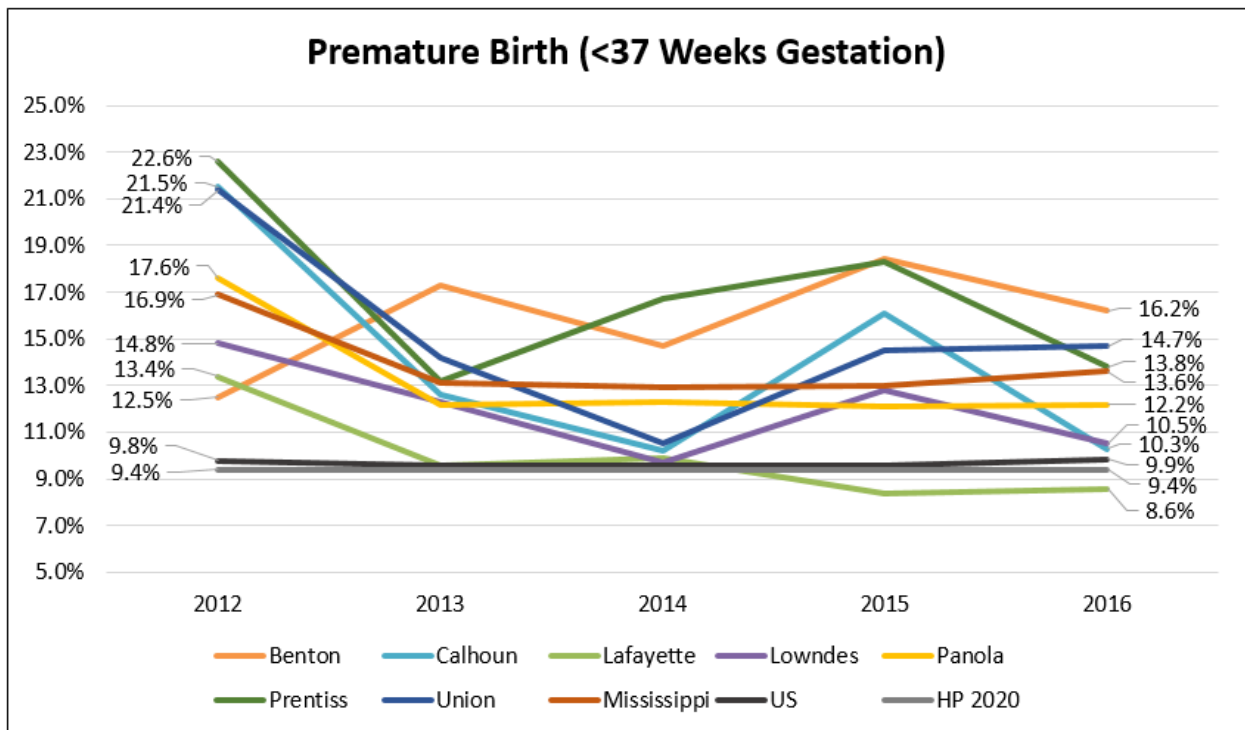
Lafayette County is the only county to meet the Healthy People 2020 goals for low birth weight and premature

Healthy People 2020 sets a target of no more than 7.8% of all newborns having low birth weight and 9.4% of all births occurring before 37 weeks of pregnancy. Lafayette County meets the Healthy People 2020 target for both indicators, but all other counties exceed them. Low birth weight and premature birth percentages have been variable over the past five years with few consistent downward trends.

Healthy People 2020 sets a target for fewer than 9.4% of all births occurring before 37 weeks gestation. While there has been variability in the percent of premature births among the North Mississippi Service Area counties, only Lafayette meets this target. Mississippi as a whole has the highest percentage of premature births at 11.5% of all births. Benton County is just ahead of Mississippi at 11.4% of births before 37 weeks.



Source: Centers for Disease Control and Prevention, 2012–2016; Mississippi Department of Health, 2012–2016; Healthy People 2020

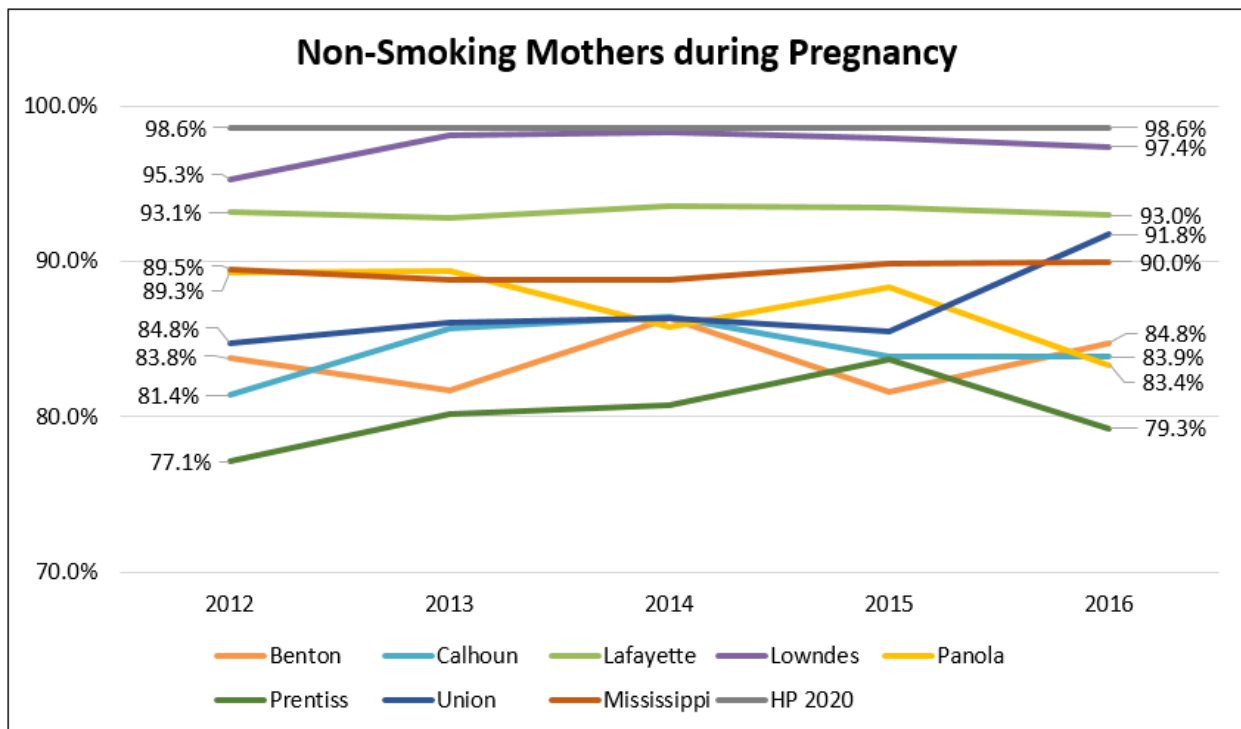


Source: Centers for Disease Control and Prevention, 2012–2016; Mississippi Department of Health, 2012–2016; Healthy People 2020

### Smoking During Pregnancy

Smoking during pregnancy is associated with a variety of negative birth outcomes, including low birth weight and premature birth. Healthy People 2020 set a target of reducing the number of pregnant women who smoke to 1.4%. None of the counties in Baptist’s North Mississippi Service Area meet the Healthy People 2020 target for smoking among pregnant women. However, the percentage of non-smoking mothers increased in all counties except Lafayette and Panola.

The percentage of non-smoking mothers is generally increasing, but does not meet the Healthy People 2020 goal in any county.

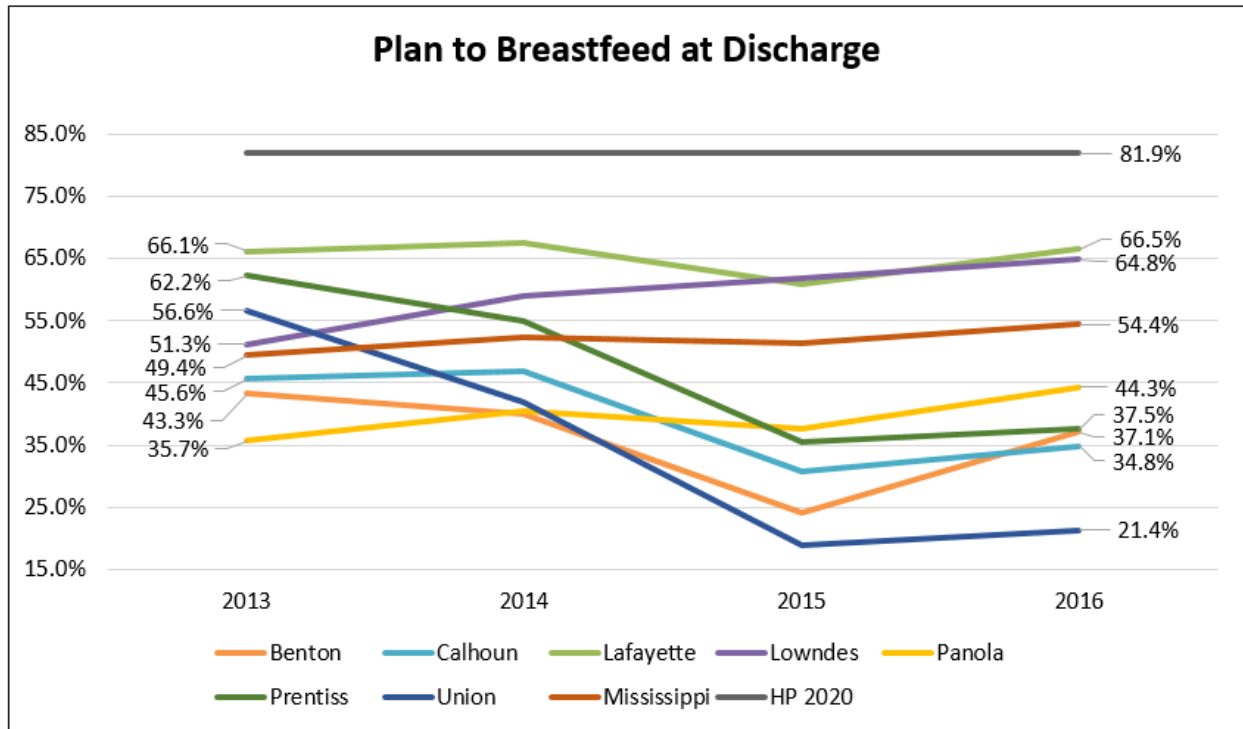


Source: Mississippi Department of Health, 2012–2016; Healthy People 2020  
 Note: Starting in 2016, all of the U.S. reported data based on the 2003 US Certificate of Live Birth, providing national indicators for tobacco use during pregnancy. In 2016, 92.8% of mothers across the nation reported not smoking during pregnancy. Data prior to 2016 are not reported.

### Breastfeeding

Breastfeeding is recommended to ensure healthy nutritional intake for babies and to promote bonding between mother and child. Healthy People 2020 set a target for 81.9% of all mothers to have initiated breastfeeding at the time of delivery discharge. None of the counties in Baptist’s North Mississippi Service Area have met the Healthy People 2020 target for breastfeeding. However, percentages increased in all counties from 2015 to 2016.

Breastfeeding percentages are generally increasing, but do not meet the Healthy People 2020 goal in any county.



Source: Mississippi Department of Health, 2013–2016; Healthy People 2020

**Maternal and Child Health Disparities**

Maternal and child health indicators are presented in the table below by race and ethnicity for each county in Baptist’s North Mississippi Service Area. In all counties except Benton, Hispanic/Latina and Black/African American women are less likely than White women to access prenatal care in the first trimester. Hispanic/Latina and Black/African American women are also more likely than White women to deliver low birth weight and premature babies. Black/African American mothers are particularly impacted by these two metrics. As one example, in all counties except Panola, Black/African American mothers are nearly two times as likely to deliver low birth weight babies as White mothers.

White mothers are primarily impacted by smoking during pregnancy. In all counties except Prentiss, a higher percentage of White mothers report smoking during pregnancy compared to other racial and ethnic groups.

**Maternal and Child Health Indicators by Race**

	Benton County	Calhoun County	Lafayette County	Lowndes County
<b>Mothers with First Trimester Care</b>				
Total Population	81.9%	74.2%	77.0%	79.5%
White, Non-Hispanic	80.6%	83.9%	83.9%	83.3%
Black/AA, Non-Hispanic	83.8%	56.8%	66.9%	75.4%
Hispanic/Latina	100.0%	64.0%	51.5%	81.8%
<b>Low Birth Weight Infants</b>				
Total Population	11.4%	9.0%	7.4%	10.6%
White, Non-Hispanic	6.0%	8.6%	5.0%	7.4%
Black/AA, Non-Hispanic	21.6%	16.2%	12.9%	14.4%
Hispanic/Latina	0.0%	0.0%	9.1%	9.1%
<b>Non-Smoking Mothers during Pregnancy</b>				
Total Population	84.8%	83.9%	93.0%	97.4%
White, Non-Hispanic	76.1%	80.6%	92.0%	95.4%
Black/AA, Non-Hispanic	100.0%	81.1%	92.8%	99.2%
Hispanic/Latina	100.0%	100.0%	100.0%	100.0%
<b>Premature Births</b>				
Total Population	16.2%	10.3%	8.6%	10.5%
White, Non-Hispanic	10.4%	10.8%	8.6%	9.2%
Black/AA, Non-Hispanic	27.0%	13.5%	8.6%	12.0%
Hispanic/Latina	0.0%	4.0%	9.1%	18.2%

Source: Mississippi Department of Health, 2016

**Maternal and Child Health Indicators by Race**

	Panola County	Prentiss County	Union County
<b>Mothers with First Trimester Care</b>			
Total Population	70.0%	79.6%	87.6%
White, Non-Hispanic	77.7%	80.9%	89.6%
Black/AA, Non-Hispanic	64.9%	74.5%	84.8%
Hispanic/Latina	44.4%	66.7%	78.1%
<b>Low Birth Weight Infants</b>			
Total Population	10.6%	10.5%	10.6%
White, Non-Hispanic	8.2%	9.0%	7.3%
Black/AA, Non-Hispanic	12.8%	20.0%	19.7%
Hispanic/Latina	0.0%	0.0%	18.8%
<b>Non-Smoking Mothers During Pregnancy</b>			
Total Population	83.4%	79.3%	91.8%
White, Non-Hispanic	73.2%	77.9%	89.6%
Black/AA, Non-Hispanic	90.6%	85.5%	97.0%
Hispanic/Latina	100.0%	66.7%	100.0%
<b>Premature Births</b>			
Total Population	12.2%	13.8%	14.7%
White, Non-Hispanic	10.9%	12.4%	13.5%
Black/AA, Non-Hispanic	13.5%	23.6%	19.7%
Hispanic/Latina	0.0%	0.0%	12.5%

Source: Mississippi Department of Health, 2016

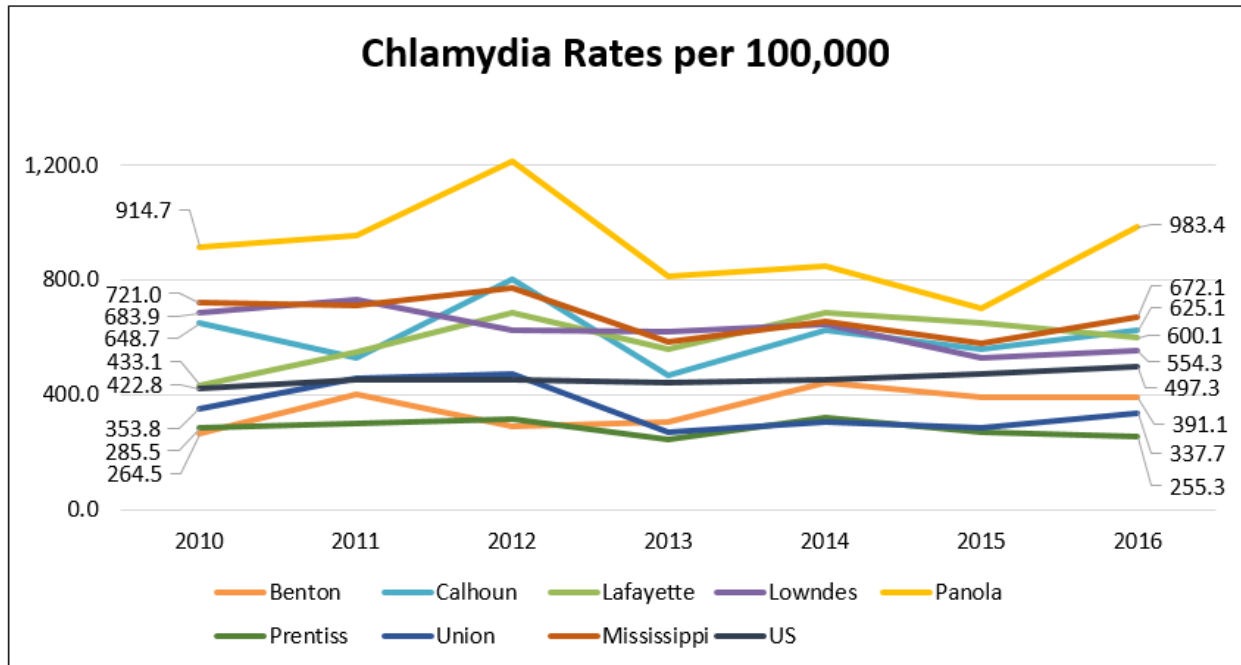
**Notifiable Diseases**

**Sexually Transmitted Infections**

Sexually transmitted infections (STIs) that require reporting to the CDC, state and local health bureaus upon detection include chlamydia, gonorrhea and HIV.

Chlamydia is both preventable and treatable, but if left untreated can lead to serious complications and decreased quality of life. The rate of chlamydia infection is lower in Benton, Prentiss and Union counties compared to the nation, but higher in all other counties. However, Benton County experienced the second largest increase in the infection rate behind Lafayette County. Panola County also experienced an increase in the infection rate.

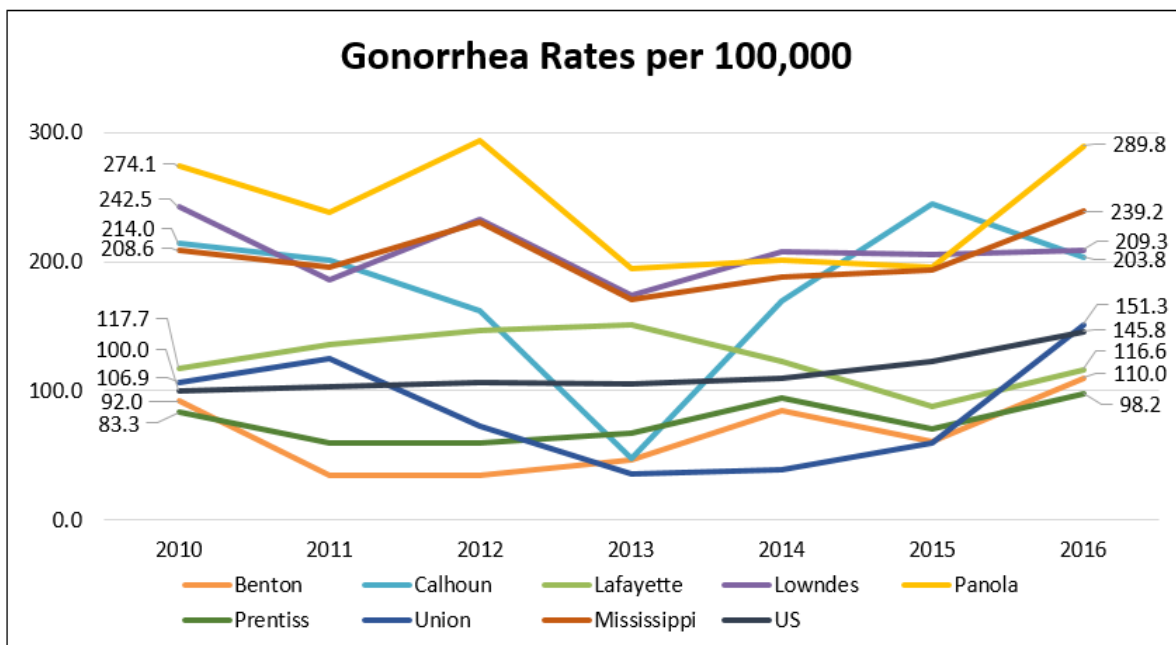
All counties except Benton, Prentiss and Union have higher rates of chlamydia than the nation.



Source: Centers for Disease Control and Prevention, 2010–2016

Gonorrhea is also preventable, treatable and can contribute to serious health complications and reduced quality of life. The rate of gonorrhea infection is lower in Lafayette, Prentiss and Benton counties, but higher in all other counties. However, Benton and Prentiss counties saw an increase in infection rates, along with Panola County.

Panola County has the highest rates of infection for chlamydia and gonorrhea.



Source: Centers for Disease Control and Prevention, 2010–2016

HIV prevalence is the number of people living with HIV infection at a given time, such as at the end of a given year. According to the CDC, “At the end of 2015, an estimated 1.1 million persons aged 13 and older were living with HIV infection in the U.S., including an estimated 162,500 (15%) persons whose infections had not been diagnosed.” While there is no cure for HIV yet, it is preventable and is treatable as a chronic disease if diagnosed early.

The rate and number of people diagnosed with HIV is relatively low in the North Mississippi Service Area compared to the state and the nation. However, current rates represent an opportunity for continued intervention to ensure people living with HIV are accessing consistent and proper care for the maintenance of their disease, and that efforts are continued towards prevention, education and testing.

All counties have lower HIV prevalence than the state and nation.

**HIV Prevalence**

	Cases	Rate Per 100,000
Benton County	15	216.9
Calhoun County	17	140.2
Lafayette County	78	169.7
Lowndes County	130	262.2
Panola County	74	265.7
Prentiss County	16	75.6
Union County	31	133.6
Mississippi	9,236	374.0
United States	971,524	362.3

Source: Centers for Disease Control and Prevention, 2015

Secondary data findings were analyzed as part of the 2019 CHNA to inform health priorities. Secondary data is valuable for tracking and benchmarking community health status indicators, as well as for identifying emerging community needs.



## Key Informant Survey Findings

### Background

A Key Informant Survey was conducted with community representatives within Baptist's North Mississippi Service Area to solicit information about health needs among residents. A total of 79 individuals responded to the survey, including health and social service providers; community and public health experts; civic, religious and social leaders; policy makers; elected officials; and others representing minority, low-income or other underserved populations. A list of the represented community organizations and the key informants' respective titles is included in Appendix B. Key informant's names are withheld for confidentiality.

Survey participants were asked a series of questions about their perceptions of community health status, health drivers, barriers to care, community infrastructure and gaps in services. A summary of findings from their responses is included below.

### Summary of Findings

- > The top community health concerns, in rank order according to key informants, are overweight/obesity, heart disease and stroke, diabetes, cancer and mental health conditions. The findings are consistent with 2016 CHNA Key Informant Survey results.
- > The top contributing factors to health concerns, in rank order, are health habits, ability to afford health care, poverty, health literacy and drug/alcohol use. In comparison to 2016 survey results, economic barriers are greater perceived contributors to health concerns.
- > When asked if various health care services are available in the community, respondent mean scores were between 2.14 and 3.49 out of 5, indicating overall disagreement or neutral perspectives. Mental health and substance use disorder providers were considered the least available services.
- > When asked to rate community dimensions affecting social determinants of health, respondent mean scores were between 2.58 and 2.86 out of 5, indicating overall "poor" or "average" ratings. Consistent with the 2016 CHNA survey, health and health care was seen as the strongest dimension. Mean scores for all dimensions decreased from the 2016 CHNA.
- > More than 50% of key informants indicated that their organization currently collaborates with Baptist to improve the health of the local community; nearly 80% expressed interest in collaboration opportunities.
- > Consistent with the top health concerns and contributing factors selected by informants, nearly 60% chose health and wellness education and programs and community health screenings as the top needed resources in the community to optimize resident health. More than 50% chose substance abuse and mental health services as missing.

### Survey Participants

Nearly half of key informants indicated that they served all populations across Baptist’s North Mississippi Service Area. The most commonly served special population groups were low-income/poor, children/youth and families. “Other” populations served, as indicated by respondents, included rural residents, caregivers, individuals with mental illness and children with obesity.

**Populations Served by Key Informants**

	Percentage of Informants*	Number of Informants
Not Applicable (serve all populations)	46.8%	37
Low-Income/Poor	34.2%	27
Children/Youth	32.9%	26
Families	32.9%	26
Black/African American	31.6%	25
Seniors/Elderly	29.1%	23
Men	24.1%	19
Women	24.1%	19
White	24.1%	19
Disabled	22.8%	18
Hispanic/Latino	20.3%	16
Uninsured/Underinsured	19.0%	15
Homeless	12.7%	10
Immigrant/Refugee	12.7%	10
LGBTQ+ Community	8.9%	7
American Indian/Alaska Native	6.3%	5
Other	6.3%	5
Asian/Pacific Islander	2.5%	2

\*Key informants were able to select multiple populations. Percentages do not add up to 100%.

### Health Perceptions

Choosing from a wide-ranging list of health issues, key informants were asked to rank order what they perceived as the top five health concerns affecting the population(s) they serve. An option to “write in” any issue not included on the list was provided. The informants were then asked to similarly rank order what they saw as the top five contributing factors for their selected health concerns. The top 10 responses for each question are depicted in the tables below. The tables are rank ordered by the percentage of respondents that selected the issue within the top five health concerns. The number of informants that selected the issue as the No. 1 health concern is also shown.

Correlation between the percent of informants selecting a health concern among their top five choices and the percent of informants selecting a health concern as their No. 1 choice demonstrates consistent perspectives regarding the top selection: overweight/obesity. Nearly 1 in 4 informants saw this issue as the top health concern among residents and nearly 70% chose

it among their top five selections. Approximately 60% of informants also selected heart disease and stroke and diabetes among their top five choices, but only 1 in 5 informants selected them as top health concerns. It is worth noting that while only 55% of informants selected cancer as a top five health concern, one-quarter of informants selected it as the top health concern, the highest of any health issue.

A similar Key Informant Survey was conducted as part of the Baptist 2016 CHNA. The top five health concerns identified by 2019 survey respondents are consistent with those identified by 2016 survey respondents.

**Top 10 Health Concerns Affecting Residents**

Ranking	Health Concern	Top 5 Health Concerns Selected by Informants		Top (No. 1) Health Concern Selected by Informants	
		Percent*	Count	Percent	Count
1	Overweight/Obesity	69.0%	49	21.1%	15
2	Heart disease and stroke	62.0%	44	12.7%	9
3	Diabetes	60.6%	43	8.5%	6
4	Cancer	54.9%	39	25.4%	18
5	Mental health conditions	50.7%	36	11.3%	8
6	Drug or alcohol abuse	47.9%	34	8.5%	6
7	Alzheimer's disease/dementia	23.9%	17	4.2%	3
8	Respiratory disease	21.1%	15	1.4%	1
9	Tobacco use	14.1%	10	4.2%	3
10	Other**	11.3%	8	0.0%	0

\*Key informants were able to select multiple health concerns. Percentages do not add up to 100%.

\*\*Other responses: Nutrition/hunger, being able to afford medications, seniors living alone, limited English proficiency, vision, access to a healthy lifestyle (healthy foods, safe, desirable parks and activity centers) and regular check-ups.

Correlation between the percentage of informants selecting a contributing factor among their top five choices and the percentage of informants selecting a contributing factor as their No. 1 choice demonstrates consistent perspectives regarding the top selections: health habits and ability to afford health care. Approximately 20–26% of informants saw these factors as the top contributors to health concerns among residents and more than half chose them among their top five selections. Approximately 40% of informants selected poverty and health literacy among their top five choices, but six or fewer informants saw them as top concerns.

The top contributing factors identified by 2016 CHNA Key Informant Survey respondents, in rank order, were lack of knowledge/awareness of the value of preventative care/screenings, lack of physical activity, lack of good nutrition and inability to afford care. The 2019 survey results indicate similar perception of health habits as leading contributors to poor health status, and greater perceived impact of economic barriers.

**Top 10 Contributing Factors to Community Health Concerns**

Ranking	Contributing Factor	Top 5 Contributors Selected by Informants		Top (No. 1) Contributor Selected by Informants	
		Percent*	Count	Percent	Count
1	Health habits (diet, physical activity)	68.1%	47	20.3%	14
2	Ability to afford health care (doctor visits, prescriptions, deductibles, etc.)	55.1%	38	26.1%	18
3	Poverty	43.5%	30	8.7%	6
4	Health literacy (ability to understand health information)	42.0%	29	1.4%	1
5	Drug/Alcohol use	31.9%	22	2.9%	2
6	Inadequate or no health insurance	27.5%	19	2.9%	2
7	Availability of healthy food options	26.1%	18	8.7%	6
8	Education attainment	24.6%	17	2.9%	2
9	Lack of preventive health care (screenings, annual check-ups)	24.6%	17	1.4%	1
10	Availability of health and wellness programs	21.7%	15	1.4%	1

\*Key informants were able to select multiple contributing factors. Percentages do not add up to 100%.

To expand upon their quantitative responses to the previous questions, informants were invited to provide free-form comments about the topics. Verbatim comments are included below by overarching theme.

Access to Care

- > *“[Limited] hours of operation for service providers is a real issue.”*
- > *“Our school serves a majority of affluent families, though 15% of those who receive our services live in low-income households or are part of at-risk communities. There should be more affordable options for regular health care in this community, particularly when it comes to mental/socio-emotional health services for children and adults.”*
- > *“There are numerous people who have the Medicare Advantage Plan, and very few doctors in this area will accept their insurance because they are not in their network.”*

Health Habits and Chronic Disease

- > *“Poor lifestyle choices (poor food choices, sedentary lifestyle, etc.) over the last 50 years have led to increased heart disease and diabetes, created in part by an overall increase in obesity. We have to somehow become better educated about what we are doing to ourselves.”*
- > *“We are lacking in programs that deal with healthy living and we desperately need mental evaluation and services for many people suffering from depression, anxiety and overall mental illnesses on all spectrums.”*

- > *“We work in a school district that has a lot of affluent students as well as a lot of students that live in poverty. Drug use is rampant. Marijuana usage is not looked upon as a serious issue by students and parents. Most students do not sit down to a meal but they grab fast food for dinner. Many young parents do not know how to parent.”*

### Social Determinants of Health

- > *“The quality of our health is directly related to race, housing and transportation. Our availability of healthy food options depends on our family income and education/marketing.”*
- > *“Key factors in senior hospitalizations and re-hospitalizations are related to social, cognitive and behavioral factors and not necessarily just the medical/physical conditions that people are juggling.”*
- > *“Lack of education plays a big factor in understanding how to eat healthy, get adequate exercise, get medical attention when needed and to get regular checkups and on how to maintain a healthy lifestyle. So many of the people I see smoke, consume alcohol in an unhealthy amount, don’t eat a healthy diet and have no idea of where to get help with these problems. Community education is a MUST in our area and in rural areas.”*
- > *“Combination of poverty, uninsured status, drug abuse and mental health problems is creating dangerous health situations for many in our community.”*
- > *“Oxford has a very long way to go in improving the health and living conditions of all of its residents. The community is stymied by personal prejudices, beliefs and cultural literacy (ignorance to it) and the lack of desire to improve.”*

### **Health Care Access**

Key informants were asked to rate their agreement to statements pertaining to the health of the community and access to care using a scale of (1) “strongly disagree” to (5) “strongly agree.”

Approximately 43% of informants “disagreed” or “strongly disagreed” that their community is healthy, while 32% of informants “agreed” or “strongly agreed” that their community is healthy. Access to adequate and timely health services is a key contributor to the health of a community.

Cultural sensitivity among providers and the number of providers accepting Medicaid received the highest mean scores among health care access indicators. However, informants had differing perspectives on the number of providers accepting Medicaid. Approximately 45% of informants “agreed” or “strongly agreed” that there was a sufficient number of providers accepting Medicaid, but approximately 1 in 5 respondents “disagreed” or “strongly disagreed.”

The number of providers treating mental health conditions and substance use disorders received the lowest mean scores. Nearly 70% of informants “disagreed” or “strongly disagreed” that there are a sufficient number of these providers in the service area.

Access to primary care and preventive screenings are also top concerns for the service area. More than half of informants indicated that residents do not receive recommended preventive screenings and check-ups. One-third or more of informants indicated that residents do not have health insurance, a regular primary care provider or transportation for medical appointments or other services.

**Resident Health Care Access in Descending Order by Mean Score**

	Informants Strongly Disagree	Informants Disagree	Informants Neither Agree nor Disagree	Informants Agree	Informants Strongly Agree	Mean Score (1–5)
Providers in our community are culturally sensitive to race, ethnicity and cultural preferences of patients.	6.4%	7.7%	24.4%	53.8%	7.7%	<b>3.49</b>
There are a sufficient number of providers that accept Medicaid in our community.	6.4%	15.4%	33.3%	43.6%	1.3%	<b>3.18</b>
Residents in our community have available transportation for medical appointments and other services.	10.3%	28.2%	19.2%	35.9%	6.4%	<b>3.00</b>
Residents in our community have a regular primary care provider/doctor/practitioner that they usually go to for health care.	6.4%	32.1%	28.2%	32.1%	1.3%	<b>2.90</b>
I would describe our community as healthy.	5.1%	38.0%	25.3%	26.6%	5.1%	<b>2.89</b>
Residents have health insurance.	9.0%	25.6%	39.7%	24.4%	1.3%	<b>2.83</b>
Residents receive recommended preventive screenings and check-ups.	11.5%	41.0%	33.3%	14.1%	0.0%	<b>2.50</b>
There are a sufficient number of providers treating substance use disorders in our community.	26.9%	42.3%	12.8%	17.9%	0.0%	<b>2.22</b>
There are a sufficient number of mental health providers in our community.	34.6%	30.8%	20.5%	14.1%	0.0%	<b>2.14</b>

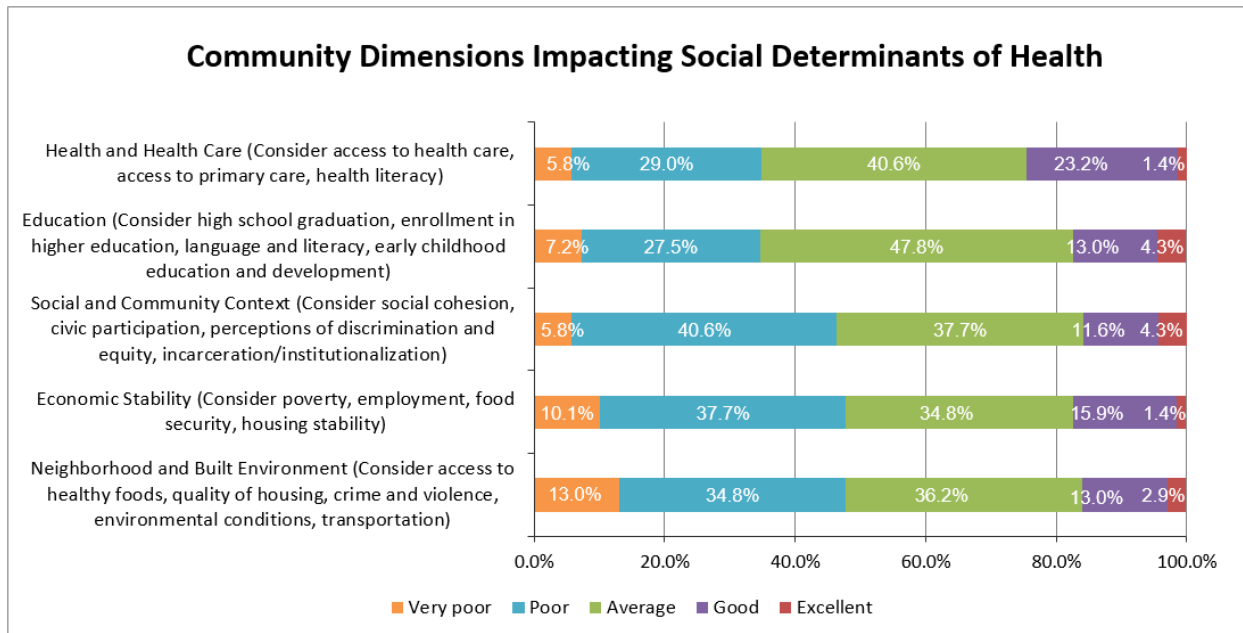
**Social Determinants of Health**

Healthy People 2020 defines social determinants of health as conditions in the environment in which people are born, live, learn, work, play, worship and age that affect a wide range of health, function and quality of life outcomes and risks. Informants were asked to rate five community dimensions that most highly affect social determinants of health — economic stability; education; health and health care; neighborhood and built environment; and social and community context using a scale of (1) “very poor” to (5) “excellent.”

The mean score for each dimension is listed in the table below in rank order, followed by a graph showing the scoring frequency. Mean scores were between 2.58 and 2.86, with most respondents rating the listed dimensions as “poor” or “average.” Consistent with the 2016 Key Informant Survey results, health and health care was seen as the strongest community dimension. Mean scores for all dimensions decreased from the 2016 survey results.

**Ranking of Community Dimensions That Impact Social Determinants of Health in Descending Order by Mean Score**

Ranking	Community Dimension	2019 Results	2016 Results
		Mean Score	Mean Score
1	Health and Health Care	2.86	3.14
2	Education	2.80	3.06
3	Social and Community Context	2.68	2.76
4	Economic Stability	2.61	2.85
5	Neighborhood and Built Environment	2.58	2.79



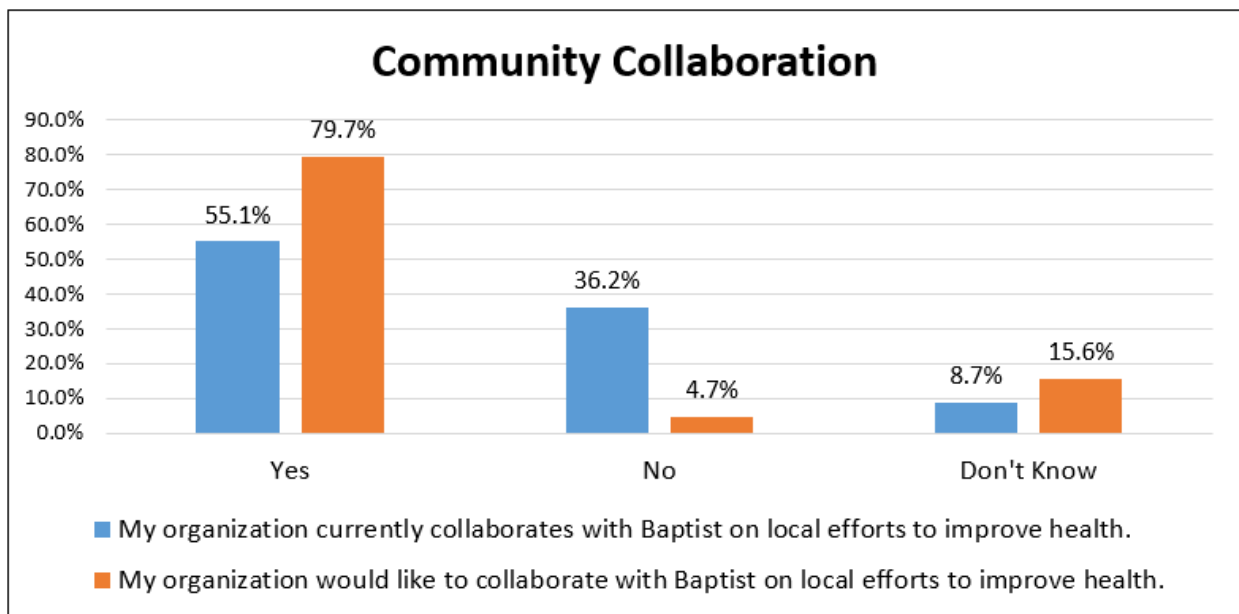
Key informants’ specific comments related to social determinants are included below.

- > *“Quality health service providers are not found in poor and true urban areas.”*
- > *“We have very strong, resilient communities in Mississippi...our strong communities are so strong in part because of all the discrimination and harm done unto them.”*
- > *“I highly recommend Medical-Legal Partnerships (MLPs) to be developed in these areas through collaborations of health facilities and legal teams to help improve SDOHs and, in effect, optimize individuals' and communities' health and overall success. I would be happy to help with this.”*

- > “[The] free clinic in New Albany [is] not open often enough to meet [the] uninsured community’s need. Also, underinsured and those with deductibles that are \$5K+ create barriers to adequate health care. Many cannot afford their Rx needs.”
- > “Lack of education, poverty, substance abuse are the path to poor health choices. Many patients have dropped into a well. Very few manage to climb out of the deep hollow well. None can recover without help from God, family, friends, community and health care providers.”
- > “We thrive within ourselves. We cannot depend on a community that shuns mental illness and whose solution to a psychotic episode is jail. Sad state of affairs we are in here in Oxford.”

### Leveraging Community Resources to Impact Health

More than half of key informants indicated that their organization currently collaborates with Baptist to improve the health of the local community. Approximately 80% of informants expressed interest in collaboration opportunities with Baptist.



Key informants were asked what resources are missing in the community that would help residents optimize their health. Respondents could choose as many options as they saw needed. Nearly 60% of informants chose health and wellness education and programs and community health screenings as missing resources within the community. More than half of informants included substance abuse and mental health services as missing resources, consistent with their rating of mental health and substance use disorder providers as the least available services within the community.



**Top Missing Health Resources Within the Community**

Ranking	Resource	Percentage of Informants	Number of Informants
1	Health and wellness education and programs	57.8%	37
2	Community health screenings (blood pressure, cancer risk, stroke, etc.)	56.3%	36
3	Substance abuse services	54.7%	35
4	Mental health services	53.1%	34
5	Healthy food options	48.4%	31
5	Transportation options	48.4%	31
7	Early childhood education	45.3%	29
8	Corporate wellness	42.2%	27
9	Adult education (GED, training, workforce development)	37.5%	24
9	Multi-cultural or bilingual health care providers	37.5%	24
11	Affordable housing	35.9%	23
11	Childcare providers	35.9%	23

Specific comments related to missing resources in the community are included below. Several informants indicated that the listed resources are available in the community, but residents and other social service providers are not aware of them.

- > *“Education for affordable insurance options [is needed].”*
- > *“Rural communities do not have parks, walking trails or other recreational facilities.”*
- > *“We have so many students with cavities and can’t afford to go see a dentist! Also - we have so many without glasses! It’s so sad! We need some assistance for our students!”*
- > *“Education for all of the above is lacking. If members of the community don’t know the services are available, then they can’t be utilized.”*
- > *“Communities in northern Mississippi have competent and passionate individuals/organizations involved/engaged. But these are in their own silos without mutual engagement (or even knowledge) of collective resources towards the good of the community. Bridging these gaps, building partnerships/coalitions to work together and optimize our resources would be so beneficial, efficient without duplication of efforts.”*
- > *“Transportation to medical appointments might help uninsured patients get to more appointments than they can on their own.”*

Key Informant Survey findings were considered in conjunction with statistical secondary data to determine health priorities. Key Informant Survey data is valuable in informing community strengths and gaps in services, as well as wider community context for secondary data findings.

## Summary of Focus Groups

### Background

As part of the 2019 CHNA, focus groups were conducted in communities across the Baptist Mid-South service area with residents who have had experiences with cancer. The objectives of the focus groups were to collect perspectives on provider awareness of local and regional cancer services; collect patient experiences related to care delivery; understand consumers' views on preventive screenings; define barriers to accessing cancer services; and collect socioeconomic insights and barriers to care management. In total, 98 people participated in the discussion groups as listed below by locations and participants per region.

#### **Memphis Metro Service Area**

Germantown: 15 attendees

Southaven: 12 attendees

#### **Northeast Arkansas Service Area**

Jonesboro: 12 attendees

#### **North Mississippi Service Area**

Batesville: 9 attendees

Columbus: 14 attendees

#### **Central Mississippi Service Area**

Canton: 17 attendees

Carthage: 7 attendees

Jackson: 12 attendees

Recruitment efforts did not produce enough participants to hold focus groups in the West Tennessee Service Area.

### Social Determinants of Health Survey

Focus Group participants were asked to complete an anonymous social determinants of health survey at the onset of each focus group. The survey assessed participants' access to health care, food security, housing status, safety perceptions and transportation availability. Survey questions and responses are shown below. Responses are compared across regions.

Note: The Northeast Arkansas focus group was conducted with key hospital partners and donors; the survey was not administered to this focus group to avoid skewing overall results.

Has there been a time in the past six months when you could not afford your health care, including medicine, doctor visits, procedures or other health costs?

	Often	Sometimes	Seldom	Never
Memphis Metro	7.4%	44.4%	14.8%	33.3%
Central Mississippi	16.7%	41.7%	8.3%	33.3%
North Mississippi	17.4%	39.1%	13.0%	30.4%

Has there been a time in the past 6 months that you worried you would not be able to afford food?

	Often	Sometimes	Seldom	Never
Memphis Metro	3.7%	11.1%	22.2%	63.0%
Central Mississippi	2.8%	27.8%	13.9%	55.6%
North Mississippi	8.7%	13.0%	17.4%	60.9%

Has there been a time in the past 6 months that you worried you would not have a place to live?

	Often	Sometimes	Seldom	Never
Memphis Metro	0.0%	11.1%	11.1%	77.8%
Central Mississippi	0.0%	11.1%	8.3%	80.6%
North Mississippi	17.4%	4.3%	8.7%	69.6%

Has there been a time in the past 6 months that you have not felt safe in your home?

	Often	Sometimes	Seldom	Never
Memphis Metro	0.0%	11.1%	22.2%	66.7%
Central Mississippi	2.8%	13.9%	13.9%	69.4%
North Mississippi	8.7%	8.7%	13.0%	69.6%

Do you have transportation available to you when you need it?

	Often	Sometimes	Seldom	Never
Memphis Metro	88.9%	3.7%	3.7%	3.7%
Central Mississippi	75.0%	19.4%	0.0%	5.6%
North Mississippi	73.9%	8.7%	13.0%	4.3%

## Key Discussion Takeaways

### **Health Care Provider Preferences**

#### **Patients who received care at Baptist and their caregivers had positive experiences.**

About half of all focus group participants had received cancer services from Baptist or cared for someone who did. The wide majority of these individuals had positive feedback about Baptist's cancer services. Positive experiences of their care included expertise of the providers; compassion of staff; ease of access via MyChart for physician communication and test results; and Baptist's reputation for quality care. Specific participant comments included:

- *"I was treated like a person at Baptist."*
- *"I like that they have a panel of doctors that meets weekly to discuss tough cases."*
- *"I feel at ease because of their reputation."*
- *"I would try [Baptist Memorial Hospital–Crittenden] if I was diagnosed with cancer in the future because it is in the Baptist system, and it has a good reputation."*

**Participants perceived little differentiation in quality of cancer care between systems or networks.** While individual system and provider preferences exist, provider and network options for cancer care and treatment were generally regarded as high quality across the region. Preferences and perceptions noted among regional competitors are included below.

- West Cancer Center in Southaven: Patients did not have a good first impression. The waiting room was "congested" and "filled with people who just didn't look healthy." Patients often "felt like cattle."
- NEA and St. Bernards are regarded equally for screening and diagnostic care, but patients perceived more advanced care was available at centers outside of the local community, including in Memphis, Little Rock and beyond the region.
- University of Mississippi Medical Center (UMMC): Patients liked UMMC for its research reputation. It was recognized as providing the newest procedures and treatments. MRI lung scans were specifically noted.
- St. Dominic Memorial Hospital: Patients perceived St. Dominic as providing spiritually-based, compassionate care with generous financial assistance to patients.

**Insurance coverage is the key driver in decision-making for cancer care, usually in conjunction with primary care provider referrals.** Patients are most influenced by their health insurance plan coverage. Provider referrals within network are usually followed. Recommendations from family and friends are also highly considered.

**Trust in providers, shared faith, bedside manners rank highly after expertise.** Patients value expertise and honesty with diagnosis, prognosis, preparation for path ahead and regular check-ins via phone. Good listening skills and a personal relationship with patients (knows patient info, shows interest in personal life, warm communication) are important. Nearly all participants relied on spiritual or religious beliefs and practices to help them cope with their condition and appreciated when their providers prayed with them.

### **Patients value nurse navigators to help with care and cost navigation, and recommended better communication of the role of nurse navigator within the patient care plan.**

Patients who used nurse navigators were initially confused as to the staff's role in relation to their care. When patients understood their role in the care plan, nurse navigators were seen as vital in helping patients and families navigate their first experience with a serious medical condition. Participants recommended that all patients be connected with a nurse navigator at the onset of treatment to help navigate care and identify social needs (food, transportation, etc.).

- *“We haven't been here before. We need someone to walk us through it.”*
- *“We're asked if we have questions, but we don't even know what questions to ask.”*

### **Perceptions Related to Preventive Screenings**

#### **Most focus group participants discovered cancer diagnosis through routine screening.**

**The biggest motivator for screening is knowing someone with cancer.** Families and friends were more likely to get screened if they knew someone personally who was diagnosed with cancer. Cancer survivors are influential advocates for preventive screenings and early treatment. Opportunity exists to encourage patients to share stories with their communities, such as faith congregations, employer groups, civic and social clubs, etc., to educate community members on the benefits of early diagnosis, improved outcomes for cancer care and advances in treatment and screening techniques.

#### **Fear and discomfort are most common reasons for intentionally delayed screenings.**

Patients are reluctant to be proactive in assessing cancer risk for fear of positive results and discomfort of procedures. Perceptions are changing as advances in cancer treatment improve outcomes and quality of life for survivors. More advocacy is needed to educate people about the benefits of early detection and new methods for screening. Policies and funding to help uninsured and underinsured residents receive equitable care are needed to reduce disparities among African American and low-income populations.

- *“People need to know that cancer doesn't mean death anymore.”*
- *“They think if they don't know; it won't happen to them.”*
- *“If you lose your breast, you won't be a woman. They aren't aware of options for plastic surgery and reconstruction.”*
- *“In this day and age, there has to be a better way to screen my breast than flattening it between two bars.”*

**Limited insurance, transportation and after-hours care are barriers to screenings.** The more rural the community, the more challenges exist to accessing screenings. Residents in Baptist's Central Mississippi Service Area may travel 1–2 hours to Jackson for screenings. Participants suggested that health care providers offer free or low-cost screenings at hair and nail salons, churches and area businesses. Mobile screenings in rural and isolated communities were recommended to bring services to residents, as was providing a “one-stop shop” to conduct multiple cancer screenings at one time. Focus group participants in rural areas were less able to recall health fairs and free community screenings than more populous areas. Germantown residents were most familiar with available community screenings.

**Use tactics similar to mammography awareness to increase screenings for lung cancer.**

Mammography screenings are among the most regularly recommended and received cancer screenings, regardless of risk factors. Community perception holds that lung cancer predominantly affects past or current smokers. Within the region, environmental factors are a significant risk factor for lung cancer, although this is largely unknown within the population. Participants recommended increased awareness and advocacy campaigns to encourage screening and awareness of lung cancer prevalence.

- *“Lung cancer is one of the most common and deadly cancers, but people only get screened if they’re a smoker.”*

**Screenings are sometimes seen as “money makers” for hospitals. Participants believe hospitals will “always find something” or a reason for follow-up appointments.** Patients often misunderstand costs and coverage for wellness screenings versus diagnostic testing. Education about potential for follow-up diagnostic tests and the benefits of further analysis, including better outcomes, may mitigate concerns.

**Focus group participants were more likely to receive cancer screenings prior and after cancer diagnosis, but few had received screenings at free community events.** Focus group participants were generally reminded by their primary care providers to receive recommended screenings and did so within an outpatient setting. Symptoms and other concerns prompted screenings outside of age-related recommendations. Generally, residents in more rural locations were not aware of any free or community screenings held within their neighborhoods. Germantown, Tennessee residents were most aware of availability of free screenings, but no focus groups participants had taken advantage of the screenings. Participants did not eschew the free screenings, rather they were aware of recommended screenings and could obtain screenings within a health care setting.

**Financial Concerns**

**Participants did not forgo treatment because of cost. Deductibles, coinsurance are concerns, but participants “find a way” to afford care.** Patients often rely on family, churches, support from local foundations, hospital payment plans or charity care to finance cancer treatment. A few participants were forced to declare bankruptcy due to their treatment costs. Others anticipated making monthly payments *“for the rest of my life.”*

**Patients want a better estimate of expected costs and knowledge of financial assistance policies ahead of treatment.** Participants received unexpected bills for their care. Recommendations were to provide information during initial appointments about assistance at Baptist and within the community. Written materials are most useful so patients can refer to the information later. Ease of application and assistance with completing forms is necessary to ensure all patients can access programs. Streamline paper application across all programs with a single application.

- *“I made my payment to Baptist and thought I was fine, but then I got a bill from radiology that I didn’t expect. Why?”*
- *“I couldn’t afford my bill, so I set up a monthly payment. I was still sent to collections.”*

**The financial expense of cancer care has a lasting impact on patients.** Some participants are able to work throughout their treatment; others rely on short-term disability insurance or need to quit their jobs. Savings, retirement, loans and other finances are used to pay for care and have a long-term effect on the whole family.

- *“It changes your entire future. My husband and I had plans for retirement. We don’t anymore.”*
- *“The gas costs to get back and forth to Jackson for treatment really added up.”*

### **Support for Patients and Caregivers**

**Cancer brings loss of control in life and changes in family structure that affect mental well-being.** Cancer treatment is emotionally draining for patients and caregivers. Women are especially affected. Health care providers, staff, advocates and others should help patients to prepare for what’s to come and provide support throughout treatment.

- *“You can lose your dignity pretty quickly.”*
- *“No one tells you how you’re going to feel or react when you lose your hair. I wouldn’t let my husband see my head for a week.”*
- *“I had to help my mom and take care of her house, but I still had my own family and I was still working.”*

**Support groups for survivors and caregivers are valuable, but few are available in rural areas.** Participants prefer support groups that are specific to their diagnosis, but appreciate general support groups for exchanging information and resources. Cancer care providers can ensure rural support networks by working with local partners to coordinate support groups, education sessions and other opportunities for networking and social support.

**Patients and caregivers seek in-home services for personal care, home maintenance and meal delivery. They recommend providing a list of community resources in MyChart and other hospital communications.** Meal delivery and prep services were seen as the most needed services, and critical to recovery.

- *“I couldn’t even make it to the kitchen when I was in treatment.”*
- *“We don’t have an appetite. We need meals that are pre-made and nourishing and that are delivered to the house.”*

**Faith communities are a primary support system for cancer patients and their families.** Volunteers provide transportation, meals, financial support and other services. Churches also serve as prevention partners through medical ministries, cancer screening events and trusted connections to the community. Participants recommended that health and human service providers offer a resource guide on where to find additional services.

**Patients need transportation, escorts to frequent appointments; rural patients are most affected.** Treatment and physician visits can be frequent and present transportation challenges for patients. Participants recommended satellite clinics in rural communities, bundled treatments and wider services provided through home care. Patients rely on family and friends to transport

them to chemotherapy, radiation and other appointments. Rural community members drive one to two hours to Memphis or Jackson for care, sometimes daily. A few participants lied to a provider about having a driver and drove themselves to and from treatment appointments.

- *“It’s hard to get a commitment from people every day.”*
- *“I feel like a burden.”*
- *“Medicaid van requires advanced scheduling and has wait times of several hours. When you’re done with chemo, you just want to go home. You don’t want to wait for hours in a waiting room.”*

Focus group findings were reviewed with Baptist’s CHNA committee and correlated with statistical secondary data and the Key Informant Survey findings to inform priority health needs and community health improvement strategies.



## Evaluation of Impact From the 2016–2019 CHNA Implementation Plan

In 2016, Baptist Memorial Health Care completed a Community Health Needs Assessment and developed supporting three-year (2016–2018) hospital Implementation Plans to address identified health priorities. Health priorities included behavioral health, cancer, chronic disease management and prevention and maternal and child health. The strategies used to address the health priorities support Baptist’s commitment to the people it serves and the communities they live in.

### 2016 Health Priority Goals

Behavioral Health: Improve outcomes for residents with a mental health or substance abuse condition and their families.

Cancer: Provide early detection and treatment to reduce cancer mortality rates and improve quality of life for patients living with cancer.

Chronic Disease Management and Prevention: Reduce risk factors for chronic disease and improve management of chronic disease through healthy lifestyle choices.

Maternal & Child Health: Improve birth outcomes for women and infants.

### Completed Strategies

- > Donated an ambulance and crew for a distracted driving wreck scene demonstration for Union County High School students
- > Donated educational materials and medical equipment to local organizations and events, including the PEARL Project Health Fair, Jump Rope for Heart at North Pontotoc Elementary School, New Albany School System, etc.
- > Donated medical supplies for sports physicals to East Union Attendance Center, Ingomar Attendance Center, West Union Attendance Center and Creekmore Clinic
- > Fostered youth health care career development by participating in job fair and career night events and by providing job shadowing opportunities at The Healthcare Career Academy, a weeklong event for high school students in Union County
- > Hospital employees served on local community organization boards, including the United Way, Mississippi Hospital Association, Mississippi Health Care Alliance, Mississippi Hospital Association Human Resource Board, Chamber of Commerce, etc.
- > Hosted community blood drives at Baptist Memorial Hospital–Union County
- > Hosted informational sessions and disease management courses on various topics, including Alzheimer’s disease, cancer, diabetes, heart disease, mental health, weight loss and women’s health

- > Hosted internship and externship programs for nursing, pharmacy, social work, medical technician, cardiovascular technology, dietetic and marketing students
- > Hosted the Baby Fair at Baptist Memorial Hospital–North Mississippi and Baptist Memorial Hospital–Union County
- > Participated in school health fairs for students and their parents to share health information and demonstrations related to illness, injury, nutrition and healthy lifestyles
- > Participated in various community and faith-based health fairs/events to share health information, healthy living demonstrations and free or low-cost screenings and immunizations, including behavioral health and wellbeing, BMI, blood pressure, bone density, flu shots, glucose, mammograms, etc.
- > Provided advance care planning education to the community, as well as end of life care instruction for local nursing students
- > Provided ambulance coverage for high school football games and community events
- > Provided clinical instruction to students from local universities, including Baptist College of Health Sciences, Northeast Mississippi Community College, Concorde Career College and Blue Mountain College
- > Provided CPR, first aid and tourniquet trainings and certification classes
- > Provided financial and in-kind contributions to community agencies and events, including the Alzheimer’s Association, American Cancer Society, American Red Cross, Boys and Girls Club, Contact Helpline, Leukemia and Lymphoma Society, Love Packs, Make a Wish, March of Dimes, More Than a Meal and Palmer Home for Children, among others
- > Provided maternal and child health classes, including child birthing, breastfeeding and pediatric nutrition
- > Provided meeting space for organizations and events, including Alcoholics Anonymous, American Cancer Society, Multiple Sclerosis support group and community blood drives
- > Provided support groups for cancer, diabetes, heart disease and mental health
- > Sponsored the Baptist Fresh Market and Oxford Community Market in Lafayette County to promote access to healthy foods and provide health education

By providing health education and opportunities for residents to participate in programs to improve their health, Baptist Memorial Health Care helped thousands of our community members lead healthier lives. We believe strongly in corporate citizenship and recognize the importance of collaboration with local organizations to build stronger and healthier communities. We remain committed to supporting community health improvement in line with our mission and vision.

## Priorities for 2019–2022 CHNA Implementation Plan

### Prioritization of Health Needs

To achieve community health improvement, it is imperative to prioritize resources and activities toward the most pressing and wide-ranging health needs within the community. The Baptist CHNA Steering Committee reviewed findings from CHNA research, comparing statistical data from public health and socioeconomic measures with input received from key informants and focus group participants. The committee sought to determine unique and common health needs and disparities for each hospital service area, service regions and the Mid-South service area to effectively leverage resources across the system to address community health needs.

The rationale and criteria used to select health priorities included:

- > Prevalence of disease and number of community members impacted
- > Rate of disease in comparison to state and national benchmarks
- > Health disparities among racial and ethnic minorities
- > Existing programs, resources and expertise to address the issue
- > Input from representatives of underserved populations
- > Alignment with concurrent public health and social service organization initiatives

The 2019 CHNA research findings indicated that priority areas identified in the 2016 CHNA were still relevant and among the highest health needs across the region. Building upon its work over the past two CHNAs, while recognizing emerging health needs and a changing health care delivery environment, Baptist adopted the following systemwide priority health needs. The priorities are supported by systemwide goals for community health improvement and local hospital service area strategies.

### Systemwide Community Health Priorities and Goals

Baptist determined the following health concerns were priorities on which to focus during the 2019–2022 reporting cycle.

**Behavioral Health:** Increase behavioral health screenings to initiate early treatment and improved outcomes for residents at all stages of life.

**Cancer:** Provide early detection and treatment to reduce death from breast, colorectal and lung cancers, and improve quality of life for patients.

**Chronic Disease:** Promote health as a community priority, and increase healthy lifestyle choices.

**Maternal and Child Health:** Improve birth outcomes for women and infants.

### **Hospital Implementation Plans**

Supported by systemwide goals for community health improvement, individual hospitals developed specific strategies that reflect local needs, unique challenges, community assets and health disparities within the hospitals' service areas. Individual plans are available upon request and can be found on Baptist Memorial Health Care's website at <https://www.baptistonline.org/about/chna> along with the 2019 CHNA reports.

### **Board Approval**

On Tuesday, Sept. 24, 2019, the Baptist Memorial Health Care corporate board reviewed and adopted this report (2019 CHNA) along with plans to create Implementation Plans for each hospital in Baptist's North Mississippi Service Area.

## Appendix A: Public Health Secondary Data References

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## Appendix B: Key Informant Survey Participants

Key Informant Organization	Key Informant Title/Role	City/State
Aaron E. Henry Community Health Center	Pediatrician, Medical Director of Mississippi Children's Health Project	Tunica, MS
Agape Health Services Free Clinic	Executive Director	New Albany, MS
Arkansas State University	Associate Professor	Jonesboro, AR
BancorpSouth	AVP, CRA Specialist	Jonesboro, AR
BancorpSouth	Senior Vice President	Columbus, MS
BancorpSouth	Personal Banker	New Albany, MS
Banner-Independent	Managing Editor	Booneville, MS
Baptist Community Advisory Board	Member	Oxford, MS
Baptist Memorial Hospital–Calhoun	BMC Board Chairman	Calhoun City, MS
Baptist Memorial Hospital–Calhoun	Director, Quality	Calhoun City, MS
Baptist Memorial Hospital–Calhoun	Generalist	Calhoun City, MS
Baptist Memorial Hospital–Golden Triangle	N/A	Columbus, MS
Baptist Memorial Hospital-North Mississippi	Community Advisory Board	Oxford, MS
BMHCC	RN	Columbus, MS
Baptist's Memorial Health Care Corporation–Internal Audit	Director of Operations and Revenue Audits	Memphis, TN
BNA Bank	President and CEO	New Albany and Tupelo, MS
BNA Bank	Executive Vice President	New Albany, MS
Brooks Eye Center, Inc.	President	Columbus, MS
Cadence Bank	EVP-Community President	Columbus, MS
Calhoun Economic Development Association, Inc.	Director	Pittsboro, MS
City of Bruce	Municipality	Bruce, MS
City of Oxford	Alderman	Oxford, MS
City of West Point	Municipal Clerk/Tax Collector	West Point, MS
Coldwell Banker West Realty	Broker/Owner	Columbus, MS
Columbus-Lowndes Public Library System	Director	Columbus, MS
Contact Helpline	Executive Director	Columbus, MS
Cowboy Maloney's	Director of Stores	Within the state of MS
Creekmore Clinic	Physician	New Albany, MS
Electric Motor Sales & Service, Inc.	President	Columbus, MS
Excel by 5	Group Leader	Oxford, MS
Family Crisis Services of Northwest Mississippi, Inc.	Executive Director	Oxford, MS
Family Resource Center–Families First	Regional Coordinator	Columbus, MS
First Baptist Church	Pastor	Columbus, MS
Gordon Community and Cultural Center, Inc.	Executive Director	Abbeville, MS
GSC Management LLC/Leigh Mall	Owner/Mall Manager	Columbus, MS
Home Instead Senior Care	President	Memphis, TN
Kindred Home Health	RN, Patient Care Coordinator	New Albany, MS
Kindred Home Health	RN, Patient Care Coordinator	New Albany, MS
Lafayette County Schools	Superintendent	Oxford, MS
Le Bonheur	Administration	Memphis, TN

Key Informant Organization	Key Informant Title/Role	City/State
Life Care Center Bruceton	Admissions Director	Camden, TN
Local Business	President	Columbus, MS
Magnolia Montessori School	Executive Director	Oxford, MS
Main Street	Director	New Albany, MS
McCrary West Construction	Safety/HR	Columbus, MS
Mississippi Coalition Against Domestic Violence	Training and Technical Assistance Coordinator	Flowood, MS
Mississippi Farm to School Network	Co-Director	Oxford, MS
Mississippi Hospital Association	Director, Center for Rural Health	Madison, MS
Mississippi Regional Housing Authority IV	Executive Director	Columbus, MS
New Albany School District	Public Relations	New Albany, MS
New Albany Schools	Health Services Coordinator	New Albany, MS
Northwest MS Community College	Director, Division of Nursing	Senatobia, MS
Not an organization	Owner	Columbus, MS
Office of the Lafayette County Coroner	County Medical Examiner Investigator	Oxford, MS
On Time Health care & Consulting, Inc.	Practitioner	Columbus, MS
Optus Inc.	Vice President, HR	Jonesboro, AR
Oxford School District	Superintendent	Oxford, MS
Oxford School District	Assistant SPED Director/ District RtI Coordinator	Oxford, MS
Pilot Club of New Albany, MS	Projects Coordinator	New Albany, MS
Qualified Staffing	Branch Manager	Columbus, MS
RebelWell	Project Coordinator	University, MS
RSVP	Member	Oxford, MS
Shaw Pit Bull Rescue, Inc.	President	Columbus, MS
Smith Drug & Home Medical	Administrator	Booneville, MS
Susan G. Komen Memphis–MidSouth Mississippi	CEO	Memphis, TN
The Marketing Spectrum	President/CEO	Memphis, TN
Union County Development Association	Executive Director	New Albany, MS
Union County School District/Myrtle School	Assistant Principal-Myrtle School	Myrtle, MS
Union County Schools	School Nurse	Blue Springs, MS
United Way	Interim Executive Director	Columbus, MS
Vardaman Schools	School Nurse	Vardaman, MS
Vardaman Schools	School Nurse	Vardaman, MS
Vineyard Court Nursing and Rehabilitation	LPN/Clinical Liaison	Columbus, MS
Vitalant	Senior Donor Recruitment Representative	Memphis, TN
Waste Pro	Sales Representative	Columbus, MS
WeeCare Special Needs Counseling and Assistance	CEO and Founder	Oxford, MS
Winchester-Olin	Manager of Human Resources	Oxford, MS
WTVA	General Manager	Tupelo, MS
YMCA	Trustee	Columbus, New Hope, and Caledonia, MS



## Appendix C: Federally Qualified Health Center Locations

### Benton County

Location	Address
Mobile Unit	15921 Boundary Dr., Ashland, MS 38603

### Calhoun County

Location	Address
Family Health Care Clinic, Inc., Calhoun City	105 Legion Ave., Calhoun City, MS 38916
Family Health Care Clinic, Inc., Calhoun City – Head Start	125 Carter Dr., Calhoun City, MS 38916

### Panola County

Location	Address
Aaron E. Henry – Batesville Ambulatory Care Clinic	216 Highway 51 N., Batesville, MS 38606

### Prentiss County

Location	Address
Booneville Community Health Center	208 N 1 <sup>st</sup> St., Booneville, MS 38829

### Union County

Location	Address
New Albany Health Care Associates	232 Starlyn Ave., New Albany, MS 38652

\*Note: There are no federally qualified health centers in Lafayette or Lowndes counties.