2022 Community Health Needs Assessment

Central Mississippi

Baptist Memorial Hospital–Attala • Baptist Memorial Hospital–Leake
Baptist Memorial Hospital–Mississippi Baptist Medical Center
Baptist Memorial Hospital–Yazoo

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Our Commitment to Community Health

Baptist Memorial Health Care (Baptist) 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, we conduct 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
We ensure 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.

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. 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 foster ongoing relationships with these partners and provide financial and in-kind gifts to support their work.

Investing in health care education and research
We support 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.

Overview of the 2022 CHNA

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 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 socio-economic data. Systemwide priorities were determined to address common health needs across the Mid-South. Specific strategies were outlined in each hospital's implementation plan to guide local efforts and collaboration with community partners.

2022 CHNA Geographic Regions and Primary Service Areas

Region	Primary Service Counties	Hospitals
Memphis Metro	Shelby and Fayette counties, 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 and 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 and 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

CHNA Leadership

A Baptist Memorial Health Care steering committee, along with community representatives and partners, oversaw the 2022 CHNA. These individuals served as liaisons to their organizations and the communities served by their entities.

2022 CHNA Steering Committee Members

Donna Baugus; Survey Research Manager

Cynthia Bradford; System Community Involvement Manager

Abby Brann; System Community Involvement Coordinator

David Garrison; System Finance Director

Tom Gladney; Data Management and Decision Support Director

Bill Griffin; Executive Vice President and Chief Financial Officer

Caitlin Hayden; System Senior Community Involvement Coordinator

Kelley Jerome; Internal Audits Manager

Briana Jegier, PhD; Program Chair & Associate Professor, Baptist Health Sciences University

Taylor Jones; Strategic Planning Data Analyst

Saju Joy, MD; Senior Vice President and Chief Medical Officer

Jeff Lann; Research and Marketing Development Manager

Michelle McDonald, PhD; Dean of General Education and Health Studies, Baptist Health Sciences University

Jim Messineo; Revenue and Operations Audits Director

Keith Norman, DMin; Vice President, Chief Government Affairs and Community Relations Officer

Shivani Patel; Health Services Research Intern

Anne Sullivan, MD; Chief Quality and Academic Officer

Kimmie Vaulx; System Corporate Communications Director

Ann Marie Wallace; System Senior Community Involvement Coordinator

Nicholas Weaver; System Community Involvement Coordinator

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

Methodology and Community Engagement

The 2022 CHNA was conducted from July 2021 to August 2022 and included quantitative and qualitative research methods to determine health trends and disparities affecting service area residents. Through a comprehensive view of statistical health indicators and community stakeholder feedback, a profile of priority areas was determined. The findings will guide health care services and health improvement efforts, as well as serve as a community resource for grant making and advocacy, and support the many programs provided by health and social service partners.

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

Baptist sought to engage individuals and communities historically underrepresented and underserved by health care services to illuminate diverse perspectives on community needs and inform community health improvement strategy. Consumer interviews and focus groups were hosted across the Baptist service areas with the goal of garnering stakeholder feedback and recommendations to improve health and the health care experience by addressing access to care challenges and underlying social determinants of health and inequities. This feedback is reflected in Baptist's approach to defining the 2022-25 priority areas and developing each hospital Community Health Improvement Plan (CHIP).

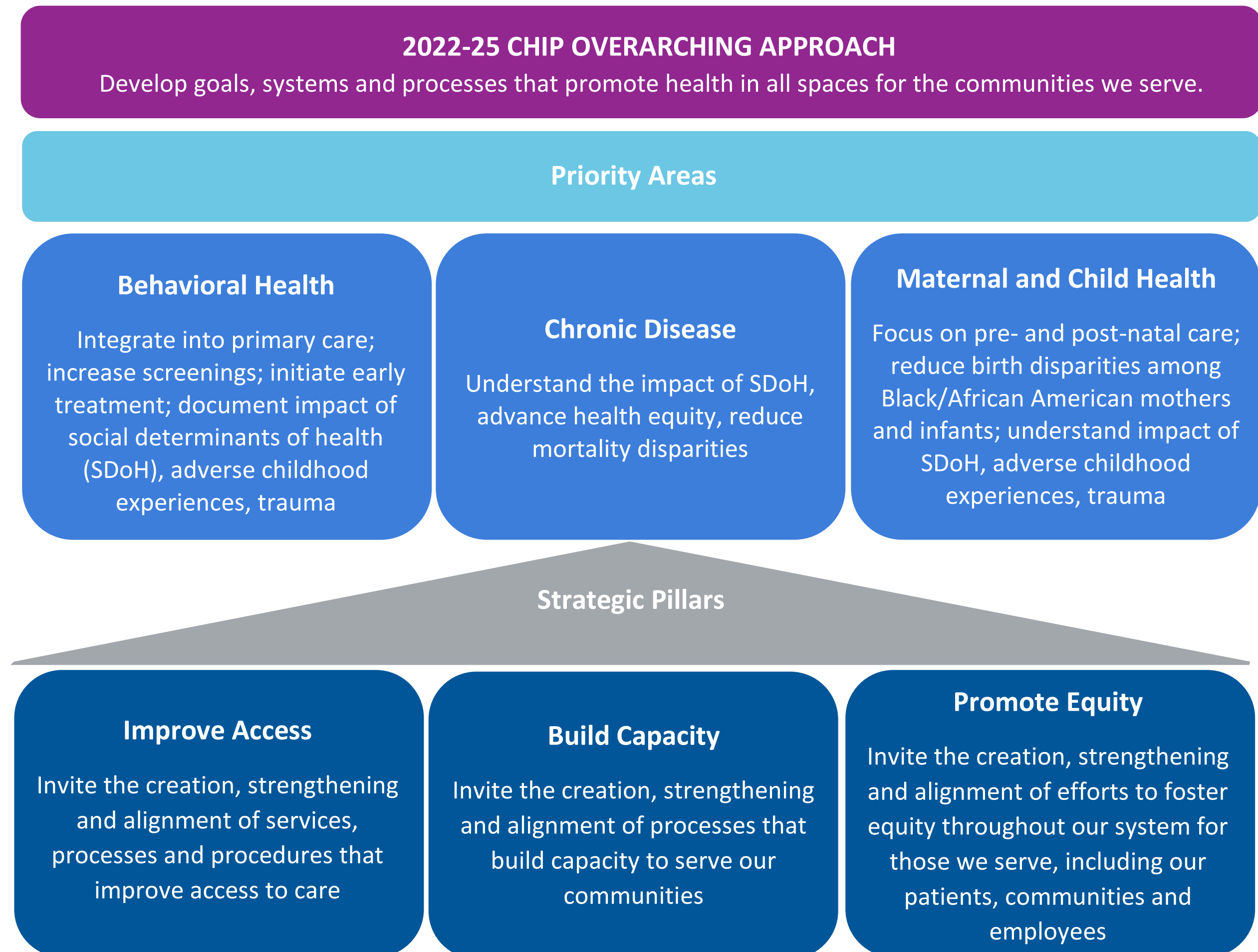
The following research methods were used to determine community health needs:

- Analysis of existing secondary data sources, including public health statistics, demographic and social measures and health care utilization
- Key Informant Surveys to assess perceived health priorities, perspectives on emerging health trends and recommendations to advance community health improvement
- Patient Access to Care and Services Survey to understand health care providers' perspectives on barriers to care, the impact of social determinants of health, cultural competencies and other factors that impede optimal outcomes for patients
- Consumer interviews and focus groups with individuals representing Black, Indigenous and People of Color (BIPOC) and other populations historically underserved by health care services to inform community health improvement strategy

Community Health Priorities

It is imperative to prioritize resources and activities toward the most pressing and cross-cutting health needs within our community. In determining the issues on which to focus efforts over the next three-year cycle, Baptist collected feedback from community partners and sought to align with community programs, population health management strategies and diversity, equity and inclusion initiatives.

In defining the 2022-25 priority areas and developing hospital CHIPs, Baptist outlined an overarching approach that promotes health in all spaces for the communities they serve and centers health equity strategies. The approach is illustrated in the graphic below.



Board Approval

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

Baptist is committed to advancing initiatives and community collaboration to support the issues identified through the CHNA. The 2022 CHNA report was presented to the Baptist Board of Directors and approved in September 2022.

Following the board's approval, the CHNA report was made available to the public via the Baptist website at baptistonline.org/about/chna.

Baptist Central Mississippi Service Area Description

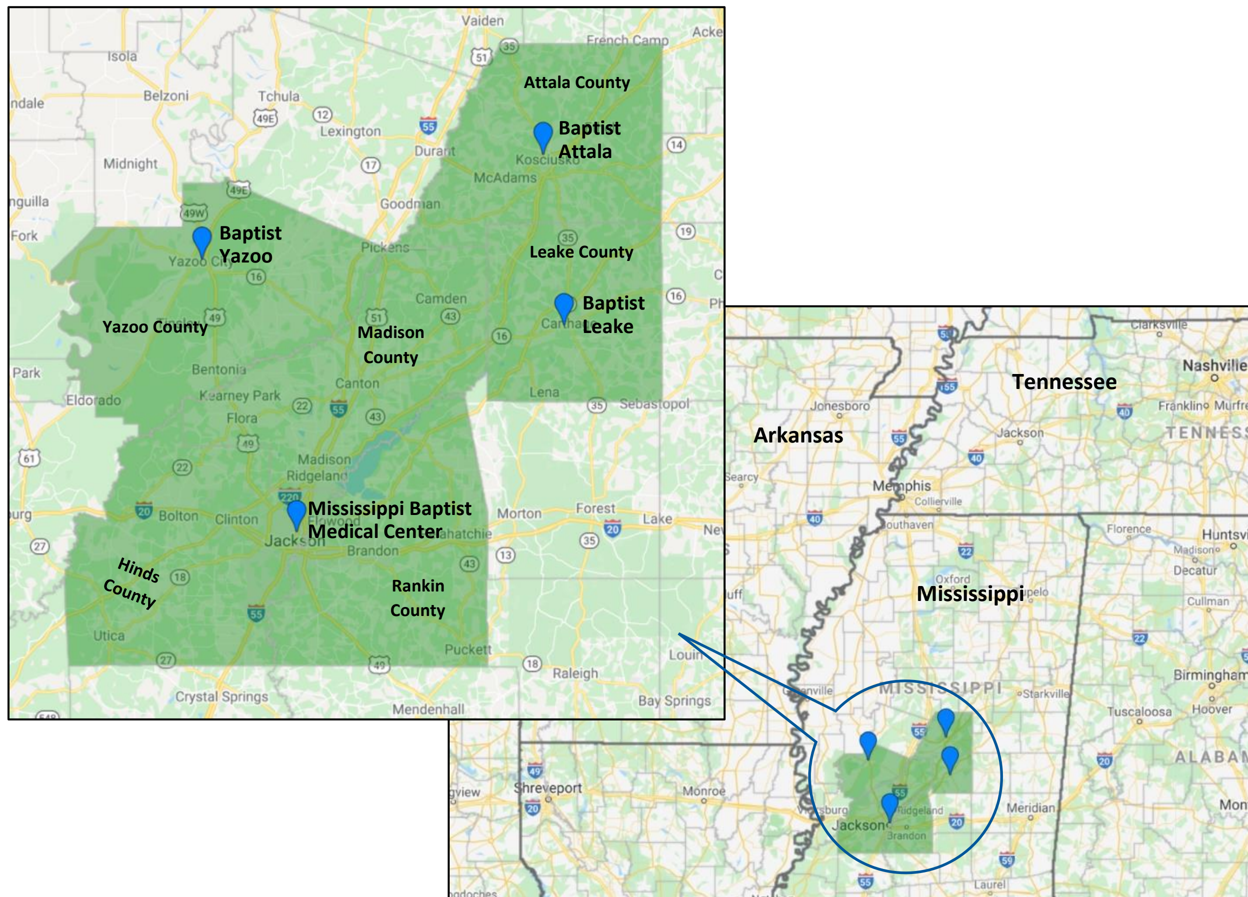
Baptist has 22 affiliate hospitals serving residents in three states. For purposes of the CHNA, Baptist focused on the primary service county(ies) of each of its not-for-profit hospitals to identify health trends and unique disparities within these communities. Hospitals with overlapping service areas were grouped into regions for comparisons of health and socio-economic data.

Baptist Memorial Health Care has four hospitals in the Central Mississippi service area, which collaborated on the 2022 CHNA. The study encompassed Attala, Hinds, Leake, Madison, Rankin and Yazoo counties in Mississippi. Select data for service area ZIP codes are also shown throughout the report.

The following hospitals participated in the 2022 CHNA for the Central Mississippi service area.

- Baptist Memorial Hospital-Attala (Baptist Attala)
- Baptist Memorial Hospital-Leake (Baptist Leake)
- Baptist Memorial Hospital-Mississippi Baptist Medical Center
- Baptist Memorial Hospital-Yazoo (Baptist Yazoo)

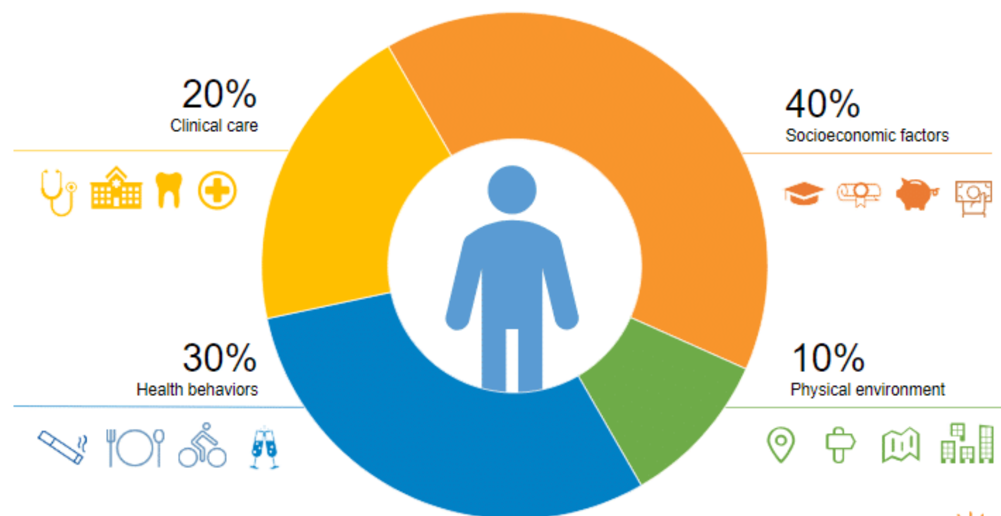
Baptist Central Mississippi Service Area



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

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

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



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

Understanding Health Equity

Social determinants of health are in part responsible for the unequal and avoidable differences in health status within and between communities. In the Central Mississippi service area some of these inequities fall along lines of race, particularly affecting Black/African American communities. As the CDC notes, throughout the U.S. centuries of racism have had a profound impact on communities of color, and this impact creates "inequities in access to a range of social and economic benefits—such as housing, education, wealth and employment. These conditions—often referred to as social determinants of health—are key drivers of health inequities within communities of color, placing those within these populations at greater risk for poor health outcomes."

Through understanding the obstacles to health equity and how those obstacles create disparate outcomes, such as decreased average life expectancy, community partners can plan strategically to decrease health care barriers and improve health outcomes.

A key SDoH metric is poverty. Overall poverty declined across Mississippi and much of the Central Mississippi Service Area since the 2019 CHNA, but economic indicators continue to vary widely by population. Nationally, 11% of white people live in poverty compared to 23% of Black/African American people. In Mississippi, the poverty rate for both groups is elevated, and the gap is significantly larger, with 13% of white residents living in poverty compared to 32% of Black/African American residents.

Within the Central Mississippi service area, an example of SDoH inequities is seen in Canton in Madison County. Madison County overall has the highest median household income in the service area and lower poverty than the state and nation. The poverty level for Canton is more than double the county average. Black/African Americans comprise 35% of the total population of Madison County and 65% of the population in Canton. Similar inequities are seen in Jackson in Hinds County, Yazoo City in Yazoo County and Kosciusko in Attala County. Of note, residents of Yazoo City are among the most likely to experience socio-economic disadvantage with 36% of residents and 52% of children living in poverty.

Socio-economic inequities within the service area correlate with differences in life expectancy. Within parts of Canton, Jackson, Yazoo City and Kosciusko, average life expectancy is 72 years or lower compared to 76 years or higher in neighboring areas. In northern Yazoo City, average life expectancy is 64.8 years, the lowest in the service area. The western portion of Kosciusko has the second lowest life expectancy in the service area at 66.6 years. Both Yazoo and Attala counties overall report the largest disparity in life expectancy between white and Black/African American people of approximately 4 years.

Key Social Determinants of Health Metrics by County and Race

	People in Poverty		Adults with a Bachelor's Degree		People without Health Insurance	
	White	Black	White	Black	White	Black
Attala County	13.3%	43.7%	17.1%	9.3%	9.4%	10.1%
Hinds County	10.5%	24.8%	44.5%	22.4%	10.1%	13.0%
Leake County	19.1%	32.3%	16.2%	11.6%	16.7%	10.9%
Madison County	4.8%	16.7%	60.4%	27.8%	3.7%	10.2%
Rankin County	7.1%	12.5%	31.0%	20.0%	8.1%	11.2%
Yazoo County	14.8%	41.0%	20.1%	8.2%	7.5%	15.8%

Source: U.S. Census Bureau, American Community Survey, 2015-2019

Average Life Expectancy by County and Race

	Overall Life Expectancy	White Life Expectancy	Black Life Expectancy	Difference (White – Black)
Attala County	74.1	76.0	71.7	-4.3
Hinds County	75.2	77.2	74.4	-2.8
Leake County	76.1	77.0	76.5	-0.5
Madison County	76.5	77.6	74.0	-3.6
Rankin County	79.2	79.2	77.3	-1.9
Yazoo County	73.8	75.2	71.6	-3.6

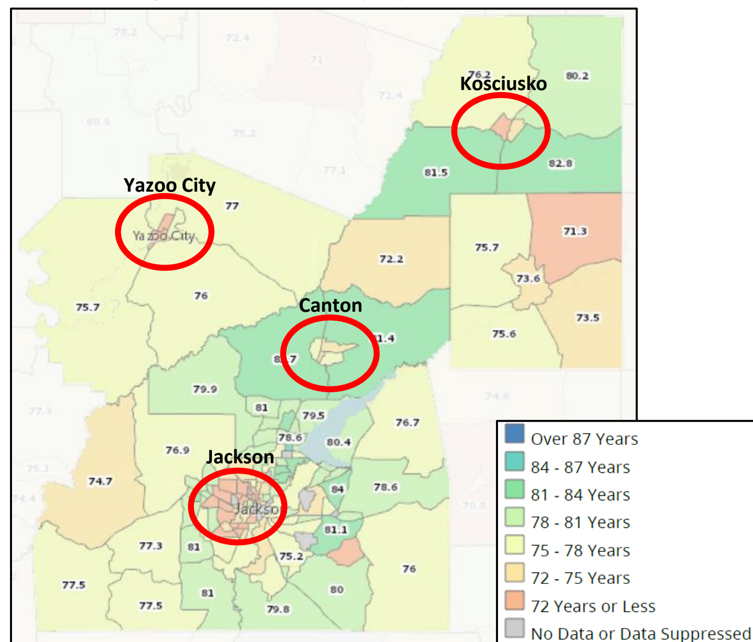
Source: National Vital Statistics System, 2017-2019

Areas of Socio-Economic Disparity within the Central Mississippi Service Area and Disproportionate Impact on Communities of Color

ZIP Code	People in Poverty	Adults Not Completing High School	People without Health Insurance	Racial Composition	
				Black	White
39213, Jackson	30.0%	22.3%	15.8%	84.1%	10.9%
39203, Jackson	35.4%	24.4%	22.9%	60.6%	26.8%
39194, Yazoo City	36.3%	22.3%	12.4%	95.9%	3.6%
39046, Canton	20.3%	17.3%	10.1%	96.0%	3.1%
39209, Jackson	37.2%	19.0%	13.9%	93.4%	4.4%
39204, Jackson	33.8%	19.8%	16.2%	77.4%	10.6%
39201, Jackson	33.5%	22.2%	10.6%	43.8%	55.6%
39090, Kosciusko	25.9%	22.3%	12.0%	51.9%	44.0%
US Benchmark	13.4%	12.0%	8.8%	12.7%	72.5%

Source: U.S. Census Bureau, American Community Survey, 2015-2019

Average Life Expectancy by Census Tract



As part of the 2022 CHNA, a Patient Access to Care and Services Survey was conducted among health care providers and support staff across the Baptist regions. The survey findings demonstrated how SDoH impact clinical care and ultimately health outcomes.

Among respondents serving the Central Mississippi Service Area, nearly 58% “agreed” or “strongly agreed” that SDoH negatively impacted the health of patients and families they serve, and 75% “agreed” or “strongly agreed” that the COVID-19 pandemic negatively impacted health due to delayed preventive or maintenance care. Similarly, approximately 63% of participants “agreed” or “strongly agreed” that the pandemic exacerbated the negative impact of SDoH.

Survey participants across the Baptist regions indicated awareness of the impact of SDoH, but pointed to a lack of resources as a limitation in responding to these issues, as indicated in the following comments:

> *“We do not screen because we do not currently have resources to refer and follow up with patients. However, we GREATLY need to implement screening and referral practices in our specialty clinic. SDoH impacts our patients in all aspects of life and chronic illness management.”*
>
> *“We have very scarce resources to help our very underserved patients.”*
>
> *“We cannot impact the patients’ socio-economic status, nor provide transportation when they have none. All we can do is treat them with respect and dignity while we have them here.”*

Several Central Mississippi service area providers shared specific cases in which the SDoH impacted patients. For example:

> *“I care for patients in their home. I review information in medical record, and it does not accurately reflect what I see in the home. Some patients do not wish to share what I see in the home in clinic setting, fear of judgement, fear of less quality care, and do not feel it is an important part of their care.”*
>
> *“Jane, a homeless woman in her early 50's, has a diagnosis of bipolar disorder with psychosis, diabetes and hypertension. She is staying in an abandoned house with no running water or utilities. She is prescribed a diabetic medicine that requires refrigeration. A lack of affordable, safe housing in addition to limited resources for shelter presents a challenge for individuals with major medical and mental health issues.”*
>
> *“My patients suffer from an incredibly painful disease that requires narcotic therapy in severe cases. Because they are African American, ER physicians automatically label them as uneducated, poor and drug seekers. This severely affects the care they receive. So much so that my patients will sometimes try to figure out who is in the ER before deciding to go for treatment or will leave without being seen once they see who is there.”*

Collectively, SDoH were identified as the top clinical service gap by survey participants across the Baptist regions. Among the top identified needs was transportation, followed by insurance coverage and economic security. Insurance coverage included both access or insured status and affordable coverage (e.g., co-pays). Economic security included income or financial support and job opportunities.

COVID-19 Demonstrated Inequities

The COVID-19 pandemic both highlighted and deepened socio-economic and health inequities. According to the Community Vulnerability Index developed by Surgo Ventures, all Central Mississippi service area counties except Rankin were considered more vulnerable to COVID-19 than other parts of the U.S. Among the factors impacting this finding were financial insecurity, older age and underlying health issues, health disparities among people of color, limited health care resources and/or housing and transportation challenges. Of note, Leake and Yazoo counties were considered more vulnerable to COVID-19 than 98% of other U.S. counties.

By the end of 2020, average national unemployment was double what it was at the beginning of the year. Within the Central Mississippi service area, all counties saw an increase in unemployment in 2020. Of note, Hinds and Yazoo counties saw the largest increases in unemployment and have been among the slowest to recover, as indicated by July 2021 unemployment percentages that were approximately 2 points higher than pre-pandemic levels.

As of Sept. 2021, the Central Mississippi service area had a combined 77,834 COVID-19 cases and 1,483 related deaths. As the most populous county in the service area, approximately 40% of cases and deaths occurred among residents of Hinds County. However, case and/or death rates were higher in the predominantly rural counties of Attala, Leake and Yazoo. This finding may reflect more severe disease incidence, delayed detection or treatment barriers or lower vaccination rates.

As part of the Key Informant Survey, 92 community representatives serving the Central Mississippi service area provided their feedback on a wide range of health and social needs and opportunities. Among respondents, more than 90% "agreed" or "strongly agreed" that COVID-19 had a negative impact on the health and well-being of the people their organization served. When asked to provide recommendations on how community organizations can better serve priority populations in light of COVID-19 and demonstrated societal inequities, respondents provided the following select comments:

> *"Active involvement and scheduling a townhall to address the inequities in our community."*
>
> *"Continue to do more of what you are doing in partnership with those who are serving local communities. Trust in relationships that already exist with smaller, more localized care providers within the local communities who understand the unique needs of those they serve."*
>
> *"Ensure racial and health disparities are widely discussed within the medical profession (nurses, doctors, aids, assistants) and equity is instilled in every component of caregiving."*
>
> *"More neighborhood or mobile clinics in specific neighborhoods targeting these populations. Also, possible partnering with the federally qualified community health clinics, which are extremely busy in this market area since that's the key access point for free or reduced fee services."*
>
> *"Your leadership needs to reflect the diversity of the population of our city/state. Having minority voices in the room changes the conversation, in a good way."*

Our Community

Population Trends/Changes

The city of Jackson, located within Hinds County, is the capital of Mississippi and the most populous city in the state. Jackson is the only major metro area within the Central Mississippi service area and is the medical hub for neighboring counties. Other areas within Hinds County, and rural communities throughout the service area, are designated as Health Professional Shortage Areas (HPSAs), particularly affecting individuals with low income. Access to providers and health care services is reduced for residents in these areas and further exacerbated by poverty, lack of health insurance and related socio-economic disparities.

Within the Central Mississippi service area, all counties except Madison and Rankin saw population decline from 2010. Population growth within Madison County (+14.6%) was nearly double the national growth percentage. The Central Mississippi service area, excluding Rankin County, is more diverse than the state and nation, supported by a high proportion of Black/African American residents. Consistent with the 2019 CHNA, Hinds County is the most diverse community with nearly 70% of residents identifying as Black/African American.

Racial and ethnic diversity is increasing nationally and across the Central Mississippi service area, particularly for multiracial individuals. The multiracial population increased more than 100% from the 2010 Census in all reported counties except Yazoo, as well as statewide and nationally. Madison and Rankin counties saw the largest increase in the multiracial population of more than 300%.

Health needs change as individuals age. Therefore, the age distribution of a community impacts its social and health care needs. Excluding Attala County, the Central Mississippi service area population is generally younger than the state and nation with proportionately more youth and fewer older adults. In all counties, youth under age 18 comprise approximately 1 in 4 residents. Attala County has a slightly higher median age than the state and nation and 19% of residents are aged 65 or older compared to approximately 15.5% statewide and nationally.

Socio-Economic Trends

Poverty levels declined for most Central Mississippi service area counties over the past decade, but economic indicators vary widely by county, representing areas of both wealth and poverty. Consistent with the 2019 CHNA, Madison and Rankin counties have higher median household incomes than the state and nation and fewer people living in poverty. All other service counties have lower incomes and higher poverty than both the state and nation, with greater disparity in Attala, Leake and Yazoo counties. Contrary to statewide trends, poverty levels increased in Attala and Leake counties. Poverty declined in Yazoo County but continues to be the highest in the service area at nearly 32% compared with a statewide average of 20%.

COVID-19 had a profound impact on economic security, particularly for children, and as demonstrated in projected food insecurity rates. From 2019 to 2020, the percentage of food insecure children was projected to increase nearly 3 percentage points across Mississippi. Child food insecurity also increased

in all Central Mississippi service area counties. Consistent with unemployment trends, Hinds and Yazoo counties saw the largest increases in child food insecurity of nearly 5 percentage points.

Projected food insecurity was lower in 2021 than 2020 for all service area counties, but slightly elevated from pre-pandemic levels. Consistent with having overall higher poverty, Attala, Leake and Yazoo counties have the highest proportion of food-insecure residents. In Yazoo County, 33% of children were projected to be food insecure in 2021, a level which approaches twice the national average.

Rural Health Challenges

Much of the Central Mississippi service area is rural, including Attala, Leake and Yazoo counties. There are specific challenges facing residents of rural communities. According to the CDC, “rural Americans are more likely to die from heart disease, cancer, unintentional injury, chronic lower respiratory disease and stroke than their urban counterparts.” The CDC notes that rural Americans are likely to be older and sicker than their urban counterparts, a trend that is demonstrated in Attala County.

There are a number of reasons why rural populations are at greater risk for poorer outcomes, including environmental challenges such as longer drives to receive both emergency and routine care. In addition, according to the CDC, rural Americans tend to have higher rates of cigarette smoking, high blood pressure and obesity. The challenges residents face as a result of these disparities impact health care access in a variety of ways.

Priority Health Needs

It is imperative to prioritize resources and activities toward the most pressing and cross-cutting health needs within our community. In determining the issues on which to focus efforts over the next three-year cycle, Baptist collected feedback from community partners and sought to align with community programs, population health management strategies and diversity, equity and inclusion initiatives. Baptist will focus efforts on the following community health priorities over the next three-year cycle:

- Behavioral Health
- Chronic Disease
- Maternal and Child Health

Behavioral Health

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 risky health behaviors like tobacco or drug use. Behavioral health disorders can reduce a patient's ability to effectively manage other conditions, increasing disease complications and the need for medical care.

Nearly one-quarter of respondents to the Key Informant Survey selected mental health conditions as one of the top five concerns for the people their organization serves, and availability of specialty care services, including mental health care, were noted as a missing resource within the community.

Throughout the Central Mississippi service area, only Madison County did not exceed the national average (12.9%) for adults with frequent mental distress, defined as having poor mental health on 14 or more days during a 30-day period. All other service area counties exceeded the nation, including a high of nearly 19% of adults in Leake County, followed closely by Attala and Yazoo at 18%. Of note, while Rankin County only slightly exceeded the national average for frequent mental distress at 14.1%, it has historically had a higher and increasing rate of death due to suicide. This finding may indicate undiagnosed mental health concerns in Rankin County or other barriers to care such as stigma.

Mississippi youth have historically been more vulnerable to mental health concerns, including attempted suicides. Nearly 13% of Mississippi high school students reported an attempted suicide in 2019 compared to a national average of 9%. When considered by subpopulation, attempted suicides were highest among students identifying as lesbian, gay or bisexual (LGB), followed by Black/African Americans, females and Latinx. Of note, nearly 30% of LGB students in Mississippi reported an attempted suicide compared to 23.4% nationwide.

While the demand for mental health services has increased in Mississippi, mental health provider rates have lagged national rates. As of 2020, Mississippi had a mental health provider rate of 169.1 per 100,000 population compared to a national rate of 263.2. All Central Mississippi service area counties except Hinds also have a lower rate of mental health providers than the nation, despite increases over the past five years. Attala, Leake and Yazoo counties are designated as High Needs HPSAs for mental health care. High needs HPSAs are areas with higher poverty, higher prevalence of substance use and/or more vulnerable populations like youth and older adults.

Across Mississippi and within the Central Mississippi service area, residents are less like to report excessive drinking and experience fewer negative outcomes related to alcohol and drugs compared to national averages. Among service area counties, Rankin and Madison report more alcohol-related risk factors, slightly exceeding the state average for excessive drinking. Available accidental drug overdose death data for the service area show that Hinds, Madison and Rankin counties have a similar or lower death rate than the state, although the rate has generally increased for Hinds and Rankin counties.

Accidental drug overdose death rates should continue to be monitored in light of the COVID-19 pandemic. Provisional data released by the CDC predicts that 2020 and 2021 brought the highest number of overdose deaths ever in the U.S. Based on a rolling 12-month count from March 2020 to March 2021, the number of drug overdose deaths is predicted to have increased 48.3% in Mississippi, compared with 30.8% nationally.

Chronic Disease

Prior to COVID-19, the top leading causes of death among all populations in the U.S. were chronic diseases including (in order of U.S. mortality rates) heart disease, cancer, unintentional injuries, chronic lower respiratory diseases, stroke and Alzheimer's disease.

The CDC's list of major risk factors for chronic disease include smoking, poor nutrition and physical inactivity. Mississippi adults overall have increased risk factors for chronic disease than their peers across the nation. Consistent with SDoH trends, Attala, Leake and Yazoo counties have more risk factors than the state. Approximately one-third of adults in these counties are physically inactive and one-quarter use tobacco. Hinds County generally mirrors the state for these indicators, while Madison and Rankin counties more closely align with the nation and report better health overall.

Consistent with reporting more health risk factors, Mississippi adults have historically higher prevalence of obesity and diabetes than the nation. Within the Central Mississippi service area, Attala, Hinds and Leake counties also exceed the nation for adult obesity and diabetes prevalence, and adult obesity increased 3.5 to 5 percentage points in these counties from 2015 to 2019.

Madison and Yazoo counties have lower prevalence of adult obesity and diabetes than the state and nation, but these findings should continue to be monitored due to recent trends. Diabetes prevalence and death rates increased in Madison County, and the death rate exceeds state and national death rates. In Yazoo County, adult obesity and diabetes prevalence and the diabetes death rate declined, but the diabetes death rate is the highest in the service area and triple the statewide death rate.

Mississippi overall has a higher rate of death due to diabetes than the nation, largely due to disparities affecting Black/African American people. Across Mississippi, there is a more than 33-point difference in the death rate between white and Black/African American residents. A similar disparity is seen across the Central Mississippi service area.

Cancer is the second leading cause of death nationally and has historically affected a higher proportion of Mid-South residents. Within the Central Mississippi service area, cancer incidence and death rates vary widely, largely aligning with socio-economic trends. Rankin County generally reports positive cancer

outcomes and declining incidence and death rates. Cancer incidence also declined in Yazoo County, but the death rate remains higher than the state and nation. This finding suggests delayed cancer screening and later stage diagnosis. Yazoo County has the lowest proportion of adults receiving cancer screenings in the service area. In all other service area counties except Madison, the cancer death rate generally declined but remains higher than the national rate.

Cancer disparities within Madison County should be further explored. Despite more positive socio-economic trends and overall better access to health care, the county has the highest cancer incidence and death rates in the service area, exceeding statewide and national rates. Higher cancer incidence in Madison County is due in part to better screening for early detection, but higher cancer death rates indicate disparity in access to treatment. White and Black/African American people residing in Madison County have higher death rates than their peers statewide and nationally, but the death rate for Black/African American people is more than 40 points higher than for white people.

Chronic lower respiratory disease (CLRD) includes several chronic conditions of the respiratory tract, including asthma and chronic obstructive pulmonary disease (COPD). Within the Central Mississippi service area, Attala, Leake and Yazoo counties have a higher prevalence of both adult asthma and COPD compared to the state and nation. This finding correlates with a higher prevalence of adult tobacco use and socio-economic barriers, including older housing and poverty.

Contrary to the nation, the CLRD death rate increased in Mississippi and nearly all service area counties. Attala, Leake and Madison counties exceed state and national death rates; the Attala County death rate is the highest in the service area and increased more than 25 points from 2011-2015 to 2015-2019.

Older adults are more at risk for chronic conditions, including multiple chronic conditions or comorbidities. Approximately 74% of Mississippi older adult Medicare beneficiaries have two or more chronic conditions, a higher proportion than the nation (70.3%). Within the Central Mississippi service area, Attala County has the highest proportion of older adults aged 65 or older and the highest proportion of older adult Medicare beneficiaries with comorbidities, exceeding state and national averages. It is worth noting that the proportion of older adult Medicare beneficiaries with comorbidities increased statewide and nationally and in all service area counties from the 2019 CHNA.

Older adults in all Central Mississippi service area counties except Madison are more likely to have a disability when compared to the nation, potentially challenging disease management efforts. Of note, approximately half of older adults in Attala and Yazoo counties and 60% of older adults in Leake County experience disability.

The Alzheimer's disease death rate among older adults in Mississippi is 100 points higher than the national death rate. All Central Mississippi service area counties except Rankin also have a higher Alzheimer's disease death rate than the nation, despite having a similar prevalence of Alzheimer's disease among older adult Medicare beneficiaries. In all counties, the Alzheimer's disease death rate increased from prior years; Madison County saw the largest increase, and both Madison and Attala counties exceed the national death rate by more than 300 points.

Social determinants of health, such as economic stability, health care access and racism, are in part responsible for the unequal and avoidable differences in health status within and between communities, such as the disparities seen within the Central Mississippi service area and between white and Black/African American people. Addressing barriers to care based on the SDoH is critical to ensure health equity for all residents and to improve outcomes and rates of chronic disease.

Respondents to the Patient Access to Care and Services Survey identified health education and programs among the top community factors that would help improve SDoH for patients and residents. Health education/program topics included diabetes, asthma and preventative care. Other top needed community factors included transportation and social workers or case managers. When asked to describe the ideal scenario for addressing SDoH in the care setting, survey participants serving the Central Mississippi service area provided the following select comments:

> *"Dedicated access to a social worker who can facilitate a patient's access to community resources."*
>
> *"In my imagination that would look like a very robust set of community resources for the patient including support for food, housing, education, job opportunities, areas for physical activity. Also, my dream is to see an amazing transportation system that can bring patients to appointments and take them home in a reliable and safe manner so they don't have to miss appointments. Also, as many of patients are on state Medicaid, having a resource that can help them navigate the insurance maze so that they never lose their coverage because they didn't understand what to do."*
>
> *"LGBTQ+ inclusive environment with training of staff for pronouns. Inclusive advertising."*
>
> *"Non-judgmental gathering of information by ancillary staff during assessment of vital signs while the door is closed and no others able to hear questions and answers asked and answered."*

Maternal and Child Health

All Central Mississippi service area counties except Rankin and Yazoo have a higher birth rate than the state and nation. Of note, despite having a higher birth rate, the population in Attala, Hinds and Leake counties declined, a finding that is consistent with lower overall life expectancy and disparities among growing populations of color. This finding may also indicate an out-migration of residents.

Mississippi overall reports poorer birth outcomes than the nation, including a higher proportion of teen, low birth weight and premature births, a high prevalence of smoking during pregnancy and a higher infant death rate. Birth outcomes in the Central Mississippi service area generally align with socio-economic indicators and existing birth disparities primarily affecting Black/African American people.

While both white and Black/African American people residing in Mississippi experience birth disparities compared to the nation overall, these disparities disproportionately impact Black/African American people.

In Hinds County, where nearly 70% of residents identify as Black/African American, there is a more than 10-point deficit in the percentage of Black/African American pregnant people receiving early prenatal

care compared to white people. Nearly 1 in 5 babies born to Black/African American people are born premature or with low birth weight compared to 1 in 10 white babies. The infant death rate among Black/African American infants is nearly 40% higher than for white infants. These disparities are consistent across the Central Mississippi service area.

Madison and Rankin counties have historically better overall birth outcomes than the state and/or the nation, but both counties saw a decline in these outcomes in 2019 that should continue to be monitored. From 2015 to 2019, Madison and Rankin counties saw a decline in the proportion of pregnant people receiving first trimester prenatal care and an increase in low birth weight and premature births. Rankin County also saw an increase in tobacco use among pregnant people.

The maternal death rate is a growing concern in the Mid-South and nationally. In Mississippi between 2013 and 2016, there was a total of 136 maternal deaths occurring during pregnancy or within one year of the end of pregnancy. The pregnancy-related death rate for Black/African American people in Mississippi was 51.9 per 100,000 live births, nearly three times the white death rate of 18.9. These findings continue to point to underlying inequities and the need for collective health improvement strategy by community partners to improve health for all residents.

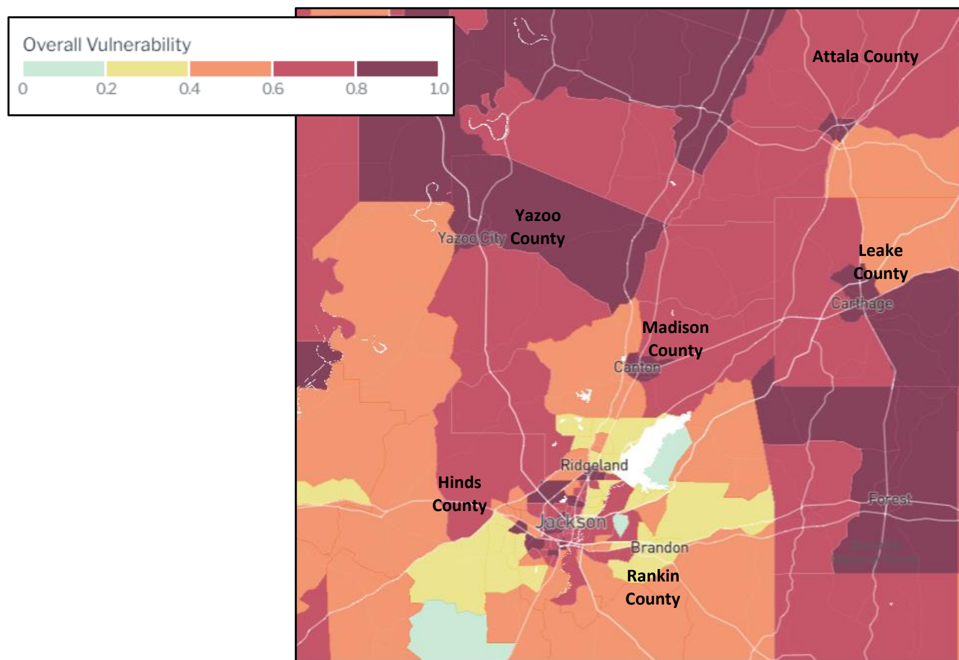
A full summary of CHNA findings for the Central Mississippi service area follows.

COVID-19 Impact on Communities

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

Within the Central Mississippi service area, Leake and Yazoo counties are more vulnerable to COVID-19 than 98% of other U.S. counties. Attala, Hinds and Madison counties also have higher vulnerability than 71% to 91% of U.S. counties. Primary risk factors include unemployment, financial insecurity, older age and underlying health issues, health disparities among people of color, limited health care resources and/or housing and transportation challenges (e.g., crowded housing, limited public transit).

COVID-19 Community Vulnerability Index



	Vulnerability Level	Description
Attala County	Very high	More vulnerable than 88% of U.S. counties
Hinds County	Very high	More vulnerable than 91% of U.S. counties
Leake County	Very high	More vulnerable than 98% of U.S. counties
Madison County	High	More vulnerable than 71% of U.S. counties
Rankin County	Medium	Average vulnerability among U.S. counties
Yazoo County	Very high	More vulnerable than 98% of U.S. counties

Source: COVID Act Now

COVID-19 infection is typically measured by case incidence, which looks at the number of daily new cases per 100,000. When calculating case incidence, an important part of understanding how COVID-19 is affecting certain communities is to analyze the demographics of the community. The COVID-19 pandemic has highlighted health disparities along racial, ethnic and economic lines in the U.S. The following analysis depicts COVID-19 infection for all of the Central Mississippi service area, as well as by age group and race and ethnicity.

As of Sept. 22, 2021, the Central Mississippi service area had a combined 77,834 COVID-19 cases and 1,483 related deaths. Approximately 40% of cases and deaths occurred among residents of Hinds County. **In comparison to the state, Attala and Leake counties had higher COVID-19 case and death rates. Yazoo County had a lower case rate than the state, but a higher death rate.** These findings may indicate more severe disease incidence and/or delayed detection or treatment barriers.

COVID-19 Cases and Deaths (as of Sept. 22, 2021)

	Cases		Deaths	
	Total Cases	Cases per 100,000*	Total Deaths	Deaths per 100,000*
Attala County	3,248	18,156.4	86	480.7
Hinds County	30,973	13,600.0	586	257.3
Leake County	3,971	18,665.1	86	404.2
Madison County	14,145	12,959.8	271	248.3
Rankin County	21,267	13,543.2	368	234.3
Yazoo County	4,230	15,817.2	86	321.6
Central Mississippi Service Area Total	77,834	--	1,483	--
Mississippi	481,397	16,256.4	9,395	317.3

Source: Mississippi State Department of Health

*Rates calculated based on 2020 population counts.

COVID-19 has affected all age groups. While older adults were among the earliest and hardest hit by COVID-19, adults age 25 to 39 made up one-quarter of cases in Mississippi. COVID-19 deaths were concentrated among older adults.

Mississippi COVID-19 Cases and Deaths by Age Group (as of Sept. 22, 2021)

Age Group	Cases		Deaths	
	Count	Percent of Total	Count	Percent of Total
Under 18	82,319	17.6%	8	0.1%
18-24	56,695	12.1%	28	0.3%
25-39	108,956	23.3%	261	2.8%
40-49	68,429	14.6%	478	5.1%
50-64	89,296	19.1%	1963	20.9%
65+	61,414	13.1%	6655	70.9%

Source: Mississippi State Department of Health

Nationally, COVID-19 cases and deaths have been disproportionately higher among Black/African Americans and Latinx. **Mississippi differs from the nation in that COVID-19 cases among racial and ethnic groups were largely proportional to their representation within the overall population.**

Mississippi COVID-19 Cases and Deaths by Race and Ethnicity (as of Sept. 22, 2021)

	Percent of Total Population	Percent of Total Cases	Percent of Total Deaths
White	56.0%	58.2%	57.1%
Black or African American	36.6%	35.6%	39.2%
Other race	5.6%	4.9%	2.1%
Latinx origin (any race)	3.6%	3.0%	1.2%
Asian	1.1%	0.5%	0.3%
American Indian or Alaska Native	0.6%	0.8%	1.3%

Source: Mississippi State Department of Health

COVID-19 vaccination will be essential to managing the pandemic. The following table shows the percentage of eligible residents fully vaccinated. **All Central Mississippi service area counties except Leake and Yazoo have higher vaccine coverage than Mississippi, but lower coverage than the nation.** Approximately one-third of eligible residents in Leake and Yazoo counties have been vaccinated compared to 45% or more of residents in other counties.

COVID-19 Vaccination among Population Aged 12 or Older (as of Sept. 22, 2021)

	Fully Vaccinated
Attala County	45.0%
Hinds County	48.0%
Leake County	38.0%
Madison County	56.0%
Rankin County	45.0%
Yazoo County	33.0%
Mississippi	41.0%
United States	64.3%

Source: Mississippi State Department of Health & Centers for Disease Control and Prevention

The CDC has prioritized vaccine equity, defined as preferential access and administration to those who have been most affected by COVID-19. Among the prominent racial and ethnic groups within the region, vaccine coverage was higher among Asians. Other racial and ethnic groups in Mississippi reported similar vaccine coverage at less than 50%.

COVID-19 At Least Partially Vaccinated by Race and Ethnicity (as of Sept. 20, 2021)

	Mississippi
White	46%
Black or African American	49%
Asian	83%
Latinx (any race)	45%

Source: Kaiser Family Foundation

Service Area Population Statistics

Demographics

Since 2010, the Mississippi population declined by -0.2% compared to national population growth of +7.4%. Within the Central Mississippi service area, all counties except Madison and Rankin also saw population decline from 2010. **Population growth within Madison County (+14.6%) was nearly double the national growth percentage.** In total, the service area saw an increase of +6,286 residents, bolstered by an increase of +13,942 residents in Madison County and +15,414 resident in Rankin County.

2020 Total Population

	Total Population	Percent Change Since 2010
Attala County	17,889	-8.6% ↓
Hinds County	227,742	-7.2% ↓
Leake County	21,275	-10.6% ↓
Madison County	109,145	+14.6% ↑
Rankin County	157,031	+10.9% ↑
Yazoo County	26,743	-4.7% ↓
Mississippi	2,961,279	-0.2%
United States	331,449,281	+7.4%

Source: U.S. Census Bureau, Decennial Census

Health needs change as individuals age. Therefore, the age distribution of a community impacts its social and health care needs. The age distribution and median age of Mississippi is consistent with the nation. **Excluding Attala County, the Central Mississippi service area population is generally younger than the state and nation with proportionately more youth and fewer older adults.** In all counties, youth under age 18 comprise approximately 1 in 4 in residents. Yazoo County has the lowest proportion of youth at 22.3%, but a higher proportion of young- to middle-aged adults 25 to 44 years. Attala County has a slightly higher median age than the state and nation and 19% of residents are age 65 or older compared with approximately 15.5% statewide and nationally.

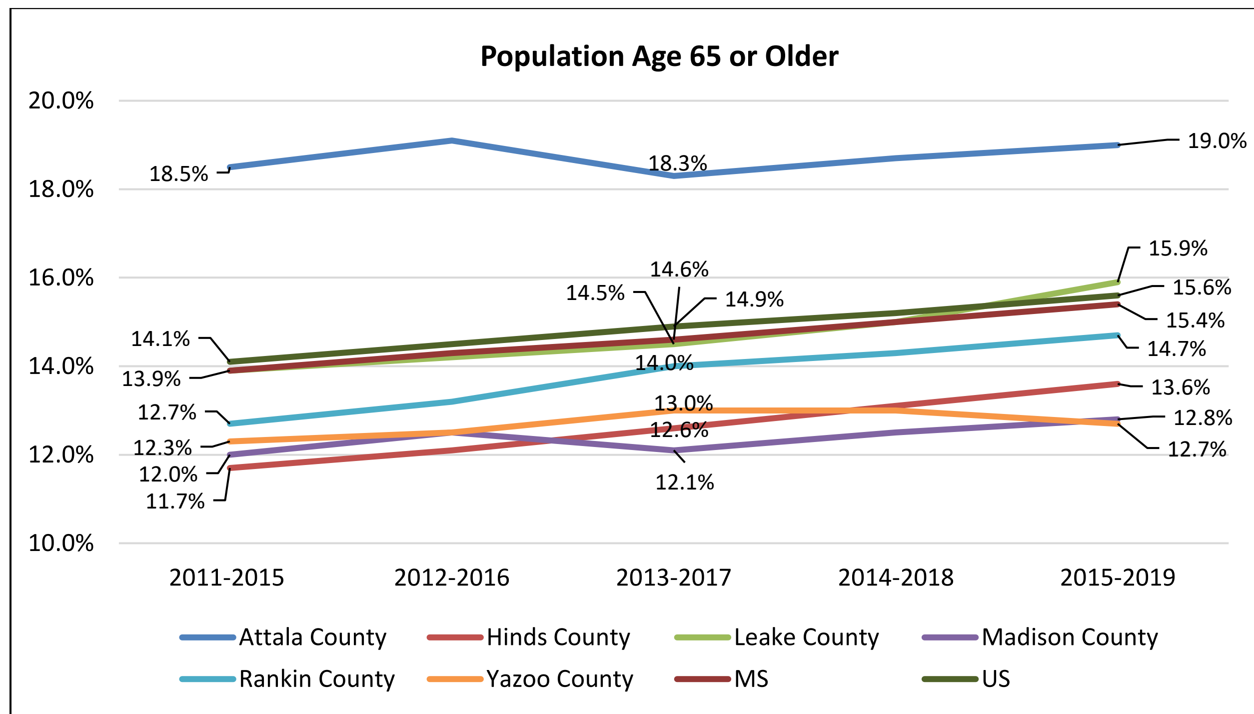
The proportion of older adult residents increased across Mississippi and the nation, and in all Central Mississippi service area counties except Attala and Yazoo. In Hinds, Leake and Rankin counties, the proportion of adults age 65 or older increased approximately 2 percentage points from 2011-2015 to 2015-2019, a slightly faster pace of growth than the state and nation (+1.5 points). Nationally, among older adults age 65 or older, the 65 to 74 age category is the fastest growing demographic, largely due to the aging of the baby boomer generation. This finding suggests health needs and support services for older adults will likely continue to grow in coming years.

While the older adult population is generally on the rise in the Central Mississippi service area, youth under age 18 comprise approximately 25% of residents.

2015-2019 Population by Age

	Gen Z/ Gen C	Gen Z	Millennial	Millennial/ Gen X	Gen X	Boomers	Boomers/ Silent	Median Age
	Under 18 years	18-24 years	25-34 years	35-44 years	45-54 years	55-64 years	65 years and over	
Attala County	25.3%	8.0%	11.1%	10.9%	12.8%	12.9%	19.0%	39.8
Hinds County	24.5%	11.2%	14.5%	12.0%	11.7%	12.5%	13.6%	34.8
Leake County	26.6%	8.8%	12.1%	12.4%	11.8%	12.4%	15.9%	36.9
Madison County	25.2%	8.8%	12.9%	13.8%	13.5%	13.1%	12.8%	37.2
Rankin County	23.5%	7.8%	14.1%	14.3%	13.3%	12.3%	14.7%	37.8
Yazoo County	22.3%	8.6%	17.5%	15.7%	12.1%	11.1%	12.7%	36.1
Mississippi	23.9%	9.9%	13.0%	12.4%	12.5%	12.8%	15.4%	37.5
United States	22.6%	9.4%	13.9%	12.6%	13.0%	12.9%	15.6%	38.1

Source: U.S. Census Bureau, American Community Survey



Source: U.S. Census Bureau, American Community Survey

The Central Mississippi service area, excluding Rankin County, is more diverse than the state and nation, supported by a high proportion of Black/African American residents. **Consistent with the 2019 CHNA, Hinds County is the most diverse community with nearly 70% of residents identifying as Black/African American.** In ZIP codes comprising the western portion of Jackson in Hinds County, 90% or more of residents identify as Black/African American. Yazoo County is the second most diverse community in the service area, followed by Leake County. Nearly 60% of residents in Yazoo County identify as

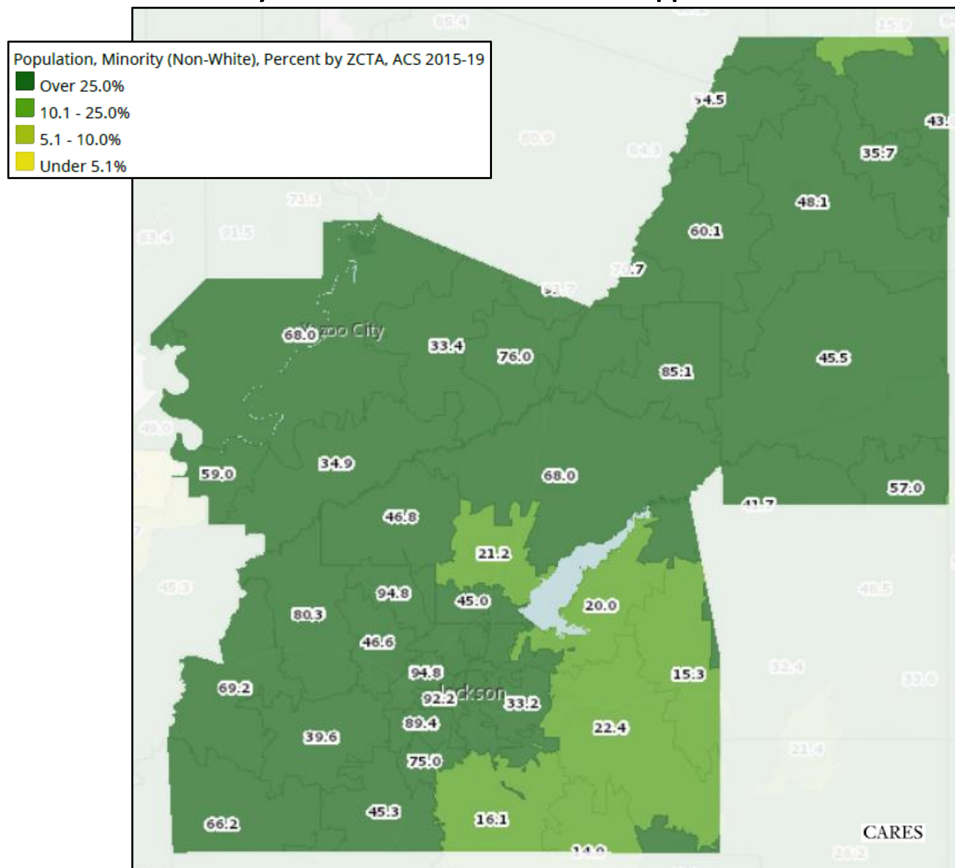
Black/African American. Leake County differs from other service area counties and the state with proportionately more American Indian/Alaska Native and Latinx residents. Nearly 7% of residents in Leake County identify as American Indian/Alaska Native compared to 0.6% statewide.

2020 Population by Race and Ethnicity

	White	Black or African American	Asian	American Indian / Alaska Native	Native Hawaiian / Pacific Islander	Other Race	Two or More Races	Latinx origin (any race)
Attala County	52.8%	42.9%	0.5%	0.2%	0.0%	1.3%	2.2%	1.9%
Hinds County	25.8%	69.4%	1.0%	0.2%	0.0%	1.2%	2.5%	2.0%
Leake County	47.7%	38.7%	0.4%	6.7%	0.0%	4.2%	2.3%	5.8%
Madison County	55.7%	35.4%	2.9%	0.3%	0.0%	2.4%	3.3%	3.8%
Rankin County	71.9%	20.7%	1.4%	0.2%	0.1%	1.8%	3.9%	3.2%
Yazoo County	37.4%	59.6%	0.4%	0.2%	0.0%	0.4%	2.0%	4.0%
Mississippi	56.0%	36.6%	1.1%	0.6%	0.0%	1.9%	3.7%	3.6%
United States	61.6%	12.4%	6.0%	1.1%	0.2%	8.4%	10.2%	18.7%

Source: U.S. Census Bureau, Decennial Census

2015-2019 Non-White Population by ZIP Code in the Central Mississippi Service Area



Racial and ethnic diversity is increasing nationally and across the Central Mississippi service area, particularly for Asian, other race, multiracial and Latinx groups. **The multiracial population increased approximately 150% or more from the 2010 Census in Mississippi, the nation and in all service area counties except Yazoo.** The "other race" category has historically captured ethno-racially mixed individuals, as well as Latinx individuals who do not consider ethnicity as separate or distinct from race.

Consistent with overall population growth within Madison and Rankin counties, the counties saw growth across all reported racial and ethnic groups. Consistent with overall population decline in the remainder of the service area, the counties saw declines in the racial groups comprising the majority of their population. Leake County saw the largest overall population decline, and among the largest declines in both white and Black/African American populations.

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

	White	Black or African American	Asian	Other Race	Two or More Races	Latinx origin (any race)
Attala County	-14.2%	-6.5%	+79.6%	+77.4%	+226.4%	+2.5%
Hinds County	-15.9%	-6.6%	+16.6%	+55.9%	+167.4%	+25.7%
Leake County	-14.0%	-14.7%	+56.0%	+32.3%	+146.8%	+20.6%
Madison County	+12.1%	+6.3%	+56.7%	+66.6%	+351.7%	+46.7%
Rankin County	+3.1%	+22.3%	+43.4%	+39.0%	+302.1%	+33.5%
Yazoo County	-10.7%	-0.5%	-8.0%	-48.5%	+22.5%	-17.3%
Mississippi	-5.5%	-1.3%	+27.1%	+49.0%	+224.7%	+29.1%
United States	-8.6%	+5.6%	+35.5%	+46.1%	+275.7%	+23.0%

Source: U.S. Census Bureau, Decennial Census

Many Roads Lead to Home

The Central Mississippi service area is home to proportionately fewer immigrants than the nation overall. **Approximately 95% or more of residents in all service area counties were born in the U.S. compared with a national average of 85%.** Madison and Yazoo counties have the largest proportion of non-U.S. citizens in the service area and a slightly higher proportion of residents who speak a primary language other than English, although both percentages fall below national averages. Consistent with having a more ethnically diverse population than the state, Leake County also has a higher proportion of residents who speak a primary language other than English when compared to the state.

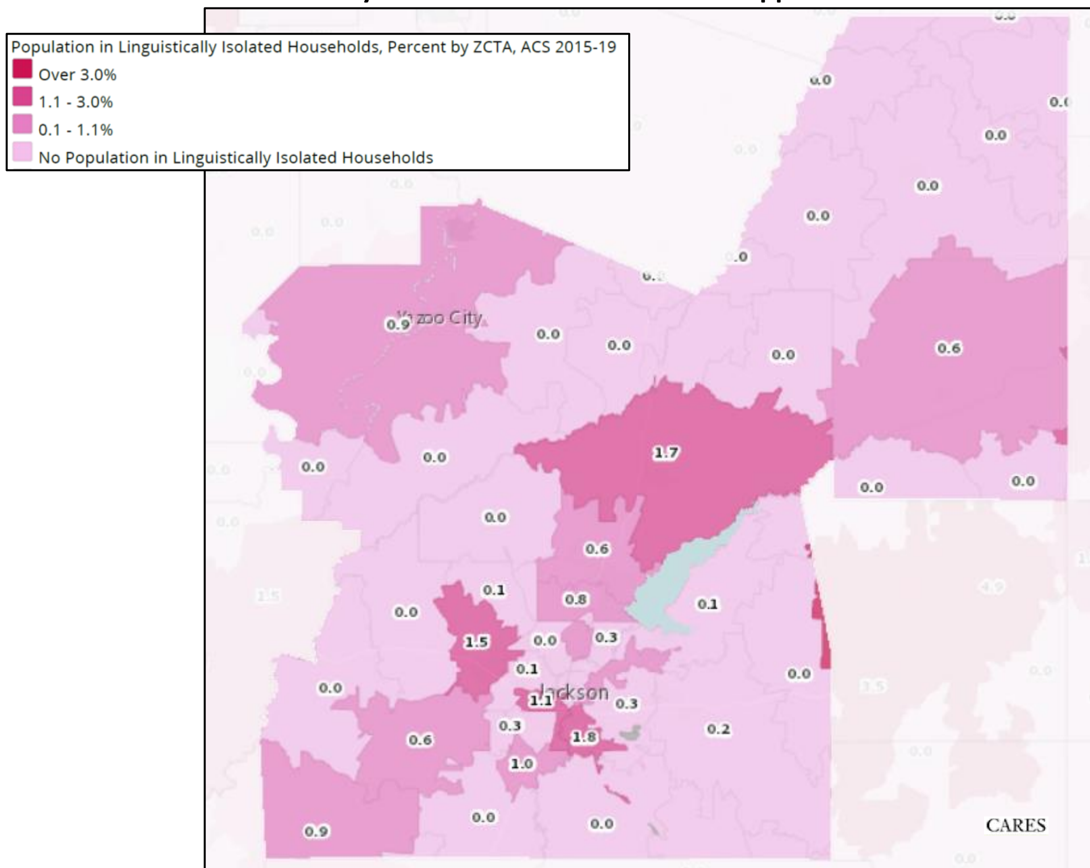
Linguistically isolated households are defined as persons who cannot speak English at least "very well" or who do not live in a household where an adult speaks English "very well." Few households in the Central Mississippi service area are considered linguistically isolated. The largest proportions are located in Clinton ZIP code 39056 in Hinds County (1.5%), Sharon ZIP code 39046 in Madison County (1.7%) and Richland ZIP code 39218 in Rankin County (1.8%). **Areas with more linguistically isolated households are generally home to more Latinx residents.**

2015-2019 Nativity and Citizenship Status

	U.S citizen, born in the U.S.	U.S. citizen, born in Puerto Rico or U.S. Island Areas	U.S. citizen, born abroad of American parent(s)	U.S. citizen by naturalization	Not a U.S. citizen	Speak Primary Language Other Than English
Attala County	98.8%	0.0%	0.3%	0.5%	0.4%	2.3%
Hinds County	97.8%	0.1%	0.4%	0.6%	1.1%	2.8%
Leake County	97.6%	0.3%	0.0%	0.3%	1.8%	7.2%
Madison County	95.1%	0.0%	0.5%	2.2%	2.2%	6.4%
Rankin County	96.5%	0.1%	0.6%	1.3%	1.6%	4.5%
Yazoo County	95.1%	0.8%	0.8%	0.2%	3.1%	7.3%
Mississippi	97.0%	0.2%	0.5%	0.9%	1.4%	4.0%
United States	84.9%	0.6%	1.0%	6.7%	6.8%	21.6%

Source: U.S. Census Bureau, American Community Survey

2015-2019 Population in Linguistically Isolated Households by ZIP Code in the Central Mississippi Service Area



Poverty

Poverty levels declined across Mississippi and most Central Mississippi service area counties over the past decade, but the state overall continues to have lower median incomes and higher poverty than the nation. Economic indicators vary widely across service area counties, representing areas of both wealth and poverty. Consistent with the 2019 CHNA, Madison and Rankin counties have higher median household incomes than the state and nation and fewer people and children living in poverty. All other service counties have lower incomes and higher poverty than both the state and nation, with greater disparity in Attala, Leake and Yazoo counties.

Approximately one-quarter of residents in Attala and Leake counties and one-third of residents in Yazoo County live in poverty. Contrary to state and national trends, poverty increased in recent years in Attala and Leake counties. Poverty declined in Yazoo County but continues to be the highest in the service area. **Nearly 50% of children in Yazoo County and 40% of children in Attala and Leake counties live in poverty compared with 29% statewide.** Approximately 1 in 5 older adults in all three counties live in poverty.

Hinds County has a similar median household income and poverty levels as the state overall, but wide disparities in wealth across ZIP codes. **In Jackson ZIP codes 39201, 39203, 39204 and 39209, approximately 1 in 3 residents live in poverty compared to 1 in 10 residents in neighboring ZIP codes. This disparity is largely due to wealth disparities among people of color with Black/African Americans more than two times as likely to experience poverty than white populations.**

Madison County also demonstrates wide disparities in wealth across its communities, largely driven by racial and ethnic inequities. Approximately 20.3% of residents in Sharon ZIP code 39046 and 14.6% of residents in Camden ZIP code 39045 live in poverty compared with less than 10% of residents in other county ZIP codes. In both ZIP codes 39045 and 39046, Black/African American residents comprise 65% to 85% of the total population and Latinx residents comprise 4%. While the Latinx population in the ZIP codes is small, it represents one of the largest communities in the six-county service area.

Statewide and nationally, **poverty declined for all reported racial and ethnic groups from the 2019 CHNA, but people of color continue to be disproportionately impacted.** Across Mississippi, approximately one-quarter to one-third of Black/African American, Latinx, multiracial and other race populations live in poverty compared to 13% of the white population. Within the Central Mississippi service area, wealth disparities are most prominent in Attala County, where 43.7% of Black/African American residents live in poverty compared to 13.3% of white residents. However, all counties report higher poverty levels among non-white residents.

Note, income and poverty data reflect pre-COVID-19 findings and likely do not demonstrate economic hardship experienced by individuals and families during the pandemic. Unemployment and food insecurity data for 2020 and 2021 provide insight into the economic impact of the pandemic.

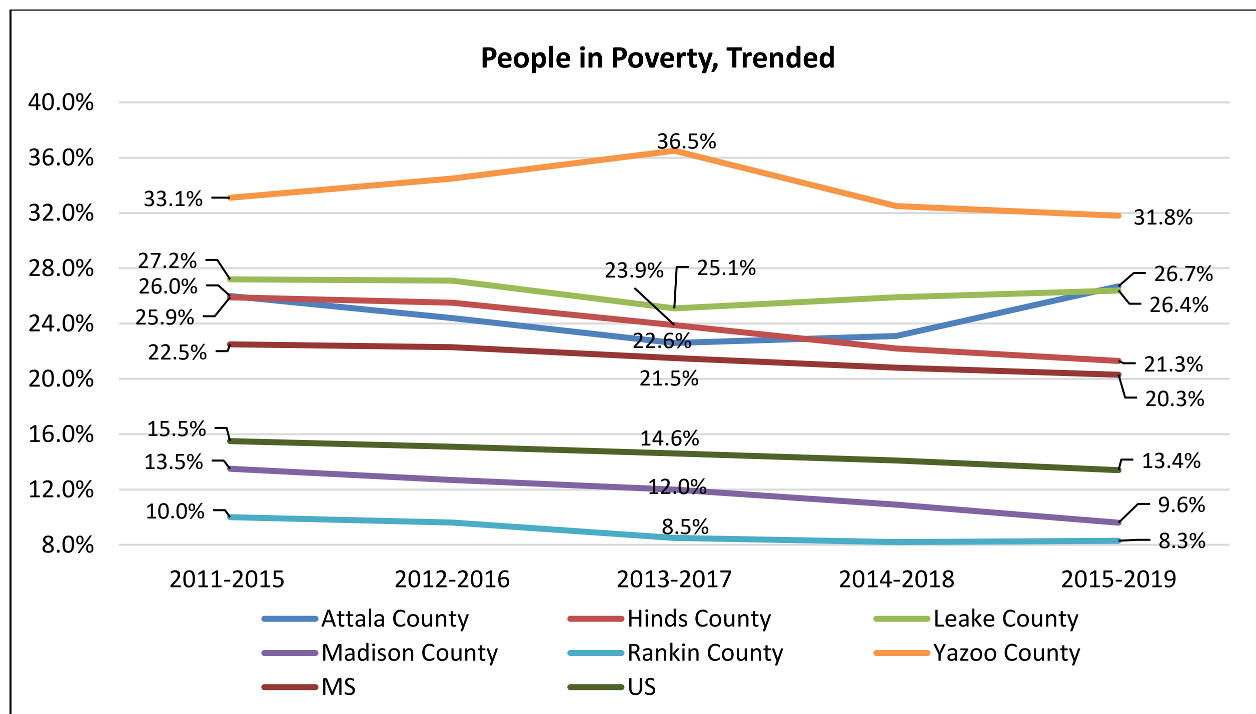
COVID-19 had a significant impact on unemployment rates across the nation. By the end of 2020, average national unemployment was double what it was at the beginning of the year. Within the Central Mississippi service area, all counties saw an increase in unemployment in 2020. Of note, **Hinds and**

Yazoo counties saw the largest increases in unemployment in 2020 and have been among the slowest to recover, as indicated by July 2021 unemployment percentages that are approximately two points higher than pre-pandemic levels.

Economic Indicators

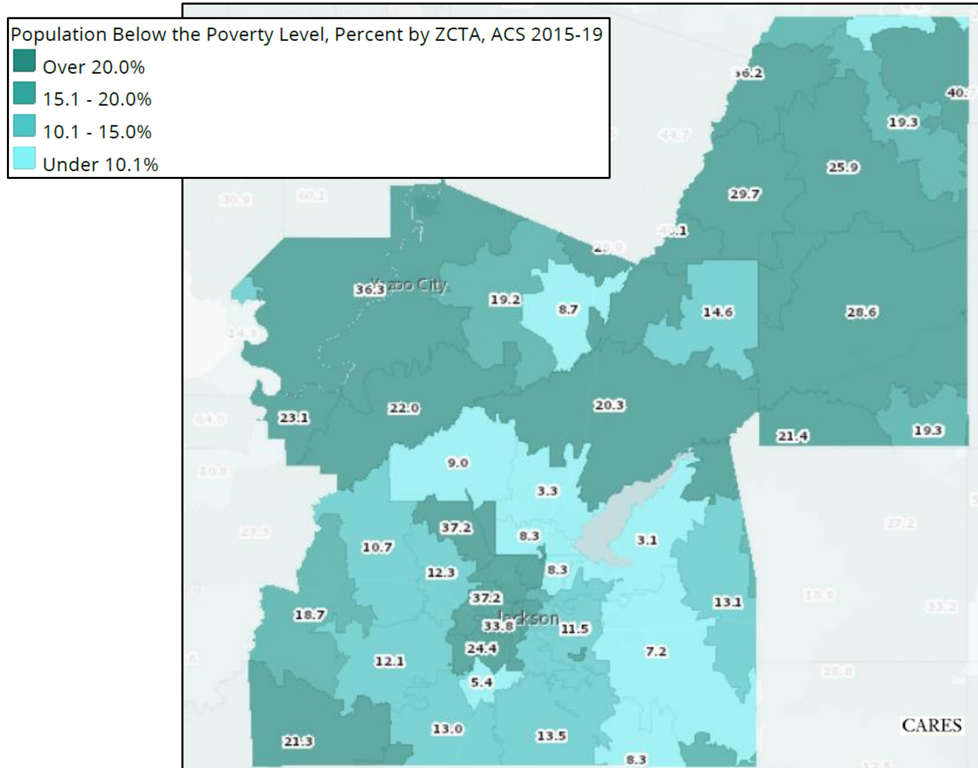
	Attala County	Hinds County	Leake County	Madison County	Rankin County	Yazoo County	Mississippi	United States
Income and Poverty (2015-2019)								
Median household income	$33,767	$44,625	$37,096	$71,824	$65,996	$33,279	$45,081	$62,843
People in poverty	26.7%	21.3%	26.4%	9.6%	8.3%	31.8%	20.3%	13.4%
Children in poverty	40.3%	32.1%	38.2%	14.0%	8.8%	46.8%	28.7%	18.5%
Older adults (65+) in poverty	17.0%	11.4%	22.5%	8.8%	6.3%	18.8%	12.8%	9.3%
Households with SNAP* benefits	20.6%	17.3%	15.0%	7.5%	6.4%	26.9%	15.4%	11.7%
Unemployment								
January 2020	6.9%	5.1%	5.6%	4.3%	4.0%	6.5%	5.5%	4.0%
2020 average	8.3%	9.3%	7.9%	6.6%	5.3%	9.7%	8.1%	8.1%
July 2021	7.5%	7.2%	6.7%	5.4%	4.5%	8.3%	6.7%	5.7%

Source: U.S. Census Bureau, American Community Survey & U.S. Bureau of Labor Statistics
*Supplemental Nutrition Assistance Program



Source: U.S. Census Bureau, American Community Survey

2015-2019 Population in Poverty by ZIP Code in the Central Mississippi Service Area



2015-2019 People in Poverty among Prominent Racial and Ethnic Groups with 2019 CHNA Comparison (2012-2016)

	White	Black / African American	Asian	Other Race	Two or More Races	Latinx origin (any race)
Attala County	**13.3%** ↑	**43.7%** ↑	**15.9% (n=7)** ↑	**0.0%**	**48.0%** ↓	**4.0% (n=15)** ↓
2019 CHNA	11.3%	40.3%	12.1% (n=7)	0.0%	57.0%	22.1% (n=82)
Hinds County	**10.5%**	**24.8%** ↓	**24.7%** ↑	**38.0%** ↓	**32.1%** ↓	**27.3%** ↓
2019 CHNA	11.3%	30.6%	21.0%	42.8%	32.7%	35.4%
Leake County	**19.1%** ↑	**32.3%** ↓	**0.0%**	**100% (n=47)**	**65.0% (n=52)** ↓	**74.5%** ↑
2019 CHNA	17.1%	39.0%	0.0%	100% (n=17)	69.0% (n=49)	48.2%
Madison County	**4.8%**	**16.7%** ↓	**4.1%** ↓	**20.0%** ↓	**22.0%** ↑	**23.7%** ↓
2019 CHNA	4.6%	24.0%	6.5%	39.9%	20.5%	32.0%
Rankin County	**7.1%** ↓	**12.5%** ↓	**5.4%**	**15.3%** ↑	**13.5%** ↓	**13.7%** ↓
2019 CHNA	8.2%	15.1%	6.1%	9.5%	15.6%	16.5%
Yazoo County	**14.8%** ↓	**41.0%** ↓	**0.0%**	**100%**	**54.1%** ↑	**83.0%** ↓
2019 CHNA	18.4%	44.6%	0.0%	100%	27.9%	87.2%
Mississippi	**12.8%**	**31.6%**	**13.3%**	**27.6%**	**25.4%**	**24.9%**
2019 CHNA	14.1%	35.0%	14.0%	34.5%	29.0%	30.5%
United States	**11.1%**	**23.0%**	**10.9%**	**21.0%**	**16.7%**	**19.6%**
2019 CHNA	12.4%	26.2%	12.3%	25.4%	19.3%	23.4%

Source: U.S. Census Bureau, American Community Survey

*Arrows indicate an increase or decrease or greater than one percentage point. Low population counts are noted in parentheses and should be interpreted with caution.

Food Insecurity

Food insecurity is defined as not having reliable access to a sufficient amount of nutritious, affordable food. Food insecurity is associated with lower household income and poverty, as well as poorer overall health status. Similar to unemployment rates, COVID-19 had a profound impact on food insecurity, particularly among children. From 2019 to 2020, the percentage of food insecure children was projected to increase nearly 3 percentage points across Mississippi.

The proportion of food insecure residents was projected to increase in all Central Mississippi Service Area counties from 2019 to 2020, but **consistent with unemployment rates, Hinds and Yazoo counties saw disproportionately larger increases in food insecurity.** In both counties from 2019 to 2020, the proportion of food insecure residents increased approximately 2.5 percentage points and the proportion of food insecure children increased more than 4 percentage points.

Projected food insecurity is lower in 2021 than 2020 for all Central Mississippi Service Area counties, but slightly elevated from pre-pandemic levels. **Consistent with having overall higher poverty, Attala, Leake and Yazoo counties have the highest proportion of food insecure residents, projected at more than 20% of all residents and 27% to 33% of children.**

Trended and Projected Food Insecurity

	Attala County	Hinds County	Leake County	Madison County	Rankin County	Yazoo County	Mississippi	United States
All Residents								
2021 (projected)	**21.9%**	**17.0%**	**21.6%**	**12.4%**	**13.0%**	**23.5%**	**18.7%**	**12.9%**
2020 (projected)	**23.1%**	**18.4%**	**23.0%**	**13.8%**	**14.1%**	**25.0%**	**20.1%**	**13.9%**
2019	21.2%	15.7%	21.0%	11.9%	12.6%	22.5%	18.5%	10.9%
2018	20.2%	18.0%	20.5%	12.2%	11.7%	23.1%	18.7%	11.5%
2017	20.1%	23.8%	19.9%	14.8%	11.7%	25.5%	19.2%	12.5%
Children								
2021 (projected)	**29.1%**	**24.9%**	**27.1%**	**12.6%**	**10.9%**	**33.3%**	**22.2%**	**17.9%**
2020 (projected)	**31.5%**	**27.7%**	**29.8%**	**15.4%**	**13.2%**	**36.2%**	**24.9%**	**19.9%**
2019	28.2%	22.9%	26.3%	12.2%	10.7%	31.8%	22.3%	14.6%
2018	24.7%	21.0%	25.3%	12.6%	11.8%	28.1%	23.0%	15.2%
2017	22.7%	22.5%	24.5%	17.1%	15.6%	27.7%	22.9%	16.1%

Source: Feeding America

Education

High school graduation is one of the strongest predictors of longevity and economic stability. **Within the Central Mississippi service area, educational attainment among adults generally aligns with income and poverty status.** Adults in Attala, Leake and Yazoo counties are less likely to complete high school when compared to the state and nation, while adults in Madison and Rankin counties are more likely to attain higher education than the state and/or nation. Hinds County overall generally mirrors national education figures, but wide disparities exist across communities, particularly affecting Black/African

American residents and select Jackson ZIP codes. In Hinds County, there is a 22-point deficit in the percentage of Black/African American residents attaining higher education compared to white residents.

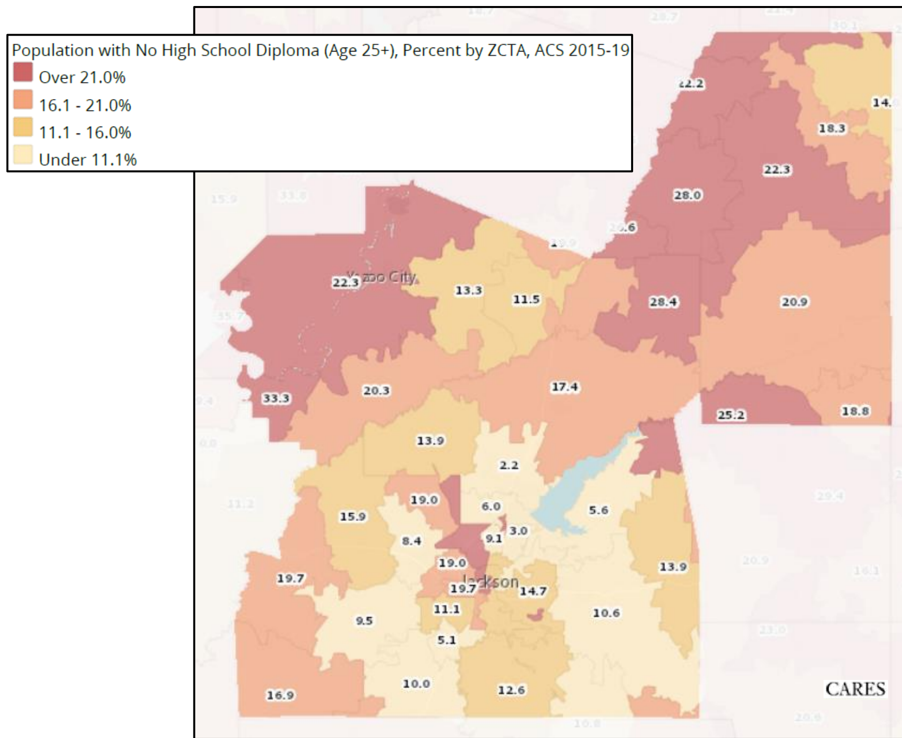
Statewide and nationally, educational attainment increased across racial and ethnic groups from the 2019 CHNA, but improvements were marginal and continue to reflect disparities among people of color. **Within the Central Mississippi service area, these disparities are most prominent in Madison County**, **where 60.4% of white residents attain higher education compared with 27.8% of Black/African American residents.** Consistent with poverty disparities, education disparities in Madison County are most evident in Sharon ZIP code 39046 and Camden ZIP code 39045, where 17.4% and 28.4% of residents, respectively, have not completed high school.

2015-2019 Population (Age 25 or Older) by Educational Attainment

	Less than high school diploma	High school graduate (includes GED)	Some college or associate's degree	Bachelor's degree	Graduate or professional degree
Attala County	22.4%	32.4%	31.2%	9.4%	4.5%
Hinds County	12.5%	25.0%	33.5%	17.0%	12.0%
Leake County	21.4%	36.6%	27.7%	10.0%	4.3%
Madison County	8.3%	17.0%	26.3%	28.8%	19.6%
Rankin County	10.5%	26.7%	33.8%	18.7%	10.4%
Yazoo County	21.1%	38.6%	26.9%	9.5%	3.9%
Mississippi	15.5%	30.4%	32.1%	13.7%	8.4%
United States	12.0%	27.0%	28.9%	19.8%	12.4%

Source: U.S. Census Bureau, American Community Survey

2015-2019 Population with No High School Diploma by ZIP Code in the Central Mississippi Service Area



2015-2019 Population with a Bachelor's Degree by Prominent Racial and Ethnic Group with 2019 CHNA Comparison (2012-2016)

	White	Black / African American	Asian	Other Race	Two or More Races	Latinx origin (any race)
Attala County	**17.1%** ↓	**9.3%** ↑	**36.4% (n=16)** ↓	**0.0%**	**7.6% (n=15)** ↓	**17.3% (n=33)** ↑
2019 CHNA	18.7%	7.9%	79.3% (n=46)	0.0%	33.8% (n=27)	9.9% (n=18)
Hinds County	**44.5%** ↑	**22.4%** ↑	**50.0%** ↑	**17.9%** ↑	**28.4%** ↑	**24.6%** ↑
2019 CHNA	42.8%	21.1%	47.7%	15.5%	24.3%	21.9%
Leake County	**16.2%** ↑	**11.6%** ↑	**66.7% (n=42)** ↑	**0.0%**	**0.0%**	**0.0%**
2019 CHNA	15.2%	9.3%	0.0%	0.0%	0.0%	0.0%
Madison County	**60.4%** ↑	**27.8%** ↑	**63.8%** ↓	**15.7%** ↑	**47.2%** ↑	**22.0%**
2019 CHNA	57.4%	25.4%	67.3%	12.2%	34.9%	21.8%
Rankin County	**31.0%**	**20.0%** ↓	**54.7%** ↑	**11.0%** ↓	**39.9%** ↑	**23.7%** ↑
2019 CHNA	31.0%	22.8%	50.9%	28.1%	27.4%	21.1%
Yazoo County	**20.1%** ↑	**8.2%**	**79.5% (n=35)** ↑	**22.9%** ↑	**14.0% (n=19)**	**12.9%** ↑
2019 CHNA	17.5%	8.9%	55.0% (n=44)	15.7%	18.3% (n=39)	10.4%
Mississippi	**25.7%**	**15.4%**	**40.3%**	**10.8%**	**26.7%**	**14.8%**
2019 CHNA	24.5%	14.6%	39.2%	9.5%	24.0%	12.9%
United States	**33.5%**	**21.6%**	**54.3%**	**12.0%**	**31.9%**	**16.4%**
2019 CHNA	31.6%	20.0%	52.1%	10.8%	29.1%	14.7%

Source: U.S. Census Bureau, American Community Survey
*Arrows indicate an increase or decrease or greater than one percentage point. Low population counts are noted in parentheses and should be interpreted with caution.

Housing

Housing is the largest single expense for most households and should represent 30% of a household's monthly income. The median home value for Mississippi is less expensive than the median home value for the U.S. overall, and fewer homeowners are considered housing cost burdened compared to the U.S. benchmark. **In all Central Mississippi service area counties except Madison and Rankin, the median home value is lower than state and national medians, and in all counties except Hinds and Yazoo, more residents own their home.**

While the median home value is higher in Madison and Rankin counties, consistent with having higher median incomes, residents are the least likely to be housing cost burdened. In contrast, **Leake and Yazoo counties have one of the lowest median home values in the service area, but a higher proportion of residents are housing cost burdened compared to the state and nation.** Similarly, Attala County has the lowest median rent in the service area, but nearly 60% of renters are cost burdened. Hinds and Yazoo counties also have a higher proportion of housing cost burdened renters at more than 50%. This finding is of particular concern in Hinds County, where 42% of households rent their home.

2015-2019 Housing Indicators

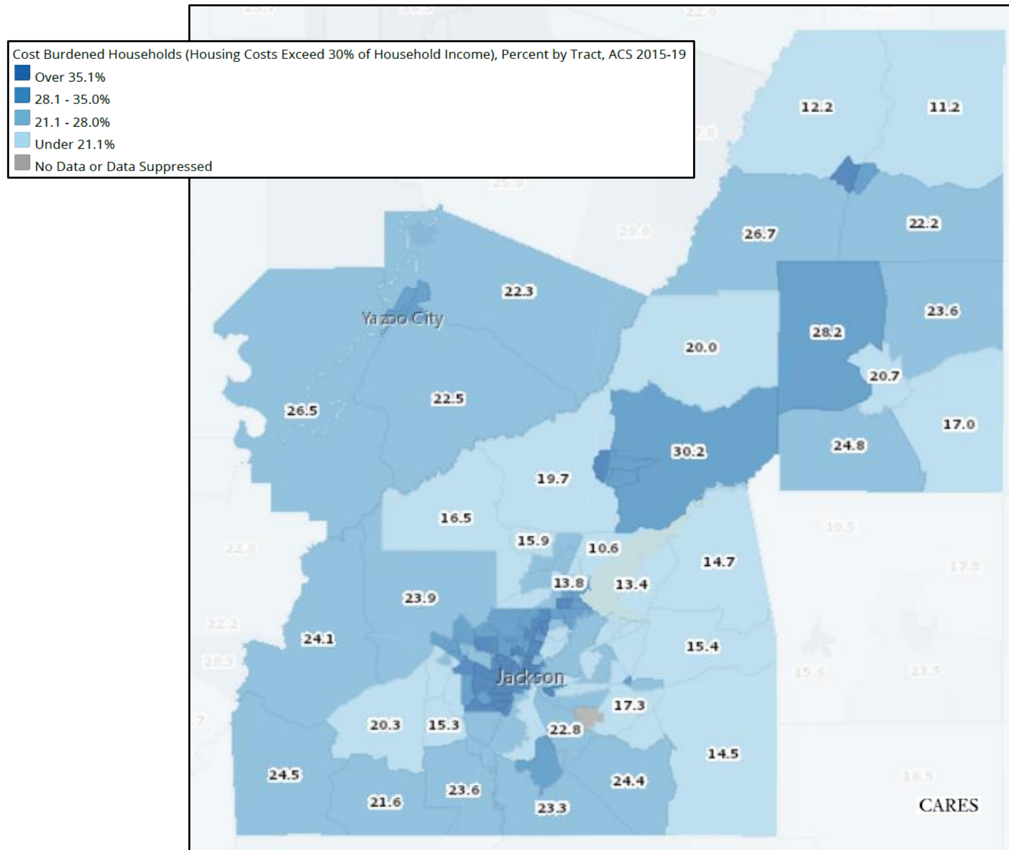
	Owners			Renters		
	Occupied Units	Median Home Value	Cost-Burdened*	Occupied Units	Median Rent	Cost-Burdened*
Attala County	72.5%	$80,700	26.6%	27.5%	$510	58.7%
Hinds County	58.0%	$118,600	27.8%	42.0%	$869	52.4%
Leake County	70.8%	$83,300	29.9%	29.2%	$660	37.2%
Madison County	71.7%	$219,700	19.7%	28.3%	$940	46.7%
Rankin County	76.5%	$162,500	18.4%	23.5%	$983	38.0%
Yazoo County	63.2%	$88,900	35.0%	36.8%	$636	55.8%
Mississippi	68.2%	$119,000	26.5%	31.8%	$780	49.3%
United States	64.0%	$217,500	27.8%	36.0%	$1,062	49.6%

Source: U.S. Census Bureau, American Community Survey

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

The following map depicts the percentage of cost burdened households by census tract within the service area. While the prevalence of housing cost burden is generally low across the counties, pockets of disparity exist, particularly near city centers. Housing cost burden is as high as 34.6% in Yazoo City in Yazoo County; 35.4% in Kosciusko in Attala County; 45.4% in Canton in Madison County and more than 55% in portions of Jackson previously identified as having high poverty and low educational attainment.

2015-2019 Cost Burdened Households by Census Tract in the Central Mississippi Service Area



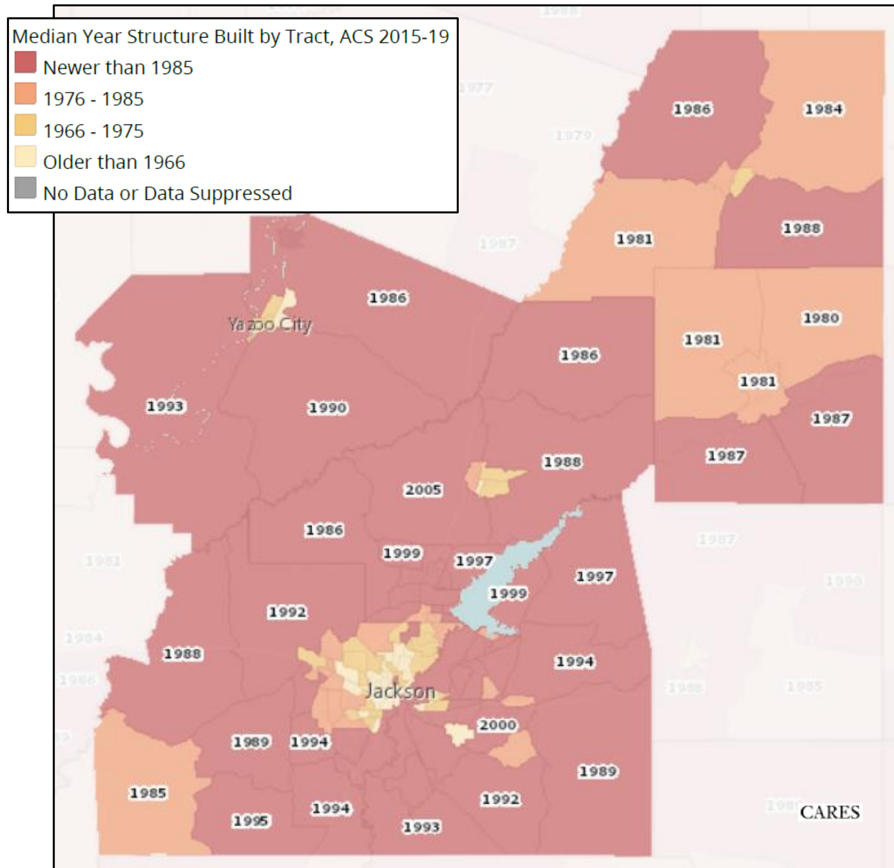
Mississippi overall has newer housing stock in comparison with the nation with approximately 1 in 4 housing units built after 1999 compared to 1 in 5 nationwide. Within the Central Mississippi service area, the age of housing stock varies widely. Hinds, Yazoo and Attala counties have the oldest housing stock with approximately 52% to 63% of units built before 1980. Madison and Rankin counties have the newest housing stock with 6% to 9% of units built after 2009. When viewed by census tract, older housing is concentrated in city centers, particularly in Jackson.

2015-2019 Housing by Year Built

	Before 1980	1980-1999	2000-2009	2010-2013	2014 or Later
Attala County	51.8%	32.3%	13.1%	1.5%	1.3%
Hinds County	63.3%	23.5%	10.2%	1.9%	1.1%
Leake County	42.8%	40.6%	12.3%	3.1%	1.3%
Madison County	25.9%	39.9%	24.7%	5.5%	3.9%
Rankin County	31.3%	38.1%	24.6%	3.2%	2.9%
Yazoo County	53.3%	32.7%	9.0%	3.0%	2.1%
Mississippi	45.2%	32.1%	17.0%	3.4%	2.4%
United States	53.6%	27.3%	14.0%	2.7%	2.5%

Source: U.S. Census Bureau, American Community Survey

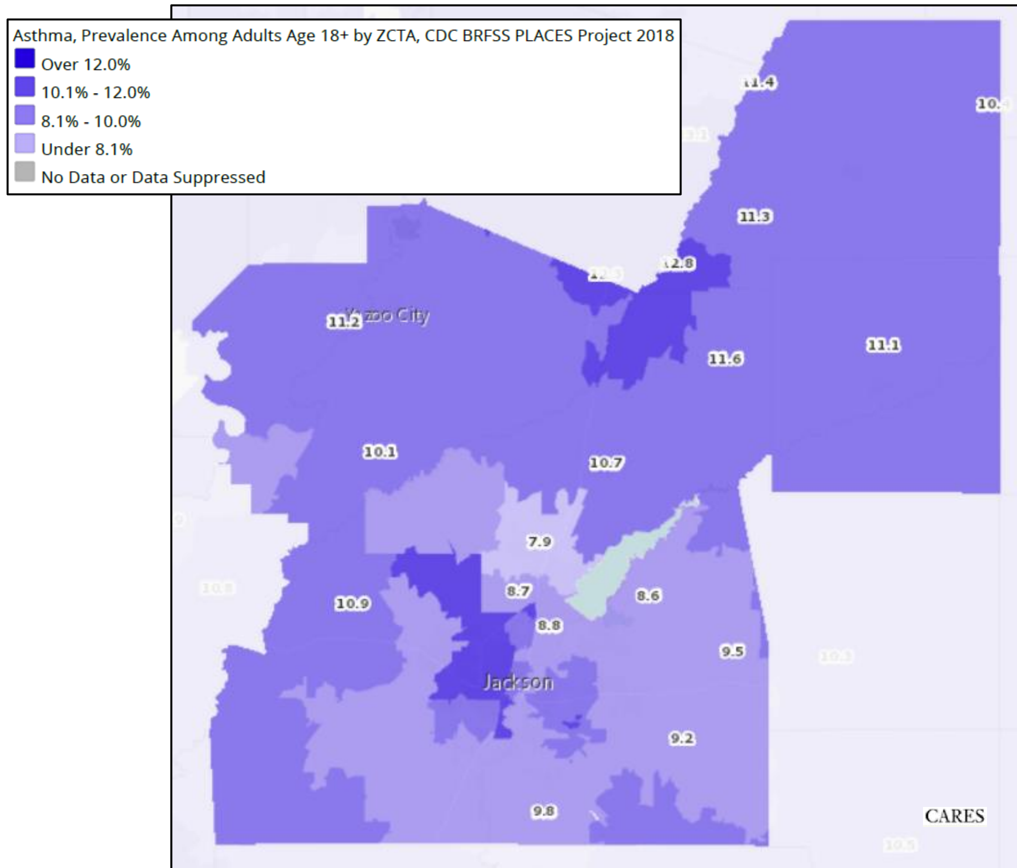
2015-2019 Median Year of Housing Build by Census Tract in the Central Mississippi Service Area



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

Mississippi residents have a slightly higher prevalence of asthma than their peers nationwide. As of 2018, nearly 10% of Mississippi adults reported having a current asthma diagnosis compared with 9% nationally. The following map depicts adult asthma prevalence by ZIP code in the Central Mississippi service area. **Areas of higher asthma prevalence generally align with areas with more socio-economic barriers, including older housing and poverty. For example, Jackson ZIP codes 39203, 39204 and 39209 report the highest prevalence of adult asthma in the service area at nearly 13%.**

2018 Adult Asthma Prevalence by ZIP Code in the Central Mississippi Service Area



Asthma is the most common chronic condition among children, and a leading cause of school absenteeism and hospitalization. In 2019, 25% of children in Mississippi reported ever being diagnosed with asthma compared with 21.8% nationwide. Nationally, Black/African American and Latinx children are more likely to live in rented households and areas with older housing. These trends, coupled with other SDoH barriers, contribute to a disproportionately higher prevalence of asthma among Black/African American and Latinx children compared to other racial groups. **In Mississippi, 28% of Black/African American children have been diagnosed with asthma compared to 22.1% of white children.**

2019 High School Students Ever Diagnosed with Asthma

	Mississippi	United States
Total	25.0%	21.8%
Race and Ethnicity		
Black or African American	28.0%	29.2%
White	22.1%	19.8%
Latinx origin (any race)	21.4%	21.0%

Source: Centers for Disease Control and Prevention, YRBS

The Point-in-Time (PIT) count is a count of sheltered and unsheltered people experiencing homelessness required by the United States Department of Housing and Urban Development (HUD) for communities that participate in its Continuum of Care (CoC) program. The count is usually conducted in the last 10 days of January each year. Sheltered locations include emergency shelters and transitional housing. Unsheltered locations include cars, streets, parks, etc.

The HUD CoC program is designed to provide the services and resources needed to assist individuals and families experiencing homelessness. As part of their planning responsibility, each CoC entity must conduct a PIT count of homeless persons at least biennially. Mississippi has three CoC programs that cover its urban centers in Jackson and the remainder of its largely rural communities. The following data, provided by Mississippi CoCs, provide insight into the homeless population and service gaps.

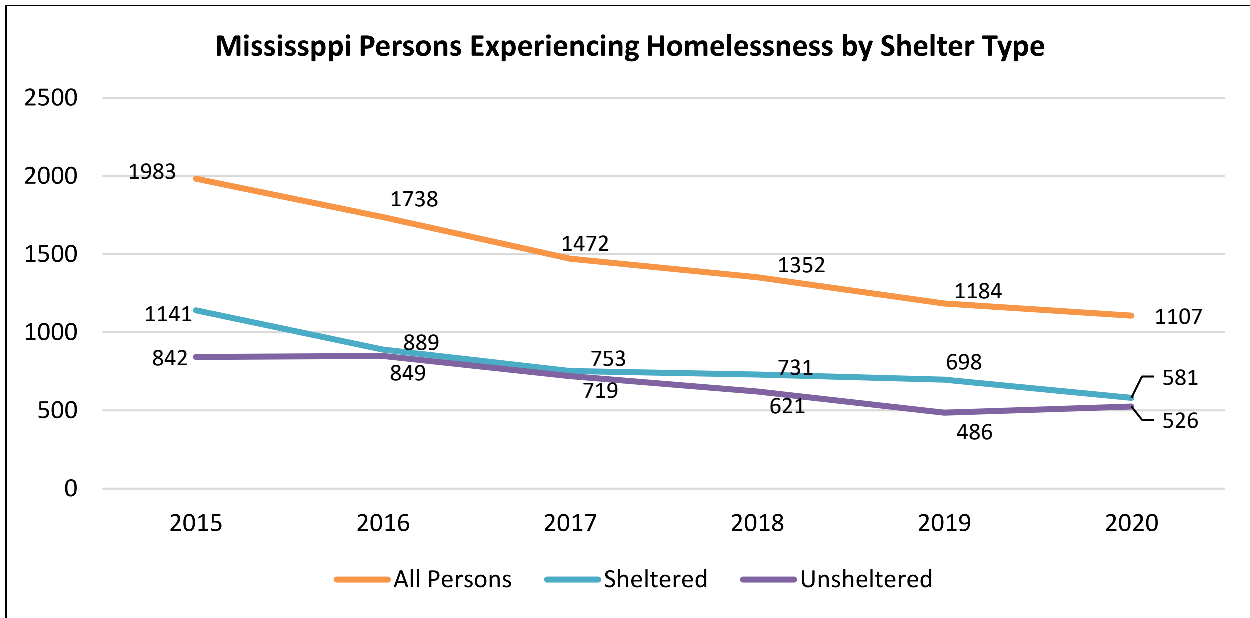
As of 2020, a total of 1,107 people in Mississippi were experiencing homelessness. Many of these individuals resided in the Jackson (36.7%) metro area. More than 1 in 10 individuals experiencing homelessness were youth under age 18 and/or chronically homeless, having experienced homelessness for at least one year. Approximately 6% of individuals were veterans. Black/African American people were disproportionately represented among individuals experiencing homelessness. **In Mississippi, Black/African American people represent 36.6% of the total population, but 50% of individuals experiencing homelessness in 2020.**

The number of people experiencing homelessness declined in Mississippi through 2020, but it may have increased in 2021 due to economic hardships for individuals and families resulting from the COVID-19 pandemic. The 2021 PIT count is pending release and results should be interpreted with caution as many CoC programs did not conduct an unsheltered homeless count due to pandemic restrictions.

2020 Mississippi Point-in-Time Homeless Count by Continuum of Care (CoC) Program

	Jackson / Rankin & Madison Counties CoC	Gulf Port / Gulf Coast Regional CoC	Balance of State CoC	Mississippi Statewide
Total	406	254	447	1,107
Household Type				
Individuals	300	191	362	853
Families	106	63	85	254
Individual Characteristics				
Chronically homeless	80	3	63	146
Under age 18	69	40	56	165
Veterans	35	8	25	68
Race and Ethnicity				
White	142	167	203	512
Black/African American	255	69	230	554
Other race	9	18	14	41
Hispanic/Latinx	1	14	3	18

Source: U.S. Department of Housing and Urban Development Exchange



Source: U.S. Department of Housing and Urban Development Exchange

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

Mississippi overall has lower digital access than the nation. Central Mississippi service area counties, excluding Hinds, Madison and Rankin counties, have lower digital access than the state. Of note, only 61% to 68% of households in Attala, Leake and Yazoo counties have an internet subscription and/or broadband internet.

2015-2019 Households by Digital Access

	With Computer Access			With Internet Access	
	Computer Device	Desktop / Laptop	Smartphone	Internet Subscription	Broadband Internet
Attala County	80.9%	55.2%	70.7%	68.3%	68.2%
Hinds County	86.7%	63.8%	79.3%	78.3%	78.2%
Leake County	75.2%	48.0%	68.7%	61.0%	60.7%
Madison County	92.8%	77.9%	85.6%	85.1%	85.0%
Rankin County	91.0%	77.2%	83.3%	83.4%	83.3%
Yazoo County	75.9%	52.0%	68.0%	66.9%	66.7%
Mississippi	83.8%	63.2%	75.4%	71.9%	71.5%
United States	90.3%	77.8%	79.9%	83.0%	82.7%

Source: U.S. Census Bureau, American Community Survey

Illuminating Health Inequities

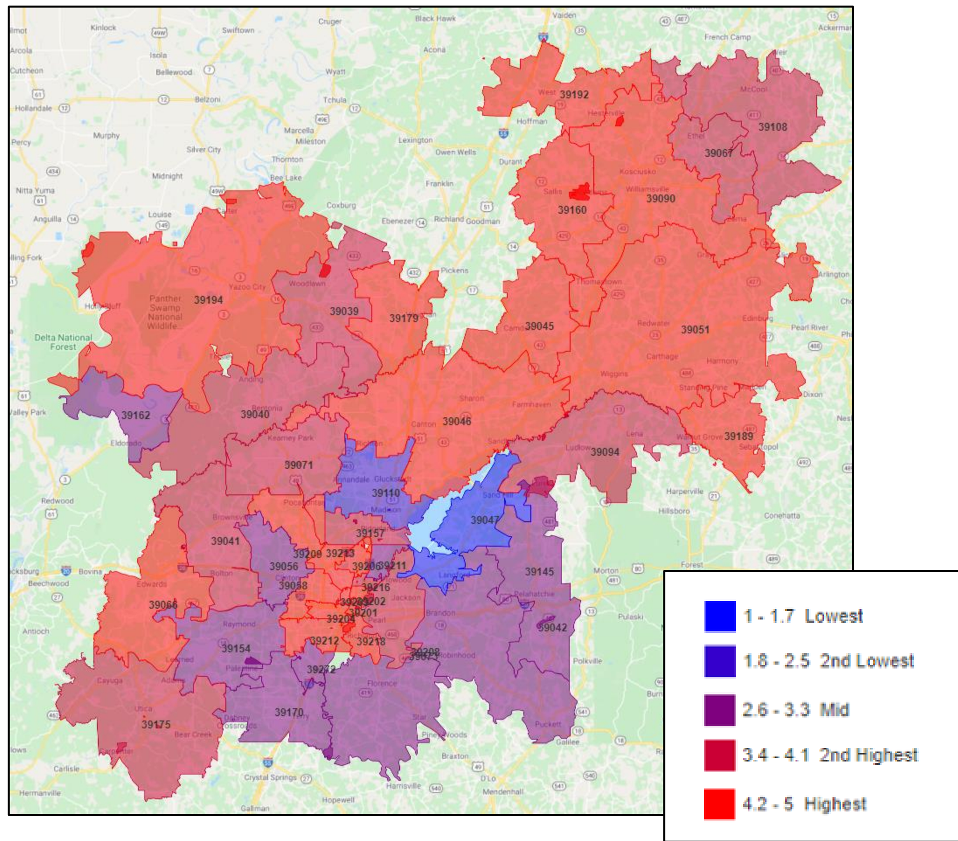
A host of indexes are available to illustrate the potential for health disparities and inequities at the community-level based on SDoH. A description of each index is provided below followed by data visualizations of each tool that show how well Central Mississippi service area communities fare compared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

Tools for Identifying Disparity

The following data visualizations illustrate the potential for health disparities and inequities at the community-level based on SDoH barriers. A description of each data visualization tool is provided below:

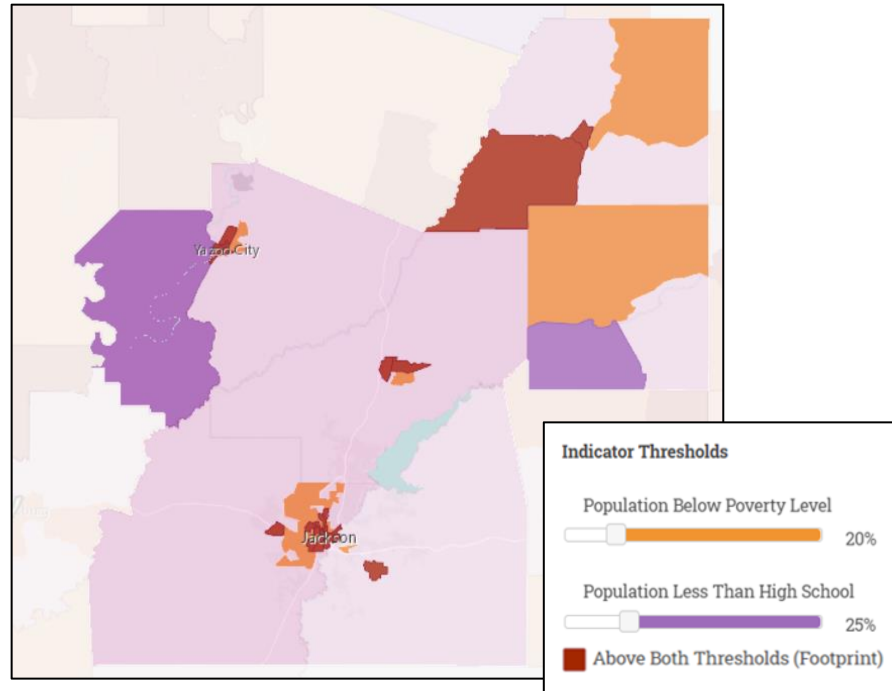
- **Community Need Index (CNI)**: The CNI is a ZIP code-based index of community socio-economic need calculated nationwide. The CNI scores ZIP codes on a scale of 1.0 to 5.0, with 1.0 indicating a ZIP code with the least need and 5.0 indicating a ZIP code with the most need compared to the U.S. national average of 3.0. The CNI weights, indexes and scores ZIP codes by socio-economic barriers, including income, culture, education, insurance and housing.
- **Vulnerable Population Footprint**: The Vulnerable Population Footprint identifies areas where high concentrations of people living in poverty and people living without a high school diploma overlap. Areas are reported by census tract. Census tracts are statistical subdivisions of a county that have roughly 4,000 inhabitants.
- **Area Deprivation Index (ADI)**: The ADI provides a census block group measure of socio-economic disadvantage based on income, education, employment and housing quality. ADI scores are displayed at the block group level on a scale from 1 (least disadvantaged) to 10 (most disadvantaged). A block group is a subdivision of a census tract and typically contains between 250 and 550 housing units.
- **Racial Disparities and Disproportionality Index (RDDI):** The RDDI was developed by the Corporation for Supportive Housing (CSH) to assess unique systems and measure whether a racial and/or ethnic group’s representation in a particular public system is proportionate to, over or below their representation in the overall population. The index can be viewed as the likelihood of one group experiencing an event, compared to the likelihood of another group experiencing that same event. Results are provided on a state-by-state basis.

Community Need Index

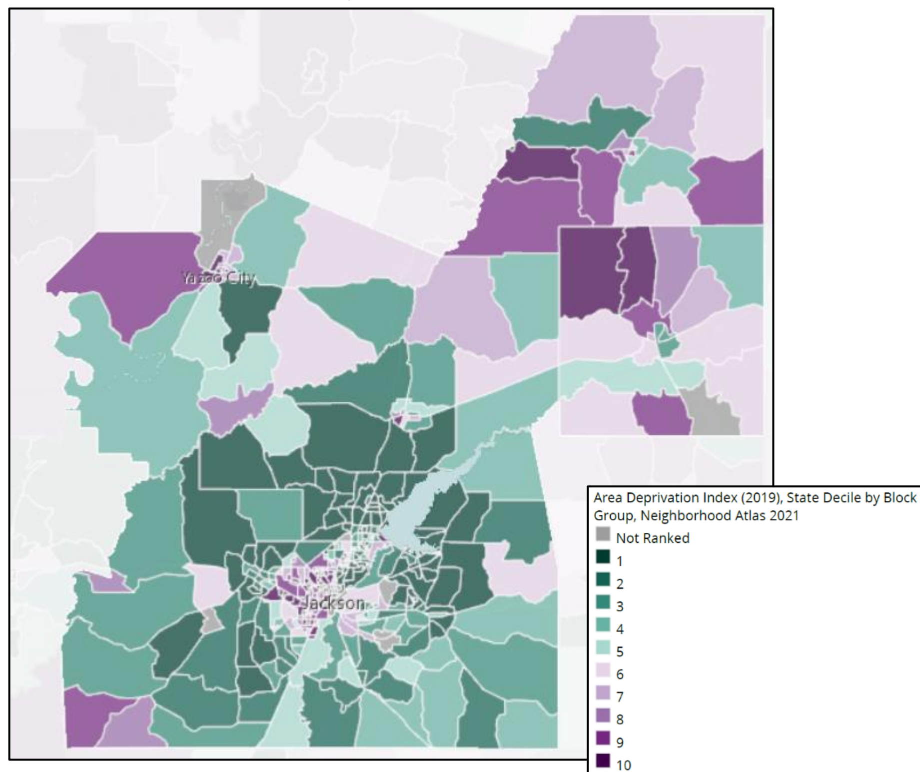


ZIP Code	Town	CNI Score	ZIP Code	Town	CNI Score
39047	Brandon	1.4			
39110	Madison	2.0			
39042	Brandon	2.8	39056	Clinton	3.0
39170	Terry	2.8	39162	Satartia	3.0
39073	Florence	2.8	39154	Raymond	3.2
39272	Byram	2.8	39145	Pelahatchie	3.2
39211	Jackson	2.8			
39157	Ridgeland	3.4	39067	Ethel	3.8
39041	Bolton	3.6	39108	Mc Cool	3.8
39094	Lena	3.6	39216	Jackson	4.0
39175	Utica	3.8	39208	Pearl	4.0
39058	Clinton	3.8	39039	Benton	4.0
39071	Flora	3.8	39040	Bentonia	4.0
39218	Richland	4.2	39189	Walnut Grove	4.6
39212	Jackson	4.2	39209	Jackson	4.8
39066	Edwards	4.2	39204	Jackson	4.8
39045	Camden	4.2	39201	Jackson	4.8
39202	Jackson	4.4	39090	Kosciusko	4.8
39206	Jackson	4.4	39203	Jackson	5.0
39051	Carthage	4.4	39213	Jackson	5.0
39160	Sallis	4.4	39046	Canton	5.0
39179	Vaughan	4.4	39194	Yazoo City	5.0
39192	West	4.4			

Vulnerable Population Footprint



Area Deprivation Index



The Central Mississippi service area maintained an average CNI score of 3.6 from the 2019 CHNA report. **Consistent with the 2019 CHNA, Jackson ZIP codes 39203 and 39213, Yazoo City ZIP code 39194 and Canton ZIP code 39046 have the highest and maximum (5.0) CNI scores.** Jackson ZIP codes 39203 and 39213 are located in the northern portion of the city. Many of the census blocks that make up these ZIP codes also have the maximum ADI score and are identified as vulnerable populations based on high concentrations of poverty and low educational attainment. Comparing health indicators with population statistics demonstrates the adverse impact of SDoH on populations that historically and continually experience inequities. Residents of ZIP codes 39203 and 39213 are among the most diverse populations in the service area with a majority Black/African American population of 94% to 98%.

Canton ZIP code 39046 is also an example of inequities primarily affecting Black/African American people. Madison County overall has the highest median household income in the service area and lower poverty than the state and nation. Poverty levels in Canton are double to nearly triple countywide levels. Approximately 65% of the population identifies as Black/African American. Based on ADI scores, residents of the western portion of Canton experience the most socio-economic disadvantage.

Of the four service area ZIP codes with a maximum CNI score, **residents of Yazoo City ZIP code 39194 experience the most socio-economic disadvantage with more than one-third of residents and half of children living in poverty.** Language barriers are also more prevalent in Yazoo City and primarily affect Latinx residents who comprise 5.7% of the population.

While ZIP codes 39203, 39213, 39194 and 39046 represent areas of greater socio-economic need, adverse SDoH exist across the service area. The following table lists ZIP codes with a CNI score of 3.4 or higher and contributing SDoH, in descending order by CNI score.

2015-2019 Social Determinants of Health by Geography
Red = Higher CNI Score from the 2019 CHNA

ZIP Code (County)	Population in Poverty	Children in Poverty	Primary Language Other Than English	Less than HS Diploma	Without Health Insurance	2022 CHNA CNI Score	2019 CHNA CNI Score
39213, Jackson (Hinds)	30.0%	47.5%	1.0%	22.3%	15.8%	5.0	5.0
39203, Jackson (Hinds)	35.4%	44.7%	1.8%	24.4%	22.9%	5.0	5.0
39194, Yazoo City (Yazoo)	36.3%	52.1%	9.1%	22.3%	12.4%	5.0	5.0
39046, Canton (Madison)	20.3%	34.9%	4.6%	17.3%	10.1%	5.0	5.0
39209, Jackson (Hinds)	37.2%	56.4%	1.5%	19.0%	13.9%	4.8	5.0
39204, Jackson (Hinds)	33.8%	45.9%	2.8%	19.8%	16.2%	4.8	4.8
39201, Jackson (Hinds)	33.5%	0.0%	1.6%	22.2%	10.6%	4.8	4.4
39090, Kosciusko (Attala)	25.9%	38.7%	2.6%	22.3%	12.0%	4.8	4.8
39189, Walnut Grove (Leake)	19.2%	29.5%	5.6%	18.8%	12.9%	4.6	4.6
39206, Jackson (Hinds)	21.1%	35.3%	2.4%	9.1%	13.2%	4.4	4.6
39202, Jackson (Hinds)	23.7%	31.4%	3.2%	12.9%	14.9%	4.4	4.2
39192, West (Attala)	36.2%	62.5%	0.5%	22.2%	13.2%	4.4	4.4
39179, Vaughan (Yazoo)	8.7%	8.1%	1.6%	11.5%	21.5%	4.4	4.0
39160, Sallis (Attala)	29.7%	37.0%	0.9%	28.0%	7.3%	4.4	4.4
39051, Carthage (Leake)	28.6%	41.1%	8.7%	20.9%	14.8%	4.4	4.4
39218, Richland (Rankin)	13.2%	19.2%	11.8%	13.0%	13.9%	4.2	3.6
39212, Jackson (Hinds)	24.4%	38.3%	1.9%	11.2%	12.8%	4.2	4.4
39066, Edwards (Hinds)	18.7%	12.2%	1.0%	19.7%	7.6%	4.2	4.2
39045, Camden (Madison)	14.6%	28.7%	0.9%	28.5%	11.2%	4.2	4.0
39216, Jackson (Hinds)	17.0%	38.0%	5.7%	12.9%	17.3%	4.0	4.0
39208, Pearl (Rankin)	11.5%	14.9%	3.0%	14.0%	10.4%	4.0	3.8
39040, Bentonia (Yazoo)	22.0%	27.4%	1.9%	20.3%	8.2%	4.0	3.6
39039, Benton (Yazoo)	19.2%	25.6%	0.0%	13.3%	13.2%	4.0	4.0
39175, Utica (Hinds)	21.3%	34.5%	2.5%	16.8%	15.5%	3.8	3.6
39108, Mc Cool (Attala)	40.7%	60.6%	0.6%	14.1%	9.6%	3.8	3.8
39071, Flora (Madison)	9.0%	12.3%	1.5%	13.9%	12.9%	3.8	4.0
39067, Ethel (Attala)	19.3%	42.7%	2.2%	18.3%	9.9%	3.8	3.8
39094, Lena (Leake)	21.4%	26.9%	2.4%	25.2%	11.2%	3.6	3.6
39041, Bolton (Hinds)	10.7%	4.9%	0.1%	15.9%	13.0%	3.6	4.0
39157, Ridgeland (Madison)	8.3%	9.1%	9.4%	6.0%	8.9%	3.4	3.0
Mississippi	20.3%	28.7%	4.0%	15.5%	12.3%	NA	NA
United States	13.4%	18.5%	21.6%	12.0%	8.8%	NA	NA

Source: U.S. Census Bureau, American Community Survey
*Data are not reported for Clinton ZIP code 39058 in Hinds County due to a small population count.

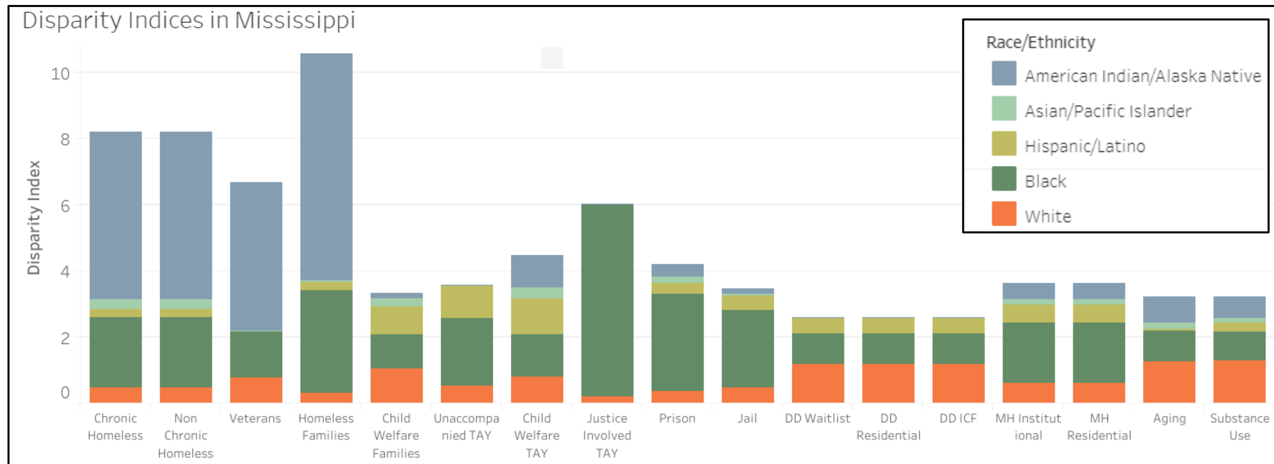
2015-2019 Population (Pop.) by Prominent Racial and Ethnic Groups

ZIP Code (County)	Total Pop.	White	Black or African American	Two or More Races	Latinx origin (any race)
39213, Jackson (Hinds)	20,301	1.8%	97.9%	0.2%	0.4%
39203, Jackson (Hinds)	6,561	4.8%	94.4%	0.5%	0.1%
39194, Yazoo City (Yazoo)	22,241	32.0%	63.7%	1.4%	5.7%
39046, Canton (Madison)	28,437	32.0%	64.8%	1.0%	4.3%
39209, Jackson (Hinds)	27,117	5.2%	93.9%	0.7%	0.4%
39204, Jackson (Hinds)	16,934	7.8%	90.9%	0.9%	1.9%
39201, Jackson (Hinds)	514	43.8%	55.6%	0.0%	0.0%
39090, Kosciusko (Attala)	12,636	51.9%	44.0%	1.4%	2.9%
39189, Walnut Grove (Leake)	4,014	43.0%	43.6%	0.5%	0.4%
39206, Jackson (Hinds)	24,236	12.6%	86.2%	0.4%	1.3%
39202, Jackson (Hinds)	8,017	44.5%	53.4%	0.8%	1.8%
39192, West (Attala)	1,196	45.5%	54.3%	0.2%	0.0%
39179, Vaughan (Yazoo)	1,396	24.0%	76.0%	0.0%	0.4%
39160, Sallis (Attala)	2,807	39.9%	57.7%	1.6%	0.5%
39051, Carthage (Leake)	16,453	54.5%	39.8%	0.1%	6.3%
39218, Richland (Rankin)	7,189	70.5%	21.6%	1.5%	11.0%
39212, Jackson (Hinds)	33,825	10.6%	88.3%	0.4%	1.5%
39066, Edwards (Hinds)	4,466	30.8%	67.0%	0.0%	2.8%
39045, Camden (Madison)	1,627	14.9%	85.1%	0.0%	4.1%
39216, Jackson (Hinds)	4,080	67.7%	30.6%	0.2%	5.0%
39208, Pearl (Rankin)	32,819	66.8%	29.3%	1.8%	2.6%
39040, Bentonia (Yazoo)	3,011	65.1%	33.4%	1.2%	0.7%
39039, Benton (Yazoo)	1,840	66.6%	33.4%	0.0%	1.6%
39175, Utica (Hinds)	4,317	33.8%	63.4%	1.3%	1.1%
39108, Mc Cool (Attala)	1,998	56.4%	37.3%	6.3%	0.4%
39071, Flora (Madison)	6,192	53.2%	45.4%	0.8%	0.6%
39067, Ethel (Attala)	1,355	64.4%	32.0%	3.0%	0.0%
39094, Lena (Leake)	3,999	58.3%	37.2%	3.9%	0.0%
39041, Bolton (Hinds)	4,306	19.7%	79.2%	1.0%	0.0%
39157, Ridgeland (Madison)	24,572	55.0%	37.7%	0.9%	5.2%
Mississippi	2,984,418	58.4%	37.7%	1.4%	3.1%
United States	324,697,795	72.5%	12.7%	3.3%	18.0%

Source: U.S. Census Bureau, American Community Survey

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

Across Mississippi, American Indian/Alaska Native residents represent less than 1% of the total population but are the most overrepresented in public systems with an index score of 5.07. Black/African American residents also have a higher index score of 2.09, indicating overrepresentation in public systems. **In Mississippi, Black/African American people are most overrepresented in prison and justice systems.** This finding is consistent with systemic issues of racism within the nation's criminal justice system that leads to disproportionate incarceration and sentencing among people of color.



Source: Corporation for Supportive Housing
*TAY: Transition-age youth; DD: Developmental Disability; MH: Mental Health

Life expectancy is another measure of adverse SDoH. Across Mississippi, life expectancy is highest for Latinx and Asian residents. Life expectancy disparity trends are largely reflected in mortality data presented in this report. In all service area counties except Leake, Black/African American people have a higher all-cause death rate than white people. Yazoo County has one of the largest disparities in both life expectancy and all-cause death rates between Black/African American and white populations.

Life expectancy varies across the Central Mississippi service area, largely aligning with socio-economic indicators. Madison and Rankin counties have higher life expectancy than other counties and the state, while Attala and Yazoo counties have the lowest life expectancy, falling below the statewide average.

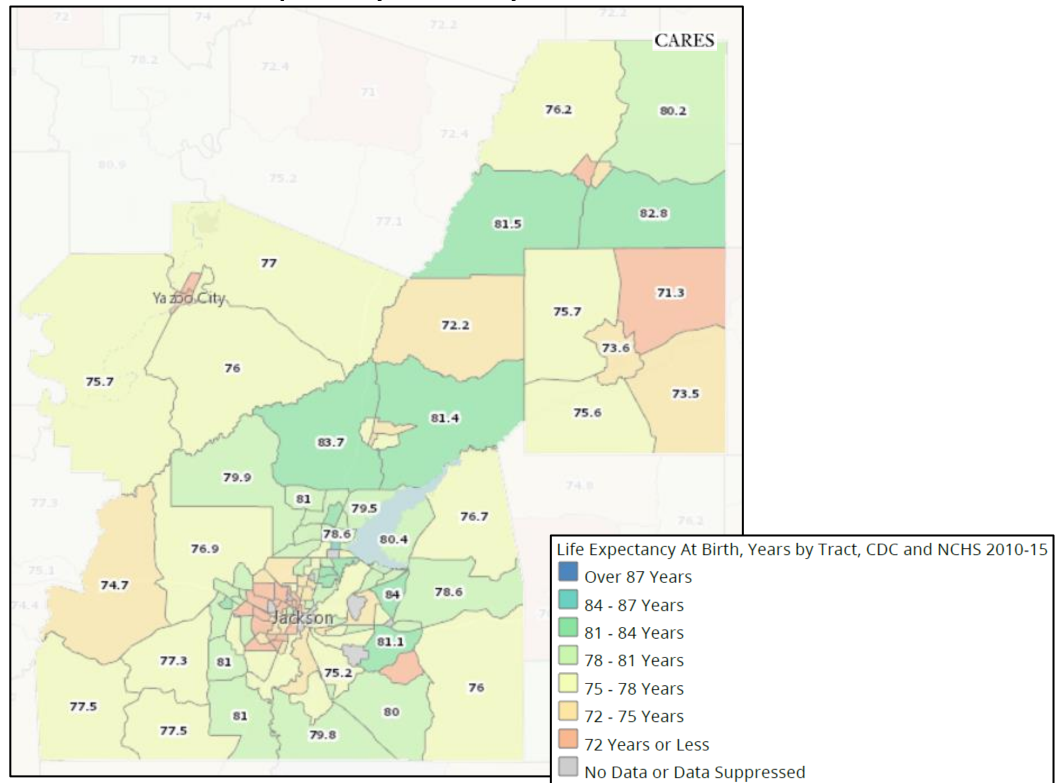
At the census tract-level, areas of lower life expectancy largely align with areas of more socio-economic barriers and racial inequities. **In parts of Yazoo City and Kosciusko, average life expectancy is less than 67 years, the lowest in the service area.** Life expectancy disparities are also prevalent in Jackson, particularly in ZIP codes 39203 and 39213, where residents live an average of 72 years or less compared with 78 years or more in neighboring areas.

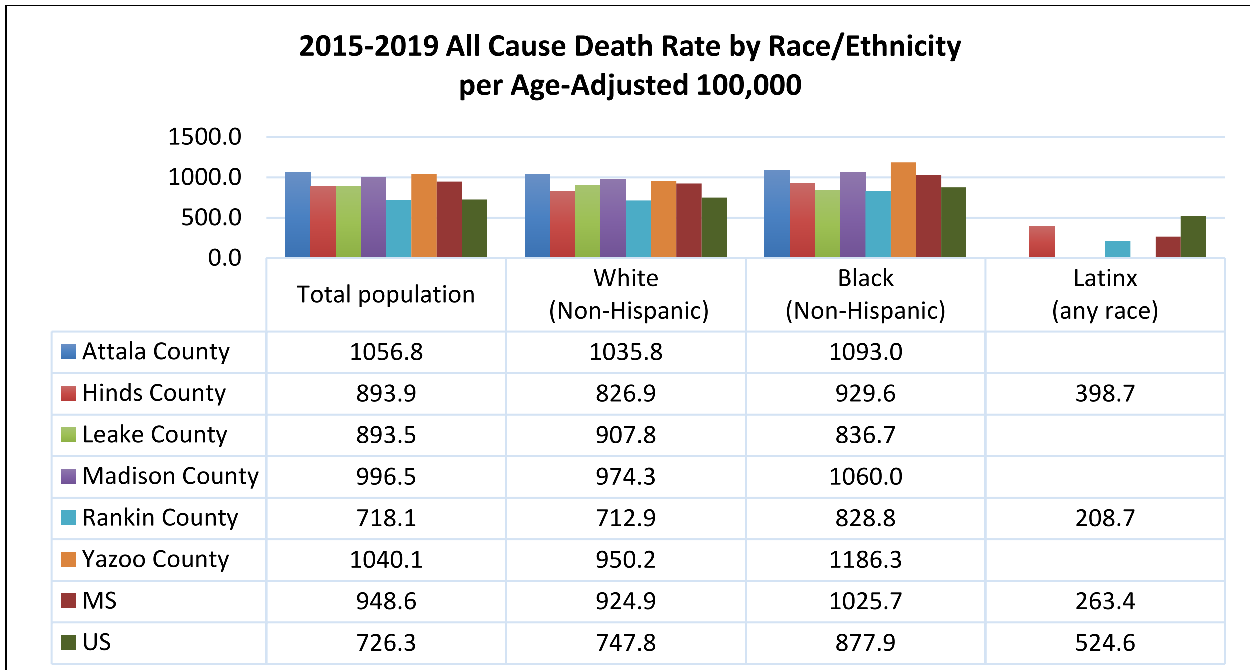
2017-2019 Life Expectancy by Race and Ethnicity

	Overall Life Expectancy	White	Black	Asian	Latinx origin (any race)
Attala County	74.1	76.0	71.7	NA	NA
Hinds County	75.2	77.2	74.4	NA	82.0
Leake County	76.1	77.0	76.5	NA	NA
Madison County	76.5	77.6	74.0	87.8	93.3
Rankin County	79.2	79.2	77.3	NA	NA
Yazoo County	73.8	75.2	71.6	NA	NA
Mississippi	74.9	75.7	73.1	84.9	100.4

Source: National Vital Statistics System

2010-2015 Life Expectancy at Birth by Census Tract





	Total population	White (Non-Hispanic)	Black (Non-Hispanic)	Latinx (any race)
Attala County	1056.8	1035.8	1093.0	
Hinds County	893.9	826.9	929.6	398.7
Leake County	893.5	907.8	836.7	
Madison County	996.5	974.3	1060.0	
Rankin County	718.1	712.9	828.8	208.7
Yazoo County	1040.1	950.2	1186.3	
MS	948.6	924.9	1025.7	263.4
US	726.3	747.8	877.9	524.6

Source: Centers for Disease Control and Prevention
*Latinx data are provided as available by county due to low death counts.

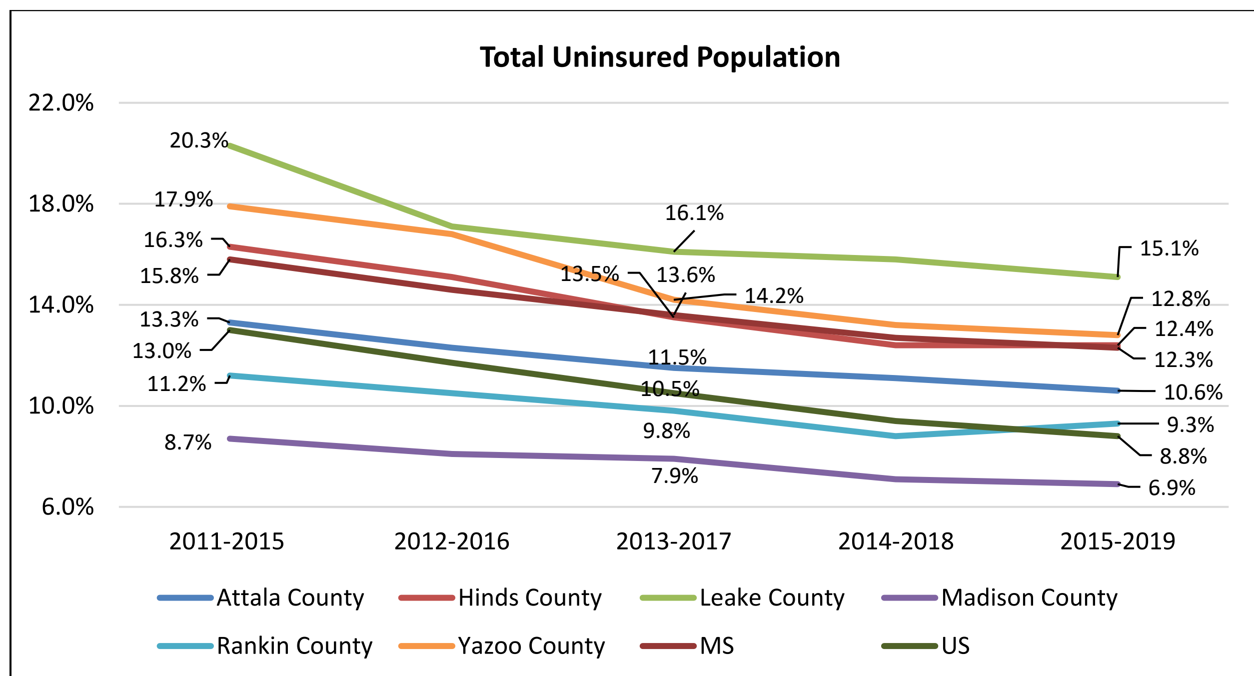
A Closer Look at Health Statistics

Access to Health Care

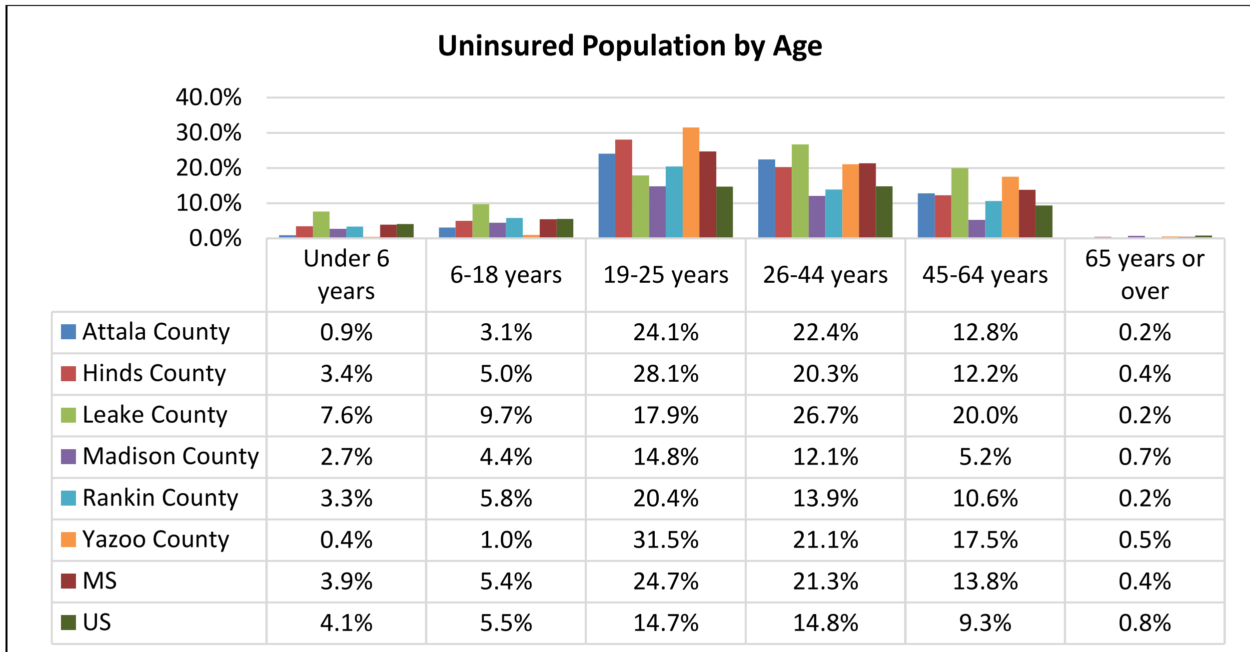
The percentage of uninsured residents in the Central Mississippi service area continued to decline from the 2019 CHNA. From 2011-2015 to 2015-2019, the percent uninsured declined approximately 2 to 5 percentage points across the service area, with the largest declines in Leake and Yazoo counties. Mississippi did not expand Medicaid under the Affordable Care Act, and outside of Leake and Yazoo counties, the percent uninsured declined at a slower rate than the nation overall. All counties except Madison and Rankin have a higher percentage of residents covered by Medicaid than the nation, but only Attala County saw a notable increase in Medicaid coverage from the 2019 CHNA.

Consistent with age and socio-economic factors, more than half of residents in Attala, Leake and Yazoo counties are insured by Medicaid and/or Medicare, a higher proportion than the state and nation. Hinds County largely mirrors statewide insurance trends, while Madison and Rankin county residents are more likely than both the state and nation to have employer-based insurance.

Despite overall improvement in the percent uninsured across the Central Mississippi service area, Madison is the only county to have a lower uninsured percentage than the nation and to meet the HP2030 goal of 92.1% insured residents. More than 1 in 10 residents in Attala, Hinds, Leake and Yazoo counties are uninsured, with the highest percent uninsured among adults age 19 to 44. **Leake County also has a high percentage of uninsured youth in comparison to both the state and nation, a finding that may be due in part to a higher uninsured percentage among Latinx.** Latinx comprise 5.8% of the Leake County population and 39.3% are uninsured compared with 31.9% statewide.

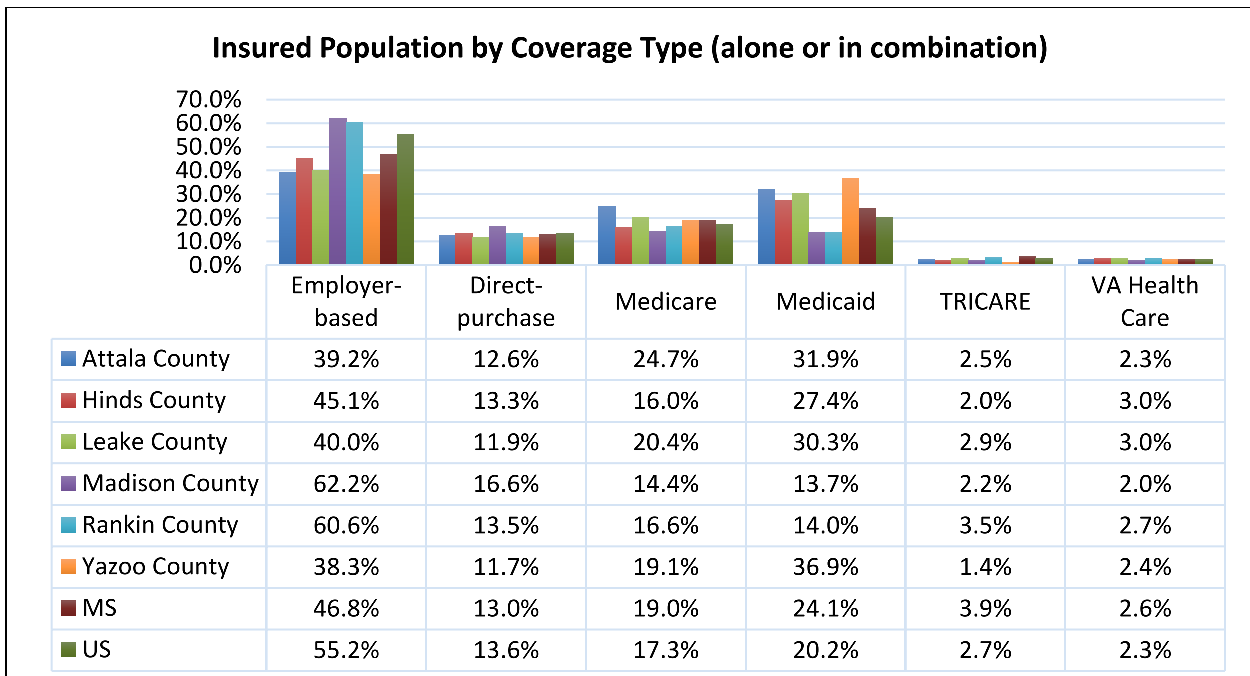


Source: U.S. Census Bureau, American Community Survey



	Under 6 years	6-18 years	19-25 years	26-44 years	45-64 years	65 years or over
Attala County	0.9%	3.1%	24.1%	22.4%	12.8%	0.2%
Hinds County	3.4%	5.0%	28.1%	20.3%	12.2%	0.4%
Leake County	7.6%	9.7%	17.9%	26.7%	20.0%	0.2%
Madison County	2.7%	4.4%	14.8%	12.1%	5.2%	0.7%
Rankin County	3.3%	5.8%	20.4%	13.9%	10.6%	0.2%
Yazoo County	0.4%	1.0%	31.5%	21.1%	17.5%	0.5%
MS	3.9%	5.4%	24.7%	21.3%	13.8%	0.4%
US	4.1%	5.5%	14.7%	14.8%	9.3%	0.8%

Source: U.S. Census Bureau, American Community Survey

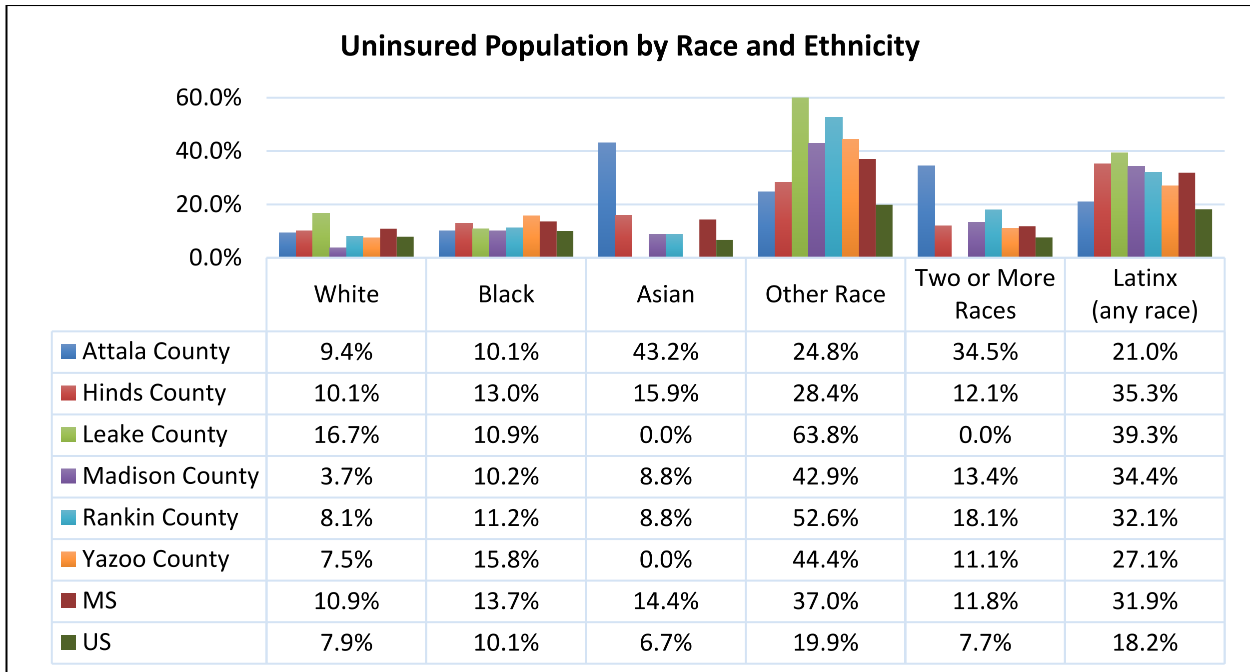


	Employer-based	Direct-purchase	Medicare	Medicaid	TRICARE	VA Health Care
Attala County	39.2%	12.6%	24.7%	31.9%	2.5%	2.3%
Hinds County	45.1%	13.3%	16.0%	27.4%	2.0%	3.0%
Leake County	40.0%	11.9%	20.4%	30.3%	2.9%	3.0%
Madison County	62.2%	16.6%	14.4%	13.7%	2.2%	2.0%
Rankin County	60.6%	13.5%	16.6%	14.0%	3.5%	2.7%
Yazoo County	38.3%	11.7%	19.1%	36.9%	1.4%	2.4%
MS	46.8%	13.0%	19.0%	24.1%	3.9%	2.6%
US	55.2%	13.6%	17.3%	20.2%	2.7%	2.3%

Source: U.S. Census Bureau, American Community Survey

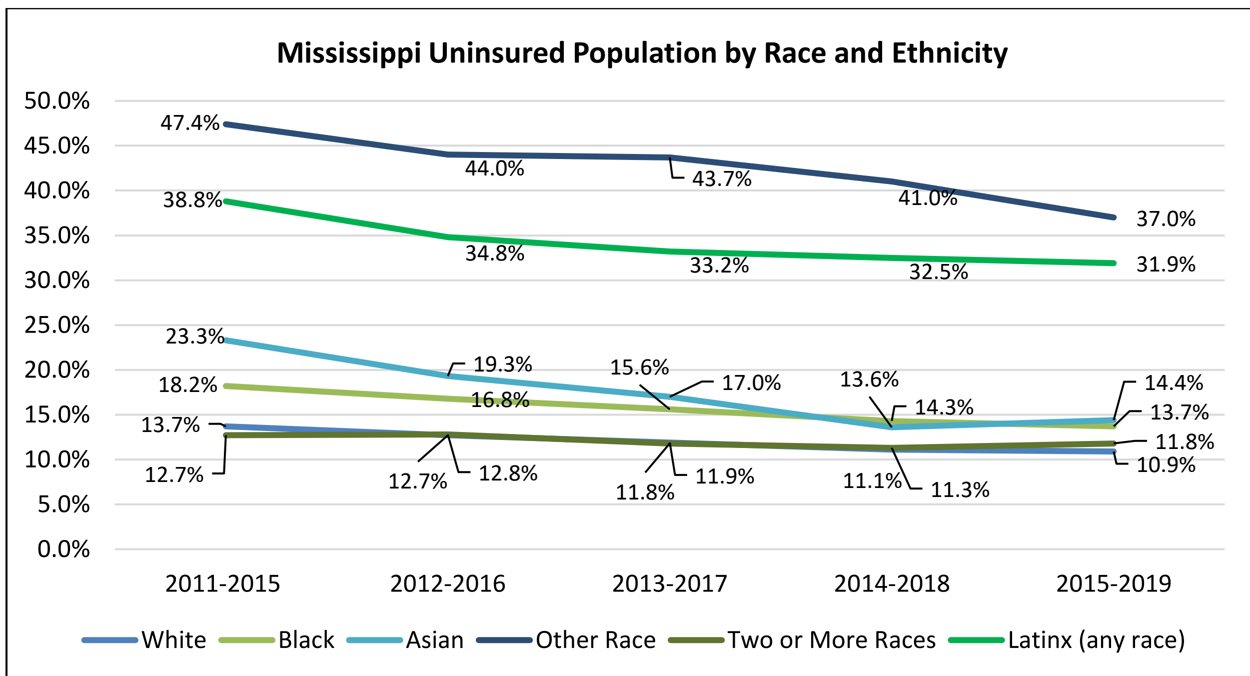
The uninsured percentage declined for all racial and ethnic groups across Mississippi, but individuals of color continue to be disproportionately uninsured compared to white individuals. Approximately 1 in 3 “other race” and Latinx residents are uninsured compared to 1 in 10 white residents. “Other race” has historically captured ethno-racially mixed individuals, as well as Latinx individuals who do not

consider ethnicity as separate or distinct from race. Notable racial and ethnic uninsured disparities also exist across the Central Mississippi service area, although uninsured percentages among non-white and non-Black/African American residents generally reflect small population counts. It is worth noting that while Madison County has the lowest percentage of uninsured residents overall, Black/African American people are nearly three times as likely to be uninsured than white people.



	White	Black	Asian	Other Race	Two or More Races	Latinx (any race)
Attala County	9.4%	10.1%	43.2%	24.8%	34.5%	21.0%
Hinds County	10.1%	13.0%	15.9%	28.4%	12.1%	35.3%
Leake County	16.7%	10.9%	0.0%	63.8%	0.0%	39.3%
Madison County	3.7%	10.2%	8.8%	42.9%	13.4%	34.4%
Rankin County	8.1%	11.2%	8.8%	52.6%	18.1%	32.1%
Yazoo County	7.5%	15.8%	0.0%	44.4%	11.1%	27.1%
MS	10.9%	13.7%	14.4%	37.0%	11.8%	31.9%
US	7.9%	10.1%	6.7%	19.9%	7.7%	18.2%

Source: U.S. Census Bureau, American Community Survey



Source: U.S. Census Bureau, American Community Survey

Access to health care providers varies widely within the Central Mississippi service area. Hinds, Madison and Rankin counties are generally well served by both primary care and dental providers, with provider rates that exceed state and/or national rates. However, **Hinds County is designated by the Federal Department of Health and Human Services as a primary and dental care Health Professional Shortage Area (HPSA) for low-income individuals, a disparity that is most evident in access to dental care.** While Hinds County has the highest rate of dentists in the service area, only about 54% of adults have had recent dental care compared with 64% in Madison and Rankin counties. When viewed at the ZIP code-level, disparities in adult dental care access in Hinds County align with existing socio-economic barriers and racial inequities. Approximately 39% to 43% of adults in Jackson ZIP codes 39201, 39203, 39204, 39209 and 39213 have received recent dental care.

Attala, Leake and Yazoo counties have lower primary care and dental provider rates than both the state and nation. The three counties, representing a population of nearly 66,000, are served by a total of 21 primary care physicians and 20 dentists. Attala County is designated as a primary care HPSA for low-income individuals; Yazoo County is designated as a High Needs HPSA for both primary and dental care. Despite differences in provider access, a similar proportion of service area adults have had a recent physical checkup in comparison to the state and nation. However, dental care access disparities are stark in these three counties. **Approximately 40% of adults in Attala, Leake and Yazoo counties have received recent dental care compared with 54.5% statewide and 66.2% nationally.** This finding is consistent across county ZIP codes.

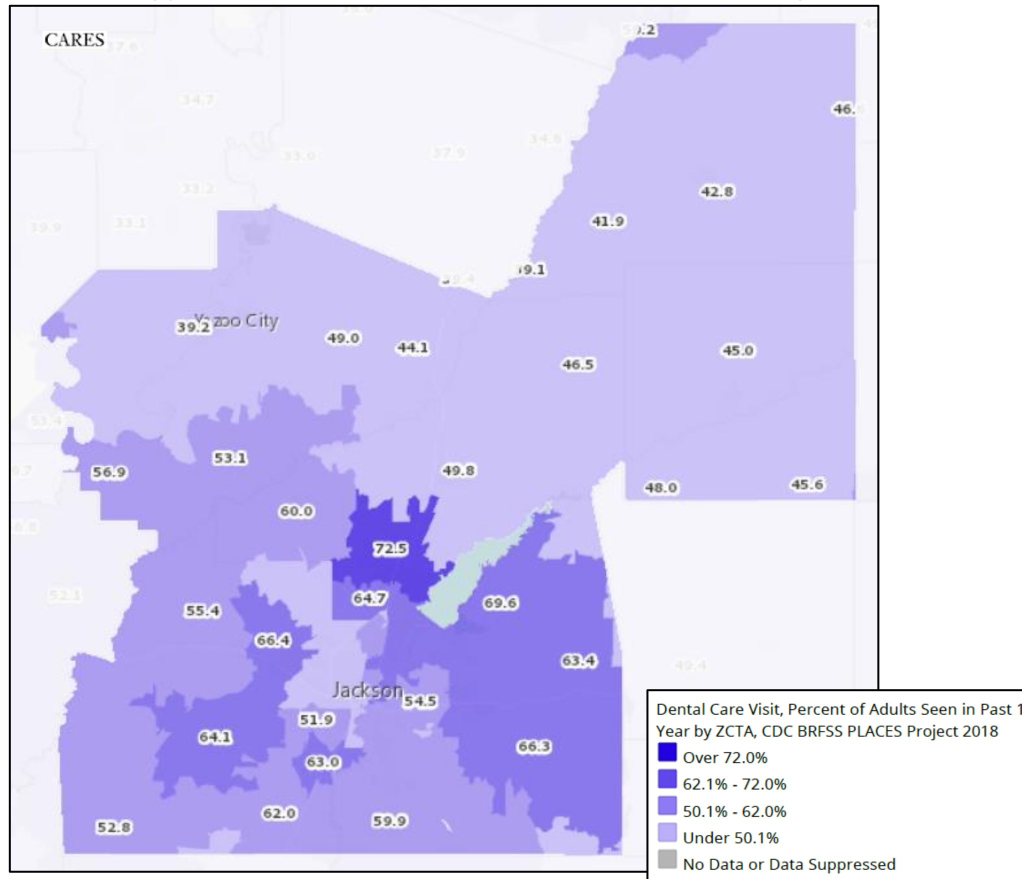
COVID-19 had a significant impact on access to care. Individuals nationwide delayed regular preventive and maintenance care due to fear of contracting COVID-19 in a health care setting and new financial constraints, among other concerns. Nationally, the percentage of adults receiving a routine physical checkup declined from 77.6% in 2019 to 76% in 2020. **Mississippi did not see a notable decline in care access from 2019 (77.3%) to 2020 (77.1%).** Note: county-level data for 2020 are not yet available.

Primary and Dental Provider Rates and Adult Health Care Access

	Primary Care		Dental Care	
	Physicians per 100,000 Population (2018)	Routine Checkup within Past Year (2018)*	Dentists per 100,000 Population (2019)	Dental Visit within Past Year (2018)*
Attala County	49.0 (n=9)	75.5%	33.0 (n=6)	42.9%
Hinds County	81.4	79.7%	100.1	54.4%
Leake County	22.0 (n=5)	75.8%	30.7 (n=7)	44.3%
Madison County	132.5	77.1%	72.5	63.6%
Rankin County	61.1	75.0%	63.8	63.8%
Yazoo County	24.8 (n=7)	76.3%	23.6 (n=7)	41.1%
Mississippi	52.9	75.8%	48.8	54.5%
United States	75.8	75.1%	71.4	66.2%

Source: Health Resources and Services Administration & Centers for Disease Control and Prevention, PLACES & BRFSS
*Data are reported as age-adjusted percentages.

Central Mississippi Service Area Adults with an Annual Dental Visit by ZIP Code



Health Risk Factors and Chronic Disease

Routine preventive care contributes to fewer health risk factors and better health status. Despite a similar proportion of adults in the Central Mississippi Service Area accessing primary care services, health outcomes vary widely by county, generally aligning with socio-economic outcomes.

Mississippi adults overall have increased risk factors for chronic disease, including lack of physical activity and tobacco use. **Attala, Leake and Yazoo counties exceed both state and national benchmarks for poor physical health and smoking.** Approximately one-third of adults in these counties are physically inactive and one-quarter use tobacco. Hinds County generally mirrors the state for these indicators, while Madison and Rankin counties more closely align with the nation and report better health overall.

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

2018 Age-Adjusted Adult (18+) Physical Health Outcomes

	Physical Health Not Good for 14 or More Days in Past 30 Days	No Leisure-Time Physical Activity in Past 30 Days
Attala County	16.8%	34.6%
Hinds County	14.2%	32.4%
Leake County	17.7%	36.7%
Madison County	10.6%	23.8%
Rankin County	11.8%	26.7%
Yazoo County	18.1%	37.4%
Mississippi	14.5%	30.9%
United States	11.8%	23.6%

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

2018 Age-Adjusted Adults (18+) Who Are Current Smokers*

	Percentage
Attala County	23.9%
Hinds County	19.9%
Leake County	26.5%
Madison County	14.3%
Rankin County	17.1%
Yazoo County	25.6%
Mississippi	20.8%
United States	15.9%

Source: Centers for Disease Control and Prevention, BRFSS
*A change in reporting methodology occurred in 2018 providing age-adjusted county percentages. Data prior to 2018 were reported as crude percentages and are not comparable.

Obesity and Diabetes

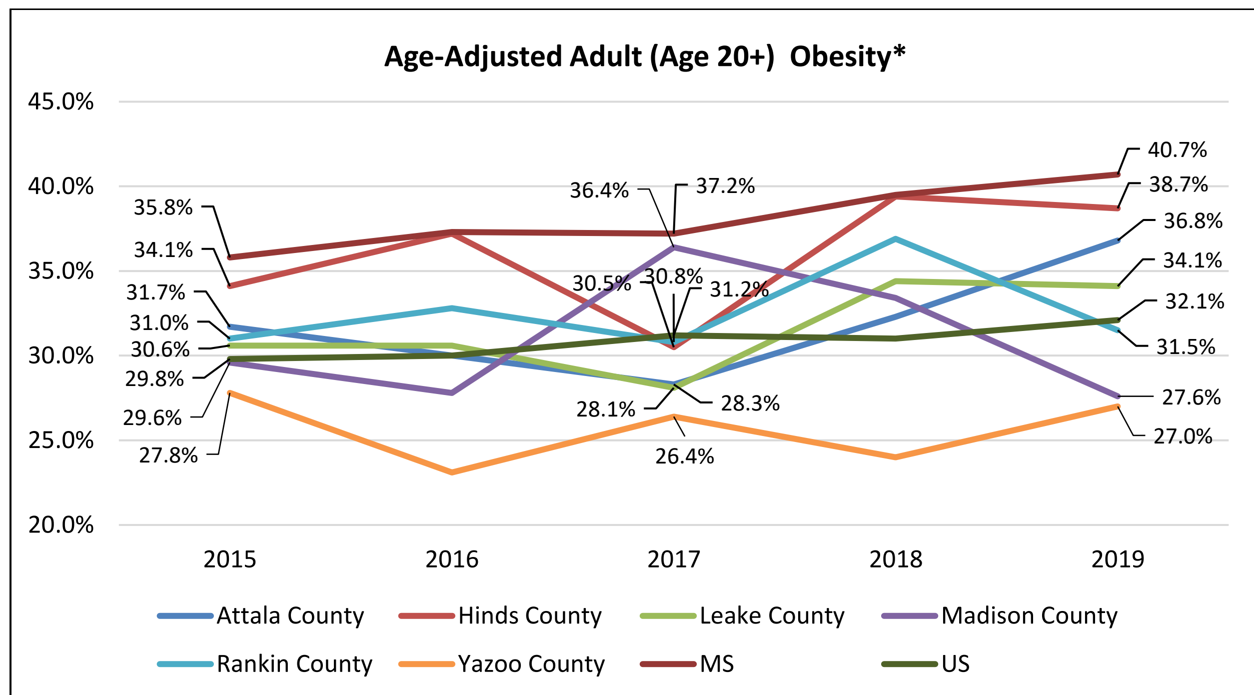
Mississippi adults overall have historically higher prevalence of obesity and diabetes than the nation. **Within the Central Mississippi service area, Attala, Hinds and Leake counties also exceed the nation for adult obesity and diabetes prevalence, but all service area counties generally have a lower prevalence than the state.** Adult obesity increased 3.5 to 5 percentage points in Attala, Hinds and Leake counties from 2015 to 2019; Attala and Hinds counties also saw a nearly 2-point increase in adult diabetes. Of note, the diabetes death rate increased in Attala County in recent years and exceeds state and national benchmarks.

Madison and Yazoo counties have a lower prevalence of adult obesity and diabetes than the state and nation, but these findings should continue to be monitored in light of recent trends. Adult diabetes prevalence increased annually in Madison County from 2015 to 2019. The Madison County diabetes death rate also increased in recent years and exceeds state and national death rates. Black/African American people in Madison County have a diabetes death rate that is 2.5 times higher than the death rate among white people, the largest disparity in the service area. In Yazoo County, adult obesity and

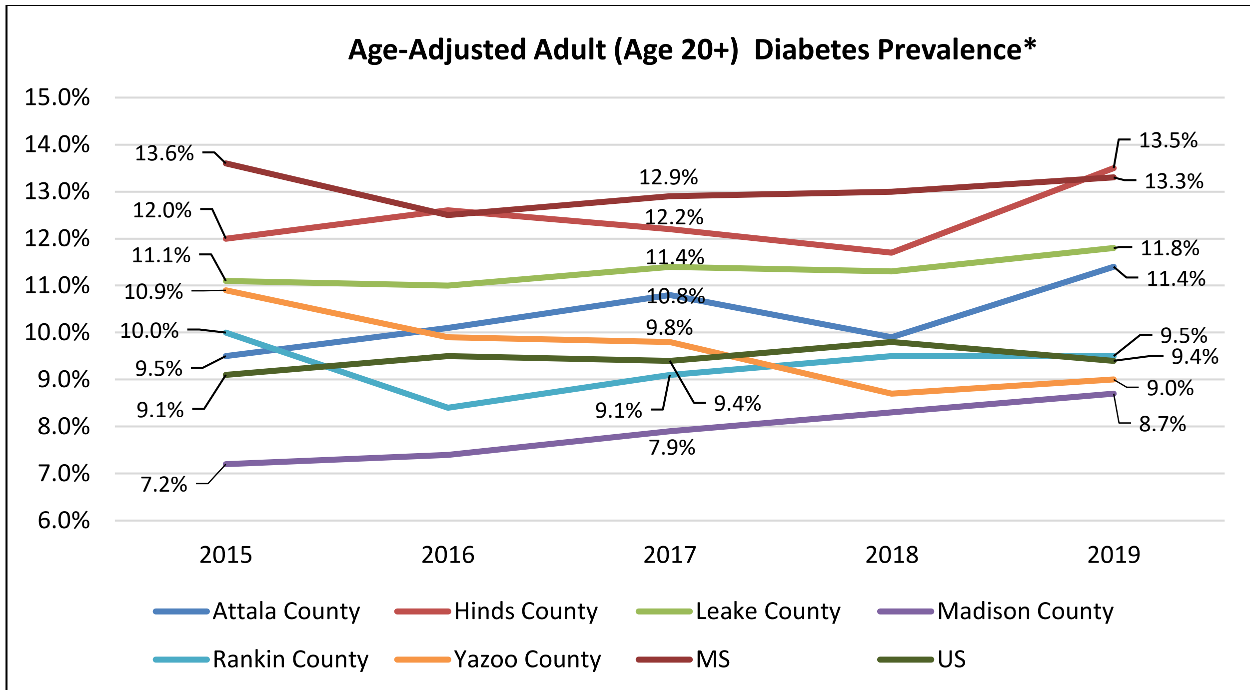
diabetes prevalence and the diabetes death rate declined, but the diabetes death rate is the highest in the service area and more than triple the statewide death rate.

Note: State and national obesity and diabetes prevalence data are reported for adults age 18 or older, while county-level data are reported for adults aged 20 or older, based on data availability. Comparisons between the counties, state and nation should be interpreted with caution.

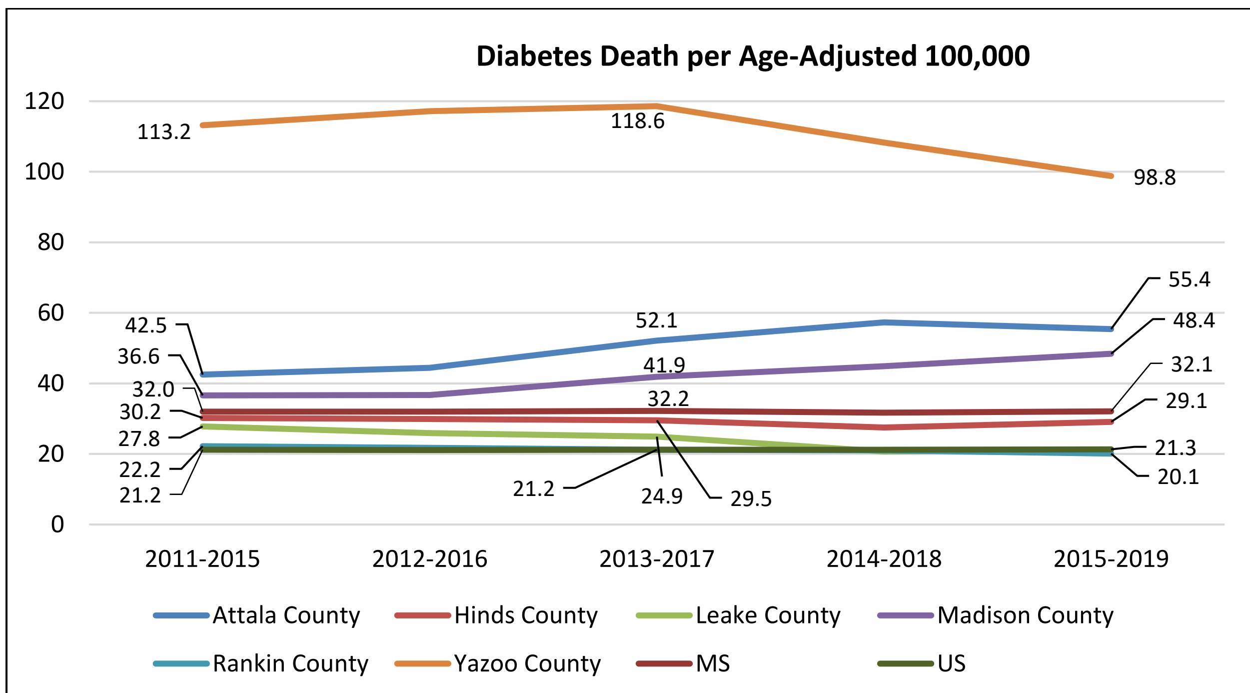
Mississippi overall has a higher rate of death due to diabetes than the nation, largely due to disparities among Black/African American people. **Across Mississippi, there is a more than 33-point difference in the death rate between white and Black/African American people.** A similar disparity is seen across the Central Mississippi service area.



Source: Centers for Disease Control and Prevention, U.S. Diabetes Surveillance System & BRFSS
*State and national data are reported as a percentage of adults age 18+ based on data availability.



Source: Centers for Disease Control and Prevention, U.S. Diabetes Surveillance System & BRFSS
*State and national data are reported as a percentage of adults age 18+ based on data availability.



Source: Centers for Disease Control and Prevention

2015-2019 Diabetes Death Rate per Age-Adjusted 100,000 by Race and Ethnicity

	Total Population	White, Non-Hispanic	Black or African American, Non-Hispanic	Latinx origin (any race)
Attala County	55.4	41.5	83.7	NA
Hinds County	29.1	18.4	36.1	NA
Leake County	21.3	NA	NA	NA
Madison County	48.4	35.0	87.0	NA
Rankin County	20.1	18.6	31.6	NA
Yazoo County	98.8	72.8	137.2	NA
Mississippi	32.1	22.6	55.8	NA
United States	21.3	18.8	38.3	25.1

Source: Centers for Disease Control and Prevention

Heart Disease

Heart disease is the leading cause of death nationally. High blood pressure and cholesterol are two of the primary causes of heart disease and can be preventable. **Mississippi and Central Mississippi service area adults have a higher prevalence of high blood pressure and/or high cholesterol than the nation overall; all counties except Rankin also have a higher rate of death due to heart disease.** Rankin is the only county that saw consistent declines in the heart disease death rate from 2010 to 2019; death rates in all other counties were variable.

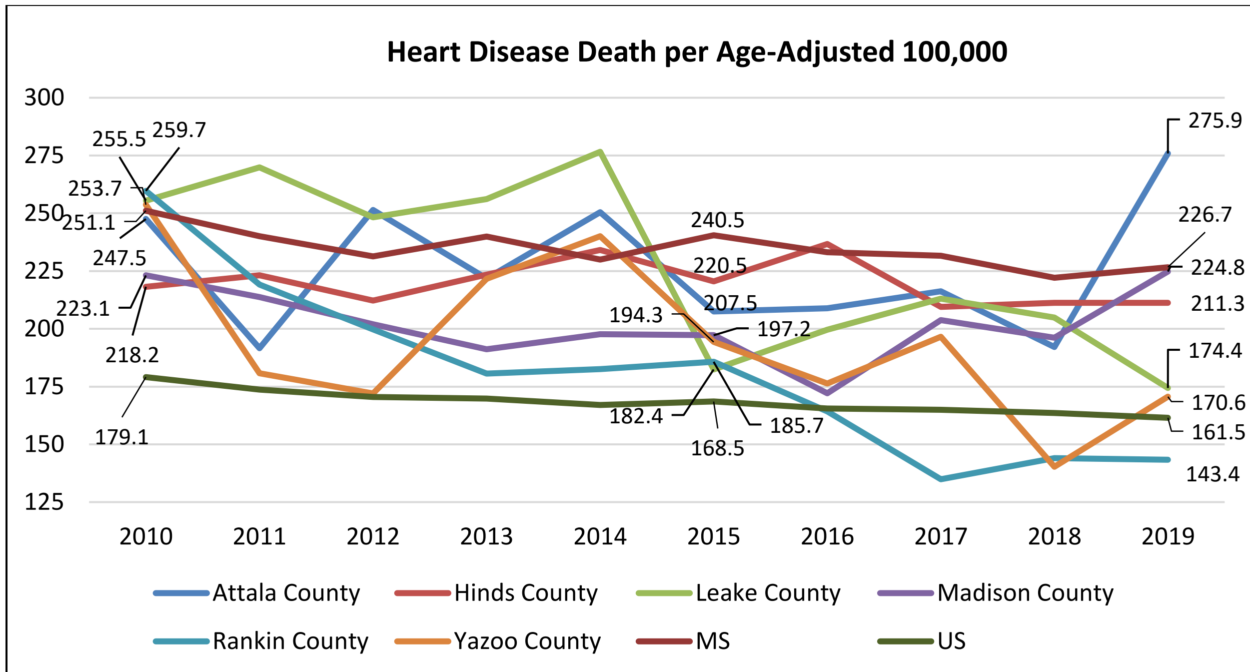
Across the Central Mississippi service area, approximately one-third or more of adults have high blood pressure and/or high cholesterol. Attala, Hinds, Leake and Yazoo counties are disproportionately affected with more than 40% of adults diagnosed with high blood pressure. Of note, Attala County saw a nearly 84-point increase in the heart disease death rate from 2018 to 2019, representing an increase in total deaths from 51 in 2018 to 68 in 2019. The 2019 heart disease death rate for Attala County is the highest of any county over the past decade and should continue to be monitored.

Across Mississippi, the nation and all Central Mississippi service area counties except Leake, heart disease death rates are higher among Black/African American people than other racial groups. **Attala and Hinds counties have the largest death disparity among Black/African American people relative to white people.**

2017 Age-Adjusted Adult (Age 18+) Heart Disease Risk Factors Prevalence

	Adults with High Blood Pressure	Adults with High Cholesterol
Attala County	40.7%	33.4%
Hinds County	42.2%	32.6%
Leake County	42.4%	33.4%
Madison County	34.5%	31.2%
Rankin County	34.9%	32.7%
Yazoo County	45.3%	34.4%
Mississippi	38.2%	33.5%
United States	29.7%	29.3%

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



Source: Centers for Disease Control and Prevention

2015-2019 Heart Disease Death Rate per Age-Adjusted 100,000 by Race and Ethnicity

	Total Population	White, Non-Hispanic	Black or African American, Non-Hispanic	Latinx origin (any race)
Attala County	219.9	200.4	246.5	NA
Hinds County	217.9	181.5	240.5	NA
Leake County	194.4	200.9	177.2	NA
Madison County	198.0	195.7	196.4	NA
Rankin County	153.6	154.4	165.3	NA
Yazoo County	175.2	164.9	189.8	NA
Mississippi	230.7	223.8	250.2	51.8
United States	164.8	168.5	208.7	113.9

Source: Centers for Disease Control and Prevention

Cancer

Cancer is the second leading cause of death nationally. Mississippi overall has higher cancer incidence and death rates than the nation. This finding is likely reflective of both increased health risk factors and lower access to cancer screenings for early detection and treatment. Mississippi adults are less likely to receive cancer screenings compared to national benchmarks.

Cancer incidence and death rates vary widely across the service area. **Rankin County generally reports positive cancer outcomes with declining incidence and death rates, and a death rate that nearly meets the HP2030 goal. Cancer incidence also declined in Yazoo County, but the death rate generally**

increased and exceeds statewide and national death rates. This finding suggests delayed cancer screening and later stage diagnosis. Yazoo County has the lowest proportion of adults receiving cancer screenings in the service area. Of note, Yazoo County also has one of the highest proportions of adults who smoke and a lung cancer death rate that is nearly double the national death rate.

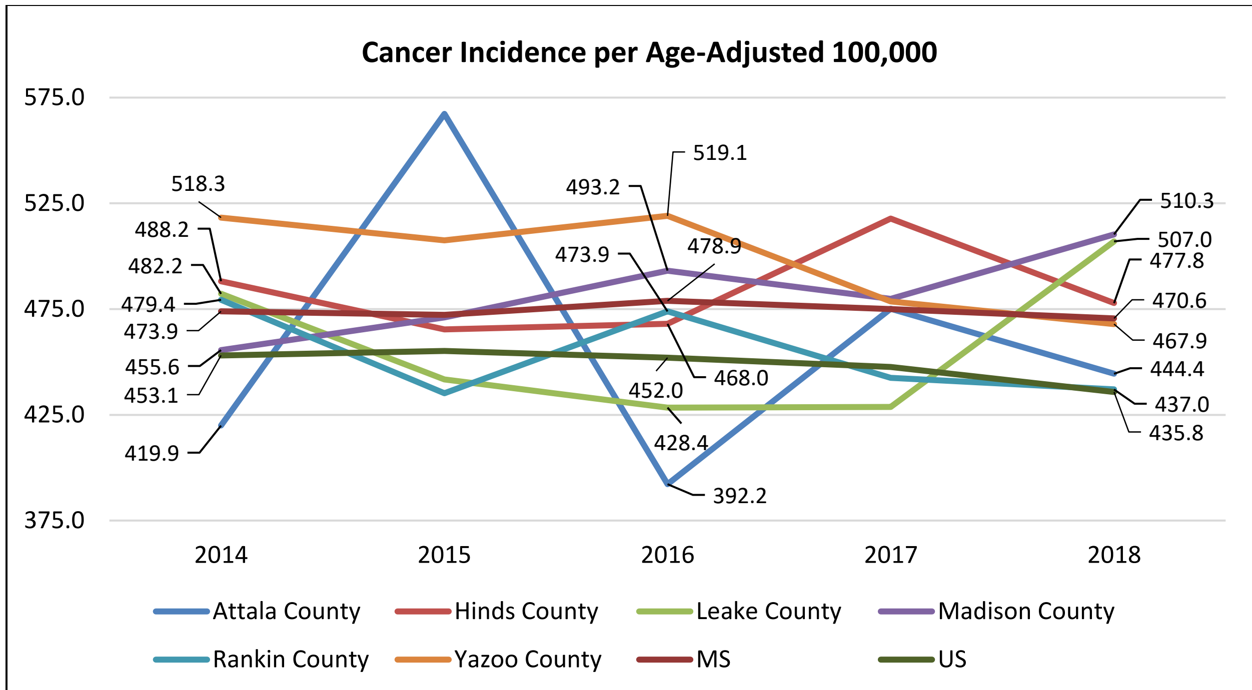
Notable cancer disparities exist within Madison County. The county has the highest cancer incidence and death rates in the service area, exceeding statewide and national rates. When viewed by cancer type, Madison County has higher death rates due to female breast, colorectal, lung and prostate cancers than the state and nation. Higher cancer incidence in Madison County is due in part to better screening for early detection, however, higher cancer death rates indicate disparity in access to treatment. White and Black/African American people residing in Madison County have higher death rates than their peers statewide and nationally, but the death rate for Black/African American residents is more than 40 points higher than for white residents. This disparity is consistent across all service area counties except Leake.

In all other service area counties, the cancer incidence rate has been variable, and the death rate generally declined but remains higher than the national rate. In Attala County, deaths due to prostate cancer should be explored. The county has a lower prostate cancer incidence rate than the state, but a death rate that is nearly 60% higher.

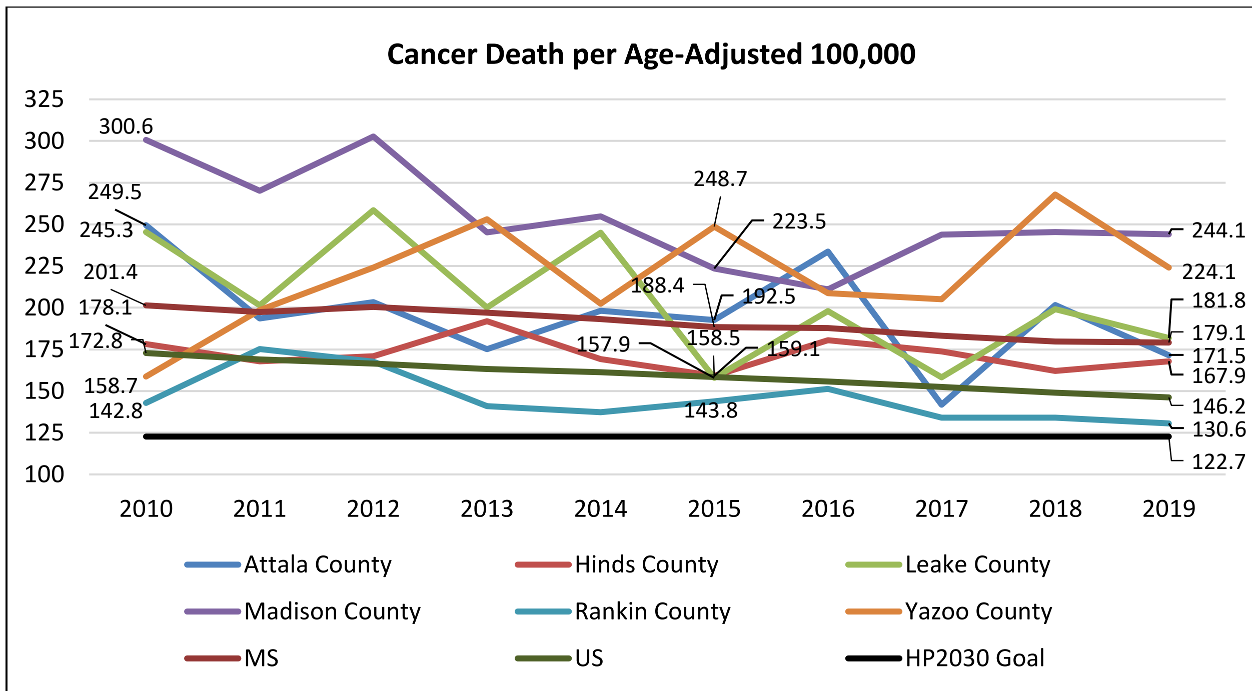
2018 Age-Adjusted Adult Cancer Screening Practices

	Mammogram in the Past 2 Years (50-74 years)	Cervical Cancer Screening (21-65 years)	Colon Cancer Screening (50-74 years)
Attala County	65.6%	84.6%	56.8%
Hinds County	72.3%	88.1%	62.7%
Leake County	66.2%	83.4%	55.3%
Madison County	73.6%	88.3%	67.3%
Rankin County	67.4%	87.5%	68.3%
Yazoo County	63.4%	83.4%	54.6%
Mississippi	69.8%	75.2%	60.7%
United States	77.8%	85.5%	65.0%

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



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

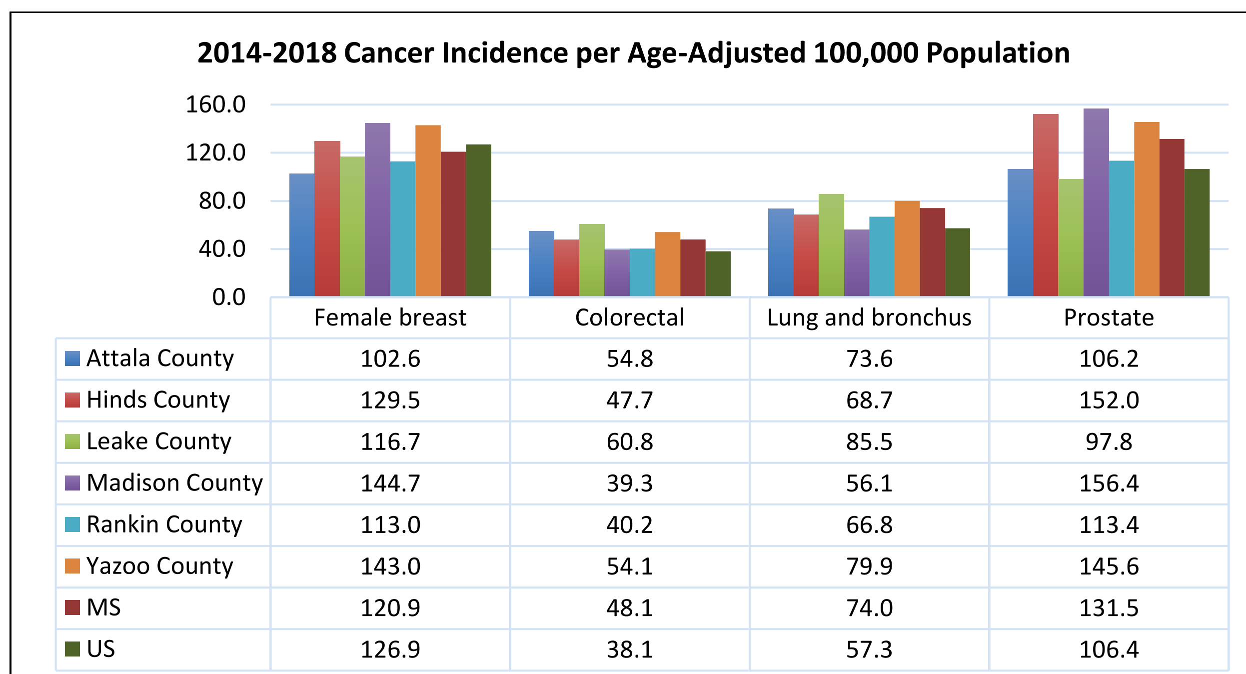


Source: Centers for Disease Control and Prevention

2014-2018 Age-Adjusted Cancer Incidence and Death per 100,000 Population by Race and Ethnicity

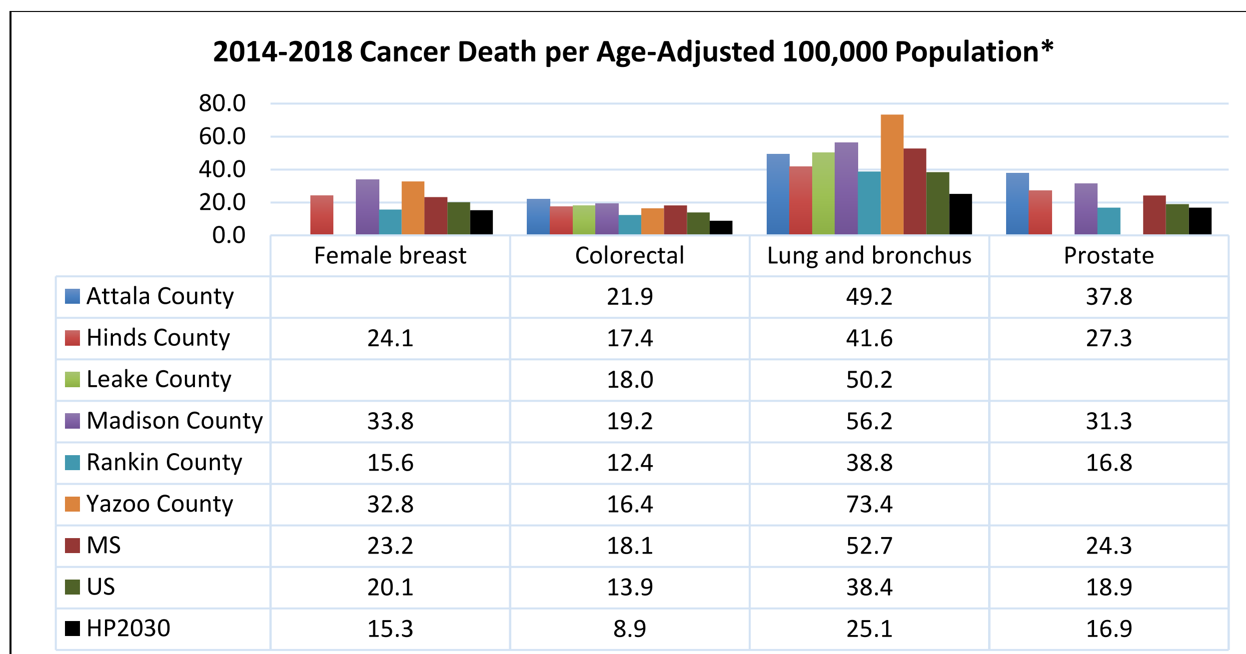
	Attala County	Hinds County	Leake County	Madison County	Rankin County	Yazoo County	Mississippi	United States
Cancer Incidence								
Total Population	459.6	483.7	457.5	483.1	453.0	498.5	474.1	449.0
White	462.0	475.8	465.3	485.6	454.8	474.3	471.6	451.3
Black or African American	461.1	487.5	460.8	491.2	456.4	522.2	483.3	445.4
Latinx origin (any race)	NA	NA	NA	NA	NA	NA	NA	345.5
Cancer Death								
Total Population	194.3	169.1	191.2	234.9	139.9	226.6	186.4	155.6
White	179.4	148.3	194.1	225.5	136.7	203.7	180.5	156.4
Black or African American	232.8	185.7	194.3	267.1	166.4	264.9	208.0	177.6
Latinx origin (any race)	NA	NA	NA	NA	NA	NA	46.7	111.3

Source: Mississippi Cancer Registry & Centers for Disease Control and Prevention



	Female breast	Colorectal	Lung and bronchus	Prostate
Attala County	102.6	54.8	73.6	106.2
Hinds County	129.5	47.7	68.7	152.0
Leake County	116.7	60.8	85.5	97.8
Madison County	144.7	39.3	56.1	156.4
Rankin County	113.0	40.2	66.8	113.4
Yazoo County	143.0	54.1	79.9	145.6
MS	120.9	48.1	74.0	131.5
US	126.9	38.1	57.3	106.4

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



	Female breast	Colorectal	Lung and bronchus	Prostate
Attala County		21.9	49.2	37.8
Hinds County	24.1	17.4	41.6	27.3
Leake County		18.0	50.2	
Madison County	33.8	19.2	56.2	31.3
Rankin County	15.6	12.4	38.8	16.8
Yazoo County	32.8	16.4	73.4	
MS	23.2	18.1	52.7	24.3
US	20.1	13.9	38.4	18.9
HP2030	15.3	8.9	25.1	16.9

Source: Centers for Disease Control and Prevention
*Data are reported by county as available.

Respiratory Disease

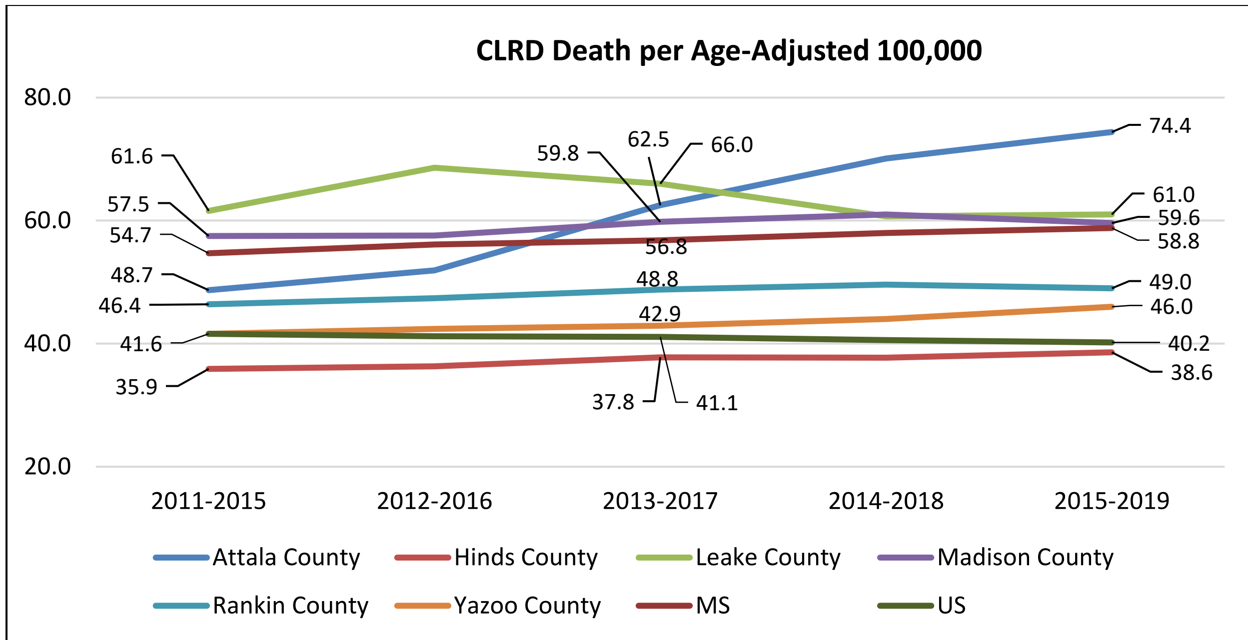
Chronic lower respiratory disease (CLRD) includes several chronic conditions of the respiratory tract, including asthma and chronic obstructive pulmonary disease (COPD). Within the Central Mississippi service area, Attala, Leake and Yazoo counties have a higher prevalence of both adult asthma and COPD compared to the state and nation. These counties also report a higher prevalence of adult tobacco use.

Contrary to the nation, the CLRD death rate increased in Mississippi and nearly all service area counties. Attala, Leake and Madison counties exceed state and national CLRD death rates; **the Attala County CLRD death rate is the highest in the service area and increased more than 25 points over the past five years.** The Madison County CLRD death rate should be further explored as the county overall reports a lower prevalence of CLRD conditions than state and national benchmarks. Across the nation, Mississippi and the service area, white people have higher CLRD death rates than other racial or ethnic groups.

2018 Age-Adjusted Adult (Age 18+) Respiratory Disease Prevalence

	Adults with Current Asthma Diagnosis	Adults with COPD
Attala County	10.9%	9.5%
Hinds County	10.9%	7.5%
Leake County	11.2%	10.2%
Madison County	8.9%	5.6%
Rankin County	9.3%	6.6%
Yazoo County	10.7%	10.0%
Mississippi	9.5%	9.0%
United States	9.1%	6.2%

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



Source: Centers for Disease Control and Prevention

2015-2019 CLRD Death Rate per Age-Adjusted 100,000 by Race and Ethnicity

	Total Population	White, Non-Hispanic	Black or African American, Non-Hispanic	Latinx origin (any race)
Attala County	74.4	91.2	NA	NA
Hinds County	38.6	49.6	29.3	NA
Leake County	61.0	72.3	NA	NA
Madison County	59.6	63.7	47.0	NA
Rankin County	49.0	51.6	34.9	NA
Yazoo County	46.0	52.2	38.6	NA
Mississippi	58.8	67.7	38.5	NA
United States	40.2	45.5	29.8	17.0

Source: Centers for Disease Control and Prevention

Aging Population

Mississippi is an aging state. From 2011-2015 to 2015-2019, the statewide proportion of residents age 65 or older increased from 13.9% to 15.4%, a similar rate of growth as the nation overall.

According to the Centers for Medicare & Medicaid Services, approximately 74% of Mississippi older adult Medicare beneficiaries have two or more chronic conditions, a higher proportion than the nation (70.3%). Within the Central Mississippi service area, **Attala County has the highest proportion of beneficiaries with multiple chronic conditions, exceeding both state and national benchmarks and saw the largest increase in this population from the 2019 CHNA, from 69.3% to 75.6%.** It is worth noting that all service area counties saw an increase in the proportion of older adult Medicare beneficiaries

with multiple chronic conditions from the 2019 CHNA, but Attala is the only county to exceed state and national benchmarks.

Older adults in all Central Mississippi service area counties except Madison are more likely to have a disability when compared to the nation; Attala, Leake and Yazoo counties also exceed the statewide benchmark. **Nearly 60% of older adults in Leake County and approximately half of older adults in Attala and Yazoo counties experience disability.** The most common disability among service area older adults is ambulatory (walking), followed by independent living. Without appropriate support services, disabilities can impede disease management and treatment efforts and further exacerbate poorer health outcomes.

Across the Central Mississippi service area, there is opportunity to improve older adult health status through better access to preventive services, such as recommended vaccines and cancer screenings. **Approximately 1 in 4 older adult men and 1 in 5 older adult women in the service area are up to date on preventive services, a lower proportion than the state and nation overall.** Men are more likely than women to be up to date on preventive services.

2018 Chronic Condition Comorbidities among Medicare Beneficiaries 65 Years or Older

	0 to 1 Condition	2 to 3 Conditions	4 to 5 Conditions	6 or More Conditions
Attala County	24.4%	25.7%	27.5%	22.3%
Hinds County	31.2%	30.4%	22.3%	16.1%
Leake County	28.6%	30.0%	22.4%	19.0%
Madison County	32.4%	30.9%	21.5%	15.2%
Rankin County	29.5%	31.1%	23.0%	16.5%
Yazoo County	32.3%	30.2%	20.8%	16.7%
Mississippi	25.9%	29.3%	24.7%	20.1%
United States	29.7%	29.4%	22.8%	18.2%

Source: Centers for Medicare & Medicaid Services

2015-2019 Older Adult Population by Disability Status

	Attala County	Hinds County	Leake County	Madison County	Rankin County	Yazoo County	Mississippi	United States
Total population	22.8%	12.7%	23.8%	9.8%	12.5%	24.8%	16.4%	12.6%
65 years or older	45.9%	37.1%	59.8%	31.2%	35.2%	52.1%	41.4%	34.5%
Ambulatory	33.7%	26.3%	40.6%	20.3%	24.9%	38.2%	28.6%	21.9%
Hearing	15.7%	10.4%	27.7%	9.9%	12.3%	14.3%	15.3%	14.3%
Independent living	19.9%	19.7%	29.7%	12.4%	18.4%	15.0%	18.4%	14.2%
Cognitive	16.7%	10.9%	20.3%	8.9%	10.2%	9.4%	11.5%	8.6%
Vision	9.0%	7.5%	18.4%	5.5%	6.7%	13.7%	8.8%	6.3%

Source: U.S. Census Bureau, American Community Survey

2018 Age-Adjusted Older Adult (65+) Clinical Preventive Services*

	Older Adult Men Who Are Up To Date On Clinical Preventive Services	Older Adult Women Who Are Up To Date On Clinical Preventive Services
Attala County	29.4%	19.1%
Hinds County	26.4%	23.8%
Leake County	22.3%	20.3%
Madison County	31.6%	24.3%
Rankin County	27.8%	22.3%
Yazoo County	21.7%	17.0%
Mississippi	45.2%	43.0%
United States	42.4%	41.6%

Source: Centers for Disease Control and Prevention, PLACES & BRFSS
*Includes a flu vaccine in the past year, pneumococcal pneumonia vaccine ever, colorectal cancer screening and mammogram in the past two years (women)

Older adult health care utilization and costs increase significantly with a higher number of reported chronic diseases. Tracking these indicators helps plan allocation of resources to best anticipate and serve need in the community. **When compared with the nation, Mississippi overall has higher per capita spending among older adult Medicare beneficiaries, regardless of number of chronic conditions. With few exceptions, Central Mississippi service area counties report higher spending than the state.** Leake and Yazoo counties report the highest spending in the service area and the highest rates of emergency department (ED) visits among older adult Medicare beneficiaries. Attala County also reports higher ED visit rates in comparison to the state and nation. These findings are consistent with care access barriers in Attala, Leake and Yazoo counties.

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

	0 to 1 Condition	2 to 3 Conditions	4 to 5 Conditions	6 or More Conditions
Attala County	$2,197	$5,609	$11,754	$28,214
Hinds County	$2,020	$6,048	$12,101	$35,379
Leake County	$2,426	$7,675	$15,432	$38,626
Madison County	$2,592	$6,368	$12,462	$33,243
Rankin County	$2,338	$6,264	$11,894	$31,680
Yazoo County	$2,517	$7,395	$13,854	$35,940
Mississippi	$2,077	$5,727	$11,150	$31,143
United States	$1,944	$5,502	$10,509	$29,045

Source: Centers for Medicare & Medicaid Services
*Standardized spending takes into account payment factors that are unrelated to the care provided (e.g., geographic variation in Medicare payment amounts).

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

	0 to 1 Condition	2 to 3 Conditions	4 to 5 Conditions	6 or More Conditions
Attala County	145.5	390.9	732.4	1,925.9
Hinds County	123.3	326.9	665.0	1,952.0
Leake County	171.9	444.6	891.8	2,334.7
Madison County	93.6	296.9	624.0	1,856.5
Rankin County	113.2	297.1	614.4	1,738.4
Yazoo County	179.8	469.4	862.3	2,071.1
Mississippi	138.6	350.5	686.5	1,885.5
United States	122.6	318.4	621.1	1,719.1

Source: Centers for Medicare & Medicaid Services

Nationally and in Mississippi, the most common chronic conditions among older adult Medicare beneficiaries, in order of prevalence, are hypertension, high cholesterol and arthritis. In comparison to the nation, Mississippi older adult Medicare beneficiaries generally report a higher prevalence of chronic conditions, with the exception of asthma, cancer and high cholesterol.

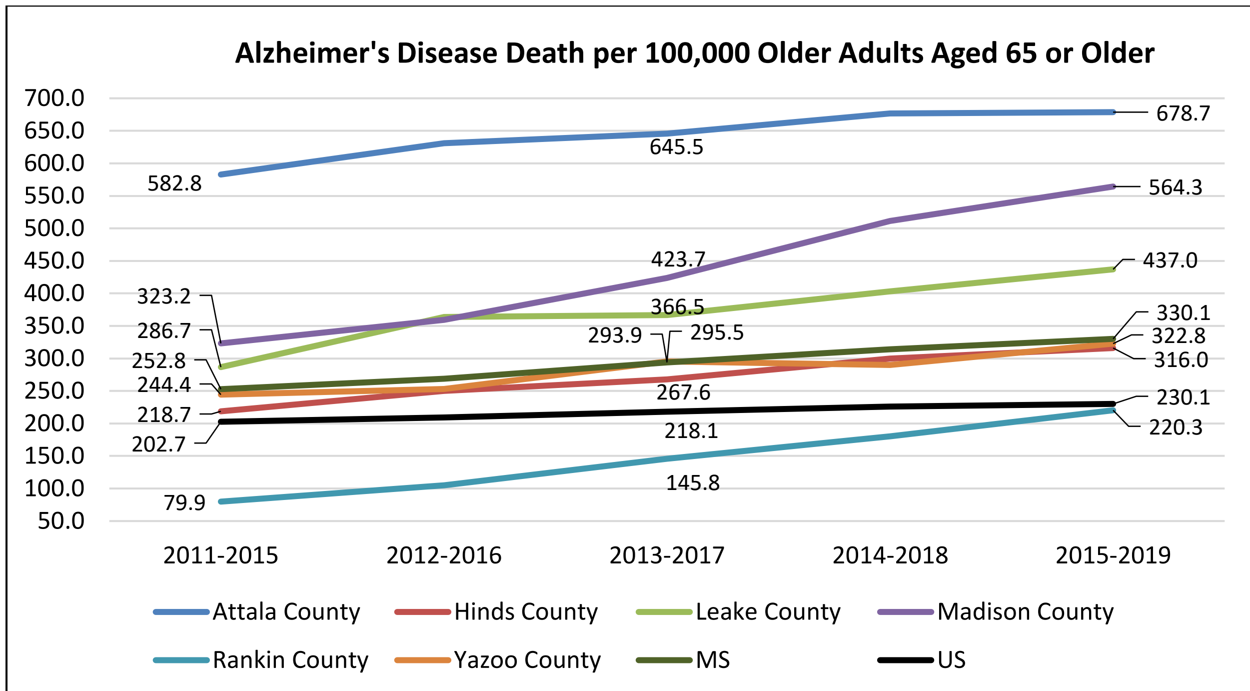
Consistent with having the highest proportion of older adult Medicare beneficiaries with multiple chronic conditions, Attala County has a higher prevalence of most reported conditions when compared to the state and nation. Consistent with the state, all counties have a lower prevalence of asthma, cancer and high cholesterol than the nation. All counties also have a lower prevalence of ischemic heart disease compared to the state.

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

	Attala County	Hinds County	Leake County	Madison County	Rankin County	Yazoo County	Mississippi	United States
Alzheimer's Disease	14.5%	13.7%	14.3%	13.6%	12.9%	13.0%	12.9%	11.9%
Arthritis	35.7%	35.6%	43.6%	38.4%	37.8%	36.5%	39.8%	34.6%
Asthma	2.7%	3.9%	3.2%	3.6%	3.7%	3.7%	3.7%	4.5%
Cancer	8.7%	8.5%	7.5%	8.6%	8.2%	8.1%	8.8%	9.3%
Chronic Kidney Disease	39.9%	22.5%	23.6%	19.4%	19.8%	26.9%	25.3%	24.9%
COPD	13.8%	9.0%	12.5%	7.8%	11.0%	10.4%	12.6%	11.4%
Depression	20.1%	14.3%	16.6%	14.4%	17.3%	13.1%	16.4%	16.0%
Diabetes	31.8%	29.1%	31.3%	23.9%	26.6%	29.8%	30.7%	27.1%
Heart Failure	18.1%	13.4%	14.9%	12.4%	12.3%	17.3%	16.1%	14.6%
High Cholesterol	45.4%	41.4%	36.3%	42.8%	45.9%	33.0%	48.9%	50.5%
Hypertension	70.3%	63.5%	66.0%	59.9%	63.5%	64.3%	67.9%	59.8%
Ischemic Heart Disease	31.0%	23.5%	28.9%	26.2%	27.8%	25.4%	31.9%	28.6%
Stroke	5.1%	4.6%	5.4%	4.6%	4.6%	4.0%	4.4%	3.9%

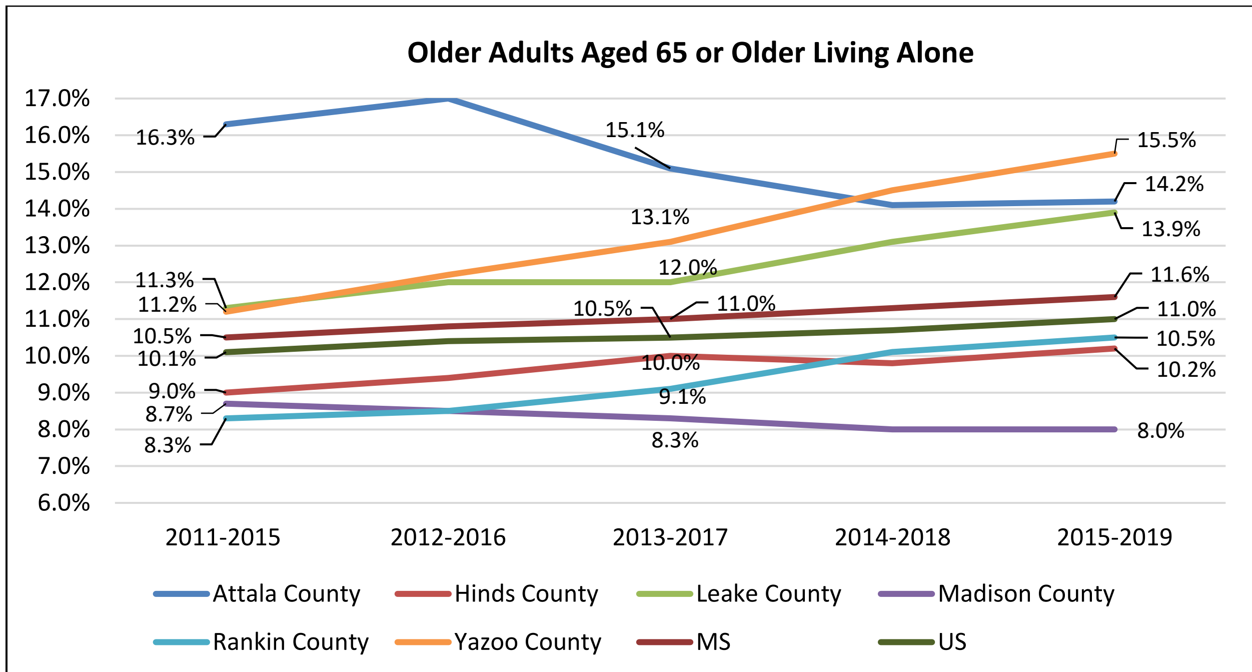
Source: Centers for Medicare & Medicaid Services

The Alzheimer's disease death rate among Mississippi older adults is 100 points higher than the national death rate. **All Central Mississippi service area counties except Rankin also have a higher Alzheimer's disease death rate than the nation, despite having a similar prevalence of Alzheimer's disease among older adult Medicare beneficiaries.** In all counties, the Alzheimer's disease death rate increased approximately 100 points or more from 2011-2015 to 2015-2019. Madison County saw the largest increase of more than 240 points, and both Madison and Attala counties exceed the national death rate by more than 300 points.



Source: Centers for Disease Control and Prevention

In older adults, chronic illness often leads to diminished quality of life and increased social isolation. Social isolation may also impede effective chronic illness management and accelerate the negative impact of chronic diseases. One indicator of social isolation among older adults is the percentage of adults age 65 years or older who live alone. Consistent with the nation, the proportion of older adults living alone increased across Mississippi and in most Central Mississippi service area counties. **Older adults in Attala, Leake and Yazoo counties are more likely to live alone when compared with state and national benchmarks, a finding of note due to a higher prevalence of comorbidities, disability and/or ED utilization among older adults in these counties.**



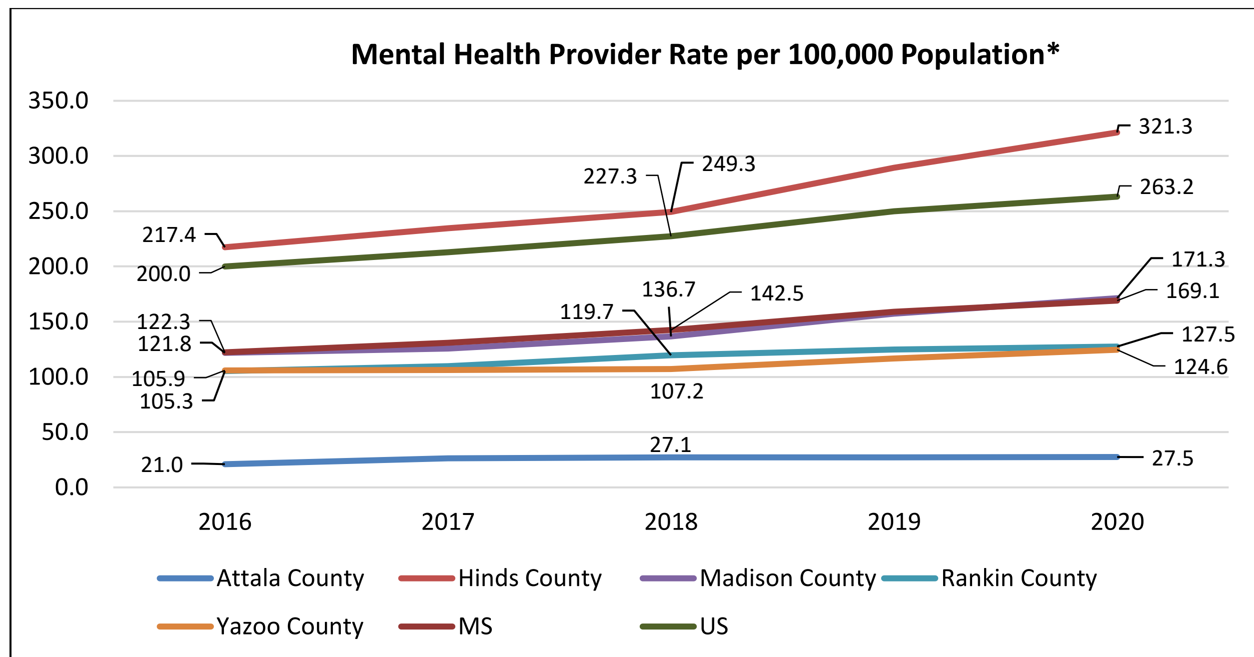
Source: U.S. Census Bureau, American Community Survey

Behavioral Health and Substance Use Disorder

Access to mental health providers is improving nationally and across Mississippi and the Central Mississippi service area. However, Mississippi overall has fewer mental health providers than the nation, as indicated by the rate of providers per 100,000 population.

Within the Central Mississippi service area, mental health providers are concentrated in Hinds County, where the provider rate exceeds state and national benchmarks. Madison, Rankin and Yazoo counties have similar provider rates as the state, although Yazoo County is designated as a High Needs HPSA. Attala and Leake counties are also designated as High Needs HPSAs and have a combined seven mental health providers as of 2020.

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



Source: Centers for Medicare and Medicaid Services

*Prior to 2020, Leake County had no mental health providers. In 2020, Leake County had two mental health providers for a rate of 8.8 per 100,000.

More than 1 in 10 adults across Mississippi and the Central Mississippi service area report having poor mental health on 14 or more days during a 30-day period; all service area counties except Madison exceed the national benchmark for this indicator. **Attala, Leake and Yazoo counties are designated as High Needs HPSAs for mental health care and exceed state and national benchmarks for adults experiencing frequent mental distress.** Frequent mental distress is an indicator of persistent, and likely severe, mental health issues, which may impact quality of life and overall wellness.

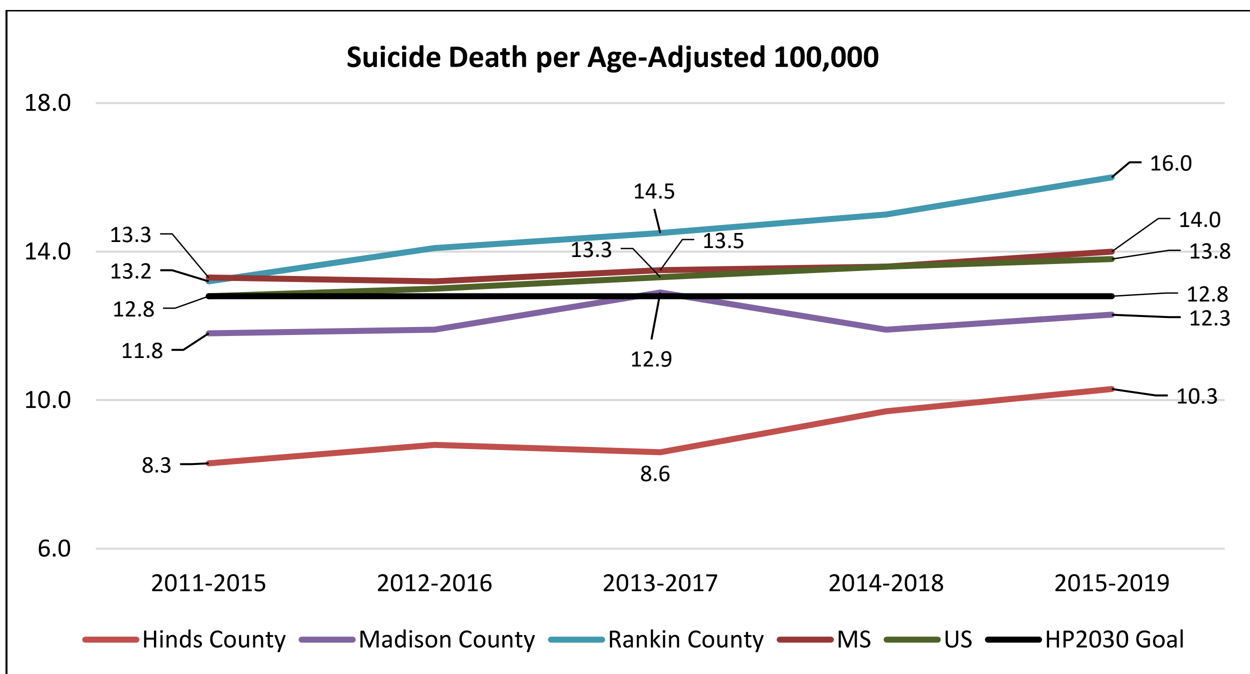
2018 Age-Adjusted Adult (Age 18+) Poor Mental Health Days

	Average Mentally Unhealthy Days per Month	Frequent Mental Distress: 14 or More Poor Mental Health Days per Month
Attala County	5.4	18.0%
Hinds County	4.5	15.1%
Leake County	5.6	18.7%
Madison County	4.1	12.5%
Rankin County	4.6	14.1%
Yazoo County	5.3	17.9%
Mississippi	4.5	15.7%
United States	4.1	12.9%

Source: Centers for Disease Control and Prevention, BRFSS

Frequent mental distress is a risk factor for suicide. Suicide deaths steadily increased over the past decade across the U.S., Mississippi and Hinds, Madison and Rankin service area counties. **Rankin County has a higher suicide rate than both the state and nation, a finding that should be explored in light of the county's overall positive health and socio-economic factors.** Suicide death rates are masked in Attala, Leake and Yazoo counties due to low death counts, but other mental health measures indicate high vulnerability to suicide in these counties.

Suicide death rates should continue to be monitored as deaths reflect pre-COVID-19 pandemic rates. An analysis of demographic characteristics for suicide deaths occurring from 2015 to 2019 suggests that deaths are more prominent among males, middle-aged adults and white residents.



Source: Centers for Disease Control and Prevention
*Data are not reported for Attala, Leake and Yazoo counties due to low death counts.

2015-2019 Mississippi Suicide Deaths, Demographic Characteristics

	Suicide Deaths	Age-Adjusted Rate per 100,000
Gender		
Female	417	5.3
Male	1,699	23.6
Age*		
5-14	30	1.5
15-24	283	13.6
25-34	347	17.6
35-44	359	19.6
45-54	343	18.3
55-64	354	18.5
65-74	224	16.4
75-84	130	18.9
85+	46	17.9
Race and Ethnicity		
White, Non-Hispanic	1,779	20.1
Black/African American, Non-Hispanic	300	5.4
Latinx origin (any race)	17	NA

Source: Centers for Disease Control and Prevention
*Rates are not age-adjusted.

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

When compared to the nation, **fewer adults across Mississippi and the Central Mississippi service area report excessive drinking.** Excessive drinking includes heavy and/or binge drinking. All counties except Madison also report a lower percentage of driving deaths due to alcohol impairment than the nation. Driving deaths due to alcohol impairment accounted for 23 deaths in Madison County between 2015 and 2019.

Alcohol Use Disorder Indicators

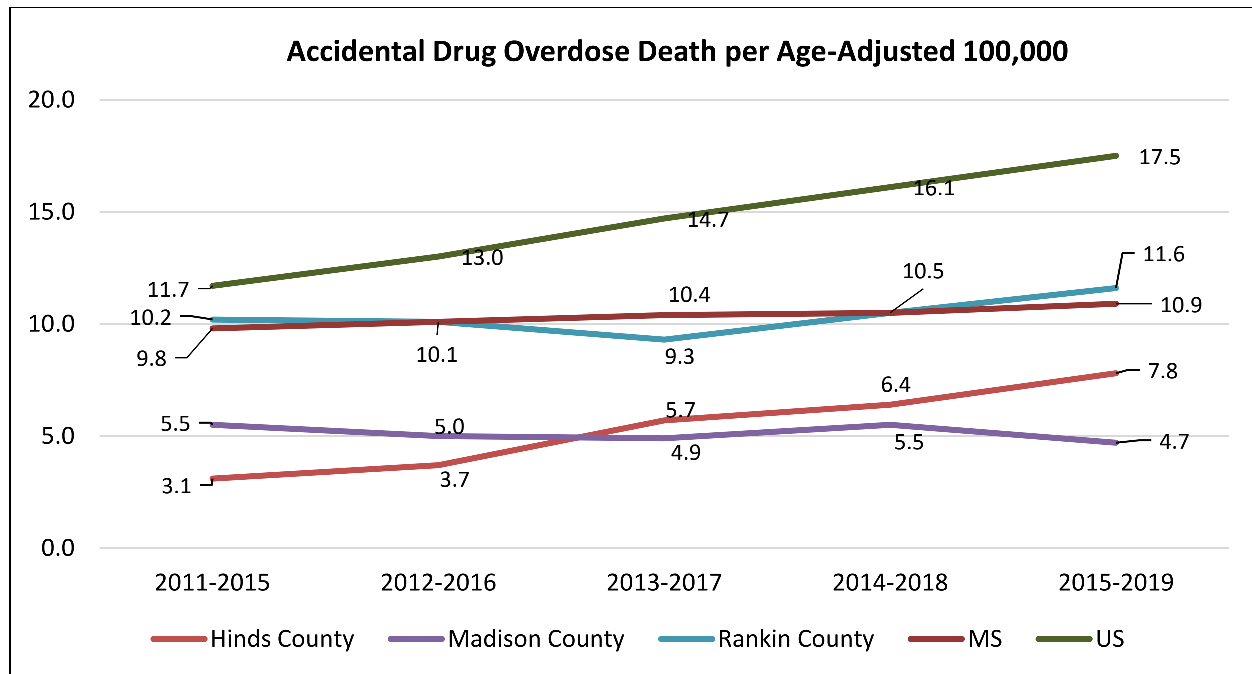
	2018 Adults Reporting Excessive Drinking (age-adjusted)	2015-2019 Driving Deaths due to Alcohol Impairment (%, count)
Attala County	13.5%	16.7%, n=4
Hinds County	13.0%	19.9%, n=46
Leake County	13.1%	22.2%, n=8
Madison County	16.9%	29.9%, n=23
Rankin County	16.3%	11.2%, n=10
Yazoo County	13.7%	18.5%, n=5
Mississippi	14.8%	19.6%
United States	19.0%	27.0%

Source: Centers for Disease Control and Prevention, BRFSS

The CDC reports that the number of accidental drug overdose deaths nationwide increased by nearly 5% from 2018 to 2019 and has quadrupled since 1999. Over 70% of the 70,630 overdose deaths in 2019 involved an opioid. Nationally, heroin- and prescription opioid-involved deaths are declining, while synthetic opioid-involved deaths are increasing. Synthetic opioids such as fentanyl are laboratory produced and have similar effects as natural opioids, but can have far greater potency, increasing the risk for overdose and death.

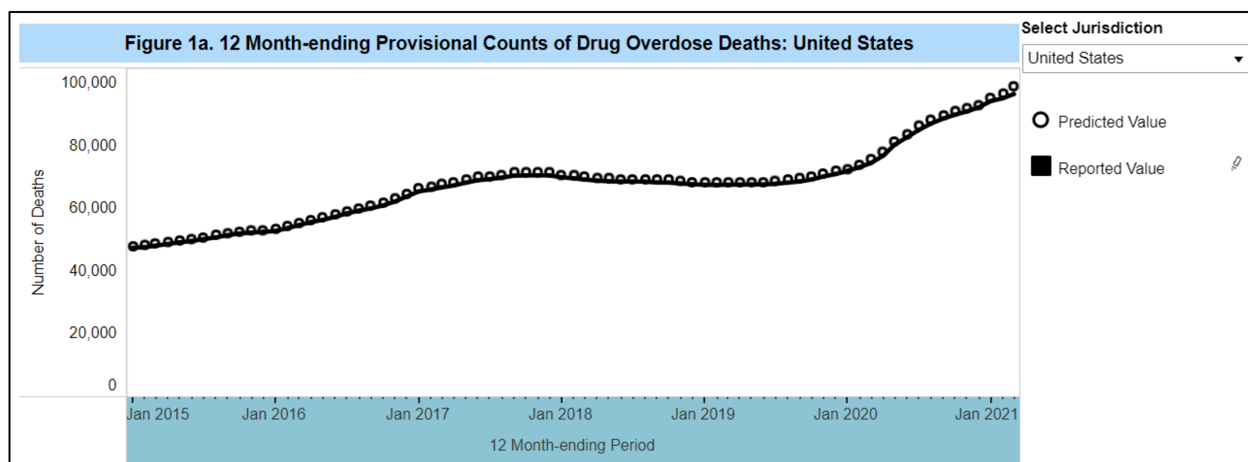
Mississippi and the Central Mississippi service area as a whole have experienced fewer accidental drug overdose deaths than the nation. Accidental drug overdose death rates are masked in all service area counties except Hinds, Madison and Rankin due to low death counts. Hinds and Madison counties have historically lower rates of overdose death than the state, although the Hinds County rate increased. The Rankin County death rate also increased and slightly exceeds the statewide rate.

Accidental drug overdose death rates should continue to be monitored in light of the COVID-19 pandemic. Provisional data released by the CDC predicts that 2020 and 2021 brought the highest number of overdose deaths ever in the U.S. **Based on a rolling 12-month count from March 2020 to March 2021, the number of drug overdose deaths is predicted to have increased 48.3% in Mississippi, compared with a national increase of 30.8%.**



Source: Centers for Disease Control and Prevention

*Data are not reported for Attala, Leake and Yazoo counties due to low death counts.



Source: Centers for Disease Control and Prevention

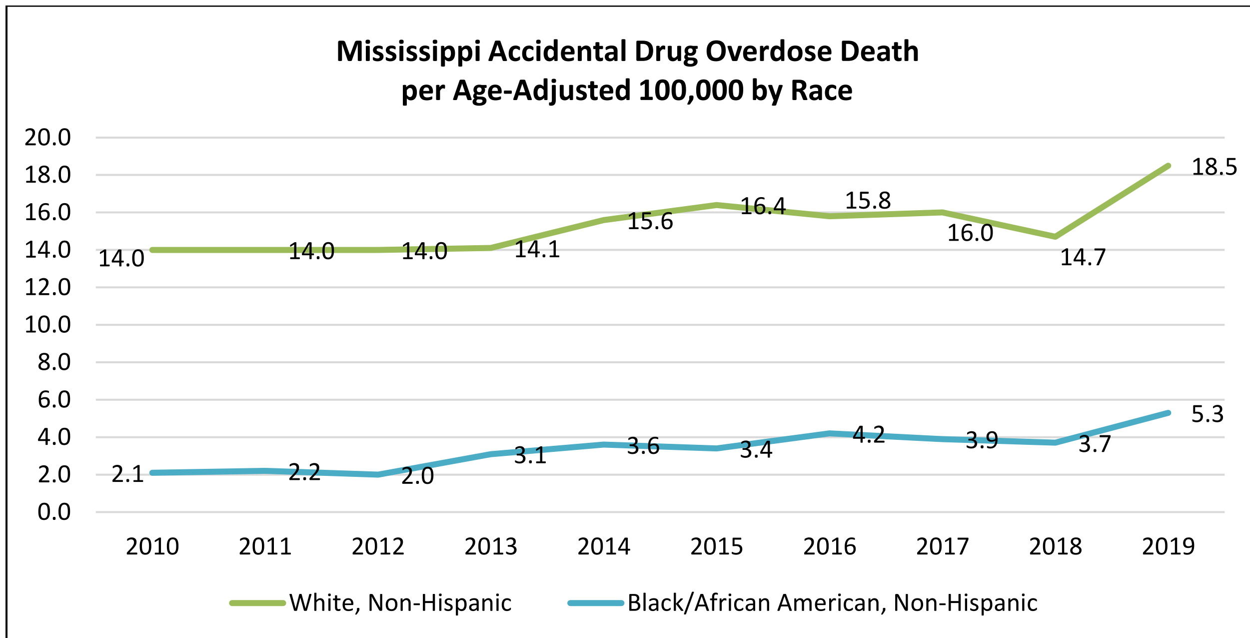
While the opioid epidemic has affected all genders and age groups, the largest proportion of accidental overdose deaths has historically been among males and young to middle-aged adults. From 2015 to 2019, males accounted for 63% of overdose deaths in Mississippi. When considered by age, adults aged 35-44 accounted for the largest proportion of overdose deaths in Mississippi (25.6%), followed by teens and young adults age 15 to 24 (23.4%) and adults age 35 to 44 (23.1%).

2015-2019 Mississippi Accidental Overdose Deaths, Demographic Characteristics

	Accidental Overdose Deaths	Age-Adjusted Rate per 100,000
Gender		
Female	576	7.7
Male	987	14.3
Age*		
5-14	92	4.4
15-24	366	18.6
25-34	401	21.9
35-44	361	19.3
45-54	252	13.2
55-64	67	4.9
65-74	12	NA
75-84	11	NA
85+	46	17.9
Race and Ethnicity		
White, Non-Hispanic	1,325	16.3
Black/African American, Non-Hispanic	212	4.1
Latinx origin (any race)	14	NA

Source: Centers for Disease Control and Prevention
*Rates are not age-adjusted.

Studies conducted by the National Institutes of Health have found that Black/African American people are less likely to be prescribed medications for opioid-use disorder or to have access to lifesaving antidote drugs like naloxone. These inequities have contributed to sharp increases in overdose deaths among Black/African American people in recent years. **In Mississippi, both white and Black/African American residents saw an increase in accidental overdose deaths from 2018 to 2019, but the death rate among Black/African American residents increased nearly 50% compared with approximately 25% among white residents.** White residents continue to have a death rate that is more than triple the death rate among Black/African American residents.

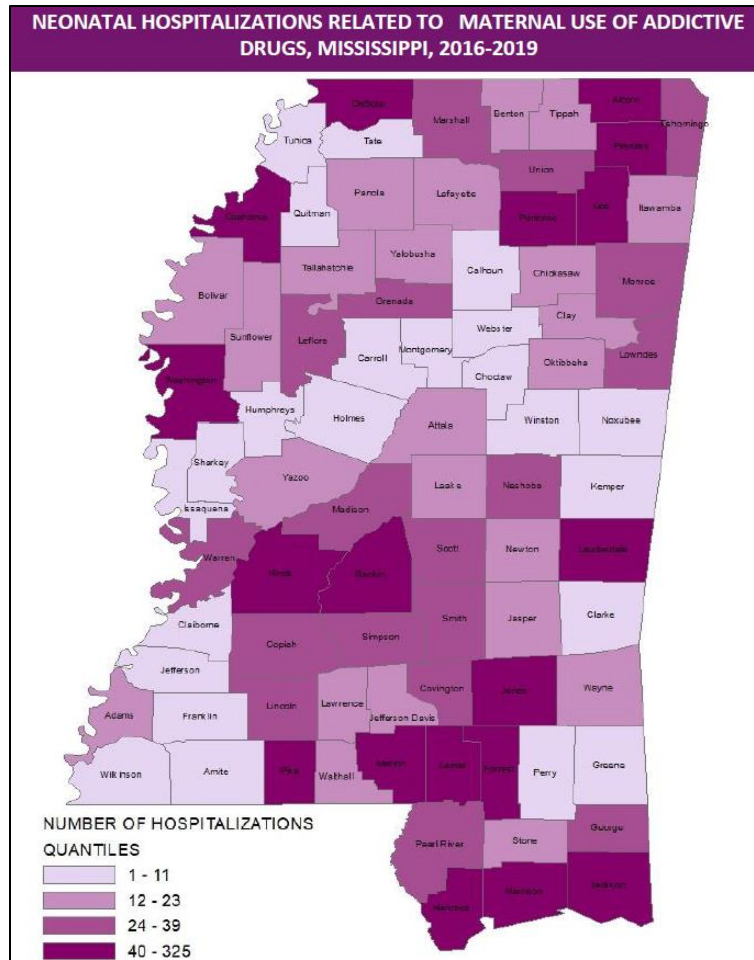


Source: Centers for Disease Control and Prevention
*Latinx death rate data are not trended due to low death counts.

Neonatal abstinence syndrome (NAS) is defined as an array of withdrawal symptoms that develop soon after birth in newborns exposed to addictive drugs while in the mother's womb. Although most commonly associated with opioid exposure, other substances, including antidepressants and benzodiazepines, can also cause NAS. In addition to difficulties of withdrawal after birth, problems in the baby may include premature birth, seizures, respiratory distress, birth defects, poor growth and other developmental problems.

According to the most recent report on NAS by the Mississippi State Department of Health, the number of NAS cases increased statewide from 113 in 2010 to 854 in 2019. Among infant stays related to NAS, comorbidities were highly prevalent: 26.4% were born prematurely, 25.6% had a coexisting low birth weight, 25.7% had coexisting respiratory conditions and 13.9% had a coexisting congenital disease. Among the 854 hospitalizations in 2019, 85.5% were covered by Medicaid and 8.1% were uninsured. Rates were nearly identical for Black/African American and white newborns. Infants residing in rural areas had slightly higher hospitalization rates than infants residing in urban areas; rates were highest in the northeastern corner of the state and in south Mississippi.

Within the Central Mississippi service area, **Hinds and Rankin counties had a higher number of neonatal hospitalizations relative to other Mississippi counties, falling within the highest quintile of 40-325 hospitalizations.**



Source: Mississippi State Department of Health

Youth Health

<u>Overweight and Obesity</u>

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

A higher proportion of Mississippi high school students have obesity compared to the nation overall, and the proportion is increasing. **From 2013 to 2019, the proportion of Mississippi high school students with obesity increased 8 percentage points compared to a national average increase of 1.8 points.**

Consistent with the nation, the most at-risk populations for youth obesity in Mississippi are males, Black/African Americans, Latinx and lesbian, gay or bisexual (LGB) students.

High School Students with Obesity

	2013	2015	2017	2019
Mississippi	15.4%	18.9%	NA	23.4%
United States	13.7%	13.9%	14.8%	15.5%

Source: Centers for Disease Control and Prevention, YRBS

2019 High School Students with Obesity

	Mississippi	United States
Gender		
Female	21.1%	11.9%
Male	25.8%	18.9%
Race and Ethnicity		
White	20.6%	13.1%
Black or African American	25.5%	21.1%
Latinx origin (any race)	28.9%	19.2%
Race and Ethnicity		
Lesbian, Gay, Bisexual (LGB)	25.3%	21.0%
Straight	22.4%	14.4%

Source: Centers for Disease Control and Prevention, YRBS

Behavioral Health and Substance Use Disorder

Mississippi has historically reported a higher percentage of youth attempting suicide than the nation. **As of 2013, nearly 13% of Mississippi high school students reported an attempted suicide compared with 9% nationwide.** When considered by subgroup, attempted suicides were highest among students identifying as LGB, followed by Black/African American people, females and Latinx people. Of note, **nearly 30% of LGB students in Mississippi reported an attempted suicide compared with 23.4% nationwide.**

Contributing to acute psychiatric distress among Mississippi youth is an overall increasing percentage of school students who report feeling consistently sad or hopeless. Incidence of violence, including fighting, bullying and dating violence, has generally been stagnant or declining.

High School Students Reporting an Attempted Suicide

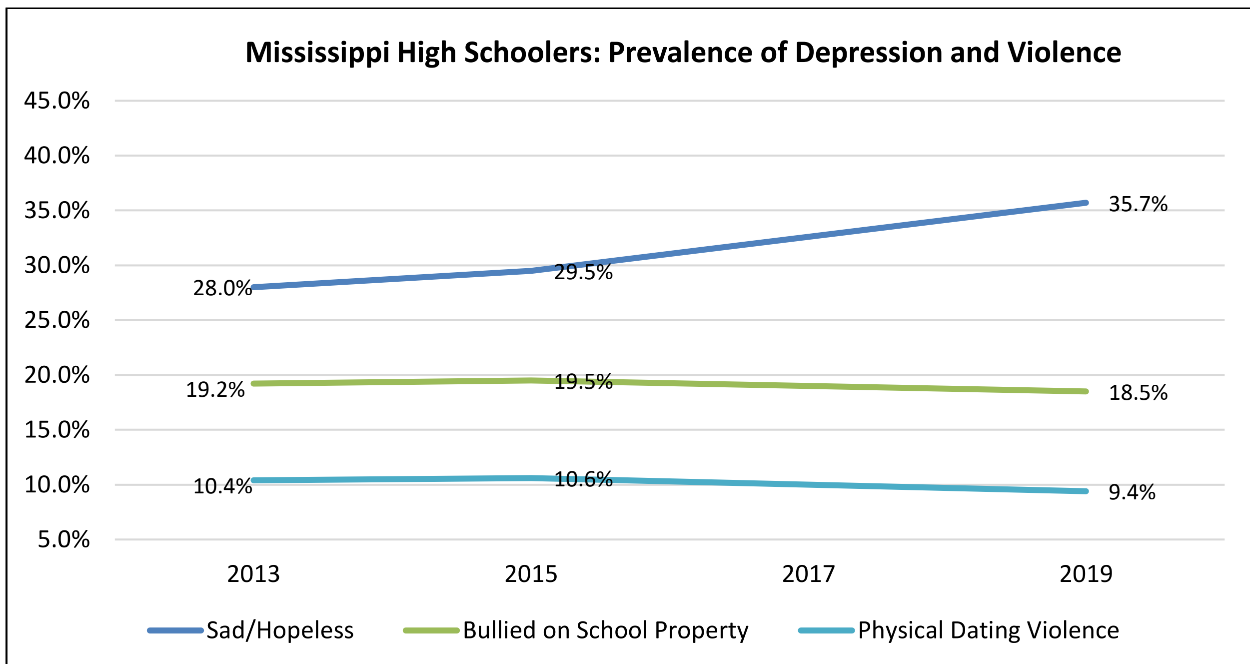
	2013	2015	2017	2019
Mississippi	10.9%	12.7%	NA	12.7%
United States	8.0%	8.6%	7.4%	8.9%

Source: Centers for Disease Control and Prevention, YRBS

2019 High School Students Reporting an Attempted Suicide

	Mississippi	United States
Gender		
Female	14.7%	11.0%
Male	10.2%	6.6%
Race and Ethnicity		
White	10.0%	7.9%
Black or African American	14.8%	11.8%
Latinx origin (any race)	13.3%	8.9%
Race and Ethnicity		
Lesbian, Gay, Bisexual (LGB)	29.6%	23.4%
Straight	9.8%	6.4%

Source: Centers for Disease Control and Prevention, YRBS



Source: Centers for Disease Control and Prevention, YRBS
*2017 data are not available for Mississippi.

The use of e-cigarettes among high school students continues to rise nationally and in Mississippi, while the use of traditional cigarettes is declining. As of 2019, approximately 7% of high school students in Mississippi reported smoking compared with 6% nationally. **Mississippi reports a lower proportion of students using e-cigarettes than the nation, but more than 20% of students still report current use.** Students who report current e-cigarette use are more likely to be male, white and/or LGB.

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

	2015	2017	2019
Mississippi	22.9%	NA	21.4%
United States	24.1%	13.2%	32.7%

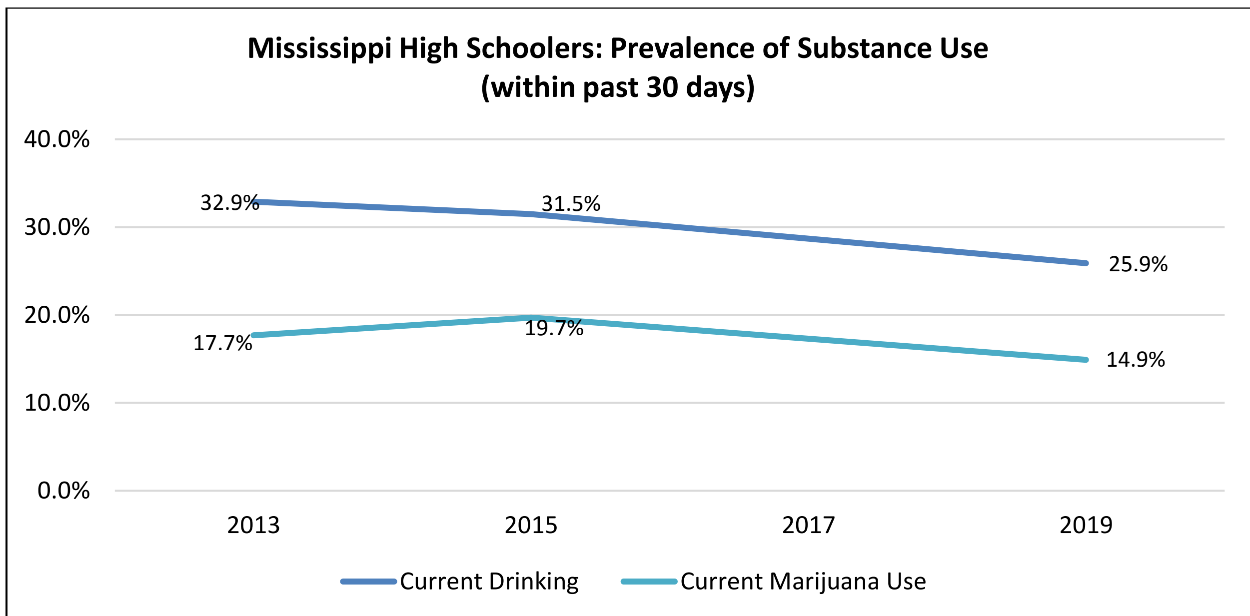
Source: Centers for Disease Control and Prevention, YRBS

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

	Mississippi	United States
Gender		
Female	19.0%	33.5%
Male	23.6%	32.0%
Race and Ethnicity		
White	30.9%	38.3%
Black or African American	12.3%	19.7%
Latinx origin (any race)	22.0%	31.2%
Race and Ethnicity		
Lesbian, Gay, Bisexual (LGB)	31.3%	34.1%
Straight	19.7%	32.8%

Source: Centers for Disease Control and Prevention, YRBS

Consistent with the nation, substance use among Mississippi high school students is generally declining, however, approximately 1 in 4 students report current alcohol use and more than 1 in 10 students report current marijuana use.



Source: Centers for Disease Control and Prevention, YRBS

*Mississippi data are provided as available. Data on the misuse of prescription pain meds are not reported and binge drinking is not trended prior to 2019. As of 2019, 10.1% of Mississippi youth reported binge drinking.

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

	2013	2015	2017	2019
Mississippi	32.9%	31.5%	NA	25.9%
United States	34.9%	32.8%	29.8%	29.1%

Source: Centers for Disease Control and Prevention, YRBS

2019 High School Students Reporting Current (within past 30 days) Alcohol Use

	Mississippi	United States
Gender		
Female	26.0%	31.9%
Male	25.9%	26.4%
Race and Ethnicity		
White	34.6%	34.2%
Black or African American	18.2%	16.8%
Latinx origin (any race)	18.6%	28.4%
Race and Ethnicity		
Lesbian, Gay, Bisexual (LGB)	37.3%	33.9%
Straight	24.0%	28.8%

Source: Centers for Disease Control and Prevention, YRBS

Maternal and Infant Health

All Central Mississippi service area counties except Rankin and Yazoo have a higher birth rate than the state and nation. Of note, despite having a higher birth rate, the population in Attala, Hinds and Leake counties declined, a finding that is consistent with lower overall life expectancy and disparities among growing populations of color. This finding may also indicate an out-migration of residents. Consistent with racial population trends, the majority of counties have a higher rate of birth among Black/African American than white residents.

2019 Births and Birth Rate per 1,000 Population by Race and Ethnicity

	Total Births	Birth Rate per 1,000	White, Non-Hispanic Birth Rate	Black/African American, Non-Hispanic Birth Rate	Latinx Birth Rate*
Attala County	237	13.0	10.7	16.1	NA
Hinds County	3,028	13.1	11.4	13.7	NA
Leake County	329	14.4	14.1	13.5	NA
Madison County	1,400	13.2	13.3	13.2	NA
Rankin County	1,737	11.2	10.9	12.0	NA
Yazoo County	310	10.4	6.5	13.4	NA
Mississippi	36,634	12.3	11.3	14.0	NA
United States	3,747,540	11.4	9.8	13.4	14.6

Source: Mississippi State Department of Health & Centers for Disease Control and Prevention
*Mississippi does not report Latinx birth data.

Mississippi overall reports poorer birth outcomes than the nation, including a higher proportion of teen, low birth weight and premature births, a high prevalence of smoking during pregnancy and a higher infant death rate. **Birth outcomes in the Central Mississippi service area generally align with socio-economic indicators and existing birth disparities primarily affecting Black/African American people.** Attala, Leake and Yazoo counties have poorer birth outcomes than the state, particularly premature births. Consistent with having the lowest primary care provider availability in the service area, Leake and Yazoo counties also have the lowest proportion of pregnant people receiving first trimester prenatal care. In Yazoo County, the proportion of pregnant people receiving first trimester prenatal care declined.

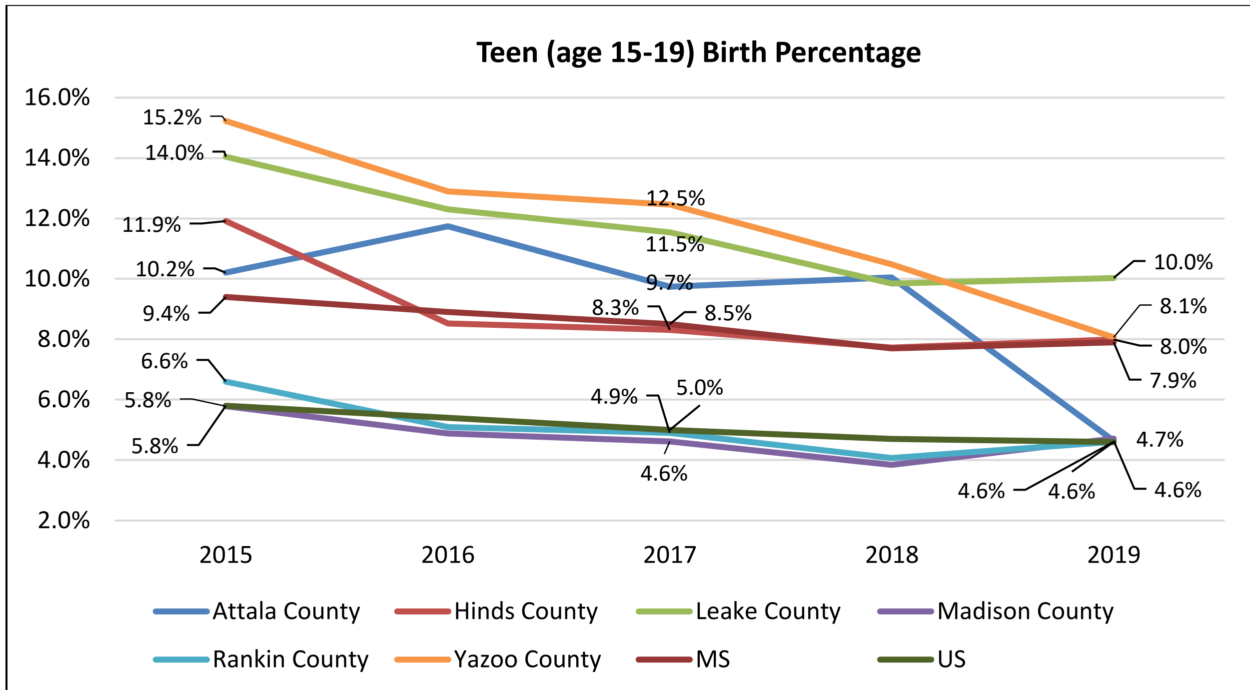
Hinds County also has poorer birth outcomes than the state and nation, largely due to disparities among Black/African American people. In Hinds County, there is a more than 10-point deficit in the percentage of Black/African American pregnant people receiving early prenatal care compared to white pregnant people. Nearly 1 in 5 babies born to Black/African American people are born premature or with low birth weight compared to 1 in 10 white babies. The infant death rate among Black/African American infants is nearly 40% higher than for white infants. These disparities are consistent across the Central Mississippi service area, but they are most evident in Hinds County, where Black/African American people comprise 69% of the total population.

Madison and Rankin counties have historically better overall birth outcomes than the state and/or the nation, but both counties saw a decline in these outcomes in 2019 that should continue to be monitored. **From 2015 to 2019, Madison and Rankin counties saw a decline in the proportion of pregnant people receiving first trimester prenatal care and an increase in low birth weight and premature births.** Rankin County also saw an increase in tobacco use among pregnant people.

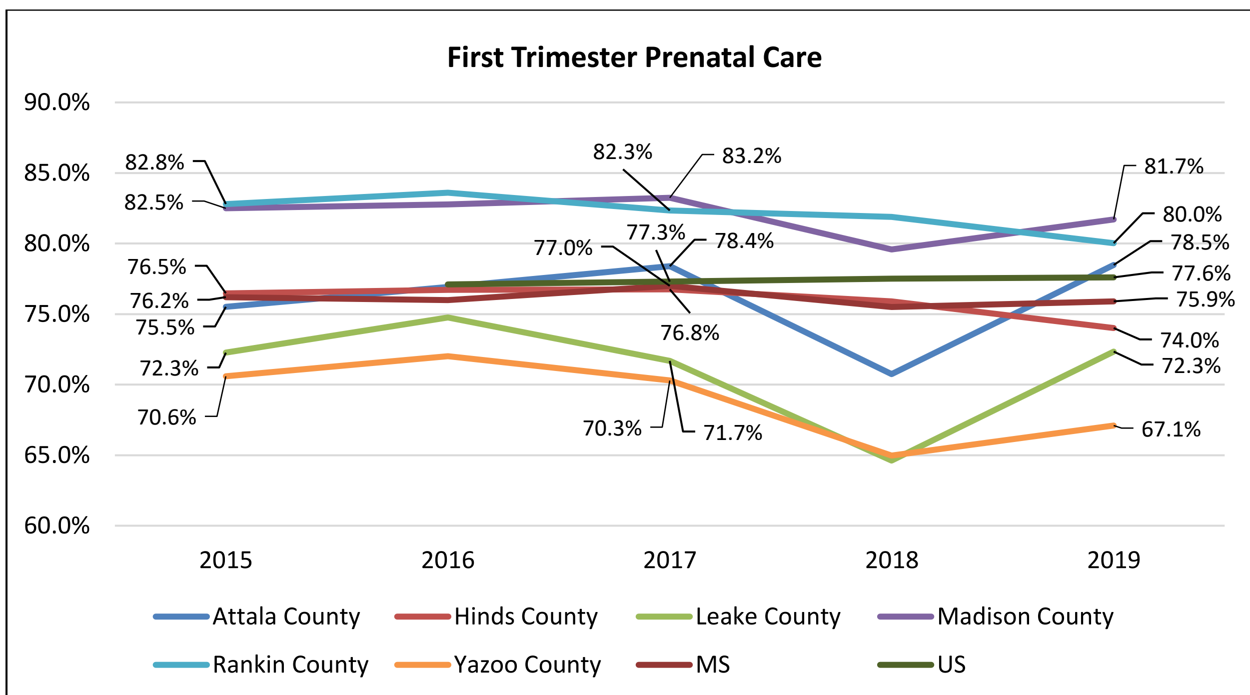
2019 Maternal and Infant Health Indicators by Race

	Teen (15-19) Birth Percentage	First Trimester Prenatal Care	Premature Births	Low Birth Weight Births	Non-Smoking during Pregnancy
Attala County	4.6%	78.5%	16.9%	13.1%	90.3%
White	4.7%	83.0%	10.4%	7.5%	84.0%
Black/African American	4.7%	74.2%	22.7%	18.0%	95.3%
Hinds County	8.0%	74.0%	18.0%	15.2%	94.3%
White	3.5%	83.9%	12.6%	7.1%	94.1%
Black/African American	9.4%	71.1%	19.8%	17.7%	94.4%
Leake County	10.0%	72.3%	17.0%	10.0%	90.3%
White	8.2%	71.7%	17.0%	8.2%	84.9%
Black/African American	9.2%	72.3%	16.2%	12.3%	95.4%
Madison County	4.7%	81.7%	13.8%	12.3%	98.3%
White	2.3%	86.1%	11.3%	8.6%	98.3%
Black/African American	8.7%	75.0%	17.4%	17.8%	98.1%
Rankin County	4.6%	80.0%	14.7%	10.5%	92.9%
White	4.8%	82.2%	13.8%	9.1%	91.5%
Black/African American	4.5%	73.9%	18.9%	16.2%	96.3%
Yazoo County	8.1%	67.1%	18.7%	13.9%	94.2%
White	5.1%	80.8%	16.7%	9.0%	91.0%
Black/African American	9.3%	62.6%	19.8%	15.9%	95.6%
Mississippi	7.9%	75.9%	14.6%	12.3%	91.4%
White	6.6%	80.6%	12.2%	8.6%	88.7%
Black/African American	9.4%	69.9%	17.8%	17.3%	94.7%
United States	4.6%	77.6%	10.2%	8.3%	94.0%
HP2030 Goal	NA	80.5%	9.4%	NA	95.7%

Source: Mississippi State Department of Health & Centers for Disease Control and Prevention

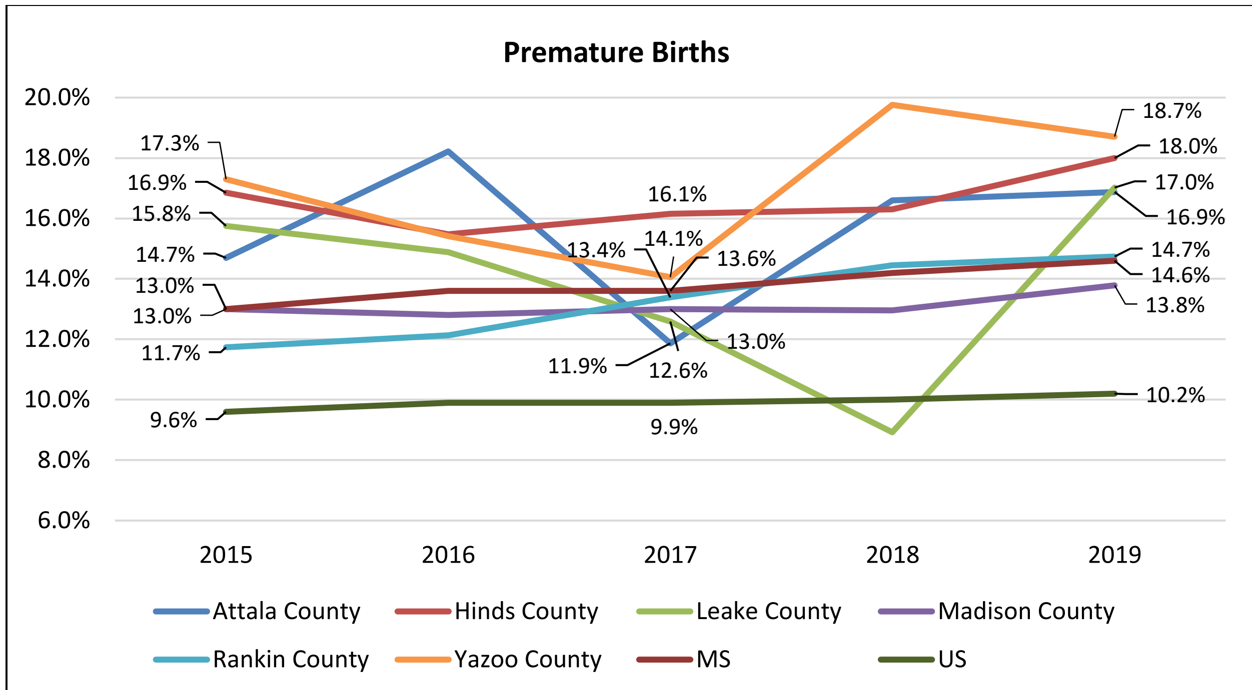


Source: Mississippi State Department of Health & Centers for Disease Control and Prevention

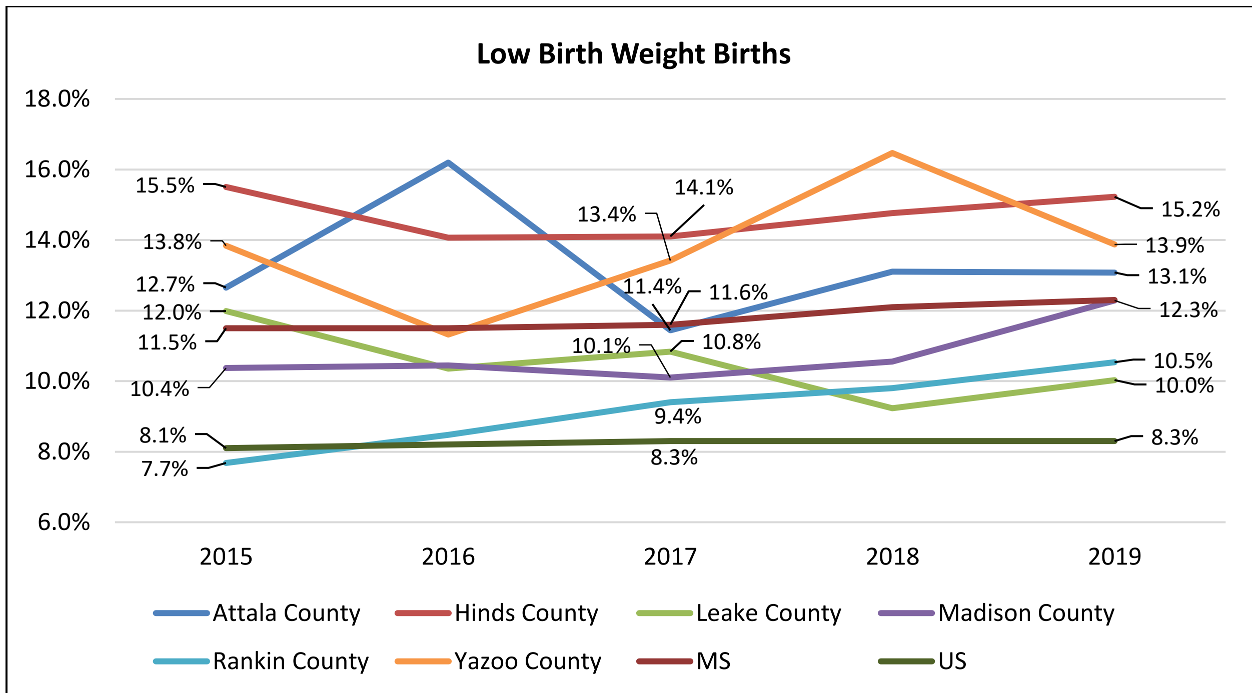


Source: Mississippi State Department of Health & Centers for Disease Control and Prevention

*In 2016, the U.S. universally adopted the 2003 U.S. Certificate of Live Birth, providing national indicators.



Source: Mississippi State Department of Health & Centers for Disease Control and Prevention



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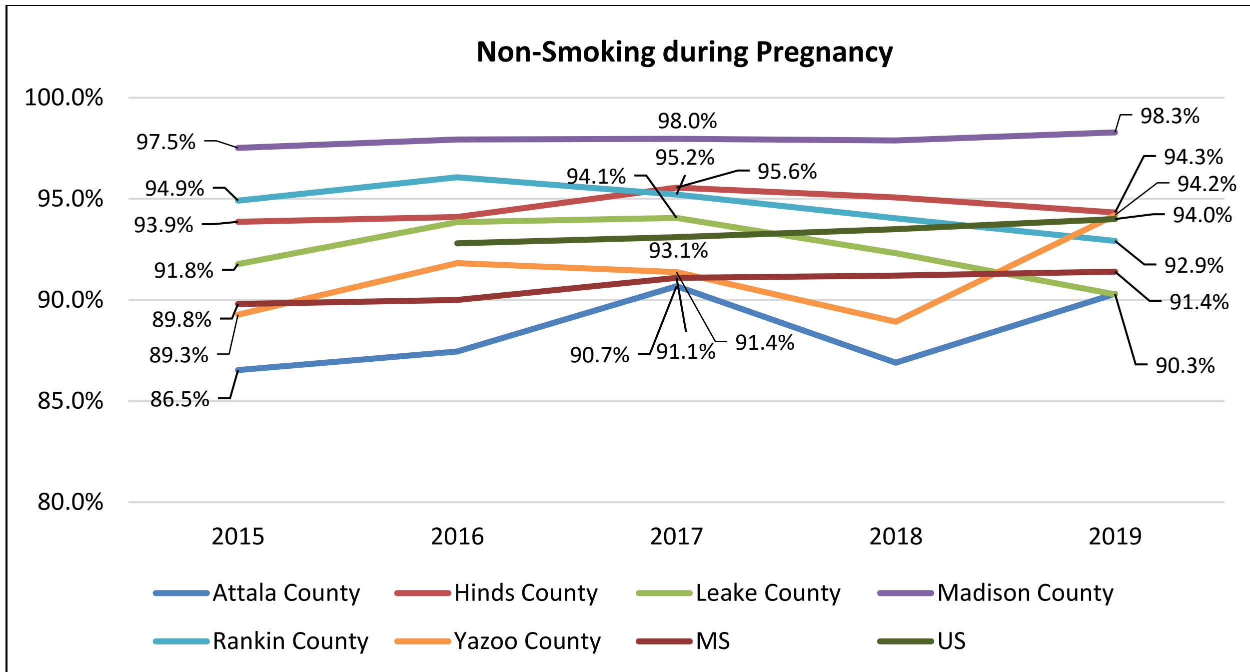


Source: Mississippi State Department of Health & Centers for Disease Control and Prevention
*In 2016, the U.S. universally adopted the 2003 U.S. Certificate of Live Birth, providing national indicators.

Across Mississippi, Black/African Americans experience more infant and maternal deaths than other racial and ethnic groups. **From 2015 to 2019, infant deaths totaled 1,631 in Mississippi, and the death rate among Black/African American people was 60% higher than for white people.** Within the Central Mississippi service area, Hinds County has a higher rate of infant death than both the state and nation, a finding that is consistent with its majority Black/African American population.

From 2013 to 2016, Mississippi reported a total of 136 maternal deaths occurring during pregnancy or within one year of the end of pregnancy. **The pregnancy-related death rate for Black/African American people in Mississippi was 51.9 per 100,000 live births, nearly three times the white death rate of 18.9.**

2015-2019 Infant Deaths per 1,000 Live Births

	Infant Deaths per 1,000 Live Births
Attala County	NA (n=19)
Hinds County	9.5
Leake County	NA (n=<10)
Madison County	8.9
Rankin County	NA (n=13)
Yazoo County	NA (n=16)
Mississippi	8.9
White, Non-Hispanic	7.0
Black/African American, Non-Hispanic	11.4
Latinx (any origin)	3.3
United States	5.7
White, Non-Hispanic	4.8
Black/African American, Non-Hispanic	10.5
Latinx (any origin)	4.6
HP2030 Goal	5.0

Source: Mississippi State Department of Health & Centers for Disease Control and Prevention

Research findings from secondary data analysis were compared to qualitative research findings to compare perceptions to statistical data, identify root causes and contextualize data trends and contributing factors for identified health needs.

Key Informant Survey

An online Key Informant Survey was conducted with community representatives within Baptist's Central Mississippi service area to solicit information about local health needs and opportunities for improvement. Community representatives included health care and social service providers; public health experts; civic, social and faith-based organizations; policy makers and elected officials; and others representing diverse community populations.

A total of 92 individuals responded to the survey. A list of the represented community organizations and the participants' respective titles, as provided, is included in Appendix B. Key informant's names are withheld for confidentiality.

More than 60% of key informants served all populations across the Central Mississippi service area. A breakdown of other specific populations served by informants is provided below.

Primary Populations Served by Key Informant Survey Participants

	Number of Participants	Percent of Total
No specific focus/serve all people	58	63.0%
Low Income/poor individuals or families	19	20.7%
Adolescents (age 12-18)	14	15.2%
Uninsured/underinsured individuals or families	14	15.2%
Children (age 0-11)	13	14.1%
African American/Black	12	13.0%
Older adults/elderly	11	12.0%
Young adults (age 19-24)	9	9.8%
People with disabilities	8	8.7%
Other*	8	8.7%
Religious community	6	6.5%
Homeless individuals or families	5	5.4%
Hispanic/Latinx	3	3.3%
LGBTQ+ community	1	1.1%
Immigrant/refugee populations	1	1.1%

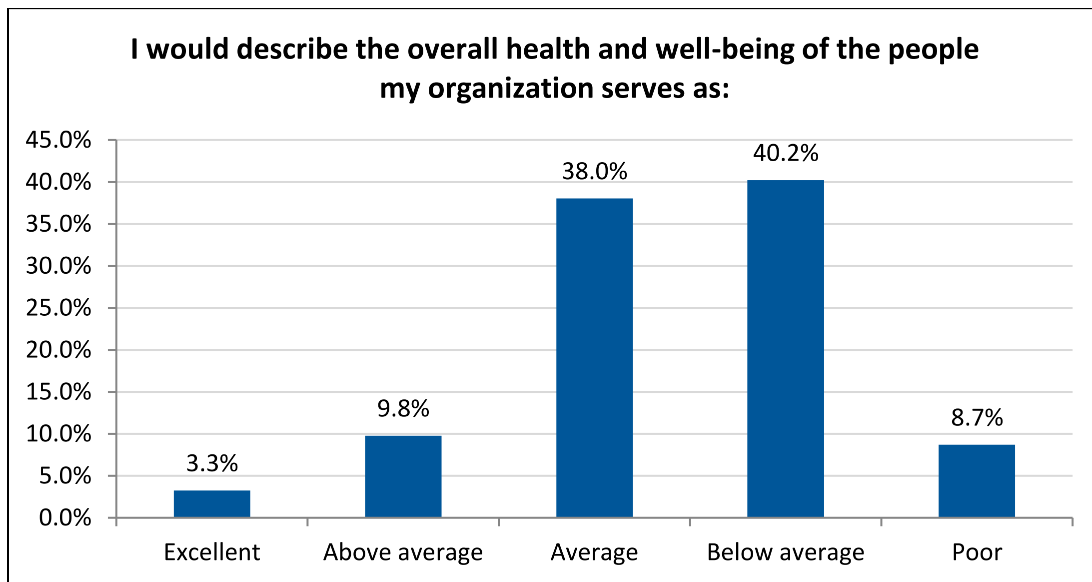
*Responses included pregnant women, children and caregivers experiencing grief, individuals with mental health and substance use disorders, business community, veterans, cancer patients and their families, armed forces and their families and seriously emotionally disturbed and/or intellectually and developmentally disabled individuals.

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

Health and Well-being

Thinking about the people their organization serves, key informants were asked to describe the overall health and well-being of individuals and the most pressing concerns affecting them. Key informants were instructed to select up to five pressing concerns from a wide-ranging list of health and social issues. Respondents were also given an option to “write in” a custom response.

Nearly 80% of informants described overall health and well-being as “average” or “below average.”



Approximately 48% of key informants selected the “ability to afford health care” among the top five concerns for the people their organization serves. One-third of respondents acknowledged “economic stability” (33.7%), “overweight/obesity” (33.7%) and “diabetes” (31.5%) among the top five health concerns. “Community crime/violence (including gun violence)” was selected by about 25% of respondents.

Collectively, survey responses indicated a strong awareness of underlying SDoH as drivers for optimal health and well-being. In addition to “economic stability,” informants identified “health literacy,” “education attainment” and “lack of transportation” among the top concerns for the people their organization serves.

In your opinion, what are the top five most pressing concerns affecting the population(s) that your organization serves? Top Key Informant Selections

	Number of Participants	Percent of Total
Ability to afford health care (doctor visits, prescriptions, etc.)	44	47.8%
Economic stability (employment, poverty, cost of living)	31	33.7%
Overweight/obesity	31	33.7%
Diabetes	29	31.5%
Community crime/violence (including gun violence)	25	27.2%
Cancers	23	25.0%
Mental health conditions	22	23.9%
Heart disease and stroke	20	21.7%
Health literacy (ability to understand health information)	14	15.2%
Education attainment (highest level achieved, graduation rate)	13	14.1%
Lack of transportation	13	14.1%
Older adult health concerns	13	14.1%
Stress (work, family, school, etc.)	13	14.1%

Social Determinants of Health

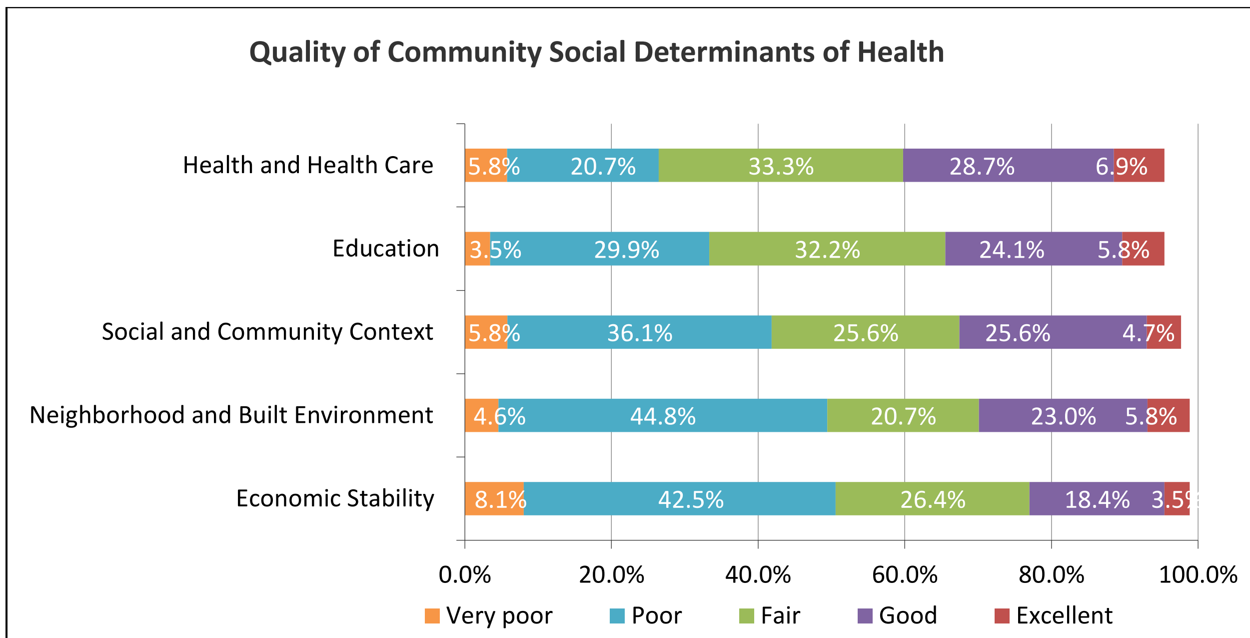
Social determinants of health are the conditions in the environments where people are born, live, learn, work, play, worship and age that affect a wide range of health risks and outcomes. Healthy People 2030 outlines five key areas of SDoH: economic stability, education access and quality, health care access and quality, neighborhood and built environment and social and community context. Approximately 36% (n=31) of informants indicated that their organization currently screens clients, patients, constituents, etc. for needs related to SDoH.

Survey respondents were asked to rate the quality of SDoH in the community their organization serves using a scale of (1) “very poor” to (5) “excellent.” The mean score for each key SDoH area is listed in the table below in rank order, followed by a graph showing the scoring frequency. Mean scores were between 2.82 and 3.16, with most respondents rating the SDoH dimensions as “fair” or “poor.” Health and health care was seen as the strongest community SDoH factors.

Results from the prior 2019 CHNA are compared to 2022 results in the table below. While rankings based on mean score did not change, mean scores were higher for each SDoH area, potentially indicating more positive perception of these areas. Given these results are not statistically representative, these data should be further explored through qualitative research.

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

	2022 CHNA Results	2019 CHNA Results
Health and health care (e.g., access to health care, access to primary care, health literacy)	3.11	2.84
Education (e.g., high school graduation, enrollment in higher education, language and literacy, early childhood education and development)	2.99	2.71
Social and community context (e.g., sense of community, civic participation, perceptions of discrimination and equity, incarceration/institutionalization)	2.87	2.61
Neighborhood and built environment (e.g., access to healthy foods, quality of housing, crime and violence, environmental conditions, transportation)	2.80	2.32
Economic stability (e.g., poverty, employment, food security, housing stability)	2.66	2.32



COVID-19 Insights and Perspectives

Key informants were asked to identify the most likely sources of COVID-19 information for the people their organization serves. Key informants were instructed to select up to three sources from a wide-ranging list of options. An option was provided to choose "other" and add a source not included on the list.

Where were the people your organization serves most likely to get information about COVID-19?

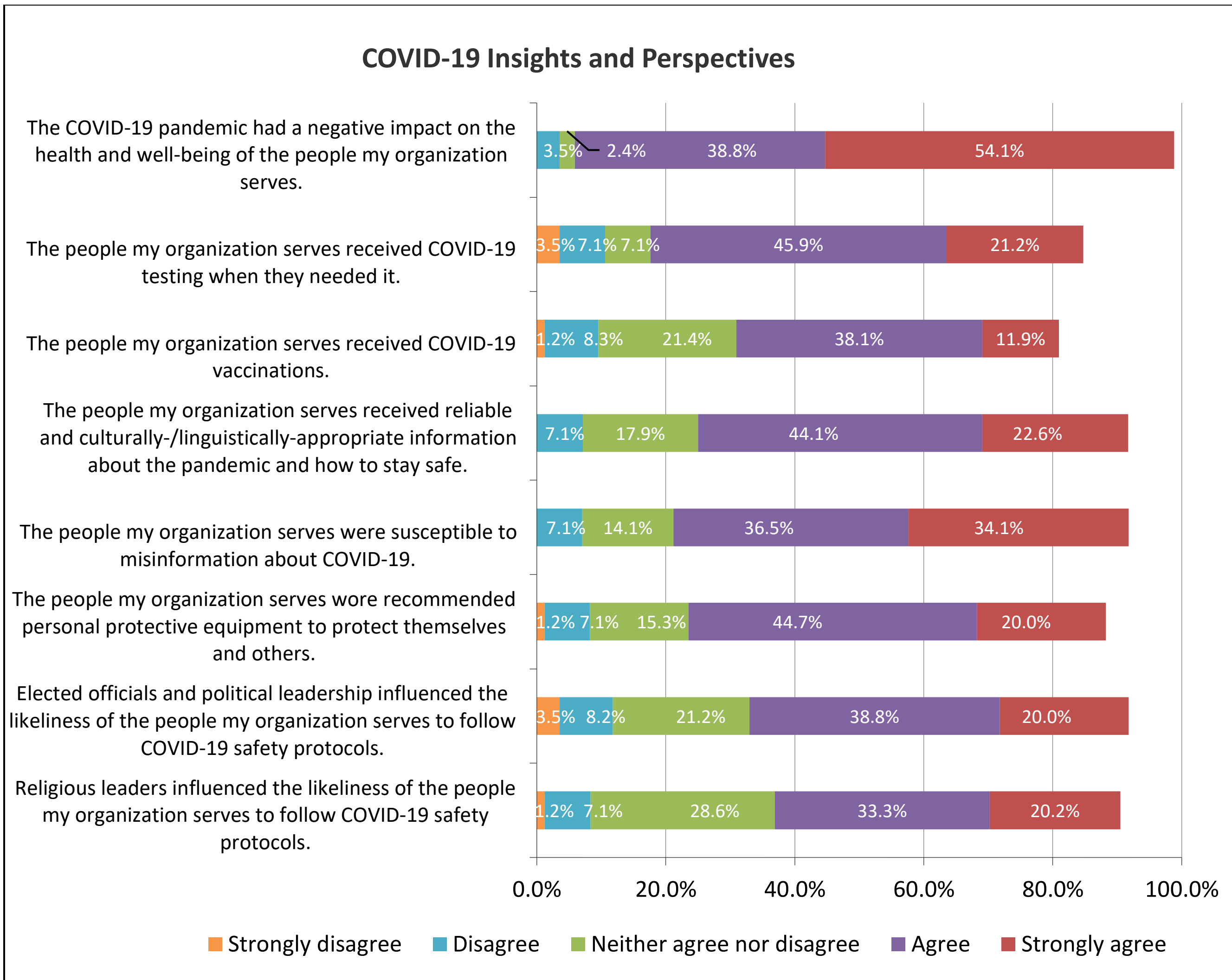
	Number of Participants	Percent of Total
Social media	42	49.4%
Friends/family	37	43.5%
Local news source/media	31	36.5%
Church/religious leaders	28	32.9%
Health care providers	20	23.5%
National news source/media	17	20.0%
Centers for Disease Control and Prevention (CDC)	15	17.7%
Local or state health department	12	14.1%
Political leadership	7	8.2%
Don't know	7	8.2%
Health insurance providers	3	3.5%
Other*	2	2.4%

*Responses included opinion website and Chamber of Commerce.

Thinking about the people their organization serves, survey respondents were asked to rate the following statements about COVID-19 impact, availability of testing and vaccination, availability of reliable information, susceptibility to misinformation and likeliness to follow recommended safety protocols.

More than 90% of respondents agreed or strongly agreed that COVID-19 had a negative impact on the health and well-being of the people their organization served. About 67% of respondents agreed that people were mostly able to receive COVID-19 testing when they needed it and 64% agreed that the people they served wore recommended Personal Protective Equipment (PPE). Fifty percent of respondents believed their constituents were vaccinated; about 20% were not sure; and just under 10% did not think their populations were vaccinated.

About 66% of respondents agreed that people received reliable, culturally and linguistically appropriate information, and about 70% thought that they were also susceptible to misinformation. More than half of respondents thought that their constituents were influenced by political leaders (67%) and religious leaders (53.5%).

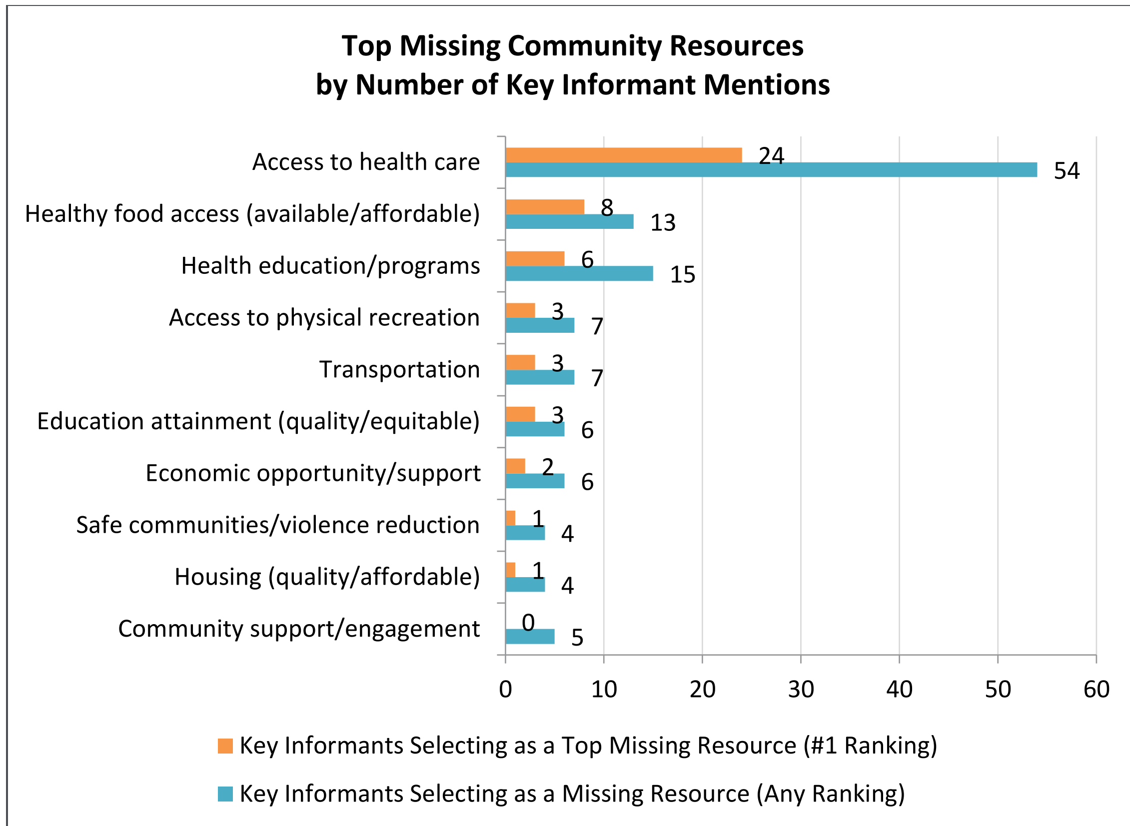


Community Resources That Impact Health

Key informants were asked to identify missing resources in the community that would help residents optimize their health. Informants were instructed to rank up to three write-in responses with No. 1 as their perceived top missing resource. The following graph summarizes identified missing resources by category and number of mentions by key informants.

Key informant responses reflected the theme of *access to health care* as the top missing resource. Specific concerns were affordability, including free or discounted service delivery, health insurance and prescriptions; availability of specialty care services, including mental health care, diabetes care, prenatal and breastfeeding support, cardiology, oncology and radiology and transportation to medical services.

Availability and affordability of healthy foods and the need for *health education and programs*, including exercise and nutrition, ranked as second and third needed resources. *Access to physical recreation, transportation, education attainment and economic opportunities* were included within the top five categories.



Health Equity

Key informants were asked how community organizations, including Baptist, could better serve minority populations, including Black, African American, Indigenous, immigrant, people of color, LGBTQ+ and others, to achieve health and social equity. Informants were invited to provide free-form comments about the topics. Verbatim comments are included below.

- *"Active involvement and scheduling a townhall to address the inequities in our community."*
- *"Advocate at the policy level to increase access to quality, equitable service for all, increase access to financial resources, create an atmosphere in organizations that embrace culture."*
- *"Community organizations can better serve minority populations by working to understand their concerns and address them. Community organizations must also work to remain open-minded and present information from their points of view."*
- *"Continue to do more of what you are doing in partnership with those who are serving local communities. Trust in relationships that already exist with smaller, more localized care providers within the local communities who understand the unique needs of those they serve."*
- *"Ensure racial and health disparities are widely discussed within the medical profession (nurses, doctors, aids, assistants) and equity is instilled in every component of caregiving."*

- *"Further partner with nonprofits and other entities that have a direct relationship with the underserved population."*
- *"Help with better coordination of care, access to pharmaceuticals, good housing, better transportation, reliable internet access, mental health services."*
- *"Make sure all literature is available in multiple languages."*
- *"Making more resources available, community health care stations/screenings, helping patients with transportation/childcare."*
- *"Meet them where they are struggling. Go to the communities."*
- *"More neighborhood or mobile clinics in specific neighborhoods targeting these populations. Also, possible partnering with the federally qualified community health clinics, which are extremely busy in this market area since that's the key access point for free or reduced fee services."*
- *"Poverty is at the core of the issues in serving all populations. Funds to cover health care—whether for the uninsured or the insured with high deductibles—is critical, as are Saturday and evening hours. When people work for low hourly wages they rarely have PTO and often have no mechanism to replace the income they have lost by "visiting the doctor." When one's focus is keeping a roof over head and at least some food in pantry and the lights on, health care, unless an emergency or unbearable pain, is not a realistic option. Organizations that understand poverty and the choices it forces people to make can make better decisions in how to serve that population."*
- *"Your leadership needs to reflect the diversity of the population of our city/state. Having minority voices in the room changes the conversation, in a good way."*

Community Collaboration

Approximately two-thirds of the organizations represented by survey respondents currently collaborate with Baptist on local efforts to improve health. Respondents were asked for recommendations on how Baptist can better collaborate in the community to improve the health and well-being of residents. Verbatim comments are included below by overarching theme.

Access to Health Care

- *"Advocate for Medicaid expansion."*
- *"Assist in making accurate health care information available to public."*
- *"Associate with minority health care providers."*
- *"Better communication about services offered."*
- *"Better coordinated system of care from acute to inpatient rehab phases (not sure what that would mean, but there's always room to strengthen those pathways)."*
- *"Collaboration with home health and hospice to better care for the elderly and disabled."*
- *"Improved coordination of care between primary care and behavioral health providers."*
- *"Information on access to prenatal health care for the underemployed and unemployed."*

- *“Linking skilled/willing primary care providers to persons with profound disabling conditions (paralysis, severe spasticity).”*
- *“Pop-up screening locations in underserved communities.”*
- *“Partner with churches to increase access to care.”*
- *“Partner with the larger employers to provide on-going health education.”*
- *“Provide discounted care for specialty services.”*
- *“Provide more information regarding vaccines for preschool aged children.”*
- *“Refer to the YMCA for wellness programs.”*
- *“Transitions of care from pediatric to adult services.”*

Community Outreach

- *“Community outreach for the homeless.”*
- *“Community outreach is difficult right now but should be a focus for all organizations.”*
- *“Provide monthly meetings for open discussion.”*
- *“Sponsor Health and Well-being Committees to share info with business community leaders.”*
- *“Quarterly checkups with partner organizations.”*
- *“Health education programs for kids.”*
- *“Take interest in child abuse and prevention.”*

Other

- *“Allow employees more freedom to get involved while on the clock.”*
- *“Baptist could give referrals to low-income patients that qualify for WIC and provide the patients with information on how to certify for WIC.”*
- *“Collaborate with partners trying to address food deserts and lack of access to fresh foods.”*
- *“Hiring from within the community.”*
- *“Offer grants to neighborhood associations that can create healthy, sustainable models of care.”*
- *“Work with partners to develop decent, affordable housing for single persons and couples.”*

Patient Access to Care and Services Survey

An online Patient Access to Care and Services Survey was conducted with health care providers, leadership and staff employed by Baptist and representatives of community partner agencies. The survey was conducted to support Baptist's ongoing efforts to improve access to care, reduce health disparities and address the underlying inequities and SDoH that perpetuate disparate health outcomes.

A total of 436 individuals responded to the survey, representing communities across Baptist's tri-state service area. *Survey results are reported in aggregate to support systemwide planning efforts. Unique findings and trends are presented for each of the five Baptist CHNA service areas, as applicable.*

More than 40% of all survey participants worked in a hospital setting and 27.3% worked in a primary care office or clinic. The largest proportion of survey participants identified as physicians (57.9%), followed by nurse practitioners (20.3%). The most represented age groups were 55 to 64 (26.9%) and 45 to 54 (26.6%). Nearly 47% of participants identified as female, 43% as male and 0.9% as non-binary.

Geographic Areas Served by Survey Participants (as provided)

	Number of Participants	Percent
All Baptist service counties	46	10.6%
Central Mississippi (Attala, Hinds, Leake, Madison, Rankin, Yazoo counties)	59	17.9%
Memphis Metro (DeSoto County, MS; Fayette, Shelby, Tipton counties, TN)	115	34.8%
North Mississippi (Benton, Calhoun, Lafayette, Lowndes, Panola, Prentiss, Union)	85	25.8%
Northeast Arkansas (Craighead, Crittenden, Poinsett counties)	37	11.2%
West Tennessee (Carroll, Obion counties)	25	7.6%
Other*	26	7.9%

*Responses included surrounding counties in Arkansas, Mississippi and Tennessee, all patients regardless of location and select cities such as Memphis and Columbus.

Primary Work Setting of Participants Across the Tri-State Region (as provided)

	Number of Participants	Percent
Hospital	143	43.3%
Primary care office or clinic	90	27.3%
Other outpatient care setting (urgent care, specialty practice, surgery, imaging)	51	15.5%
Other*	36	10.9%
Federally qualified health center/community health center	6	1.8%
Academic institution	4	1.2%

*Responses included behavioral health, cancer center, administration, private practice, dental office, emergency department, hospice, non-profit clinic, OB/GYN, multiple locations, remote/virtual and state facility settings.

Role of Survey Participants Across the Tri-State Region (as provided)

	Number of Participants	Percent
Physician	191	57.9%
Nurse practitioner	67	20.3%
Other*	32	9.7%
Nurse	11	3.3%
Physician associate (physician assistant)	9	2.7%
Nurse navigator	5	1.5%
Behavioral health provider	2	0.6%
Chaplain	2	0.6%
Community health worker	2	0.6%
Site or shift manager	2	0.6%
Social worker	2	0.6%
Case manager	1	0.3%
Patient navigator/outreach specialist	1	0.3%
Doula/other birthing assistant	1	0.3%
Medical educator/preceptor	1	0.3%
Medical or nursing resident	1	0.3%

*Responses included administration, advocate, certified nurse anesthetist, CEO, dentist, health educator, HR, marketing, non-profit and therapist participants.

Age Group of Survey Participants Across the Tri-State Region (as provided)

	Number of Participants	Percent
25-34 years	31	10.4%
35-44 years	59	19.9%
45-54 years	79	26.6%
55-64 years	80	26.9%
65 years or more	48	16.2%

Survey participants were asked a series of questions about access to care and social services, perspectives on the impact of COVID-19 and SDoH on patient outcomes and opportunities to promote health and well-being and inclusive care environments. A summary of their responses follows.

Access to Care & Services

Thinking about the people their care site serves, survey participants were asked to rate access to the full continuum of care, the impact of SDoH and COVID-19 on health outcomes and perceptions of SDoH training needs. Ratings were provided using a scale of (1) "strongly disagree" to (5) "strongly agree," with an option for "don't know" or "not applicable (NA)."

Nearly 57% of all survey participants "agreed" or "strongly agreed" that their patients had access to the full continuum of care from conception to death. This finding varied by Baptist service area with higher perceived access in the Central Mississippi, North Mississippi and Northeast Arkansas service areas. Of note, 24% of participants serving the West Tennessee service area "agreed" or "strongly agreed" that patients had access to the full continuum of care.

More than half of all survey participants "agreed" or "strongly agreed" that SDoH negatively impacted the health of patients and their families, and nearly 70% "agreed" or "strongly agreed" that the COVID-19 pandemic negatively impacted health due to delayed preventive or maintenance care. Similarly, approximately 61% of participants "agreed" or "strongly agreed" that the pandemic exacerbated the negative impact of SDoH.

When viewed by service area, participants serving the North Mississippi service area were slightly less likely to perceive negative impact of SDoH and the pandemic on health relative to other service areas. It is worth noting that the North Mississippi service area had the highest proportion of participants who "agreed" or "strongly agreed" (54.1%) that their care site had the right amount of training and resources to address patient/family needs related to SDoH.

Please rate the following statements (Includes Participants Across the Tri-State Region):

	Strongly Disagree	Disagree	Neither Agree nor Disagree	Agree	Strongly Agree	Don't Know/ NA
The patients my care site serves have access to the full continuum of care from conception to death.	7.1%	18.1%	8.0%	31.7%	25.2%	9.9%
The SDoH negatively impact the health of the patients and families my care site serves.	6.4%	10.3%	17.2%	34.7%	21.4%	9.9%
My care site has the right amount of training and resources to address patient/family needs related to SDoH.	5.7%	16.3%	22.5%	32.8%	12.6%	10.1%
The COVID-19 pandemic negatively impacted the health of the patients my care site serves due to delayed preventive or maintenance care.	3.9%	8.0%	10.6%	32.3%	37.2%	8.0%
The COVID-19 pandemic has had a negative impact on my care site's patients because it exacerbated various SDoH.	4.4%	8.3%	16.6%	34.3%	26.3%	10.1%

Please rate the following statements:
Percent Agree/Strongly Agree by Baptist Service Area

	Central Mississippi	Memphis Metro	North Mississippi	Northeast Arkansas	West Tennessee
The patients my care site serves have access to the full continuum of care from conception to death.	55.9%	48.7%	61.2%	56.8%	24.0%
The SDoH negatively impact the health of the patients and families my care site serves.	57.6%	63.2%	52.9%	64.9%	64.0%
My care site has the right amount of training and resources to address patient/family needs related to SDoH.	44.1%	37.4%	54.1%	37.8%	36.0%
The COVID-19 pandemic negatively impacted the health of the patients my care site serves due to delayed preventive or maintenance care.	74.6%	74.8%	62.4%	73.0%	68.0%
The COVID-19 pandemic has had a negative impact on my care site's patients because it exacerbated various SDoH.	62.7%	61.7%	58.3%	56.8%	60.0%

Thinking about the continuum of care and SDoH, survey participants were asked to identify the top three clinical service gaps and top three needed social services for patients. Participants rank ordered up to three free-form responses with #1 as the top clinical service gap or needed social service. The following tables summarize identified needs by category and number of mentions by participants.

Participant responses to the top clinical service gaps indicated strong awareness of the impact of SDoH on health and well-being. Collectively, SDoH were the top identified clinical service gap, identified by 51 participants as the No. 1 service gap and by 140 participants as a top three service gap. Among the top identified SDoH needs was transportation, followed by insurance coverage and economic security. Insurance coverage included both access or insured status and affordable coverage (e.g., copays). Economic security included income or financial support and job opportunities.

Other top identified clinical service gaps were mental health services, with a focus on psychiatry and psychology and services that are covered by insurance; primary and preventive care, with a focus on access to timely appointments and providers accepting new patients and/or patients with Medicaid; adequate medical staffing, particularly in light of COVID-19 and primarily affecting nursing availability and emergency department capacity; and health education services, with a focus on chronic diseases like diabetes and preventive care practices.

The top identified social service gaps closely aligned with the top identified clinical service gaps. Transportation was the top identified service gap, with a focus on accessible and reliable public transportation and assistance for patients to get to their medical appointments. Other top identified service gaps were health education and programs, with a focus on chronic disease, preventive care and parenting/infant care and staff support to identify patients with SDoH barriers, help patients navigate the health care and social service systems and coordinate hospital discharge and follow-up care.

What are the top three clinical service gaps experienced by the patients you serve?
Top Service Gaps Based on Number of Participant Mentions
(Includes Participants Across the Tri-State Region)

	No. 1 Clinical Service Gap	Top 3 Clinical Service Gap
	Number of Mentions	Number of Mentions
Social Determinants of Health (top needs listed below)	51	140
Transportation	18	52
Insurance coverage	13	25
Economic security	11	27
Mental health services (e.g., psychiatry/psychology, insurance covered services)	30	53
Primary/preventive care (e.g., timely appointments, accepting new patients, accepting Medicaid)	21	35
Adequate medical staffing (e.g., nursing staff, emergency department capacity)	15	36
Health education (e.g., chronic disease, preventative care/screenings)	15	35
Medication cost assistance	13	29
Continuity of care (e.g., communication and coordination between providers, integrated HER, coordination of follow-up visits and patient placement)	11	26
Specialty care (e.g., timely appointments)	10	25
Women's health (e.g., OB/GYN, high risk OB, doula services, screenings, particularly mammograms)	7	24

What are the top three social services or external community factors that would help improve SDoH for patients and residents? Top Services Based on Number of Participant Mentions
(Includes Participants Across the Tri-State Region)

	No. 1 Social Service Gap	Top 3 Social Service Gap
	Number of Mentions	Number of Mentions
Transportation	29	91
Health education/programs (e.g., diabetes, asthma, preventive care, parenting/infant care)	26	59
Social workers/case managers (e.g., assistance with health care navigation, discharge support, social service awareness)	24	45
Mental health services	20	36
Insurance coverage (e.g., access, Medicaid expansion, universal coverage)	13	29
Affordable medications	12	24
Financial support and/or expanded health care options for un-/under-insured and individuals with low-income	11	17
Primary care (e.g., accepting Medicaid, rural availability)	10	14
Health foods (e.g., accessible, affordable)	9	37
Affordable, safe housing	8	18

Social Determinants of Health Impact

Survey participants were asked to rate their level of comfort in performing tasks related to SDoH, including identifying and discussing SDoH with patients and referring patients to available resources to address needs. Overall, 61%-67% of participants were "comfortable" or "very comfortable" identifying and discussing SDoH that impact optimal health care for patients. Participants were slightly less "comfortable" or "very comfortable" referring patients to available community resources to address identified SDoH needs (58.5%).

Survey participants that served Northeast Arkansas and West Tennessee were less likely than other participants to report being "comfortable" or "very comfortable" identifying and discussing SDoH and/or referring patients to available SDoH resources. Of note, approximately 44% of participants serving West Tennessee reported being "comfortable" or "very comfortable" discussing SDoH with patients and 36% reported being "comfortable" or "very comfortable" referring patients for services.

Please rate your level of comfort in performing the following tasks related to SDoH (Includes Participants Across the Tri-State Region)

	Very Uncomfortable	Uncomfortable	Neither Uncomfortable nor Comfortable	Comfortable	Very Comfortable	NA
Identifying SDoH that impact optimal health care for patients	1.8%	2.9%	19.9%	40.8%	26.1%	8.5%
Discussing SDoH that impact health during your patients' office visits	1.8%	2.7%	18.5%	37.4%	24.1%	15.6%
Referring patients to available community/ external resources to address the SDoH that are affecting their health	2.1%	7.9%	22.4%	32.9%	25.6%	9.1%

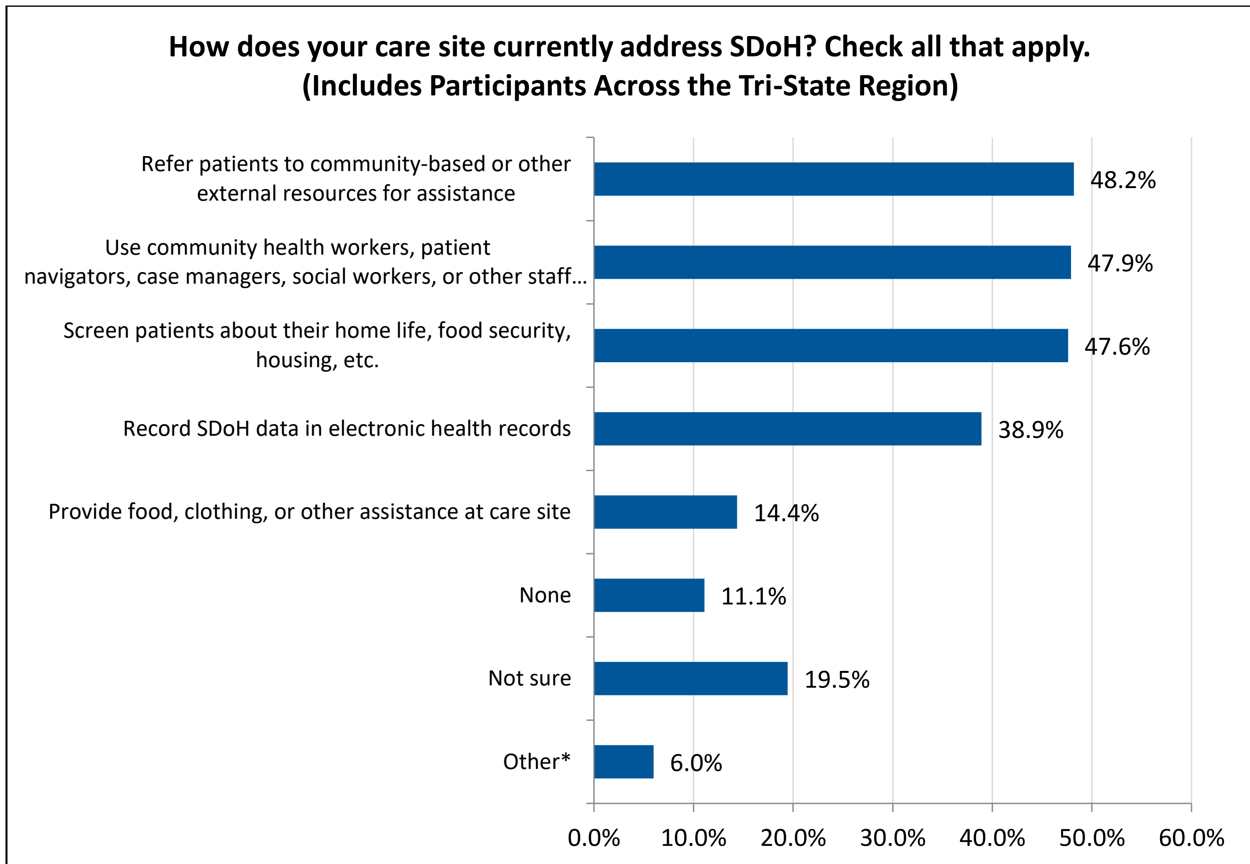
Please rate your level of comfort in performing the following tasks related to SDoH
Percent Comfortable/Very Comfortable by Baptist Service Area

	Central Mississippi	Memphis Metro	North Mississippi	Northeast Arkansas	West Tennessee
Identifying SDoH that impact optimal health care for patients	69.0%	67.0%	66.3%	58.3%	52.0%
Discussing SDoH that impact health during your patients' office visits	58.6%	67.8%	57.8%	54.3%	44.0%
Referring patients to available community/external resources to address the SDoH that are affecting their health	62.1%	54.8%	60.2%	47.2%	36.0%

Approximately 48% of survey participants indicated that their care site actively screens patients for SDoH, including home life, food security, housing, etc. When SDoH needs are identified among patient

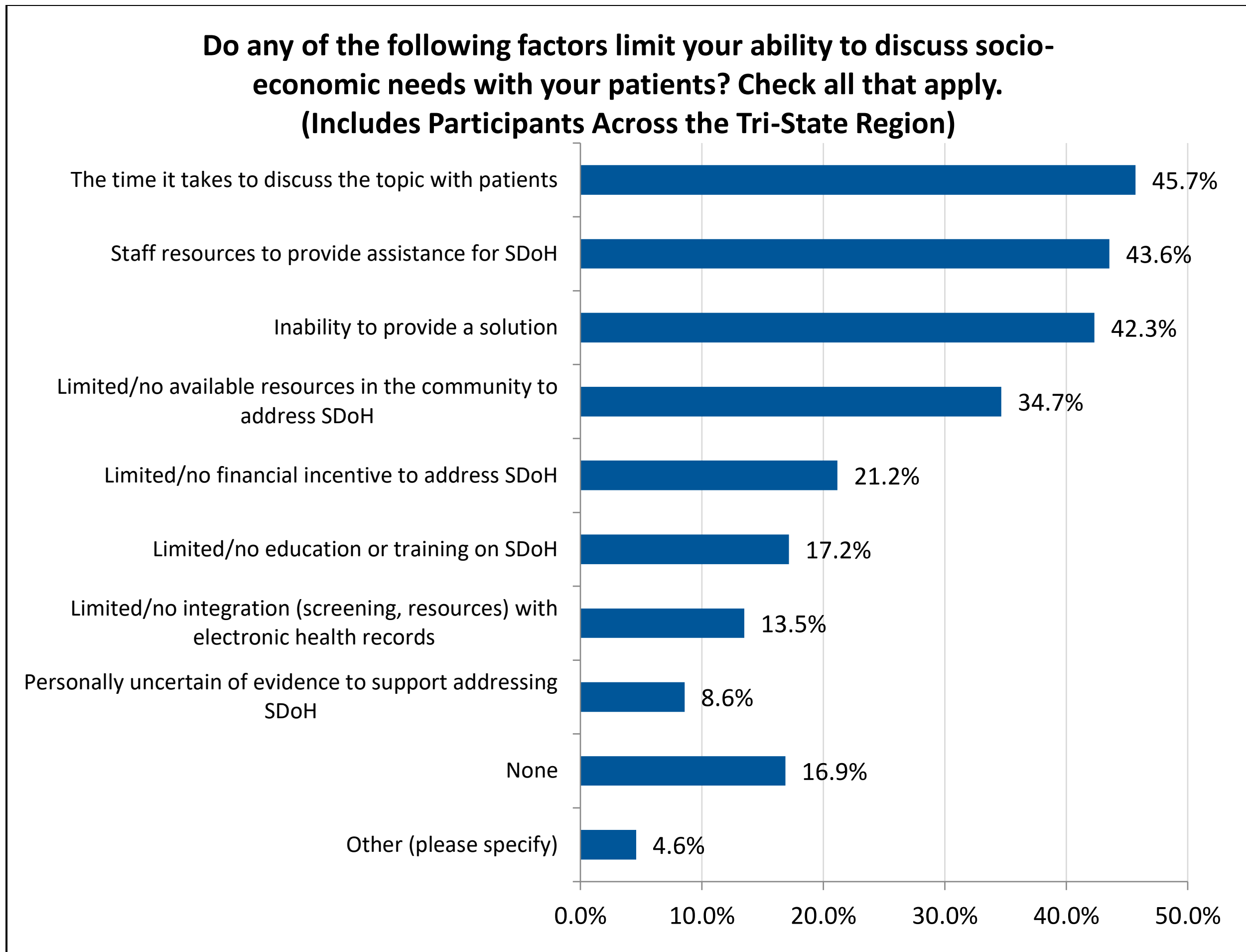
populations, a similar proportion of survey participants (48%) indicated that their care site refers them to community-based or other external resources for assistance and/or uses community health workers or other staff to assist them. Approximately 1 in 10 survey participants indicated that their care site does not address SDoH needs, and 1 in 5 participants were unsure of their care site's response.

The top barriers to discussing SDoH needs with patients, as identified by survey participants, were lack of care site resources (e.g., time and staffing to provide assistance) and inability to provide a solution to identified needs.



*Other responses by survey participants:

- *"An effort is made to enlist help for patient needs post D/C. But little follow up due to lack of staff."*
- *"Could use additional assistance in the specialty area--not just internal medicine."*
- *"Not aware of the community resources."*
- *"Provide samples of meds."*
- *"Provide upstream health education."*
- *"The questions are in the EMR with no follow through."*
- *"We do not screen because we do not currently have resources to refer and follow up with patients. However, we GREATLY need to implement screening and referral practices in our specialty clinic. SDoH impacts our patients in all aspects of life and chronic illness management."*
- *"We have very scarce resources to help our very underserved patients."*



*Other responses by survey participants:

- *"Case management and availability of resources."*
- *"I discuss health care issues with my patient. I'm not a social worker with 2 hours to spend with any patient. Whether they live in a tent or a 30,000 sq ft mansion, my care is the same."*
- *"Need a dedicated social service staff to come in to discuss patient's needs."*
- *"No nurses, so other life-saving tasks rank higher on the "to do" list."*
- *"Rural site, very limited resources."*
- *"We cannot impact the patients' socio-economic status, nor provide transportation when they have none. All we can do is treat them with respect and dignity while we have them here."*

Survey participants were asked to share a specific incident or common experience of how SDoH affect their patients' health. Select verbatim comments from participants serving the Central Mississippi service area are included below. Across the service areas, participant comments spoke to diverse SDoH needs, including social isolation, illiteracy, unsafe living conditions, discrimination and financial barriers, among others.

Survey Participant Stories: Central Mississippi Service Area
Please share a specific incident or common experience of how SDoH affect your patients' health.

- *"A patient with schizophrenia lost his partner. This partner did everything for him (health care, financials, diet, etc...). Patient was lost after her death. The best we could do was set up home health to give him access to a nurse to teach him his medicines and social worker access to help with community programs."*
- *"Diabetic with wound infection and the family continues to bring in sugar for the patient to eat and drink."*
- *"I care for patients in their home. I review information in medical record, and it does not accurately reflect what I see in the home. Some patients do not wish to share what I see in the home in clinic setting, fear of judgement, fear of less quality care, and do not feel it is an important part of their care."*
- *"I have seen numerous uninsured patients back through the ER because they can't afford an outpatient visit and that's a HUGE waste of health care resources for what should be an outpatient visit."*
- *"Jane, a homeless woman in her early 50's, has a diagnosis of bipolar disorder with psychosis, diabetes and hypertension. She is staying in an abandoned house with no running water or utilities. She is prescribed a diabetic medicine that requires refrigeration. A lack of affordable, safe housing in addition to limited resources for shelter presents a challenge for individuals with major medical and mental health issues."*
- *"Many of our patients live in Jackson and do not consistently have access to safe, usable water."*
- *"My patients suffer from an incredibly painful disease that requires narcotic therapy in severe cases. Because they are African American, ER physicians automatically label them as uneducated, poor and drug seekers. This severely affects the care they receive. So much so that my patients will sometimes try to figure out who is in the ER before deciding to go for treatment or will leave without being seen once they see who is there."*
- *"Patient illiterate and had not disclosed over several years. No resources for education."*

Survey participants were asked to imagine that their care site is successful in doing everything possible to address SDoH and to describe what that looks like. Select verbatim comments from participants serving the Central Mississippi service area are included below. Across the service areas, participant comments overwhelmingly spoke to the need for onsite social worker or case management services, robust community services that are connected with the clinical setting, comprehensive health and care management education and inclusive care practices.

Survey Participant Recommendations: Central Mississippi Service Area
Imagine that your care site is successful in doing everything possible to address SDoH. What would that look like?

- *"Addressing transportation issues for pts."*
- *"Dedicated access to a social worker who can facilitate a patient's access to community resources."*
- *"Donations of dietary supplements, unused supplies like incontinence briefs, colostomy supplies, etc."*
- *"Find resources for patients to see specialists without insurance." (Participant also served Memphis Metro, North Mississippi service areas)*
- *"In my imagination that would look like a very robust set of community resources for the patient including support for food, housing, education, job opportunities, areas for physical activity. Also, my dream is to see an amazing transportation system that can bring patients to appointments and take them home in a reliable and safe manner so they don't have to miss appointments. Also, as many of patients are on state Medicaid, having a resource that can help them navigate the insurance maze so that they never lose their coverage because they didn't understand what to do." (Participant also served North Mississippi service area)*
- *"LGBTQ+ inclusive environment with training of staff for pronouns. Inclusive advertising."*
- *"Non-judgmental gathering of information by ancillary staff during assessment of vital signs while the door is closed and no others able to hear questions and answers asked and answered."*

Survey participants were asked to share any suggestions to address SDoH affecting their patients. Select verbatim comments from participants serving the Central Mississippi service area are included below. Across the service areas, participant comments included addressing patient financial barriers (e.g., free or reduced cost health care and medications, health insurance enrollment and expansion of benefits), expanding health care access (e.g., satellite clinics, telehealth, mental health services) and increasing awareness and connectivity to available community resources for both patients and providers.

Survey Participant Recommendations: Central Mississippi Service Area
What suggestions would you like to share with Baptist that will address SDoH that affect your patients?

- *“Anything Baptist can do to reduce the cost of health care, improve access to affordable medication, provide wellness programs through outpatient and home health.”*
- *“Continue partnering with local organizations that are doing work in the local communities.”*
- *“Educate staff on the solutions for economic hurdles for patients.”*
- *“Greater number of specialists willing to see uninsured patients at a significantly discounted rate.”*
- *“I hope my institution could provide basic health care needs for patients with limited resources in ways that empower patients to maintain or achieve good health while not jeopardizing financial health of either the patients or the health care system. I think Mississippi should implement expanded Medicaid, and BMHCC should support this move.”*
- *“It's no coincidence that the region Baptist serves has one of the highest percentage of people who smoke and one of the highest incidences of lung cancer and smoking-related illnesses. The backbone of smoking cessation therapy is nicotine replacement. Most insurances don't cover nicotine replacement therapy. This is especially hard on people who work but don't have insurance, Medicare only patients and people who are uninsured. Long term, we could see a tremendous impact on the health of the communities we serve if we could help people quit smoking. We need a reliable, well-funded program to supply patients who want to quit smoking with NRT.” (Participant served all Baptist service areas)*
- *“Leadership training from the top down.”*
- *“Mental health services are lacking or difficult to obtain in my area.”*
- *“Satellite clinic and telehealth work and help. Need to advocate for telephone-based telehealth reimbursement since most patients don’t have reliable internet to do video.”*
- *“There should be a community coalition that meets on a quarterly basis to discuss available resources where patients can be referred.”*
- *“We need more integrated care, patient education on various topics from dietary recommendations to disease prevention, wholistic approaches to health care, support for supported housing options, and faith-based initiatives to reduce substance abuse.”*
- *“Work with the physicians to achieve improvement in professional reimbursement.”*

Diversity, Equity and Inclusion

Lastly, survey participants were asked to share policies and practices that would help create an organizational culture that reflects diversity, equity and inclusion (DEI) and initiatives and programs that would help in the delivery of more culturally competent care at their site. Participants rank ordered up to three responses with No. 1 as the top need. An option to "write in" any need not included on the list was provided.

The top policy or practice recommended by survey participants to help create an organizational culture that reflects DEI was cultural competence training (e.g., intracultural or cross-cultural education), followed by diverse workforce development and retention. Approximately 1 in 5 survey participants selected these items as the No. 1 need and more than 40% selected them as top three needs. Approximately 30% of participants also recommended DEI training for all staff as a top three need, and 25% recommended regular employee forums to discuss DEI practices and initiatives.

It is worth noting that 12% of participants indicated there is no need for policies and practices to promote DEI. This finding will be further explored in small group discussions with providers and community partner agencies to better understand perceptions of DEI and existing policies and practices already in place at care sites.

Please select the policies and practices you think would help create an organizational culture that reflects Diversity, Equity and Inclusion. Rank up to three items, with #1 as the most important. (Includes Participants Across the Tri-State Region)

	No. 1 Policy/Practice		Top 3 Policy/Practice	
	Number of Participants	Percent	Number of Participants	Percent
Cultural competence training (e.g., intracultural or cross-cultural education)	55	22.7%	100	41.3%
Diverse workforce development and retention	47	19.4%	105	43.4%
None	29	12.0%	53	21.9%
DEI training for all staff	28	11.6%	73	30.2%
Other*	22	9.1%	38	15.7%
Regular employee forums to discuss DEI practices and initiatives	20	8.3%	60	24.8%
Formal system for tracking and measuring DEI improvements	9	3.7%	47	19.4%
Systemwide policy for DEI practices that you can implement at your care site	9	3.7%	42	17.4%
DEI skills for managers and leaders	9	3.7%	39	16.1%
DEI training for new employees	8	3.3%	30	12.4%
DEI staff leaders as resources at each care site	6	2.5%	30	12.4%

*Select other responses by survey participants:

- *"A discussion of how race relations in Memphis have improved over the last 60 years."*
- *"Day care and after school care for staff and providers. Shift flexibility and job-sharing options when possible. Fewer white men at the top."*

- *"I do not think there is a pervasive problem or lack of DEI principles of behavior in organization."*
- *"In my experience, we are a very diverse workplace with respect for all individuals. Baptist should support initiatives at the high school and college level to encourage minorities to pursue health care professions."*
- *"It is necessary to involve the people who are being served. It would help to have community input, and to give a platform to those who have a testimony regarding their experiences."*
- *"Leadership comprised of ethnically, socially diverse group of individuals."*
- *"Study the Date of the Medicos group proving bilingual family medicine obstetrics 24/7/365 since 1999. The model has incorporated team care involving OB, MFM, VFOC, nursing and administration without external funding."*

The top initiative or program recommended by survey participants to enhance delivery of culturally competent care was a website or other central place with an inventory of community-based social services for patient referral, followed by training on SDoH. Approximately 1 in 10 survey participants selected these items as the top need and 35% selected them as top three needs. Approximately one-quarter of participants also recommended electronic medical record optimization for collecting patient information, networking events to share best practices for addressing SDoH in care sites and/or language translation for patient signage and promotional and educational materials.

Please select the initiatives and programs that would help you deliver more culturally competent care at your site. Rank up to three items, with #1 as the most important.
(Includes Participants Across the Tri-State Region)

	No. 1 Initiative/Program		Top 3 Initiative/Program	
	Number of Participants	Percent	Number of Participants	Percent
Website or other central place with inventory of community-based social services for patient referral	35	15.8%	77	34.7%
Training on SDoH	30	13.5%	79	35.6%
Electronic medical record optimization for collecting patient information (e.g., identity, pronouns, race, ethnicity)	28	12.6%	58	26.1%
Networking events to share best practices for addressing SDoH in care sites	23	10.4%	66	29.7%
Language translation for patient signage and promotional and educational materials	21	9.5%	52	23.4%
None	21	9.5%	36	16.2%
Training on unconscious bias	17	7.7%	68	30.6%
Training on antiracism	14	6.3%	31	14.0%
Other*	11	5.0%	25	11.3%
Increased diversity in patient signage and promotional and educational materials	9	4.1%	33	14.9%
Training on trauma informed care	7	3.2%	29	13.1%
Training on LGBTQ+ gender identity and affirming	6	2.7%	20	9.0%

*Select other responses by survey participants:
- *"Collaboration with local doulas and lactation counselors to establish allyship."*
- *"Implementation of routine SDoH screening with concrete referral/follow up avenues if positive (i.e., we can immediately refer patients if the screen is positive)."*
- *"More languages available for Epic discharge instructions."*
- *"Open access to family physicians with hospital privileges 24/7/365. A community based medical facility providing point of care services which deflect patient from automatic ER referral. Services are bilingual and incorporate services for the uninsured and the poorly insured patients of a low resource community."*
- *"Time to provide adequate care. Don't rush quality care."*
- *"Training on social determinants of health, LBGTQ+, & social bias (all)."*
- *"Training on who we are at Baptist, and who we treat, from an intersectional point of view."*
- *"Translator services, especially for ASL (American Sign Language)."*

The results of the Patient Access to Care and Services Survey were compared to secondary data research findings to compare perceptions to socio-economic and access to care statistical data. Interviews with Baptist health care providers, community agency partners and other key stakeholders were conducted as follow up to the survey to further illuminate opportunities for improving health and the health care experience.

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

In 2019, Baptist completed a CHNA and developed a supporting three-year implementation plan for community health improvement for each of its hospitals. The implementation plan outlined our strategies for measurable impact on identified priority health needs, including behavioral health, cancer, chronic disease and maternal and child health. Within six months of the release of the 2019 implementation plan, the COVID-19 pandemic shifted the priorities of our community and Baptist adapted our work to respond to the emergent needs of residents.

The following sections outline our work to impact the priority health needs and respond to COVID-19 in our communities. Specific hospital initiatives are highlighted as applicable.

Priority – Behavioral Health

Behavioral health strategies implemented by Baptist addressed the overarching goal to increase behavioral health screenings to initiate early treatment and improved outcomes for residents at all stages of life. As part of the 2019 to 2022 implementation plan, Baptist conducted the following programs and initiatives within the Central Mississippi service area:

- Expanded behavioral health services at Baptist Attala and Baptist Leake with the addition of Senior Life Solutions*
- Hosted the Illuminate Hope lighting ceremony in partnership with Canopy Children's solutions to create awareness for mental health concerns (Mississippi Baptist Medical Center)
- Identified opportunities to collaborate with community agencies that provide mental health and substance use disorder support (Mississippi Baptist Medical Center)
- In partnership with Senior Life Solutions, conducted community behavioral health education and awareness to senior citizens groups, Senior Citizens Day and area churches
- Partnered with Warren Yazoo Behavioral Health to provide resident flu shots (Baptist Yazoo)
- Partnered with Yazoo County Fair to distribute youth anti-bullying information (Baptist Yazoo)
- Provided meeting space for Alcoholics Anonymous and Narcotics Anonymous community meetings (Baptist Attala)

***Senior Life Solutions**

Senior Life Solutions Intensive Outpatient Program is a short-term, day program that provides support and treatment for adults age 55 and older who are facing emotional or mental difficulties. For some participants, this helps to maximize their own coping efforts by remaining close to their family and friends and staying in their familiar surroundings. For others, this type of program provides support while they work through family and/or emotional issues. Participants attend therapy groups during the day and return to their own residence each afternoon.

Priority – Cancer

Cancer strategies implemented by Baptist addressed the overarching goal to provide early detection and treatment to reduce death from breast, colorectal and lung cancers, and improve quality of life for patients. As part of the 2019 to 2022 implementation plan, Baptist conducted the following programs and initiatives within the Central Mississippi service area:

- As part of the Baptist Cancer Center, provided *Thrivership**, a free comprehensive program to support patients from the moment of diagnosis through treatment and beyond
- Deployed primary care physician protocols and automatic screening reminders for improved lung cancer detection and care
- Developed the Mid-South Miracle**, a multifaceted approach to preventing and treating lung cancer, with the goal of reducing lung cancer deaths by 25% by 2030
- Launched breast and lung cancer screening campaigns (e.g., social media, in-person events, mailers) in all Baptist service areas
- Offered a mobile mammography unit to help address screening barriers and increase annual screenings for breast cancer (Baptist Leake and Mississippi Baptist Medical Center)
- Offered free support groups for individuals with cancer and their families; events were conducted virtually during the pandemic
- Participated in the Mississippi Comprehensive Cancer Coalition, where community partners, cancer patients and caregivers explore a collective approach to delivering cancer services in the community (Mississippi Baptist Medical Center)
- Provided low-cost cancer screenings and participated in educational events, including health fairs, informational booths, media appearances and speaking engagements, among others
- Sponsored the "Power of Pink" breast cancer awareness campaign, which included educational public service announcements featuring Baptist physicians and clinicians emphasizing the importance of mammograms (Mississippi Baptist Medical Center)
- Sponsored weekly Creative Healing Studio program at Mississippi Museum of Art aimed at providing art therapy to cancer patients and survivors (Mississippi Baptist Medical Center)

Thrivership

The Baptist Cancer Center *Thrivership* program exists to support patients and their families – physically, emotionally and spiritually. It is a comprehensive program that includes free classes, seminars and support groups that address nutrition, fitness, mental well-being and spirituality, as well as seminars to increase understanding of cancer genetics and help patients manage the financial aspects of care.

****Mid-South Miracle**

Lung cancer is one of the leading causes of death in the Mid-South. In fact, the rate of lung cancer deaths in Tennessee, Arkansas and Mississippi is nearly double that of the rest of the United States. To change the trajectory of this disease in the region, Baptist Cancer Center has developed the Mid-South Miracle, a multifaceted approach to preventing and treating lung cancer. This initiative leverages the extensive resources of Baptist Cancer Center along with the collective knowledge and expertise of our

oncologists, surgeons, radiologists and pathologists to achieve prevention, early detection and faster treatments.

By mobilizing the Mid-South Miracle initiative and extending its reach to rural communities of the Mid-South, Baptist Cancer Center aims to increase lung cancer survival rates in the region and redefine lung cancer as a preventable, curable form of cancer. Through seven program components, Baptist Cancer Center physicians believe they can achieve a Mid-South Miracle and reduce lung cancer deaths in the region by 25% by 2030. The seven program components include effective and accessible smoking cessation programs, regular low-dose CT scans, incidental lung nodule screening, multidisciplinary care, high-quality surgical care, accessible clinical trials and coordinated clinical and community efforts.

Priority – Chronic Disease

Chronic disease strategies implemented by Baptist addressed the overarching goal to promote health as a community priority and increase healthy lifestyle choices. As part of the 2019 to 2022 implementation plan, Baptist conducted the following programs and initiatives within the Central Mississippi service area:

- Collaborated with community partners to sponsor events promoting physical activity
- Collaborated with Mission First Medical Clinic to provide comprehensive medical services to the underserved and uninsured community (Mississippi Baptist Medical Center)
- Collaborated with other local hospitals in the monthly city-wide stroke support group (Mississippi Baptist Medical Center)
- Conducted youth wellness checks in partnership with local schools (Baptist Attala)
- Hosted a drive-thru lunch and learn program, providing a healthy boxed lunch and heart disease and diabetes prevention materials and recipe book (Baptist Leake)
- Maintained a diabetes program recognized by the American Diabetes Association; programs are renewed annually based on standards of care
- Maintained Chest Pain Center accreditation at Mississippi Baptist Medical Center
- Offered the free Choose to Be* women's mobile health app to foster healthy lifestyles
- Participated in community events, including health fairs, speaking engagements and informational booths to provide health information and screenings
- Participated in Heart Day and other events to provide low-cost heart screenings to the community (Mississippi Baptist Medical Center)
- Participated in local coalitions to improve health and disease management for residents
- Partnered with community organizations to increase access to healthy foods and decrease food insecurity
- Provided care for emergency medical conditions to individuals regardless of their eligibility for charity care, financial assistance or government assistance through the emergency department
- Provided CPR certification classes for health science students in local schools (Baptist Attala)

- Provided vaccinations for inmates in partnership with local correctional facility (Baptist Yazoo)
- Staffed a full-time chronic care nurse to assist patients to manage their condition (Baptist Leake)
- Worked with the Baptist Cancer Center to establish blood sugar monitoring and treatment protocols for dually diagnosed diabetic and cancer patients

***Choose to Be Mobile App**
The Baptist Choose to Be mobile app gives women the knowledge and power to make the right choices for a healthy, active and productive lifestyle for every stage of life. The stresses women face from school, work, family responsibilities and physical and mental health issues are unique to women, and their remedies must be as well. The information in this app comes directly from the experienced team of obstetricians and gynecologists at Baptist Women's Hospital.

Using plain language and helpful graphics, the app is a definitive source of accurate information to help women navigate health issues and learn about their bodies from pre-adolescence through menopause, and beyond. From helping young girls learn what is happening in their first menstruation to understanding the relationships between lifelong women's health and heart disease (the silent killer among women), breast cancer and osteoporosis.

The app also provides fun insight on what women can do to feel healthier, more energetic and mentally sharper. Women receive dietary tips, stress management tools and ideas, self-breast care examination education, preventative care ideas including vaccines and screenings and fertility guidance and enhancement techniques. The information is arranged intuitively so finding topics of concern is as easy as a couple of taps.

Priority – Maternal and Child Health

Maternal and child health strategies implemented by Baptist addressed the overarching goal to improve birth outcomes for women and infants. As part of the 2019 to 2022 implementation plan, Baptist conducted the following programs and initiatives within the Central Mississippi service area:

- Offered the free Beautiful Beginnings* maternity mobile app
- Offered YoMingo®, providing on-demand evidence-based information on prenatal care, labor and birth, postpartum, breastfeeding and newborn care (Mississippi Baptist Medical Center)
- Participated in various community events, including health fairs, speaking engagements and informational booths to provide education and resources for maternal and child health
- Provided maternal and child health classes and presentations on topics, including child birthing, breastfeeding, sibling support, infant skin care and becoming new parents and grandparents (Mississippi Baptist Medical Center)
- Sponsored weekly Fit for Fun program at Mississippi Children's Museum aimed at teaching children healthy eating and exercise habits at an early age (Mississippi Baptist Medical Center)
- Staffed the county's only certified pediatric nurse practitioner, along with a women's health nurse practitioner; practitioners provided community prenatal and neonatal care education (Baptist Leake)

***Beautiful Beginnings Mobile App**
Beautiful Beginnings - the free pregnancy app from Baptist Memorial Hospital for Women - is a wonderful tool to help achieve a healthier pregnancy. Users enter their due date to receive week-by-week alerts about their baby's growth. The app keeps track of important events leading up to birth, such as how many times the baby kicks, appointments, contractions and information on maintaining personal health. Users can also access important resources at Baptist Women's Hospital, pregnancy support groups and information about infant health and safety.

COVID-19 Response

Baptist has supported the community throughout the pandemic, providing financial assistance, education and social and emotional support, among other items. The following is a list of services provided by the hospital in response to COVID-19:

- Provided oversight of community personal protective equipment (PPE), temporal thermometers, face shields and orders for community partners
- Supported COVID-19 community-wide testing and vaccination efforts
- Supported COVID-19 disease and vaccination education in partnership with community agencies
- Note: Baptist Attala was the first COVID-19 testing center in the community, set up the first drive-thru testing service for Attala County, was the only antibody infusion center in the area and was the first to have vaccines available per the CDC guidelines

Other Cross-Cutting Strategies

As a community partner, Baptist supports and invests in strategies that have cross-cutting impact on identified community health needs. In addition to the above-mentioned programs and initiatives, Baptist conducted the following within the Central Mississippi service area:

- Maintained an ongoing physician recruitment effort, whereby on an annual basis, physician manpower needs are identified and efforts are made to bring new physician providers to the community to fill underserved needs and increased health care access
- Provided clinical training and preceptorship opportunities for students in various health care studies, including medical, nurse practitioner, nursing, and physical and occupational therapies
- Supported community agencies through strategic in-kind and financial contributions, including American Cancer Society, American Heart Association, Diabetes Foundation of Mississippi, Girl Scouts of Greater Mississippi, Junior League of Jackson, Madison Countians Allied Against Poverty, Make-a-Wish MS, Mississippi Food Network, National Council on Alcoholism and Drug Dependence, Susan G. Komen Breast Cancer Foundation and others

Baptist welcomes your partnership to meet the health and medical needs of our community. We know we cannot do this work alone and that sustained, meaningful health improvement will require collaboration to bring the best that each of community organizations has to offer. To learn more about Baptist's community health improvement work or to discuss partnership opportunities, please visit our website at baptistonline.org/about/chna.

Appendix A: Public Health Secondary Data References

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Appendix B: Key Informant Survey Participants

- Adoration Home Health and Hospice, LPN
- American Cancer Society, Executive Director
- American Legion Post #168, Adjutant/Finance Officer
- Attala Baptist Association, Associational Missions Director
- Attala County, MS, Chancery Clerk
- Bank of Yazoo City, President\CEO
- Baptist Attala, HR Representative
- Baptist Hospital Yazoo, Volunteer
- Baptist Memorial Health Care Attala//Leake, ED Medical Director
- Baptist Memorial Health Care, Community Relations
- Baptist Memorial Health Care, EVP & CSO
- Baptist Memorial Health Care, Director of Pastoral Care
- Birthright of Jackson, Executive Director
- Canopy Children's Solutions, Director of Development
- Carthage Senior Care, Social Services Director
- Center for Pregnancy Choices, Special Projects Director
- Children's Advocacy Centers of Mississippi, Community Outreach
- City of Kosciusko, Mayor
- Clinton Chamber of Commerce, Member Relations Manager
- Clinton Chamber of Commerce, Program Coordinator
- Delta Health Alliance, Community Worker
- East Central MS Health Care, Inc., Executive Director
- FIRST BAPTIST CHRUCH, Associate Pastor
- Greater Belhaven Neighborhood Foundation, Executive Director
- Habitat for Humanity Mississippi Capital Area, Development Director
- Hope House of Hospitality, Inc, Executive Director
- Ivey Mechanical Company, VP, HR
- Jackson Fire department, EMS Coordinator
- Joni and Friends, Senior Area Director
- Junior League of Jackson, Board of Directors
- Junior League of Jackson, Community Vice President
- Leadership Memphis and Volunteer Memphis, President and CEO
- Leake Baptist Association, Associational Missions Director
- Lifesavers Program, Volunteer Coordinator
- Madison County Business League & Foundation, Executive Director
- McKay Lawler Franklin & Foreman, PLLC, Owner
- MCNNA, Congregational Health Nurse
- Methodist Rehabilitation Center (inpatient rehab facility), Foundation Executive Director
- Mid-MS Regional Library System, Executive Director
- Midtown Partners, Executive Director
- Mission First, Inc., Executive Director
- Mississippi Breastfeeding Coalition, WIC Peer Counselor 3/Member at Large

- Mississippi Children's Advocacy Center, Executive Director
- Mississippi Food Network, External Affairs Specialist
- Mississippi State Department of Health, Community Health Director
- MS House of Representatives, Legislator
- MS Tobacco Free Coalition, Project Director for Madison, Yazoo, and Holmes Counties
- MSDH/MCCCP, Program Coordinator
- National Council on Alcoholism and Drug Dependence (NCADD) of the Central MS Area, Inc., Executive Director
- National Multiple Sclerosis Society, Walk MS Manager
- Pearl Chamber of Commerce, Director
- Premier Medical Group, MD, Partner
- SCP Health, Local Medical Director, Emergency Department
- Simmons Tire, Owner/Manager
- St. Jude Children's Research Hospital, Director of Managed Care
- St. Mary's Catholic Church, Pastor
- State Legislature, State Representative
- State Senate, Senator
- Stewpot Community Services, Director of Special Events & Communications
- Stewpot Community Services, Executive Director
- Stricklin King, Director
- Susan G. Komen Memphis-MidSouth Mississippi, CEO
- The Little Light House Central MS, Executive Director
- The McClean Fletcher Center, Director
- Truelight Baptist Church, pastor
- Warren Yazoo Behavioral Health, Prevention Specialist
- Warren Yazoo Behavioral Health, Yazoo County Director
- Williams, Clark & Morrison, Inc., President
- Yazoo County, Coroner
- Yazoo County Health Network, Member
- Yazoo Ministerial Association, Vice President