Mississippi Primary Care Needs Assessment

MARCH 2021

Mississippi State Department of Health

CONTRIBUTORS

Christin Williams, JD, LLM
Director, Office of Health Policy and Planning

Rachel Sprinkle, JD, LLM
Director, Office of Rural Health and Primary Care

Staff

Kara Aldridge
Primary Care Offices Grant Coordinator

Tasha Brown
State Office of Rural Health/MS Qualified Health Center Grant Coordinator

Dawn Cuello
Small Rural Hospital Improvement Program Grant Coordinator

Kenya Gilkey
Medicare Rural Hospital Flexibility Program Grant Coordinator

Tyechia McHarris
Administrative Assistant

Consultants

Marsha Broussard, DrPH, MPH, Policy and Action for Community Health
Primary Author

Glenda Crump, MS, CPM, Mississippi Public Health Institute
Needs Assessment Advisor

Funding Source

Health Resources and Services Administration of the U.S.
Department of Health and Human Services
State Primary Care Office Cooperative Agreement

For More Information, Contact

Mississippi Office of Rural Health & Primary Care
570 East Woodrow Wilson Blvd.
P.O. Box 1700
Jackson, MS 39215-1700
(601) 576-7216

TABLE OF CONTENTS

Foreword . . . 2

Acknowledgements . . . 3

Introduction . . . 4

Needs Assessment Overview . . . 5

State Profile . . . 7

Rural Mississippi and Mississippi Regions . . . 8

Health Status and Needs . . . 10
- Years of Productive Life Lost . . . 10
- Low Birthweight . . . 11
- Chronic Diseases . . . 12
  - Diabetes . . . 12
  - Cardiovascular Disease . . . 13
  - Cancer . . . 15
- Oral Health . . . 17
- Mental and Behavioral Health . . . 18
- COVID-19 . . . 18
- Health Behaviors . . . 19

The Impact of Social Determinants of Health . . . 21
- Poverty . . . 22
- Education . . . 22
- Employment . . . 23
- Transportation . . . 24
- Natural Disaster / COVID . . . 24

Access to Care . . . 25
- Health Insurance . . . 25
- Access to Facilities . . . 26
- Primary Care, Dental, Mental Health Shortage Areas . . . 27
- Transportation . . . 28

Healthcare Infrastructure, Workforce Development & Policy . . . 29
- Workforce Programs . . . 29
- Water Fluoridation . . . 30
- Community and Infrastructure Development . . . 32

Conclusions and Next Steps . . . 33

References . . . 37

Appendices . . . 39

FOREWORD

The Primary Care Office (PCO) is located within the Mississippi Office of Rural Health & Primary Care (MORHPC) at the Mississippi State Department of Health (MSDH) and has been in existence for over twenty-five (25) years. MORHPC's mission is to enhance healthcare services within the state by providing information, education, linkages, tools and energy towards addressing rural health and primary health care issues. MORHPC's goal is to increase healthcare services available in the state to ensure all Mississippians in rural and underserved areas have access to comprehensive, affordable and high-quality healthcare. The Mississippi PCO Grant Program coordinates activities to support access to care, disseminates data and information, manages shortage designations and engages in recruitment and retention activities. A required deliverable of the PCO Grant Program is to develop a Statewide Primary Care Needs Assessment.

The first Mississippi Primary Care Needs Assessment was published in March 2016. The 2016 Assessment established a baseline to identify primary care needs and examine deficiencies. As part of the 2021 Assessment, MORHPC has updated the 2016 data on health outcomes and access to primary care and refined the measures used to evaluate primary care capacity in the state. This data was analyzed to identify the state's communities with the greatest unmet health care needs and will be used to support future shortage designations, community development and workforce program efforts.

The findings from the 2021 Assessment will assist MORHPC in planning and prioritizing future activities including, allocating resources, managing shortage designations, coordinating the recruitment and retention of health care professionals and updating the Primary Care County Profile Sheets for each of the eighty-two (82) counties in the state. This Assessment will be used as a resource for state and local officials, policy makers and rural health and primary care stakeholders to plan initiatives to improve the health of our rural and underserved communities. The availability of quality preventive and primary care services is vital to achieving and maintaining population wellness. The Mississippi PCO Grant Program plays a vital role towards ensuring that efforts are undertaken to address availability of primary care services in the underserved communities in the state.

The impact of the Coronavirus Disease 2019 (COVID-19) pandemic has been fundamental and far reaching, especially on health status and health services. Currently, there are limited published statistics available regarding the impact of COVID-19 to sufficiently inform this Assessment.

Funding to support the development of this assessment was provided by the Health Resources and Services Administration of the U.S. Department of Health and Human Services, State Primary Care Office Cooperative Agreement. The report's content and conclusions are those of the MORHPC.

Although Mississippi has historically been an unhealthy state, that does not mean it has to stay this way. MORHPC sees this Assessment as another tool in the tool box to inform our opportunities to improve those core health indicators that lay the foundation for creating a healthier Mississippi for all residents.

Rachel Sprinkle

Rachel Sprinkle, JD, LLM
Director, Mississippi Office of Rural Health and Primary Care
Mississippi State Department of Health

ACKNOWLEDGEMENTS

The 2021 Mississippi Primary Care Office Needs Assessment was developed by the Mississippi Office of Rural Health & Primary Care with the assistance of the Primary Care Needs Assessment Stakeholder Committee. Collaboration with stakeholders allowed for expert input and improved the quality of the Assessment. The Stakeholder Committee participated in virtual focus groups and provided helpful insight based upon their areas of expertise. The Committee represented state agencies, medical associations, rural health, community health organizations and physician workforce entities. A list of Stakeholder Committee Members is provided below. We extend our recognition and thanks for their service.

Wendy Bailey, LA, CPM
Executive Director
Mississippi Department of Mental Health

Melverta Bender, MLS, MPH
Director, STD/HIV Office
Mississippi State Department of Health

Tasha Brown
SORH Coordinator, Office of Rural Health and Primary Care
Mississippi State Department of Health

Claude Brunson, MD
Executive Director
Mississippi State Medical Association

Shannon Coker
Executive Director
Mississippi Dental Association

Beth Embry
Executive Director
Mississippi Academy of Family Physicians

Angela F. Filzen, D.D.S.
Director, Office of Oral Health
Mississippi State Department of Health

Paul Gardner, CPA
Vice President of Rural Health/ACO
Mississippi Rural Health Alliance
Mississippi Hospital Association

Marilyn Johnson, MBA
Family Planning and MCH Director
Mississippi State Department of Health

Ryan Kelly, MBA
Executive Director
Mississippi Rural Health Association

John R. Mitchell, MD, FAAFP
Director
Office of Mississippi Physician Workforce

Judy Newton
Life and Health Analyst, Life and Health Actuarial Division
Mississippi Insurance Department

Janice Sherman, MPA
Chief Executive Officer
Community Health Center Association of MS, Inc.

Drew Snyder
Executive Director
Division of Medicaid

Chigozie Udemgba, Ph.D.
Director, Office of Health Equity
Office of Preventive Health & Health Equity
Mississippi State Department of Health

LaNelle Weems
Director, Mississippi Center for Quality at Workforce
MHA Health, Research and Educational Foundation

INTRODUCTION

Assessment of needs and data sharing is one of the program requirements of the HRSA U68 Primary Care Services Coordination and Development Grant Program. This 2021 State Primary Care Needs Assessment will build upon the 2016 Needs Assessment to further: 1) identify communities with the greatest unmet health care needs; 2) highlight health disparities; 3) illuminate health workforce shortages; and 4) identify key barriers to accessing health care. The data collected will be analyzed and summarized to set priorities and establish a plan for improving health status and healthcare services in shortage areas. The impact of the COVID-19 pandemic is fundamental and will have a far-reaching impact; however, we are only just beginning to identify its impact on population health status and its immediate and long-term impact on available healthcare resources.

Needs Assessment Approach and Methodology

The Mobilizing for Action through Planning and Partnerships (MAPP) planning process was used to guide the assessment process and the methodology for collecting data through surveys and virtual focus groups with stakeholders. In-person community meetings were suspended due to the limitations imposed by the COVID-19 pandemic; however, virtual meetings proved to be a very effective alternative for obtaining stakeholder feedback. Four (4) highly structured focused groups were conducted by the MORHPC staff, which provided the opportunity for spirited discussion and high-level expertise from the stakeholders to inform the final needs assessment.

Data Analyses

Multiple sources of data are incorporated into this need assessment. Robert Woods Johnson Foundations Community Health County Rankings were heavily relied upon due to its comprehensiveness and use of the most current data available. RWJF was a source for the frequency of poor health outcomes and health factors, providing comparisons between Mississippi counties, state and national data. The Annie E. Casey Foundation's Kids Counts Data Book was accessed for child and family data. Health Resources Services Administration (HRSA) data was used to document Mississippi's healthcare facility and workforce shortages for primary healthcare, oral health and mental provider needs and resources at the county level. Where available, information on health disparities was presented on race, gender, education attainment and income levels, and the influence of adverse social determinants on health status was addressed. Finally, health data for Mississippi's eighty-two (82) counties were grouped by region, highlighting the Delta Region, which has the most challenging outcomes for nearly all indicators. A list of data resources is included as Appendix A.

NEEDS ASSESSMENT OVERVIEW

This assessment was organized into seven sections which are summarized below.

State Profile

A statewide overview of Mississippi is provided, including total population estimates, age data, poverty data and race/ethnicity data from the 2019 U.S. Census estimates. The state profile also describes Mississippi's economic status including employment and income data and provides an overview of the population's health status.

Rural Mississippi

Being a majority rural state has implications for health status and healthcare services. This section of the Needs Assessment addresses some of the challenges of being a majority rural state and offers some important planning considerations to address rural health needs.

Health Status and Needs

This section examines general health status in the four regions, focusing on the Delta Region, which has the poorest health outcomes. After comparing general health status between the regions, this section highlights four basic health need areas including preventable chronic diseases, maternal and child health, oral health and mental and behavioral health. These health areas correspond with primary healthcare, oral and mental health provider capacity and unmet needs across the state. The goal is to identify healthcare needs that are within the scope of the MORHPC to address.

This section highlights some of the health disparities among specific populations who suffer disproportionate morbidity and mortality. Understanding geographic, racial and ethnic disparities and gender disparities can provide a window into how and where targeted initiatives can mitigate health inequities.

Health behaviors were addressed in the health status and needs section, because of the role they play in health outcomes. COVID-19 was also addressed in this section because of the importance of its immediate impact upon health status and its implications on health disparities.

Social Determinants of Health

Negative social determinants of health are the most harmful underlying barriers to individuals' accessing and benefiting from healthcare services. Poor social conditions, such as poverty and unemployment, exacerbate poor health status. Access to employment opportunities and effective early childhood, primary and secondary education are examples of two of our most powerful public health tools. As the first line of defense, more deliberate attention must be given to addressing upstream social issues as a part of a state-level strategy to achieve and sustain health improvements.

Access to Healthcare Services

Improving access to preventive and primary healthcare services, dental care and mental and behavioral healthcare services supports Mississippi residents in their goals to improve and maintain good health. HRSA has made extensive investments to identify shortages of primary care, dental health and mental and behavioral health providers across the country and to prioritize federal investments in healthcare infrastructure. HRSA's data clearly supports that much of the Mississippi's health plan must continue to be dedicated to addressing health provider shortages in these three areas. This section highlights some of the most acute geographic area provider shortages so that state and federal resources can be prioritized appropriately.

Healthcare Workforce and Infrastructure

The main component of MORHPC's health improvement strategy includes foundational work to improve the healthcare workforce and address infrastructure in rural and underserved areas. This assessment highlights workforce initiatives already under development and suggests new developments and directions for infrastructure improvements that can have the most impact on improving access to healthcare.

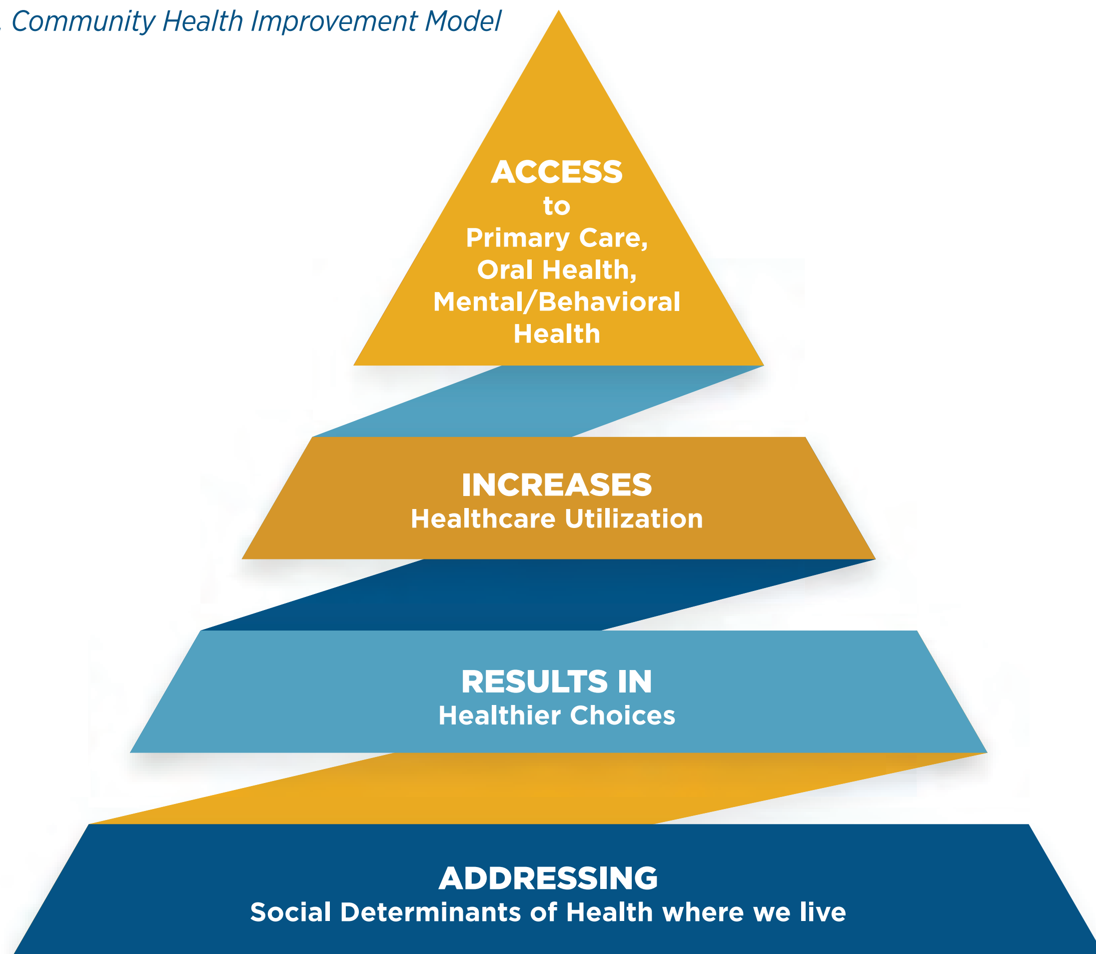
Conclusions and Next Steps

The conclusions of the assessment are based upon a community health model developed by the MORHPC which asserts that your zip code is the greatest predictor of your health and quality of life. Due to the high poverty rates in Mississippi counties, the recommendations from this assessment start with improving the social determinants of health (SDOH), especially focusing on the poorest region and counties in Mississippi.

SDOH form the foundation that predict community and individual health status. Access to employment, a living wage, quality education at all levels, health insurance and healthy foods are the SDOH support healthy behaviors. Tobacco free living, consumption of healthier foods, and regular participation in physical activities are healthier choices that are more accessible when the barriers of poverty and low education status are removed.

The top tier of MORHPC's community health improvement model is the availability and accessibility of primary care, dental health and mental health provider capacity, and the need to expand facilities in rural and underserved areas. The conclusions and recommendations of this report are based upon this model of care, and emphasize the need for collective planning across agencies to achieve success.

Illustration A. Community Health Improvement Model



Source: Developed by Mississippi Office of Rural Health and Primary Care, 2021

STATE PROFILE

Mississippi is located in the Southeastern United States. It is bordered by Alabama to the east, Tennessee to the north, Louisiana and the Gulf of Mexico to the south and by Arkansas and Louisiana across the Mississippi River to the west. These boundaries outline an area of 46,907 square miles, with a north-south length of 350 miles and an east-west width of 180 miles. Mississippi has eighty-two (82) counties.

Demographics

The U.S. Census Quick Facts reported Mississippi's 2019 population as 2,966,076, indicating slow state population growth from 2010 (0.3%), compared to the national population growth rate (6.3%).[i] Gender composition was similar to that of the nation, with 51.5% of Mississippians identifying as female compared to 50.8% nationally. Age demographics were also comparable to the U.S. with 6.2% aged 5 and under, 23.5% aged 18 and under, and 16.4% aged 65+ compared to 6.0%, 22.3% and 16.5%, respectively.[ii] Compared to the nation, a substantially larger percentage of the Mississippi population was Black (37.8% vs. 13.4%) and substantially smaller percentages of the state population were Latinix (3.4% vs. 18.5%) and White (59.1% vs. 76.3%).

Education

Compared to the nation, Mississippi had lower high school education attainment (84.5% vs. 88.0%) and a lower proportion of residents aged 25+ earning a bachelor's degree or higher (22.0% vs. 32.1%).[iii] Blacks and individuals living in rural communities of Mississippi had lower high school completion rates compared to rural White residents and Mississippians residing in metro areas.[iv]

Economics

As reported by the USDA Economic Research Service, the average per capita income for Mississippians in 2018 was $37,834, although the rural per capita income lagged at $35,484.[v] Welfare, Info.com reported a much lower 2019 per capita income forMississippians at $24,396.[vi] Regarding employment, 56.7% of the Mississippi population age 16+ was in the labor force for 2015-2019, compared to 63% nationally.[vii]

Poverty

Median household income for Mississippi in 2019 was $45,081 compared to $62,843 for the nation.[viii] Mississippi had a higher percent of individuals who live below the federal poverty level compared to the nation (19.6% vs. 10.5%). The percent of poverty among Blacks in Mississippi for 2017 was highest compared to all other racial groups (33%), including the percent for Native Americans (31%), Latinix (27%), Whites (13%) and the national percentage (25.2%).[ix] Although the percent of poverty among the elderly, ages 75 to 84, declined between 2014 (18.8%) and 2017 (14.5%), it remained twice the national rate (9.4%).[x] In 2018, 28% of Mississippi children lived in poverty, which was higher than the national average of 18%; and 46% of Mississippi Black children lived in poverty.[xi] It will take time to determine how the COVID-19 pandemic has impacted the above economic data.

Overall Health Indicators

RWJF County Health Rankings reports that the percent of uninsured Mississippians < 65 years old was 14%, compared to 10% for the nation. The percent uninsured declined from the 2019 report (16.8%). Kaiser reported an even lower percent uninsured at 12% for 2017. Almost one-fourth (24%) of the population reported they were in fair or poor health, compared to the nation (17%); and that they had 4.8 days of poor mental health and five (5) days of poor physical health during the previous year, compared to the nation (4 days).[xii] The overall state rate for excessive drinking was 14% compared to the national rate of 13%; and the state rate for smoking was 22% compared to the national rate of 14%.[xiii] Based upon HRSA data, the ratio of population to primary care physicians per county was an average of 1,890:1, compared to the national primary care ratio of 1330:1; for dentists, the Mississippi ratio was 2,120:1 compared to 1,450:1 nationally; and for mental health providers, the ratio was 630.1 in Mississippi vs. 400.1 for the nation.

RURAL MISSISSIPPI AND MISSISSIPPI REGIONS

Mississippi is one of the most rural states in the nation with 79% of the counties classified as rural as defined by the federal Office of Management and Budget (OMB).[xiv] Population per square mile in Mississippi for 2010 was 63.2 compared to 87.4 for the nation.[xv] In 2019, fifty-three (53.2) percent of Mississippi's population or 1,582,360 resided in rural counties.[xvi]

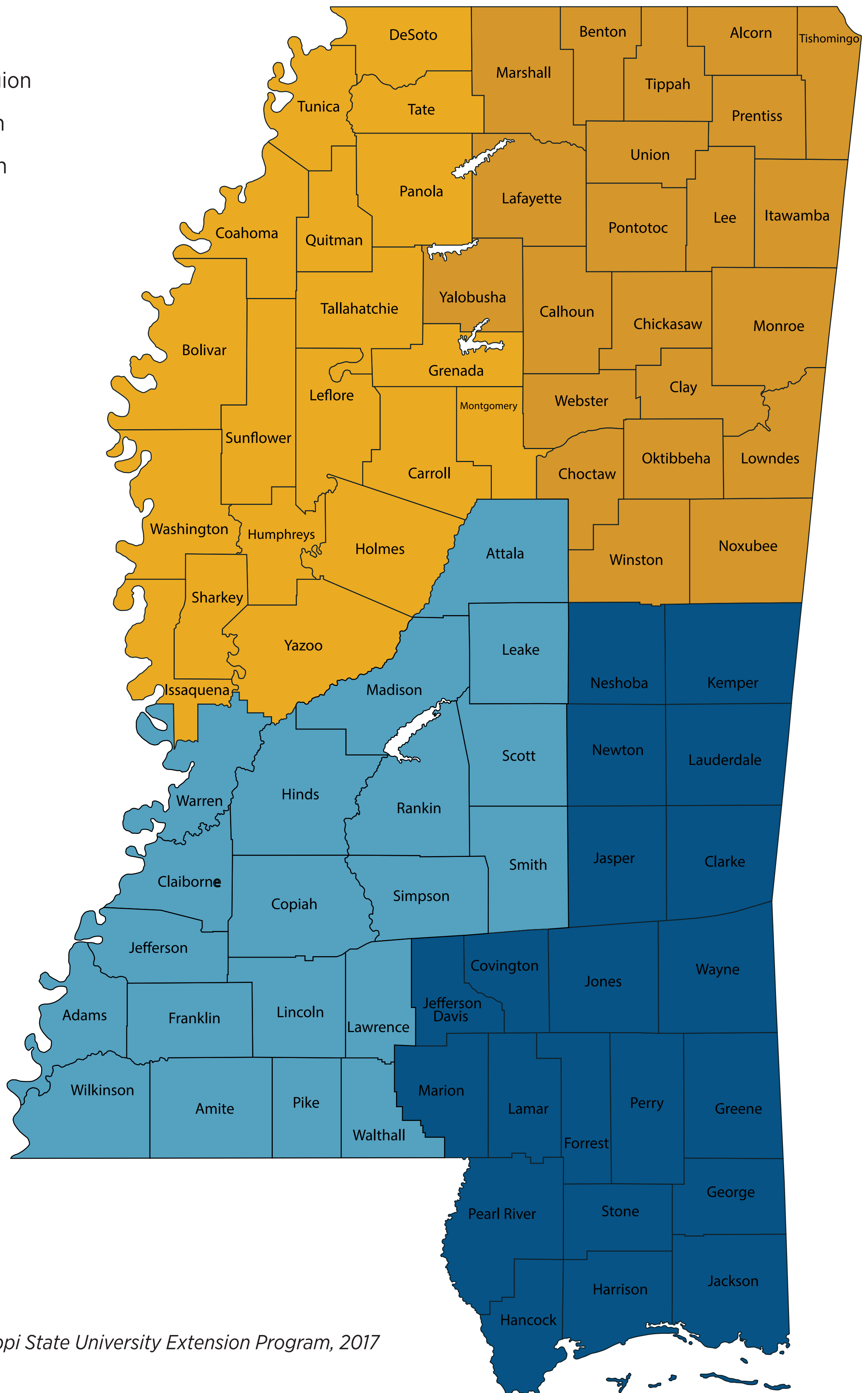
A disproportionate number of Black families reside in rural Mississippi, living in small towns and communities where the poverty rates are among the highest in the state and the country. They can best be described as the working poor, but they are not without assets. The majority of these residents contribute to their communities, have strong values, have healthy, well-adjusted children; however, the circumstances of their lives, characterized by hard work, low wages, and many challenges takes a heavy toll on their health status. Rural Mississippians have lower educational achievement than urban areas. The USDA Economic Research Service reported that 19.0% of the rural population had not completed high school compared to 12.7% of the urban population.[xvii] A greater percentage of the elderly live in rural counties.[xviii] Because the elderly use healthcare services more often and are more likely to seek localized primary care providers, the location of rural services in terms of travel time is an important access-to-care measure for the elderly.

According to data from HRSA, as of July 2020 rural Mississippi had thirty-two (32) critical access hospitals, 186 rural health clinics, 197 Federally Qualified Health Centers, and forty-four (44) short-term hospitals located outside of urban areas. Rural areas face greater challenges with recruitment and retention of healthcare professionals. Eighty-four percent of the single county primary care Health Professional Shortage Areas (HPSA) designations are in these rural counties.

For planning purposes, the Mississippi State University Extension program divided Mississippi into four distinct regions including the Delta, Central, Northeast and Coastal regions. The Delta Region has the most concentrated poverty and subsequent poorest health outcomes, followed by the Central Region. Both these regions border the western state boundary located along the Mississippi River. In this report, the Delta Region, including its 19 counties, will be used as a basis for comparison with other regions and with the state overall for outcomes. These four regions are ideal for understanding the state's health geography and planning geographically strategic health interventions that could make a statewide impact (See Illustration B).

The OMB has designated four (4) Metropolitan Statistical Areas (MSAs) in the state of Mississippi: Gulfport-Biloxi MSA (Hancock, Harrison, and Stone counties); the Pascagoula MSA (Jackson county); the Jackson MSA (Hinds, Madison, Rankin, Copiah, and Simpson counties); and the Hattiesburg MSA (Forrest, Lamar, and Perry counties). OMB also includes five (5) counties located in the northern area of the state in the Memphis, TN Metropolitan Service Area (MSA). The state regards all of the nineteen (19) Delta Counties as rural, but the OMB includes three (3) of the most northern Delta counties as part of the Memphis, TNMSA including DeSoto, Coahoma, and Tate counties.

Illustration B. Mississippi Regions



Source: Mississippi State University Extension Program, 2017

HEALTH STATUS AND NEEDS

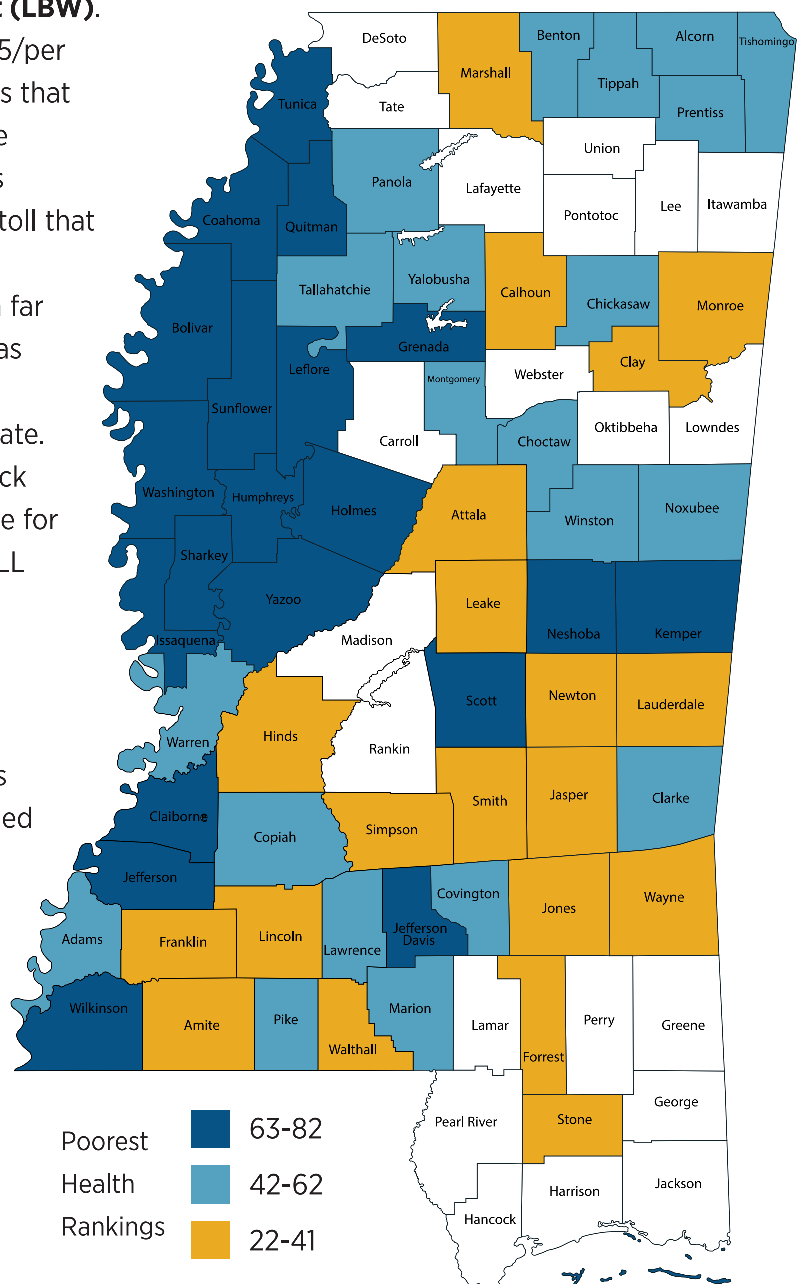
Overall Health Rankings

The Robert Wood Johnson Foundation (RWJF) County Health Rankings and Roadmaps (2020) provides one of the most current and comprehensive reports for county-level data throughout the United States. It reports on 35 variables that include health status indicators (e.g., self-reported health status, infant mortality, teen births); behavioral health indicators (e.g., alcohol consumption, physical inactivity); health service capacity (e.g., primary care physicians and dentists); use of preventive services (e.g., immunizations, mammography); and social determinants of health (e.g., poverty, unemployment).[xix] For more information regarding how the rankings are calculated, the RWJF website address is included in the references.

Two variables were selected from the RWJF County Health Rankings to illustrate overall health status: **years of potential life lost (YPLL) and low birth weight (LBW)**. YPLL is expressed as rate of life lost before age 75/per 100,000 population. The YPLL rate reflects deaths that could have been prevented, and is weighted more heavily towards deaths of younger persons.[xx] This measure provides some insight on the economic toll that premature mortality takes on a community or population. The rate of YPLL for the Delta Region far exceeded the state rate, and Northeast Region was closest to the state rate. Data was unavailable for Issaquena, the smallest populous county in the state. Where county data by race was available, the Black rate of YPLL in these 11 counties exceeded the rate for Whites and the statewide rate (See Chart A). YPLL data was unavailable for Hispanics, Asians, and Native Americans.

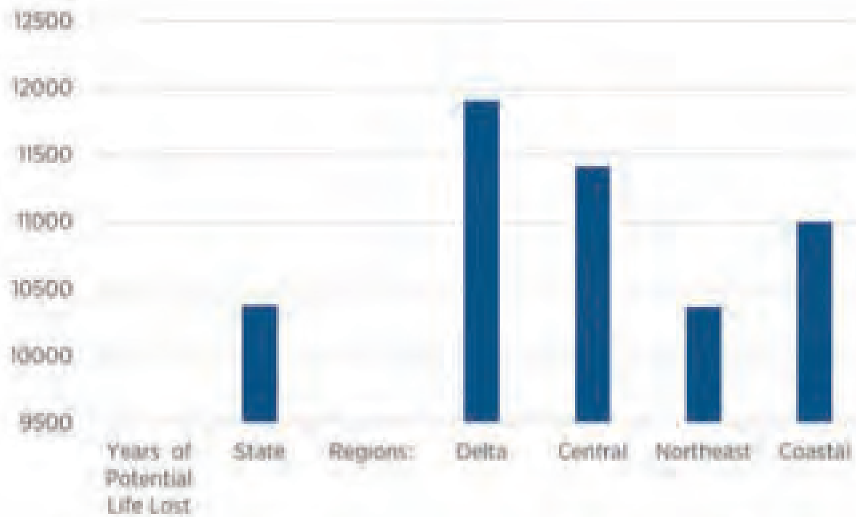
For the 2010 and 2020 County Health Rankings, Mississippi had the largest percentage of counties ranked the least healthy across the country.[xxi] Based upon these rankings, Illustration C. indicates that the Delta Region had the largest concentration of Mississippi's unhealthiest counties. The Central Region, which includes twenty (20) contiguous counties located south of the Delta Region had the second highest health needs (See Chart A).

Illustration C.
County Health Rankings for Mississippi, 2020



Source: 2020 RWJF County Health Rankings for Mississippi

Chart A. Years of Potential Life Lost



The Delta Counties Experience Greatest Loss in Years of Potential Life Lost (YPLL) from illness. Chart A illustrates how the rate of YPLL for Delta counties is higher compared to the other regions. (Regions were defined by the MS State University Extension, see Illustration B.)

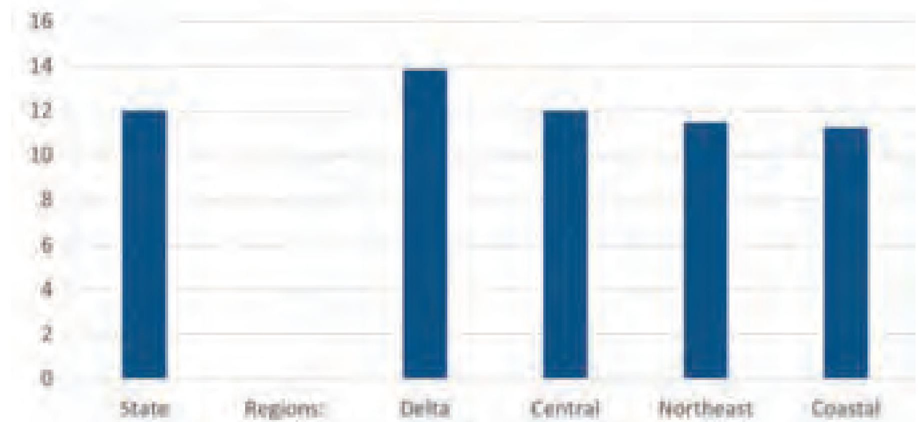
Source: 2020 RWJF County Health Rankings for Mississippi

Low Birth Weight (LBW) is Higher in the Delta Region. LBW, calculated by County Health Rankings using a 7-year average (2012-2018), is the percentage of live births in which the infant weighs less than 2,500 grams (approximately 5 lbs., 8 oz.). LBW was selected to represent overall health status because it is associated with multiple quality of life factors including the baby's current and future health, such as the higher possibility of developmental and growth problems.

LBW is associated with higher cardiovascular disease later in life. LBW is also a public health indicator of the mother's health, including nutrition, exposure to stress, access to health care services, and environmental exposure.[xxii]

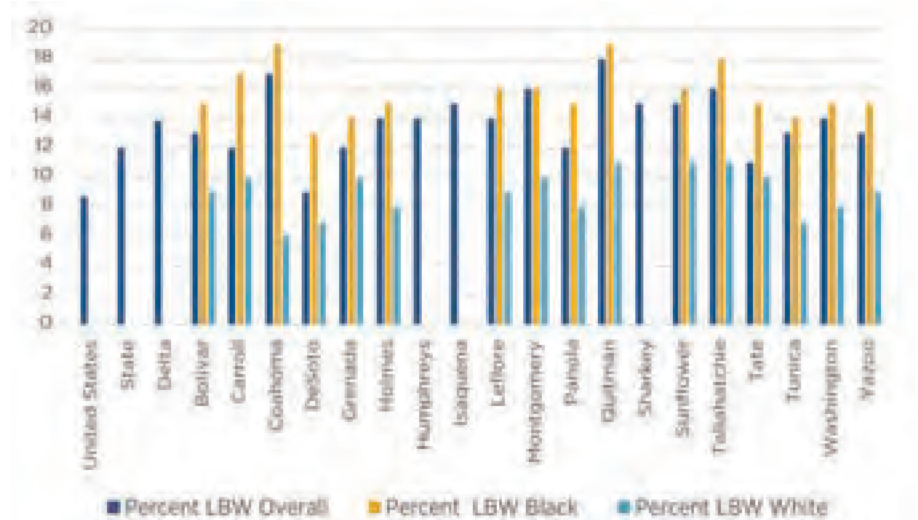
LBW is a Significant Health Disparity for Black Families. County-level data for LBW substantially masked disparities in rates for Blacks. The overall percent of LBW in each of these same nineteen (19) Delta counties equaled or exceeded the

Chart B.
Percent Low Birth Weight by Mississippi Regions compared to the State



Source: 2020 RWJF County Health Rankings for Mississippi

Chart C. Percent Low Birth Weight Comparisons Overall, Black & White for US, MS State, Delta*



Source: 2020 RWJF County Rankings for MS, National Center for Health Statistics, U.S., MS State & Delta Counties, 2012-2018 average.

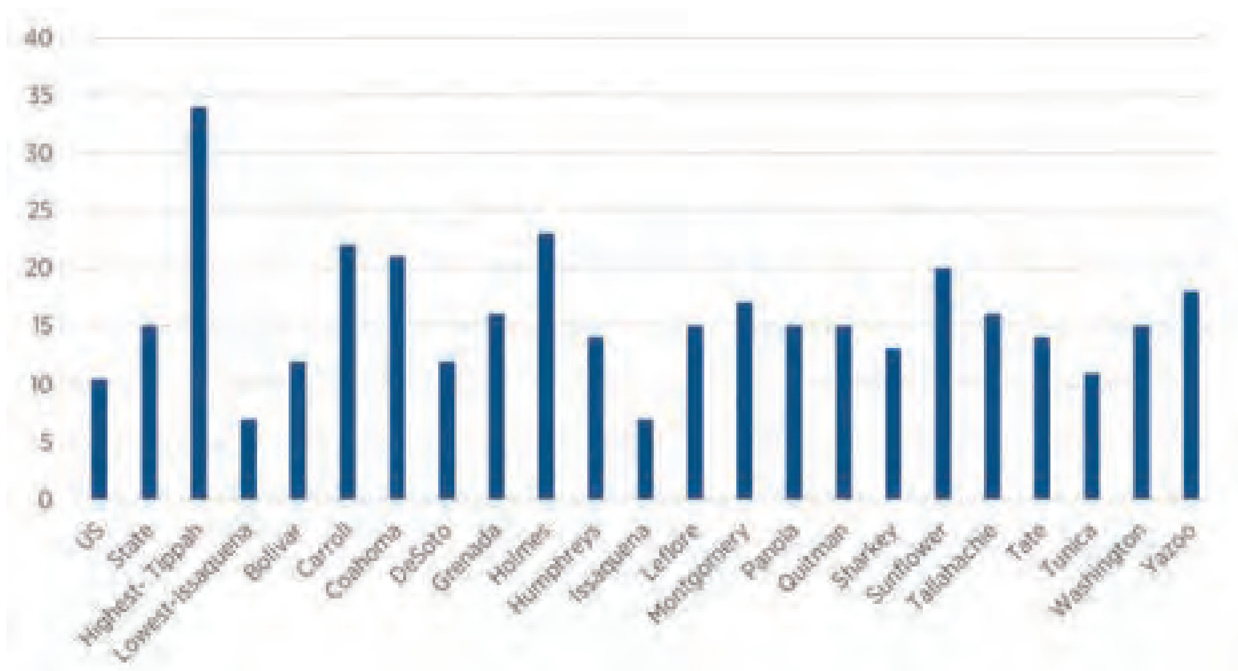
state rate except DeSoto; however, the LBW for Blacks was substantially higher than the rate for Whites. LBW data was not reported for Hispanics, Asians and Native Americans in many Mississippi counties, therefore is not presented here. The primary data source for the RWJF County Health Rankings for LBW was the National Center for Health Statistics (NCHS), National Vital Statistics System (NVSS) using a seven-year average 2012-2018.

Chronic Dseases

Chronic diseases are broadly defined by the Centers for Disease Control and Prevention (CDC) as conditions that last one year or more and require ongoing medical attention or limit activities of daily living or both. Diabetes, heart disease and cancer are the leading causes of death and disability from chronic diseases in the U.S. and are the costliest.

Diabetes Prevalence in Mississippi Exceeds National Average, Delta Counties Exceed the State Average: Diabetes prevalence is the percent of a population with diabetes at any given point in time. In 2016, the Mississippi State Department of Health stated that 13.6% of adults were living with diabetes and the state rate was higher than the national average of 10.5. Chart D compares diabetes prevalence for the US adults, the state of Mississippi and the nineteen (19) Delta counties. Diabetes prevalence in Tippah county at 34% and Issaquena at 7% have the highest and lowest rates for the Delta, respectively; however, the prevalence rates in all other Delta counties exceeded the national prevalence rate and exceeded the state rate in nine (9) of the nineteen (19) counties.

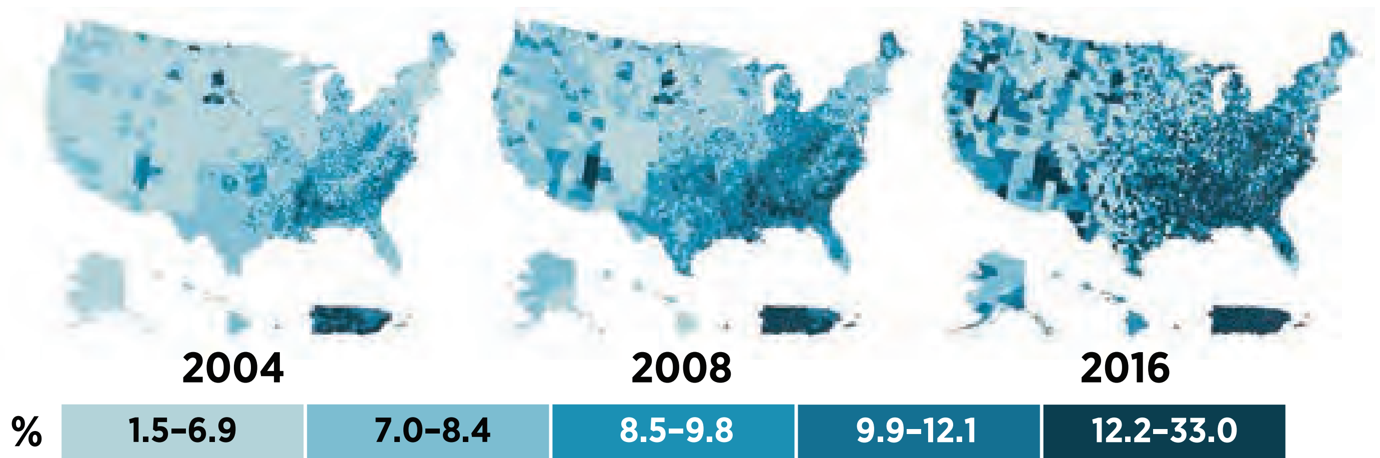
Chart D. Diabetes Prevalence in Mississippi State Comparing the State with the Highest and Lowest County Rates and all Delta Counties



Source: 2020 RWJF County Rankings, 2016 CDC Data, Behavioral Risk Factor Surveillance System

Risk for diabetes increases with age and low education levels. In 2016, the prevalence rate for type II diabetes in Mississippi was 4.5% for ages 18-44, 18.5% for ages 45-64 and 27.7% for ages 65-74. Diagnosed cases were highest among individuals with less than high school education (17.2%), and decreased for those with a high school diploma (12.1%) and a college degree (8.3%).

Illustration D. Increasing Incidence of Newly Diagnosed Diabetes



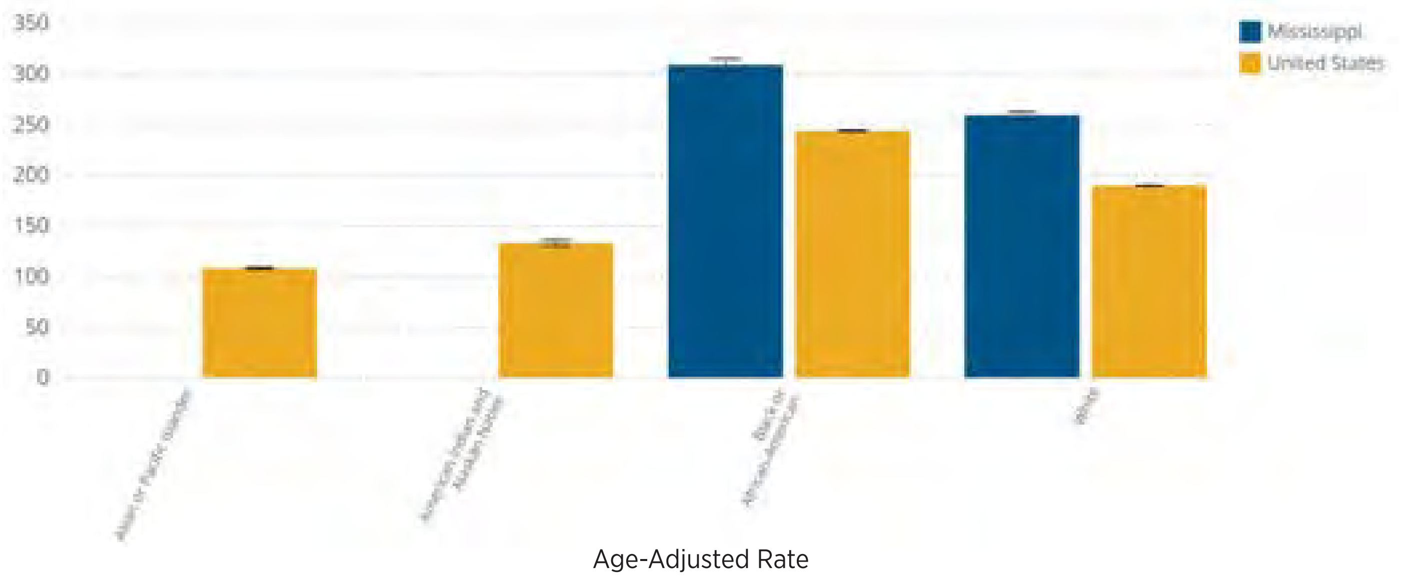
Data sources: National Diabetes Statistics Report, 2020 US Diabetes Surveillance System; Behavioral Risk Factor Surveillance System.

For 2016, there were also dramatic differences in prevalence rates by race, with Black adult Mississippians having the highest prevalence (16.8%) compared to Whites (11.9%) and the fastest growing prevalence rates. Further, the Mississippi diabetes mortality rate for Blacks (56/100,000) was more than twice that of Whites (22/100,000).[xxiii]

Diabetes Trends: As shown in Illustration D, diabetes incidence is increasing rapidly across the United States; however, the most concentrated growth is in the southeast region. Diabetes is one of the most destructive and uncontrolled population health problems in the country, driving up hospitalizations due to multiple complications including, amputations, neuropathy, end stage renal disease and others, and diabetes complications are responsible for a substantial portion of healthcare costs.[xxiv] Increasing obesity rates are at the heart of the diabetes epidemic, but the etiology of diabetes is far more complex. The 2018 Mississippi Diabetes Action Plan is an excellent resource on how Mississippi is working to combat diabetes.

Cardiovascular Disease (CVD): CVD or heart disease, including coronary artery disease is the leading cause of death for Americans, and disproportionately impacts some racial and ethnic groups. CVD, including heart disease and stroke, was also the leading cause of death in Mississippi in 2011.[xxv] According to the CDC, the mortality rate from CVD in Mississippi was 222.12/100,000 in 2018, down from 341.2 deaths/100,000 in 1999. From 1919 to 2018, the U.S. death rate from CVD decreased by 18.6% and from coronary health disease by 31.8%. The rate in Mississippi also declined by 34.9%.[xxvi] This reduction in CVD mortality is associated with declines in tobacco use and advances in medical technology. The CVD mortality rate in Mississippi substantially exceeded the second highest Mississippi death rate, which was from cancer (183.1 deaths/100,000).[xxvii] Charts E. and F. demonstrate the disparities in CVD morbidity by race and gender. Mortality rates from heart disease in Mississippi (CDC, 2008) has disproportionately affected males but this chart masks how severely CVD mortality has impacted Black males. Although decline in smoking rates is a positive behavioral change, other CVD risk factors include obesity, high cholesterol, hypertension, chronic kidney disease and diabetes mellitus in that order.

Chart E. Heart Disease Deaths per 100,000: by Race

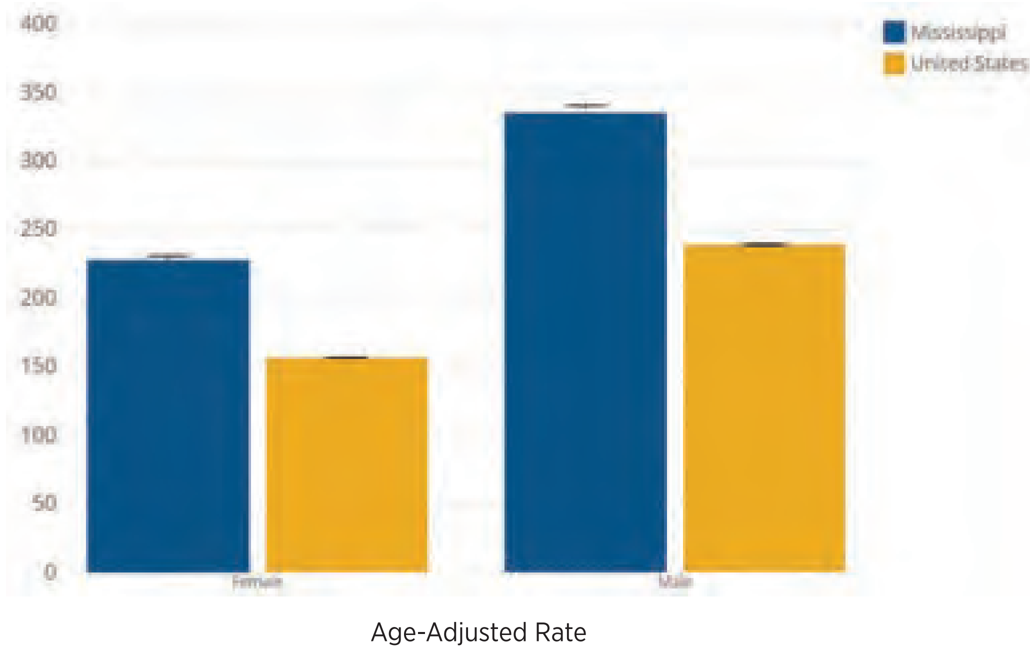


Age-Adjusted Rate

Data unavailable for: American Indian and Alaskan Native Mississippi

Source: LiveStories.com (2008), Demographic Differences in Mississippi Heart Disease Deaths.

Chart F. Heart Disease Deaths per 100,000: by Sex

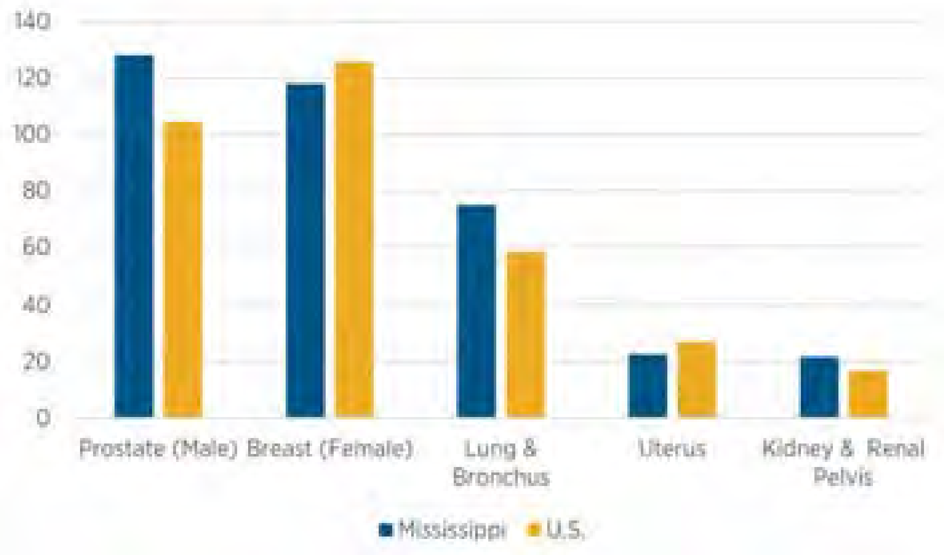


Age-Adjusted Rate

Source: LiveStories.com (2008), Demographic Differences in Mississippi Heart Disease Deaths.

Prostate, Breast and Lung Cancers are among the most Prevalent Cancer Types in Mississippi. Both lung and prostate cancers exceeded the national five-year average for 2013- 2017. Breast cancer rates were high, but did not exceed the national average.[xxviii] (See Chart G.)

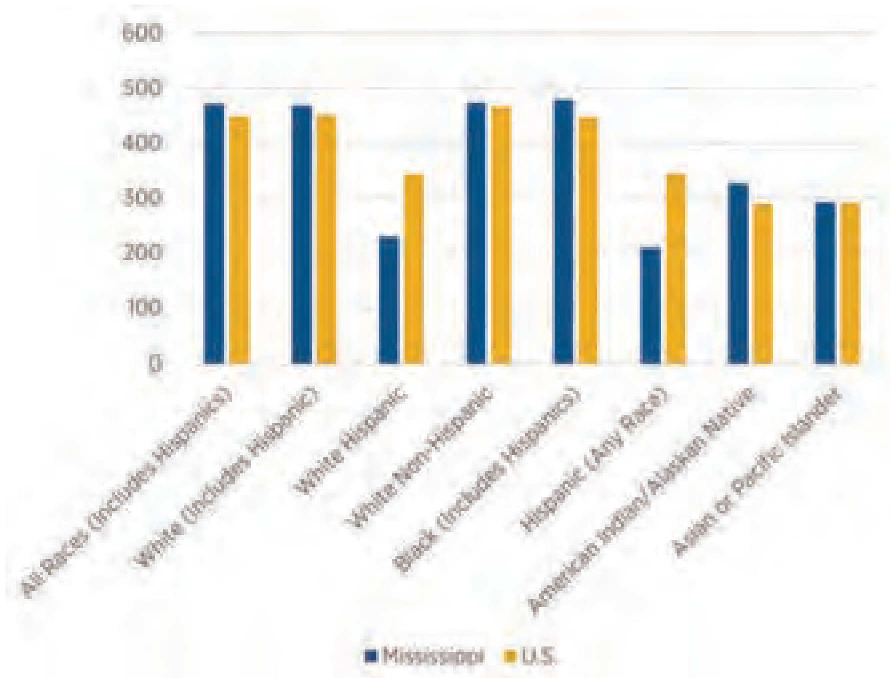
Chart G. Age-Adjusted Cancer Incidence Rates by Type Mississippi (2013-2017)



Source: NIH and CDC State Cancer Profiles

Cancer Incidence Similar among Blacks and Whites: Compared to the United States, cancer incidence for Hispanic Mississippians was substantially lower than Whites and Blacks, and lower than the national average (209-229 vs. 344.1 per 100,000 cases) for 2013-2017. Cancer incidence for Blacks and Whites in Mississippi were close to the national average (479.3 / 100,000 cases).

Chart H. Age-Adjusted Cancer Incidence by Race Mississippi (2013-2017)



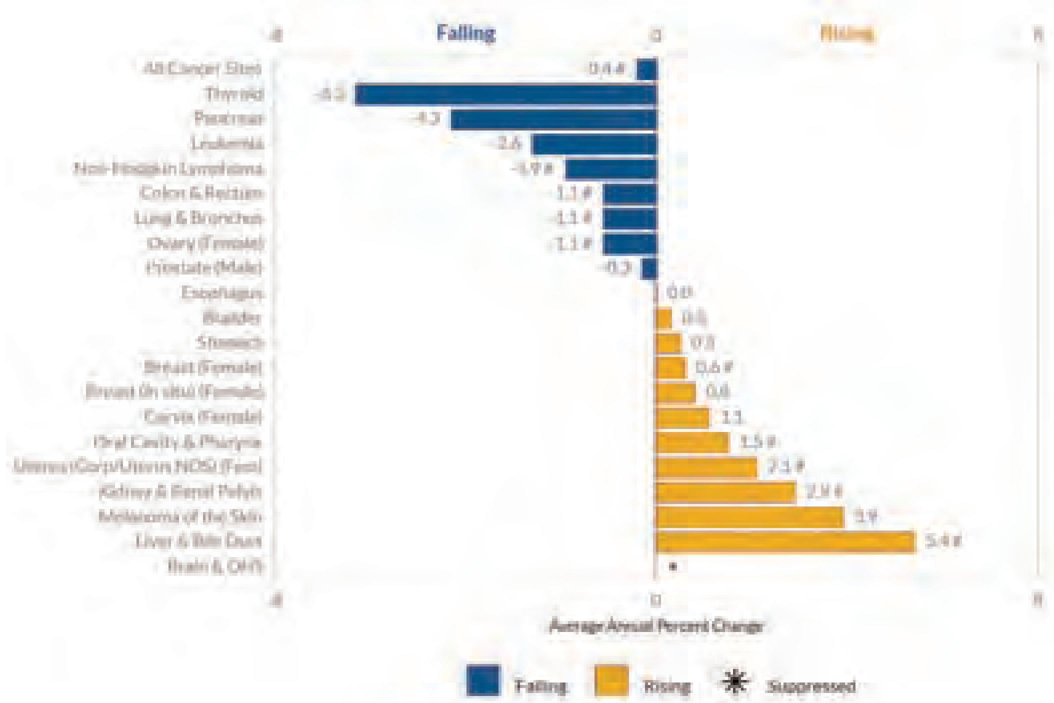
Source: NIH & CDC, State Cancer Profiles

Cancer Trends Mixed: There was notable variation in trends among cancer types and cancer incidence between races. This complicates the approaches to addressing cancer; however, segmented screening and early detection are good strategies.

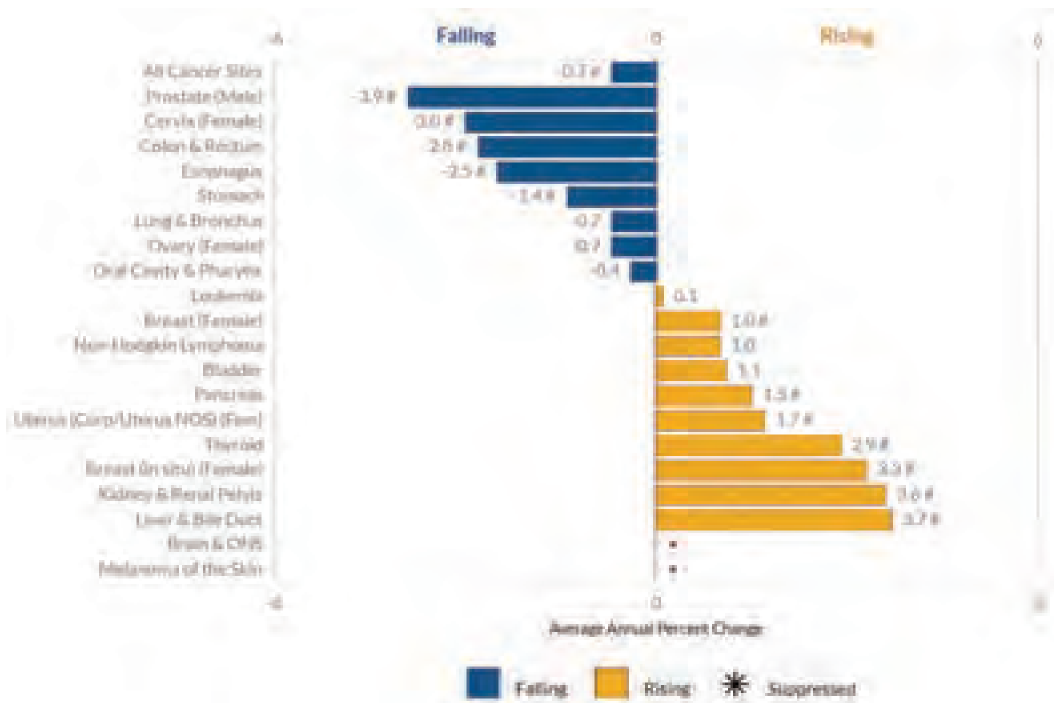
Illustration E shows two graphs, comparing changes in cancer incidence for 20 types of cancers for five-year rates, 2013 to 2017, comparing Whites (on top) and Blacks (on bottom) in Mississippi.

- Breast cancer and non-Hodgkin lymphoma is increasing at a faster rate among Blacks.
- Colon, prostate and rectum cancers are decreasing faster among Blacks compared to Whites; however, incidence was higher among Blacks. Among White Mississippians, liver and bile duct are the fastest growing cancers, although the incidence of these cancers is low.
- For Black Mississippians, cancers of the liver and bile duct and kidney are increasing, but at a slower rate than Whites.
- Pancreatic and thyroid cancers are increasing among Blacks, but decreasing for Whites.

Illustration E: 5-Year Rate Changes – Incidence Mississippi, 2013-2017,
All ages, both sexes, White Non-Hispanic



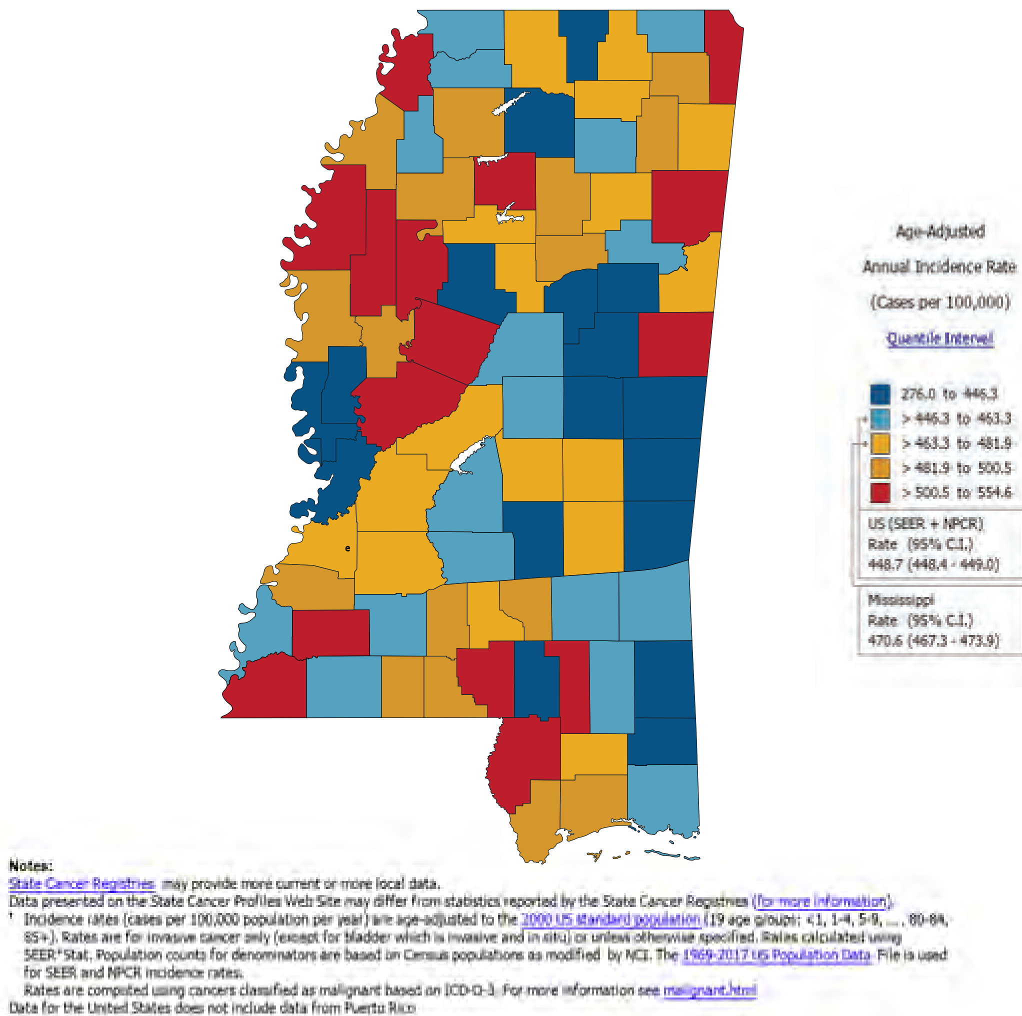
All ages, both sexes, Black, including Hispanic



Source: NIH and CDC State Cancer Profiles
Incidence provided by National Program of Cancer Registries.
*SEER*Stat Database (2001-2017)*

Cancer Geography in Mississippi: As with other poor health outcomes, cancer incidence in Mississippi is higher in counties located in the Delta Region. (See Illustration F.)[xxix]

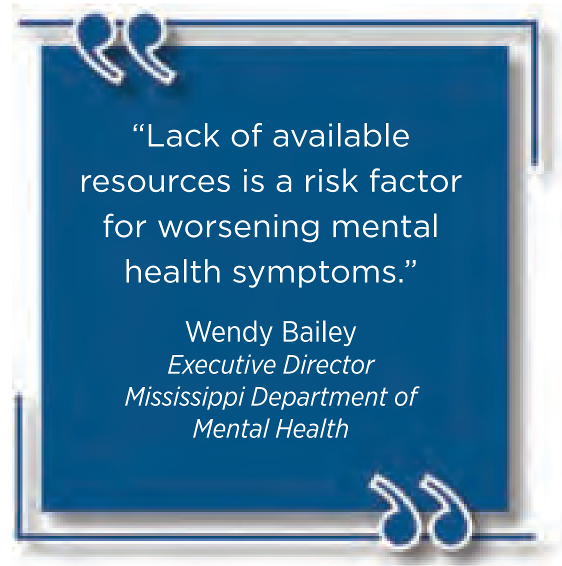
Illustration F: Incidence Rates for Mississippi by County All Cancer Sites, 2013-2017
All Races (includes Hispanic), Both Sexes, All Ages



Oral Health

The Mississippi Office of Oral Health provides a comprehensive overview of oral health outcomes and health disparities. Thirty-one percent (31%) of 3rd graders in Mississippi had dental caries and less than one-fourth of children had dental sealants.[xxx] Children from lower-income, Black and Latinix families have more untreated tooth decay.[xxxi] Periodontal disease prevalence is higher among low-income adults. Disparities exist by age, race, gender, educational levels and income, indicating that Black and Latinix children have the highest incidence of new caries, that periodontal disease increases with age and is more prevalent among men, smokers, Latinix and adults with less than a high school education.[xxxii] Studies also link periodontal disease with heart disease, myocardial infarction, diabetes, and tooth loss. Oral health disease among pregnant women is associated with prematurity and 71% of women had not visited a dentist during their most recent pregnancy. The prevalence among women who visited a dentist during their most recent pregnancy was lower for Black women compared to White women (25% vs. 40%).[xxxiii]

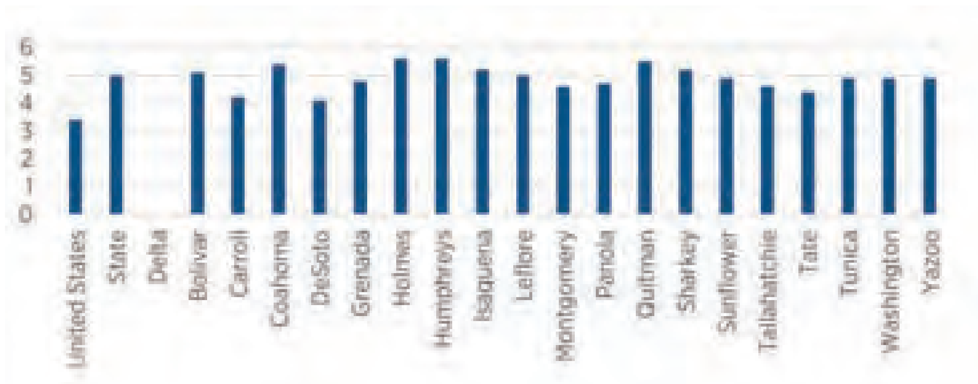
Mental and Behavioral Health



Mental and behavioral health (MBH) comprise a range of conditions, the majority of which are responsive to treatment, and many of which are exacerbated by poverty. Of the 3 million residents of Mississippi, 4.7% (close to 150,000) of adults are reported to have a serious mental health condition, such as schizophrenia, bi-polar disorder and/or major depression,[xxxiv] which are difficult to manage and often require hospitalizations. Other less acute mental health conditions, such as mild depression and anxiety, post-traumatic stress, etc., are preventable and respond well to treatment.

RWJF's County Health Rankings tracks self-reported poor mental days in the last 30 days from the CDC's 2017 Behavioral Risk Factor Surveillance Survey. This indicates that Mississippians generally report more mentally unhealthy days per month than the U.S. average. When County Health Rankings for poor mental health days data was examined for the four state regions, the average days for each region were 4.6 to 5 days, which were similar to the overall state average of 5 days, and greater than the U.S average of 3.4 days. Chart I. shows that average poor mental health days for each of the Delta counties, which had the highest overall average, hovered between 4.5 and 5.5.

Chart I. Average Number of Mentally Unhealthy Days within the Past 30 Days, 2017

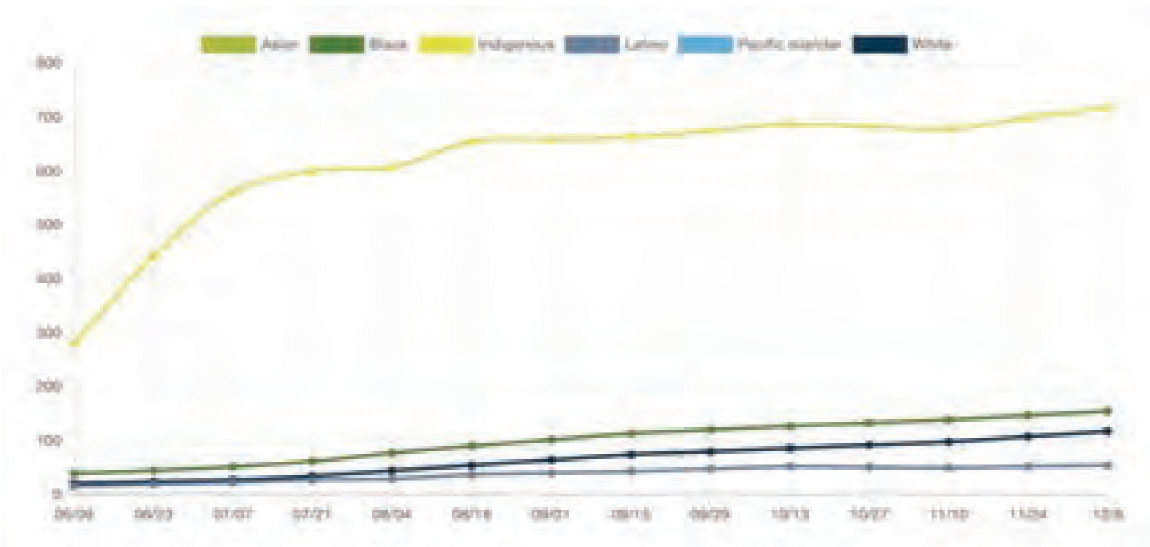


Source: RWJF County Rankings, 2020

COVID-19

The COVID-19 pandemic has again laid bare the influence of poverty, race and ethnicity on the vulnerability to disease and the resulting health disparities. Death rates among Blacks are being disproportionately experienced by younger Blacks and death rates are higher among Native Americans. Since the pandemic began, death rates among Blacks aged 55-64 years are higher than for Blacks aged 65-74, and for Whites aged 75-84.[xxxv] Mortality rates per 100,000 among Blacks in Mississippi was 253.8 (2,050 deaths), twice the rate of White Mississippians (126.4). The mortality rate from COVID-19 among Native Americans in Mississippi was 1,235 / 100,000 (94 deaths), almost 10 times the rate of White mortality. Despite the low number of deaths, the mortality rate from COVID-19 among Native American Mississippians was the highest among the indigenous residents nationwide.[xxxvi] Graph A illustrates the differential impact of COVID-19 in racial groups.

Graph A. Rates of Death from COVID-19 (per 100,000 people) in Mississippi, June 9 - December 8, 2020

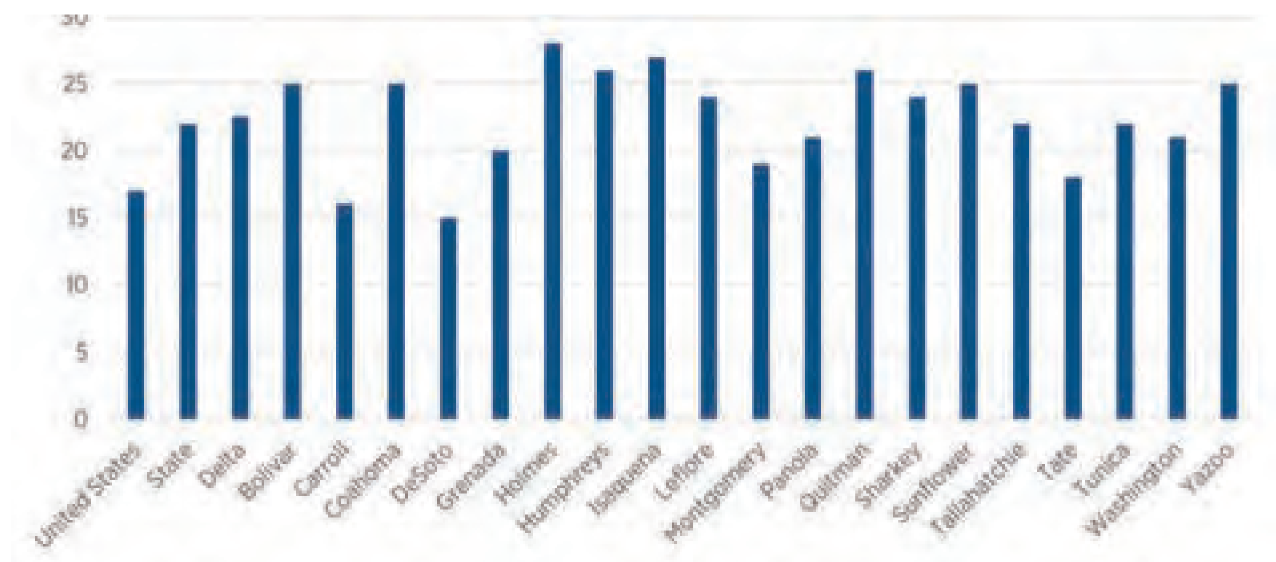


Source: APM Research Lab, January 2021, National Center for Health Statistics

Health Behaviors

Tobacco Use: Tobacco use is the leading cause of preventable disease, disability and death in the U.S. In 2017, the BRFSS reported that Mississippi has a larger percentage of adult smokers than the U.S. (22% vs. 17%), and the Delta Region has the largest percentage compared to other regions (25%). The percentage of adult smokers was higher than the state average in greater than 50% of the counties in the state.[xxxvii] (See Chart J.) Next to genetic predisposition, health behaviors were once thought to be the primary source of health outcomes. Now public health experts understand that environment plays a large role in influencing health behavior. Heavy tobacco advertising in communities of color and poor communities affects use of tobacco products. Low-income community residents smoke in much higher numbers.[xxxviii]

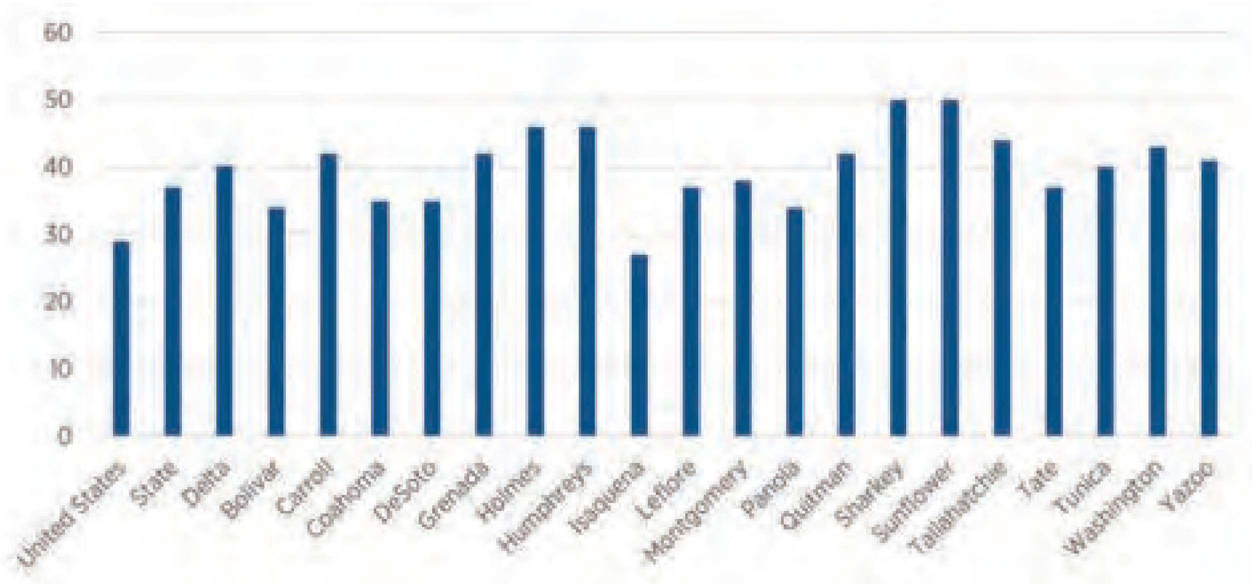
Chart J. Percentage of Adult Smokers



RWJF County Rankings, BRFSS, 2017 data

Poor Dietary Habits: Mississippi is an obese state with 37% of adults having a BMI of > 30 compared to the U.S. rate of 29%. Among the four regions, the Delta Region had the largest percent of adults with a BMI > 30, although the range between the regions was 37-40, which was close.[xxxix] (See Chart K.) In the past, there was a tendency to blame the victims regarding their poor consumption patterns as the primary cause of obesity. Similar to the case of tobacco use, we now understand that poorer communities are often food deserts, that inexpensive high caloric foods are promoted heavily in low-income areas, and that high sugar, high sodium foods are more affordable and accessible overall.

Chart K. Percent Adults with BMI >30



Source: RWJF County Rankings, BRFSS, 2017 Data

THE IMPACT OF SOCIAL DETERMINANTS OF HEALTH

Social determinants of health (SDOH) are factors that are beyond the control of individuals and communities, but they have greater impact upon health and quality of life than utilization of health services. It has been established that poverty is a barrier to accessing healthy foods, safe and adequate housing, quality early childcare, transportation and educational achievement.[xl] SDOH are predetermined for many impacted individuals based upon where they reside. SDOH are most often due to public and private policies that have historically shown unfair preference to Whites over other races and ethnic groups.

They include access to:

- Equal employment opportunities
- Fair and decent housing
- A livable and equal wage, for all racial groups and genders
- Quality education from early childhood, primary and secondary, technical and university
- Absence of unfair racist policies such as redlining, unfair lending
- Reliable transportation
- A safe and toxic-free environment to live, work and play
- Comprehensive healthcare services

Negative SDOH create barriers to accessing healthcare and impede the effectiveness of healthcare services received. Acknowledgment of these barriers can increase public officials' understanding of the impact of different policy decisions on health. Addressing Mississippi's SDOH will require a long-term strategy that reaches beyond the health sector, including sectors such as education, housing, transportation, policing and the judicial system. Such broad sector, policy approaches can have the most sustainable impact.

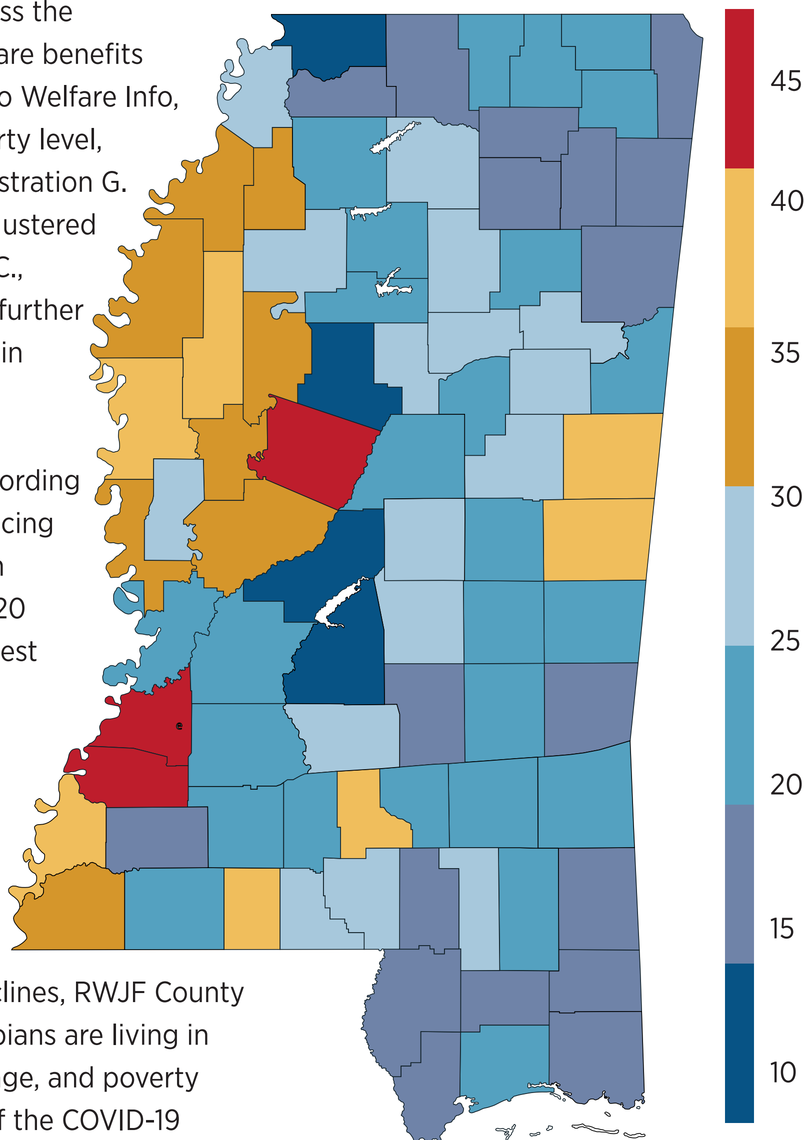
Catastrophic events such as severe storms and pandemics take a larger toll on groups already negatively impacted by SDOH. The devastating impact of the COVID-19 pandemic is affecting all sectors including the economy, education, and healthcare; however, health status and vulnerability to contracting COVID-19 is being disproportionately felt among Blacks, Native Americans, and the poor.

Poverty

Highest Poverty in the Delta. Welfare Info, Inc. is a national organization that assists residents across the country with understanding and accessing welfare benefits provided in their respective states. According to Welfare Info, in 2017, Mississippi was ranked highest for poverty level, with 21.5% of its residents living in poverty[xli] Illustration G. shows that the highest poverty counties were clustered in the Delta Counties of Mississippi. Illustration C., Page 10, from RWJF's County Health Rankings, further substantiates the relationship between poverty in the Delta counties and poor health.

Illustration G

Mississippi Poverty Rate County Comparison



Source: Welfare Info.com, 2017 data

Child Poverty Disparity for Black Children. According to the Annie E. Casey Foundation (AECF), reducing childhood poverty has a long-term impact upon health status. From 2010 to 2018, the AECF 2020 Kids Count Profile for Mississippi indicated modest improvements in three measures impacting childhood poverty including: 1) a decline in the number of children living in poverty by 5%; 2) a decline in the number of children whose parents lack secure employment by 6%; and 3) a decline in the number of children living in households with a high housing cost burden by 8%.[xlii] Despite these declines, RWJF County Rankings, 2020 indicated that 28% of Mississippians are living in poverty, compared to 18% for the national average, and poverty among Black children was 46%.[xliii] The impact of the COVID-19 pandemic will undoubtably result in the reversal of these positive trends.

Education

Education Outlook Improved. The association between education, health and wellbeing is well-established. Educational attainment at every level is associated with better health, longevity and increased quality of life. AECF's 2020 Profile indicated improvement in educational attainment at all levels from 2016 to 2018. For that period, reading proficiency increased for 4th graders by 10% and for eighth graders by 11%. Further, the number of high school students graduating on time increased by 9%; and, the percent of households with children where the head of household lacked a high school education decreased by 5%.[xliv]

Employment

Employment is considered essential to health, not only in terms of income and potential access to benefits, but also because most adults spend more waking hours at work than at home. Fair compensation, paid health insurance and other benefits, workforce safety and wellness programs are all work-related factors that contribute to health and quality of life. Using 2018 data from the Bureau of Labor Statistics, RWJF's County Health Rankings includes an employment variable using data that integrates percentage of the population sixteen and older who are unemployed, but seeking work, along with other labor force factors. The U.S. rate was 2.6%, the overall Mississippi rate was 4.8% and Jefferson County had the highest unemployment rate of 13.3%. Claiborne County's unemployment rate was 9.2%. The resulting illustration indicates highest unemployment counties located along the western border in the Delta and Central Regions.

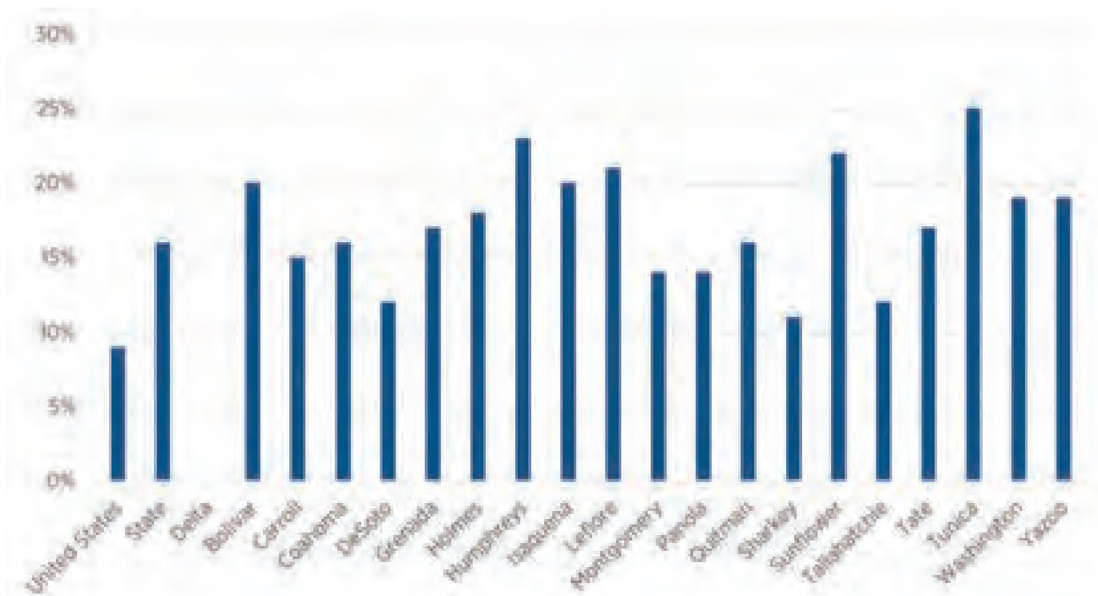
Illustration H. Employment Rating

Source: RWJF County Health Rankings

Housing

Substandard housing with problems such as water intrusion, soiled carpeting, lead contamination, insect and rodent infestation, mold and mildew, extreme heat or cold are associated with respiratory diseases, neurological disorders and cardiovascular disease. Using 2012-2016 data from the U.S. Department of Housing and Urban Development, County Health Ranking's assessment for severe housing problems includes housing costs, home ownership, lack of kitchen facilities and lack of plumbing. Chart L. indicates that Tunica County had the highest rating (25%) of severe housing problems among counties in the Delta.

Chart L. Percent Severe Housing Problems US, MS State, Delta Counties

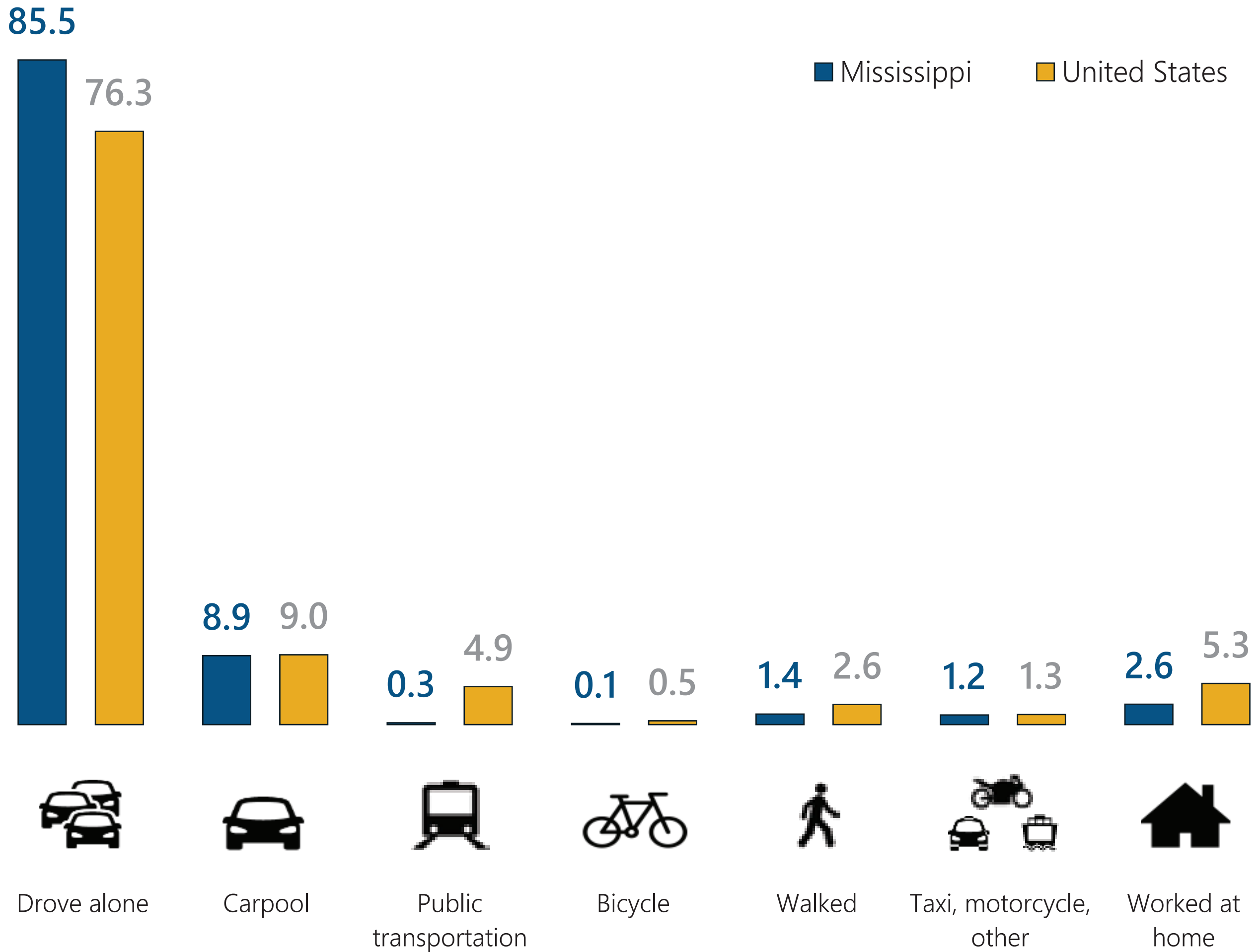


Source: RWJF County Health Rankings, 2012-2016

Transportation

The U.S. Bureau of Transportation statistics showed that in 2018, 85.5% of Mississippians drove alone to work, which was substantially higher than the national average. Driving alone to work is an indication of the lack of a public transportation system. Lack of a reliable form of public or personal transportation contributes to high unemployment and poor access to available healthcare services. Also, Illustration J (see below) provides a measure of the travel distance between health facilities showing that lack of personal or public transportation is also a barrier to accessing health services.

Illustration I.. How Residents Get to Work



Source: U.S. Bureau of Transportation, 2020

Impact of COVID-19

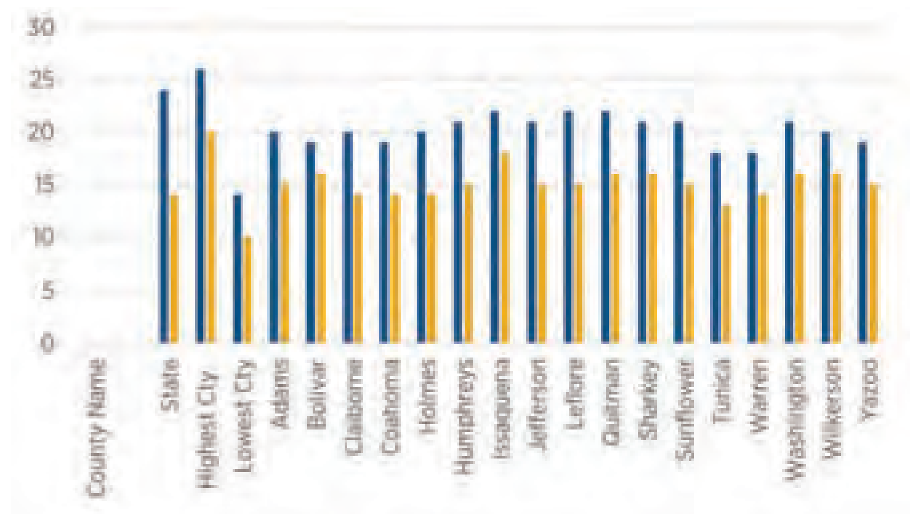
he latest data (2018) from AECF suggested moderate but encouraging positive trends in family well-being for Mississippi, indicating that children in primary grades were progressing in educational outcomes and that more youth graduated from high school on time. Ten-year unemployment data for Mississippi has also shown declines.[xlv] It will be a struggle to maintain these modest gains in a COVID-19 environment and throughout the recovery.

ACCESS TO CARE

Lack of health insurance, lack of healthcare facilities & providers and lack of transportation are SDOH that directly impact health and wellness. These three factors were also identified in the 2016 Mississippi Primary Care and Rural Health Needs Assessment as three main barriers of access to care.

Health Insurance Access

Chart M. Percent of Unisured Adults < 65, 2007 and 2017



Source: RWJF County Rankings, 2012 & 2020 Reports. Source data is from 2007 and 2017.

Increases in covered patients supports the development of additional healthcare practices and facilities. Chart .M shows a dramatic decline from 2007 to 2017 in the percent of uninsured adults < 65 years of age. This decline was statewide and included counties located along the western border of the state, which includes the majority of the Delta Region. This is a positive trend that coincided with the passing of the 2010 Affordable Care Act, requiring all private insurers and employers offering dependent coverage to extend coverage that to dependents up to age 26. The State of Mississippi opted out of the Medicaid expansion option, which would have expanded the Medicaid coverage to include adults at or below 138% of the federal poverty level at the federal government's expense through 2016.

Primary Health Provider Shortages

In addition to health insurance coverage, access to preventive and primary healthcare, dental and mental health providers is the next factor for improving health access. The U.S. Health Resources and Services Administration (HRSA) provides funding to assist states with assessing gaps in these provider types, and supports the development of healthcare facilities to serve individuals who lack access due to lack of insurance, low income or travel distance. Approximately 50% of Mississippians live in underserved counties with greater than 2,000 persons per primary care physician.[xlvi]

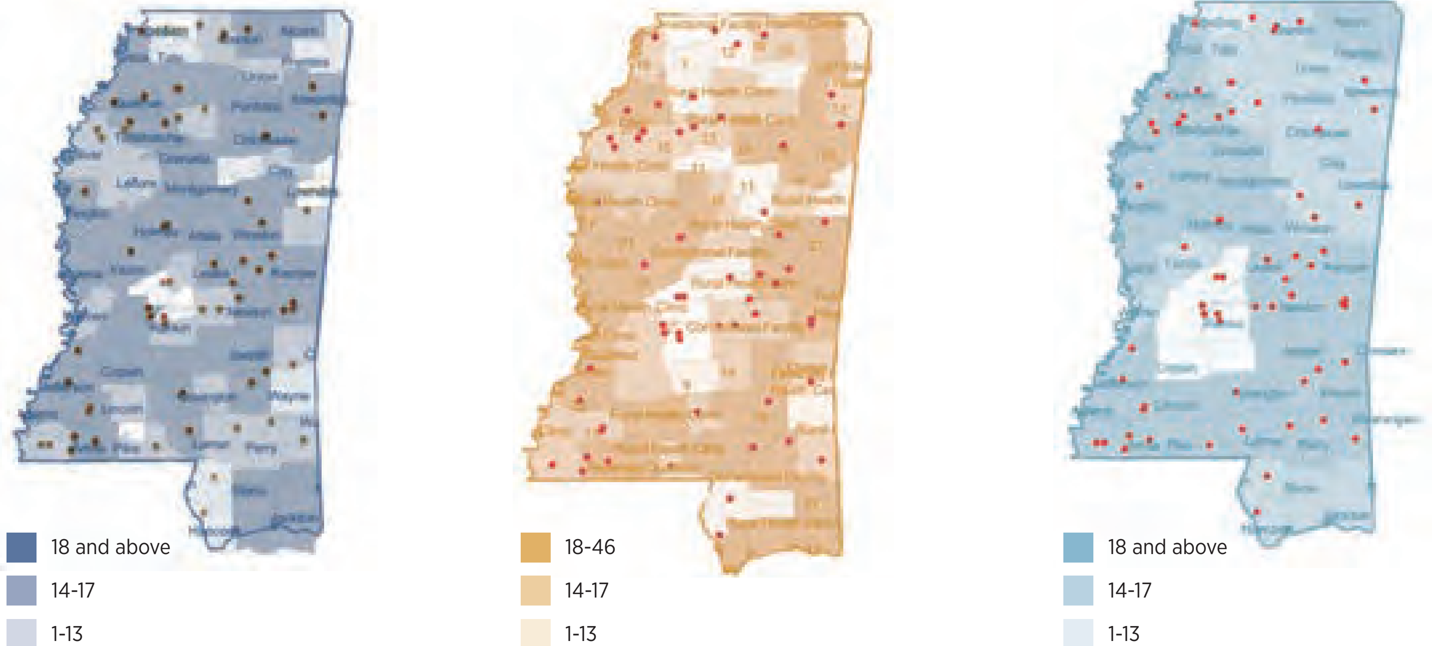
Qualifying for this support begins with the MORHPC staff working with the federal HRSA team to designate Health Professional Shortage Area (HPSA). Designating HPSAs is the process for how states qualify for federal funds to support primary care, dental and mental health providers. HPSAs have different designation types including 1) high need geographic areas; 2) subsets of specific population groups who lack access such as high Medicaid or low-income populations; or 3) facility designations (Federally Qualified Health Centers (FQHCs), Rural Health Clinics (RHCs), correctional centers, or migrant health clinics) and Indian Health Service designations. There is a HPSA designation for state/county mental hospitals with a shortage of mental health providers. RHCs that are certified by the Center for Medicaid Services can be assigned a HPSA facility designation.

Illustration J. shows HPSA designations across Mississippi by healthcare type and score and shows the location of facilities that are supported by HRSA funding. The primary scoring criteria are population to provider ratio;

percent population that falls below 100% of the Federal Poverty Level; and where travel time outside of the HPSA area to the nearest source of care (NSC) exceeds 60 minutes and 50 miles. Illustration J. maps the most current HPSA locations in Mississippi for primary care, dental and mental health shortage areas, and identifies federally supported facilities.[xlvii] Each HPSA is assigned a score from 0 to 26, with higher scores or darker colors indicating greatest need. The three maps in Illustration J. indicate that Mississippi has the highest HPSA scores for more than half of the counties in all three health areas including primary care, dental health and mental health. Appendices C-E provide three tables of the most up-to-date designations for each county for the three health areas.

Illustration J. Health Professional Shortage Areas by Designation, Type, Score and Facility Locations

Primary Health Care Facilities *Dental Facilities* *Mental Health Facilities*



Primary care and dental health shortage areas are well distributed geographically. Facilities are sparser in central and south-central areas of Mississippi. Primary care and dental facilities are located with red dots. High need mental health HPSAs are located in two large clusters in north eastern and central-southern counties; however, MH facilities are better distributed. See red dots.

Source: HRSA Health Workforce, Shortage Designations

Current HPSA Designations. As of the first quarter for federal fiscal year 2021, Mississippi had 149 total primary care designations, 146 dental designations, and 84 mental health designations (See Tables in Appendices C-E for details). According to HRSA Bureau of Health Workforce, 323 primary care physicians are needed to remove the primary care designations; 248 dentists are needed to eliminate the dental designations; and 277 mental health providers are needed to eliminate the mental health designations. The Bureau also provides information on the percent of met need. For primary care providers, the met need is 45.75%; for dental providers 45.82% of the need is met; and 26.28% of need is met for mental health providers. There are currently 21 main FQHC facilities with 1,041 satellites. Many FQHCs also provide primary dental care, eye-care and community based mental and behavioral health care. There are 35 Rural Health Clinics (RHCs), some of which are also FQHCs.

Dental Health Provider Shortages. According to HRSA Bureau of Health Workforce, 248 dentists are needed to eliminate the dental shortage designations. This shortage will be difficult to address and presents a strong rationale to expand the scope of practice of support dental staff, such as hygienists and other midlevel personnel in order to address the unmet primary dental health needs in the short-term. In addition, consideration should be given to expanding teledentistry. Longer term solutions point towards expanding dental education to build a pipeline to increase dental providers.

Mental Health Providers Shortages. The need for mental health providers across the State is dire. Appendix E indicates the mental health provider to population ratio as greater than 200,000 to 1 in the Delta region. It is important to note that the HRSA designation process counts psychiatrists only and there is a nationwide shortage of psychiatrists and other mental health professionals. A regionalized approach, also counting psychologists and licensed clinical social workers would provide a better assessment of capacity. In partial response to the need for psychiatrists, the Mississippi State Hospital (MSH) will be adding a Psychiatric Residency Program with the first residents starting in July 2021. MSH provides a rich learning environment where psychiatry residents will have a unique opportunity to care for patients with both common and rare psychiatric disorders.

Medically Underserved Areas/Populations (MUA/P). MUA and MUPs identify geographic areas and populations which lack access to primary care services. An MUA can identify a whole county, a group of contiguous counties, a group of urban census tracts or a group of county or civil divisions. MUPs designate populations such the homeless, low-income, Medicaid eligible. Different state and federal programs use MUA/P designations to determine eligibility, including the National Health Service Corp (NHSC), the CMS Rural Health Clinic Program and others. Mississippi also has 91 MUAs.[xlviii] The MORHPC staff also work with the HRSA Health Workforce Program to designate MUA/Ps.

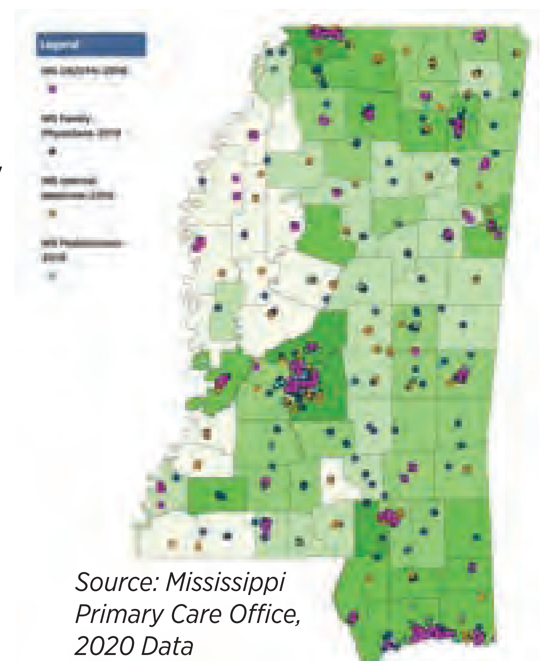
Note: The Bureau of Workforce Shortages is in the process of implementing enhancements and uniformity to the methodology across states that may result in slight changes within the designations.

Primary Care Facilities

Another aspect of addressing shortages in primary, dental and mental health services are having facilities to host and equip the providers. Federally Qualified Health Centers (FQHCs) comprise the primary healthcare infrastructure for addressing access to care issues for the poor and underserved. Rural Health Clinics (RHCs) and Federally Qualified Health Center (FQHC) look-a-like facilities are also structured to serve the underserved. Illustration J. (Previous Page) includes the location of facilities with federal funding. Federal funding is provided to 244 service locations in Mississippi (HRSA). The red dots in Illustration J. indicate locations of service facilities according to the types of care. FQHCs often provide all three types of care, so their locations may be duplicated on the three maps.

In Illustration K., the unequal distribution of providers is more evident. Illustration K. shows a more comprehensive picture for primary care, including the location of private primary care, ob-gyn and internal

Illustration K. Primary Care Facilities



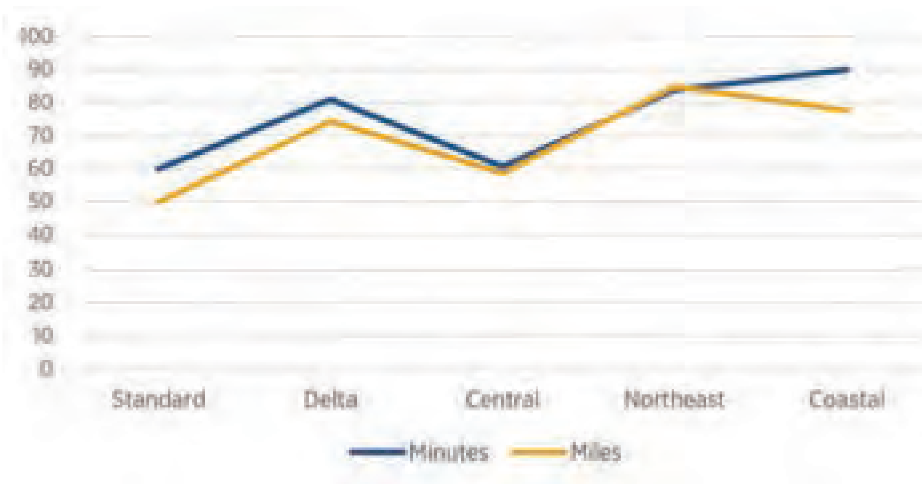
Source: Mississippi Primary Care Office, 2020 Data

medicine practices. Even when private physicians are added, many rural counties have zero, one or only two primary care locations; however, the more densely populated areas such as Jackson, Hattiesburg, Pascagoula-Gulf Port-Biloxi, and the Memphis Metropolitan have a saturation of primary care providers.

Travel Time

Though unconcise, the mileage scale in Illustration J. indicates that many of these facilities are greater than 60 miles apart. This is validated by Graph B, which indicates that the majority of counties throughout Mississippi exceed the HRSA standards for travel minutes (60 minutes) and travel time (50 miles) to a healthcare facility located outside of a designated area.

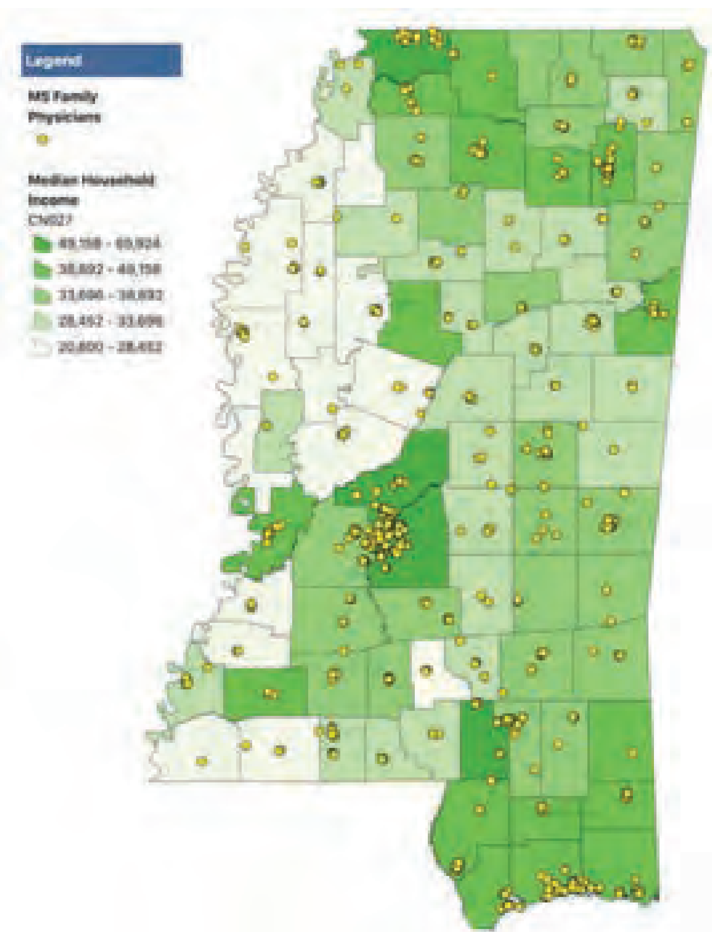
Graph B. Travel Times and Distance to Primary Care Locations that exceed the 60-Minute and 50-Mile Standards



Source: Office of Mississippi Physician Workforce, 2020

HEALTHCARE INFRASTRUCTURE, WORKFORCE DEVELOPMENT & POLICY

Illustration L. Mississippi Family Physicians



Source: The Office of Mississippi Physician Workforce

Healthcare Facilities

Investment in infrastructure lays the groundwork for development. The foundation for healthcare infrastructure is the healthcare service delivery system, which starts with adequate primary care facilities and workforce. As explained above, an essential role of the MORHPC is to identify and designate HPSAs and MUAs. Step one of that process is to identify the number of primary care providers, dentists and mental health providers needed to provide care for the underserved. This process is continually updated and the latest comprehensive information available is provided in Appendices C-E for Primary Care, Oral Health and Mental Health Designations). The next step is to work with organizational partners and state and local officials to identify and develop new facilities to host new providers and services to fill the unmet needs.

Illustrations J. and K. identify facilities where federally funded services are currently located. The provider to population ratios indicates a high need for additional facilities. Illustration L. further highlights a scarcity of primary healthcare facilities in the most rural and low-income counties. In addition, counties with the lowest median household income have the sparsest concentration of providers. The pervasive poverty in rural counties, highlighted in Illustration L. presents an added challenge to developing new primary care capacity; as under employment and low wages means that physician practices, especially private practices, cannot be financially supported by the residents.

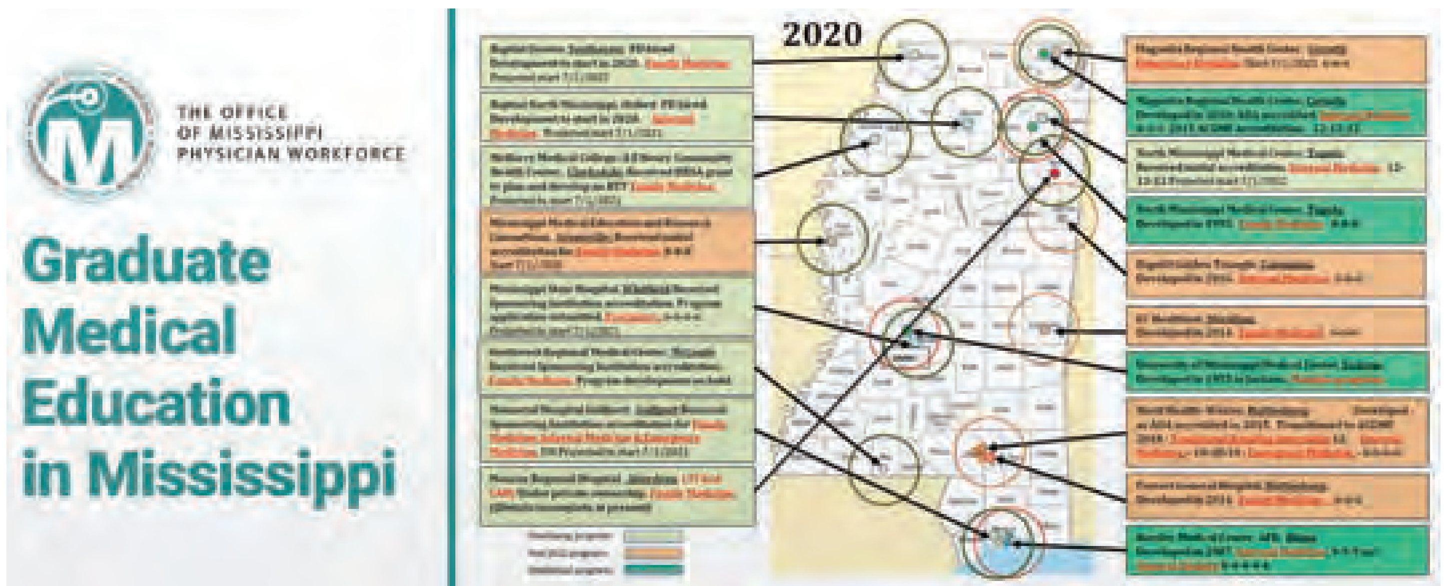
Health Workforce Development

The Office of Mississippi Physician Workforce (OMPW) was established in 2012 to monitor and evaluate the composition and distribution of Mississippi's physician workforce, provide assistance and make recommendations to the state's leadership on current and future workforce needs. This office is an important partner to the MORHPC in addressing health professional shortages.

Illustration M. highlights the progress of the OMPW in creating programs to improve Graduate Medical Education and physician training. Four programs are well-established, six programs were established since 2012 and eight new programs are under development. The map in the illustration K shows that the programs are well distributed, located in both rural and urban areas.

The OMPW also has an advocacy and policy arm which could support the MORHPC, as well as partner with other groups who are interested in healthcare

Illustration M. Graduate Medical Education in Mississippi



Source: The Office of Mississippi Physician Workforce

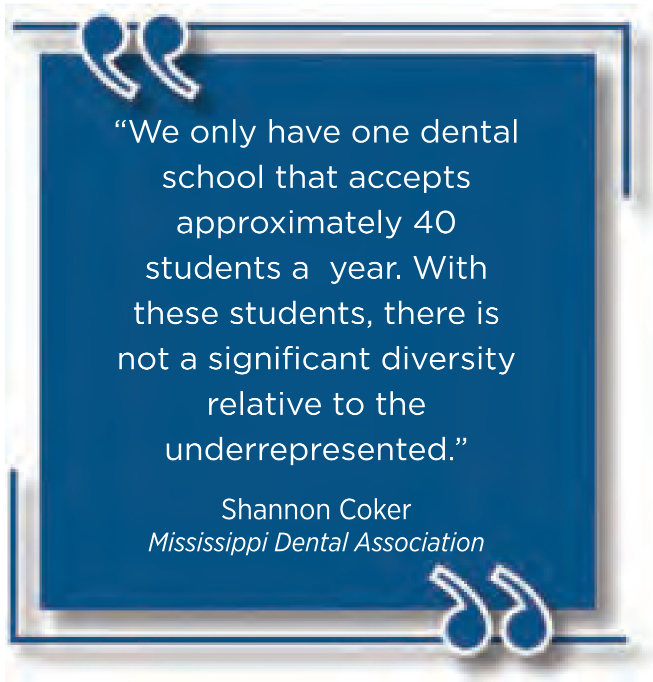
workforce development, such as the Mississippi Hospital Association, the Rural Health Association, the Community Health Center Association and others who participated as stakeholders in this needs assessment process.

The National Health Service Corps (NHSC), a division of HRSA, is the most active national agency for addressing unmet primary care, dental, mental health and nursing needs across the country. One of the NHSC's most effective programs is the loan repayment program, which relieves health professional education debt in exchange for working in a designated HPSA. The NHSC has developed a dashboard that illustrates success with retaining providers in HPSAs once loans are repaid, indicating the percentage of those providers working in a rural setting. Physician retention in HPSAs is a long-term goal of the NHSC that has had great success. In Mississippi, the provider retention rate for 2012-2019 was 96% for 299 providers who completed their service term (which depends upon the amount of debt repaid and other factors). Mississippi also had one of the higher success rates of retaining the providers at the location where they matched (96%). This data indicates that a longer-term need was met by the NHSC program in Mississippi. Another performance measure on the dashboard was the percent of providers who were placed in rural areas. Again, Mississippi was among the highest national performers with 61% of its NHSC providers being placed in rural communities.[xlix] Not only is it important to acknowledge the successes with the NHSC state-federal partnership, but is also imperative to build on these successes.

Oral-Dental Health Capacity

Oral health and dental health are integral to overall health, and integrated and interdisciplinary models of care are essential to improve the health of our citizens. Expanding the scope of practice of support dental staff, such as hygienists and other midlevel personnel can address some the unmet primary dental health needs in the short-term. Teledentistry is another strategy for conducting diagnostics and treatment planning, especially for caries and oral diseases that can diagnosed and treated remotely. Longer term solutions include expanding oral health education programs.

In collaboration with other stakeholders, Mississippi's Office of Oral Health developed a Mississippi State Oral Health Plan, 2016-2021. The Plan called for surveillance and assessment of oral health status, which was



subsequently addressed by the development of the Mississippi Oral Health Surveillance Plan, 2018-2022. The data collection for the surveillance plan is currently underway, and the results will establish a baseline for oral diseases and resulting health outcomes in Mississippi. The surveillance activities include dental caries, periodontal disease, cancers of the oral cavity and pharynx and access to care issues occurring over one's lifespan. This information will assist in the placement of new dental providers and public education programs in the areas of the state with the greatest needs. Other benefits of the surveillance process will be an improvement in actionable oral health data for the state and local health providers, more accurate data to report to policy makers, and baseline data to evaluate success.

Policies Affecting Oral Outcomes. The State Oral Health Plan addresses policy issues linked to improving oral and dental health including community water fluoridation. Fluoridation of community drinking water has been shown to be safe, inexpensive, and effective at preventing tooth decay;[l] yet, 39% of Mississippians do not have fluoridated water.[li] Lack of dental health insurance is an access barrier and 44% of adults in Mississippi did not have dental insurance in 2014.[lii] Insurance coverage and health benefits should include a comprehensive oral health component. The State Office of Oral Health will continue to work closely with community leaders and entities to promote oral health as a critical component of overall good health.

Mental Health Infrastructure

As documented in Appendix F, the population to provider ratio of psychiatrists ranges from 15,000:1 in a few populated counties to several hundred thousand to 1 in most rural counties. In partial response, the Mississippi State Hospital (MSH) will be adding a Psychiatric Residency Program with the first residents starting in July 2021. The Mississippi Board of Mental Health is also seeking other upstream solutions to expand mental health capacity across the state using a comprehensive, integrated community approach. Mississippi has been conducting annual planning and updating its plan over the past ten years.

The Mississippi Board of Mental Health Strategic Plan (FY2021 – FY2023) outlines their current strategy to provide quality and data-driven mental health services. In addition to treatment for acute mental health conditions, the state planning process addresses behavioral health services for substance use disorders and support individuals with intellectual and developmental disabilities. Important priorities identified in the Plan are to drive a transformation of the state mental healthcare system to become community-based and outcome-oriented. Efforts to achieve a continuum of care begins with establishing individual patient needs and first attempting to address their needs through community-based providers. This strategy of transitioning from institutional to community-based care[liii] is being facilitated by providing grants to community providers. The Strategic Plan also provides for intensive community care for adults with serious mental illness. Mobile Crisis Response Teams are available in all 82 counties across the state and Crisis Stabilization Beds have been increased over the past two years establishing 176 beds across the state. Over the last several years, increasing access to intensive community

supports has helped Mississippians receive services in their community and prevent institutionalization.

Emphasis on Community Health

The broader definition of health includes a state of being healthy and having good quality of life. When individuals and families can achieve quality of life, that sets the foundation for a healthy community. Both the above-referenced plans for addressing oral and mental health needs point towards community solutions. Healthcare agencies are looking at broader upstream strategies for creating healthier individuals and communities that go far beyond providing healthcare services. For example, community health workers (CHWs) or patient navigators can be the first line of defense in identifying, tracking and monitoring residents at risk of chronic diseases. The MSDH already utilizes CHWs in the Delta Collaborative and FQHCs are increasingly using CHWs as health navigators. CHWs in the Delta train barbers to educate their clients about high blood pressure, the importance of regularly taking their pressure and the importance of medication c ompliance. CHWs at FQHCS assist patients with addressing food insecurity, housing problems, transportation, childcare and a host of other challenges that often take precedence over healthcare appointments and medication compliance. CHWs are lower cost solutions that could be expanded as an essential component of the preventive and primary care healthcare workforce if Medicaid and private insurers reimbursed for these services. This is an evidence-based policy solution that would not only improve health status but would expand employment options for community residents.

Medical legal partnership programs are being incorporated into the array of FQHC services. Teaming up with public and private legal aid organizations is proving to be effective at helping families avoid evictions and enforcing responsible landlord practices. The results are preventing displacement of families, avoiding homelessness, or ensuring that landlords make home repairs that are the sources of family health problems.

Other upstream strategies to improving community health involve partnering with sectors outside of the health arena. Promoting farmers markets through partnership with the agriculture sector; promoting economic development through job creation strategies including livable wages; investing in reliable public transportation; improving school districts and ensuring that communities have safe places to recreate are fundamental to creating healthier communities. These infrastructure needs apply equally to rural and urban communities and formulate the basis of social justice arguments for health equity.

Broadband and Healthcare

Today, the delivery of quality education, healthcare and commerce deeply rely on cyber technology, and access to broadband is a fundamental building block. More than any recent cataclysmic event, the COVID-19 pandemic has highlighted the need for broadband and illuminated the digital divide in rural and poor urban areas of Mississippi. The emergent need for utilizing telemedicine for doctor's appointments is becoming the norm as COVID-19 has lingered. Access to the supply chain of COVID-19 treatment supplies and pharmaceuticals cannot be managed in remote areas without robust broadband. Indirectly, but related to health, the reliance of public education to institute the virtual classroom is another motivator to revisit the importance of broadband across the state.

The issues around equitable and functional broadband access in Mississippi are too large to address in this needs assessment. It is noteworthy, however, that planning for expanded broadband access must be added to the rural and primary healthcare planning and policy agenda. In the imminent future of healthcare, broadband availability will mean access to an expanding array of online healthcare services including primary care, mental health, dental assessment, wellness services and access to medical information and healthcare education.

CONCLUSIONS AND NEXT STEPS

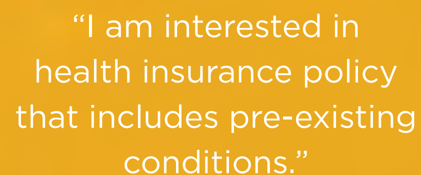
Embracing an Equity Strategy

Mississippi's health problems are historically rooted and will be challenging to uproot; however, refocusing collective efforts on achieving equity may be the key to improving health status for the entire state. An equity strategy begins with a dedicated investment in addressing the adverse SDOH, which is identified as the first tier of MORPHC's Community Health Improvement Model (See Illustration A, Page 6.) Addressing the SDOH lays the foundation for community health and promotes health equity. Employment equity results in increased employment, livable wages and greater educational attainment. Higher wages, more insured workers and higher educational attainment is associated with increased use of health care services which supports public and private investment in healthcare infrastructure. Increased income and education support healthier lifestyle choices such as consumption of healthier foods and increased participation in family physical activity and recreation.

The new national administration has already expressed a commitment to equity. With this national policy shift, there will be more support for state initiatives that address racial injustice, promote equity and expand economic development. This momentum has already started with updates being made in the Mississippi State Health Plan Assessment. This is a strategic time for the MORHPC to work with the Office of Health Equity to jointly plan for expanding primary care, dental health and mental health providers and to address needs identified in the sections on social determinants of health and community health infrastructure.

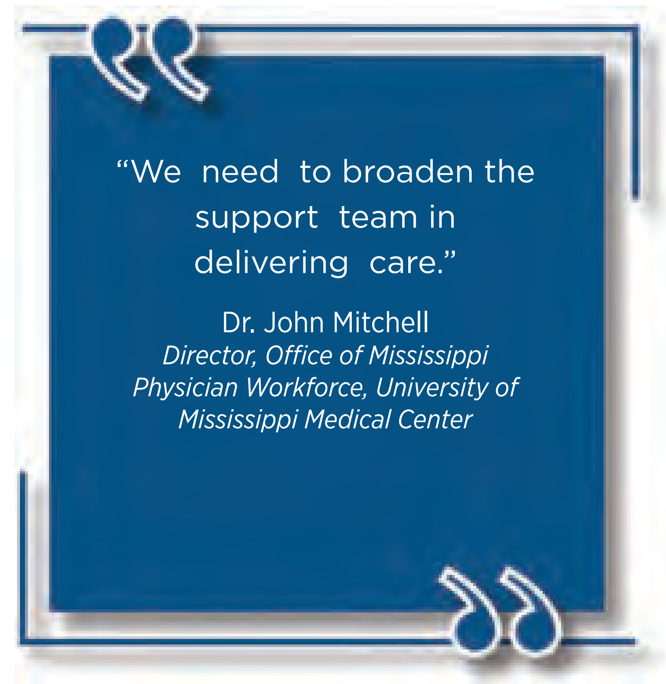
Community-based education and outreach

The next tier of the MORHPC Community Health Model relates to changing health behaviors. Expanding current disease prevention and health promotion initiatives are important strategies to address diabetes, heart disease, cancer morbidity and mortality, poor oral health and mental health. The Mississippi health agencies who were stakeholders in this assessment have identified a plethora of evidence-based health promotion and disease prevention initiatives and plans that are available on the websites of the Mississippi Department of Health, the Mississippi Office of Oral Health, and Mississippi Department of Mental Health. On the MORHPC Community Health Model, initiative's such as the State Department of Health's Diabetes Prevention and Control Program, the American Heart Association's Know your Numbers program, early screening and detection programs for cancer control, community-based mental health education and outreach, and the wider use of dental sealants and water fluoridation form the second tier of attaining a healthier community. Almost all of these initiatives require or would benefit from further investment in community-based programs expanding primary care, dental and mental health workforce and facilities.



A primary care and rural health policy agenda.

Expanding healthcare insurance coverage and Medicaid and Medicare changes are at the top of the policy priority list with the new national administration. The Affordable Care Act is being revisited for strategies to make plans more affordable and address pre-existing conditions. These developments will provide new opportunities for Mississippi to address its high rate of uninsured residents. For other similar states, such as Louisiana, which is the most recent state to adopt the Medicaid expansion, studies have shown positive benefits to individuals such as improved family finances, and positive economic impacts to the state, such as increases in health-related jobs, increased personal earnings, lower rates of health care facility closures.



Expanding the use of Lay Community Workers and Midlevel Providers

Expanding the healthcare workforce to include more CHWs, advanced nurse practitioners, dental hygienists and assistants, and clinical social workers would expand access to care and increase health care jobs. Strategically expanding training programs for these disciplines would require partnering with the education sector. Funding these programs would require collaboration with the Medicaid program. Despite the work of establishing these programs, there is established evidence that mid- levels and provider assistants improve quality of care and decrease cost over the long term.

Establishing these programs is sometimes controversial, and would require some upfront investment; however, there would be savings over the long term. Patient Engagement (2020) referenced that the return on investment for incorporating CHWs in a FQHC network yielded a 1:10 return on investment. More studies are being conducted around dental mid-levels; however, hygienists and dental assistants extend the productivity in dental practices, and are well-integrated into the field of practice. Clinical social workers have a well-established role in diagnosing mental health conditions and providing individual and family therapy. They form an important foundation for a community mental health system and are being integrated into primary care settings, offering a more wholistic approach. Further work on clarifying the roles, the geographic placement and the sustainability of these providers would be a prudent planning step for the MORHPC and its partners.

Filling provider gaps

The most relevant planning information provided in this assessment is not the data on poor health status, as that information is widely known and expertly provided by the Mississippi State Health Department and other state health agencies. The most important data provided in this assessment are the numbers and locations where there are deficits of primary care, dental and mental health providers and the numbers of providers needed to address these deficits (See the Access to Care Section and Appendices C-E). This information is essential for health and public officials to conduct targeted planning. Working on a collaborative policy and planning effort among the stakeholders and public officials to fill these provider gaps would result in greater collective knowledge of the needs and a more effective healthcare policy effort.

Oral Health Infrastructure

Fluoride is commonly used in dentistry to strengthen the enamel or outer layer of the teeth. Fluoride is added in small amounts to water systems throughout the United States and is associated with fewer cavities. Water fluoridation policy is an infrastructure issue for Mississippi that could improve oral health. Of the 289 water systems operated by towns and cities in Mississippi, 190 do not provide fluoridated water. It is estimated that approximately 39% of the Mississippi population is ***without*** fluoridated water. Education regarding fluoridation, expansion of water testing systems, and the expanded use of fluoride varnishes in primary care dental practices and schools are community health strategies that are outlined in the Mississippi Oral Health Plan, 2016-2021. Other components of the plan include increasing number of dentists proportionately throughout the state; promoting comprehensive dental insurance benefits for adults, including rehabilitative services, that are currently not covered by Medicare and Medicaid and not always provided at FQHCs.

Development of primary care, oral health and mental health facilities

In addition to workforce expansion efforts, health facilities to host these services must be considered. This can also be accomplished through collective planning among the stakeholder groups in partnership with state and local officials. The data from this assessment shows that the most promising opportunity to support expansion of primary care facilities is healthcare financing reform. Expanding Medicaid eligibility, and expanding coverage of Medicaid mid-level services, especially in underserved areas, can result in financial capacity to expand or build the healthcare facilities base.

Broadband expansion

Expansion of broadband capacity is another non-controversial strategy that would positively impact access to healthcare among the stakeholder organizations. Using telehealth to provide remote mental health is already an evidence-based healthcare approach. One of the main limitations to expanding mental telehealth and other primary care and dental services in rural areas across the country is broadband capacity.

The COVID-19 pandemic is driving the need for rapid expansion in telehealth applications and new resources are being made available to states and healthcare agencies to expand broadband to accelerate these applications. The federal COVID-19 Stimulus Relief Bill that was signed by President Trump provided an infusion of funds for businesses and healthcare agencies to expand individual, personal and business broadband capability including telehealth and special provisions for connecting minority communities.[lvi] This is a unique opportunity for the MORHPC and stakeholders to research this bill for opportunities that would support recruitment and retention of providers and the expansion of primary care, oral health and mental health services.

In conclusion, there are many challenges associated with improving health among Mississippians; however, Mississippi is not without assets and one asset is the incredibly talented and well-informed health leadership working in the state agencies highlighted in this report. The issues are too large and complex for one entity or even one sector to address alone. The key to success is to engage is more collective planning and action between agencies and across sectors.

REFERENCES:

[i] United States Census, Quick Facts, Mississippi. https://census.gov/quickfacts/fact/table/MS.US. Accessed 12-17-2020.

[ii] Ibid.

[iii] Rural Health Information Hub. https://www.ruralhealthinfo.org/states/mississipi. Accessed 12-24-2020.

[iv] Mississippi State Department of Health, MS State Oral Health Plan, 2016-2021.

[v] Ibid.

[vi] Welfare Info. https://www.welfareinfo.org/poverty-rate/mississippi/. Accessed 12-19-2020.

[vii] Rural Health Information Hub https://www.ruralhealthinfo.org/states/mississipi. Accessed 12-24-2020.

[viii] Ibid.

[vix] Welfare Info. https://www.welfareinfo.org/poverty-rate/mississippi/. Accessed 12-19-2020.

[x] Ibid.

[xi] Robert Wood Johnson Foundation (RWJF), 2020 County Health Rankings Mississippi Data.

[xii] Robert Wood Johnson Foundation (RWJF), 2020 County Health Rankings Mississippi Data. https://www.county-healthranking.org/sites/default/files/media/document/CHR2020_MS_v2.pdf, pg. 8. Accessed 12-24-2020.

[xiii] Ibid., https://www.countryhealthrankings.org/app.mississippi/2020/measure/factors/49/map

[xiv] USDA, Mississippi Rural Definitions, https://www.ers.usda.gov/webdocs/DataFiles/53180/25579_MSpdf?v=39329. Accessed 12-22-2020.

[xv] WelfareInfo. https://www.welfareinfo.org/poverty-rate/mississippi/. Accessed 12-19-2020.

[xvi] Rural Health Information Hub, https://www.ruralhealthinfo.org/states/mississippi. Accessed 12-24-2020.

[xvii] Ibid.

[xviii] Ibid.

[xvix] Robert Wood Johnson Foundation (RWJF), 2020 County Health Rankings Mississippi Data

[xx] RWJF, Premature Death, RWJF 2020 County Health Rankings https://www.countyhealthrankings.org/app/mississippi/2020/measures/outcomes/1/description. Accessed 11-24-2020.

[xxi] RWJF, 2020 County Health Rankings. Key Findings, Counties among the Least Healthy for Outcome Measures, 2010, and 2020, https://www.countyhealthrankings.org/reports/2020-county-health-rankings-key-findings-report. Accessed 12-24-2021.

[xxii] RWJF, Low birthweight, RWJF 2020 County Health Rankings, https://www.countyhealthrankings.org/app/mississippi/2020/measures/outcomes/37/description. Accessed 11-24-2020.

[xxiii] Mississippi State Department of Health, 2018 Mississippi Diabetes Action Plan, Pg.3.

[xxiv] CDC, US Dept of Health and Human Services, National Diabetes Statistics Report, 2020, p. 5.

[xxv] Mississippi State Department of Health, 2014, Mississippi Report on the Burden of Chronic Diseases in Mississippi, 2014, p.11.

[xxvi] LiveStories, Mississippi Heart Disease Mortality Trends. http://www.livestories.com/statistics/mississippi/heart-disease-deaths-mortality. Accessed 1-16-2021.

[xxvii] Mississippi Head Start Dental Survey (2007-2008).

[xxviii] State Cancer Profiles, NIH, CDC. Quick Profiles, Mississippi, http://statecancerprofiles.cancer.gov/quick-profiles/index.php?statename=mississippi. Accessed 2-16-2021.

[xxix] CDC & NIH, Incidence Rates for Mississippi by County, all Cancer Sites, 2013-2017, https://statecancerprofiles.cancer.gov/map/map.withimage.php?28&county@001&001&00&0&1&5&0#results. Accessed 11-28-2020.

[xxx] MS State Oral Health Plan, 2016-2021. Mississippi Third Grade Children's Survey, 2009-2010.

[xxxi] Ibid.

[xxxii] Office of Oral Health, Office of Health Data and Research, Mississippi State Department of Health, 2018. Oral Health Surveillance Plan, 2018.

[xxxiii] MS State Oral Health Plan, 2016-2021. Pregnancy Risk Assessment and Monitoring System, 2011.

[xxxiv] Rtor.org, Mental Health Resources in Mississippi, https://www.rtor.org/directory/mental-health-mississippi/. Accessed 12-31-2020.

[xxxv] Brookings Institute, Race Gaps in COVID19 Deaths. https//www.brookings.edu/blog/up-front/2020//06/16/race-gaps-in-covid-19-deaths-are-even-bigger-than-they-appear/. Accessed 1-5-2021

[xxxvi] APM Research Lab (2021), Reported Deaths by Race and Ethnicity, Totals since January 5, 2021. https://www.apmresearchlab.org/covid/deaths-by-race#pac. Accessed 1-9-2021.

[xxxvii] RWJF Foundation, County Health Rankings and Roadmaps, Mississippi, RWJF, 2020. https://www.countyhealthrankings.org/sites/default/files/media/document/CHR2020_MS_v2.pdf. Accessed 01-9-2021.

[xxxviii] National Cancer Institute, 2016. Monograph 21: The Economics of Tobacco and Tobacco Control. NIH Publication No. 16-CA8029. Accessed 3-02-2021 at www.cancercontrol.cancer.gov.

[xxxix] Ibid.

[xl] Kaiser Family Foundation (2020) https://www.kff.org/racial-equity-and-health-policy/issue-brief/disparities-in-health-and-health-care-five-key-questions-and-answers/ Accessed 1-10-2021.

[xli] Welfare Info, 2017. Poverty Rankings by State, https://www.welfareinfo.org/poverty-rate/. Accessed 11-29-2020.

[xlii] Annie E. Casey Foundation, 2020 Kids Count Profile, Mississippi. https://www.aecf.org/m/databook/2020KC_profile_MS.pdf Accessed 11-20-2020.11-20-2020.

[xliii] RWJF County Health Rankings, 2020. State Summary, https://www.countyhealthrankings.org/sites/default/files/media/document/CHR2020_MS_v2.pdf. Accessed on 12-7-2020.

[xliv] RWJF County Health Rankings, 2020, https://www.aecf.org/m/databook/2020KC_profile_MS.pdf. Accessed on 12-7-2020.

[xlv] The U.S. Bureau of Labor Statistics, Local Area Unemployment Statistics, Mississippi. https://www.bls.gov. Accessed 2-16-2021.

[xlvi] The Office of Physician Mississippi Workforce. American Association of Medical Colleges 2019 Physician Workforce Data Book 2019. https://www.ompw.org/OMPW/About-Us/Mississippi-stats.html. Accessed 12-7-2020.

[xlvii] HRSA Health Workforce, What is a Shortage Designation? https://bhw.hrsa.gov/workforce-shortage-areas/shortage-designation. Accessed 12-7-2020.

[xlviii] HRSA Health Professional Shortage Areas. https://data.hrsa.gov/map. Accessed 12-7-2020.

[xlix] National Health Service Corp, Bureau of Health Workforce Clinician Dashboards, https://www.data.hrsa.gov/topics/health-workforce/clinician-dashboards. Accessed 1-29-2021.

[l] U.S. Public Health Service Recommendations for Fluoride Concentration in Drinking Water for the Prevention of Dental Caries: Public Health Report. July-August 2015 130:318-331.

[li] Ibid., Water Fluoridation Reporting System, 2015.

[lii] MS State Oral Health Plan, Behavioral Risk Factor Surveillance System, CDC, 2014.

[liii] Mississippi Department of Mental Health, FY2021-2023. https://www.dmh.ms/gov/wp-content/uploads/2020/06/FY21-FY23-DMH-Strategic-Plan-Final.pdf. Accessed 1-5-2021

[liv] Robert Wood Johnson Foundation (2019). Medicaid's Impact on Health Care Access, Outcomes and State Economies. https://www.rwjf.org/en/library/research/2019/02/medicaid-s-impact-on-health-access-outcomes-and-state-economies.html. Accessed on 1-16-2021.

[lv] Patient Engagement. (2020). Who are Community Health Workers, How do They Treat Patients? https://www.patientengagementhit.com/. Accessed on 1-16-2021.

[lvi] VOX , 2020. The Stimulus bill includes historic provision to expand broadband internet access. https://www.vox.com/policy-and-politices/2020/12/23/22196354/stimulus-bill-broadband-internet. Accessed 1-29-2021.

APPENDICES

APPENDIX A: List of Data Sources

Annie E. Casey Foundation, 2020 Kids Count Data Book

Behavioral Risk Factor Surveillance System (BRFSS)

Brookings Institute, Race Gaps in COVID-19 Deaths

Centers for Disease Control and Prevention

HRSA, Bureau of Health Workforce

HRSA Data Warehouse

HRSA Primary Care Service Area Data

Kaiser Family Foundation State Health Facts

Mississippi Board of Mental Health Strategic Plan (FY2021 – FY2023)

Mississippi Employment Security Commission

Mississippi Oral Health Surveillance Plan, 2018-2022

Mississippi Report on the Burden of Chronic Disease in Mississippi, 2014

Mississippi State Board of Dental Examiners

Mississippi State Board of Medical Licensure

Mississippi Statistically Automated Health Resource System (MSTAHRS)

MSDH, Mississippi Diabetes Action Plan, 2018

MSDH Maternal and Child Data

MSDH, MS State Oral Health Plan

MSDH Primary Care Office HPSA Workforce Full-Time Equivalent (FTE) Data

MSDH State Health Assessment Document

MSDH 2015 State Health Plan

Office of Physician Mississippi Workforce

Office of Management and Budget (OMB)

Robert Wood Johnson Foundation (RWJF) County Health Rankings

Rural Health Information Hub

U.S. Bureau of Transportation

The U.S. Census Bureau

USDA Economic Research Service

2015 MSDH Annual Health Disparities and Inequalities Report

Welfare Info.com

APPENDIX B: Acronyms

AECF	Annie E. Casey Foundation
CDC	Center for Disease Control and Prevention
CHW	Community Health Workers
CVD	Cardiovascular Disease
FQHC	Federally Qualified Health Center
HPSA	Health Professional Shortage Area
HRSA	Health Resources Services Administration
MAPP	Mobilizing for Action through Planning and Partnerships
MSDH	Mississippi State Department of Health
MSA	Metropolitan Statistical Area
MORHPC	Mississippi Office of Rural Health and Primary Care
MPO	Mississippi Primary Care Office
MUA	Medically Underserved Areas
NCHS	National Center for Health Statistics
NIH	National Institutes of Health
NHSC	National Health Service Corps
NVSS	National Vital Statistics Center
NSC	Nearest Source of Care
OMB	Office of Management and Budget
OMPW	Office of Mississippi Physician Workforce
RHC	Rural Health Clinics
RWJF	Robert Wood Johnson Foundation
SDOH	Social Determinants of Health
USDA	United States Department of Agriculture
LBW	Low Birth Weight
YPLL	Years of Potential Life Lost

APPENDIX C: HPSA Primary Care Designations by County

HPSA County, Name	HPSA Formal Ratio	HPSA FTE	# of FTE Short	Designation Type	HPSA Discipline Class	HPSA Score	HPSA Status	HPSA Population Type	HPSA Designation Population	% of Population Below 100% Poverty
Amite County	7510:1	1.675	2.515	High Needs Geographic HPSA	Primary Care	19	Designated	Geographic Population	12580	27.9
Benton County	8300	0*	2.77	High Needs Geographic HPSA	Primary Care	22	Designated	Geographic Population	8300	22.6
Bolivar County	3580:1	8.99	1.74	High Needs Geographic HPSA	Primary Care	17	Designated	Geographic Population	32181	34.7
Calhoun County	7677:1	1.875	2.925	High Needs Geographic HPSA	Primary Care	19	Designated	Geographic Population	14394	26.3
Carroll County	10148:0	0*	3.38	High Needs Geographic HPSA	Primary Care	21	Designated	Geographic Population	10148	22.1
Chickasaw County	4337:1	3.925	1.745	High Needs Geographic HPSA	Primary Care	18	Designated	Geographic Population	17024	27.1
Claiborne County	7843:1	1.1	1.78	High Needs Geographic HPSA	Primary Care	22	Designated	Geographic Population	8627	41.2
Clarke County	3704:1	4.43	1.04	High Needs Geographic HPSA	Primary Care	16	Designated	Geographic Population	16408	24.1
Clay County	3147:1	6.3	0.31	High Needs Geographic HPSA	Primary Care	14	Designated	Geographic Population	19829	26
Copiah County	4860:1	5.75	3.56	High Needs Geographic HPSA	Primary Care	18	Designated	Geographic Population	27943	28

APPENDIX C: HPSA Primary Care Designations by County

HPSA County, Name	HPSA Formal Ratio	HPSA FTE	# of FTE Short	Designation Type	HPSA Discipline Class	HPSA Score	HPSA Status	HPSA Population Type	HPSA Designation Population	% of Population Below 100% Poverty
Covington County	4174:1	4.6	1.8	High Needs Geographic HPSA	Primary Care	17	Designated	Geographic Population	19199	28.3
Greene County	10605:1	1	2.03	Geographic HPSA	Primary Care	17	Designated	Geographic Population	10605	18
Hancock County	4150:1	10.79	2	Geographic HPSA	Primary Care	9	Designated	Geographic Population	44775	19.8
Holmes County	4409:1	4.055	1.905	High Needs Geographic HPSA	Primary Care	20	Designated	Geographic Population	17879	45
Humphreys County	11880:1	0.75	2.22	High Needs Geographic HPSA	Primary Care	24	Designated	Geographic Population	8910	40.5
Jasper County	6163:1	2.675	2.035	Geographic HPSA	Primary Care	19	Designated	Geographic Population	16487	22
Jefferson County	7083:1	1	1.36	High Needs Geographic HPSA	Primary Care	21	Designated	Geographic Population	7083	39.7
Jefferson Davis County	12838:1	0.9	2.95	High Needs Geographic HPSA	Primary Care	23	Designated	Geographic Population	11554	34.6
Kemper County	9206	0*	3.07	High Needs Geographic HPSA	Primary Care	22	Designated	Geographic Population	9206	29.9
Lamar County	4938:1	11.65	4.79	Geographic HPSA	Primary Care	14	Designated	Geographic Population	57523	16
Lawrence County	7863:1	1.6	2.59	High Needs Geographic HPSA	Primary Care	18	Designated	Geographic Population	12581	21.7

APPENDIX C: HPSA Primary Care Designations by County

HPSA County, Name	HPSA Formal Ratio	HPSA FTE	# of FTE Short	Designation Type	HPSA Discipline Class	HPSA Score	HPSA Status	HPSA Population Type	HPSA Designation Population	% of Population Below 100% Poverty
Leake County	11678:1	1.9	5.5	High Needs Geographic HPSA	Primary Care	20	Designated	Geographic Population	22189	27.1
Leflore County	3125:1	9.315	0.385	High Needs Geographic HPSA	Primary Care	16	Designated	Geographic Population	29109	40.4
LI - Adams County	7335:1	2.05	2.96	HPSA Population	Primary Care	20	Designated	Low Income Population HPSA	15037	30.3
LI - Alcorn County	52545:1	0.325	5.365	HPSA Population	Primary Care	20	Designated	Low Income Population HPSA	17077	19.9
LI - Attala County	7536:1	1.2913	1.9487	HPSA Population	Primary Care	20	Designated	Low Income Population HPSA	9731	24.3
LI - Choctaw County	8829:1	0.45	0.87	HPSA Population	Primary Care	19	Designated	Low Income Population HPSA	3973	24.4
LI - Forrest County	3670:1	9.528	2.132	HPSA Population	Primary Care	15	Designated	Low Income Population HPSA	34967	27.3
LI - Franklin County	3636	0*	**1.12**	HPSA Population	Primary Care	18	Designated	Low Income Population HPSA	3363	18.7
LI - Hinds County	6642:1	17.0318	20.6782	HPSA Population	Primary Care	20	Designated	Low Income Population HPSA	113128	25.5
LI - Oktibbeha County	4214:1	5.438	2.202	HPSA Population	Primary Care	18	Designated	Low Income Population HPSA	22914	32.6

APPENDIX C: HPSA Primary Care Designations by County

HPSA County, Name	HPSA Formal Ratio	HPSA FTE	# of FTE Short	Designation Type	HPSA Discipline Class	HPSA Score	HPSA Status	HPSA Population Type	HPSA Designation Population	% of Population Below 100% Poverty
LI-Southern Rankin County	50306:1	0.52	8.2	HPSA Population	Primary Care	14	Designated	Low Income Population HPSA	26159	14.5
Low Income - Coahoma County	68623:1	0.22	4.81	HPSA Population	Primary Care	21	Designated	Low Income Population HPSA	15097	37.3
Low Income - Harrison County	25654:1	3.16	23.86	HPSA Population	Primary Care	18	Designated	Low Income Population HPSA	81066	20
Low Income - Jackson County	43297:1	1.15	15.45	HPSA Population	Primary Care	18	Designated	Low Income Population HPSA	49791	15.5
Low Income - Lafayette County	493400:1	0.04	6.54	HPSA Population	Primary Care	18	Designated	Low Income Population HPSA	19736	26.1
Low Income - Lauderdale County	7270:1	4.93	7.02	HPSA Population	Primary Care	20	Designated	Low Income Population HPSA	35841	23.3
Low Income - Lee County	17566:1	1.9	9.23	HPSA Population	Primary Care	20	Designated	Low Income Population HPSA	33376	19.1
Low Income - Lincoln County	1717700:1	0.01	5.72	HPSA Population	Primary Care	17	Designated	Low Income Population HPSA	17177	25.3
Marion County	7047:1	3.55	4.79	High Needs Geographic HPSA	Primary Care	19	Designated	Geographic Population	25018	27.3
Marshall County	11177:1	3.1	8.45	High Needs Geographic HPSA	Primary Care	15	Designated	Geographic Population	34649	19.3

APPENDIX C: HPSA Primary Care Designations by County

HPSA County, Name	HPSA Formal Ratio	HPSA FTE	# of FTE Short	Designation Type	HPSA Discipline Class	HPSA Score	HPSA Status	HPSA Population Type	HPSA Designation Population	% of Population Below 100% Poverty
Monroe County	4676:1	7.68	4.29	High Needs Geographic HPSA	Primary Care	18	Designated	Geographic Population	35909	21.3
Montgomery County	21016:1	0.5	3	High Needs Geographic HPSA	Primary Care	22	Designated	Geographic Population	10508	27.3
Neshoba County	5003:1	5.8	3.87	High Needs Geographic HPSA	Primary Care	18	Designated	Geographic Population	29017	22.6
Newton County	9754:1	2.15	3.84	Geographic HPSA	Primary Care	19	Designated	Geographic Population	20971	23.3
Noxubee County	4572:1	2.4	1.26	High Needs Geographic HPSA	Primary Care	17	Designated	Geographic Population	10972	35
Panola County	6619:1	5.15	6.21	High Needs Geographic HPSA	Primary Care	19	Designated	Geographic Population	34089	22.3
Pearl River County	4560:1	11.83	6.15	High Needs Geographic HPSA	Primary Care	12	Designated	Geographic Population	53946	21.9
Perry County	4974:1	2.43	1.6	High Needs Geographic HPSA	Primary Care	16	Designated	Geographic Population	12086	20.8
Prentiss County	3397:1	7.125	0.945	High Needs Geographic HPSA	Primary Care	12	Designated	Geographic Population	24205	22.6
Quitman County	14828:1	0.5	1.97	High Needs Geographic HPSA	Primary Care	23	Designated	Geographic Population	7414	37.7

APPENDIX C: HPSA Primary Care Designations by County

HPSA County, Name	HPSA Formal Ratio	HPSA FTE	# of FTE Short	Designation Type	HPSA Discipline Class	HPSA Score	HPSA Status	HPSA Population Type	HPSA Designation Population	% of Population Below 100% Poverty
Scott County	4078:1	6.85	2.46	High Needs Geographic HPSA	Primary Care	17	Designated	Geographic Population	27933	26.5
Smith County	32092:1	0.5	4.85	High Needs Geographic HPSA	Primary Care	20	Designated	Geographic Population	16046	22.6
Sunflower County	3787:1	6.35	1.67	High Needs Geographic HPSA	Primary Care	17	Designated	Geographic Population	24045	35.7
Tallahatchie County	10651	0 *	3.55	High Needs Geographic HPSA	Primary Care	22	Designated	Geographic Population	10651	28.1
Tate County	4185:1	6.41	1.25	Geographic HPSA	Primary Care	13	Designated	Geographic Population	26826	17.1
Tippah County	15734:1	1.38	5.86	High Needs Geographic HPSA	Primary Care	21	Designated	Geographic Population	21713	24.9
Tishomingo County	3921:1	4.9	1.5	High Needs Geographic HPSA	Primary Care	9	Designated	Geographic Population	19214	16.6
Tunica County	10283:1	1	2.43	High Needs Geographic HPSA	Primary Care	21	Designated	Geographic Population	10283	28.4
Walthall County	4607:1	3.125	1.675	High Needs Geographic HPSA	Primary Care	15	Designated	Geographic Population	14396	25.8
Washington County	5002:1	9.87	6.59	High Needs Geographic HPSA	Primary Care	21	Designated	Geographic Population	49366	37.5

APPENDIX C: HPSA Primary Care Designations by County

HPSA County, Name	HPSA Formal Ratio	HPSA FTE	# of FTE Short	Designation Type	HPSA Discipline Class	HPSA Score	HPSA Status	HPSA Population Type	HPSA Designation Population	% of Population Below 100% Poverty
Wayne County	3257:1	6.205	0.535	High Needs Geographic HPSA	Primary Care	13	Designated	Geographic Population	20209	25.4
Webster County	3513:1	2.83	0.48	High Needs Geographic HPSA	Primary Care	13	Designated	Geographic Population	9942	22.6
Wilkinson County	3853:1	2.2	0.63	High Needs Geographic HPSA	Primary Care	15	Designated	Geographic Population	8477	28.3
Winston County	18091:1	1	5.03	High Needs Geographic HPSA	Primary Care	22	Designated	Geographic Population	18091	28.2
Yalobusha County	4314:1	2.825	1.235	High Needs Geographic HPSA	Primary Care	17	Designated	Geographic Population	12188	21.5
Yazoo County	5926:1	4	3.9	High Needs Geographic HPSA	Primary Care	20	Designated	Geographic Population	23705	34.5
DeSoto County	**Non-Designated**									
Lowndes County	**Non-Designated**									
Northern Rankin County	**Non-Designated**									
Southern Madison County	**Non-Designated**									

*Population to Provider Ratio with Zero is an indicator that no MD is in the Rational Service Area. Subject to change.

APPENDIX D: HPSA Dental Designations by County

HPSA Name	HPSA Formal Ratio	HPSA FTE	# of FTE Short	HPSA Score	HPSA ID	Designation Type	HPSA Discipline Class	HPSA Status	HPSA Designation Population	% of Population Below 100% Poverty
Adams County	**5641:1**	**5.36**	**2.2**	13	6282915255	High Needs Geographic HPSA	Dental Health	Designated	30234	29.9
Amite County	**9185:1**	**1.4**	**1.81**	17	6283593567	High Needs Geographic HPSA	Dental Health	Designated	12859	26.1
Attala County	**5791:1**	**3.28**	**1.47**	13	6287232450	High Needs Geographic HPSA	Dental Health	Designated	18993	27
Benton County	**8494**	**0***	**2.12**	16	6285746715	High Needs Geographic HPSA	Dental Health	Designated	8494	21.5
Bolivar County	**4545:1**	**7.08**	**0.97**	13	6281574793	High Needs Geographic HPSA	Dental Health	Designated	32181	34.7
Calhoun County	**18235:1**	**0.8**	**2.85**	19	6281083124	High Needs Geographic HPSA	Dental Health	Designated	14588	25.3
Carroll County	**28189:1**	**0.36**	**2.18**	19	6289373817	High Needs Geographic HPSA	Dental Health	Designated	10148	22.1
Choctaw County	**4683:1**	**1.76**	**0.3**	11	6287697393	High Needs Geographic HPSA	Dental Health	Designated	8242	25.2
Claiborne County	**36996:1**	**0.24**	**1.98**	21	6283652464	High Needs Geographic HPSA	Dental Health	Designated	8879	36.3
Clarke County	**5160:1**	**3.18**	**0.92**	13	6284072593	High Needs Geographic HPSA	Dental Health	Designated	16408	24.1

APPENDIX D: HPSA Dental Designations by County

HPSA Name	HPSA Formal Ratio	HPSA FTE	# of FTE Short	HPSA Score	HPSA ID	Designation Type	HPSA Discipline Class	HPSA Status	HPSA Designation Population	% of Population Below 100% Poverty
Clay County	**11172:1**	**1.8**	**3.23**	19	6283858281	High Needs Geographic HPSA	Dental Health	Designated	20110	27.4
Coahoma County	**7117:1**	**3.51**	**2.73**	17	6288144837	High Needs Geographic HPSA	Dental Health	Designated	24980	37.3
Covington County	**14117:1**	**1.36**	**3.44**	18	6286801162	High Needs Geographic HPSA	Dental Health	Designated	19199	28.3
Franklin County	**26140:1**	**0.3**	**1.66**	13	6289970544	High Needs Geographic HPSA	Dental Health	Designated	7842	18.3
Greene County	**15389:1**	**0.72**	**2.05**	14	6289958202	High Needs Geographic HPSA	Dental Health	Designated	11080	16.9
Grenada County	**4309:1**	**4.94**	**0.38**	11	6287638479	High Needs Geographic HPSA	Dental Health	Designated	21287	22.6
Holmes County	**9535:1**	**1.92**	**2.66**	17	6288130813	High Needs Geographic HPSA	Dental Health	Designated	18308	43.9
Humphreys County	**22275:1**	**0.4**	**1.83**	21	6284827795	High Needs Geographic HPSA	Dental Health	Designated	8910	40.5
Itawamba County	**11663:1**	**1.92**	**2.56**	13	6289065281	Geographic HPSA	Dental Health	Designated	22392	16.9
Jefferson County	**7150**	**0***	**1.79**	23	6289845442	High Needs Geographic HPSA	Dental Health	Designated	7150	47.9

APPENDIX D: HPSA Dental Designations by County

HPSA Name	HPSA Formal Ratio	HPSA FTE	# of FTE Short	HPSA Score	HPSA ID	Designation Type	HPSA Discipline Class	HPSA Status	HPSA Designation Population	% of Population Below 100% Poverty
Jefferson Davis County	**11901**	**0***	**2.98**	16	6289974927	High Needs Geographic HPSA	Dental Health	Designated	11901	28.8
Kemper County	**9449**	**0***	**2.36**	21	6285614523	High Needs Geographic HPSA	Dental Health	Designated	9449	30.6
Lafayette County	**6450:1**	**6.99**	**4.28**	15	6283024093	High Needs Geographic HPSA	Dental Health	Designated	45086	26.1
Leake County	**5327:1**	**4.18**	**1.39**	12	6289110193	High Needs Geographic HPSA	Dental Health	Designated	22268	27.3
Leflore County	**4081:1**	**7.39**	**0.15**	15	6281947933	High Needs Geographic HPSA	Dental Health	Designated	30155	41
Low Income - Wilkinson County	**13797:1**	**0.3**	**0.73**	16	6285752618	HPSA Population	Dental Health	Designated	4139	28.3
Low Income - Alcorn County	**18129:1**	**1**	**3.53**	19	6288292817	HPSA Population	Dental Health	Designated	18129	22.4
Low Income - Chickasaw County	**23002:1**	**0.43**	**2.04**	19	6282954670	HPSA Population	Dental Health	Designated	9891	25.4
Low Income - Copiah County	**13991**	**0**	**3.5**	15	6286918491	HPSA Population	Dental Health	Designated	13991	26.7
Low Income - Forrest County	**9058:1**	**3.92**	**4.96**	17	6281163662	HPSA Population	Dental Health	Designated	35507	28.4
Low Income - George County	**8640**	**0***	**2.16**	17	6282455063	HPSA Population	Dental Health	Designated	8640	18.1
Low Income - Hancock County	**20309:1**	**0.92**	**3.75**	17	6282901054	HPSA Population	Dental Health	Designated	18684	19.8
Low Income - Harrison County	**15741:1**	**5.15**	**15.12**	19	6282946227	HPSA Population	Dental Health	Designated	81066	20

APPENDIX D: HPSA Dental Designations by County

HPSA Name	HPSA Formal Ratio	HPSA FTE	# of FTE Short	HPSA Score	HPSA ID	Designation Type	HPSA Discipline Class	HPSA Status	HPSA Designation Population	% of Population Below 100% Poverty
Low Income - Hinds County	**12121:1**	**9.4**	**19.09**	14	6285511972	HPSA Population	Dental Health	Designated	113941	24.8
Low Income - Jackson County	**34819:1**	**1.43**	**11.02**	17	6287967799	HPSA Population	Dental Health	Designated	49791	15.5
Low Income - Jasper County	**15089:1**	**0.61**	**1.69**	19	6285513565	HPSA Population	Dental Health	Designated	9204	22.2
Low Income - Jones County	**47658:1**	**0.69**	**7.53**	19	6283638110	HPSA Population	Dental Health	Designated	32884	23.2
Low Income - Lamar County	**15433:1**	**1.32**	**3.77**	17	6287430197	HPSA Population	Dental Health	Designated	20371	16
Low Income - Lauderdale County	**11235:1**	**3.19**	**5.77**	19	6288883010	HPSA Population	Dental Health	Designated	35841	23.3
Low Income - Lawrence County	**114840:1**	**0.05**	**1.39**	17	6286563982	HPSA Population	Dental Health	Designated	5742	19.5
Low Income - Lee County	**18139:1**	**1.84**	**6.5**	17	6281842322	HPSA Population	Dental Health	Designated	33376	19.1
Low Income - Lincoln County	**17177**	**0***	**4.29**	19	6282563185	HPSA Population	Dental Health	Designated	17177	25.3
Low Income - Monroe County	**29017:1**	**0.59**	**3.69**	19	6285074931	HPSA Population	Dental Health	Designated	17120	21.3
Low Income - Perry County	**6794**	**0***	**1.7**	19	6284299446	HPSA Population	Dental Health	Designated	6794	20.8
Low Income - Pike County	**24451:1**	**0.83**	**4.24**	19	6286046859	HPSA Population	Dental Health	Designated	20294	27.5
Low Income - Prentiss County	**11584:1**	**1.07**	**2.03**	19	6287780631	HPSA Population	Dental Health	Designated	12395	23.4
Low Income - Scott County	**73348:1**	**0.21**	**3.64**	16	6289718484	HPSA Population	Dental Health	Designated	15403	25.2
Low Income - Warren County	**23538:1**	**0.91**	**4.45**	17	6287335981	HPSA Population	Dental Health	Designated	21420	23.1

APPENDIX D: HPSA Dental Designations by County

HPSA Name	HPSA Formal Ratio	HPSA FTE	# of FTE Short	HPSA Score	HPSA ID	Designation Type	HPSA Discipline Class	HPSA Status	HPSA Designation Population	% of Population Below 100% Poverty
Lowndes County	**4096:1**	**14.23**	**0.34**	11	6284238689	High Needs Geographic HPSA	Dental Health	Designated	58279	25
Marion County	**10373:1**	**2.46**	**3.92**	21	6288101022	High Needs Geographic HPSA	Dental Health	Designated	25518	30.1
Marshall County	**14318:1**	**2.42**	**6.24**	12	6282301787	High Needs Geographic HPSA	Dental Health	Designated	34649	19.3
Montgomery County	**7297:1**	**1.44**	**1.19**	15	6286909417	High Needs Geographic HPSA	Dental Health	Designated	10508	27.3
Neshoba County	**9300:1**	**3.12**	**4.13**	18	6283626252	High Needs Geographic HPSA	Dental Health	Designated	29017	22.6
Newton County	**8828:1**	**2.38**	**2.87**	15	6282162710	High Needs Geographic HPSA	Dental Health	Designated	21011	21.7
North Madison County	**4052:1**	**5.46**	**0.07**	8	6285654307	High Needs Geographic HPSA	Dental Health	Designated	22125	31
Noxubee County	**11196:1**	**0.98**	**1.76**	21	6283897568	High Needs Geographic HPSA	Dental Health	Designated	10972	35
Oktibbeha County	**5303:1**	**8.27**	**2.69**	15	6286377768	High Needs Geographic HPSA	Dental Health	Designated	43853	33.4
Panola County	**6061:1**	**5.66**	**2.92**	12	6287129753	High Needs Geographic HPSA	Dental Health	Designated	34307	24.6

APPENDIX D: HPSA Dental Designations by County

HPSA Name	HPSA Formal Ratio	HPSA FTE	# of FTE Short	HPSA Score	HPSA ID	Designation Type	HPSA Discipline Class	HPSA Status	HPSA Designation Population	% of Population Below 100% Poverty
Pearl River County	**6021:1**	**8.96**	**4.53**	11	6286039983	High Needs Geographic HPSA	Dental Health	Designated	53946	21.9
Pontotoc County	**12851:1**	**2.34**	**3.67**	13	6284876978	Geographic HPSA	Dental Health	Designated	30072	16.1
Quitman County	**7611**	**0***	**1.9**	21	6281355402	High Needs Geographic HPSA	Dental Health	Designated	7611	38.6
Simpson County	**5871:1**	**4.56**	**2.13**	9	6282336051	High Needs Geographic HPSA	Dental Health	Designated	26773	24.1
Smith County	**9169:1**	**1.77**	**2.29**	14	6289045259	High Needs Geographic HPSA	Dental Health	Designated	16230	22.7
Stone County	**7153:1**	**2.4**	**1.89**	10	6282048613	High Needs Geographic HPSA	Dental Health	Designated	17167	18.4
Sunflower County	**5009:1**	**4.8**	**1.21**	15	6284035759	High Needs Geographic HPSA	Dental Health	Designated	24045	35.7
Tallahatchie County	**6069:1**	**1.84**	**0.95**	15	6285293828	High Needs Geographic HPSA	Dental Health	Designated	11167	28.5
Tate County	**5139:1**	**5.22**	**0.15**	7	6281135010	Geographic HPSA	Dental Health	Designated	26826	17.1
Tippah County	**7119:1**	**3.05**	**2.38**	15	6287216058	High Needs Geographic HPSA	Dental Health	Designated	21713	24.9
Tishomingo County	**8464:1**	**2.27**	**2.53**	10	6281683502	High Needs Geographic HPSA	Dental Health	Designated	19214	16.6

APPENDIX D: HPSA Dental Designations by County

HPSA Name	HPSA Formal Ratio	HPSA FTE	# of FTE Short	HPSA Score	HPSA ID	Designation Type	HPSA Discipline Class	HPSA Status	HPSA Designation Population	% of Population Below 100% Poverty
Tunica County	**10393**	**0***	**2.6**	16	6285844227	High Needs Geographic HPSA	Dental Health	Designated	10393	29.5
Union County	**4878:1**	**5.56**	**1.22**	11	6289761927	High Needs Geographic HPSA	Dental Health	Designated	27124	23.9
Walthall County	**6163:1**	**2.4**	**1.3**	14	6283569968	High Needs Geographic HPSA	Dental Health	Designated	14791	24.5
Washington County	**7113:1**	**6.94**	**5.4**	17	6287271993	High Needs Geographic HPSA	Dental Health	Designated	49366	37.5
Wayne County	**4871:1**	**4.16**	**0.91**	11	6289083213	High Needs Geographic HPSA	Dental Health	Designated	20263	29.5
Webster County	**4757:1**	**2.09**	**0.4**	11	6281742489	High Needs Geographic HPSA	Dental Health	Designated	9942	22.6
Winston County	**7795:1**	**2.36**	**2.24**	17	6285896324	High Needs Geographic HPSA	Dental Health	Designated	18397	30.2
Yalobusha County	**5887:1**	**2.08**	**0.98**	13	6289766739	High Needs Geographic HPSA	Dental Health	Designated	12245	22.2
Yazoo County	**10033:1**	**2.44**	**3.68**	17	6287514380	High Needs Geographic HPSA	Dental Health	Designated	24480	36.1
DeSoto County	**Non-Designated**									
Rankin County	**Non-Designated**									

APPENDIX D: HPSA Dental Designations by County

HPSA Name	HPSA Formal Ratio	HPSA FTE	# of FTE Short	HPSA Score	HPSA ID	Designation Type	HPSA Discipline Class	HPSA Status	HPSA Designation Population	% of Population Below 100% Poverty
Southern Madison	Non-Designated		232.24							

*Population to Provider Ratio with Zero is a Indicator that No DDS is in the Rational Service Area. Subject to change.

APPENDIX E: HPSA Mental Health Designations by County

HPSA Name	HPSA Formal Ratio	HPSA FTE	# of FTE Short	HPSA Score	HPSA ID	Designation Type	HPSA Discipline Class	HPSA Status	HPSA Population Type	HPSA Designation Population	% of Population Below 100% Poverty
Mental Health Catchment Area 14	**27628:1**	**5.83**	**21.01**	**16**	7289408823	Geographic HPSA	Mental Health	Designated	Geographic Population	161070	15.9
Jackson County	"	"	"	**16**	"	Geographic HPSA	Mental Health	Designated	Geographic Population		
George County	"	"	"	**16**	"	Geographic HPSA	Mental Health	Designated	Geographic Population		
Mental Catchment Area 12	**14420:1**	**20.56**	**45.32**	**18**	7289063710	High Needs Geographic HPSA	Mental Health	Designated	Geographic Population	296471	24.3
Covington County	"	"	"	**18**	"	High Needs Geographic HPSA	Mental Health	Designated	Geographic Population		
Forrest County	"	"	"	**18**	"	High Needs Geographic HPSA	Mental Health	Designated	Geographic Population		
Greene County	"	"	"	**18**	"	High Needs Geographic HPSA	Mental Health	Designated	Geographic Population		
Jefferson Davis County	"	"	"	**18**	"	High Needs Geographic HPSA	Mental Health	Designated	Geographic Population		
Jones County	"	"	"	**18**	"	High Needs Geographic HPSA	Mental Health	Designated	Geographic Population		
Lamar County	"	"	"	**18**	"	High Needs Geographic HPSA	Mental Health	Designated	Geographic Population		

APPENDIX E: HPSA Mental Health Designations by County

HPSA Name	HPSA Formal Ratio	HPSA FTE	# of FTE Short	HPSA Score	HPSA ID	Designation Type	HPSA Discipline Class	HPSA Status	HPSA Population Type	HPSA Designation Population	% of Population Below 100% Poverty
Marion County	"	"	"	**18**	"	High Needs Geographic HPSA	Mental Health	Designated	Geographic Population		
Pearl River County	"	"	"	**18**	"	High Needs Geographic HPSA	Mental Health	Designated	Geographic Population		
Perry County	"	"	"	**18**	"	High Needs Geographic HPSA	Mental Health	Designated	Geographic Population		
Wayne County	"	"	"	**18**	"	High Needs Geographic HPSA	Mental Health	Designated	Geographic Population		
Mental Health Catchment Area 6	**150143:1**	**1.5**	**13.51**	**19**	7287856439	High Needs Geographic HPSA	Mental Health	Designated	Geographic Population	225214	34
Attala	"	"	"	**19**	"	High Needs Geographic HPSA	Mental Health	Designated	Geographic Population		
Bolivar	"	"	"	**19**	"	High Needs Geographic HPSA	Mental Health	Designated	Geographic Population		
Carroll	"	"	"	**19**	"	High Needs Geographic HPSA	Mental Health	Designated	Geographic Population		
Grenada	"	"	"	**19**	"	High Needs Geographic HPSA	Mental Health	Designated	Geographic Population		
Holmes	"	"	"	**19**	"	High Needs Geographic HPSA	Mental Health	Designated	Geographic Population		

APPENDIX E: HPSA Mental Health Designations by County

HPSA Name	HPSA Formal Ratio	HPSA FTE	# of FTE Short	HPSA Score	HPSA ID	Designation Type	HPSA Discipline Class	HPSA Status	HPSA Population Type	HPSA Designation Population	% of Population Below 100% Poverty
Humpherys	"	"	"	**19**	"	High Needs Geographic HPSA	Mental Health	Designated	Geographic Population		
Leflore	"	"	"	**19**	"	High Needs Geographic HPSA	Mental Health	Designated	Geographic Population		
Montgomery	"	"	"	**19**	"	High Needs Geographic HPSA	Mental Health	Designated	Geographic Population		
Sharkey	"	"	"	**19**	"	High Needs Geographic HPSA	Mental Health	Designated	Geographic Population		
Sunflower	"	"	"	**19**	"	High Needs Geographic HPSA	Mental Health	Designated	Geographic Population		
Washington	"	"	"	**19**	"	High Needs Geographic HPSA	Mental Health	Designated	Geographic Population		
					"						
Mental Health Catchment Area 1	**51429**	**0***	**11.43**	**19**	7287508379	High Needs Geographic HPSA	Mental Health	Designated	Geographic Population	51429	31.1
Coahoma	"	**0***	"	**19**	"	High Needs Geographic HPSA	Mental Health	Designated	Geographic Population		
Tallahatchie	"	**0***	"	**19**	"	High Needs Geographic HPSA	Mental Health	Designated	Geographic Population		

APPENDIX E: HPSA Mental Health Designations by County

HPSA Name	HPSA Formal Ratio	HPSA FTE	# of FTE Short	HPSA Score	HPSA ID	Designation Type	HPSA Discipline Class	HPSA Status	HPSA Population Type	HPSA Designation Population	% of Population Below 100% Poverty
Tunica	**"**	**0***	**"**	**19**	"	High Needs Geographic HPSA	Mental Health	Designated	Geographic Population		
Quitman	**"**	**0***	**"**	**19**	"	High Needs Geographic HPSA	Mental Health	Designated	Geographic Population		
Mental Health Catchment Area 2	**51808:1**	**3.5**	**5.17**	**15**	7282654862	Geographic HPSA	Mental Health	Designated			
Calhoun	**"**	**"**	**"**	**15**	"	Geographic HPSA	Mental Health	Designated			
Lafayette	**"**	**"**	**"**	**15**	"	Geographic HPSA	Mental Health	Designated			
Marshall	**"**	**"**	**"**	**15**	"	Geographic HPSA	Mental Health	Designated			
Panola	**"**	**"**	**"**	**15**	"	Geographic HPSA	Mental Health	Designated			
Tate	**"**	**"**	**"**	**15**	"	Geographic HPSA	Mental Health	Designated			
Yalobusha	**"**	**"**	**"**	**15**	"	Geographic HPSA	Mental Health	Designated			
Lincoln County	**34114**	**0***	**1.71**	**19**	"	Geographic HPSA	Mental Health	Designated	Geographic Population	34114	25.4
Mental Health Catchment Area 15	**20641:1**	**3.5**	**12.55**	**17**	7285138189	High Needs Geographic HPSA	Mental Health	Designated	Geographic Population	72245	27.5

APPENDIX E: HPSA Mental Health Designations by County

HPSA Name	HPSA Formal Ratio	HPSA FTE	# of FTE Short	HPSA Score	HPSA ID	Designation Type	HPSA Discipline Class	HPSA Status	HPSA Population Type	HPSA Designation Population	% of Population Below 100% Poverty
Warren	"	"	"	17	"	High Needs Geographic HPSA	Mental Health	Designated			
Yazoo	"	"	"	17	"	High Needs Geographic HPSA	Mental Health	Designated			
Mental Health Catchment Area 4	**20763:1**	**4.9**	**17.71**	19	7284067607	High Needs Geographic HPSA	Mental Health	Designated	Geographic Population	101741	22.1
Alcorn	"	"	"	19							
Prentiss	"	"	"	19							
Tippah	"	"	"	19							
Tishomingo	"	"	"	19							
Mental Health Catchment Area 10	**24417:1**	**9.63**	**42.62**	19	7284036651	High Needs Geographic HPSA	Mental Health	Designated	Geographic Population	235133	23.9
Clarke	"	"	"	19							
Jasper	"	"	"	19							
Kemper	"	"	"	19							
Lauderdale	"	"	"	19							
Leake	"	"	"	19							
Neshoba	"	"	"	19							
Newton	"	"	"	19							
Scott	"	"	"	19							
Smith	"	"	"	19							

APPENDIX E: HPSA Mental Health Designations by County

HPSA Name	HPSA Formal Ratio	HPSA FTE	# of FTE Short	HPSA Score	HPSA ID	Designation Type	HPSA Discipline Class	HPSA Status	HPSA Population Type	HPSA Designation Population	% of Population Below 100% Poverty
Mental Catchment Area 11	**278494:1**	**0.5**	**6.46**	**20**	7282882443	Geographic HPSA	Mental Health	Designated	Geographic Population	139247	30
Adams	"	"	"	**20**							
Amite	"	"	"	**20**							
Claiborne	"	"	"	**20**							
Franklin	"	"	"	**20**							
Jefferson	"	"	"	**20**							
Lawrence	"	"	"	**20**							
Pike	"	"	"	**20**							
Walthall	"	"	"	**20**							
Wilkinson	"	"	"	**20**							
Mental Catchment Area 13	**18124:1**	**16.76**	**33.87**	**17**	7282718144	Geographic HPSA	Mental Health	Designated	Geographic Population	303763	20.2
Habcock	"	"	"	**17**							
Harrison	"	"	"	**17**							
Stone	"	"	"	**17**							
Mental Health Catchment Area 3	**14352:1**	**15.63**	**21.76**	**15**	7282713536	Geographic HPSA	Mental Health	Designated	Geographic Population	224323	20
Benton	"	"	"	**15**							
Chickasaw	"	"	"	**15**							
Itawamba	"	"	"	**15**							
Lee	"	"	"	**15**							
Monroe	"	"	"	**15**							

APPENDIX E: HPSA Mental Health Designations by County

HPSA Name	HPSA Formal Ratio	HPSA FTE	# of FTE Short	HPSA Score	HPSA ID	Designation Type	HPSA Discipline Class	HPSA Status	HPSA Population Type	HPSA Designation Population	% of Population Below 100% Poverty
Pontotoc	"	"	"	**15**							
Union	"	"	"	**15**							
DeSoto County	**31974:1**	**5.3**	**3.17**	**10**	7282256142	Geographic HPSA	Mental Health	Designated	Geographic Population	169460	10
Mental Health Catchment Area 7	**25766:1**	**6.59**	**31.14**	**17**	7281878473	High Needs Geographic HPSA	Mental Health	Designated	Geographic Population	169795	28.5
Clay	"	"	"	**17**							
Choctaw	"	"	"	**17**							
Lowndes	"	"	"	**17**							
Noxubee	"	"	"	**17**							
Oktibbeha	"	"	"	**17**							
Webster	"	"	"	**17**							
Winston	"	"	"	**17**							
	"	"	"	**17**							
Copiah County	**Non-Designated**										
Hinds County	**Non-Designated**										
Rankin County	**Non-Designated**										
Simpson County	**Non-Designated**										
Madison County	**Non-Designated**										

*Population to Provider Ratio with Zero is a Indicator that No Psychiatrist is in the Rational Service Area. Subject to change.

APPENDIX F: HPSA Mental Health Designations by County

Primary Care HPSA County Profile

Low Income - Adams County

HRSA Data Warehouse			
HPSA Type:	Population		
HPSA Score	19		
Primary Care #FTE	3.7		
Primary Care #FTE Short	2.3		
% of Population Receiving Fluoridated Water	51%		
Travel Time/Distance to Nearest Source of Care	162.95 **Minutes** 117.87 **Miles**		
Census Bureau	**County**	**State**	**National**
Median Age	40.7	36.5	37.6
Person 65 or Older	17.7%	15.1%	15.2%
Poverty Rate for Elderly	15.0%	13.7%	9.4%
25 and up: High School Graduates	80.7%	82.3%	86.7%
25 and up: Bachelor's Degree or Higher	17.8%	20.7%	29.8%
Median Household Income	$28,869	$39,665	$53,889
Uninsured	19%	15.8%	13.0%
Public Health Insurance Coverage	46.4%	37.6%	32.1%
Unemployment Rate	11.3%	10.3%	8.3%
Core Health Indicators			
Diabetes Prevalence (diagnosed with diabetes)	13.9%	12.0%	9.0%
Mortality Rate for Disease of the Heart	211.4	236.7	168.7
Woman Age 40+ (no Mammogram in Past 2 years)	26.4%	32.5%	26.3%
Adults Who are Current Smokers	24%	23%	14%
Infant Mortality Rate per 1,000 live births	12.5	9.6	N/A
Children with Obese Weight Status Based on Body Mass Index for Age 10-17	N/A	39.7%	31.3%
Suicide Rate (Crude Rate per 100,000)	12.35	13.18	12.63
County Health Rankings	**Health Indicators**		
Premature Deaths	Need for Health Services	11,000	
Poor-Fair Health	Need for Health Services	26%	
Low Birth Weight	Need for Health Services	13%	
Teen Birth Rate	Need for Health Services	64	
Adult Obesity	Need for Health Services	38%	
Uninsured Adults	Barrier to Access	22%	
Individuals Below Poverty Level	Barrier to Access	30.1%	
Unemployment	Barrier to Access	8.1%	
Preventable Hospital Stays	Lack of Access to Preventive/PC Services	82	
Population to Provider Ratio	Lack of Access to Preventive/PC Services; Barrier to Access	HRSA Data Warehouse PC: 4862:1 PC: 1175:1 MH: 2841:1 Dentist: 2232:1	