HIV INFRASTRUCTURE STUDY

*Jackson, Mississippi, **May 2015***

SOUTHERN HIV/AIDS STRATEGY INITIATIVE

Duke UNIVERSITY

Center for Health Policy & Inequalities Research AT DUKE UNIVERSITY

WITH SUPPORT FROM:

FORDFOUNDATION

http://southernaidsstrategy.org
Susan S. Reif – susan.reif@duke.edu
Elena Wilson – elena.wilson@duke.edu
Carolyn McAllaster – mcallaster@law.duke.edu
Miriam Berger – miriam.berger@duke.edu

TABLE OF CONTENTS

EXECUTIVE SUMMARY

BACKGROUND

Data from the CDC indicate that the Southern United States, particularly the US Deep South, has the highest HIV diagnosis rates and highest death rates among individuals diagnosed with HIV of any US region.[1]

To determine best approaches for improving HIV-related outcomes in communities within the targeted states, this study examines existing HIV-related prevention and care infrastructure and community characteristics of targeted state metropolitan statistical areas (MSAs) that are consistently among the 10 areas in the US with the highest HIV diagnosis rates. The study also examines HIV-related prevention and care infrastructure and community characteristics of MSAs with similar demographic characteristics to the high HIV impact MSAs but with less pronounced HIV/AIDS statistics. Due to consistently high HIV and AIDS diagnosis rates in Jackson and high levels of poverty and disease in the state of Mississippi, Jackson, MS was selected as one of the MSAs of study.[2,3] The results of this study of HIV in Jackson are described here within.

METHODS

This case study examined the infrastructure for HIV prevention and care in the Jackson MSA and explored the strengths and challenges of addressing HIV within the area by reviewing available data on HIV and related health conditions and by conducting 11 structured interviews with individuals working in the HIV prevention and care system and a focus group consisting of individuals living with HIV in the Jackson MSA. The interviews and focus group gathered information about participants' experiences and perspectives regarding HIV prevention and care, stigma, and other factors that may influence HIV epidemiology in the Jackson region. Data collection was completed in the spring of 2015.

RESULTS

The Jackson MSA has some of the highest HIV and AIDS diagnosis rates among large metropolitan areas in the US and has an HIV epidemic more concentrated among African American men who have sex with men (MSM) than the overall US.[3,4] In addition, the Jackson MSA must be considered in the larger context of the state of Mississippi, which is characterized by high levels of poverty and higher levels of disease and death rates, including death rates among individuals with HIV, than other areas of the country.[5,6] Study participants reported that HIV primary care is generally available in the Jackson MSA although significant barriers to obtaining care were noted including lack of adequate transportation resources, particularly for those living in some of the more outlying areas of the MSA, HIV stigma and confidentiality concerns, limited linkage to HIV care programs, and a need for greater collaboration and coordination of services among organizations. Additional community barriers were noted, including lack of adequate housing options and accessible, quality behavioral health services. Unstable housing and untreated behavioral health issues have been implicated as factors influencing medical outcomes for individuals living with HIV.[7,8,9] HIV-related stigma, both experienced and internalized, is reportedly prominent in the Jackson MSA and influences willingness to participate in HIV testing and care. This finding is consistent with quantitative research demonstrating a link between HIV stigma and poor HIV outcomes.[10,11,12,13] In the words of a focus group participant:

> *Oh my, Mississippi has a horrible stigma issue. These individuals are fear, non-stopping, disclosing anything because they are treated differently. Many of them are even hated for that disease. They will sit out there amongst their peers and deny. What happens then? You were talking about adherence … There is no adherence on the street because you're so afraid that somebody will see that medicine bottle and ask you, what drug is that you're taking, or some of the HIV medications require refrigeration. They can't put that in their bag.*

There exist a range of HIV testing and prevention options in the Jackson MSA including rapid HIV testing, mobile unit testing, and evidence-based prevention interventions. These prevention activities are generally funded by the CDC, as little state HIV prevention funding is available. A lack of adequate funding for prevention was consistently reported to be a significant limitation in reducing new HIV infections. Furthermore, state laws regarding abstinence education were reported to limit attempts to stem the increasing proportion of new HIV diagnoses occurring among youth.

Despite the limitations in addressing HIV in the Jackson MSA, the community has a number of critical strengths that can be built upon to enhance efforts to abate the HIV epidemic in the region. These strengths include committed providers, innovative programs in health promotion and education including the state's only LGBT-focused medical clinic and a multifaceted strategy for working in minority faith communities, as well as some collaborative partnerships between organizations and HIV care providers. To build on these strengths, additional resources are needed as well as

efforts to enhance the HIV services infrastructure, including strengthening community collaborations and coordinated efforts to optimally use available resources.

BACKGROUND

Data from the Centers for Disease Control and Prevention (CDC) regarding new HIV diagnoses in 2011, summarized in a Southern HIV/AIDS Strategy Initiative (SASI) manuscript, indicated that the South[i] had the highest HIV diagnosis rate of any US region.[1]

In 2011, nearly half (49%) of new HIV diagnoses reported (including all new HIV diagnoses reported regardless of stage of HIV disease) were located in the Southern US, while the South accounted for only 37% of the US population. [1,14]

A subset of Southern states is particularly affected by HIV disease and shares characteristics such as overall poorer health, high poverty rates, an insufficient supply of medical care providers and a cultural climate that likely contributes to the spread of HIV.[15,16,17] These states include Alabama, Florida, Georgia, Louisiana, Mississippi, North Carolina, South Carolina, Tennessee and Texas, henceforth referred to as the "targeted states." HIV and other STDs disproportionally affect individuals within the targeted states and these states share similarities in HIV-related outcomes including the highest death rates among individuals diagnosed with HIV in the US. [6,18] In addition, 32% of new HIV diagnoses were in the targeted states in 2011 while this region accounted for only 22% of the US population.[19,20] Moreover, all 10 MSAs with the highest AIDS diagnosis rates were located in the Southern region; nine of these areas were within the targeted states.[20]

To determine best approaches for improving HIV-related outcomes in communities within the targeted states, we examined existing HIV-related prevention and care infrastructure and community characteristics of targeted state metropolitan statistical areas (MSAs) that are consistently in the top 10 areas for HIV and/or AIDS diagnosis rates.[21] In 2013, Jackson, Mississippi was ranked eighth among U.S. MSAs in HIV diagnosis rates for adults and adolescents and second among the MSAs in AIDS diagnosis rates.[3] Thus, Jackson was selected as one of the MSAs of study.

METHODS

To gain a more in-depth understanding of the HIV epidemic in Jackson, we conducted a community case study using quantitative and qualitative data sources. This case study examined the infrastructure for HIV prevention and care in the Jackson metropolitan area and the strengths of and challenges to addressing the disproportionate HIV epidemic within the area. The study included 11 structured individual interviews with personnel working within the HIV prevention and care system in the area, community leaders, and HIV advocates. In addition, one focus group was conducted with individuals living with HIV in Jackson to gather their experiences and perspectives regarding HIV prevention and care, stigma and factors that may impact HIV epidemiology in their area. Data collection was completed between September 2014 and March 2015.

In addition to qualitative data collection, we identified and summarized existing data sources regarding HIV and STD epidemiology, other health status indicators, community health needs, and gaps in services in Jackson and the surrounding area. These data sources included community needs assessments, national surveillance reports, and state HIV epidemiologic reports.

FINDINGS

Metropolitan Area Description

Jackson is the capital of the state of Mississippi and had an estimated population of 172,638 residents in 2013.[22] Jackson is the most populous city both within Mississippi and Hinds County, where it is located.[23] The city was founded in 1822 and named for then Mayor Andrew Jackson, who was later elected U.S. President. During the Civil War, the city of Jackson was burned three times by Union troops, giving it the nickname of "Chimneyville." At the turn of the 20th century, fewer than 8,000 residents were living in Jackson; however, around 1900, the population started to grow substantially.[24] More recently, the population of Jackson declined by 0.5% since 2010; in contrast, during this same time period, Mississippi's overall state population increased by 0.8%.[22]

As the capital of Mississippi, Jackson's area economy is comprised of government services as well as major industries, including a Nissan auto plant and manufacturers of metal, airplane, machine parts, and engines. Jackson is also the location for the largest financial companies within the state and hosts the only medical school in the state—the

[i] The United States Census Bureau defines the Southern Region as including Alabama, Arkansas, Delaware, District of Columbia, Florida, Georgia, Kentucky, Louisiana, Maryland, Mississippi, Oklahoma, North Carolina, South Carolina, Tennessee, Texas, Virginia, and West Virginia.

University of Mississippi Medical Center—which employs more than 30,000 people.[24]

The Jackson MSA is comprised of six counties: Copiah, Hinds, Madison, Rankin, Simpson and Yazoo.[25] The estimated population of the Jackson MSA in 2012 was 576,800 people, ranking the area 92nd in population size among the 381 total MSAs in the country.[26] The total estimated population, population density and racial/ethnic breakdown for each of the six counties in the Jackson MSA are included in Table 1 below, by descending population size. The city of Jackson is located in Hinds County, the most densely populated county and the county with the highest proportion of black residents within the Jackson MSA.

Table 1: Population Demographics among the Jackson MSA Counties[22]

County	Total Estimated Population (2013)	Population Density – Persons per Square Mile (2010)	Race/ethnicity Breakdown (2013)
Hinds	244,899	282.0	White: 27.8% Black: 70.3% Latino: 1.6%
Rankin	146,767	182.6	White: 77.6% Black: 19.8% Latino: 2.6%
Madison	100,412	133.2	White: 57.8% Black: 38.5% Latino: 2.9%
Copiah	28,921	37.9	White: 47.3% Black: 51.1% Latino: 2.8%
Yazoo	27,883	30.4	White: 41.0% Black: 57.2% Latino: 5.4%
Simpson	27,500	46.7	White: 62.7% Black: 35.6% Latino: 1.7%
Mississippi	**2,991,207**	**63.2**	**White: 59.8%** **Black: 37.4%** **Latino: 2.9%**

According to the 2010 US Census, within the Jackson MSA, around 49% of residents were white and 48% were black.[27] In 2013, 59% of Mississippi residents were estimated to be white and 37% were estimated to be black. However, within the city of Jackson, during the same year, 18% of city residents were estimated to be white and 79% were estimated to be black. The Latino population in the city of Jackson was slightly lower than in the state overall (1.6% in Jackson versus 2.8% in Mississippi).[22]

Socioeconomic Landscape

Mississippi

According to the U.S. Census, in 2012, Mississippi had the highest poverty rate among the 50 states; at 24.2%, this was more than twice the poverty rate in the lowest ranked state, New Hampshire. In addition, the poverty rate in Mississippi increased by more than 3% between 2000 and 2012, which was the fourth highest rate increase among all states.[2] Moreover, according to the U.S. Department of Agriculture, the estimated prevalence of food insecurity in Mississippi (a lack of access at all times to substantial food for an active, healthy life for household members) between 2010 and 2012 was 20.9%, the highest in the country.[28]

Mississippi is often cited as one of the most impoverished states in the nation. According to the U.S. census, in 2012, Mississippi had the highest poverty rate among the 50 states.

Living in poverty can generate myriad consequences for children, including substandard or unstable housing, lack of academic achievement, behavioral problems and difficulty

accessing health care, among others.[29] According to *Kids Count* from the Annie E. Casey Foundation, the children's poverty level (defined as the proportion of children under age 18 who live in families with household incomes below the federal poverty level) in Mississippi increased from 30% in 2008 to 35% in 2012. In the U.S. overall, the children's poverty level during the same time period increased from 18% to 23%.[30] In 2008, Mississippi's proportion of children living in extreme poverty (subsisting at less than 50% of the federal poverty level) was 13.9%, which was higher than all other states and much higher than the national average of 7.9%.[31]

In addition, the quality of education is problematic in Mississippi. *Education Week's* Quality Counts Report placed the state of Mississippi last among the 50 states and the District of Columbia in K-12th grade student achievement in 2014. Only Mississippi and Washington D.C. were given an "F" grade in student achievement; the U.S. average grade for student achievement was a "C-." Mississippi also ranked among the 10 lowest states in providing young persons a chance at succeeding in life, financing of schools and improving the quality of teaching.[32]

Jackson MSA

According to the U.S. Bureau of Labor Statistics, employees in all sectors within the Jackson MSA had a mean annual salary of $39,660 and a median hourly wage of $14.57 in May 2013, which was $2.30 less per hour than the national median hourly wage.[33] In addition, in 2012, the per capita personal income (PCPI) of the Jackson MSA ranked 167th in the U.S. and was 90% of the national average.[26] Within the city of Jackson, the median household income between 2009 and 2013 was $32,708, over $6,000 below Mississippi's median income during the same time period. Furthermore, the poverty rate between 2009 and 2013 within the city of Jackson was 30.2%, which was higher than the overall state poverty rate of 22.7% during the same period.[22]

Within the Jackson MSA, county differences in income levels and poverty rates reflect the socioeconomic disparities within the region (See Table 2 below). Four of the six counties comprising the Jackson MSA (Copiah, Hinds, Simpson and Yazoo) possessed poverty rates roughly equivalent or above Mississippi's poverty rate and all four had poverty rates that were well above national averages. Hinds County in particular had a poverty rate that was much higher the national rate and above Mississippi's poverty rate; the median household income in Hinds County was also under the state's median household income ($37,626 versus $39,031) as well as much lower than the national average ($53,046). Madison and Rankin counties, in contrast, possessed poverty rates below national and state rates as well as median household incomes that were much higher than the state and national income levels. Moreover, Madison and Rankin counties had the lowest average annual unemployment rates in 2013 among the Jackson MSA counties and Copiah and Yazoo counties had unemployment rates above state unemployment rates for the same year. The county that arguably had the most discouraging economic indicators during this time period was Yazoo County, as it possessed the highest poverty rate, lowest median household income and highest unemployment rate within the Jackson MSA.

According to a report from the Brookings Institution, among the 100 largest metropolitan areas in the country, Jackson ranked 10th for their concentrated poverty rate of 22.4%, as compared to an average of 11.7% among the top 100 metro areas. (Concentrated poverty rate is defined as neighborhoods with at least 40% of individuals living below the poverty line). High concentrated poverty is often detrimental to community well-being as these areas often possess depressed home ownership values, higher crime rates, low-performing schools and thus fewer opportunities for educational success, and poorer physical and mental health outcomes for residents.[34]

Table 2: Poverty, Income and Unemployment Data from the Jackson MSA Counties

County	Poverty Rate-All Persons (2009-2013)[22]	Median Household Income (2009-2013)[22]	Annual Average Unemployment Rate (2013)[35,36,37]
Copiah	**26.3%**	**$35,421**	**9.2%**
Hinds	**25.3%**	**$37,626**	7.9%
Madison	12.7%	$59,904	6.3%
Rankin	11.5%	$57,380	5.1%
Simpson	22.6%	**$38,362**	7.3%
Yazoo	**35.5%**	**$26,336**	**11.0%**
Mississippi	**22.7%**	**$39,031**	**8.0%**
U.S.	**15.4%**	**$53,046**	**7.4%**

NOTE: *Bolded figures indicate county figures that represent higher poverty rates, lower median incomes or higher unemployment rates than overall Mississippi figures.*

Between 2008 and 2012, 26.4% of Jackson city residents aged 25 and older possessed a Bachelor's degree or higher, which was higher than the rate for Mississippi (20.0%) but slightly lower than the rate in Hinds County (27.4%).[22] Overall education rates were lower in Jackson, Hinds County and Mississippi than in the country, as 29% of Americans aged 25 and older possessed a Bachelor's degree or higher in the US overall during the same time period.[38] The same trends applied to possessing a high school diploma or higher among residents aged 25 and older between 2008 and 2012. The rates among residents in the city of Jackson (82.8%), Hinds County (84.6%) and Mississippi (81.0%) were all lower than among U.S. residents overall during the same time period (85.7%).[22,38]

Health Indicators

A community health needs assessment was conducted by St. Dominic-Jackson Memorial Hospital in 2012 of the geographic area surrounding Jackson. Members of a task force from a variety of Jackson organizations met to identify priority health issues in the St. Dominic Hospital primary service area – Hinds, Rankin, and Madison counties – as well as nine other counties within the secondary service area. They reviewed local quantitative and qualitative data to determine priority areas. They identified the top three most important health issues: obesity, heart disease and mental health. They also felt that lack of access to care was a critical issue that warranted special examination within the service area.[39]

Findings from St. Dominic-Jackson Memorial Hospital's assessment were similar to those of Mississippi Baptist Health Systems, which also conducted a community health needs assessment of Hinds, Rankin and Madison counties. Their needs assessment contained a more in-depth analysis of health issues and health disparities in the area that varied by race and gender. They determined the target health status issues to address as: heart disease, stroke and diabetes; infant mortality; HIV/AIDS; and access to care. In explaining some of the disparities in the area, the needs assessment suggested a variety of potential influences including demographics of the counties that differ primarily by race; low educational levels; healthcare provider availability variability by county; Mississippi's rank as lowest in per-capita state public health funding among the Southeastern states and a sedentary lifestyle.[40]

In 2010, Mississippi was ranked last among all 50 states and the District of Columbia for expected life expectancy at birth.

Morbidity and Mortality

In 2010, Mississippi was ranked last among all 50 states and the District of Columbia for expected life expectancy at birth (75 years in Mississippi versus an average 78.9 years nationally).[41] In addition, Mississippi had the highest age-adjusted mortality rate in the country (961.9 deaths per 100,000 population), 28.9 % higher than the overall U.S. rate (746.2 deaths per 100,000 population).[42]

Mississippi historically has possessed higher rates of childhood and adult obesity, as compared to other U.S. states. In 2009, for the fifth year in a row Mississippi had the highest obesity rate among adults.[43] In 2012, Mississippi was ranked second in the nation for adult obesity rate (after Arkansas) and the overall adult obesity proportion remained high, at 34.6 %, up from 28.1% in 2003 and 15% percent in 1990.[44] According to the Mississippi 2012 Behavioral Risk Factor Surveillance Survey (BRFSS), an estimated 31% of the state's adult population reported not participating in any physical activity outside of work in the past 30 days.[45]

In addition, cardiovascular disease (CVD) is a growing concern in Mississippi, both in terms of its prevalence and the associated healthcare costs. According to the 2012 BRFSS, nearly 11% of Mississippi adults reported having CVD, such as coronary heart disease, angina, previous heart attack, or stroke.[45] Moreover, Mississippi hospital discharge data revealed that in 2010, over 22,000 inpatient hospitalizations were from heart disease and stroke as the primary diagnosis.[46] In 2013, Mississippi had the highest CVD-death rate of all U.S. states, and in 2011, heart disease was the leading cause of age-adjusted mortality in Mississippi, representing 25% of all deaths.[47] Moreover, in 2012, CVD was the leading cause of death in approximately 70% of the 82 counties in Mississippi, including Hinds.[48]

Another issue in Mississippi, and in particular within Hinds County, is violent crime. In 2013, the violent crime rate in Hinds County was 712 per 100,000 population – more than twice the violent crime rate of 280 per 100,000 population in Mississippi overall.[49] Moreover, in 2012, the mortality rate within the county due to homicide was 31.4 per 100,000 population among non-white males, nearly six times the mortality rate among white males (5.4 per 100,000 population).[48] The mortality rate from homicide in Mississippi among whites during 2012 was similar to the rates in Hinds County; however the mortality rate from homicide among non-whites was nearly twice as high in Hinds County than in the state overall.[50]

Sexual and Perinatal Health

In 2012, Mississippi was ranked second highest in the 50 states for teen birth rate.[51] In 2012, the overall teen pregnancy rate in Mississippi was 27.4 per 1,000 females aged 10 to 19; among non-white teens, the rate was 33.1 per 1,000 females aged 10 to 19.[52] To understand the connection between teen pregnancy and content and extent of sex education received, a pivotal study that analyzed

national sex education and teen pregnancy data, found that in comparison to abstinence-only programs, comprehensive sex education was associated with a 50% lower risk of teen pregnancy.[53] Although sex education is state-mandated in Mississippi, its curriculum must stress abstinence and the importance of sex within the confines of marriage. HIV education is not state-mandated and when HIV prevention information is covered, it must also stress abstinence. Localities may include topics such as contraception or STDs, but only with permission from the State Department of Education.[54]

In addition, Medicaid paid for nearly 65% of births in Mississippi in 2010, as compared to around 48% nationally.[55] The infant mortality rate (deaths of babies under one year of age, per 1,000 live births) in Mississippi in 2012 was 9.7 and in 2011, the most recent year for which state comparison data were available, Mississippi had the highest infant mortality rate of all 50 states and higher than the national infant mortality rate of 6.05.[56] Pronounced racial disparities for infant mortality continue to exist in Mississippi; the infant mortality rate in 2012 among white women in the state was 5.4, lower than the state average, but was more than double (13.1) among non-white women.[50]

Sexually transmitted diseases (STDs) are also a prevalent problem within Hinds County and in the state; STD rates among county residents are higher than in the state overall. In 2012, the gonorrhea rate in Hinds County was 548.4, the chlamydia rate was 1240.2, and the primary and secondary syphilis rate was 24.6 - all per 100,000 population. The gonorrhea rate in Hinds County in 2012 was more than twice Mississippi's overall gonorrhea rate. Mississippi was also among the top five states (all located in the South) and Washington, D.C. with the highest gonorrhea rates in the country. In addition, the rate in Hinds County for chlamydia was nearly twice the rate in Mississippi and the rates for primary and secondary syphilis were nearly five times the rates for syphilis in the state.[57]

Health Care Access

Health insurance access is problematic within Mississippi, and specifically within Hinds County (See Table 3). According to the U.S. Census, as compared to the country overall, Hinds County and Mississippi had lower insurance coverage rates in all three groups that often lacked health insurance (employed, unemployed, and not in labor force).

Table 3: Uninsured Rates Comparison of Hinds County, Mississippi and U.S. (2008-2012)[58]

Location	Employed, no health insurance	Unemployed, no health insurance	Not in labor force, no health insurance
Hinds County	19.7%	54.1%	27.8%
Mississippi	20.2%	58.9%	25.3%
U.S.	17.4%	46.4%	21.7%

Additionally, there are primary care physician shortages in several of the Jackson MSA counties. According to the Health Resources and Services Administration (HRSA), as of June 2013, the entire counties of Copiah and Yazoo were designated as primary care health professional shortage areas (HPSA). Hinds, Madison and Rankin counties also each had at least one facility with a primary care professional shortage. The HPSA designation indicates that more than 3,500 people are served by one primary care physician within the area.[59]

Copiah, Madison, Simpson and Yazoo counties, and parts of the Census tracts of Hinds and Rankin counties were also designated as Medically Underserved Areas (MUAs).[60] The MUA determination is calculated from four variables: ratio of primary medical care physicians per 1,000 population, infant mortality rate, percentage of the population with incomes below the poverty level, and percentage of the population aged 65 or over.[61]

HIV/AIDS Landscape

Mississippi

Similar to other targeted states, Mississippi has a high HIV disease burden with corresponding poor outcomes for those who are infected. In 2013, Mississippi was ranked ninth in the country for HIV diagnosis rates, with a diagnosis rate of 18.0 per 100,000 population, an increase from the previous year.[62,63] Within the targeted states, the five-year survival rate for those diagnosed with HIV or AIDS (indicating that a person was still living five years after an HIV or AIDS diagnosis) in 2003-2004 was the second lowest for both HIV and AIDS in Mississippi, only behind Louisiana. In Mississippi, of those diagnosed with HIV, five years later, 17% were no longer living; of those diagnosed with AIDS, five years later, 32% had died. As a comparison, in the U.S. overall, 14% of those diagnosed with HIV and 23% of those diagnosed with AIDS had passed away five years later.[6]

In Mississippi, of those diagnosed with AIDS, five years later, 32% had died.

Services for HIV/AIDS are provided within nine public health districts that are managed by the Mississippi State Department of Health (MSDH).[64] Since 2009, all 82 Mississippi counties have had at least one person living with HIV, with an increasing overall HIV prevalence rate in recent years. In 2009, the HIV prevalence rate in the state was 237.3 per 100,000, jumping to 279.2 per 100,000 by 2013.[65] In addition, according to the CDC, at the end of 2012, the total number of people living with HIV in Mississippi was estimated to be 8,861, of which approximately 4,043 (46%) were living with AIDS.[3] In 2011, 28% of individuals were diagnosed with HIV in Mississippi late in their disease progression.[66,67]

In 2013, African Americans made up 72% of people living with HIV, despite being only 37% of the state's population.

Similar to national trends, not all demographic groups are equally affected by HIV in Mississippi. In 2013, males represented 70% of all persons living with the disease and African Americans comprised 72% of people living with HIV, despite being only 37% of the state's population that year.[68,22] Moreover, the rate of HIV diagnoses was seven times greater among African Americans than among whites (37.8 per 100,000 versus 5.1 per 100,000, respectively).[69]

HIV infection is also not equally distributed throughout all geographic areas of Mississippi; most new HIV cases were identified in District 5, where 38% of all persons living with HIV disease in the state resided and 35% of new HIV diagnoses were identified at the end of 2013.[67,68] The six counties of the Jackson MSA are located within District 5, which includes an additional four counties. District 5 is the most populous district in the state.[64] In 2013, District 5 reported 197 new HIV cases, the highest number of diagnoses among all public health districts and the highest corresponding rate of diagnosis (30.8 per 100,000).[65] In 2013, District 5 also had the largest total number of HIV-positive residents among all districts in the state (3,991) and the highest corresponding HIV prevalence rate (623.2 per 100,000).[70] Rural areas have been particularly affected by HIV in Mississippi. In 2010, approximately 43% of prevalent HIV cases in Mississippi were located in rural areas.[4] In contrast, in 2011, approximately 7% of the prevalent HIV cases in the U.S. were in non-metropolitan areas.[6]

43% of HIV cases in Mississippi were in rural areas.

Jackson MSA

The Jackson MSA has consistently been among the US metropolitan areas (population 500,000 or more) with the highest HIV/AIDS diagnosis rates. According to 2013 CDC surveillance data, the Jackson MSA was ranked eighth among all MSAs for HIV diagnosis rate among all adolescents/adults, with an estimated 170 new HIV cases and a total of 3,307 adolescents/adults living with HIV/AIDS at the end of 2012.[3] In 2011, among males aged 13 to 24 years, the Jackson MSA ranked first among all MSAs for HIV diagnosis rate (107.2 per 100,000 population) and second for the HIV diagnosis rate among males aged 35 to 44 (98.1 per 100,000 population).[21] Among females, the HIV diagnosis rate among adolescent and adult women in the Jackson MSA was 18.2, approximately double the rate among females in the MSAs nationally (9.5) and representing an overall rank of eighth in diagnosis rates among adolescent and adult females in the MSAs.[21] Hinds County had the largest total number of HIV-positive residents in 2013 and the highest HIV prevalence rate among all counties in the state.[71] (See Table 4 below for a CDC summary of HIV prevalence among the Jackson MSA counties, sorted from highest to lowest HIV prevalence rate). As demonstrated below, in 2012, four out of six of the Jackson MSA counties had HIV prevalence rates above the state average rate. The rate in Hinds County was over three times the state average prevalence rate and over four times the prevalence rate in Simpson County, the Jackson MSA County with the lowest HIV prevalence rate.

The Jackson MSA was ranked eighth among all MSAs for HIV diagnosis rate.

Table 4: HIV Prevalence by Jackson MSA County (2012)[71]

County	HIV Prevalence Number	HIV Prevalence Rate, per 100,000 population
Hinds	2,303	1,135.1
Yazoo	113	493.3
Rankin	522	438.7
Copiah	98	412.8
Madison	210	261.8
Simpson	55	248.4
Mississippi	8,753	357.2

In addition to having a high HIV diagnosis rate, the Jackson MSA had an AIDS diagnosis rate that was much higher than other similar-sized metropolitan areas in the country. In fact, the Jackson MSA was ranked second among MSAs for highest AIDS diagnosis rate in 2013 (29.6 per 100,000 population), which was nearly three times the AIDS diagnosis rate in US MSAs with

populations greater than 500,000 (10.0 per 100,000 population).[3]

The Jackson MSA was ranked sixth among the nation's MSAs for the highest death rate among males with HIV and had the ninth highest death rate among females with HIV.[21] In District 5, HIV was one of the top causes of death in 2012, with a rate of 7.8 per 1,000 population. However among whites, it was 1.0 per 1,000 and among non-whites, was 14.2 per 1,000 population.[72] In the city of Jackson, close to one-half of HIV diagnoses in 2010 (48%) were among African American men who have sex with men (MSM), representing the highest proportion of new HIV diagnoses occurring among African American MSM in the US.[4] In 2007, the MSDH reported an increase in the number of young black MSM who received HIV diagnoses at an STD clinic in Jackson. Consequently, the CDC and MSDH did a survey of 29 young black MSM from the Jackson area who had received HIV diagnoses between January 2006 and April 2008 and characterized their risk and testing behaviors. Results indicated that during the year leading up to their HIV diagnoses, 69% (20 people) had unprotected anal intercourse, but only 10% (3 people) thought they were likely or very likely to acquire HIV infection in their lifetimes. This study was written up in the CDC's *Morbidity and Mortality Weekly Report* in 2009.[73]

In the city of Jackson, 48% of HIV diagnoses in 2010 were among African American MSM.

HIV/AIDS Funding Sources

During the 2013 fiscal year, Mississippi received over $27.1 million in total HIV/AIDS federal grant funds from a variety of agencies, with the HRSA Ryan White Program comprising roughly two-thirds of the total federal funds provided.[74] In 2013, Mississippi was awarded $13.7 million in Ryan White Part B funding to provide HIV/AIDS core medical and support services to indigent state residents.[75] During fiscal year 2012, four medical and ancillary care providers in Mississippi received Ryan White Part B funding and six providers received Ryan White Part C funding (one provider received both Part B and C funding). Two of the Part B providers were located within the city of Jackson; one of these providers was a clinic within the Mississippi State Department of Health—Crossroads Clinics Central—and the other was University of Mississippi Medical Center. The Jackson MSA receives no Ryan White Part A funding.[76]

Funding from Medicaid also covers medical care for HIV-positive individuals who are eligible. To be eligible for Medicaid in Mississippi, as of April 2015, parents of dependent children (family of three) must subsist at 27% of the federal poverty level or below, ranking the state 46th among all states and Washington, DC for most restrictive income requirements.[77] Because of this stringent income restriction and the lack of current plans to expand Medicaid under the Affordable Care Act, according to analyses conducted by the Kaiser Family Foundation, it is anticipated that 37% of all non-elderly adults in Mississippi will remain uninsured because they fall within the "coverage gap." In addition, Mississippi's estimated uninsured rate was the highest among the 24 states not expected to expand Medicaid.[78]

The average amount spent during fiscal year 2011 per Medicaid enrollee in Mississippi (including state and federal payment sources) was $5,335, the 18th lowest amount among all states and $455 below the national average amount spent per enrollee.[79] In addition, under Mississippi Medicaid, generic medications are required if available unless brand product is preferred, with a maximum of five prescriptions per month, including two brand prescriptions (five brand prescriptions per month are allowed for HIV/AIDS medications). Transportation to medical appointments under Medicaid is allowed with prior authorization; these services are provided by a contracted transportation broker.[80] HIV testing under Medicaid in Mississippi is provided solely to beneficiaries when determined to be medically necessary; this is in contrast to the 34 states plus the District of Columbia that cover routine HIV testing for all Medicaid beneficiaries aged 15 to 65.[81]

HIV INFRASTRUCTURE

HIV Medical Care

In Jackson, there are a number of options for HIV medical care. The University of Mississippi Medical Center Infectious Diseases Clinic, Adult Special Care Clinic, provides care to approximately 1,800 individuals living with HIV in the region (See Appendix 1 for more detailed information about services and their relation to the HIV Cascade). This clinic has HIV medical care providers as well as OB services and case managers. The clinic is funded primarily through Ryan White Parts B and C. Interview participants reported that there were waiting lists to receive care at the clinic until about a year ago when additional HIV medical care services became available in the Jackson area. According to an interview participant, individuals living with HIV who are new to the Adult Special Care Clinic are usually seen by a case manager within 2 weeks of initial contact and a medical provider within a month. The University of Mississippi Medical Center also has a private clinic, Pavilion Clinic, that provides HIV medical care for individuals living with HIV who are privately insured. Interview participants reported no other private ID practitioners

that routinely treat individuals with HIV in the Jackson area. A number of HIV practitioners provide care at multiple clinics throughout the community.

AIDS Healthcare Foundation (AHF) opened an HIV care clinic in Jackson within the last year. This clinic has a Family Nurse Practitioner (FNP) to provide HIV primary care. Some of the costs of the providing HIV care are offset through the AHF clinic's 340B pharmacy program. The Open Arms Clinic, which is affiliated with the AIDS Service Organization (ASO) My Brother's Keeper, is also located in Jackson and provides HIV medical care to anyone in the area in need. The Open Arms clinic specializes in providing care for the LGBT community and is partially funded by a grant from the Elton John Foundation. In addition to treatment for HIV, the Open Arms Clinic provides other medical services such as diabetes and hypertension treatment, hormonal therapy and Pre-Exposure Prophylaxis (PrEP).

The Federally Qualified Health Center (FQHC) in Jackson, Jackson-Hinds Comprehensive Health Center, provides some HIV care but reimbursement is reportedly a concern, as the clinic is not designated as a Ryan White provider and thus does not have access to Ryan White funding for medical care. The Mississippi Department of Health STD/HIV Branch is reportedly working to initiate a collaborative relationship with the FQHC to address reimbursement issues. Another local provider, the Crossroads Clinic, offers STD testing and treatment and HIV testing and early intervention care. Crossroads Clinic is located in the Jackson Medical Mall, which is a centrally-located facility that was converted from a shopping mall and contains medical care clinics, health department offices and programs from Jackson State University. The Crossroad Clinic reportedly diagnoses around 100 individuals with HIV per year; approximately 10% of MSM tested at the site are found to be HIV positive. In addition, the STD positivity rate is very high at the clinic.

Many individuals in the outlying counties of the Jackson MSA must travel to receive HIV medical care. However, for individuals within Yazoo and Madison Counties, the GA Carmichael Community Health Center, an FQHC, offers HIV medical care and case management. GA Carmichael is located in Madison County, but also provides HIV care once every other week in Yazoo County. The HIV medical care is provided by a nurse practitioner experienced in HIV care. This clinic receives Ryan White funding to provide HIV services and treats approximately 125 individuals living with HIV. GA Carmichael was reported to have the capacity to see new patients within a few weeks of referral.

Interview participants differed in their opinions of whether there is enough HIV medical care capacity to meet the entirety of HIV care needs in the Jackson MSA. Although most participants said that there seemed to be enough care available, there were some who believed that while the situation had improved, there still was not enough HIV care available to meet all of the needs in the community. One participant stated that there were enough providers in Jackson to address the needs of individuals living with HIV in Jackson; however, when the individuals traveling to Jackson for care are included, the supply of providers becomes more stretched. Other participants discussed the difficulty of having one main central clinic, as some individuals do not want to be seen in the waiting room for fear of stigma and disclosure, thereby prompting them to not engage in treatment or to travel elsewhere for their care. Some participants discussed motivation to engage in care and reported this to be a larger barrier to treatment than the availability of care. It was also suggested by participants that HIV care was limited by the number of practitioners willing to learn about HIV treatment and be associated with HIV care and clientele. The AIDS Education and Training Center in the area provides extensive education and support for physicians and physician extenders who are willing to provide HIV care.

Several participants remarked that there were additional negatives within the HIV care system including lack of collaboration between agencies and no centralized or coordinated system of entry into care. Focus group participants talked about their impressions of the care provided at some of the clinics, particularly the Adult Special Care Clinic and Crossroads Clinics, and several remarked that they found the care to be impersonal and not welcoming at these clinics. They believed that this climate had likely been a barrier to engagement and retention in care for some clients. However, these participants had not sought care at these clinics in a year or more and thus were not certain whether the HIV care environment had changed in the interim. One participant relayed impressions of the care in Jackson, saying:

> *I mean, you've got like a bullet proof shield and they give you like a ticket and you sit there and they—number 69, and you go back and you talk to a case worker behind a bullet proof shield. It's just very uncomfortable. So, I mean, the care is here, in the public sense, but it's a lot of people, I think, are kind of—it's not comfortable to go there and so a lot of people I think kind of avoid it.*

Dental care is available at the Crossroads Clinic for Ryan White Part B eligible patients and at the Jackson Medical Mall Dental Clinic operated by the University of Mississippi School of Dentistry. This clinic receives Ryan White Program support to provide dental care for patients who are uninsured or are unable to afford the care. For individuals who have Medicaid, participants reported that low reimbursement rates for dental care by Medicaid are a

barrier, as many dental providers do not accept Medicaid. For individuals living with HIV in the Yazoo, Hinds, and Madison county areas, the GA Carmichael FQHC provides some dental care.

Mississippi was awarded a Care and Prevention in the United States (CAPUS) grant in 2013. Some of the funding from the MS CAPUS grant is being used to provide linkage to HIV care services. At the time of the data collection, this program was being initiated. One linkage coordinator is located at the Open Arms Clinic while other coordinators are employed by the Jackson Medical Mall Foundation. The Jackson Medical Mall Foundation developed and manages the Jackson Medical Mall and has also received funding from the Mississippi Department of Health to administer funds for the Housing Opportunities for Persons with AIDS (HOPWA) program. Some anxiety was mentioned among interview participants about a lack of HIV expertise and experience within the foundation, as the foundation has not provided HIV services in the past. The linkage coordinators will work with newly-diagnosed individuals and individuals not currently in HIV care in the Jackson area to engage them in medical services.

Although the state health department collects data on HIV laboratory work, they have not yet begun to use this data to inform efforts to link and retain individuals with HIV in medical care. The Mississippi Department of Health is using CAPUS funding to develop and implement plans to use their HIV laboratory data for linkage and retention in care. They have contracted a data management agency to assist them in implementing a data use plan.

HIV Medication

Individuals without health insurance or means to pay for HIV medications are eligible for the AIDS Drug Assistance Program (ADAP) if they meet the financial eligibility criteria of 400% of the federal poverty level. The state has a centralized pharmacy and mail order prescription service available for individuals covered under the ADAP program. At the time of the interviews, the state Ryan White program was in the process of initiating a program to use Ryan White funds to cover copays and deductibles for individuals with private health insurance who need this assistance so that they can maintain their private insurance rather than requiring enrollment in the ADAP program for medication coverage. Program administrators are also exploring the possibility of a pilot project to use Ryan White funding to pay premiums for people eligible for Affordable Care Act (ACA) coverage.

Transportation to Medical Care and other Services

Bus passes and some gas stipends are available through local ASOs and medical clinics to assist clients without reliable transportation to care. In addition, Grace House, an HIV housing program, assists with transportation for their residents. However, despite these resources, participants reported that there are more transportation needs than can be met with the available resources. Bus services only run at certain times of the day and are limited outside of the Jackson city limits. Medicaid covers transportation to medical care but requires a 3-day notice before the date of transportation.

There are more transportation needs than can be met with the available resources.

For individuals receiving HIV care at the GA Carmichael FQHC, funds are available through their Ryan White program to assist with transportation to medical care. Transportation was reported to be challenging for individuals living outside of Jackson who receive HIV care at one of the HIV primary care options in Jackson as well as for those in Jackson who choose to receive their care outside of their own community. To address the needs of individuals living outside of Jackson and in other parts of the state that have difficulty obtaining transportation to care, CAPUS funding is being used to work with transportation companies to provide greater transportation availability for individuals to access HIV care.

Barriers to Care

When asked specifically about barriers to participating in medical care, interview participants listed a number of structural barriers including lack of transportation and child care availability, complicated health care systems that can be difficult to navigate, poor cultural sensitivity among some health professionals particularly for transgender individuals, use of urgent care and emergency departments as primary care, lack of stable housing, and lack of health system availability in general for men between aged 18-65. This lack of medical care availability for men results in few places to provide HIV/STD education and health promotion for this population. Women's health services for the general population were reported to be more accessible, primarily because of the availability of obstetrics and gynecology services.

Other barriers were sociodemographic in nature, such as HIV-related stigma, behavioral health concerns, substantial poverty, lack of health literacy, a cultural norm for seeking care only when it is seen as absolutely "necessary," racism, and denial. Focus group participants also described barriers such as lack of political support to address HIV as well as that people living with HIV sometimes do not perceive that it is urgent for them to receive medical care. Additional barriers mentioned by focus group participants included lack of education, "being

afraid to go to a clinic because of being seen", and "peer pressure."

HIV Social Services

Case Management and Support Groups

Ryan White Part B funds cover HIV case management services in the Jackson MSA for those eligible for Ryan White funding. HIV case managers are located in the Open Arms clinic, GA Carmichael FQHC, the University of MS Medical Center Adult Special Care Clinic and the Health Department. Although Medicaid has case managers, they do not have dedicated HIV case management services. CAPUS funds are being used to pay for a case manager for individuals who are not eligible for Ryan White. There seemed to be consensus among those interviewed that the HIV case management that exists in the community is of high quality, but a few participants reported that HIV case managers are stretched to provide services for all who need them due to funding constraints. Interview and focus group participants reported that there are very few peer mentors available in the area and expressed a need for more peer services.

Several support groups are available for individuals living with HIV. These groups are located at the ID clinics including Crossroads Clinic, Open Arms Clinic, and the Adult Special Care Clinic. The Open Arms Clinic has groups that are gender specific. In addition, Building Bridges, a local AIDS Service Organization, and Grace House, a local housing organization, were reported to have HIV support groups. Focus group participants reported on the existence of support groups, but information was not consistent and it seemed that many groups had dissolved over time due to lack of attendance and organizational support.

Housing

Interview and focus group participants reported that there are significant housing concerns for individuals living with HIV in the area and for those living in poverty in general. According to study participants, Section 8 housing is rarely available, the supply of affordable housing is woefully inadequate, and homeless shelters are crowded and have lost funding in recent years. Housing resources for the young MSM population, particularly the transgender population, were said to be scarce. Homeless MSM youth and other individuals with HIV often end up couch surfing due to limited housing resources. Participants also reported that to further complicate the situation, the Mississippi Housing Options for Person with AIDS (HOPWA) program has gone through challenges in recent years including having funding suspended at one point. The Mississippi Health Department is now contracting with the Jackson Medical Mall Foundation to manage HOPWA funds in the Jackson area. The HOPWA funds have primarily been used for the HOPWA category "short term rent, mortgage, utility" (STRMU). Several interview participants reported that the HOPWA program can be difficult to access and expressed frustration that current eligibility criteria seem to require that a person have received an eviction notice to obtain HOPWA financial assistance.

There are significant housing concerns for individuals living with HIV in the area.

Grace House in Jackson provides housing for chronically homeless individuals living with HIV. Grace House receives money from the HUD Special Needs Assistance Programs and through the federal HOPWA program to provide this housing. The Grace House program has three phases of housing available, including 20 beds for transitional housing for up to one year, 9 beds in permanent housing for individuals who they deem will be unable to maintain successful housing on their own due to mental health and medical issues, and master leases on 18 other houses and tenant-based rental vouchers for individuals ready for independent housing. They typically house 130-150 individuals per year in these programs. They also provide short-term rental assistance. Tenants in Grace House's facilities are able to access supportive services including substance abuse treatment, support groups and anger management, although it was reported that most tenants rarely utilize these services beyond those living in transitional housing.

Legal Services

The Mississippi Center for Justice has a program to provide legal representation for individuals living with HIV who have experienced discrimination in housing, employment, or a breach of confidentiality in a medical setting in the state of Mississippi. They also provide education in the general community, with individuals living with HIV, and those providing services for individuals with HIV to raise awareness about HIV and HIV discrimination and privacy. One of the goals of this community education is to prevent future discrimination for individuals living with HIV. The Mississippi Center for Justice HIV program also participates in HIV advocacy efforts on a federal and state level.

Interview and focus group participants identified no legal resources in the Jackson MSA that are specifically designed to assist individuals living with HIV with other legal needs such as Social Security issues, wills, healthcare powers of attorney, and family law. Individuals with HIV without the means to engage a private lawyer must attempt to access an overburdened public legal aid system to address these types of legal issues.

Mental Health/Substance Abuse Care

In Mississippi, mental health and substance abuse services are separated into 15 districts. Drug and alcohol services are provided in all districts and mental health services are often contracted to private organizations. Interview participants reported that obtaining mental health and substance abuse care through these systems can be very challenging for those with no source of insurance. Staff at the HIV medical care clinics collaborate with substance abuse and mental health systems to facilitate care and reduce barriers as possible.

The University of Mississippi Adult Special Care Clinic and the Open Arms Clinic both have a part-time mental health care provider. In addition, for Grace House residents, there are alcohol and drug treatment services available on-site. Grace House also provides transportation to other mental health and substance abuse services as well as to 12-step meetings. Focus group participants discussed the difficulty of finding mental health care, particularly psychiatric care, as psychiatry services are not reported to be available at the HIV medical care clinics and are challenging to access in the public health sector.

Additional barriers to mental health and substance abuse treatment reported by participants were individuals not wanting to access services because of issues such as stigma and denial of a mental health or substance use problem. In addition, one respondent discussed how services are available but quality is a concern:

> *The quality (of services)—that is an issue. The majority of them go through the same clinic, which is a government-run state clinic. They are run through like cattle and given prescriptions. Very little therapy is offered. It takes forever to get an evaluation. Supposedly each one is assigned a case manager. The majority I have never seen.*

HIV Testing/Prevention

HIV testing is offered through a number of organizations in the Jackson MSA, including the health departments in each county. The county health departments provide phlebotomy for organizations that conduct rapid testing. HIV testing is also facilitated by ASOs, including Building Bridges and My Brother's Keeper, as well as at Grace House, GA Carmichael Community Health Center, and AHF. AHF also has a mobile testing van. My Brother's Keeper provides rapid testing through outreach sites such as at Gay Pride events, at churches, and at local bars throughout the MSA. The Crossroads Clinic provides HIV testing as well as STD testing at their clinic site. This clinic was reported to assertively follow-up on testing to attempt to persuade individuals to obtain treatment for HIV/STDs. The Crossroad Clinic staff also conduct some partner notification and partner testing services for individuals testing positive for HIV and/or STDs. The University of Mississippi Medical Center provides HIV care for HIV-positive individuals in state correctional facilities, and it was reported that a grant for testing in Hinds County jails was in process.

Interview participants reported that HIV testing does not routinely occur in Emergency Rooms (ERs) in the MSA. At one time there was a grant to provide ER testing at the University of Mississippi Medical Center but this testing was reportedly not well-integrated into medical services at the facility and was not accessible in patient medical records. The funding for this testing program has since lapsed.

HIV testing does not routinely occur in ERs in the MSA.

Evidence-based HIV prevention interventions are facilitated by several organizations in the community. The ASO My Brother's Keeper has CDC funding to provide evidence-based prevention programs including 3MV, CLEAR, and SISTA and also collaborates with researchers from the University of Kentucky on a NIH grant focused on prevention among black men. Grace House provides the evidence-based intervention CLEAR. Building Bridges, Inc., another Jackson ASO, provides HIV prevention interventions including HIV prevention case management.[82] No evidence-based HIV prevention interventions were identified in the MSA outside of Hinds County. The Open Arms Clinic in Jackson provides a number of prevention-related activities including HIV and STD education and testing and healthy relationships counseling. The clinic also began providing Pre-exposure prophylaxis (PrEP) in January 2014 and has over seventy individuals enrolled in the program thus far. The Mississippi State Department of Health recently established a call center to provide information about PrEP and direct callers to health care facilities that provide PrEP.[83]

The State Health Department HIV/AIDS Office recently created and released an HIV prevention media campaign to educate individuals in the general public about HIV and encourage individuals to know their HIV status. This campaign included flyers, brochures, billboards and other media. CAPUS funds were used to assist with funding this media campaign. No other interventions directed at the general population were reported, however focus group participants expressed a desire for increased HIV awareness efforts throughout the community. Towards that goal, substantial efforts to reach African American pastors and congregations have been made through the Mississippi Faith in Action program led by Dr. Amy Nunn of Brown University. Dr. Nunn's program tailors HIV education messages to the needs of the individual churches.[84,85] In

addition to working directly with churches, the program has educational materials readily accessible on their website that any group can utilize. This program has reached approximately 70 congregations in the region. Several interview participants reported that some African American churches and ministers are now more supportive of individuals with HIV and are willing to talk about the issue in their congregations. One participant believed that there are more ministers of African American churches *"that are speaking out, well-known pastors,"* while another discussed churches and said, *"You have some that's trying to get on board or starting to get on board. You have some churches that are open to doing (HIV) ministry."*

Interview participants frequently lamented the difficulty of reaching youth with effective HIV/STD prevention programs due in part to the state laws requiring abstinence education in schools and beliefs among youth. For example, key interview participants stated:

> *Lack of education is the biggest stigma that we have. Because we can't get it in schools.*

> *Younger generations, some of them still think that you can contract HIV through mosquitoes. When we did a testing event with a PowerPoint for some students on a college campus but it was high school and middle school students, and they still have that stigma.*

Other prevention limitations noted by participants included absence of routine HIV testing by medical providers, lack of available information about where to obtain testing, and not enough coordination between organizations for testing. One interview participant reported that due to very limited prevention funding, organizations are often competing for funding rather than collaborating on prevention efforts. Furthermore, the need for additional funding and efforts directed toward the African American faith community was cited as a compelling need, particularly as it is one of the few infrastructures through which to effectively reach this community.

STIGMA

Interview and focus group participants unanimously reported substantial HIV-related stigma in the community. This stigma, which was said to be both external and internalized by individuals living with HIV, has a negative influence on testing and care-seeking behaviors. There were a few participants who believed that there had been some improvement, albeit slow, over time in HIV stigma.

HIV stigma was described as being particularly high in the African American community and strongly connected with issues of religion and sexual identity. One interview participant described African American MSM as often highly shamed in the community. Several participants talked about how there are still healthcare and social services providers that discriminate against LGBT patients, particularly those who are HIV-positive.

HIV stigma was described as being strongly connected with issues of religion and sexual identity.

Not only were differences in stigma described by race and sexual identity, age was noted as a factor that influences stigma perceptions. Internalized stigma was described as particularly high among older individuals while younger individuals were described as less concerned about becoming HIV-positive. An explanation given for this lower level of concern regarding infection was that many younger MSM believed that they could "just take a pill" if they acquired HIV. Since they have less experience with the people they know dying from HIV, they are reported to have significantly less fear of HIV. However, some participants reported that many young MSMs, particularly African American MSM, held the belief that they "were going to hell anyway for being gay" so it did not really matter if they acquired HIV. A participant described many younger African American MSM as living in MSM "family homes" comprised of other African American MSM, because of stigma and a lack of support from their biological families.

There have been some steps taken in the Jackson area to combat HIV stigma including the educational program for black churches described in the prevention section and a new television commercial that depicts an HIV-positive individual in order to provide education and to try to attempt to address stigma. In addition, some Mississippi cities, including Jackson, have banned discrimination by sexual identity, although there are still not state laws addressing this form of discrimination. Study participants believed that more extensive anti-stigma efforts were needed. One participant described the need for a broad based anti-stigma campaign that would include offering HIV/STD testing and positive messages regarding testing and HIV. Below are some thoughts on stigma from focus group participants:

> *Oh my, Mississippi has a horrible stigma issue. These individuals are fear, non-stopping, disclosing anything because they are treated differently. Many of them are even hated for that disease. They will sit out there amongst their peers and deny. What happens then? You were talking about adherence … There is no adherence on the street because you're so afraid that somebody will see that medicine bottle and ask you, what drug is that you're taking, or some of the HIV medications require refrigeration. They can't put that in their bag.*

I really feel that people are afraid to talk about HIV around here. A lot of that has to do with the population that's being affected the most. The gay community. I really feel that they don't know to really talk about it as much as it should be.

When you look at especially the black community, mostly in the poverty-stricken areas, it's just going to be back to education. Because they don't know. They really don't know. Misconceptions. Thinking Magic Johnson is healed.

POLITICAL CLIMATE/ADVOCACY EFFORTS

Several interview participants reported that there are some supportive state legislators with whom they are able to work to advocate for HIV-related prevention and care issues. However, in general, participants stated that HIV prevention and care organizations and HIV advocates do not receive the political support they need to adequately address HIV in the MSA. Most policymakers and other leaders were reportedly not prepared to address critical HIV-related concerns including sexuality and LGBT issues. However, a few participants believed that some minor shifts were occurring for some policymakers and religious leaders in terms of greater acceptance of sexual identity and individuals living with HIV.

When asked about state and local advocacy efforts, most interview participants mentioned that the organization Mississippi in Action was active in advocating for HIV-related issues. Mississippi in Action has a history of organizing and training consumers in advocacy efforts and leading local, state, and federal advocacy efforts. However, Mississippi in Action has experienced barriers in these efforts including lack of adequate funding, difficulty in maintaining trained consumer advocates, and lack of political support, which has limited their effectiveness. Participants reported that several other advocacy-oriented organizations in the Jackson MSA had disbanded in recent years, resulting in a dearth of organization for those desiring to participate in organized advocacy. Organizations that provide HIV services, such as ASOs, were reported to focus more on advocacy at the individual level rather than politically-focused advocacy efforts.

The Mississippi Center for Justice, in addition to their work in providing legal assistance to individuals with HIV who have experienced discrimination, is involved in advocacy efforts both locally and on a federal level. They partner with other advocacy groups including SASI and the Southern AIDS Coalition on these efforts. There was a consensus by interview participants that greater efforts were needed to provide advocacy, both by those involved in the care/prevention of HIV and individuals living with HIV. These advocacy efforts were said to be needed at local, state, and federal levels to improve HIV care and prevention and reduce HIV discrimination.

When asked about advocacy efforts, focus group participants discussed the difficulty of finding advocates willing to become involved who are comfortable disclosing their status. They also expressed that for those who have been willing to participate in advocacy efforts, there are often feelings of powerlessness to impact decisions regarding HIV. Focus group participants said:

We've got governmental agencies making up the rules and regulations, we talked about this in the car, without a positive person, and yet they're mandated to have positive folks, but the positive folks that they have become tokens because they're not the ones making the decisions.

I would like to see more investment in training … on how to manage their disease and … advocate.

I would like to see more investment in training people living with HIV on how to manage their disease and how to advocate, you know, advocacy.

STRENGTHS AND INNOVATIVE PROGRAMS

When asked about the strengths of the community, most participants described committed care and prevention organizations with providers who are passionate about assisting individuals with HIV and preventing new infections. Participants also described ongoing collaborations between several local organizations and resource-sharing such as ID care providers treating patients at multiple HIV care clinics. One participant said that when organizations are collaborating they "*accomplish a lot.*" Several participants stated, however, that more collaboration and coordination is needed among agencies. Another individual described how they are attempting to turn the knowledge of the high HIV diagnosis rates in Jackson into a strength saying, "*I think that becoming aware of where we are on the statistics, though it has been bad, it has actually been the strength because it has allowed us to come together, to rise up and try to fight."*

STRENGTHS:

- *Committed organizations*
- *Strong collaborations between some organizations and medical providers*
- *Active AIDS Training Network*
- *Innovative HIV housing program*
- *Only clinic specializing in LGBT health care in Mississippi*
- *Innovative faith-based program in minority churches*

Additional strengths noted by study participants were the strong advocacy efforts of the Mississippi Center for Justice in working with individuals living with HIV who are experiencing discrimination in housing, employment and other areas, as well as a very active AIDS Training Network that provides extensive classroom and field training to medical professionals regarding caring for those living with HIV. In addition, the recent increase in publicity regarding HIV, including a commercial, billboards, and education materials through the CAPUS grant was cited as a strength by some, although others were unsure of the effectiveness of these efforts.

The residential program at Grace House (described in more detail above) was also cited as a substantial strength and a unique program within the region, as there are few residential programs available for individuals living with HIV. Another innovative program in the MSA is The Open Arms Clinic, the only clinic specializing in LGBT health care in the state of Mississippi. This clinic offers a multitude of services including HIV prevention and treatment education, general medical care, STD testing and care, and PrEP to the Jackson community and the state of Mississippi. Another innovative program that further addresses health care for the LGBT community is the Mississippi Collaborative for Inclusive Health Care, which was formed by local health care, social service, and philanthropic organizations. This collaborative program brings together the strengths of programs across the state, such as the Delta Region AIDS Education and Training Center and the MS Department of Health, that are already working on LGBT issues in order to develop a strong continuum of care and provide education to health care providers and clinics. The goals of this program include enhancing accessibility and acceptability of services for the LGBT community.

CONCLUSIONS

Data collected from interview and focus group participants indicated that, while there are significant strengths in HIV care and prevention in the area, including committed providers and innovative programs, there are substantial gaps and barriers that limit the effectiveness of individuals and organizations working to address HIV in the region.

These gaps include a lack of resources for individuals living with HIV such as transportation, housing, general legal assistance, and behavioral health, as well as barriers to adequate HIV prevention including lack of funding for prevention, lack of political will to address HIV, complex sexual networks, and a denial of the gravity of the problem in the region. HIV-related stigma was also universally described as a pervasive and persistent scourge that impedes both HIV prevention and care efforts. The HIV epidemic in the Jackson MSA must be considered in the context of the MSA and the state of Mississippi, which is characterized by high levels of poverty, lack of adequate education for many living in poverty, and higher levels of disease than other areas of the country.

The Jackson MSA contains six counties that differ in characteristics such as poverty levels, demographic characteristics, population density, and service availability; therefore, it was not surprising to find that there were differences in HIV-related services between areas of the MSA. The areas outside of Jackson were reported to experience some of the greatest resource concerns including transportation barriers and lack of housing, mental health and substance abuse care as well as high levels of HIV-related stigma. However, for two of the outlying counties, medical care and social services were reported to be widely available through the local FQHC.

Study participants offered ideas for improving the situation in Jackson and reducing the high HIV and AIDS diagnosis rates identified in the area. These suggestions included using state surveillance data to improve linkage to care efforts, shoring up the HOPWA program, increasing the availability of transportation, and expanding knowledge among both the general population and high-risk populations, particularly younger individuals, about HIV in order to dispel myths regarding HIV and HIV transmission that persist in the area. In addition, suggestions included focusing on providing greater resources for education and partnership in the African American faith community around HIV. These efforts may have a direct impact on HIV prevention as well as a potential indirect impact on reducing HIV-related stigma.

Several of these recommendations, including addressing transportation, housing, and HIV education, were also included as recommendations in the State Healthcare Access Research Project (SHARP) report for Mississippi. SHARP, which was conducted by researchers at the Health Law and Policy Clinic of Harvard Law School, examined access to healthcare for individuals with HIV.[86] Although the SHARP recommendations were issued in 2011, progress on addressing these areas has been limited and they continue to be identified as significant barriers to treatment and reduction of disease transmission. Furthermore, additional efforts are needed to enhance the HIV services infrastructure in the Jackson MSA including strengthening community collaborations and coordinated efforts to optimally use available resources. Finally, opportunities need to be created for people living with HIV and their providers to advocate at the local, state, and federal levels to improve HIV care and prevention and to reduce HIV discrimination. Failure to reduce critical impediments to positive health outcomes among individuals living with HIV and to adequately educate the community about HIV are missed opportunities to abate the spread of the disease in the Jackson MSA.

CHALLENGES:

- *Few transportation resources*
- *Inadequate housing*
- *Pervasive HIV-related stigma*
- *Lack of behavioral health services*
- *Substantial levels of poverty*
- *Little funding for prevention*
- *Low political will to address HIV*
- *Need for stronger community collaborations*
- *Need for advocacy opportunities for PLWHA*

RECOMMENDATIONS:

- *Use state surveillance data to improve linkage to care efforts*
- *Shore up the HOPWA program*
- *Increase transportation resources*
- *Increase HIV knowledge among general and high-risk populations*
- *Provide greater resources for education and partnership in the African American faith community around HIV*
- *Enhance the HIV services infrastructure in the Jackson MSA*
- *Strengthen advocacy opportunities for PLWHA and their allies*

.

Figure 1: Jackson MSA Services and Service Gaps for each Aspect of the Cascade

Prevent New Infections	Identify Those Infected	Link to Care	Retain in Care	Treat/Suppress Viral Load
SERVICE STRENGTHS				
HIV PREVENTION	**HIV TESTING**	**LINKAGE TO HIV CARE**	**RETENTION IN HIV CARE**	**VIRAL SUPPRESSION**
• PrEP call referral center (MSDH); availability of PrEP (Open Arms Clinic) • HIV/STD partner testing/notification services (Crossroads Clinic) • Evidence-based prevention programs (My Brother's Keeper, Grace House, Building Bridges); • HIV/STD education/testing and healthy relationships counseling (Open Arms Clinic) • HIV prevention/ education in churches (MS Faith in Action)	• HIV/STD testing at Crossroads Clinic-Medical Mall • County health departments testing (on-site) • Testing services in the community through ASOs (Building Bridges, My Brother's Keeper, Grace House) • Mobile outreach testing van (AIDS Healthcare Foundation)	• CAPUS funding for linkage coordination • Crossroads Clinic: early intervention care and Adult Special Clinic centrally-located and close to other medical facilities for ease of linkage to care • Some funding for transportation to medical appointments	• Exploring use of CAPUS funds to utilize lab data to monitor care participation • Bus passes/gas stipends for medical care through local ASOs/medical clinics and Grace House) • Case management services • HOPWA services; Grace House (for homeless PLWHA) • Mississippi Center for Justice for discrimination legal assistance	• University of MS Medical Center: • Adult Special Care HIV care, case management, mental health care • Private provider: Pavilion Clinic • AIDS Healthcare Foundation- FNP provides HIV care • Open Arms Clinic HIV care and specializes in LGBT health • FQHCs: • Jackson-Hinds Comprehensive Health Center, • GA Carmichael Community Health Center (Ryan White provider for Yazoo/Madison Counties)
SERVICE GAPS				
• Lack of funding for HIV/STD education and health promotion programs in the community • Challenges reaching youth with effective prevention programs (i.e. state laws requiring abstinence education in schools) • Need for more programs focusing on faith community and anti-stigmatization of PLWHA/MSM	• Stigma concerns delay testing • Lack of information about testing locations • Funding for ER HIV testing has lapsed • Absence of routine HIV testing by medical providers • Lack of coordination between organizations for testing efforts	• No centralized or coordinated system for entry into care • Limited expertise of Jackson Medical Mall Foundation with PLWHA cited by some interview participants • Lack of consistently available transportation resources	• Stigma/disclosure avoidance affect client engagement • Lack of stable housing and not enough transportation funding • Clinic-level barriers: care may be perceived as impersonal/not welcoming to clients; • Stringent ADAP income requirements • Limited mental health/substance abuse care	• Jackson-Hinds Comprehensive Health Center reimbursement issues (non-RW provider) • Very little general medical care available for adult males to receive preventive services and education • Travel is necessary for individuals in outlying areas of the MSA except in Yazoo/Madison Counties

REFERENCES

[1] Reif S, Whetten K, Wilson E, et al. HIV/AIDS in Southern USA: A disproportionate epidemic. *AIDS Care.* 2014;26(3):351-9. doi: 10.1080/09540121.2013.824535

[2] United States Census Bureau. Poverty in the U.S. 2000-2012; September 2013. http://www.census.gov/prod/2013pubs/acsbr12-01.pdf. Accessed July 15, 2014.

[3] Centers for Disease Control and Prevention. HIV Surveillance Report, 2013; vol. 25. http://www.cdc.gov/hiv/pdf/g-l/hiv_surveillance_report_vol_25.pdf. Published February 2015. Accessed April 1, 2015.

[4] Reif S, Safley D, Wilson E, Whetten K. HIV/AIDS in the Southern US: Trends from 2008-2011 show a consistent disproportionate epidemic. http://southernaidsstrategy.org/research/. Accessed July 25, 2014.

[5] Mississippi Department of Health. The future of public health in Mississippi. http://msdh.ms.gov/msdhsite/_static/19,16195,379.html. Accessed May 19, 2015.

[6] Reif S, Pence BW, Hall I, Hu X, Whetten K, Wilson E. HIV Diagnoses, prevalence and outcomes in nine Southern States *J Community Health*. 2014 Dec 19. [Epub ahead of print].

[7] Kidder DP, Wolitski RJ, Campsmith ML, Nakamura GV. Health status, health care use, medication use and medication adherence among homeless and housed people living with HIV/AIDS. *Am J Public Health.* 2007; 96(12). 2238-2245.

[8] Horberg MA, Silverberg MJ, Hurley LB, Towner WJ, Klein DB, Bersoff-Matcha S, Weinberg WG, Antoniskis D, Mogyoros M, Dodge WT, Dobrinich R, Quesenberry CP, Kovach DA. Effects of depression and selective serotonin reuptake inhibitor use on adherence to highly active antiretroviral therapy and on clinical outcomes in HIV-infected patients. *J Acquir Immune Defic Syndr*. 2008 Mar 1;47(3):384-90.

[9] Blashill AJ1, Perry N, Safren SA. Mental health: a focus on stress, coping, and mental illness as it relates to treatment retention, adherence, and other health outcomes. *Curr HIV/AIDS Rep*. 2011 Dec;8(4):215-22. doi: 10.1007/s11904-011-0089-1.

[10] Mahajan AP, Sayles JN, Patel VA, Remien RH, Sawires SR, Ortiz DJ, Szekeres G, Coates TJ. Stigma in the HIV/AIDS epidemic: a review of the literature and recommendations for the way forward. *AIDS*. 2008 Aug;22 Suppl 2:S67-79. doi: 10.1097/01.aids.0000327438.13291.62.

[11] Rintamaki LS, Davis TC, Skripkauskas S, Bennett CL and Wolf MS. (2006). Social stigma concerns and HIV medication adherence. *AIDS Patient Care and STDs, 20*(5), 359-368.

[12] Vanable PA, Carey MP, Blair DC, Littlewood RA. Impact of HIV-related stigma on health behaviors and psychological adjustment among HIV-positive men and women. *AIDS Behav*. 2006 Sep;10(5):473-82.

[13] Whetten K, Reif S, Whetten R, Murphy-McMillan LK. Trauma, mental health, distrust, and stigma among HIV-positive persons: implications for effective care. *Psychosom Med*. 2008 Jun;70(5):531-8. doi: 10.1097/PSY.0b013e31817749dc.

[14] United States Census Bureau. Guide to state and local Census geography, 2010. http://www.census.gov/geo/reference/guidestloc/select_data.html. Accessed June 27, 2014.

[15] Kaiser Family Foundation. State Health Facts, 2011. http://www.statehealthfacts.org. Accessed October, 2011.

[16] Reif S, Whetten K, Lowe K. HIV and AIDS in the Deep South. *Am J Public Health.* 2006;96(6):970-973. doi: 10.2105/AJPH.2005.063149

[17] Reif S, Whetten K, Wilson L, Gong W. HIV/AIDS epidemic in the South reaches crisis proportions in the last decade. 2011. http://chpir.org/wp-content/uploads/2012/11/HIVAIDS-Epidemic-in-the-South-Reaches-Crisis-Proportions-in-Last-Decade.pdf. Accessed June 27, 2014.

[18] Hanna D, Selik R, Tang T, Gange S. Disparities among states in HIV-related mortality in persons with HIV infection, 2001-2007. *AIDS.* 2012 Jan 2;26(1):95-103. doi: 10.1097/QAD.0b013e32834dcf87.

[19] United States Census Bureau. Annual estimates of the resident population for the United States, regions, states, and Puerto Rico: April 1, 2010 to July 1, 2011. http://www.census.gov/popest/data/state/totals/2011/. Accessed June 27, 2014.

[20] Centers for Disease Control and Prevention. Diagnoses of HIV infection in the United States and dependent areas, 2011. http://www.cdc.gov/hiv/library/reports/surveillance/2011/surveillance_Report_vol_23.html. Accessed June 27, 2014.

21 Centers for Disease Control and Prevention. Diagnosed HIV infection among adults and adolescents in metropolitan statistical areas—United States and Puerto Rico, 2011. HIV Surveillance Supplemental Report 2013;18 (No. 8). Revised edition. http://www.cdc.gov/hiv/library/reports/surveillance/. Published March 2014. Accessed July 14, 2014.

[22] United States Census Bureau. State and county quickfacts: Mississippi, 2013. http://quickfacts.census.gov/qfd/states/28/2836000.html. Accessed June 5, 2015.

[23] United States Census Bureau, Population Division. Annual estimates of the resident population: April 1, 2010 to July 1, 2013. http://factfinder2.census.gov/faces/tableservices/jsf/pages/productview.xhtml?src=bkmk. Accessed June 4, 2014.

[24] City of Jackson. Comprehensive annual financial report, for the year ended September 30, 2013. http://www.city.jackson.ms.us/DocumentCenter/View/1137. Accessed July 8, 2014.

[25] Executive Office of the President, Office of Management and Budget. OMB Bulletin No. 13-01: Revised delineations of Metropolitan Statistical
Areas, Metropolitan Statistical Areas, and Combined Statistical Areas, and guidance on uses of the delineations of these areas. February 28, 2013. http://www.whitehouse.gov/sites/default/files/omb/bulletins/2013/b13-01.pdf. Accessed June 6, 2014.

[26] United States Department of Commerce, Bureau of Economic Analysis. Bear facts: Jackson http://www.bea.gov/regional/bearfacts/action.cfm. Accessed July 8, 2014.

[27] United States Census Bureau. Race alone or in combination: 2010 Census summary file 1. http://factfinder2.census.gov/faces/tableservices/jsf/pages/productview.xhtml?pid=DEC_10_SF1_QTP5&prodType=table. Accessed June 3, 2014.

[28] United States Department of Agriculture, Economic Research Service. Household food insecurity in the United States in 2012. http://www.ers.usda.gov/publications/err-economic-research-report/err155.aspx#.U8WWVxBZhcx. Accessed July 15, 2014.

[29] American Psychological Association. Effects of poverty, hunger and homelessness on children and youth. http://www.apa.org/pi/families/poverty.aspx. Accessed April 1, 2015.

[30] Kids Count. Children in poverty, updated 2013. http://datacenter.kidscount.org/data/tables/43-children-in-poverty. Accessed July 15, 2014.

[31] Southern Education Foundation. The worst of times: Children in extreme poverty in the South and the Nation. http://www.southerneducation.org/cmspages/getfile.aspx?guid=59b9a230-22c9-43be-ab4b-955b170fec11. Accessed July 15, 2014.

[32] Education Week. Quality counts 2014. http://www.edweek.org/ew/qc/2014/state_report_cards.html. Accessed July 18, 2014.

[33] United States Bureau of Labor Statistics. Occupational employment statistics. May 2013. http://www.bls.gov/oes/tables.htm. Accessed July 8, 2014.

[34] Kneebone E, Nadeau C, Berube A. The re-emergence of concentrated poverty: Metropolitan trends in the 2000s. 2011. http://www.brookings.edu/research/papers/2011/11/03-poverty-kneebone-nadeau-berube, 2013. Accessed June 17, 2014.

[35] Mississippi Department of Employment Security. 2013 Annual labor force. http://mdes.ms.gov/information-center/labor-market-information/labor-market-publications/annual-labor-force/. Accessed July 18, 2014.

[36] Mississippi Department of Employment Security. Annual averages 2011 forward; updated June 11, 2014. http://mdes.ms.gov/media/9014/annlavge2011.pdf. Accessed July 18, 2014.

[37] United States Bureau of Labor Statistics. News release: Regional and state unemployment, 2013 annual averages. http://www.bls.gov/news.release/pdf/srgune.pdf. Accessed July 18, 2014.

[38] United States Census Bureau. State and county quickfacts: USA, 2013. http://quickfacts.census.gov/qfd/states/00000.html. Accessed July 2, 2014.

[39] St. Dominic. Community health needs assessment for St. Dominic-Jackson Memorial Hospital: 2013-2015. http://www.stdom.com/gedownload!/CHNAweb.pdf?item_id=544018&version_id=544019. Accessed July 16, 2014.

[40] Mississippi Baptist Health Systems. Community health needs assessment: Hinds, Rankin, Madison Counties. http://mbhs.org/media/264970/baptist-community-health-needs-assessment-report.pdf. Accessed July 18, 2014.

[41] Kaiser Family Foundation. State health facts: Life expectancy at birth (in years). http://kff.org/other/state-indicator/life-expectancy/. Accessed July 21, 2014.

[42] Miniño AM, Murphy SL. Death in the United States, 2010. NCHS data brief, no 99. Hyattsville, MD: National Center for Health Statistics. http://www.cdc.gov/nchs/data/databriefs/db99.pdf. Accessed July 25, 2014.

[43] Mississippi Department of Education, Office of Healthy Schools. Obesity in Mississippi, a report compiled by the POWER initiative. http://msdh.ms.gov/msdhsite/_static/resources/3593.pdf. Accessed July 21, 2014.

[44] Trust for America and the Robert Wood Johnson Foundation. The state of obesity: Mississippi. http://www.fasinfat.org/states/ms/. Accessed July 22, 2014.

[45] Mississippi State Department of Health. Mississippi Behavioral Risk Factor Surveillance Survey 2012: Mississippi Annual Prevalence Report. http://msdh.ms.gov/brfss/brfss2012ar.pdf. Accessed July 21, 2014.

[46] Mississippi State Department of Health. 2011 heart disease and stroke http://msdh.ms.gov/msdhsite/_static/resources/5273.pdf. cts. Accessed February 20, 2015.

[47] Mississippi State Department of Health. Report on the burden of chronic diseases in Mississippi, 2014. http://msdh.ms.gov/msdhsite/_static/resources/4775.pdf. Accessed April 2, 2015.

[48] Mississippi State Department of Health. Selected death statistics by county, 2012. http://www.msdh.state.ms.us/phs/2012/Summary/dthc12.pdf. Accessed July 18, 2014.

[49] University of Wisconsin, Population Health Institute. *County health rankings and roadmaps: Hinds County and Mississippi, 2013.* http://www.countyhealthrankings.org/. *Accessed July 18, 2014.*

[50] Mississippi State Department of Health. Selected death statistics, residents of Mississippi, 2012. http://msdh.ms.gov/phs/2013/Summary/dthsumm_state_2013.pdf. Accessed July 18, 2014.

[51] The National Campaign to Prevent Teen and Unplanned Pregnancy. Mississippi key state data. http://thenationalcampaign.org/sites/default/files/resource-primary-download/Mississippi.pdf. Accessed July 18, 2014.

[52] Mississippi State Department of Health. Teenage vital statistics data by district of residence and race of mother, 2012. http://msdh.ms.gov/phs/2012/Summary/teenst12.pdf. Accessed July 18, 2014.

[53] Kohler P, Manhart L, Lafferty W. Abstinence-only and comprehensive sex education and the initiation of sexual activity and teen pregnancy. *Journal of Adolescent Health* 2008; 42(4): 344–351.

[54] Guttmacher Institute. State policies in brief: Sex and HIV education. as of June 1, 2015. http://www.guttmacher.org/statecenter/spibs/spib_SE.pdf. Accessed June 12, 2015.

[55] Markus AR, Andres E, West KD, et al. Medicaid covered births, 2008 through 2010, in the context of the implementation of health reform. *Women's Health Issues.* 2013; 23(5): e273–e280.

[56] Mississippi State Department of Health. 2014 Mississippi infant mortality report. http://msdh.ms.gov/msdhsite/_static/resources/6092.pdf. Accessed June 12, 2015.

[57] Centers for Disease Control and Prevention. NCHHSTP Atlas, 2012. http://gis.cdc.gov/GRASP/NCHHSTPAtlas/main.html. Accessed July 5, 2014.

[58] United States Census Bureau. Selected economic characteristics. 2008-2012 American Community Survey 5-Year Estimates. http://factfinder2.census.gov. Accessed July 21, 2014.

[59] Health Resources and Services Administration. HPSA designations updated, 2013. http://bhpr.hrsa.gov/shortage/updateddesignations/2013June27/primarycarehpsa2013.pdf. Accessed July 21, 2014.

[60] Health Resources and Services Administration. Find shortage areas: HPSA by state and county. http://muafind.hrsa.gov/index.aspx. Accessed July 21, 2014.

[61] Health Resources and Services Administration. Find shortage areas: MUA/P by state and county. http://www.hrsa.gov/shortage/mua/index.html. Accessed July 21, 2014.

[62] Centers for Disease Control and Prevention. HIV Surveillance Report, 2013; vol. 25. http://www.cdc.gov/hiv/pdf/g-l/hiv_surveillance_report_vol_25.pdf. Published February 2015. Accessed April 1, 2015.

[63] Centers for Disease Control and Prevention. HIV Surveillance Report, 2012; vol. 24. http://www.cdc.gov/hiv/pdf/statistics_2012_HIV_Surveillance_Report_vol_24.pdf. Published November 2014. Accessed May 4, 2015.

[64] Mississippi State Department of Health. 2012 statewide comprehensive HIV plan and statewide coordinated statement of need. http://msdh.ms.gov/msdhsite/_static/resources/5714.pdf. Accessed July 23, 2014.

[65] Mississippi State Department of Health. Reported cases and rates of HIV disease by district and county: Mississippi, 2009-2013. http://msdh.ms.gov/msdhsite/_static/resources/6001.pdf. Accessed May 6, 2015.

[64] Mississippi State Department of Health. Reported cases of HIV disease in Mississippi, 2013 by age group, sex, race, exposure category, and public health district. http://msdh.ms.gov/msdhsite/_static/resources/6004.pdf. Accessed May 6, 2015.

[67] Centers for Disease Control and Prevention. Prevention status report: Mississippi 2013. http://www.cdc.gov/stltpublichealth/psr/hiv/2013/MS-hiv.pdf. Accessed July 25, 2014.

[68] Mississippi State Department of Health. Provisional: Mississippians living with HIV disease in 2013 (Period ending December 31, 2013) by age group, sex, race, exposure category, and public health district. http://msdh.ms.gov/msdhsite/_static/resources/6005.pdf. Accessed May 5, 2015.

[69] Mississippi State Department of Health. HIV disease: 2013 fact sheet, Mississippi. http://msdh.ms.gov/msdhsite/_static/resources/6008.pdf. Accessed May 7, 2015.

[70] Mississippi State Department of Health. Reported cases and rates of individuals living with HIV disease by district and county: Mississippi, 2009-2013. http://msdh.ms.gov/msdhsite/_static/resources/6002.pdf. Accessed May 7, 2015.

[71] Centers for Disease Control and Prevention. NCHHSTP Atlas. Persons living with diagnosed HIV, 2012. http://gis.cdc.gov/GRASP/NCHHSTPAtlas/main.html. Accessed May 5, 2015.

[72] Mississippi State Department of Health. Selected death statistics, residents of District V, 2013. http://msdh.ms.gov/phs/2012/Summary/dthd12.pdf. Accessed July 28, 2014.

[73] Centers for Disease Control and Prevention. HIV infection among young black men who have sex with men – Jackson, Mississippi, 2006-2008. *MMWR Weekly*. 2009; 58(04);77-81 http://www.cdc.gov/mmwr/preview/mmwrhtml/mm5804a2.htm?s_cid=mm5804a2_e. Accessed July 28, 2014.

[74] Kaiser Family Foundation. Total HIV/AIDS grant funding FY 2013. http://kff.org/hivaids/state-indicator/total-federal-grant-funding/. Accessed June 24, 2014.

[75] Health Resources and Services Administration. FY 2013 Ryan White Part B grant awards. http://hab.hrsa.gov/abouthab/partbawards.html. Accessed June 12, 2015.

[76] Health Resources and Services Administration. Data Warehouse: HIV/AIDS, Ryan White HIV/AIDS Program annual data report providers by state report. http://datawarehouse.hrsa.gov/Topics/Hab.aspx. Accessed June 24, 2014.

[77] Kaiser Family Foundation. Medicaid income eligibility limits for adults at application, as of April 2015. http://kff.org/health-reform/state-indicator/medicaid-income-eligibility-limits-for-adults-as-a-percent-of-the-federal-poverty-level/. Accessed May 6, 2015.

[78] Kaiser Family Foundation. The coverage gap: Uninsured poor adults in states that do not expand Medicaid. April 2, 2014. Available at: http://kff.org/health-reform/issue-brief/the-coverage-gap-uninsured-poor-adults-in-states-that-do-not-expand-medicaid/. Accessed June 24, 2014.

[79] Kaiser Family Foundation. Medicaid payments per enrollee, FY2011. http://kff.org/medicaid/state-indicator/medicaid-payments-per-enrollee/. Accessed May 7, 2015.

[80] Kaiser Family Foundation. Medicaid benefits: Online database. 2012. http://medicaidbenefits.kff.org/. Accessed June 24, 2014. May 7, 2015.

[81] Kaiser Family Foundation. State Medicaid coverage of routine HIV screening, February 25, 2014. http://kff.org/hivaids/fact-sheet/state-medicaid-coverage-of-routine-hiv-screening. Accessed July 23, 2014.

[82] Building Bridges, Inc. Bridging the gap with love. http://www.bbims.org/. Accessed June 12, 2015.

[83] Mississippi State Department of Health. HIV pre-exposure intervention call center now available in Mississippi; January 16, 2015. http://msdh.ms.gov/msdhsite/_static/23,15994,341.html. Accessed April 10, 2015.

[84] Nunn A, Cornwall A, Chute N, Sanders J, Thomas G, et al. (2012) Keeping the Faith: African American Faith Leaders' perspectives and recommendations for reducing racial disparities in HIV/AIDS infection. *PLoS ONE* 7(5): e36172. doi:10.1371/journal.pone.0036172.

[85] Nunn A, Cornwall A, Thomas G, et al. What's God got to do with it? Engaging African-American faith-based institutions in HIV prevention. *Global Public Health.* 2013; 8(3). doi:10.1080/17441692.2012.759608.

[86] Rosenberg A, Broad E, Mehlsak R, Clark S, Greenwald R. Mississippi State Report. November 2010. An analysis of the successes, challenges, and opportunities for improving healthcare access. http://www.taepusa.org/Portals/0/Documents/Mississippi%20SHARP%20report.pdf. Accessed May 18, 2015.