

Research Article

Should there be a Mandate to Consistently and Systematically Report Asthma Occurrences within Minority-Underserved Communities in the State of Mississippi?

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Abstract: The epidemic of asthma has become one of the most critical public health threats within the state of Mississippi. In Mississippi, the most current prevalence of adult asthma is 12.0% for lifetime asthma and 8.6% for current asthma. Among African-Americans, the adult population represents the leading rates in overall asthma burden, with the highest percent of adult lifetime asthma being 14.6% and current asthma being 11.0%. This study asserts that a mandate to systematically and consistently report newly diagnosed cases of asthma among minority-underserved communities can provide a pathway to decrease this asthma disparity, effective treatment, and healthier lives. Based upon the findings, the participants, overall, agree that asthma disproportionately occurs among minority-underserved communities; and, mandated systematic and consistent reporting should be implemented. Additionally, these actions can lead to a decrease in this asthma disparity, an implementation of targeted public policies, effective treatment and a pathway to healthier lives.

Keywords: Asthma, Asthma Disparity, Public Health, Public Policy, Chronic Illness.

Introduction

The state of Mississippi is selected for this study because Mississippi ranks last, or close to last, in almost every leading health outcome. In Mississippi and nationwide, these health disparities are significantly worse for those who have systematically faced obstacles to health due to their socio-economic status, race, ethnicity, religion, sexual orientation, geographic location, and other characteristics historically linked to discrimination or exclusion. The result is a disproportionate burden of disease and illness that is borne by racial and ethnic minority populations and the rural and urban poor. Health disparities not only affect the groups facing health inequities, but also limit overall improvements in quality of care, the health status for the broader population, and results in unnecessary costs. (MSDH, 2019) As postulated, Mississippi has a disproportionate burden of diseases and illnesses; however, this study will focus on the disproportionate burden of asthma among adults in the state Mississippi. As a measure for comparative analysis, data from national sources is incorporated.

Health Disparity and Asthma Disparity Defined

Healthy People 2020 defines a health disparity as “a particular type of health difference that is closely linked with social, economic, and/or environmental disadvantage. Health disparities adversely affect groups of people who have systematically experienced greater obstacles to health based on their racial or ethnic group; religion; socioeconomic status; gender; age; mental health; cognitive, sensory, or physical disability; sexual orientation or gender identity; geographic location; or other characteristics historically linked to discrimination or exclusion.” (MSDH, 2018) As posited by the Asthma and Allergy Foundation of America (AAFA), “If a health condition, like asthma, occurs more often in one group of people compared to another, it is a health disparity.” (AAFF, 2019) Health disparity is a pervasive issue; therefore, the external validity of this study is be global. However, this study focuses on the health disparity due to the disproportionate occurrence of asthma.

Nationally

According to the Center for Disease Control and Prevention (CDC), an estimated 39.5 million people (12.9%), which includes 10.5 million children (14.0%), have been diagnosed with asthma in their lifetimes. Of the 39.5 million, 18.9 million (8.2%) adults and 7.1 million (9.5%) children currently have asthma. The current national analysis, as reported by the CDC, is illustrated in the following table: (CDC, 2018)

Table 1: National Most Recent Asthma Prevalence* (2016)

Characteristics	Number With Asthma	Percentage with Asthma
Total	26,515	8.3
Adult (age over 18)	20,383	8.3
Children (age under 18)	6,132	8.3
National Most Recent Based on Race/Ethnicity		
Characteristics	Total Number with Asthma	Total Percentage with Asthma
Black/Non Hispanic	4,480	11.6
Adults (18+ years)	2,919	10.6
Children (<18 years)	1,561	15.7
White/Non Hispanic	16,107	8.3
Adults (18+ years)	13,420	8.5
Children (<18 Year)	2,687	7.1
Hispanic	3,735	6.6
Adults (18+ years)	2,501	6.5
Children (<18 years)	1,233	6.7

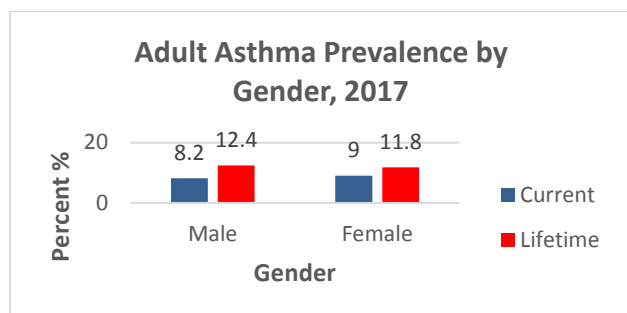
Source: 2016 National Health Interview Survey (NHIS) Data

This national asthma prevalence data is included as a measure

of comparison. However, the focus of this study is asthma disparity among adults in the state of Mississippi.

The State of Mississippi

In the state of Mississippi, the most current prevalence of adult asthma is 12.0% for lifetime asthma and 8.6% for current asthma, according to a 2017 report by the Mississippi State Department of Health. For adult males the current prevalence was 8.2%, the lifetime prevalence was 12.4. For females, the current prevalence was 9% and the lifetime was 11.8%.



Source: MSDH, 2019

Figure 1: 2017 Mississippi Asthma Data by Gender

Purpose of the Research

The purpose of this research study is to highlight the asthma disparity within a specific state, Mississippi. It critically reflects on the percentage of adult asthma prevalence within the state and the racial disparity of these percentages. This research is a part of a larger study that addresses asthma disparity among minority-underserved communities.¹ According to statistical data reports from the CDC, Mississippi has the highest percentage of adult asthma prevalence in the United States. As such, Mississippi was selected to be the initial geographical area. This study asserts there should be a mandate to systematically and consistently report newly diagnosed cases of asthma among minority-underserved communities. In addition, this mandate can lead to a decrease in asthma disparity among these communities.

As a pilot study, this research seeks to gauge whether or not key individuals who possess intimate and significant knowledge and expertise of the asthma disparity in Mississippi would agree or disagree with the hypothesis asserted in this study. To lead to this determination to a significant degree, the researcher employed various research techniques to measure

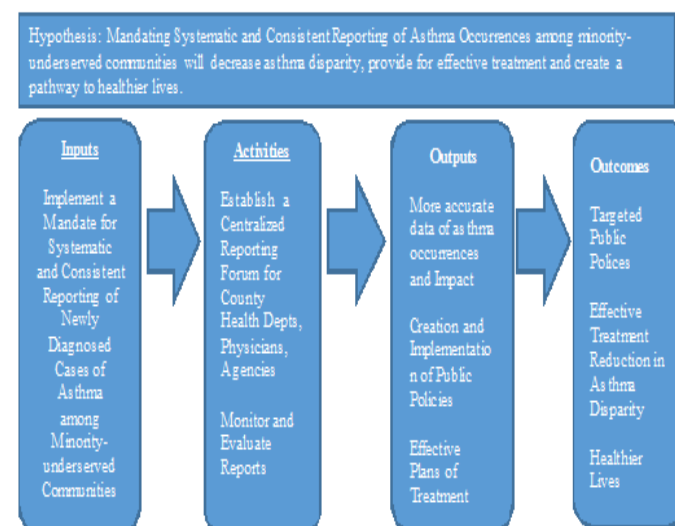
¹According to the most current data, the racial diversity in Mississippi is spread across approximately 59% Caucasians, 37.5% African Americans, 1.2% two or more races, 1% Asians, .9% other races, and .4% Native North Americans. (Mississippi Population, 2019) The people of races other than white and black captured by the Mississippi Asthma Surveillance System (MASS) are too small to provide reliable estimates for measures of asthma burden among these groups. Data disaggregated by race within this report will therefore include only two racial categories: (1) white and (2) black (MASS, 2014). Therefore, for the purposes of this research, minority-underserved communities refers to African-American communities.

the attitudes of these carefully selected individuals (i.e. physicians, representatives of agencies that deal with health disparities, health department representatives). Centrally, the participants were asked, “Based upon your knowledge and expertise in regards to the asthma disparity within the state of Mississippi, do you think that systematic, consistent reporting of asthma occurrences among minority-underserved communities should be mandated?” Among other questions, the participants were also ask, “Do you think this mandate can lead to a decrease in the asthma disparity in Mississippi?”

Primarily, this research centers upon the existence of asthma disparity within the state of Mississippi and the need for a mandated systematic and consistent method of reporting. As such, the hypothesis of this study asserts that mandated systematic and consistent reporting of newly diagnosed cases of asthma among minority-underserved communities should exist. In addition, this mandate can lead to a significant decrease in the asthma disparity anomaly that exist within these communities. To this end, this study seeks to determine, to a significant degree, if key individuals with intimate and significant knowledge and expertise of the Mississippi asthma disparity: 1) Agree or disagree that there should be a mandate to systematically and consistently report newly diagnosed cases among minority-underserved communities, 2) Agree or disagree

that this mandate can lead to a decrease in asthma disparity in Mississippi, and 3) Provide supporting evidence as a causal pathway to the creation and implementation of effective public policies and treatment to obviate the asthma disparity, illustrated as follows,

Logic Model



Source: Lolita D. Gray (2019)

Figure 2: Logic Model of Projected Outcomes

Statement of the Problem

The epidemic of asthma has become one of the most critical public health threats for the state of Mississippi. However, not all things are equal when it comes to the burden of asthma. As presented in the report, “Addressing Asthma in Mississippi through a Collaborative Public Health Approach,” the rates of hospitalizations and deaths due to asthma are three (3) times

higher among minority-underserved than among whites. Moreover, it is more common and severe among African Americans communities, as well as, and other minority communities. In general, these disadvantaged and at-risk populations experience above-average rates of emergency department visits, hospitalizations, and deaths that are much higher than differences in asthma prevalence would suggest. (Mississippi Asthma Plan, 2015)

As a foundational premise to buttress this study's hypothesis, data sources utilized in this research includes the Behavioral Risk Factor Surveillance System (BRFSS). The BRFSS is the nation's premier system of health-related telephone surveys that collect state data about U.S. residents regarding their health-related risk behaviors, chronic health conditions, and use of preventive services. Established in 1984, the BRFSS collects data in all 50 states as well as the District of Columbia and three (3) U.S. territories. BRFSS completes more than 400,000 adult interviews each year, making it the largest continuously conducted health survey system in the world. (CDC, 2018) To this end, information has been extrapolated from the BRFSS and is illustrated in Table 1, representing the percentage of occurrences of asthma, based on race and sex, as well as, the corresponding death rate for asthma in the state of Mississippi in 2011.

Table 2: Asthma Statistics in the State of Mississippi

State	% of asthma occurrences	Death Rate (Per Million)
MS	8.2	19.8
Adult Black Males	6.9	
Adult Black Females	10.1	
Adult White Males	4.4	
Adult White Females	9.6	

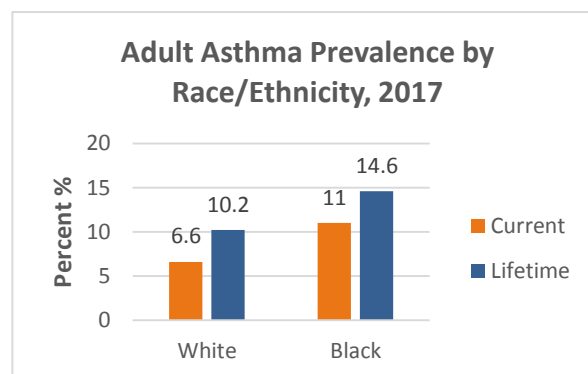
Source: The Center for Disease Control and Prevention BRFSS

The impact of asthma is felt in many different ways – health care costs associated with treatment and medication, long-term management, and indirect cost incurred by time lost from school and work that affects the economic future of the state, as well as the financial and emotional impact on patients and their families. However, no single individual, organization, agency, community, political jurisdiction, or elected official can bring about such far-reaching changes alone. Collaboration, teamwork and resource-sharing will be required at every level among state and local agencies, provider and consumer groups, business leaders, education and medical communities, advertising and marketing groups, the media and government. (MSDH, 2019) Thus, this study is conducted as a pilot study to determine to a significant degree, if mandating consistent and systematic reporting can lead to a decrease in asthma disparity. As a fundamental step towards this end, we will gauge the attitudes of key individuals who possess intimate and significant knowledge and expertise of the asthma disparity within the state of Mississippi.

Asthma Prevalence and Disparity in the State of Mississippi

According to the Mississippi State Department of Health, the most current data of the adult asthma prevalence within the

state of Mississippi is 12.0% for lifetime asthma and 8.6% for current asthma. Within this state, the African-American adult population had the leading rates in overall asthma burden, with the highest percent of adult lifetime being (14.6%) and the current percent being (11.0%). (MSDH, 2018).



Source: MSDH, 2019

Figure 3: Mississippi Adult Asthma Prevalence by Race/Ethnicity

In 2016, the prevalence of adult asthma for the state of Mississippi was 7.8%. Based upon race, the percentages were 7.5% for whites, 8.8% for blacks and 6.6% for Hispanics. Comparatively, the national asthma prevalence was 8.3%. Based upon race, the percentage for whites were 8.3%, 11.6% for blacks, and 3.1% for Hispanics. (CDC, 2016) Remarkably, the CDC also indicates that the state of Mississippi has the highest asthma mortality rate (21%) in the United States. Notably, the next highest mortality rate by state is 14.5%. (CDC, 2018)

Classifying Asthma as a Reportable Disease

In the state of Mississippi, asthma is not considered a “notifiable infectious or reportable disease.” As defined by the CDC, a notifiable infectious disease or condition is one for which regular, frequent, and timely information regarding individual cases is considered necessary for the prevention and control of the disease or condition. In an interview with a Mississippi State Department of Health representative, this researcher was advised that asthma does not fall within that category. Results of this study yield that Mississippi county health departments record asthma occurrences by presenting a question on intake forms that asks patients about their asthma status. When asked what is then done with the information regarding the asthma occurrence, this representative stated that the information was provided to the state health department. However, it was not mandated to be reported or systematically tracked. (Interview MSDH, 2017)

Rationale Supporting the Mandate

In the past, several life-threatening diseases, including measles, tuberculosis, and HIV/AIDS, at one time, were not reportable diseases. However, due to the communicability and number of deaths caused by these diseases, they now require mandated reporting and the number of occurrences have extensively decreased, according to the CDC and county health departments. For example, mandatory notification of HIV has

resulted in an increase in detection of newly diagnosed infections, reduced the levels of missing data and has provided a more realistic picture of the epidemiology of HIV. This information also helps to improve the suitability of interventions aimed at HIV prevention and control. (Reyes-Urueña, García de Olalla et al., 2013). Giving these results, this research study asserts that newly diagnosed cases of asthma among minority-underserved communities should be treated comparably to that of newly diagnosed HIV cases. Further, this research study asserts, “Mandated systematic and consistent reporting of asthma occurrences among minority-underserved communities could reduce the number of deaths, hospitalizations, emergency room visits, loss of productivity, as well as, the number of days absent from work due to asthma and lead to effective public policy creation and treatment.

As reported by the Mississippi State Department of Health, Mississippi has four (4) classifications of reportable diseases, identified as follows:

Class 1

Diseases of major public health importance which shall be reported directly to the Mississippi State Department of Health (MSDH) by telephone within 24 hours of first knowledge or suspicion. Class 1 diseases and conditions are dictated by requiring an immediate public health response. Laboratory directors have an obligation to report laboratory findings for selected diseases. Any Suspected Outbreak (including foodborne and waterborne outbreaks) i.e. HIV/AIDS, Rubella, Yellow Fever, and Syphilis

Class 2

Diseases or conditions of public health importance of which individual cases shall be reported by mail, telephone, fax or electronically, within 1 week of diagnosis. In outbreaks or other unusual circumstances, they shall be reported the same as

Class 1. Class 2 diseases and conditions are those for which an immediate public health response is not needed for individual cases, i.e. Malaria, Tetanus, and Rubella

Class 3

Laboratory based surveillance. To be reported by laboratories only. Diseases or conditions of public health importance of which individual laboratory findings shall be reported by mail, telephone, fax or electronically within one week of completion of laboratory tests. i.e. all blood lead tests and Hepatitis C infection

Class 4

Diseases of public health importance for which immediate reporting is not necessary for surveillance or control efforts. Diseases and conditions in this category shall be reported to the Mississippi Cancer Registry within six months of the date of first contact for the reportable condition. Class 4 diseases can be found on the Mississippi Cancer Registry. Mississippi also reports poisonings, including potential poison exposures, drug overdoses and adverse reactions to venomous animals and insects. (MSDH, 2015).

To support this study, the method of reporting asthma occurrences by various counties within the state of Mississippi have been included. These counties’ selection were determined based upon their percentages of asthma inpatient visit rates; however, not all counties report asthma occurrences. According to the report, “Asthma Inpatient Visit Rates (IP) by County Mississippi” submitted by the Mississippi Asthma Hospital Discharge Data System, these counties showed the highest number of asthma inpatient visit rates within the state of Mississippi. All fell between 11.1 – 22.1 percentages, with the lowest of all counties falling between 0.0 – 5.5 percentages. These rates are based per 10,000 individuals. This information is depicted in Table 2. To note, not all hospitals report.

Table 3: Asthma Reporting of Hospital Discharge Rates in Various Counties in Mississippi

Mississippi Counties	Does County Report? Y/N	Mandated Reporting Y/N	Systematic Reporting Y/N	Asthma Discharge Rate for Blacks	Asthma Discharge Rate for Whites	Total Discharge Rate
Adams	N	N	N	28.3	7.5	19.4
Claiborne	N	N	N	12.1	7.9	11.4
Hinds	N	N	N	16.3	6.6	13.2
Issaquena	N	N	N	8.2	10.1	9.0
Jasper	N	N	N	7.8	15.0	12.4
Jones	N	N	N	12.4	28.1	16.8
Lawrence	N	N	N	36.6	31.2	31.2
Leake	N	N	N	23.8	9.2	15.9
Monroe	N	N	N	20.5	14.2	16.1
Montgomery	N	N	N	61.7	13.2	35.2
Newton	N	N	N	21.5	8.2	13.1
Prentiss	N	N	N	6.7	9.7	9.1
Scott	N	N	N	23.3	13.2	17.4
Sunflower	N	N	N	30.2	23.0	28.5
Yalobusha	N	N	N	15.5	12.1	13.3
Yazoo	N	N	N	23.4	14.7	19.3

Source: Mississippi State Department of Health (2017)

Can Mandated Reporting Lead to Effective Public Policy and Treatment?

To gauge the attitudes in regards to this question, several interviews were conducted with key individuals who possess an intimate and significant level of knowledge and expertise in

the area of health disparities in the state of Mississippi. Additionally, survey instruments were administered to key individuals who possessed significant knowledge of asthma disparity. As posited in this research study, the state of Mississippi does not classify asthma as a “notifiable infectious or reportable disease.” As defined by the CDC, a notifiable infectious disease or condition is one for which regular, frequent, and timely information regarding individual cases is considered necessary for the prevention and control of the disease or condition. As such, there is no mandated, systematic tracking of asthma occurrences.

In an interview with Dr. Timothy M. Quinn, M.D., of Quinn Healthcare, PLLC regarding the asthma disparity, Dr. Quinn advised that he is a proponent of mandating asthma to be consistently and systematically reported. According to Dr. Quinn, a consequential percentage of his patients are minorities, of which a significant number present with asthma. When asked to operationalize “large percentage,” he stated, “Approximately eighty percent (80%).” During this interview, Dr. Quinn posited, “Persons with asthma may begin with cases that are less severe, but become more severe in the absence of treatment. If the individuals can be effectively treated i.e. seeing a pulmonologist, administered maintenance medication, prior to the severity of the cases exacerbating, the number of deaths, hospitalizations, and emergency room visits could significantly decrease and lead to a pathway of eliminating the asthma disparity (Quinn Interview, 2019)

To further support this research study,” interviews were conducted with representatives of various agencies that deal with health disparities. Included in these agencies are the Mississippi State Department of Health. Notably, numerous departments operate under the umbrella of this Agency; therefore, key individuals were carefully identified and selected to be interviewed for this project. Representatives of the Mississippi State Asthma Program were also included in the interviews. Overwhelmingly, the participants of these agencies indicated that, based upon their knowledge and expertise, asthma is more prevalent among minority-underserved communities and having mandated system of reporting be a very helpful pathway leading to the effective treatment of asthma disparity in Mississippi. In interviewing Mississippi State Representatives, several indicated that mandating systematic reporting of asthma cases could lead to the creation of effective policies that address this asthma disparity. Further, some indicated that they would be susceptible in funding this ongoing research.

Methodology

A cross-sectional study was conducted to gauge the attitudes of key individuals who possess intimate and significant knowledge and expertise of the asthma disparity within the state of Mississippi. Through interviews and survey instruments, participants were asked to identify to which of the following they are affiliated: 1) Community Group/Organization, 2) Agency, 3) Political Official, and 4) Physician/Physician’s Office. The interviews, which were in

person and by telephone, were open ended; and participants were given the opportunity to provide in-depth discussion, based upon their knowledge and expertise. These participants were specifically asked to present the attitudes regarding the asthma disparity in the state of Mississippi and if they agree or disagree that there should be a mandated system of reporting. Statistical data were collected from federal and state agencies, i.e. the CDC, the Mississippi Department of Health, and the Mississippi State Asthma Program. These data were both qualitative and quantitative. Statistical analysis is included to support the findings of this study. Other fact-fact techniques includes questionnaires presented to participants. The population of the study are key individuals in the state of Mississippi who possess intimate and significant knowledge and expertise of asthma disparity within the state of Mississippi. These individuals were interviewed and/or surveyed to gauge their attitudes regarding the asthma disparity in Mississippi and if there should exist a mandate that requires systematic and consistent reporting of newly diagnosed cases of asthma among minority-underserved communities within the state.

Results and Discussion

Data Collection and Participant Criteria for Survey Inclusion

Medical personnel, Representatives of the Mississippi State Department of Health, Mississippi County Health departments and governmental officials were carefully selected for this case study research. One hundred (100) survey instruments were administered and fifteen (25) interviews were conducted. Participants were invited to participate based upon their employment position within the healthcare field, the intimate and significant knowledge of the asthma disparity within the state of Mississippi, and their ability to create and implement public policies within the state of Mississippi.

Results of the Survey

Participants were asked various questions to contribute to this research. General questions regarding the groups to which the participants are affiliated and participants’ title of their position is presented as part of the narrative. However, the results of more conclusive questions are presented in tabular form. First, the narrative information will be presented. Secondly, we will present the information indicated in tables. The results are as follows: When asked, “To which of the following groups are you affiliated?” the participants selected Physician/Physician’s Office, Agency, Political Official, or Community Group/Organization. When participants were asked to identify their job title. This question was included to make certain that the participants was employed in a position that will allow them to be exposed to, and gain knowledge of the asthma disparity within the state of Mississippi. The positions identified covered a range of employment positions that included: Physicians, Asthma Program Director, Agency Representatives, Representative of State and County Health Departments, State Program Director, as well as, Epidemiologists. Tabular evidence indicates as follows:

Table 4 : Which of the following best describes your knowledge and expertise of asthma disparity? Participants were asked to

select from following categories indicated on the tables

Category	+N	Response Rate	Response Number	*N/A
Poor	100	87%	0	0
Good	100	87%	0	0
Very Good	100	87%	72	0
Excellent	100	87%	15	0

+N=Number of Surveys

*N/A= The participants chose not to answer the question.

Table 5: Based upon this knowledge and expertise, which of the following occurs most often among minorities who has asthma and live in underserved communities?

Category	+N	Response Rate	Response Number	*N/A
Hospitalization	100	87%	62	0
Emergency Room Visits	100	87%	87	0
Missed Days from Work/School	100	87%	87	0
Death	100	87%	43	0

+N=Number of Surveys

*N/A= The participants chose not to answer the question, or it was not applicable.

Table 6: Based upon this knowledge and expertise, do you feel that there should be a mandated process (intake form, questionnaire, etc.) that allows asthma to be systematically and consistently reported among minority-underserved communities?

Category	+N	Response Rate	Response Number	*N/A
Yes	100	87%	87	0
No	100	87%	0	0

+N=Number of Surveys

*N/A= The participants chose not to answer the question, or it was not applicable.

Table 7: Based upon this knowledge and expertise, do you feel that minorities are disproportionately impacted by asthma?

Category	+N	Response Rate	Response Number	*N/A
Yes	100	87%	72	7
No	100	87%	8	0

+N=Number of Surveys

*N/A= The participants chose not to answer the question, or it was not applicable.

Table 8: Does your organization consistently, systematically report cases of asthma?

Category	+N	Response Rate	Response Number	*N/A
Yes	100	87%	15	22
No	100	87%	50	0

+N=Number of Surveys

*N/A= The participants chose not to answer the question, or it was not applicable.

Table 9: If you have a system of reporting asthma occurrences, is this system mandated?

Category	+N	Response Rate	Response Number	*N/A
Yes	100	87%	0	22
No	100	87%	65	0

+N=Number of Surveys

*N/A= The participants chose not to answer the question, or it was not applicable.

Table 10: Based upon your knowledge and expertise of asthma disparity, do you feel that mandated systematic and consistent reporting of asthma cases among minority, underserved communities could lead to a decrease in the asthma disparity?

Category	+N	Response Rate	Response Number	*N/A
Disagree	100	87%	0	0
Strongly Disagree	100	87%	0	0
Agree	100	87%	67	0
Neither Agree or Disagree	100	87%	17	0
Strongly Agree	100	87%	3	0

+N=Number of Surveys

*N/A= The participants chose not to answer the question.

Table 11: Which of the following statements best describe your attitude towards mandating that asthma cases among minority-underserved communities be systematically and consistently reported?

Category	+N	Response Rate	Response Number	*N/A
Disagree	100	87%	0	0
Strongly Disagree	100	87%	0	0
Agree	100	87%	62	0
Neither Agree or Disagree	100	87%	4	0
Strongly Agree	100	87%	21	0

+N=Number of Surveys

*N/A= The participants chose not to answer the question.

Findings of the Study

Notably, the overall findings of this study is that asthma is more prevalent among minority-underserved communities within Mississippi. When asked if there should be a mandate to systematically and consistently report newly diagnosed cases among minority-underserved communities within Mississippi. The majority of the participants agreed that this mandate should be implemented and this mandate can lead to a decrease in asthma disparity among minority-underserved communities in Mississippi.

Significance of the Study

If the condition of asthma remains untreated, it can get worse over time. A severe [asthma attack](#) can sometimes lead to death. (Health 24, 2017) The significance of this study is that it seeks to decrease the number of asthma-related deaths, hospitalizations, emergency room visits, and missed days from work/school, within the state of Mississippi. In addition, it seeks to create and implement effective policies that lead to the treatment that reduces the asthma disparity and those associated health outcomes.

The results of this study provides a strong foundation of evidentiary support that emphasizes the need to mandate the systematic and consisting reporting of newly diagnosed asthma

cases. While Mississippi is home to individuals who are impacted by a range of chronic illnesses, asthma remains one of the most prominent public health threats. However, there are no studies that test the hypothesis that mandating systematic and consistent reporting can lead to a decrease in the asthma disparity in Mississippi. Moreover, no studies have been conducted within the state of Mississippi to gauge the

perception of key individuals regarding the asthma disparity.

Combined with these factors, the goal of this study is targeted towards policy creation and implementation to decrease the asthma disparity among minority-underserved communities in Mississippi and lead to effective treatment. Further, the external validity of this study is applicable to the United States, as whole.

Limitations of the Study

Data collection that accurately reflects the number of newly diagnosed asthma cases within minority-underserved communities is limited, as there is no measure that mandates systematic and consistent reporting. As such, many cases are unreported or underreported.

Dependent Variable

The dependent variable in this study is the disproportionate occurrence of asthma among minority-underserved communities within the state of Mississippi.

Independent Variable

The independent variable in this study is the mandated systematic and consistent reporting of asthma occurrences within minority-underserved communities in the state of Mississippi.

Conclusion/Recommendations

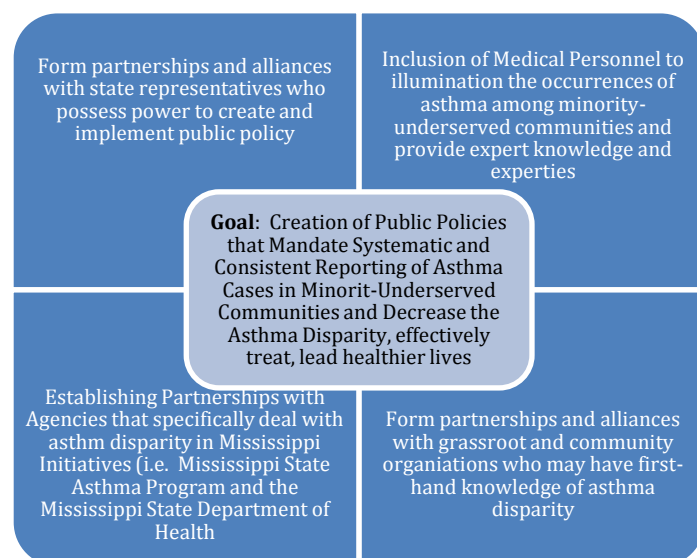
Currently in the state of Mississippi, there is no mandate to consistently and systematically report newly diagnosed cases of asthma. When interviewing representatives of the Mississippi County Health Departments, it was indicated that individuals seeking services of the health department are required to complete a Client Intake Form. On this form, there is a question that asks if the individual has asthma. Each representative indicated that the information on the Intake Forms is reported to the Mississippi State Health Department; however, it is not mandated to be reported. Further, the representatives indicated that the county health departments had the autonomy to make the decision regarding reporting.

Asthma continues to be a public health threat within the state of Mississippi. Through this research, the researchers seek to add to study of asthma disparity as a disproportionate occurrence among minority-underserved communities. By raising the awareness of the need for mandating systematic and consistent reporting of newly diagnosed asthma cases, the need for treatment will also be highlighted. Additionally, this study seeks to provide a pathway to the creation and implementation of targeted policies that are geared towards this goal through the formulation partnerships with individuals and/or groups who have power, influence, and access.

The policy recommendations put forth in this study are:

- Classify asthma as a reportable disease
- Mandate consistent reporting of each occurrence of asthma for each Mississippi County Health Department and advocate for public policies geared towards the elimination of asthma disparity
- Consistently communicate with grassroot organizations that have coalesced to create public policies to effectively address asthma disparities
- Monitor the Mississippi State Department of Health Information Systems to consistently track asthma occurrences and the zip codes that are more heavily impacted
- Provide effective treatment and asthma education for asthma patients

No single individual, organization, agency, community, political jurisdiction, or elected official can bring about such far-reaching changes alone. Collaboration, teamwork and resource-sharing is required at every level among state and local agencies, provider and consumer groups, business leaders, education and medical communities, advertising and marketing groups, the media and government. Concluded in this study is a structured model that can be implemented as a vehicle through which the goals of this study can be accomplished. It highlights possible partnerships and people whose power, influence, and access save lives. These are illustrated as follows,



Source: Lolita D. Gray, author (2013).

Figure 4: The Collaborative Model to Decrease Asthma Disparity by Mandating Reporting

This model is created to serve as a paradigm to achieve the goal of this research study.

Abbreviations

CAA	Clean Air Act
CDC	Centers for Disease Control and Prevention
CEQ	Council on Environmental Quality
EJM	Environmental Justice Movement
EPA	Environmental Protection Agency
GIP	Guidelines Implementation Panel
IP	Asthma Impatient Visit Rates
MAC	Mississippi Asthma Coalition
MSDH	Mississippi Department of Health
NAAQS	National Ambient Air Quality Standards
NEPA	National Environmental Policy Act
PACE	Physician Asthma Care Education

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