Maternal and Child Health

Mississippi State Department of Health, Health Services / Office of Health Data and Research

Jackson, Mississippi

Assignment Description

The Mississippi State Department of Health includes the following offices in Health Services: Child and Adolescent Health, Women's Health, Women, Infant and Children (WIC), Oral Health, Health Data and Research, Preventive Health, and Tobacco Control. Many of the Maternal and Child Health programs found in the Health Services offices are funded by the Title V Maternal and Child Health Block grant.

Maternal and Child health programs are located in the Health Services' Office of Child and Adolescent Health and Office of Women's Health. The Office of Child and Adolescent Health administers the programs in these major areas: Adolescent Health, Asthma Prevention, Children and Youth with Special Health Care Needs, Early Intervention (First Steps), and Lead Poisoning Prevention and Healthy Homes Education. Key activities and services provided by the Office of Child and Adolescent Health include: Early and Periodic Screening, Diagnostic and Treatment (EPSDT), Immunizations, Vision screening, Hearing screening, and Dental screening. Examples of services and key activities include aid parents in choosing daycare for children and other information about child care providers, finding a licensed child care facility or youth camp, and creating a child safety checklist. Maternal and Child Health programs in the Office of Women's Health include programs in the major areas: Breast and Cervical Cancer, Domestic Violence, Rape Prevention and Crisis Intervention, and Comprehensive Reproductive Health. Examples of services and key activities for the office include early detection cancer screening, education, and providing access for women at or below 185 % of the Federal Poverty Level.

The fellow will support surveillance projects for the described maternal and child health programs in the Office of Health Data and Research. The Office of Health Data and Research houses epidemiologists, biostatisticians, and data support staff that examine maternal health and infant health to impact morbidity and mortality outcomes. Areas of focus include: Infant mortality surveillance, Pregnancy-associated maternal mortality surveillance, Vital Statistics data analysis of birth outcomes, and other MCH projects in the state.

The CSTE fellow will have an opportunity to impact these activities and improve information sharing for the Office of Health Data and Research, improving the annual report of Mississippi Infant Mortality, Pregnancy-associated mortality reporting, and manuscript writing and surveillance reporting. The CSTE fellow with be able to work with other data analysts centrally located in the Office of Health Data and Research and learn about how data analysts support maternal and child health programs at the department. The Office of Health Data and Research serves as one of the major data hubs for state wide surveillance programs, and the CSTE fellow's location in the office will facilitate connections to several data sources that include, but are not limited to maternal and child health data. The CSTE fellow may also work with interns, program staff, and senior staff as projects dictate connections. The CSTE mentors are highly trained and experienced professionals. The primary mentor is a physician who serves as Director of the Mississippi Perinatal Quality Collaborative. The secondary mentor is a maternal and child health epidemiologist who leads data projects for the Pregnancy Risk Assessment Monitoring System and Title V Maternal & Child Health Block Grant.

Day-to-Day Activities

The CSTE fellow will participate in meetings at the health department and with outside partners focusing on maternal and infant health improvement. These partners include those related to the Mississippi Perinatal Quality Collaborative, the Fetal/Infant Mortality Review (FIMR), Child Death Review (CDR) and the Maternal Mortality Review. The assignee will also have the opportunity to work with community partners that are engaged in local projects to reduce maternal and infant mortality. As it is important for the assignee to understand the geographic variations in the health of Mississippians, there will be planned in-state trips to visit community organizations, hospitals and partners across the state.

The CSTE fellow will be expected to attend and present project updates at the Office of Health Data and Research staff meetings that occur monthly. The fellow is strongly encouraged to attend the Data Analysts meetings where analysts in the office participate have had journal discussions, professional development trainings, and time to give in depth presentations of their work in order to troubleshoot issues with colleagues. There will various opportunities for the CSTE fellow to get feedback on their work.

Potential Projects
Surveillance Activity   Severe Maternal Morbidity Analysis

Severe Maternal Morbidity Analysis
1. **Project Justification-** Maternal morbidity and mortality analyses are needed to better address adverse outcomes related to pregnancy. Additionally, there are disparities in outcomes that in depth analyses can examine to inform medical and public health practice.
2. **Project Description** – The project will focus on severe maternal morbidity (SMM) analyses for the Mississippi Perinatal Quality Collaborative project with the Alliance for Innovation in Maternal Health (AIM).
3. **Fellow contribution -** The assignee will work with quarterly hospital discharge data and analyze SMM by individual hospitals and by race. The Assignee will work with the AIM database and develop reports for individual hospital feedback and state reports on severe maternal morbidity.
4. **Skills Utilized/Gained** - Project Management, Collaboration, Analytical software: SAS/SPSS/SUDAAN, etc, Writing, Oral Communication

Infant Health and Mortality Surveillance
1. **Project Justification -** There has not been a recent in-depth evaluation of the trends and changes of infant health and mortality in Mississippi.
2. **Project Description** - The project will evaluate trends in infant health and mortality in Mississippi.
3. **Fellow contribution** - The assignee will be asked to work with multiple years of infant mortality and birth certificate data along with possible linkages from hospital discharge data and geographic mapping to better understand and explain variations in infant health outcomes including preterm birth, racial disparities in preterm birth and infant mortality and post-

neonatal death, particularly from SUID. The assignee will work with existing staff on understanding the impact of opioid exposure in Mississippi on neonatal outcomes.
4. **Skills Utilized/Gained** - Project Management, Collaboration, Analytical software: SAS/SPSS/SUDAAN, etc, Writing, Oral Communication

Surveillance Evaluation Data Quality Evaluation for Maternal Mortality Analysis
1. **Project Justification-** Maternal morbidity and mortality analyses are needed to better address adverse outcomes related to pregnancy. It is imperative that the data used for analyses is as accurate as possible.
2. **Project Description** – The project will focus on data quality evaluation for pregnancy-associated deaths.
3. **Fellow contribution -** The Assignee will assist with data quality evaluation for pregnancy-associated deaths and develop an evaluation system of the sources of case identification including the death certificate check-box, matched birth and fetal death certificates and ICD 10 codes.
4. **Skills Utilized/Gained** - Project Management, Data Management, Evaluation, Collaboration, Writing, Oral Communication

Major Project   Maternal Mortality Analysis
1. **Project Justification -** Maternal morbidity and mortality analyses are needed to better address adverse outcomes related to pregnancy. Additionally, there are disparities in outcomes that in depth analyses can examine to inform medical and public health practice. The Maternal Mortality Review committee and related publications facilitate understanding maternal morbidity and mortality.
2. **Project Description** – This project will support the Maternal Mortality Review committee work and committee outcomes.
3. **Fellow contribution** - The Assignee will be trained in the Maternal Mortality Review Application (MMRIA) to manage data analysis for the maternal mortality review committee. The assignee will help to develop both annual reports for maternal mortality and data briefs focusing on data visualization skills and infographic development for public use. The assignee will serve on the Maternal Mortality Review Committee, focusing on coding and analyzing the causes of death, associated factors and opportunities to alter outcome. The assignee will assist in developing and operationalizing an associated factors dashboard along with assistance from the Centers for Disease Control 'Data to Action' team that has been providing technical assistance to Mississippi in its development of the Maternal Mortality Review Committee.
4. **Skills Utilized/Gained** - Project Management, Maternal Mortality Review Application (MMRIA), Writing, Oral Communication, Collaboration

Additional Project   Data Linkage Project
1. **Project Justification** – Health data provides vital insight into the effectiveness of public health programs by examining different health outcomes for large populations. However, there is separation of efforts due to different administrative agencies, funding sources, and working arrangements. There is a need to link different data sources to have a comprehensive picture of population health for public health practice.

2. **Project Description** – The fellow will create data linkages between vital records data and hospital discharge data for improved analysis of maternal and neonatal morbidity and mortality.
3. **Fellow contribution** – The fellow will take the lead in navigating data sources and linkage.
4. **Skills Utilized/Gained** – Project Management, Data Linkage, Collaboration, Analytical software: SAS/SPSS/SUDAAN, etc

Additional Project   Maternal and Child Health Peer reviewed manuscripts

The fellow will have the opportunity to work on peer-reviewed manuscripts with mentor guidance. Current research around smoking patterns among pregnant women, and Urinary Tract Infection (UTI) and its association with preterm labor are viable projects for a fellow to pursue. The fellow will work primarily on the research projects specified, but may also collaborate for other research projects, or conduct and plan their own scientific work with appropriate supervision. The fellow is required to keep up to date with relevant literature, and strongly encouraged to actively participate in monthly data analyst meetings. In addition to working with PRAMS data, the fellow will have an opportunity to work with other data sources including the Behavioral Risk Factor Surveillance System (BRFSS), and the Youth Risk Behavior Surveillance System (YRBSS). Project descriptions are summarized below.

Smoking patterns among pregnant women:
1. **Project Justification** - Smoking before, during and after pregnancy contributes to a variety of poor pregnancy and birth outcomes, and has remained one of the most common preventable causes of infant morbidity and mortality in the United States. In addition to the adverse effects of maternal smoking on mothers themselves, maternal smoking is associated with low birth weight and many childhood medical problems including respiratory illness, asthma, obesity and cardiovascular disease. Although some studies have included prenatal smoking as a covariate to assess birth outcomes in Mississippi, no in-depth research has been conducted when smoking is treated as a major outcome variable.
2. **Project Description**- This study will assess prenatal and postpartum smoking rates and examine changes in smoking patterns during pregnancy in Mississippi.
3. **Fellow contribution** - The fellow will have the opportunity to use Mississippi Pregnancy Risk Assessment Monitoring system (PRAMS) data to assess smoking patterns among pregnant women. The fellow will be responsible for conducting a thorough literature review on smoking among pregnant women, become familiar with complex samples data through use of PRAMS. The fellow will then analyze the data and produce a written report of findings, and presentations relevant to the project. The fellow is also required to publish scientific work and its results in a high quality journal.
4. **Skills Utilized/Gained** - Project Management, Literature Review, Writing, Oral Communication, Collaboration, Analytical software: SAS/SPSS/SUDAAN, etc

Urinary Tract Infection (UTI) and Its Association With Preterm Labor:
1. **Project Justification** - UTI is the most common infection during pregnancy in the United States that may lead to maternal morbidity and adverse birth outcomes. Despite the evident relationship between UTI and maternal and neonatal morbidity, little is known about the prevalence of UTI during pregnancy and its association with preterm labor among pregnant women in Mississippi.

2. **Project Description**- This study would the estimate prevalence of UTI and explore its association with preterm labor among pregnant women in Mississippi.
3. **Fellow contribution** - The fellow will have an opportunity to work with PRAMS data and conduct research on the relationship between UTI and preterm labor. The fellow will be responsible for in-depth literature and data analysis for the project. He/she is also responsible for writing or contributing to publications or disseminating research findings in a highly quality journal or in state meetings.
4. **Skills Utilized/Gained** – Project Management, Literature Review, Writing, Oral Communication, Collaboration, Analytical software: SAS/SPSS/SUDAAN, etc

Preparedness Role
1. **Project Justification** – There are special considerations for mothers and infants in emergency preparedness situations. This project will inform policies and facilitate meeting their needs.
2. **Project Description-** The fellow will have an opportunity to assess emergency preparedness policies and practices for maternal and child health needs among the general population and high risk pregnancy population.
3. **Fellow Contribution –** The fellow will take the lead in examining policies and practices. Policy analyses can be shared with preparedness personnel.
4. **Skills Utilized/Gained** – Project management, Strategic planning, Oral Communication

Additional Activities
The fellow will be able to participate in office and agency wide initiatives as opportunities occur.

Mentors
Primary   **Charlene Collier MD, MPH, MHS, FACOG**
                         Director Mississippi Perinatal Quality Collaborative, Perinatal health research & policy consultant

Secondary   **Mina Qobadi DrPH, PhD**
                         Epidemiologist, Pregnancy Risk Assessment Monitoring System, Maternal & Child Health Block Grant