

**ID: 73701969**

**Maternal and Child Health, Injury - Host Site Description**

**Tennessee Department of Health**

**Assignment Location:** Nashville, US-TN  
Tennessee Department of Health  
Division of Family Health and Wellness

**Primary Mentor:** Emily Lumley, MPH  
Epidemiologist  
Tennessee Department of Health

**Secondary Mentor:** Jacob Black, MPH  
Epidemiologist  
Tennessee Department of Health

**Work Environment**

Hybrid

**Assignment Description**

- Complete CSTE AEF Competencies
- Conduct applied analyses of MCH data in Tennessee through SAS and other software programs
- Synthesize findings and form recommendations
- Summarize MCH analyses to partners through reports (legislative reports, fact sheets, infographics, dashboards), which emphasize health equity
- Present analyses and recommendations, including submission of abstracts to national conferences and manuscripts to peer reviewed journals
- Engage in professional development opportunities
- Increase software and analysis skills, including SAS, ArcGIS, REDCap
- Increase data visualization skills, including Canva and Tableau
- Increase communication and presentation skills
- Maintain situational awareness of TDH and National MCH activities
- Attend quarterly FHW Division meetings, quarterly MCH Regional Director Meetings, quarterly AMCHP Region IV meetings, bimonthly FHW Epidemiology meetings, monthly CDC MCH Epidemiology Program team meetings, and bi-annual Tennessee MCH Partnership meetings
- Attend weekly CEDEP surveillance meetings: to review week- and year-to-date reportable disease statistics, discuss notable public health occurrences, and hear a presentation on the “Disease of the Week”

**Describe Statistical and Data Analysis Support, Such as Databases, Software, and Surveillance Systems Available to the Fellow**

The Fellow will have access to the following databases and surveillance systems:

- Birth file, provisional and final
- Death file, provisional and final
- Fetal death file, provisional and final
- Hospital discharge data, provisional and final
- PRAMS data, final
- BRFSS and YRBS data, final
- Population estimate data, final
- ESSENCE data

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- And others, depending on project selection

The Fellow will have access to the most recent versions of the following software:

- SAS
- ArcGIS
- Tableau
- Canva
- REDCap
- SQL Server Management

The Fellow will be provided with data analysis and statistical support through our Technical Training Office. These include trainings on ArcGIS, Tableau, SAS. The Fellow will also be able to pursue SAS Certification. Additionally, TDH will match the CSTE Professional Development funding so the Fellow can pursue additional statistical and analytical training, as needed.

### **Projects**

#### **Surveillance Activity Title: Landscape Analysis of Midwifery Services in Tennessee**

##### *Surveillance Activity Description:*

An area of focus for the Division of Family Health and Wellness has been understanding maternity care throughout the state. Projects assessing home birth trends, obstetric unit closures, and perinatal regionalization have been completed or are underway. This project aims to add to this work by comprehensively analyzing midwifery services in Tennessee by examining the accessibility, availability, and utilization of services across the state. By mapping the distribution of midwifery care providers and evaluating the factors that influence the use of midwifery services, this study will provide critical insights into the state of maternal care and its potential gaps or opportunities for improvement.

##### *Surveillance Activity Objectives:*

The objectives of this project include 1) assessing the geographic distribution of midwifery services across Tennessee using ArcGIS Pro, 2) identifying urban and rural trends of midwifery services, including identifying areas with limited or no access to maternal care, and 3) analyzing social, economic, and other factors associated with the utilization of midwifery services in Tennessee. Deliverables include a report on the state of midwifery services in Tennessee with actionable insights for partners, a visual map of midwifery service coverage throughout the state highlighting areas of unmet need, and recommendations for enhancing midwifery care access to ensure equitable maternal healthcare for all populations.

##### *Surveillance Activity Impact:*

Midwifery care has been associated with improved birth outcomes, such as lower rates of preterm births, fewer interventions (like C-sections), and reduced maternal and infant mortality. By assessing the landscape of midwifery services, the fellow will help identify areas where midwifery services are effectively improving maternal and child health. This can help reduce health disparities and improve overall outcomes, particularly in underserved populations.

#### **Surveillance System Evaluation Title: Evaluation of the Fetal and Infant Mortality Review Program**

##### *Surveillance System Evaluation Description:*

In Tennessee, all deaths among children under 18 years of age are reviewed by local Child Fatality Review teams. Additionally, four Fetal and Infant Mortality Review (FIMR) teams based in metro areas review fetal and infant deaths in their jurisdiction that meet team-specific criteria for review. These review teams identify opportunities for prevention

and make recommendations. However, due to variation in review eligibility and limited FIMR scope, there are gaps in the review process, which results in the under-representation of some communities in the data and recommendations produced by FIMR. For this project, the fellow will evaluate the FIMR system to identify areas for improving the surveillance and prevention of fetal and infant deaths.

*Surveillance System Objectives:*

The project's objectives include 1) evaluating several attributes of the FIMR system, as determined by the Fellow and program staff, 2) identifying opportunities to improve the surveillance and review of fetal and infant mortality, and 3) developing recommendations for the state program. Deliverables may include a final report or presentation of the findings and recommendations to various audiences. The Fellow may also have the opportunity to work on other projects to address the needs of the FIMR program or to help implement recommendations from the evaluation.

*Surveillance System Impact:*

Fetal and infant mortality have devastating short- and long-term impacts on families and communities. Additionally, some minoritized groups and underserved communities are disproportionately impacted by fetal and infant death. Much work has been done over the last century to reduce infant mortality, with great success; however, progress has stagnated in recent decades. Meanwhile, little is understood about the causes of fetal mortality. This project would help to continue to push the Department's work around fetal and infant death forward by identifying current gaps in the FIMR program and informing activities to improve the system.

**Major Project Title: Major Project - fellow interest-led options**

*Major Project Description:*

There are several opportunities within Family Health and Wellness and/or in collaboration with another division to develop projects that meet both the Fellow's interests and the Department's needs. The Fellow will have access to a wide variety of datasets, a multitude of software and software training, and the support of highly skilled and experienced epidemiologists. These resources will allow the Fellow to work with their mentors to choose a Major Project based on their area of interest. Some potential projects include:

1. Utilizing the Tennessee Pregnancy Risk Assessment Monitoring System (PRAMS) data to carry out various analyses that will benefit multiple programs in the Division. Some potential analyses would include
  - Assessing factors associated with smoking cessation during pregnancy
  - Assessing county-level maternal experiences, attitudes, and behaviors around the time of pregnancy using small-area estimation data
  - Qualitative analysis of respondent comments
2. Conduct a cost analysis of severe maternal morbidities. The fellow will use the SMM dataset along with other available hospital cost data to evaluate the cost of SMM deliveries compared to non-SMM deliveries. This would involve developing a statistical model to adjust for various factors and computing adjusted cost estimates to determine the excess costs related to SMM in Tennessee.
3. Development of a data dashboard for MCH Block Grant measures.
4. Development of an Injury Fatality Dashboard. The fellow will work closely with the injury programs to develop a dashboard with fatal and non-fatal injury data tailored for program and public use.

Additionally, another project the Fellow works on may evolve into their Major Project, as has happened with previous fellows; therefore, we allow for flexibility and anticipate changes as the Fellow progresses through their fellowship.

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*Major Project Objectives:*

Objectives and deliverables will vary depending on the project. As far as deliverables, the Fellow can typically expect to synthesize findings, make recommendations, and convey findings to various audiences via presentations or data products.

*Major Project Impact:*

The public health impact will vary by project. Broadly, most projects will be expected to inform program activities, raise awareness for communities, and/or provide data or evidence for decision-making and resource allocation.

**Additional Project #1 Title: School District Tobacco Policy Analysis**

**Project #1 Type: Surveillance Activity**

*Project #1 Description:*

The Tennessee Tobacco Use Prevention and Control Program conducts an annual analysis of K-12 school district tobacco policies to understand the range of policies across the state and identify areas needing improvement. School policies are integral to changing social norms and ensuring schools have integrated prevention and support programs for students.

*Project #1 Objectives and Expected Deliverables:*

The objectives of this analysis include 1) reviewing K-12 tobacco policies for all school districts in the state and assessing whether each policy includes key criteria and support components to be considered comprehensive and 2) identifying school districts with notably robust or weak policies. Findings and results will be reviewed with the project mentor. Potential deliverables include presenting results to field staff, creating a map to explore the policy landscape of school districts in the state, and contributing to or redesigning fact sheets to highlight district-specific policy needs.

*Project #1 Impact:*

Tobacco use is the leading cause of morbidity and mortality in Tennessee, resulting in more than 11,400 deaths each year. To reduce the burden of tobacco on Tennessee's health, the Tobacco Use Prevention and Control Program works closely with school districts across the state to enhance their tobacco-free policies and programs to help prevent students from experimenting with or using tobacco products. This analysis informs the program's work with school districts as well as what technical assistance and resources are created and made available for administrators.

**Please Describe the Fellow's Anticipated Role in Preparedness and Response Efforts – Include Activities and Time Allocation (Required Competency of Fellowship)**

The Fellow will work closely with the Maternal and Child Health Emergency Preparedness and Response Coordinator, who coordinates activities with our Emergency Preparedness and Response Division. Potential projects include strengthening the syphilis/congenital syphilis surveillance and case investigation, assisting in the development of a statewide public health recovery plan, and supporting activities and data analyses for the MCH Block Grant priority on childhood vaccinations. The Fellow will also have the opportunity to participate in emergency preparedness and response tabletop exercises with the expectation to provide maternal and child health perspectives and feedback. The Fellow may have opportunities to participate in other emergency response activities as they arise.

**Please Describe the Fellow's Anticipated Role in Cluster and Outbreak Investigations – Include Activities and Time Allocation (Required Competency of Fellowship)**

The Fellow will attend weekly Communicable and Environmental Disease and Emergency Preparedness meetings. The Fellow will work closely with the State Epidemiologist and Deputy State Epidemiologist to have a leading role on a cluster or outbreak investigations during their fellowship.