

**ID: 45286224**

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

**Illinois Department of Public Health**

**Assignment Location:** Chicago, US-IL  
Illinois Department of Public Health  
Office of Women's Health and Family Services

**Primary Mentor:** Amanda Bennett, PhD, MPH  
CDC Maternal and Child Health Epidemiology Field Assignee  
Illinois Department of Public Health

**Secondary Mentor:** Cara Bergo, PhD, MPH  
Maternal Mortality Epidemiologist  
Illinois Department of Public Health

**Work Environment**

Hybrid

**Assignment Description**

The focus of this fellow's assignment would be to support epidemiologic projects related to maternal and child health in Illinois. The fellow would be placed in the IDPH Office of Women's Health and Family Services (OWHFS), which is one of IDPH's eight programmatic offices and has approximately 40 staff members. OWHFS houses three divisions: the Division of Maternal, Child, and Family Services, the Division of Women's Health, and the Division of Population Health Management. These divisions work together closely and are united by a common vision and mission.

The work of OWHFS covers the life course for women and families, including: infant and maternal mortality reduction, perinatal hospital regionalization, school-based health centers, teen pregnancy prevention, family planning services, breast and cervical cancer screening, and women's cardiovascular disease. Most of the work of the CSTE Fellow will be done in conjunction with staff from the Division of Maternal, Child, and Family Services, which administers the state Title V (MCH Services) Block Grant and also administers the CDC ERASE Maternal Mortality Grant, which supports the state's maternal mortality review committees. The Fellow will be integrated in to the maternal and child health epidemiology team, which includes four full-time MCH epidemiologists who are all graduates of the CSTE Applied Epidemiology Fellowship. The team meets at least monthly to discuss project ideas, discuss journal articles, and provide feedback on each other's work.

The fellow would function as an entry-level epidemiologist supporting maternal and child health programs and policies in Illinois. This would entail working with internal IDPH programs and supporting other MCH initiatives with relevant partners in other state agencies and external partners. Broadly, the day-to-day activities of the fellow would include functions related to disease surveillance, needs assessment, program evaluation, and data infrastructure building. Supporting these functions within OWHFS would include many opportunities for advanced data analysis, survey development, quality improvement science, data linkage, and database design.

Specifically, day-to-day functions of the fellow would include:

- Design epidemiologic studies and implement each stage of the study from data collection to analysis to report writing
- Analyze secondary data from public health data sources such as vital records, hospital discharge, syndromic surveillance, maternal mortality review committees, and population-based surveys
- Link public health datasets using deterministic and probabilistic methods
- Create maps in ArcGIS to convey spatial patterns in health outcomes
- Write and design data products for both lay and professional audiences

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- Make presentations in various settings, including external partner meetings and scientific conferences
- Support performance measure analysis and grant reporting requirements for the Title V MCH block grant
- Support a comprehensive statewide needs assessment in maternal and child health, which includes opportunities to employ qualitative and mixed methods
- Support evidence-based policy development and implementation
- Partner with other offices and programs within IDPH on topics of mutual interest
- Attend weekly meeting with primary mentor
- Attend bi-weekly meetings with secondary mentor
- Attend monthly meetings of the CDC MCH Epidemiology program
- Attend monthly maternal mortality review committee (MMRC) meetings
- Attend bimonthly OWHFS staff meetings and collaborate across MCH and women’s health programs
- Participate in state workgroup and advisory committee meetings

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

The computer for the fellow will include SQL Server software for accessing, managing, and extracting data, SAS software for statistical analysis, ArcGIS to conduct geographic analysis, LinkPlus for linking datasets, and other relevant programs, as needed. The mentors are highly proficient in these software packages and will support the fellow in gaining the skills necessary to appropriately analyze these data.

There are many population-based data sources available to epidemiology staff to support MCH programs throughout the state, including: vital records (birth, death, and fetal death certificates), the Pregnancy Risk Assessment Monitoring System (PRAMS), the Behavioral Risk Factor Surveillance Survey (BRFSS), the Youth Risk Behavior Survey (YRBS), the National Survey of Children’s Health (NSCH), hospital discharge data (both inpatient and outpatient), the Adverse Pregnancy Outcome Reporting System (birth defect registry), the Maternal Mortality Review Information Application (MMRIA), the Illinois Violent Death Reporting System (IVDRS), the Illinois State Unintentional Drug Overdose Reporting System (SUDORS), and syndromic surveillance data. The fellow will have the opportunity to gain experience in managing and analyzing a variety of large, complex datasets. Additional program-specific databases may also be made available to the fellow for relevant projects, surveillance, and evaluation.

**Projects**

**Surveillance Activity Title: Surveillance Report on Violent Deaths among Women of Reproductive Age**

*Surveillance Activity Description:*

Violent deaths, which may include homicide, suicide, and drug overdose, are leading causes of death among women of reproductive age. In this project, the Fellow will analyze data from multiple data sources to describe the burden of violent deaths among women of reproductive age, including trends, inequities, and opportunities for prevention. Data sources will include death certificates, the Illinois Violent Death Reporting System (IVDRS), the Illinois State Unintentional Drug Overdose Reporting System (SUDORS), and maternal mortality review data for during pregnancy or within one year postpartum. The fellow will use best practices in data visualization and data communication to develop a surveillance report that describes findings across different types of violent deaths. This project will also provide opportunities to collaborate with state programmatic efforts, such as the Illinois Partnership for Safety and the Illinois Maternal Mortality Review Committee for Violent Deaths.

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*Surveillance Activity Objectives:*

Objectives:

- Gain experience using secondary public health data sets (i.e., death certificates, IVDRS, SUDORS, maternal mortality review data)
- Analyze data using appropriate methods for public health surveillance
- Learn to conduct trend analysis using Joinpoint software
- Apply an equity lens to data analysis and interpretation
- Enhance skills in data communication and visualization
- Develop data-driven recommendations for public health programs and policies

Deliverables

- Detailed surveillance report with appropriate visualizations to present data to scientific audience
- Two-page fact sheet with appropriate visualizations to present data to non-scientific audience
- At least one presentation to a relevant state workgroup, committee, or partner

*Surveillance Activity Impact:*

This project will highlight the burden of violence, mental health, and substance use among women of reproductive age as an important priority for public health action. The data report and fact sheet produced by this project will be disseminated to partners to support violence prevention efforts, with the hope of reducing the mortality rate from these causes.

**Surveillance System Evaluation Title: Evaluation of Coroner Reports of Sudden Unexpected Infant Deaths**

*Surveillance System Evaluation Description:*

Sudden Unexpected Infant Death (SUID) is a broad term used to describe the unexpected death of an infant (1 year old or younger) in which the cause of death is not immediately known prior to an investigation. Sudden Infant Death Syndrome (SIDS) is a subset of SUID in which the specific cause of death remains unknown even after a death investigation takes place. SUID deaths often take place while the infant is sleeping or in the sleep environment. Illinois state law requires coroners to report cases of SUID to the Illinois Department of Public Health and for IDPH to report out data on these infant deaths. IDPH recently changed the data collection form and reporting processes for collecting coroner reports, and an evaluation of the new surveillance system is needed to identify what is working well and how to improve the new system. The fellow will link birth certificate, infant death certificate, and coroner reports for SUID deaths. The fellow will then evaluate the system with a particular emphasis on timeliness, representativeness, and data quality, to understand. Findings will be used to revise coroner reporting procedures and forms, and to support improved data quality for SUID.

*Surveillance System Objectives:*

Objectives:

- Gain experience using secondary public health data sets (i.e., death certificates, IVDRS, SUDORS, maternal mortality review data)
- Analyze data using appropriate methods for public health surveillance
- Learn to conduct trend analysis using Joinpoint software
- Apply an equity lens to data analysis and interpretation
- Enhance skills in data communication and visualization
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**Deliverables**

- Detailed surveillance report with appropriate visualizations to present data to scientific audience
- Two-page fact sheet with appropriate visualizations to present data to non-scientific audience
- At least one presentation to a relevant state workgroup, committee, or partner

*Surveillance System Impact:*

This project will inform improvements to an internal IDPH data collection system for SUID, which will promote better data analysis and public reporting on SUID in Illinois. Improved data collection and reporting will support evidence-based decision-making for SUID and infant mortality prevention efforts.

**Major Project Title: Maternal and Neonatal Levels of Care Systems Analysis**

*Major Project Description:*

Perinatal regionalization refers to a system of organizing care for pregnant women and newborns that ensures that high-risk patients are treated in facilities that are equipped to manage their medical needs. Illinois is in the middle of a multi-year process to revise the state's administrative rules that govern the state's regionalized perinatal system. These rule changes include revising the hospital requirements for neonatal and maternal levels of care designations to align with current policy recommendations of the American Academy of Pediatrics, American College of Obstetrics and Gynecology, and Society for Maternal-Fetal Medicine. To inform these policy changes, the fellow will support implementation of, and analyze data from, the Levels of Care Assessment Tool (LOCATe), a tool developed by the CDC to help states assess maternal and neonatal levels of care in a standardized way. LOCATe was last implemented and analyzed in 2016, and an updated assessment is necessary to understand the landscape of resources and services at birthing hospitals across Illinois. The fellow will help plan the implementation of data collection at nearly 100 birthing hospitals in Illinois and will coordinate with the CDC on data collection and interpretation issues. This analysis will include descriptive analyses of hospital levels, resources, providers, services, and policies, geospatial studies of distance to care using ArcGIS, and epidemiologic studies that show how facility levels and resources are associated with maternal and infant outcomes. As part of this project, the fellow will create at least one conference abstract from the findings and prepare a manuscript for publication in a peer-reviewed journal.

*Major Project Objectives:*

- Gain experience developing data collection plans to address programmatic needs
- Gain experience using REDCap for data collection
- Link data using using SAS software
- Analyze large public health data files and administrative claims data
- Develop maps that highlight perinatal system resources, access, and availability using ArcGIS software
- Utilize basic spatial analysis methods in ArcGIS software
- Employ appropriate statistical methods to analyze effects of levels of care on MCH outcomes
- Use data to inform policy development and implementation

**Deliverables**

- Data collection implementation plan
- Detailed data report summarizing LOCATe findings for state Perinatal Advisory Committee
- At least one presentation to state Perinatal Advisory Committee
- At least one conference abstract submitted to conference
- At least one scientific journal manuscript

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*Major Project Impact:*

This project will provide critical information to IDPH and the Illinois Perinatal Advisory Committee about the current landscape of providers, resources, and policies in the state's birthing hospitals. The findings from this project will inform revisions to the state's administrative rules that govern the implementation of the regionalized perinatal system and have a lasting impact on policies regulating the state's birthing hospitals. This will improve the quality of care for pregnant/postpartum persons and neonates.

**Additional Project #1 Title: Racial Equity in Child Health**

**Project #1 Type: Surveillance Activity**

*Project #1 Description:*

In 2023, Illinois funded an "oversample" in the National Survey of Children's Health (NSCH) designed to increase the overall number of Illinois respondents and the specific number of non-Hispanic Black respondents. In prior iterations of the annual NSCH, the sample sizes for Illinois did not permit sub-group analyses by race/ethnicity due to low sample sizes for children of color, which has limited the usefulness of this survey for maternal and child health programs. With the NSCH oversample, Illinois hopes to overcome this barrier and be able to robustly analyze racial/ethnic differences in child health and to discuss implications for health equity. The fellow will conduct data analyses using NSCH that focus on racial equity in topics/indicators relevant to the Illinois MCH Block Grant priorities, which could include developmental screening, transition from pediatric to adult care, adolescent well visits, oral health services, mental health services for children, and adverse childhood events. The fellow will then create a series of short "fact sheets" that summarize the data for distribution to professional and community partners working on child health issues.

*Project #1 Objectives and Expected Deliverables:*

Objectives:

- Apply an equity lens to data analysis and interpretation
- Appropriately analyze complex sample survey data in SAS
- Enhance skills in data communication and visualization

Deliverables:

- At least three fact sheets on child health topics of high priority to Illinois MCH programs, which include appropriate visualizations to present data to non-scientific audience
- At least one presentation to a relevant state workgroup, committee, or partner

*Project #1 Impact:*

This project will fill a knowledge gap by describing Illinois' racial/ethnic inequities in child health outcomes and services and highlighting opportunities improvement in public health systems and services. This analysis will support health equity for Illinois children by providing evidence for program/policy development.

**Additional Project #2 Title: Maternal and Child Health Needs Assessment**

**Project #2 Type: Major Project**

*Project #2 Description:*

Every five years, every state must implement a statewide maternal and child needs assessment to fulfill federal grant requirements for the Title V Block Grant program. The next Illinois MCH needs assessment will be conducted from fall 2023-spring 2025, which coincides with the fellowship timeline and provides ample opportunity for the fellow to participate in the needs assessment. The fellow will participate in the leadership meetings for the needs assessment, which will be jointly undertaken by the IDPH and the UIC Center of Excellence in MCH. In addition to conducting quantitative data analysis on key performance and outcome measures, the fellow will gain hands-on experience in analytic skills that are outside traditional epidemiology, which may include: key informant interviews, focus groups,

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qualitative data analysis, integration of mixed methods findings, systems analysis, survey design, and workforce capacity assessments.

*Project #2 Objectives and Expected Deliverables:*

Objectives:

- Contribute to planning process for statewide maternal and child health needs assessment
- Learn about federal requirements for five-year maternal and child health needs assessments
- Lead data collection and/or analysis for at least one needs assessment component
- Apply an equity lens to data collection and analysis
- Connect data to policy recommendations
- Enhance skills in data communication/translation for various audiences

Deliverables:

- Detailed report on at least one needs assessment component
- Brief summary of needs assessment component to include in federal grant application

*Project #2 Impact:*

The fellow will contribute to a statewide health assessment that will shape the next five years of the maternal and child health program cycle in Illinois. The needs assessment will inform the selection of the state's MCH priorities and action plan for the 2026-2030 grant cycle.

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

As an ongoing activity, the Fellow will provide input and expertise to emergency preparedness activities at IDPH as they relate to women, children and families. The Fellow will collaborate with staff members coordinating MCH emergency preparedness activities to identify relevant tasks and opportunities for involvement. Such activities could include: participating in preparedness-related task forces/workgroups to ensure MCH needs are addressed, advising OWHFS about how to include preparedness into MCH programs, and working with the Illinois Emergency Medical Services for Children on provider resources related to emergency medical care or disaster preparedness among pediatric populations. To gain a background in basic principles of emergency preparedness, the fellow will complete relevant National Incident Management System (NIMS) trainings through the Federal Emergency Management Agency (FEMA). As relevant and available, the fellow will also be invited to attend emergency responder drills that may be organized by IDPH. The emergency preparedness component of the fellowship will be approximately 5% time of the fellow's time throughout the two-year placement.

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

The fellow will participate in at least one cluster or outbreak investigation to demonstrate competency in conducting a field investigation and writing a field report. The mentors will work with other IDPH divisions and offices to identify an outbreak investigation where the fellow can assist. If possible, we will try to have this outbreak investigation be maternal or child health related, but it is difficult to anticipate what opportunities may arise. Examples of relevant outbreak/cluster investigations may include: cases of necrotizing enterocolitis in a neonatal intensive care unit, listeria outbreak that has affected one or more pregnant persons, or a cluster of adolescent suicides within a school or community. The outbreak investigation will be a single, discrete project for the fellow, and is expected to be completed in a relatively short time frame (<two months).

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**Please Describe the Fellow’s Anticipated Role in the COVID-19 Response – Include Activities and Time Allocation**

At this stage, it is not anticipated that the fellow will have a role in the COVID-19 response activities. The IDPH COVID-19 data intelligence team has scaled back activities as we anticipate the end of the public health emergency in spring 2023. However, if there is a surge or specific issue that requires scaling up the COVID-19 surveillance activities, the fellow may become involved at that time.

**Please Describe Opportunities for Fellows to Work in Health Equity as well as Incorporating Diversity, Equity, and Inclusion into their Work**

Health equity is a pillar of maternal and child health and is integrated into the routine activities of the Illinois MCH epidemiology team. As such, all projects will use an equity lens to ensure data collection, analysis, interpretation, and implications are driving equitable changes in public health practice and policy. The fellow will attend trainings related to health equity and how the practice of epidemiology can do more than merely documenting disparities. The fellow will learn about existing tools for using data to support health equity, such as the Racial Equity Data Road Map developed by the Massachusetts Department of Public Health (<https://www.mass.gov/service-details/racial-equity-data-road-map>).