

ID: 70597788

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: Julia Howland, MPH, PhD
Epidemiologist
Illinois Department of Public Health

Secondary Mentor: Cara Bergo, MPH. PhD
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. 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
- Make presentations in various settings, including external partner meetings and scientific conferences

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- 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: Access to High-level Trauma Care for Children Following a Traumatic Injury

Surveillance Activity Description:

Access to tertiary care pediatric trauma centers ensures timely access to diagnostic, surgical and rehabilitation services for children who experience a traumatic injury. Level I and Level II trauma centers are not evenly distributed throughout the state, potentially leading to longer travel times for patients in some areas of the state. In this project, the fellow will complete an analysis of emergency medical services (EMS) data to assess time from initial 911 calls to arrival at high level pediatric trauma care facilities. Data from the EMS data will be linked to hospital discharge data at the receiving hospital to study hospital outcomes for patients, including length of stay, and ICU admission. This project will allow the fellow to utilize biospatial mapping methodology and require the probabilistic matching of administrative datasets. The work will be done in conjunction with Emergency medical Services for Children program at IDPH.

Surveillance Activity Objectives:

Objectives:

- Gain experience using secondary public health data sets (i.e., hospital discharge data, EMS data)
- Analyze data using appropriate methods for public health surveillance

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- Apply biospatial mapping techniques to assess distance to high-level trauma care
- Employ probabilistic matching methodology to link two datasets together
- 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
- 2-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
- Optional: abstract for presentation at a scientific meeting

Surveillance Activity Impact:

This project will identify areas of the state with poor access to high-level trauma care and will describe pediatric outcomes and care received following a traumatic injury. This will allow OWHFS and state partners to plan for trauma care for children in the context of long travel distances to trauma centers.

Surveillance System Evaluation Title: Evaluation of Illinois Fetal Infant Mortality Review

Surveillance System Evaluation Description:

Fetal and infant deaths are tracked through vital records (birth certificates, death certificates, fetal death certificates) and then a proportion of these are reviewed by grantees through the fetal and infant mortality review teams (FIMR). There is a need to better understand what deaths are being identified, which are being reviewed, how data is collected, and how recommendations are created to prevent future deaths. The goal is to have a statewide system to review these deaths and a standardized process to do so. This evaluation will be the first step to observe where Illinois currently is in identifying and reviewing fetal and infant deaths.

The fellow will link birth certificate and death certificate data to identify infant mortality while using fetal death certificates to identify fetal deaths. The fellow will evaluate the timeliness, accuracy, representativeness, data quality of this system, as a means of better understanding the strengths and weaknesses of the identification and review system, thus informing the ongoing use of these metrics in fetal and infant mortality surveillance.

Surveillance System Objectives:

Objectives:

- Gain experience using secondary public health data sets (i.e., birth certificates, death certificates)
- Link data using SAS and MatchPro software
- Implement CDC surveillance evaluation guidelines
- Conduct key informant interviews with coroners and FIMR grantees to understand facilitators and barriers to data reporting
- Develop recommendations for improving data collection on and expanding FIMR

Deliverables

- Surveillance evaluation report with appropriate visualizations to present data to scientific audience
- Presentation to internal staff on findings and recommendations
- Assist IDPH with implementing changes for recommendations that are accepted

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Surveillance System Impact:

This project will inform improvements to an internal IDPH data collection system for fetal and infant deaths, which will promote better data analysis and public reporting in Illinois. Improved data collection and reporting will support evidence-based decision-making for fetal 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 end 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 90 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:

Objectives:

- Gain experience developing data collection plans to address programmatic needs
- Gain experience using REDCap for data collection
- Link data 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

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.

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Additional Project #1 Title: Housing Insecurity Landscape Analysis and Policies for MCH populations

Project #1 Type: Major Project

Project #1 Description:

Housing insecurity is increasingly recognized as a priority in maternal and child health. Nationwide and in Illinois, homelessness is rising, including among families. As part of the FY 2026-2030 Title V strategic plan, Illinois has selected housing insecurity as a priority measure and has written several strategies to address housing insecurity among pregnant people and children. Any effort to address housing will require partnership with state and federal programs and strategic leveraging of available funding mechanisms.

This analysis will assess best practices in housing policies nationwide to identify opportunities for leveraging state and federal programs to support housing for maternal and child health (MCH) populations. Benchmarking housing initiatives in other states will provide valuable insights to inform Illinois' next steps in addressing housing challenges. Additionally, this assessment will explore how new and existing collaborations can be utilized. This assessment and project will inform future endeavors and strategies to address lack of housing needs among MCH populations, particularly Medicaid recipients.

Project #1 Objectives and Expected Deliverables:

Objectives:

- Collect current information regarding housing insecurity among Illinois MCH populations
- Identify best practices from other states addressing housing
- Gain experience communicating with other states and jurisdictions
- Enhance skills in data communication and visualization

Deliverables:

- At least one fact sheet on housing insecurity in Illinois among MCH populations, which include appropriate visualizations to present data to non-scientific audience
- Best practices list of policies and programs being used in other jurisdictions
- At least one presentation to a relevant state workgroup, committee, or partner

Project #1 Impact:

This project will address a critical knowledge gap by examining housing insecurity among Illinois' MCH populations and highlighting best practices from other jurisdictions that have successfully addressed similar challenges. The findings will provide valuable insights to inform future program and policy development, advancing efforts to improve public health systems and services for families.

Additional Project #2 Title: Transition of Care for Children and youth with special health care needs

Project #2 Type: Major Project

Project #2 Description:

Transition from pediatric to adult healthcare services remains a priority of the Illinois Title V program. Children and youth with special healthcare needs may face unique barriers to transitioning to adult healthcare services, including increased complexity of care and changes in eligibility for state programs. The fellow will conduct an assessment of healthcare provider practice and family needs around transition to adult care. This assessment could include a review of existing scientific literature on the topic and an analysis of National Survey of Children's Health data. In addition, the fellow may develop and administer a survey or key informant interview tool for providers or families. The assessment would be conducted in collaboration with the Division of Specialized Care for Children (DSCC). This project will allow the fellow to utilize quantitative and qualitative analysis skills and will allow them to participate in Title V strategic goals and national performance measure analysis.

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Project #2 Objectives and Expected Deliverables:

Objectives:

- Conduct a literature review on a topic important to adolescent health, with a focus on the needs of youth with special healthcare needs
- Complete an analysis of a Title V national performance measure using survey data
- Partner with clinical and academic stakeholders to learn about care for youth with special healthcare needs
- Write and administer a survey or interview tool to gather information on the needs of families or healthcare providers related to transition for adolescents
- Assess data gathered from survey or interview tool using appropriate quantitative and qualitative methods
- 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 methods, findings, and implications of literature review and interview or survey tool administration
- Presentation to Title V and DSCC partners on findings
- Data brief on findings of project for distribution to community members and project partners

Project #2 Impact:

The fellow will conduct a literature review and primary data collection on a topic important to adolescent health in the state and the Title V program. The results of this project will be shared with various community, academic, and clinical partners and will inform and further the work of the Title V program.

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 2-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

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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 (<2 months).