

**Assignment Description**

The Fellow would be primarily placed in the Chicago office of the IDPH Office of Women’s Health and Family Services (OWHFS). The OWHFS is one of six programmatic offices with IDPH, with a Deputy Director that reports directly to the IDPH Director. 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. The Division of Maternal, Child, and Family Services is the administrator of the state Title V (MCH Services) Block Grant, which funds a wide array of public health programs and initiatives, including: asthma education initiatives, newborn hearing and genetic/metabolic screening, services for children with special healthcare needs, and funding of case management services through the Illinois Department of Human Services.

Secondarily, the Fellow would work closely with the Adverse Pregnancy Outcomes Reporting System (APORS) program within the IDPH Division of Epidemiologic Studies. The purpose of APORS is to conduct surveillance on birth defects and other adverse outcomes, guide public health policy in the reduction of adverse pregnancy outcomes, and identify and refer children who require special services to high-risk case management services. Mandated statewide data collection began in August 1988; all licensed Illinois hospitals are required to report adverse pregnancy outcomes to APORS. More than 40 specific birth defects are validated through chart review.

**Day-to-Day Activities**

The Fellow would function as an entry-level epidemiologist supporting maternal and child health programs and policies in Illinois and be integrated into the work of OWHFS. This would entail working with internal programs and supporting other MCH initiatives with relevant partners in other IDPH divisions, other state agencies, and external partners. Broadly, the day-to-day activities of the Fellow would include functions related to needs assessment, program evaluation, disease surveillance, and data infrastructure building. Supporting these functions within OWHFS would include many opportunities for data analysis, survey development, quality improvement support, data linkage, and database design/development. There are opportunities for the Fellow to be involved in a diverse array of projects and to select projects that will enhance their epidemiologic skills and further their professional development. Specifically, day-to-day functions of the Fellow would include:

- Choose one or more epidemiologic projects and follow them from development to investigation to data collection to analysis to report completion
• Develop skills in indicator development, data management, database linkage, GIS mapping, epidemiologic methods, and evidence-based public health
• Create data products for a wide range of lay and professional audiences
• Make presentations in various settings, including learning sessions at DPH, in external partner meetings, and at scientific conferences
• Participate in evidence-based policy development and implementation
• Identify partnership opportunities with other offices and programs within IDPH
• Support performance measure analysis and grant reporting requirements for the Title V MCH block grant
• Attend weekly progress meeting with primary mentor
• Attend bi-weekly phone meetings with secondary mentor
• Attend monthly phone meetings of the CDC MCH Epidemiology program
• Attend bi-monthly OWHFS staff meetings and collaborate across MCH and women’s health programs
• Attend bi-monthly meetings of the IDPH Chicago office epidemiology group
• Participate in state workgroup and advisory committee meetings

Potential Projects

Surveillance Activity  Stillbirth Surveillance Report

The MCH program in Illinois has never conducted an extensive analysis of fetal deaths or stillbirths. There is a need to better understand the trends and characteristics of stillbirths, and to connect these efforts to those already underway for infant mortality. For this project, the fellow will use fetal death certificate data to describe fetal death trends, disparities, and causes. The Fellow will also use data from chart reviews undertaken by the APORS program to describe the incidence of selected birth defects among the fetal deaths. In addition, the fellow will also use birth certificates and death certificates to compare the cohort of fetal deaths to that of live births and infant deaths, in order to identify potential public health opportunities for intervention. The fellow may also conduct a perinatal periods of risk assessment involving both fetal and infant mortality to highlight the root causes of racial disparities in Illinois. There will also be opportunities to connect with state programmatic efforts, such as the state’s Fetal and Infant Mortality Review.

Surveillance Evaluation  Comparative Evaluation of Maternal Morbidity Data across MCH Data Systems

Complications of pregnancy and chronic conditions during pregnancy are tracked through various data systems in Illinois. There is a need to better understand how the prevalence estimates of various maternal morbidities vary across data sources and the caveats associated with using each source. The fellow will link birth certificate, hospital discharge data, and Pregnancy Risk Assessment Monitoring Data (when available) and then compare the rates of maternal morbidities, such as hypertension, diabetes, across these three sources. The fellow will evaluate the timeliness, accuracy, representativeness, data quality of each data source, as a means of better understanding the strengths and weaknesses of each surveillance system, thus informing the ongoing use of these metrics in maternal morbidity surveillance.
Major Project  Analysis of Linked Data on Maternal Opioid Use and Neonatal Abstinence Syndrome

During 2017-2018, Illinois obtained a grant to enhance case ascertainment and data collection on infants with neonatal abstinence syndrome. This project included linkage of data from birth certificates, the Adverse Pregnancy Outcomes Reporting System, and hospital discharge data for women and their infants. Now that this rich dataset is available, detailed epidemiologic analyses are needed to inform surveillance and programmatic efforts in Illinois. The fellow will develop and execute an analytic plan to compare characteristics, health care costs, and long-term outcomes of NAS infants compared to those without NAS, and to compare opioid-using women with those not using opioids. The analyses may also include comparison of various substance exposures and treatment protocols on health care costs and health outcomes for the infants, possibly in collaboration with other states funded under the same grant. The fellow will generate a series of products to disseminate the findings, potentially including: a detailed data report, shorter summaries for public-facing documents, infographics, conference abstracts, and/or a manuscript to be submitted for publication in a peer-reviewed journal.

Additional Project  Geospatial Analysis of Adverse Birth/Maternal Outcomes and Hospital Levels of Care

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 requirements of hospitals at each level to match the current policy recommendations of the American Academy of Pediatrics. To inform these policy changes, the fellow will conduct geospatial analyses that examine the residential location for women and infants experiencing poor outcomes, the location of the closest tertiary care facilities, and the actual location of the delivery. These analyses will be helpful for understanding the patterns of where women (particularly those with high-risk pregnancies) deliver their infants, and how the hospital’s location and level of care correspond with adverse outcomes. Outcomes of interest may include severe prematurity, neonatal mortality, birth trauma, and severe maternal morbidity. The fellow will have the opportunity to use ArcGIS or another spatial analysis software to conduct the analyses.

Surveillance Activity  Child Health Fact Sheets

The third year of data from the newly revised National Survey of Children’s Health (NSCH) were released in fall 2019. This will allow for analysis of state-level child health indicators for the first time since the release of the 2011-2012 NSCH. Several of the Illinois MCH Block Grant performance and outcome measures are based on indicators derived from NSCH data, such as developmental screening, transition from pediatric to adult care, oral health services, and mental health services for children. The fellow will analyze the newly available NSCH data to assess changes from the 2011-2012 baseline, describe relevant disparities within Illinois, and compare Illinois’ performance to other states in the nation. 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.
Preparedness Role

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). The Fellow will then have the opportunity to provide input and expertise to emergency preparedness activities at IDPH as they relate to women, children and families. Such activities could include: participating in task forces implementing policies affecting preparedness among MCH populations, advising OWHFS about how to include MCH-sensitive preparedness into office 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. There will also be the opportunity to collaborate with other IDPH divisions and offices to participate in an outbreak investigation, emergency responder drills, and contributing to hot wash summaries that evaluate IDPH’s performance in responding to outbreaks and emergency situations.

Additional Activities

There is a myriad of opportunities for the Fellow to be involved in other projects that align with their interests and professional development goals. These may include:

- Analysis and mapping of indicators related to the ten Maternal and Child Health (Title V) Block Grant priorities
- Working with the state Children with Special Healthcare Needs (CSHCN) program on a project related to care coordination
- Collaborating with the Division of Infectious Disease on congenital syphilis surveillance
- Outbreak investigation (in conjunction with Division of Infectious Diseases) for a disease relevant to maternal and child health (e.g., measles, listeria)

Mentors

Primary
Amanda Bennett, PhD, MPH
CDC Field Assignee in Maternal and Child Health Epidemiology

Secondary
Jane Fornoff, D.Phil, MSc, MA
APORS Manager and Perinatal Epidemiologist