Chronic Diseases, Maternal and Child Health

Michigan Department of Health and Human Services, Bureau of Epidemiology and Population Health/ Lifecourse Epidemiology and Genomics Division

Lansing, Michigan

Assignment Description

The Fellow will be working with mentors in both Chronic Disease Epidemiology (CDE) and MCH Sections, with an ability to focus on epidemiology across the lifespan and tailor an experience that matches the Fellow's interests and strengths. Both Sections have a commitment to addressing health inequities and employ the "data to action" construct by disseminating findings to program staff, other chronic disease and maternal and child health epidemiologists, local agencies, and other partners.

The Fellow would have access to numerous data systems of LEGD as well as MDHHS, including but not limited to vital records; inpatient hospitalizations; cancer, immunization, stroke, and birth defects registries; Behavioral Risk Factor Surveillance System (BRFSS), Pregnancy Risk Assessment Monitoring Survey (PRAMS), Youth Risk Behavior Survey (YRBS) and other survey data; newborn screening data; Medicaid claims; and communicable disease reports. There are opportunities for conducting evaluation of surveillance systems and intervention activities. Staff would be excited to host a fellow with a focus and interests in Chronic Disease Epidemiology and Maternal and Child Health Epidemiology. There is a critical need to identify and develop new data sources, evaluate and improve data quality, and improve the effective measurement of health outcomes. Equally important is the need to communicate findings in a participatory manner to chronic disease and MCH programs and partner organizations. A coordinated data-to-action approach will provide the foundation for a continued system and outcomes evaluation, provide a databased justification to educate policy makers and support the goal of improving the health and wellness of real people across the life course.

Day-to-Day Activities

The Fellow's will have opportunities to:

- Conduct literature reviews, develop, maintain, and use data sets of varying size and complexity, link data files, edit data, and maintain quality control and manage projects.
- Participate in the design of studies, data collection, analysis, and interpretation of results and dissemination of key findings.
- Apply epidemiological methods and use analysis results to inform stakeholders and guide policy.
- Develop IRB applications and data use agreements and keep both up-to-date.
- Review and edit reports and manuscripts and prepare and deliver presentations.
- Participate in site visits to the Quarantine Station in Detroit, MDHHS Office of Public Health Preparedness, the MDHHS State Lab, and the Office for Survey Research at MSU.
- Participate in other BEPH activities as time and interest permits, including communicable disease outbreaks and environmental field investigations.
- Plan and run meetings and communicate with mentors and key partners regarding project status.
- Develop professionally through seminars, professional meetings, webinars, and trainings at the Department or local universities and by assisting with mentoring student interns.
- Join the primary mentor on national, regional, state and local workgroups, and
- Participate in strategic planning and other planning activities in the CD and MCH Sections.

Potential Projects

Surveillance Activity — **Promoting genetic testing for the relatives of individuals with known BRCA mutations (cascade testing)**

Deleterious mutations in the BRCA1 or BRCA2 genes confer an estimated 80% lifetime risk of breast cancer and 40% lifetime risk of ovarian cancer. To increase the proportion of women with a family history of breast and/or ovarian cancer who receive genetic counseling is one of the genomics objectives for Healthy People 2020. An important public health genetics strategy is to promote genetic testing for the relatives of individuals with known BRCA mutations, which is known as cascade testing. Currently, Michigan does not have a surveillance system to monitor cascade screening. One way to address this gap in knowledge is to create a registry of patients who test positive for a BRCA1 or BRCA2 mutation. The intention would be to follow up with these patients to provide advice in how to inform relatives of the mutation and to document what relatives have been informed and have been tested. The Fellow would aid in the planning and the development of this data system.

Surveillance Evaluation — **Michigan Maternal Infant Health Program**

The Maternal Infant Health Program (MIHP) is Michigan's largest home visiting program for Medicaid-eligible pregnant women and infants. This program provides care coordination for pregnant women with a goal of promoting healthy pregnancies, positive birth outcomes, and healthy infant growth and development. Another main goal of MIHP it to decrease infant mortality within the State of Michigan. MIHP has been shown to improve maternal and infant healthcare utilization and reducing the risk for adverse birth outcomes. MIHP collects a tremendous amount of important data, but due to recently discovered data inconsistencies, it is rarely utilized beyond basic program needs. With that being said, it would be extremely useful for us to conduct a full evaluation of the MIHP surveillance system with a goal of resolving these inconsistencies and developing it into more useful data system that can be used by a variety of maternal and child programs.

Major Project — **Pregnancy Risk Assessment Monitoring System (PRAMS) Expanded Analyses**

The Michigan Pregnancy Risk Assessment Monitoring System (PRAMS) is an ongoing survey project of mothers who deliver live births in Michigan. PRAMS is part of a national effort to reduce infant mortality and adverse birth outcomes by providing information useful for developing and implementing intervention programs and for evaluating existing programs. PRAMS data is used to monitor progress toward national and state pregnancy-related health objectives. On an annual basis, Michigan PRAMS staff develop and release a standard set of indicator tables along with quarterly newsletters that focus on various maternal and child health related topics. Due to limited staff support, the Michigan PRAMS team is not currently able to conduct some of the more in-depth analyses that are needed by our other maternal and child health programs. This fellow would be able to assist in the further analysis of this rich data source.

Major Project   Case Control Study of Asthma Mortality in Children and Young Adults

Asthma mortality rates in Michigan are slightly higher than the United States rate for children and young adults (under 35 years). Although the number of asthma deaths is not large in Michigan; however, the circumstances surrounding these preventable deaths are dramatic and provide important information about failures in social and health care systems. Overall asthma mortality rates in Michigan have not change significantly since 1990; however, the mortality rate for asthma in African-Americans is over four times that of Caucasians. The majority of asthma deaths occur among people had enrollment in Michigan Medicaid programs. Death certificates, possibly case files from a previously conducted Michigan Asthma Mortality Review, and Medicaid claims can be used to identify asthma decedents and matched controls. Analysis would explore reasons for poor asthma control and identify risk factors for asthma mortality.

Additional   Analysis of Behavioral Risk Factor Surveillance System (BRFSS) Asthma Call-Back
Project   Survey

The Asthma Call-back Survey (ACBS) is an in-depth asthma survey developed and funded by CDC. It is conducted with Behavioral Risk Factor Surveillance System Survey (BRFSS) respondents who report an asthma diagnosis. ACBS addresses critical questions surrounding the health and experiences of persons with asthma, and includes health, socioeconomic, behavioral and environmental predictors that relate to better control of asthma. This survey also explores the content of care and health care experiences of persons with asthma. ACBS is an important component of the MDHHS asthma program's surveillance system and analysis helps characterize asthma in Michigan and looks at temporal changes in these important factors.

<u>**Preparedness Role**</u>

The Fellow will participate in trainings and exercises, through the BEPH and the MDHHS Bureau of EMS, Trauma and Preparedness. This may involve communicable disease, chemical, natural disaster, and radiological events. If a real emergency event takes place in communicable disease or environmental health, the Fellow will be assigned an epidemiology function within the Incident Command Structure. For example, one of the previous Fellows spent three weeks in a Command Center under EPA direction following a large oil spill in Michigan. The Fellow assisted with development of a survey instrument to determine perceived and real health effects from oil exposure, participated in the implementation of the survey at three affected communities and one unaffected community and conducted analysis if the survey results. In addition, the Fellow will receive opportunities to participate in significant and urgent (non-emergency) communicable disease and chemical contamination events. All of MDHHS's EIS and CSTE Fellows and other CDC assignees participated in Michigan's first implementation of a Community Assessment for Public Health Emergency Response (CASPER) during September 2012, which involved door-to-door surveys using CASPER methodology.

Additional Activities

Flexibility is built into the program, and the Fellow will pursue specific projects of interest and work with Primary and Secondary Mentors to create a tailor-made program. Additional activities would include:

- Use of Medicaid claims to conduct surveillance of chronic disease among women of reproductive age and to study the impact of chronic disease on deliveries.
- Analyze Medicaid claims related to stroke episodes of care to look at health care and pharmacy utilization claims to assess follow up after stroke discharge.
- Analyze Medicaid claims to assess hypertension treatment prevalence by demographics, space, and time to aid in a needs assessment of hypertension care.
- Develop mapping materials to show surveillance data, including social determinants of health, to aid chronic disease partners in needs assessments and program targeting; this would include display of American Community Survey data, BRFS data, hospitalization data, Medicaid claims data, land use maps, and primary care and specialty care locations.
- Surveillance of birth defects and/or childhood cancer, and
- Surveillance of adult sickle cell disease cases.

Mentors

Primary
Robert Wahl DVM, MS

Manager & Chronic Disease Epidemiologist

Secondary
Chris Fussman MS

Manager & Maternal and Child Health Epidemiologist