

Maternal and Child Health, Chronic Diseases

Maine Center for Disease Control and Prevention, Division of Disease Prevention

Augusta, Maine

Assignment Description

Maine's CSTE fellowship provides a unique opportunity for fellows to gain experience in both maternal and child health and chronic disease epidemiology. The Division of Disease Prevention in the Maine Center for Disease Control and Prevention is committed to providing an exceptional, well-rounded experience for a CSTE/CDC Applied Epidemiology Fellow. The Division is a national leader in maternal and child health and chronic disease prevention. Programmatic areas within the Division include Maternal and Child Health; Children with Special Health Needs; Women's Health; WIC; Public Health Nursing; Physical Activity; Nutrition; Obesity; Tobacco; Substance Abuse Prevention; Injury and Suicide Prevention; Adolescent and School Health; Community--based Prevention; Asthma; Diabetes, Heart Disease, and Stroke; Oral Health; Comprehensive Cancer and the Maine Cancer Registry. The fellow will become part of the DDP epidemiology team, which is responsible for all of the epidemiology work conducted in the Division. This assignment will allow a Fellow to develop applied epidemiology competencies under the guidance of two experienced mentors (both have mentored past Applied Epidemiology Fellows and one is an EIS alumna) by engaging in both narrowly -focused and cross-cutting projects in maternal and child health and chronic disease epidemiology, with opportunities to gain experience in public health preparedness and communicable disease, injury prevention, and environmental health, depending upon the Fellow's interests.

Both mentors have many years of experience in applied epidemiology, have enjoyed mentoring many graduate students and fellows, and are committed to ensuring an exceptional experience for an Applied Epidemiology Fellow. The Maine CDC includes many innovative public health programs and an excellent staff of epidemiologists, providing the Fellow with many opportunities to learn and contribute.

Day-to-Day Activities

The fellow's day-to-day activities will depend upon the particular projects being worked on at a given time, but will include creating data analysis plans; analyzing surveillance data (mortality, births, birth defects, hospital discharge, emergency department, cancer registry, risk factor survey data, etc.); interpreting that data and creating tables, charts, and narrative for program staff use; preparing recommendations for maternal and child health and/or chronic disease programs based on the data; handling requests for data and technical assistance from Maine CDC staff, partners, local public health staff, and the public; preparing and delivering presentations to Maine CDC staff and local, state, and national meetings; being involved in MCH and chronic disease program planning; meeting with Maine CDC staff to better understand the organization and its public health programs; participating in regular MCH and chronic disease epidemiology team meetings, programmatic staff meetings as appropriate, and division-wide staff meetings; designing and implementing an evaluation of a surveillance system; working with Division of Disease Prevention program staff to help them understand, interpret, and use relevant data; preparing brief fact sheets for program use; preparing manuscripts for publication; attending webinars, conference calls, and conferences to increase skills and knowledge; reading and doing internet and library research to keep up to date and increase public health knowledge.

Potential Projects

Surveillance Cesarean Sections: Trends and associated factors Activity

For this analysis, the fellow would use data from birth certificates, hospital discharge data, and Maine's Pregnancy Risk Assessment monitoring system to examine c-sections in Maine. In Maine and nationally, c-sections have been increasing and may be conducted when they are medically unnecessary, posing risks to both the mother and infant. For this analysis, the fellow would use multiple data sources to examine when, where and who gives birth via c-section to identify areas for intervention and policy change.

Surveillance Evaluation of Maine's birth certificate system Evaluation

In 2013, Maine implemented a revised birth certificate form along with a new electronic birth certificate system. This evaluation would involve an examination of the new fields on the birth certificate as well as a comparison of medical records and birth certificate data.

Another possible surveillance evaluation is an evaluation of either the Adult or Child Asthma Call-Back Survey. These are very detailed surveys of asthma control, treatment, and triggers and are call-back surveys to the Behavioral Risk Factor Surveillance System.

Major Project Linkage of hospitalization and birth certificate data

States are seeing the benefits of linking datasets to gain more information on health outcomes. In Maine, we are planning to link hospital discharge data and birth certificate data for the first time. The fellow, with support from other epi staff, would conduct this linkage and conduct analyses of the linked data including to examine outcomes such as neonatal abstinence syndrome, as well as medical procedures associated with birth outcomes such as preterm birth, The linkage can also be used to assess the quality of both surveillance systems.

Surveillance Small area analysis of chronic disease risks Activity

For this project, fellows would use small area analysis techniques to generate sub-county BRFSS estimates for a selection of indicators and develop a web-based ArcGIS interactive map to display these estimates.

Surveillance Sexual assault and intimate partner violence in Maine Activity

Using data from the Pregnancy Risk Assessment Monitoring System, the Behavioral Risk Factor Surveillance System and the Maine Integrated Youth Health Survey, the fellow would create a surveillance brief summarizing the scope of the problem and associated health outcomes.

Preparedness Role

Fellows will participate in the Infectious Disease morning call on a regular basis, shadow an infectious disease district epidemiologist, and participate in at least one outbreak investigation with Division of Disease Control staff. He/she, and will participate in activities of the Public Health Emergency Preparedness Program. Some potential public health preparedness projects include examining preparedness of long-term care facilities, evaluating Maine's use of the Health Alert Network and providing recommendations for improving messaging, and being involved in public health response to emergency events like blizzards and floods. We will work with current staff, and with the State Epidemiologist, to ensure the fellow has opportunities to work in preparedness and on an outbreak.

Additional Activities

Since our staff work with a large diversity of programs, there are many potential opportunities for fellows. We work with fellows to ensure that their projects match their interests and advance their skills. Below is a list of other potential projects/activities:

- Link birth certificates and drug-affected infant data from child welfare to examine birth outcomes associated with substance use during pregnancy.
- Participate in gathering quantitative and qualitative data for Maine's Shared Community Health Needs Assessment.
- Using GIS tools to identify and illustrate very rural and high poverty areas in Maine and examining disparities in health care access, risk factors, birth outcomes, and chronic diseases in these areas compared with the rest of Maine.
- Conduct analyses of Maine's home visiting data on adverse childhood experiences among children enrolled in home visiting and how ACEs impacts health and development.
- Using Medicaid data, examine the use of long-acting reversible contraceptives (LARCs).
- Working with newly geocoded cancer incidence data, create cancer incidence rates for census tracts using the CEHI Rate Stabilizing tool, map the rates and conduct spatial analysis including hot spot analysis.
- Create an ArcGIS map app or story map to display different measures of asthma burden at the county level, show changes in that burden over time, and overlay locations of programmatic activities.

Mentors

Primary

Erika Lichter ScD, MS, MA

Maternal and Child Health Epidemiologist

Secondary

Sara Huston PhD, D

Chronic Disease Epidemiologist