ID: 35069456
Maternal and Child Health, - Host Site Description
Maine Center for Disease Control and Prevention

Assignment Location: Augusta, US-ME
Maine Center for Disease Control and Prevention
Division of Disease Prevention

Primary Mentor: Erika Lichter, ScD, MS, MA
Lead Maternal and Child Health Epidemiologist/Associate Research Professor
Maine Center for Disease Control and Prevention/University of Southern Maine

Secondary Mentor: Fleur Hopper, MPH, MSW
Maternal and Child Health Epidemiologist
Maine Center for Disease Control and Prevention/University of Southern Maine

Work Environment
Hybrid

Assignment Description

Maine's CSTE fellowship provides a unique opportunity for fellows to gain experience in maternal health with a focus on maternal mortality. 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 has multiple initiatives related to maternal mortality that the AEF would work on. In 2022, the Maine CDC received three new grants focused on improving maternal health. Funding was received from the federal CDC to conduct maternal mortality reviews using a national best practices approach, which includes using the CDC's Maternal Mortality Review Information Application (MMRIA) data system. Until this grant, Maine conducted reviews of maternal deaths, but did not review all deaths and did not systematically collect data on these reviews. In addition to this funding, Maine received a grant to fund our Perinatal Quality Improvement Collaborative (PQC4ME). One of the PQC4ME's initiatives is to implement patient safety bundles to improve maternal health from the Alliance for Innovation on Maternal Health (AIM). This initiative requires data collection and analyses on severe maternal morbidity. The Maine CDC also received a Maternal Health Innovation Grant from the Health Resources and Services Administration (HRSA). This grant will be used to enhance maternal health services across the state, including improving data collection systems that aid in the ascertainment of maternal mortality. In addition to these initiatives, the MaineHealth healthcare system received a Rural Maternity and Obstetrics Management Strategies Grant (RMOMS). Maine's RMOMS grant is focused on improving telehealth services for maternity care in Maine's rural areas. Finally, Maine has a Maternal Opioid Misuse (MOM) grant designed to improve services for pregnant women with opioid use disorder. The AEF's projects will span many of these initiatives. This assignment will allow a Fellow to develop applied epidemiology competencies under the guidance of two experienced mentors by engaging in both narrowly focused and cross-cutting projects focused on maternal health, with opportunities to gain experience in additional areas, such as public health preparedness and communicable disease, chronic 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.

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, survey data, hospital discharge, emergency department, etc.); interpreting data and creating tables, charts, and narrative for program staff use; preparing recommendations for partners based on the data;

ID: 35069456
Maternal and Child Health, - Host Site Description
Maine Center for Disease Control and Prevention

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 program planning; meeting with Maine CDC staff to better understand the organization and its public health programs; participating in regular 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. Our epidemiology team is also actively engaged in health equity-related professional development efforts, and are working to routinely embed a health equity perspective in our data analysis and dissemination activities. As a team, we attend trainings or watch webinars on this topic and work collaboratively with Maine's Office of Population Health Equity to improve how we do our work. Our CSTE fellow would be included in these trainings and conversations.

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

The fellow will have access to the following surveillance data and other databases: vital records (births and deaths), hospitalization data, emergency department data, syndromic surveillance data, Behavioral Risk Factor Surveillance System (BRFSS) data, the Maine Integrated Youth Health Survey (MIYHS) data, the Maine Cancer Registry data, the Pregnancy Risk Assessment and Monitoring System (PRAMS) data, the Maine Violent Death Reporting System (NVDRS), and the Maternal Mortality Review Information Application (MMRIA). The fellow will also have access to the following linked data systems: Maine's home visiting data linked with birth certificate data, linked infant birth certificate/substance-exposed infant data, and Maine's new Newborn Screening Data System that includes linked infant death, birth, newborn hearing, newborn bloodspot, and birth defects data.

Analytic support will be provided by mentors and members of the DDP epidemiology team and from survey/database coordinators, most of whom are located within the Maine CDC Data, Research, and Vital Statistics Program. SAS statistical software and ArcGIS software will be provided; Joinpoint will also be provided as needed.

Mentors are experienced in training new staff in the use of SAS, including SAS Survey Procs for analysis of complex sample survey data such as PRAMS, BRFSS, and MIYHS, and processes for managing and linking vital records and other administrative datasets. Mentors and epidemiology staff are able to assist new staff who have experience in other statistical packages transition to using SAS. The DDP epidemiology team includes staff who are highly skilled in the use of SAS and can assist in helping the Fellow develop their analytic and SAS programming skills. Maine's Office of Information Technology provides extremely prompt and capable IT support to all staff, including Fellows.

<div align="center">

Projects

</div>

Surveillance Activity Title: Ascertainment of pregnancy-associated deaths

Surveillance Activity Description:
This project would involve linking death certificate data from women of reproductive age to birth certificate and fetal death certificate data in order to ascertain the number of pregnancy-associated deaths in Maine prior to 2019. Starting in late 2018, Maine began linking these data sets to provide better case ascertainment of pregnancy-associated deaths for Maine's Maternal, Fetal, and Infant Mortality Review Panel. However, this linkage was not completed prior to those years. Having more years of linked maternal mortality data would allow for more in-depth analyses of maternal mortality in Maine and associated risk factors.

ID: 35069456
Maternal and Child Health, - Host Site Description
Maine Center for Disease Control and Prevention

This activity would also involve a comparison of Maine's pregnancy-associated death with data from the CDC's Pregnancy Mortality Surveillance System (PMSS) and the possibility of working with Maine's National Violent Death Reporting System to include any deaths during or after pregnancy among women abstracted by that system.

Surveillance Activity Objectives:
The objective of this activity is to have more accurate information on pregnancy-associated deaths that occurred prior to 2019 for more in-depth analyses. Data from this activity would be presented to Maine's Maternal, Fetal, and Infant Mortality Review Panel (MFIMR). In addition, the data would be included in the annual MFIMR legislative report and would be included in a report on maternal mortality and morbidity. Analyses would also inform the work of the MFIMR panel.

Surveillance Activity Impact:
This activity would provide invaluable information to the Maine CDC to better understand the demographics characteristics and risk factors associated with maternal mortality. Thankfully, Maine does not currently have a high number of pregnancy-associated deaths each year. As a result, it is difficult to conduct analyses for program planning and implementation. By linking more years of data, Maine CDC staff will be better able to make data-driven decisions related to maternal mortality prevention.

Surveillance System Evaluation Title: Evaluation of Maine's Pregnancy Associated Death Surveillance System

Surveillance System Evaluation Description:
Each year persons die due to problems related to pregnancy or delivery complications. Many of these deaths are preventable. Maine has a Maternal, Fetal, and Infant Mortality (MFIMR) Panel that is charged with reviewing pregnancy-associated deaths to identify prevention strategies at the individual and systems level. For this committee to effectively conduct its reviews, it is vital that all deaths related to pregnancy are accurately identified. This project would involve evaluation of sources for pregnancy-associated mortality (death certificate check box, linked death with birth and fetal death certificates, sentinel event reports, medical examiner records, Medicaid data, and medical records) to determine the most accurate methods for case ascertainment of maternal deaths to inform Maine's MFIMR Panel.

Surveillance System Objectives:
The objective of this activity is to have more accurate information on pregnancy-associated deaths that occurred prior to 2019 for more in-depth analyses. Data from this activity would be presented to Maine's Maternal, Fetal, and Infant Mortality Review Panel (MFIMR). In addition, the data would be included in the annual MFIMR legislative report and would be included in a report on maternal mortality and morbidity. Analyses would also inform the work of the MFIMR panel.

Surveillance System Impact:
Results from these analyses will help to inform the work of Maine's MFIMR panel by determining the best methods for case ascertainment. The results will also assist Maine in our adoption of the federal CDC's Maternal Mortality Review Information Application (MMRIA) database for maternal mortality review.

ID: 35069456
Maternal and Child Health, - Host Site Description
Maine Center for Disease Control and Prevention

Major Project Title: Pregnancy-Associated Mortality and Morbidity among Women in Maine

Major Project Description:
This project involves developing a report focused on pregnancy-associated deaths and morbidity. It requires analyzing multiple data sets to summarize the health status of birthing individuals, including pregnancy-related outcomes, risk factors, and disparities. The report will include a focus on social determinants that can influence health around the time of pregnancy. Data for this report will come from maternal mortality reviews, death certificates, birth certificates, hospital discharge data, emergency department data, Behavioral Risk Factor Surveillance System data, and Maine's Pregnancy Risk Assessment Monitoring System. Analyses will be conducted throughout the fellowship period culminating in a comprehensive report.

Major Project Objectives:
This project is designed to provide a comprehensive understanding of health around the time of pregnancy. The expected deliverables are a report for partners as well as presentations with report highlights for partner groups such as the Perinatal Systems of Care Steering Committee and the PQC4ME.

Major Project Impact:
This activity will result in the first comprehensive report focused on pregnancy-associated health. Results from the analyses will inform the work of the Maternal, Fetal, and Infant Mortality Review Panel and Maine's PQC4ME. In addition, as Maine starts planning for our FY25 Maternal and Child Health Needs Assessment, results from these analyses will be used to establish Maine's priorities related to Maternal/Women's Health.

Additional Project #1 Title: Evaluation of Maine's Maternal, Fetal, and Infant Mortality Review Panel
Project #1 Type: Surveillance System Evaluation

Project #1 Description:
This project involves developing, administering, and analyzing a survey of Maine's MFIMR panel to assess levels of collaboration. The survey will focus on panel members' perspectives on the composition of the panel, how well members feel like their voices are being heard during panel discussions, and how well members feel like the panel is accomplishing its goals. The fellow will conduct a literature review on how to assess collaboration and coordination within groups, design an online survey, analyze the data, and present the results.

Project #1 Objectives and Expected Deliverables:
The objective of this activity is to allow panel members to voice their opinions on the panel's functioning and offer suggestions to improve the panel's functioning. We would like to administer the survey on an annual basis for ongoing quality improvement. Survey results would be summarized into a PowerPoint presentation for MFIMR panel members.

Project #1 Impact:
This survey will ensure that the voices of MFIMR panel members are used to make improvements to enhance panel membership and functioning. Having an effective MFIMR panel will allow for more efficient reviews that result in actionable recommendations to improve the lives of birthing parents and infants.

Additional Project #2 Title: Analysis of violent deaths of women of reproductive age
Project #2 Type: Surveillance Activity

Project #2 Description:
The project would involve using data from Maine's Violent Death Reporting System (VDRS) to describe deaths of women of reproductive age. Maine's VDRS covers all types of violent deaths, including homicides and suicides.

ID: 35069456
Maternal and Child Health, - Host Site Description
Maine Center for Disease Control and Prevention

Data from death certificates, law enforcement, coroners, and medical examiners are abstracted into a centralized system. Maine's VDRS started collecting data in 2014. The Fellow would work with Maine VDRS staff to obtain an extract of data of women of reproductive age, conduct analyses of the data, and summarize the findings.

Project #2 Objectives and Expected Deliverables:
The objective of this project is to call attention to the impact of violence on women and will educate partners on the circumstances contributing to violence to inform violence prevention efforts. The deliverable will be a data brief summarizing the findings from the analyses.

Project #2 Impact:
VDRS data can inform decision-makers about the circumstances and characteristics of violent deaths. By going back to 2014, we will be able to summarize the contributing factors to these deaths to inform prevention efforts.

Additional Project #3 Title: Maternal complications after delivery
Project #3 Type: Surveillance Activity

Project #3 Description:
This project involves using hospital discharge data to examine maternal morbidity in greater depth. Specifically, the Fellow would examine different types of maternal morbidity diagnoses and how these contribute to hospital length of stay as well as potential follow-up hospitalizations.

Project #3 Objectives and Expected Deliverables:
Maine is currently analyzing hospital discharge data to examine overall severe maternal morbidity, but these additional analyses would allow for greater understanding of maternal health conditions and the consequences of these conditions. The expected deliverable would be a data brief on the findings and a presentation to hospitals participating in Maine's AIM initiative.

Project #3 Impact:
These analyses will provide partners, Maine CDC staff, and hospitals with additional information related to different types of maternal morbidities, who is at greatest risk for different morbidities, and which morbidities most often result in longer hospital stays or re-admission to the hospital.

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

In 2021, Maine participated in an Action Learning Collaborative coordinated by the Association of Maternal and Child Health Programs (AMCHP) and the federal CDC related to MCH and Emergency Preparedness. Teams from nine states worked collaboratively to improve the integration of maternal and child health populations in emergency preparedness planning. Through this project, Maine's Title V program improved our relationships with Maine's Public Health Emergency Preparedness (PHEP) staff and developed a toolkit to better incorporate women of reproductive age into Maine's emergency preparedness plans. Our current CSTE fellow led this work and we would like our next fellow to continue to be involved. In collaboration with PHEP staff, we plan to conduct a hazard assessment to determine the areas of greatest vulnerability for Maine's MCH population in the event of an emergency. The hazard assessment will determine the direction of MCH emergency preparedness planning. Maine's CSTE fellow would work with PHEP to coordinate the hazard assessment and work closely with PHEP and the Title V director to use the hazard assessment to incorporate MCH into new and existing PHEP plans. There are also opportunities for fellows to participate in tabletop and other PHEP exercises. We would plan to allocate at least 10-15% of an AEF fellow's time to PHEP.

ID: 35069456
Maternal and Child Health, - Host Site Description
Maine Center for Disease Control and Prevention

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

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. The AEF fellow would spend about 5% of their time on this activity. Time allocated to an investigation would be higher during the period of the investigation.

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

We will work with the CSTE fellow to determine their level of interest in participating in the COVID-19 response. Participation in COVID-19 response would not be a requirement of the Fellowship in Maine, but opportunities for involvement exist for AEF who are interested.

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

The Maine CDC's DDP epidemiology team has chosen to center health equity in many of our analyses and projects. Many of the proposed projects for Maine's AEF have a focus on health equity. In addition to the projects highlighted in this proposal:
- Out epidemiology team makes it a point to provide continuing education on health-equity issues through group and individual learning opportunities on a regular basis.
- Maine CDC recently hired a new director of Population Health Equity. He is interested in working with our team and we will connect the AEF with this Office for additional opportunities.
- Maine's Perinatal Quality Improvement Collaborative has a Diversity, Inclusion and Equity sub-committee. The lead mentor on this application is a member and the group would welcome additional members with an interest in this issue.