Maternal & Child Health/Injury

Alaska Division of Public Health, MCH Epidemiology Unit, Section of Women's, Children's, and Family Health
Anchorage, AK

Assignment Description

The fellow will have the opportunity to work in a highly productive MCH Epidemiology program that has a long history of providing reliable data on maternal and child health issues for use in planning and evaluating programs, preventing poor health outcomes, and guiding public health policy. We routinely link data from our surveillance programs with data collected elsewhere, such as vital statistics, WIC, child protective services, and Medicaid. The Unit was recognized with a national award for Effective Practice at the 2009 National MCH Epidemiology conference, has produced dozens of peer-reviewed articles, and has been on the cutting edge of MCH epidemiology practice with programs such as the Alaska Surveillance of Child Abuse and Neglect. For more information about the Unit and our programs, prospective fellows can visit our website at http://dhss.alaska.gov/dph/wcfh/Pages/mchepi/. The unit will welcome a CSTE fellow as a full member of the scientific team, including them in decision-making and strategic planning processes. As an MCH Epi fellow, the fellow will have the freedom to work on a wide variety of topics of interest and will have access to data from all of the MCH surveillance programs run by the unit as well as other datasets routinely used by the unit epidemiologists. Finally, some unique professional development opportunities that will be available to the fellow include working with the CDC Arctic Investigations Program (AIP), located in Anchorage and a past collaborator with our unit, and potentially traveling to remote Alaska villages to assist with a disease investigation. Due to the relatively small size of our health department and city, the public health and epidemiology community generally collaborates very well together, and fellows are welcomed by not only our unit, but other colleagues as well, including those in the Alaska Section of Epidemiology, the Alaska Native Tribal Health Consortium, and the CDC AIP. The Section of Women’s, Children’s, and Family Health and the MCH Epi Unit take the responsibility of hosting a fellow seriously and will be responsible for providing the fellow with all appropriate workplace support, including statistical software, as well as helping the fellow to identify projects to work on. The fellow will be invited to participate on committees of interest and will be seen as a full member of the staff.

This assignment will provide the applicant with the opportunity to live in Alaska. Every imaginable outdoor activity exists including skiing (downhill and cross-country), climbing, hiking, kayaking, sailing, camping, rafting, hunting, fishing, snow machining, and dog sledding, all within a short distance of Anchorage. Anchorage has a variety of cultural activities including a large and well-supported performing arts center, a local opera company and symphony, numerous concert venues, and plenty of ethnic restaurants. Residents of Anchorage are from around the country and the world, giving the city a quasi-international feel. In fact, it was recently recognized as having the most languages spoken in the public school system of any city in the country. Winters are moderate (average temperature in Anchorage is 20oF). We have had numerous fellows and EIS officers and most have chosen to remain in this amazing place.
**Day-to-Day Activities**

A fellow's day-to-day activities working with us may include designing studies and programs, writing protocols, evaluating databases, writing reports and peer-reviewed manuscripts, attending meetings or teleconferences with stakeholders throughout the state, contributing to research team meetings, and responding to media and public inquiries. An example of activities for a single day might include running analyses in a statistical program such as SAS, creating charts or graphs in Excel for a presentation or report, attending a staff or other team meeting, and reviewing literature in PubMed.

**Potential Projects**

**Surveillance Activity**

Implement severe maternal morbidity surveillance

In 2013, the Maternal-Infant Mortality Review (MIMR) committee completed a review of all pregnancy-related mortality in Alaska during 2000-2011. One of the committee’s recommendations was to implement surveillance of all “near misses” or severe maternal morbidity, in order to better identify additional points of intervention for improving care (see the brief report of their review here: http://www.epi.hss.state.ak.us/bulletins/docs/b2013_18.pdf). Many states around the US have recently started or are considering surveillance of severe maternal morbidity and the CDC and WHO have published some recommendations around conducting this type of surveillance. For this project, the fellow would reach out to states already conducting surveillance of severe maternal morbidity as well as interested stakeholders in Alaska and determine the most efficient and effective means of starting a system here. The fellow would work closely with the MIMR Program Manager as well as members of the MIMR committee to implement a program suited to the needs and capabilities of the Alaska public health system with the goals of first identifying the extent of the problem in Alaska and determining how to best track these events on an on-going basis. This project could also be expanded to include surveillance of severe morbidity events among children.

**Surveillance Activity**

Implement stillbirth surveillance

The MCH Epi Unit has never conducted any sort of extensive analysis of stillbirths or fetal deaths in Alaska. This project would involve researching methods for gathering information on stillbirths and implementing some version of stillbirth surveillance. Some potential avenues could be conducting a pilot project of sending a PRAMS-like survey to all mothers who experienced a stillbirth, or using the annual fetal death file from the Bureau of Vital Statistics to identify cases and utilizing the MIMR committee to review cases and develop recommendations. A final product of this project would be a report on stillbirths in Alaska and recommendations for on-going surveillance.
**Surveillance Activity**

Implement child maltreatment sentinel surveillance

Child maltreatment as documented through official reports is known to underestimate the true incidence of maltreatment. Novel public health approaches to more comprehensively quantify maltreatment are needed. This project would work closely with the MCH-Epidemiology scientific director and Alaska Surveillance of Child Abuse and Neglect program (SCAN) manager (the secondary mentor for this position) to implement maltreatment sentinel surveillance. The SCAN program has substantially increased the comprehensive understanding of maltreatment in Alaska through data linkages. The current statewide maltreatment surveillance process however is untimely and fraught with methodological challenges. This project would implement sentinel surveillance methodology to develop a reliable and consistent estimate over time focusing on consistency, timeliness, and accuracy. These estimates could be utilized to document the changing trends over time, and weighted to reflect statewide estimates of the magnitude (or burden) of maltreatment impacting communities. This effort would require traveling to remote “Hub” communities that have specified resources to develop relationships, initiate data sharing, and present general MCH information.

**Major Project**

Assess the impact of Adverse Childhood Experiences (ACE) and mediating pathways of resiliency and social supports among Child Advocacy Center (CAC) alleged victims.

The relationship between Adverse Childhood Experiences (ACEs) early in life and poor health behaviors and outcomes later in life are well documented. Children evaluated for sexual abuse and severe physical abuse at Child Advocacy Centers (CAC) may have reduced secondary trauma through the forensic interview process, be supported, and build protective resources. To assess the impact of the CACs and the connection with ACEs the fellow would work closely with the medical director and maltreatment expert at Alaska CARES (the Anchorage CAC), the scientific director in MCH-Epidemiology (secondary mentor for the fellowship), and social welfare personnel. Potential research solutions include case-control study design, cohort study design using a birth sample population, and case only designs like the case-crossover and case-series. Other approaches could be to collect and utilize baseline data to simulate risk-trajectory changes over time by modifying exposure and timing. The final products of this project will likely be at least one peer-reviewed manuscript and presentations at local and national scientific conferences. Policy changes could also be initiated to demonstrate the impact CAC’s might have on the life course of individuals under the context of the well-established ACEs model.

**Preparedness Role**

Although the primary focus of the fellowship will be maternal and child health, the fellow will have the flexibility to participate in other activities such as outbreak investigations and emergency preparedness exercises. One avenue for participation in emergency preparedness is by working with the MCH-Pediatric Disaster Planning and Emergency Preparedness program which is located in WCFH and works closely with the Section of Emergency Programs. The fellow could also have the opportunity to participate in Alaska Shield, the statewide biannual emergency preparedness training exercise that several WCFH staff have participated in the past.
Additional Activities

Other potential projects/activities the fellow may work on include:

- Evaluate the impact of changes to the 2003 birth certificate version on key MCH trends for Alaska. (These were just implemented in Alaska in 2013.)
- Utilize data from the Alaska Birth Defects Registry and Alaska SCAN to assess the association between Fetal Alcohol Spectrum Disorders (including Fetal Alcohol Syndrome) and child maltreatment.
- Evaluate the impact of the transition to electronic medical records on the Maternal Infant and Child Mortality Review and develop mitigating processes.
- Conduct a linkage between the Prescription Drug Bio-monitoring program and Child Protective Services data to assess the association of parental controlled substance abuse and maltreatment.
- Assess the association between a history of running away and child maltreatment.
- Quantify the incidence of sports-related injuries among adolescents.
- Develop and test a hypothesis for the association between community alcohol status (damp, wet or dry) and child injury and other outcomes including suicide, child maltreatment, educational attainment and resilient behaviors.
- Assess the association between increased PM2.5 levels and asthma admissions in Alaska.
- Conduct an evaluation of the Early Hearing and Detection Intervention Program.
- Conduct an evaluation of baby friendly hospital implementation in Alaska.
- Develop a community-level historical trauma scale by organizing a statewide action team and constructing a research tool. Bring the action team together to score all communities and then compare community outcomes (e.g. suicides, child maltreatment, all-cause mortality...).
- Assist the CDC Arctic Investigations Program with a vaccine study, for example by travelling to rural villages to recruit participants.

Mentors

Primary

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Secondary

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