Injury-Drug Overdose, Infectious Diseases

Public Health - Seattle & King County, Prevention Division

Seattle, Washington

Assignment Description

This fellowship will be primarily dedicated to supporting injury surveillance and prevention efforts. In terms of content area, we anticipate that roughly 50% of the fellow’s time will be dedicated to drug overdose, 30% will be dedicated to other injury causes (e.g. firearms, vaping, e-scooters), and 20% will be dedicated to infectious disease (e.g. HIV, Hepatitis C, and other communicable diseases). Due to the broad scope of work, the fellow will be working with programs that span the entire health department, including: the APDE unit, the Violence and Injury Prevention Program, the Medical Examiner’s Office, Emergency Medical Services (EMS), syringe services program, public health clinics, the HIV/STD program, Communicable Disease Epidemiology & Immunizations program, and Public Health Communications Team.

Day-to-Day Activities

The CSTE Fellow's day-to-day activities may include:

- Analyzing and summarizing injury surveillance data.
- Responding to emerging drug threats, which may include: in-depth analyses of available data, developing communication materials and messages, and cross-agency coordination.
- Supporting health department response to other emerging threats (e.g. vaping-related illnesses, foodborne illnesses, vaccine-preventable diseases).
- Assisting with the design and implementation of program evaluations and health assessments, which may involve conducting community-based surveys, rapid qualitative assessments, and analysis of secondary databases.
- Preparing reports, conference abstracts, manuscripts for peer-review publication, and presentations.
- Developing data collection forms and databases.
- Participating in meetings/calls/webinars.
- Interacting with epidemiologists (internal or externa) or with community partners, hospitals and the public.
- Exploring initiatives of interest, determined after arrival.
Potential Projects

Surveillance Activity  Real-time Overdose Surveillance

Like much of the rest of the country, King County is experiencing a growing drug addiction epidemic and a record number of deaths from drug overdose. The number and rate of drug overdose death has increased significantly in King County over the past decade, from 262 (13.9 per 100,000) in 2009 to 405 (18.9 per 100,000) in 2018. To support PHSKC’s overdose surveillance program, the fellow will:

- Analyze and create data visualizations for overdose surveillance data (e.g. Medical Examiner, Vital Statistics, Emergency Medical Services, Emergency Department, hospitalization data) for routine surveillance activities, ad-hoc data requests, annual reports, and in-depth analyses.
- Assess the validity of the queries applied to surveillance data to identify likely overdose events.
- Assist in the response to emerging drug threats and clusters by coordinating and convening stakeholders and developing/distributing communications materials.

Surveillance Evaluation  Evaluation of Syndromic Surveillance Data for Injury Surveillance

The Rapid Health Information Network (RHINO) is Washington State’s syndromic surveillance data and the only source of emergency department data for the state. Washington State law (RCW 43.70.057) requires all emergency departments to participate in syndromic surveillance reporting. Data for the majority of King County, WA hospitals are available starting in late 2018, with two facilities remaining to be on-boarded. Using CDC guidelines for surveillance system evaluation, the Fellow will:

- Evaluate the use of syndromic surveillance data for local injury surveillance, for example, overdose, suicide, firearm-related injuries, and micro-mobility (e.g. e-scooter and bike shares) injuries.
- Compare state and national queries to evaluate their performance at the local level.
- Provide suggestions to improve queries and data quality.

Major Project  Evaluate Overdose Prevention Program(s)

To decrease morbidity and mortality associated with drug use, PHSKC has dedicated funding to the following initiatives: (1) expanded access to treatment for substance use disorder; (2) distribution of naloxone and sterile injection equipment; and (3) dissemination of health alerts and prevention messages. The fellow will be intrinsically involved in the evaluation of sub-components of these initiatives, which will involve developing the evaluation strategy, designing questionnaires and data collection forms, overseeing implementation of data collection protocols, conducting quality assurance, participating in data collection, analyzing results, and reporting results to stakeholders, community partners, and other interested parties. Examples of potential evaluations include:

- Evaluation of Naloxone Distribution Programs: The fellow will analyze existing programmatic data relating to naloxone demand, uptake, utilization, and overdose reversals. Pending the results from the analysis of existing data, the fellow will have the opportunity to design an assessment that responds to gaps in knowledge. The methods for the assessment are to be determined and could include adding questions to existing intake forms and surveys, conducting key informant interviews, and/or designing and implementing a new survey.
• Assist with the implementation of the Needle Exchange Survey, which seeks to measure risk behaviors, service demand and utilization, and demographics of Needle Exchange Clients. The fellow will be involved in the implementation of the survey and analysis of the results. Results from the survey will inform programs that seek to serve persons who inject drugs.

• Evaluate buprenorphine programs operated by PHSKC clinics: The fellow will analyze existing clinical and survey data relating to buprenorphine demand, uptake, utilization, and retention. Results from this analysis will inform more in-depth analyses that might require primary data collection.

• Evaluate perceptions of communication materials: In 2020, PHSKC will be rolling out several large communication campaigns that seek to raise awareness about fentanyl and increase demand for treatment. The fellow will collect qualitative data regarding how well communication materials are understood and received.

Surveillance Activity  Using Novel Public Health Datasets for Violence and Injury Surveillance

To develop a more complete picture of injury and violence, the fellow will examine risk and protective factors for firearm deaths and injury with data from law enforcement, population-weighted surveys (Washington State’s Behavioral Risk Factor Surveillance System and Healthy Youth Survey), and WA Violent Death Reporting System. The fellow will develop, in conjunction with the secondary mentor, an analysis plan to improve understanding of context and characteristics of violent deaths, identify knowledge gaps, and provide suggestions to close information gaps to inform and guide violence and injury prevention program activities.

Additional Project  Assessment of Injury and Communicable Disease Risk among Persons Experiencing Homelessness

King County has recently experienced a period of rapid urban population growth, which has compounded our region’s increasing income inequality, cost of living, and homelessness crisis. According to national estimates, King County has the third largest population of people experiencing homelessness in the nation. The fellow will develop a report that summarizes available health indicators corresponding to persons living homeless in King County using data from the HIV program, Communicable Disease Epidemiology unit, Healthcare for the Homeless, MEO, and APDE.

Preparedness Role

The fellow will be intrinsically involved in the response to all overdose clusters and will assist the Communicable Disease division with outbreak investigations (e.g. enteric and foodborne illnesses, vaccine-preventable diseases, zoonotic infections, healthcare associated infections, vaping-associated pulmonary injury) on an as needed basis. Response activities may include coordinating with stakeholders, interviewing cases and potentially exposed persons, developing and distributing risk communication materials, developing preparedness plans, and organizing after-action activities.
Additional Activities

1. Summarize available indicators on violence and injury prevention and alcohol, tobacco, marijuana and other drugs for the Community Health Needs Assessment (CHNA). For this project, the fellow will:
   • Work with local health systems leaders to support the 2021 CHNA and 2021 Regional Health Needs Inventory serving as the lead analyst for report sections on violence and injury prevention and alcohol, tobacco, marijuana and other drugs.
   • Support efforts around data dissemination, data translation, and community engagement.
   • Assist hospitals in implementing activities in the community.
   • Lead the evaluation of those community activities.

2. The Washington State Healthy Youth Survey (HYS) is an effort to measure health-risk behaviors that contribute to morbidity, mortality, and social problems among youth in Washington State. King County has biennial HYS data since 2004. Using a shared risk and protective factors approach, the fellow will identify a common list of factors for examination in relation to youth substance use, self-harm and violent injury; conduct the analysis using King County HYS data and develop a short report summarizing findings to inform programmatic work and share with stakeholders.

3. Public Health Seattle & King County (PHSKC) conducts an annual survey at the Seattle PRIDE Parade and Trans* Pride Festival in order to assess the demographic profile, access and uptake of health services, and risk behaviors of cisgender men who have sex with men, transgender, and non-binary persons. The fellow help coordinate survey logistics and implementation, which will involve overseeing survey staff, organizing materials, and analyzing survey results.

4. Climate change is a priority for King County and many county departments are engaged in the work of reducing greenhouse gas emissions and preparing for climate change. The Fellow will support work in Public Health to identify, evaluate and prioritize key climate and health indicators data through:
   • Review and identification of pilot indicators for monitoring climate change impacts on health, building on work of Council for State and Territorial Epidemiologists Environmental Health Indicators for Climate Change.
   • Evaluation of availability of these pilot indicators at the local level.
   • Conducting a gap analysis of data needs and recommend data acquisition method(s).

Mentors

Primary Julia Hood, PhD, MPH
Epidemiologist III

Secondary Myduc Ta, PhD, MPH
Epidemiologist II