Infectious Diseases

Public Health - Seattle & King County, Communicable Disease Epidemiology and Immunization Section, Prevention Division
Seattle, Washington

Assignment Description

The Fellow will work as a member of Public Health - Seattle & King County (PHSKC) Communicable Disease Epidemiology and Immunization Section (CD-EPI), which serves King County, Washington with a population of over 2 million people across metropolitan and rural settings. Washington State's public health system is decentralized, which gives local health departments the authority to make decisions and conduct investigations within their jurisdictions. PHSKC is the largest local health department in Washington State and one of the largest nationwide.

The fellow’s primary supervisor will be Dr. Atar Baer, a senior epidemiologist who has been serving as the county's syndromic system coordinator and Section informatics leader for the past 14 years and who works as the informatics coordinator for the Hepatitis C Test and Cure (HCV-TAC) project. The fellow's secondary supervisor will be Dr. Jeff Duchin, the Health Officer for King County as well as the program's Section Chief and a former EISO.

The fellow will have an opportunity to work with all teams within the CD-EPI section, depending on his/her research interests. The CD-Epi Section handles reportable diseases for King County with the exceptions of tuberculosis, HIV, and STDs, which are handled by other sections within the Prevention Division.

The HCV-TAC team receives quarterly data from coalition partners on HCV screening and on HCV patients as they move through the continuum of care from diagnosis to evaluation, treatment and cure. The HCV-TAC team produces datasets for CDC, creates reports and presentations for partner sites, provides case management to HCV patients, and maintains the HCV-TAC project database. This team works closely with other members of the CD-EPI team on routine hepatitis reporting, data management, and hepatitis case investigations.

The CD-EPI team consists of an additional five epidemiologists and four public health nurses. The primary responsibilities of the team are to conduct communicable disease surveillance, including notifiable condition case and outbreak investigation, influenza surveillance, syndromic surveillance, and response to public health emergencies. The team works closely with the Department's Environmental Health Division (particularly on foodborne illness investigations), which includes a public health veterinarian and restaurant sanitarians.

The Immunization Program team consists of one epidemiologist-program manager, project managers and public health nurses who administer the Federal Vaccines for Children (VFC) program, promote immunization, conduct program evaluation, and undertake special projects to increase immunizations in the community.
In addition to the available opportunities in the CD-EPI section, the Fellow may also collaborate with the STD/HIV and Tuberculosis Control sections of the Prevention Division. There may also be projects that interest the fellow in other programs within PHSKC, including the Assessment, Planning, Development and Evaluation Unit and the Chronic Disease and Injury Prevention Program. Lastly, the fellow will be able to work on projects with the Preparedness Section to fulfill emergency preparedness fellowship objectives.

Overall, CD-EPI is a hard-working, friendly, and cohesive team (much like our beloved Seahawks) that has enjoyed hosting many trainees, including University of Washington MPH practicum students, PhD candidates, residents, CDC PMR fellows, CSTE Fellows, and currently its fifth consecutive EISO. The program is located in Seattle, Washington, a city known for its vibrant culture, high technology, global health impact, natural beauty, quality of life and quantity of coffee shops.

**Day-to-Day Activities**

The Fellow will work as an integrated member of CD-EPI, doing data analysis projects as well as communicable disease case and outbreak investigations. The Fellow will meet regularly with mentors to discuss the status of current projects, ideas for future projects, and determine if any additional resources are required to meet fellowship objectives. The Fellow will be responsible for ensuring that all fellowship objectives are achieved. The Fellow will participate in the section’s afternoon report, a daily review of open investigations. In addition, there are monthly staff meetings, which include team updates and presentations by staff members. The Fellow would be expected to make at least one informal presentation on a topic of their choosing at a staff meeting. The Fellow will also be expected to make a presentation on their major project to the HCV-TAC Coalition quarterly meeting of community partners and to attend the quarterly “lunch and learn” meeting of all PHSKC epidemiologists, and may also present fellowship projects at other venues at their discretion.
Potential Projects

Surveillance   Reportable disease outbreak investigations

Activity
The fellow will also receive training on case and outbreak investigations, and work as a disease investigator in our program. The CD-EPI section investigates all cases and outbreaks of reportable diseases with the exception of HIV, STDs, and tuberculosis. The fellow will have ample opportunity to perform a surveillance activity on outbreaks of healthcare-associated infections, foodborne illnesses, vaccine-preventable diseases, Zika monitoring, or any other public health incident of interest that occurs during their fellowship.

Surveillance   Evaluation of perinatal hepatitis surveillance system

Evaluation
The Fellow can also assist on the evaluation of our perinatal hepatitis surveillance system. This evaluation will employ a capture-recapture design to assess the completeness of existing data sources for perinatal hepatitis B mother-infant pairs and to identify any systematic deficiencies in public health reporting. Two datasets from three reporting systems will be involved in: The first dataset will be generated by matching records from (1a) PHSKC’s Communicable Disease Database (CDDB), the local database used to record and manage data of all laboratory-confirmed HBV infections reported to PHSKC; and (1b) King County birth records obtained from the WA Department of Health (DOH’s) Center for Health Statistics. The second dataset will be drawn from (2) PHSKC’s Perinatal Hepatitis B database (PHB), which includes records of all mother and infant pairs reported to PHSKC where the mother has been identified as chronically infected with HBV. Based on the results of the evaluation, the Fellow can help follow-up in the findings and work with facilities and providers to improve reporting of perinatal hepatitis.

Major Project   Analysis of data from the Hepatitis C Test and Cure project

The Hepatitis C Test and Cure project collects robust, longitudinal data on HCV patients, including lab testing and healthcare visits, risk factor information, vaccination coverage, co-infections, co-morbidities, insurance status, and treatment. Below are a few examples of potential projects, but the Fellow will be able to explore the data and pursue a research or evaluation project that interests them.

- Descriptive analysis of HCV patient characteristics including age, sex, race/ethnicity, comorbidities, access to care, insurance status, treatment initiation and completion
- Impact of comorbidities on HCV outcomes
- Evaluation of factors associated with achieving cure after HCV treatment
- Analysis of HCV treatment between partner sites and non-partner sites using HCV-TAC data and Medicaid claims data
- Develop models of the HCV continuum of care to determine the time to treatment and cure after diagnosis of patients with a range of characteristics in a variety of healthcare settings.
Additional Project

Communicable disease data analysis project
Potential data analysis projects include analysis of enhanced hepatitis surveillance data, perinatal hepatitis B reporting, examination of perinatal hepatitis C incidence, and evaluation of syndromic surveillance Meaningful Use data quality. There may also be opportunities to investigate and report on outbreaks of healthcare-associated infections at local healthcare facilities with the CD-EPI team.

Vaccine-preventable disease data analysis project
There are also potential projects available on vaccine-preventable diseases (VPD) using notifiable condition surveillance data and immunization registry data. The fellow can also examine the immunization registry to examine changes in vaccination coverage over time and among different populations. Another potential project is to examine immunization data from previous years to see if large publicized outbreaks of VPDs, such as measles or pertussis, resulted in increases in vaccination coverage.

Preparedness Role
PHSKC has an Emergency Preparedness Section, with which projects can be arranged depending on the fellow’s interests.

Additional Activities
The fellow will have an opportunity to collaborate with other PHSKC programs including chronic disease, injury prevention, environmental health, and the TB and STD/HIV programs. The fellow may also be able to assist with community health needs assessments or similar projects with the Assessment, Policy Development, and Evaluation section. The new Best Starts for Kids program may present a number of opportunities for program analysis related to projects targeting improvements in maternal and child health (http://www.kingcounty.gov/elected/executive/constantine/initiatives/best-starts-for-kids.aspx).

Mentors
Primary
Atar Baer, MPH, PhD
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Secondary
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