

Environmental Health

Assignment Description

This assignment provides opportunities to focus on surveillance and epidemiology related to environmental health. The Washington State Department of Health (WS-DOH) has two large CDC-funded projects that would form the core of the assignment. The first of these projects is the Washington Tracking Network (WTN, <http://WTN.doh.wa.gov>), which also offers opportunities to collaborate in the development of the National Environmental Public Health Tracking Network (EPHTN). In addition to actively contributing to the development of EPHTN, WTN has pursued three overarching goals: 1) Develop data infrastructure and informatics systems needed to streamline the collection, integration, and dissemination of environmental public health data and information via the WTN web portal; 2) Expand the content and data on the WTN public and secure portals to address current and emerging environmental public health issues, and generate useful environmental public health information and indicators from environmental and health data. The second project is the Washington Environmental Biomonitoring Survey (WEBS, <http://www.doh.wa.gov/EHSPHL/Biomonitoring.htm>) that offers opportunities to assist with study design, data collection, analysis and dissemination of findings from a field study to monitor environmental chemicals in Washington residents. In addition to these major grants, ongoing WS-DOH Environmental Health and Communicable Disease Epidemiology Programs offer opportunities in areas such as drinking water, shellfish safety, vector-borne disease, and food safety. The Washington State Department of Ecology is also interested in collaborative efforts. The Fellow would also have opportunities to work on cluster or outbreak investigations relevant to environmental health.

Day-to- Day Activities

Day-to-day activities include working with supervisors, coworkers, and external partners to plan surveillance, epidemiology and evaluation projects; analyzing and interpreting data; and preparing, reviewing and presenting findings. The projects selected will be dictated by the Fellow's goals and interests. Much of a typical day would be devoted to learning to work with datasets of varying sizes and complexity, linking data files, and managing and analyzing data. The Fellow would also gain experience in synthesizing results and presenting them to diverse audiences and learning how to develop data-based policy recommendations. Most of this work would be at WS-DOH, but the Fellow would have opportunities to work in communities as part of WEBS, with local health departments as part of both WEBS and WTN, and with academic and other WEBS and WTN partners, such as the Washington State Departments of Ecology and Labor and Industry.

Potential Projects include:

Analyze WEBS data and disseminate findings through WTN: WEBS is currently collecting urine from a random sample of Washington residents as analyzing these specimens for arsenic, other metals, and organophosphate and pyrethroid pesticide metabolites. WTN has added collection of tap water samples to WEBS and WEBS is collecting demographic and questionnaire data related to the analytes. The Fellow

could take a lead role in analyzing these data which would include developing meaningful indicators, linking questionnaire and laboratory data, and identifying appropriate comparison information. WTN will be one mechanism to disseminate these data. Preparing the data for WTN dissemination would require developing narrative content and identifying additional health and environmental data to provide perspective on the findings. WTN has developed templates for data dissemination to support this process. In addition to experience in database design and analysis, this project could provide opportunities for interactions with the WEBS Advisory Committee to inform the analytic design; local health departments to gather user information; and health communications and informatics staff to design and development the portal content area and to evaluate the portal content and functionality.

Assist with planning and implementing future WEBS activities:

1) We plan to expand WEBS to include additional chemicals of concern, as well as communities at high risk of exposure. The Fellow could be involved with prioritizing future activities and developing and implementing study methods, data collection instruments, and field protocols for prioritized activities. Study design and data collection must maximize consistency with the National Health and Nutrition Examination Survey and other groups to be used for comparison. The Fellow could work with the Institutional Review Board for protocol approval, train field staff in protocol implementation, and gain field experience in data collection.

2) The Fellow could work with partners at the University of Washington and elsewhere to identify opportunities and implement collaborative projects for add-on activities beyond grant surveillance projects.

3) Using a community-based research model, the Fellow could work with community representatives to achieve consensus on approaches to biomonitoring that are acceptable to the community and work with the community to implement sample collection and methods for communicating results.

Develop indicators related to the built environment: WTN is working with both local and national partners on efforts to identify and implement indicators of the built environment. The Fellow could work with the local and national partners, as well as analyze data related to selected indicators of the built environment in Washington. This project would offer the Fellow opportunities to collaborate with WS-DOH programs that focus on chronic disease and related risk factors. These programs also have an interest in aspects of the built environment that affect opportunities for physical activity and healthy diets.

Evaluate a surveillance system:

1) The Fellow could evaluate the WS-DOH Childhood Lead Poisoning Prevention Program (CLPPP) database or indicators in WTN as a surveillance systems. The Fellow could expand the evaluation work for CLPPP to analyze data currently in the database along with demographic data to determine risk factors in Washington State that contribute to elevated childhood lead levels, contrasting these results to national trends.

Preparedness Role

NICE and Environmental Epidemiology support several WS-WS-DOH programs in responding to natural disasters, pandemics, and industrial or terrorist events. Last year, both groups provided assistance with several components of the H1N1 influenza surveillance. For example, NICE's EIS Officer received training to use and evaluate data for rapid influenza tests reported by laboratories and local health jurisdictions.

WTN collaborated on the development of a web based data query system that allows county and school officials to view real time trends in absenteeism to assess whether a school had an excess that might be attributable to H1N1. In the absence of a real emergency, the Fellow can participate in table top exercises and receive training in handling emergency medical materials and in staffing the public emergency call center.

Assignment Location: Olympia, Washington

Primary Mentor: Juliet VanEenwyk, PhD, MS
State Epidemiologist- Non-infectious conditions
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Secondary Mentor: Glen Patrick, MPH
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