

Environmental Health, Occupational Health

Oregon Health Authority, Public Health Division - Environmental Public Health Section

Portland, Oregon

Assignment Description

The Fellow will provide epidemiological capacity for environmental public health programs in general and, in particular, for the Oregon Occupational Public Health Program (OPHP). Although occupational health is a focus of this fellowship, the fellowship is cross-cutting with opportunities to learn about and be involved in many environmental health and injury public health programs. Specifically, the Fellow will work with program staff to understand the epidemiological significance of emerging environmental exposure threats and develop and implement an epidemiological analysis plan for OPHP. OPHP is newly expanded; opportunity exists at this time to develop partnerships with other programs and set an agenda to guide the next several years of work.

The fellow will be placed within the Environmental Public Health section, which aims to identify, assess and report on threats to human health from exposure to environmental and occupational hazards, and advise the people and communities of Oregon to best understand potential risks where they live, work and play in order to remain healthy and safe. The Environmental Public Health Section is part of the Center for Health Protection.

The Center for Health Protection's primary theme is programs that work with health care facilities and licensing, and environmental health and regulation. Bringing these programs together leverages public health's licensing and regulatory tools and provides a consistent, strong approach to protecting health. Programs in this Center touch every hospital, drinking water system, and restaurant in Oregon. The Center is part of the Public Health Division.

The Public Health Division of the Oregon Health Authority is responsible for leading the science and practice of population health principles in Oregon. The Oregon Health Authority helps people and communities achieve optimum physical, mental and social well-being through partnership, prevention and access to quality, affordable health care.

Day-to-Day Activities

Work will include learning about the complementary roles of federal and state and local programs, surveillance systems in public health, program and surveillance system evaluation, survey design and methods, outbreak investigation, emergency preparedness, and study design and data analysis for presentations and publications.

The Fellow will work with mentors, program staff, management and partners to carry out program and project work. Prioritization will be developed by the Fellow and supervisors in accordance with the needs of the Fellow's education and the program.

The Fellow will be expected to meet with mentors and, with support from program managers and principal investigators, develop a workplan to balance project work with emerging issues. Daily activities would include meeting with project teams and partners to ensure proper workflow and smooth communications. Desk work would include conducting literature reviews, evaluating surveillance systems and project activities, developing and conducting research and analytical plans, and contributing to risk assessments and risk communication activities. Field work may include site visits, meetings with external stakeholders and risk communication activities.

Potential Projects

Surveillance Activity Pilot the use of syndromic surveillance system for finding workplace injuries and injuries.

Fellow will work with the program to pilot the use of Oregon's syndromic surveillance system (ESSENCE - Electronic Surveillance System for the Early Notification of Community-Based Epidemics) and required reporting system (ORPHEUS - Oregon Public Health Epidemiologists' User System) for utility in finding workplace injuries and illnesses. Many indicators are developed based on accepted disabling workers' compensation claims. ESSENCE could offer occupational health indicator data on less severe injuries and illnesses that might be indicators of more serious injuries and illnesses in the future. Collecting data on less severe injuries and illnesses is a critical barrier to the progress of workplace safety as it changes the paradigm of understanding undetected hazards for workers. ESSENCE will provide real-time (daily updates) data on emergency room visits based on patient complaints, which could give unprecedented access to workplace injuries and illnesses. ORPHEUS provides access to medical and public health laboratory data as well as other diagnostic information. Simultaneously, the Fellow will evaluate Oregon's EMS/Trauma Registry to determine its effectiveness for surveillance.

Surveillance Evaluation Evaluation of Oregon's Occupational Health Indicator System

Fellow will work with staff to evaluate Oregon's Occupational Health Indicator (OHI) system using CDC's Updated Guidelines for Evaluating Public Health Surveillance Systems to make recommendations to improve the quality, efficiency, and usefulness of the OHI system. Fellow will learn about various data systems contributing to OHI and develop understanding about potential uses/outputs/outcomes resulting from OHI data.

Major Project Develop and promote the epidemiological significance of emerging environmental health hazards

Over the past two years several significant environmental hazards presented themselves to Oregonians. These hazards included the discovery, based on new monitoring and analytical methods, that heavy metals deposited from air emissions from local industry threatened local and vulnerable populations. Asian Gypsy Moth infestations prompted aerial spraying of pesticides on Portland neighborhoods to combat the spread of this nonnative, invasive species. The lead crisis in Flint, Michigan, prompted school districts in Oregon to test and discover high levels of lead in water and paint chips as well as high levels of radon in schools. Former industrial facilities were converted to commercial/retail uses without full environmental assessments leading to discovery of extremely high levels of lead contamination in indoor recreational facilities and food preparation areas. Epidemiological assistance is needed to guide development of investigative guidelines for emerging

threats, participate in environmental outbreak investigations and responses, and assess and report on the significance of exposures to health outcomes.

Additional Project Develop Occupational Public Health epidemiology agenda

Based on OHI Surveillance System Evaluation, and in coordination with program staff, management and partners, develop and begin to implement a public health epidemiological/analytical plan designed to identify trends in occupational illness and injury and recommend public health actions to mitigate related risks. Outcomes should include agency and/or peer-reviewed publication of results, including the development of creative data visualizations.

Additional Project Study Occupational Health Injury, Overdose and Adverse Outcomes Related to Prescription Drugs, Specifically Opioids (including illicit opioids not prescribed) Using State Information Systems and Data Linkage

Oregon is actively working to reduce prescription drug overdose, primarily focused on opioid overdose. In addition both Washington and Oregon Workers' Compensation programs have been highly influential changing prescription opioid guidelines but little has been done to assess both changes in prescription and outcomes of overdose let alone associated worksite injuries. The fellow coordinating with current prevention grants and staff, work with EMS electronic patient care records, the Oregon Trauma Registry, the Oregon Prescription Drug Monitoring system, and Oregon Vital Records (death records and toxicology reports) to evaluate outcomes related to worksite injury and workers compensation as well as CDC prescribing guidelines. In addition staff and faculty would assist the fellow in developing and publishing a peer reviewed publication as a result of the above project.

Preparedness Role

The Fellow will: (1) work with Emergency Preparedness staff to incorporate environmental and occupational public health focus into disaster planning and exercises; and (2) work with Environmental Public Health staff to include emergency preparedness awareness in existing programs. The Fellow could reasonably be tapped as an epidemiological resource during public health emergencies.

Additional Activities

Given placement in the Environmental Public Health section, the Fellow may be available to coordinate on other Environmental Public Health initiatives and/or participate in outbreak investigations.

Mentors

Primary Dagan Wright PhD, MSPH
Injury and Violence Prevention Lead Research Analyst

Secondary Kelly Cogswell MPH
Environmental Epidemiologist