

Environmental Health

Assignment Description

The Fellow will be assigned to the Division of Occupational and Environmental Disease Control (DEODC) of the California Department of Public Health. This Division is the largest state-based program for the study and prevention of occupational and environmental health problems through environmental epidemiology, occupational health tracking and investigations, toxicology, childhood and adult lead poisoning prevention, asthma surveillance, risk assessment, chemical terrorism prevention, biomonitoring, and extensive laboratory capabilities. More information about the Division can be found at <http://www.cdph.ca.gov/programs/deodc>.

The Fellow will have the opportunity to work with two of the programs: the Occupational Health Branch (OHB) and Environmental Health Investigations Branch (EHIB). These two programs have a broad public health practice that encompasses investigations of outbreaks, surveillance, emergency response, data analysis, and working with interdisciplinary teams. Extensive information about these programs can be found at <http://www.cdph.ca.gov/programs/ohb>, and at <http://www.ehib.org>.

OHB has NIOSH-funded programs for the tracking and investigation of work-related asthma, carpal tunnel syndrome, fatalities, pesticide poisoning, silicosis and construction falls. Large surveillance databases are available for analyses of specific endpoints and follow-up interviews (epidemiology), and workplace investigations are routinely conducted of sentinel injuries and illnesses (industrial hygiene). Health education and outreach materials are prepared and disseminated widely (health education). A major NIOSH-funded study is underway of work-related violence in California hospitals. Data collection is underway (nurse practitioner), and a large dataset will be available for analysis.

EHIB, with partners in academia, government, and local stakeholders, has a cooperative agreement with the federal Centers for Disease Control and Prevention (CDC) to support development of an Environmental Public Health Tracking (EPHT) Program. The overall goals of this program are to

- (1) develop and implement a standards-based and interoperable health and environmental tracking network which allows linkages of health and environmental hazard or exposure data;
- (2) increase the capacity in environmental public health at the local and state level by developing a trained environmental health workforce;
- (3) develop or improve collaborations between public health and environmental agencies; and
- (4) improve dissemination of environmental public health data among the government, researchers, and the public.

CDC has funded a five-year project in California to implement the Statewide Strategic Plan for Asthma. EHIB's many asthma-related projects have included an ongoing asthma surveillance program, and an investigation of asthma near-deaths. EHIB also received a five-year grant from CDC to become a Center of Excellence in autism epidemiology, and to conduct public health research on autism incidence, and factors that contribute to it.

Day-to- Day Activities

The Fellow would be invited to attend various project meetings to learn about the many on-going activities. Depending on project need and interest on the part of the Fellow, they can be integrated into

the effort. Most projects in the branches are multidisciplinary, and may involve epidemiology, toxicology, community participation, etc., so that projects are typically done in teams. Part of the work of both branches deals with response to disease outbreaks or exposure issues, and as such, specifics cannot be anticipated. Working with their preceptors, the Fellows map out a plan of activities to meet their needs and the needs of the programs for the two-year cycle. Usually during the first year, a topic for a major project emerges, and the second year is often devoted mainly to that, involving data collection, statistical analysis, and report writing. Throughout their tenure, Fellows attend regular staff meetings in both the Occupational Health and Environmental Health branches, to be informed of and understand the administrative and political issues in a large state health department. In addition, there are varieties of opportunities to attend presentations, seminars, brown bag lunches, etc., on various topics, both in the Division and elsewhere on the Richmond laboratory campus, as staff members and outside guest speakers present new work or emerging issues.

Potential Projects

OHB works for the prevention of workplace injuries and illnesses among high-risk occupations, such as garment workers: A NIOSH-funded intervention study is underway among garment workers to determine the effectiveness of engineering controls in reducing the incidence of musculoskeletal diseases among garment workers (industrial hygiene and ergonomics). A major focus of our work has been on toxics use reduction and collaboration with environmental agencies in anticipating technology changes that may increase toxic exposures to workers. Workplace investigations will be conducted among high-risk workers such as automobile mechanics and dry cleaners (toxicology, industrial hygiene). Routine response and investigation of requests from employers, employees, health care professionals, or unions routinely lead to opportunities for health studies. Recent examples include diesel exhaust exposure among longshore workers; blood borne pathogen exposures among hazardous materials workers; and pesticide exposure to flight attendants. EHIB investigates a number of potential environmental hazards, many of which fall between the cracks of regulatory agencies, including toxic exposures from molds and fungi, consumption of non-commercial ocean and freshwater fish, contaminants in private drinking water wells, electric and magnetic fields, and health effects of climate change and heat waves. EHIB has a number of studies examining illness in relation to possible environmental causes, such as agricultural pesticide usage, toxic emissions from industrial sources, water contaminants, and traffic emissions.

Preparedness Role

DEODC coordinates a Division-wide team for emergency response and environmental preparedness, integrated with the Department's Emergency Preparedness Office. Previous CSTE Fellows have participated in drills, created databases and forms for emergency response, and conducted surveys of local capacity. In the large Department-wide response to the 2009 H1N1 influenza outbreak, the CSTE Fellow participated in several phases of California's effort.

Assignment Location: Richmond, California

Primary Mentor: Robert Harrison, MD, MPH
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Secondary Mentor:

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