Environmental Health- Waterborne

Assignment Description:

Within DOH activities related to environmental health are conducted within the Center for Environmental Health. The Center is organized into three Divisions with seven Bureaus that routinely interact and collaborate throughout disciplines and areas of specialization; including epidemiology. The Center's BCEHFP is responsible for the regulatory oversight of recreational water facilities and the epidemiological surveillance of recreational waterborne illnesses and outbreaks. The BCEHFP has been considered a national leader in recreational water illness and outbreak surveillance, outbreak response, environmental assessments, developing intervention strategies and implementing the strategies through regulation development and other means. Bureau epidemiologists are active members of the multi-site Environmental Health Specialist Network and report both foodborne and waterborne disease outbreaks to NORS which reports outbreak information and contributing factors for foodborne and waterborne disease outbreaks to the CDC. This is accomplished through New York's existing public health infrastructure network and collaboration with the Department's Bureau of Communicable Disease Control (BCDC), Regional and local epidemiologists and environmental health professionals. The Bureau also contributes to environmental and illness surveillance and reporting into CDC's Harmful Algal Bloom-related Illness Surveillance System (HABISS) through collaboration with regional, state and local officials. The BCEHFP provides guidance and routinely interacts with forty six local health departments, four NYSDOH Regional Offices, the Centers for Disease Control, the Environmental Protection Agency, the Food and Drug Administration and many other agencies and organizations. Bureau staff routinely interacts with the Wadsworth Center laboratories whose groundbreaking research and expertise are world renowned. NYSDOH collects robust datasets as part of the Statewide Planning and Research Cooperative System (SPARCS) which is used for syndromic surveillance and opportunities exist to identify associations with environmental exposures, including those associated with recreational water illnesses.

The Fellow will have opportunities to work within the Bureau's recreational water illness and environmental surveillance systems, including; developing and refining recreational water illness and environmental databases, analyzing data, reporting illnesses and outbreaks to CDC, develop and refine outbreak investigation tools, develop and refine environmental surveillance and vulnerability assessment tools. This would include implementing and refining investigation techniques for sources of enteric illnesses, developing spatial and temporal and microbial source tracking sampling schemes and using GIS techniques to depict geospatial distribution. The fellow would also be involved in characterization of temporal patterns of development of harmful algal blooms and subsequent toxin production. This assignment would offer the Fellow opportunities to communicate with Federal agencies, Regional Offices and Local Health Departments. Other potential projects include development and refinement of outreach and education materials, assisting with regulation development, developing procedural guidance documents and supportive materials for recreational waterborne illness surveillance. Field work to conduct environmental sampling and vulnerability assessments of water bodies may also be a component. Through this involvement the Fellow will enhance data collection and analysis, professional writing, presentation and communication skills. The Fellow will be given opportunity to attend meetings and conferences, network with Federal, State and local agencies. Opportunity for journal publications will also be available.

Day-to-Day Activities:

The CSTE Fellow will be integrated into BCEHFP programs, daily activities and long term program projects. This includes a 7.5 hour workday (37.5 hours per week) with generous vacation, personal and

sick leave. The flexibility structure and staffing of the BCEHFP facilitates the Fellow's close collaboration and leadership. The CSTE Fellow's anticipated day-to-day activities may include (depending on Fellow interest and projects chosen):

- Will receive training on conducting environmental assessments and outbreak investigations
- Conduct and evaluate various recreational water illness surveillance activities; including active, passive and syndromic surveillance
- Travel to and conduct field assessments and sampling of natural waters relevant to environmental antecedents of recreational water illness
- Perform statistical analysis of epidemiological and environmental data
- Develop procedures and guidance documents and tools. This could include tools for vulnerability assessments for water bodies such as temporal, spatial, microbial source tracking sampling schemes, and data collection for illness/outbreak investigations.
- Develop outreach materials
- Prepare scientific papers, posters, and reports
- Work with CSTE Fellowship Mentors and other DOH staff to review progress biweekly
- Attend meetings, conferences with national, state and local collaborators
- Participate in illness outbreak investigations, including collaborating with other agencies and laboratories
- Attend and assist with conducting training of local health department staff

Potential Projects:

The potential projects will fulfill all of the CSTE Fellow assignment deliverables, including surveillance system evaluation, conducting outbreak and environmental investigations, designing outbreak and field investigation tools, creating databases, using statistical software, interpreting findings from epidemiologic studies, recommending control measure and prevention activities, communication through written field investigation and surveillance reports, preparing manuscripts for publication, oral presentation, risk communication, understanding public health law and HIPAA, learning essential public health functions, appreciating the diversity of how epidemiology is used in a variety of program areas.

The BCEHFP has been at the forefront of investigating and reporting recreational waterborne illnesses and outbreaks. Bureau epidemiologists are active members of the multi-site Environmental Health Specialist Network and report both foodborne and waterborne disease outbreaks to NORS which reports outbreak information and contributing factors for foodborne and waterborne disease outbreaks to the CDC. This is accomplished through New York's existing public health infrastructure network and collaboration with the NYSDOH BCDC, Regional and local epidemiologists and environmental health professionals. The Bureau also contributes to environmental and illness surveillance and reporting into CDC's Harmful Algal Bloom-related Illness Surveillance System (HABISS) through collaboration with regional, state and local officials. The Fellow would assist with both foodborne and waterborne disease outbreak investigations, evaluate and enhance these programs. Comprehensive plans will be developed to assess and enhance the investigation and reporting of recreational water illnesses associated with exposure to natural water bodies and coordinates and optimizes statewide initiatives to raise awareness, investigate and mitigate causes of disease.

Preparedness Role

BCEHFP works closely with the Department's Office of Health Emergency Preparedness within the Office of Public Health, the Bureau of Water Supply Protection and with BCDC with the Public Health Emergency Epidemiology Program. Through these affiliations, the CSTE Fellow will have the opportunity for training and assisting with preparedness projects. The CSTE Fellow will have the opportunity to complete FEMA study courses on the Incident Command System and participate in drills and exercises

that occur periodically throughout the state. The Fellow may participate in emergency response activities such as response to hurricanes, floods and catastrophic failures of the public health controls of drinking and waste water infrastructure.

Assignment Location:	Albany, NY
Primary Mentor:	Gregg Recer, PhD, MS Research Scientist New York State Department of Health
Secondary Mentor:	David Nicholas, MPH Research Scientist New York State Department of Health