

Infectious Diseases

Assignment Description:

The fellowship will be located primarily in the Epidemiology Program of the Marin County Department of Health and Human Services (MCDHHS), located in the San Francisco Bay Area. The CSTE fellow will function as an integral member-in-training of the team of epidemiologists and public health professionals whose role is to collect, monitor and analyze public health data to assist with disease control and prevention programs and advise on local public health policies. We are a generalist epidemiology program with both communicable and non-communicable disease epidemiologists who function within a dynamic full service local public health jurisdiction. This offers the fellow an opportunity to experience a diversity of areas of Applied Epidemiology, including response to real time events such as outbreaks and emergencies as well as advancement of long term departmental initiatives. Duties will also include the collection, evaluation and analysis of local health data through access to existing databases and surveillance systems, questionnaires, reports and studies. Specific projects will be determined by the fellowship curricular requirements, the fellow's individual interests, and departmental priorities. The Fellow will conduct communicable and non-communicable disease surveillance as an integral member of the Epidemiology Program staff. The Fellow will be the Program's representative on Health Reform Initiative work in the County.

Day-to-Day Activities:

The fellow will primarily focus on the projects necessary to fulfill the required competencies, including analyzing and interpreting epidemiologic data, designing and evaluating surveillance systems, and summarizing analyses in written and visual formats as reports, posters, presentations, and manuscripts. Opportunities will be available to carry out data requests from other health department staff, community organizations, and members of the public. During disease outbreaks, the fellow will be engaged in investigations to determine the scope and nature of the event to mitigate spread and inform containment and treatment measures. Epidemiologists currently serve as incident commanders for local foodborne outbreaks, allowing for meaningful participation in all aspects of the outbreak from detection, description, mitigation, and public messaging. Participation in other types of outbreaks including TB are facilitated through tight linkages between the epidemiology and communicable diseases teams, and because the fellow's Primary mentor also serves as TB Controller. The fellow would have the option to attend meetings with the epidemiology team, our regional epidemiology collaborative, the communicable disease team, a regional health inequities initiative data committee, and other meetings as they arise. Our health department is in close proximity to many other local health departments as well as the California Department of Public Health's communicable disease and environmental/occupational health offices, allowing the fellow to attend other meetings that may be of interest.

Upon starting the assignment, staff in the epidemiology program will orient the fellow to our team and available data sources, the County's Health and Human Services Department, and overall County of Marin government, as well as provide information about the community we serve. The fellow will have regular meetings with mentors and will have support on his/her activities from other epidemiologists and program-specific staff as needed.

Potential Projects:

Because this is a generalist program, the Fellow will have the opportunity to conduct work on a wide variety of disease areas in communicable and non-communicable disease epidemiology to meet Fellowship requirements and to suit Fellow interests. Some potential projects are identified below.

- 1) Projects that will build competency in designing and evaluating surveillance systems; and writing surveillance report:
 - Surveillance evaluation of the utility and timeliness of the recently adopted California Reportable Disease Information Exchange (CalREDIE) for local public health decision making.
 - Reestablish hospitalization data surveillance system using data from the California Office of Statewide Health Planning and Development and post a summary report on our County's health report website.
 - Evaluate the influenza surveillance system, which includes influenza-like illness (ILI) syndromic surveillance and lab data from local medical facilities.
 - Assist with implementing BioSense 2.0 to aid in the early detection and assessment of bioterrorism-related illness.
- 2) Projects that will build competency in designing an epidemiologic study to address a health problem; analyzing, interpreting, and presenting graphic and numerical data to lay and scientific audiences (including a poster presentation):
 - Health Reform Initiative: The county is engaged in developing a Health Information Exchange that will integrate electronic medical record data from a variety of Marin providers into a single platform. Epidemiology staff will utilize this new source of population data, particularly in identifying regions or groups disproportionately affected by chronic diseases to target and measure the effects of interventions designed to reduce disparities.
 - Analyze multiple datasets including the Electronic Death Registration System (EDRS), OSHPD hospital discharge data, and data now available on emergency room visits through local electronic medical records to determine the extent of prescription drug-related overdoses, hospitalizations, and deaths.
 - Analyze trends in breast cancer risk factor prevalence and breast cancer incidence using Marin Women's Study data. The Marin Women's Study is a large ongoing multi-year study of breast cancer in Marin County funded by CDC and Avon.
 - Analyze and map sexually transmitted disease and other common communicable disease data to further inform prevention efforts.
- 3) Projects that will build competency in outbreak investigation and reporting
 - The Fellow will have the opportunity to participate in at least one outbreak investigation and to present the results in written and/or oral form.

Preparedness Role

The Public Health Officer (CSTE fellow primary mentor) supervises county Emergency Medical Services and will ensure participation in bioterrorism/emergency preparedness and response. The fellow will participate in tabletops and exercises that the Marin County Public Health Emergency Preparedness (PHEP) program conducts to strengthen our response to potential emergency situations. Large outbreaks or multiple outbreaks occurring at one time test the surge capacity, allowing the fellow to understand how surge capacity would function in a large event. The fellow would have the opportunity to participate in the development and management of post-emergency enhanced surveillance if these measures are implemented. The communicable disease epidemiologist could teach the fellow about

activities around PHEP surveillance and outbreak measure data collection and reporting, as well as other surveillance and epidemiology-related activities completed as part of PHEP funding. The fellow will take basic incident command online training.

Assignment Location: San Rafael, CA

Primary Mentor: Matthew Willis, MD, MPH
Public Health Officer
Marin County Division of Public Health

Secondary Mentor: Rochelle Ereman, MS, MPH
Chief Epidemiologist
Marin County Division of Public Health