Infectious Diseases/Chronic Diseases

County of Marin, Department of Health and Human Services, Public Health Division
San Rafael, CA

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 of the team of epidemiologists and public health professionals whose role is to collect, analyze, and interpret 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 programs and topic areas within 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 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 outbreaks 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 at TB Controller. The fellow would have the option to attend meetings with the epidemiology team, 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

Surveillance Evaluation Projects

- Further develop hospitalization surveillance system using data from the California Office of Statewide Health Planning and Development and post a summary report on Marin 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.
- Assess mortality surveillance system and modify content and process to reflect changing needs.

Major Project - Possible Epidemiologic Study Design Projects

Major Project Ideas 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):

- Help design and implement tracking system for travelers returning to Marin from Ebola endemic areas, to ensure proper notification and follow up for the duration of 21 day risk interval.
- In collaboration with community primary care clinics, participate in the design of a process for screening for latent tuberculosis infection (LTBI) in targeted populations and analyze LTBI incidence and treatment completion rates within these populations.
- Perform data analysis and write-up of a pilot study of the newly approved 12 dose regimen (3HP) for treating latent tuberculosis infection, in which Directly Observed Therapy will be administered by retail pharmacists.
- 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 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 multi-year study of breast cancer in Marin County funded by CDC and Avon. Publish manuscript of analyses.
- Analyze and map sexually transmitted disease and other common communicable disease data to further inform prevention efforts.
- Provide data for needs assessment conducted with medical providers, community organizations, and other partner. Tasks would include compiling secondary data and analyzing California Health Interview Survey data.
- Collect and analyze data related to prescription drug misuse and abuse as a member of the RxSafe Marin Data Action Team. RxSafe Marin is a community-wide initiative designed to address and reduce prescription drug misuse and abuse. Activities include maintaining existing surveillance and explore new datasets related to the issue.
Additional Possible outbreak and Investigation Projects

- 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.
- The fellow will assist with local foodborne outbreaks, for which epidemiologists currently serve as incident commanders, which will allow for meaningful participation is all aspects of the outbreak from detection, description, mitigation, and public messaging.
- The fellow will participate in non-foodborne outbreak investigations such as pertussis or norovirus by maintaining a line list, creating an epidemic curve, and summarizing demographic data to inform public health action that prevents further disease spread.

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 measure 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.

Additional Activities

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. A few examples of successful projects conducted by our current CSTE Fellow include:

- Designed and implemented a county-wide vaccine decision-making study among Kindergarten parents, culminating in a report shared with multiple stakeholders statewide, a poster and oral conference presentation, and;
- Conducted an evaluation of the local reportable disease surveillance system using CDC’s surveillance system evaluation guidelines; and co-led a prescription drug misuse and abuse data working group, and
- Conduct related analyses using Prescription Drug Monitoring Program (PDMP) and emergency department datasets.

Mentors

Primary
Matthew Willis, MD, MPH
Public Health Officer

Secondary
Rochelle Ereman, MS, MPH
Epidemiology Program Manager