

Non-Infectious Diseases (Cross-Cutting), Infectious Diseases

County of Marin, Health & Human Services

San Rafael, California

Assignment Description

The Fellow will be located in the Community Epidemiology Program of the Marin County Department of Health and Human Services located in the San Francisco Bay Area. We are a generalist epidemiology program with both communicable and non-communicable disease epidemiologists who function within a dynamic local public health jurisdiction. Our site offers the fellow an opportunity to experience both a depth of epidemiology methods expertise while working on a breadth of programs and topic areas, ranging from real-time event response such as outbreaks and emergencies to advancement of long term departmental initiatives.

The CSTE Fellow will participate as an integral member of the team of epidemiologists and other 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. 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. 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 County of Marin government, and the relationship between county, state and federal public health infrastructure. The Fellow will also be oriented to the community we serve.

Day-to-Day Activities

The Fellow will primarily focus on the projects necessary to fulfill the required competencies, guided by the fellow's interests and specific learning objectives. These projects include 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 also be available to carry out data requests from within the health department, other branches of government, 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. Integrated in the daily operations of the epidemiology team, the Fellow will also have the option to attend meetings of the communicable disease team, a regional health inequities initiative data committee, a local prescription drug misuse and abuse initiative, and other forums as they arise. Our health department is in close proximity to many other Bay Area 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 and grand rounds that may be of interest. 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 Activity Develop a surveillance system and conduct regular surveillance

Potential projects to meet this competency include:

- Develop a surveillance system for injuries and other conditions using Emergency Medical Services data.
- 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.
- Conduct annual mortality surveillance.
- Conduct influenza surveillance using emergency department and laboratory data.

Surveillance Evaluation Evaluation of non-fatal opioid and other drug overdose surveillance

Evaluate non-fatal opioid and other drug overdose surveillance using Emergency Medical Services, Emergency Department, and Hospitalization datasets.

Major Project Various potential major projects

As a member of a generalist program, the Fellow will have the opportunity to conduct work in a wide variety of disease areas in communicable and non-communicable disease epidemiology.

- Analyze data from a locally-developed Health Information Exchange that will integrate electronic medical record data from a variety of Marin providers into a single platform. Identify regions or groups disproportionately affected by chronic diseases to target and measure the effects of interventions designed to reduce disparities. Investigate implementation of BioSense 2.0 and ESSENSE to analyze syndromes.
- Analyze breast cancer risk factor prevalence and breast cancer incidence using data from the Marin Women's Study, a large 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.
- 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 prescription drug abuse initiative convened by the health department. Activities include maintaining existing surveillance, exploring

new datasets related to the issue, and working with statewide, regional, and national workgroups to develop standardized metrics to measure this public health issue.

- Participate in evaluations of Health & Human Services programs including developing surveys and other data collection forms using online tools.

Additional Project Outbreak investigation and response

- Participate in at least one outbreak investigation and present the results in written and/or oral form.
- Assist with local foodborne outbreaks, for which epidemiologists currently serve as incident commanders, which will allow for meaningful participation in all aspects of the outbreak from detection, description, mitigation, and public messaging.
- 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.
- Support tuberculosis outbreak investigations by analyzing contact investigation data and creating lists of unscreened contacts.
- Summarize local data about emerging conditions (e.g., Zika virus).

Preparedness Role

The Fellow will participate in tabletops, exercises, and quarterly trainings that the Marin County Public Health Preparedness program conducts to strengthen our response to potential emergency situations. The simulation of large events will allow the fellow to understand how surge capacity would function in an event such as pandemic influenza. The Fellow would have the opportunity to participate in the development and management of post-emergency enhanced surveillance, including outbreak detection systems and CASPER. The Fellow will take basic incident command online training.

Additional Activities

- Design and conduct an evaluation of the implementation of multiple departmental strategic plan initiatives to increase the use of data by all Health & Human Services programs.
- Draft a manuscript for publication of results from an evaluation of the Non-Motorized Transport Pilot Project in Marin County, which involved the installation of bike/walk paths for non-motorized forms of transportation and commuting.
- Assist the Health & Human Services Department in fulfilling competencies in preparation for applying for public health accreditation.

- Work with community groups and non-profit organizations to provide locally-relevant data to inform their work.
- Design and conduct an evaluation of RxSafe Marin as a potential collective impact model for prescription drug abuse with many multi-sectoral programs and policies.

Mentors

Primary	Matthew Willis MD, MPH Public Health Officer
Secondary	Rochelle Ereman MS, MPH Epidemiology Program Manager