

ID: 59973768

Infectious Diseases, Injury - Drug Overdose - Host Site Description

Long Beach City

Assignment Location: Long Beach, US-CA
Long Beach City
Communicable Disease Surveillance and Control

Primary Mentor: Elizabeth Marquez, MPH, BS Biology
Senior Epidemiologist
Long Beach Department of Health and Human Services

Secondary Mentor: Nora Balanji, Master of Public Health with Specialization in Epidemiology
Epidemiology Program Supervisor/Communicable Disease Controller
Long Beach Department of Health and Human Services

Work Environment

Hybrid

Assignment Description

The fellow will be placed in the Epidemiology team under the Communicable Disease Surveillance and Control Division of the Long Beach Health Department. The epidemiology team's responsibility is for disease surveillance, detection, and control of the various infectious diseases that affect the local community. The COVID-19 pandemic has raised awareness on the importance of communicable disease surveillance and the need for increased community access local public health data. The fellow's responsibilities and day-to-day activities include but are not limited to activities related to communicable disease case and outbreak investigation and disease trend surveillance. Additionally, this fellow will learn to update and our communicable disease and HIV/STI public facing data dashboards. These tasks will include using databases for different infectious disease, running statistical analysis from these data, updating case counts, rates, and demographic distribution of communicable diseases, creating geographical maps, and analyzing healthcare-acquired infection rates.

Describe Statistical and Data Analysis Support, Such as Databases, Software, and Surveillance Systems Available to the Fellow

Statistical Programs: R, SAS, SPSS

Software: Microsoft 365 such Microsoft Word, Powerpoint, Excel, PowerBI, Illustrator, REDCap, Canva

Surveillance Systems: California Reportable Disease Information Exchange (CalREDIE), CAIR2, CalConnect, Snowflake, BioSense/Essance, VEOCI, CalCONNECT

Projects

Surveillance Activity Title: COVID-19 Weekly Surveillance

Surveillance Activity Description:

Continue established COVID-19 weekly Surveillance, including downloading the data from the data warehouse, updating R Studio R script as needed, run PowerBi report and update as needed. Develop the report and share internally and report during public record requests.

Surveillance Activity Objectives:

- Develop RStudio and R coding skills
- Develop PowerBi data analytic skills

ID: 59973768

Infectious Diseases, Injury - Drug Overdose - Host Site Description

Long Beach City

- Curate internal and external epi data

Surveillance Activity Impact:

Continue COVID-19 surveillance to inform public health guidance and recommendations. Maintain up-to-date accurate data ready for public data request and internal awareness.

Surveillance System Evaluation Title: Communicable Disease Surveillance Monthly Report and Dashboard

Surveillance System Evaluation Description:

The goal of this project is to work with the Communicable Disease Controller, Senior Epidemiologists, and Communicable Disease Investigation Supervisor to review our current communicable disease surveillance practices including triage and disease surveillance. This will also include the frequency we conduct general surveillance reports and communicable disease dashboard refreshes.

Surveillance System Objectives:

Update standard operating procedures and protocols for triage, case investigation, and cluster/ outbreak investigation. Update school cluster and outbreak investigation protocols.

Surveillance System Impact:

The impact of this review is improved efficacy of the team which in turn improves that teams ability to response to high priority cases and outbreaks.

Major Project Title: Communicable Disease Outbreak Reports

Major Project Description:

In collaboration with the Epidemiology Program and the Communicable Disease Investigation team the fellow will be significantly involved in responding to diverse communicable disease outbreaks. This will give the fellow the opportunity to learn about disease basics including symptoms, incubation period, infectious period, epidemiological linking of case, case definitions, and possible vectors.

Major Project Objectives:

As part of the response, the fellow will be responsible for curating summary reports throughout and after the response including recommendations and lessons learned.

Major Project Impact:

Learn and develop best practices when responding to disease outbreaks. Prepare easy to follow reports for internal communication and external communication for cross-jurisdictional responses.

Additional Project #1 Title: Syndromic Surveillance for Communicable Disease Trends and Opioid overdose

Project #1 Type: Surveillance Activity

Project #1 Description:

In 2023, the Long Beach Health Department launched it's Syndromic Surveillance Program through the CDC's BioSense/Essence platform. Since then we have onboarded over 30% of our hospitals and seek to continue to develop our syndromic surveillance reports. As part of a collaboration with the HIV Syndemic Policy Program and their efforts to address the opioid crisis, we plan to provide the team with up-to-date opioid overdose data from emergency rooms in order to identify potential spikes for informed decision making and community outreach. Additionally the fellow will

ID: 59973768

Infectious Diseases, Injury - Drug Overdose - Host Site Description

Long Beach City

work on more traditional communicable disease syndromic surveillance activities including influenza like illness (ILI) and gastrointestinal illness.

Project #1 Objectives and Expected Deliverables:

Learn the basics of Syndromic Surveillance. Learn how to run reports. Review and implement syndrome definitions for overdose, influenza like illness (ILI) and gastrointestinal illness. Create alerts in the Essence platform for spikes in incidence. Inform stakeholders of spikes and participate in response as appropriate. Curate internal and external surveillance reports and interpretations.

Project #1 Impact:

This will improve the ability of our jurisdiction to identify and respond earlier to potential threats compared to traditional surveillance methods which depend on diagnostic testing and reporting by providers and laboratories. Improved communication with stakeholders and partners for informed decision making.

Please Describe the Fellow’s Anticipated Role in Preparedness and Response Efforts – Include Activities and Time Allocation (Required Competency of Fellowship)

As part of the onboarding process the fellow will be required to take multiple FEMA National Incident Management System (NIMS) trainings in preparation for potential emergencies. The fellow will also have the opportunity to meet the Public Health Emergency Management Team and learn about their logistics and how we collaborate with them during outbreak response and emergencies. For example, in response to the first locally acquired case of Dengue Virus, our current fellows had the opportunity to work in collaboration with the PHEM team and canvas the neighborhood providing mosquito education and surveying for other potential cases.

Please Describe the Fellow’s Anticipated Role in Cluster and Outbreak Investigations – Include Activities and Time Allocation (Required Competency of Fellowship)

One of the benefits of learning and developing your epidemiologist skills at a small local health jurisdiction is the opportunity to cross-train across various specialties and investigate diverse type of disease clusters including enteric disease, vector borne diseases, respiratory illnesses, and healthcare acquired infections.

During outbreak investigation the fellow will have the opportunity to learn about case definitions, outbreak definitions, how to develop an epidemiologic curve, interview associated cases or persons of interest, develop tailored interview instruments, geo map cases and analyses the data collected as part of the outbreak investigation. The fellow will also develop the skills to put together outbreak reports using information collected during the cluster and outbreak investigation.

If the opportunity arises, we aim to involve fellows in responding to emerging infectious diseases and public health emergencies. For example, our most recent CSTE fellow had the opportunity to take on a lead role in interviewing mpox contacts and persons of interest and then got promoted to case interviews during the 2022-2023 multi-national mpox outbreak. This fellow also had the opportunity to interview and monitor avian influenza (HPAI) exposures. Outbreak investigation is anticipated to make-up about 20-50% of the fellow's time depending on need.

Please Describe the Fellow’s Anticipated Role in the COVID-19 Response – Include Activities and Time Allocation

The fellow will be actively involved in COVID-19 surveillance via data analysis. They will analyze COVID-19 case, hospitalizations, deaths, and outbreaks. For outbreaks specifically they will have the opportunity to shadow the

ID: 59973768

Infectious Diseases, Injury - Drug Overdose - Host Site Description

Long Beach City

Healthcare Associated Infections Program in investigating and mitigating COVID-19 outbreaks in congregate settings. COVID-19 response is anticipated to make up about 10- 20% of the fellow's time.

Please Describe Opportunities for Fellows to Work in Health Equity as well as Incorporating Diversity, Equity, and Inclusion into their Work

The Long Beach Health Department strives to incorporate an equity lens in all the work we do. The Department established an Office of Equity recently and has brought on staff to advocate for various groups and ensure representation and that our work is addressing the inequities that impact public health. The fellow will have the opportunity to interact and learn from this Office through various meetings and trainings.