ID: 74517231
Infectious Diseases - Host Site Description
Long Beach Department of Health and Human Services

Assignment Location: Long Beach, US-CA
Long Beach Department of Health and Human Services
Health/Community Health Bureau

Primary Mentor: Tiffany Fong, MPH
Senior Epidemiologist
Long Beach Department of Health and Human Services

Secondary Mentor: Erica Sanchez, BS Nursing, RN
Clinical Services and HIPAA Compliance Officer
Long Beach Department of Health and Human Services

Work Environment
Hybrid

Assignment Description

The fellow will be placed in the LB TB Control Program at the Long Beach Department of Health and Human Services, within the Community Health Bureau. The mission of the City of Long Beach Tuberculosis (TB) Control Program is to identify, treat, and prevent the spread of TB disease in Long Beach. This is accomplished by initiating prompt treatment, ensuring treatment completion, and reducing further transmission through timely case finding and contact investigation follow up.

TB CONTROL PROGRAM RESPONSIBILITIES
- Identify all individuals diagnosed or suspected of having TB
- Monitoring and oversight of all TB cases
- Provide Directly Observed Therapy (DOT) to all active TB cases
- Identifies and ensures follow up of individuals exposed to a case of active TB disease
- Gotch Law - review and approval of hospital discharge plan
- Provides consultation to medical providers regarding TB diagnosis and treatment
- Data collection and reporting
- TB education

The fellow's day to day activities will include ensuring accurate data regarding TB cases and contacts, including housing status, HIV status, work history, birth location, etc. The fellow will ensure accurate reporting regarding these metrics to state and federal authorities. The fellow will follow trends in TB cases and contacts and assist with data and epidemiology regarding outbreaks of TB as well. The activities will include using CalREDIE database for data management, running statistical analysis from these data, updating case counts, rates, and demographic distribution including risk factors, creating geographical maps for hot spot identification using excel, R studio, PowerBi.

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

Statistical Programs: R studio
Software: Microsoft 365 such as Microsoft Word, Powerpoint, Excel, PowerBI, Illustrator, REDCap, Canva
Surveillance Systems: California Reportable Disease Information Exchange (CalREDIE), CalConnect, Snowflake, BioSense/Essance, VEOCI, CalCONNECT

Projects

Surveillance Activity Title: Triage TB Labs and Suspect Case reports and work on obtaining data for RVCT and ARPE Reports

Surveillance Activity Description:
Triaging Tuberculosis laboratory results and suspect case reports and categorize them correctly using the CalREDIE database. The fellow will also obtain information of confirmed TB cases to input in the Report of Verified Cases of Tuberculosis, which is the standardized reporting system by the CDC to help track TB trends. The fellow will also obtain case and contact information for the Aggregate Reports for Tuberculosis Program Evaluation, which contains aggregated data on TB case management, treatment completion rates, and contact investigations. The fellow will also help maintain up-to-date information on linelists for TB cases and contacts.

Surveillance Activity Objectives:
- Develop skills in data reporting and triaging in CalREDIE
- Maintain accurate case and contact reporting in the state reporting system
- Develop data entry and data cleaning skills
- Develop skills in reading electronic and medical health records

Surveillance Activity Impact:
- Ensure up-to-date accurate data regarding the TB cases and contacts to ensure on-time treatment and reporting
- Continue TB surveillance to inform public health guidance and recommendations.

Surveillance System Evaluation Title: TB Data Surveillance

Surveillance System Evaluation Description:
The goal of this project is to work with the TB Controller, Data Analysts, Epidemiology Analysts, and TB Clinic personnel to review the current TB disease surveillance practices including triage and disease surveillance. The purpose is to ensure there is a smooth data flow between the TB clinic, the electronic health records, and surveillance systems such as CalREDIE and that there is no gap in missing data on cases or contacts.

Surveillance System Objectives:
Update standard operating procedures and protocols for triage, case investigation and contact investigations.

Surveillance System Impact:
The impact of this review is a significant enhancement in the team's efficacy and efficiency, which subsequently strengthens their ability to respond effectively to high-priority cases and outbreaks.

Major Project Title: TB Case and Outbreak Report

Major Project Description:
In October 2023, the Long Beach Health Department tuberculosis program and the state of California Public Health department identified a significant increase in tuberculosis patients with a similar genetic make up, suggesting they were closely related. By March 2024, the Long Beach Health dept had identified the epicenter of the outbreak identified as a single room occupancy setting (SRO), and the Long Beach Health dept declared a public health emergency in response to the outbreak. The purpose of the TB Case and Outbreak Report will be to provide a summary of all of the cases in the City of Long Beach and the outbreak associated cases. In doing, the fellow will analyze trends and differences between Non-TB outbreak and TB OB cases.

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Major Project Objectives:
To create and develop the report the fellow will:
- Be responsible for entering and cleaning case and contact data into the disease surveillance system and linelists in excel.
- Peform quality control checks
- Create data visualization using PowerBi and Excel
- Request feedback from senior epidemiologists and health officers regarding summary, outcomes, and action items to include in the report.
- Make recommendations based on the data available

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: TB Trends in Long Beach
Project #1 Type: Surveillance Activity

Project #1 Description:
The fellow will produce a report or presentation regarding the trends in TB for Long Beach over the last several years, examining the number of cases and our case rates, any changes in demographics of who's acquiring active TB, and the TB case cascade among our cases and contacts.

Project #1 Objectives and Expected Deliverables:
To create and develop the report the fellow will
- analyze data for several years
- Discover trends
- Communicate trends to the department

Project #1 Impact:
The department will be aware of trends and cases in Long Beach, allowing us to prioritize our limited resources for the highest impact.

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.

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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 of 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.