Host site: Long Beach Department of Health and Human Services Communicable Disease Surveillance and Control

Assignment Location: Long Beach, California

Primary Mentor: Wilma Figueroa, Master of Public Health; Bachelor of Science in Health Sciences

Secondary Mentor: Nora Balanji, Master of Public Health in Epidemiology; Bachelor of Science in Public Health Science

Agency Description:

The Long Beach Department of Health and Human Services is one of three city public health departments in California, which enables a greater ability to engage with the local community and best apply resources to meet the needs of Long Beach. It has about 340 employees working at nine sites around the city. The focus is not only on public health, but also on the social determinants of health, such as poverty, education, and employment that may affect a person’s health. The health department works together with communities, businesses, nonprofit agencies, and individuals to create opportunities for healthy and safe communities.

The fellow will be working in the Communicable Disease Surveillance and Control (CDSC) Division, which is divided into four programs, the HIV/STI Surveillance Program, the Epidemiology program, the Communicable Disease Investigation Program, and the Healthcare Acquired Infections Program. If granted the opportunity to host a fellow, the fellow will be working in the Epidemiology Program.

The team’s office culture is very team-oriented. Everyone works together and individuals will actively listen and solve problems together. Everyone’s viewpoint is valued, and diversity is highly encouraged.

Assignment Description:

The fellow will be placed in the Epidemiology team under the Communicable Disease Surveillance and Control program 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 creating a live Long Beach Communicable Disease dashboard. These include database 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.
Preferred Background & Skills:

Preferred background and skills for the ideal fellow include experience with data science, having some coding background, and background in public health and communicable diseases.

What can the fellow expect to gain from 2 years at this host site?

The fellow will have technical experience in different software and surveillance systems and understanding how public health surveillance works. Because communication is important and will be required to work with different hospitals, departments, and the epidemiology team itself, the fellow will also develop soft skills that include critical thinking, adaptability, problem-solving, and teamwork.

Potential Projects include:

Host sites have listed up to 5 projects

Project 1: Long Beach Communicable Diseases Public Facing Dashboard

The proposed project, the Long Beach Communicable Disease (LBCD) dashboard, will create a centralized place to find reliable hyperlocal communicable disease data. The LBCD dashboard will provide navigable access to analytics that will allow individuals to choose a communicable disease and filter by zip code, census tract, race/ethnicity, gender, and age group. Data visualizations will be provided through charts, tables, maps, and epidemiological curves. The feature of customizing data to the user’s specific needs is novel for the City of Long Beach, as previous dashboards have not allowed user interaction. We aim to create a live dashboard that will provide the public the following: Case counts, rates, and demographic distribution of communicable diseases at the city level; Geographical maps and at the zip code level for communicable diseases; Healthcare-acquired infection (HAI) rates and surveillance trends through communicable disease surveillance, health care providers, public health agencies, policy makers, and the general population would be able to obtain data to help inform and enable planning, implementation, and evaluation of programs that help prevent and control communicable diseases. This can include understanding the magnitude of a disease and understand its incidence and prevalence, facilitate any epidemiologic or laboratory research, and facilitate planning such as policy development and allocation of program resources to specific areas in need. The dashboard can offer a useful tool to provide a clear place to obtain a holistic view of the epidemiological situation of communicable disease in Long Beach. By being able to filter by disease, zip code, and demographics such as gender and race/ethnicity, health disparities can be identified. By mapping the data, the prevalence of certain communicable diseases within the neighborhood can be identified at the community level to understand which populations are at risk.
Project 2: Hepatitis Information Data Management System

The Hepatitis Information Data Management System will address and create the next generation of tools used to create a data system that will easily identify Hepatitis cases and clean case data information. The project includes creating automated R scripts that will organize, manipulate and automate data quickly. The Fellow will learn how to use R to subset, recode, and merge datasets. Viral hepatitis control is an important health priority for the City of Long Beach. Identifying risk factors among our population is highly critical for disease prevention planning, policy making, and decision making at the local and government level.

Additional information about the placement:

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 is entering an era where public health departments are interested in expanding their current data informatics, which means the fellow will be exposed to the two listed projects along with any data inquiries or projects that may become of interest by City officials and the public. In conclusion, the fellow will receive a multitude of experiences at the Long Beach Health and Human Services Department.