Infectious Diseases-Quarantine

Centers for Disease Control and Prevention and County of San Diego Health and Human Services Agency, Division of Global Migration and Quarantine and the San Diego Epidemiology and Immunization Branch

San Diego, California

Assignment Description

DGMQ/USMU and San Diego Epidemiology and Immunization Branch (SEIB) are co-located. The CSTE Fellow will work on projects with both units, some as collaborations and others as separate projects. The focus will be on infectious disease surveillance, outbreak investigations, immigrant/refugee and border health analyses, and preparedness. Non-communicable disease and chronic disease projects are also a consideration.

Day-to-Day Activities

Fellow participates in phone duty rotation receiving local disease reports and queries from medical providers and the community during business hours. Will also be in phone duty rotation during business hours for the US-Mexico quarantine activities across the four border states. Prioritizes reports for action, discussion and monitoring based on protocols. Develops and implements project plans and activities. Participates in and leads outbreak investigations. Analyzes data and creates poster and oral presentations, writes manuscripts, attends educational sessions, meets with supervisors, quarantine and epidemiology colleagues and project partners.

Potential Projects

Surveillance Activity  Epidemiology of Coccidioidomycosis and Assessment of Laboratory Testing Methods in San Diego County

Prior to January 1, 2019, CA Dept of Public Health used CSTE case definition for coccidioidomycosis which required clinical and laboratory confirmation of disease. Many local health jurisdictions were unable to consistently confirm clinical illness and were, therefore, reporting confirmed cases based only on laboratory reports when resources were limited and coccidioidomycosis reporting and methods for confirmation were not standardized throughout the state impeding efforts to accurately track and assess trends. As of January 1, 2019, clinical confirmation of disease is no longer required. This change would allow for more consistent and less resource intensive reporting statewide. The County of San Diego, Epidemiology and Immunizations Services Branch, proposes a surveillance project updating the epidemiology of coccidioidomycosis in San Diego County, and assessing the laboratory methods used to identify Cocci cases since the change in case definition. This project would provide an opportunity to better characterize the epidemiology of San Diego Coccidioidomycosis cases using data from the local electronic disease registry, WebCMR. In addition, new variables were created to collect laboratory data and methods that help define local cases as compared to methods used in other jurisdictions in CA.
Surveillance Evaluation Assessment of USMU Notify Surveillance System to Identify Best Practices for Binational Collaboration and Disease Trends

A variable was recommended by CSTE leadership in 2013, and added to the National Notifiable Disease Surveillance System, to improve surveillance for conditions requiring US-Mexico collaboration. A linked process was developed to notify CDC's USMU of identified binational cases; USMU Notify. A review and refinement of the reportable illnesses and reporting format occurred in 2019. The Fellow would perform a descriptive analysis of USMU notified cases including timeliness, completeness, and usefulness for disease control efforts. The expected product will be a summary report, including recommendations for improvements in the use of USMU Notify.

Major Project Timeliness of Enteric Disease Surveillance in San Diego County

The Epidemiology Unit of the Epidemiology and Immunizations Services Branch of the County of San Diego conducts intensive investigations of persons diagnosed with enteric illness, including Salmonellosis, Shigellosis, Shiga toxin-producing E. coli including E. coli O157, and Listeriosis, to determine potential risk exposures. The San Diego Public Health Lab (SDPHL) also performs WGS on select submitted isolates to determine similarities and relatedness among patients within a cluster or outbreak, from contaminated foods, or from an infected food handler.

Surveillance Activity Description: A series of events occur between the time a patient is infected, and the time public health can determine that the patient is part of an outbreak. This project would provide the opportunity to explore, assess, and quantify the series of events that occur between the time a patient is infected and the time PHL can confirm and identify a pattern to the case and the cluster of interest.

Surveillance Activity Epidemiology of Fungal Meningitis or Encephalitis infections with emphasis on Cryptococcal infections in San Diego County

The County of San Diego, Epidemiology and Immunizations Services Branch, proposes a surveillance project to assess the epidemiology of Fungal Meningitis or Encephalitis infections with emphasis on Cryptococcal infections in San Diego County. This project would provide an opportunity to better characterize the epidemiology of Fungal Meningitis or Encephalitis infections stratified by types of fungi and with emphasis on Cryptococcal infections using data from the local electronic disease registry, WebCMR. In addition, new variables were created to collect clinical and laboratory data using culture and culture independent methods from which to assess methods that help define local cases and differentiate between C. gattii and C. neoformans.

Additional Project Public Health Border Lookout Evaluation

There is national level capacity to restrict certain types of travel for individuals who pose a public health risk. Information about such restrictions is collected in a secure data system. A descriptive analysis of this data would lead to better understanding of the trends, characteristics and outcomes for this public health strategy. The evaluation would use existing data over a 5-year period. The Fellow also would also work with CDC's USMU team to take part in "on-the-ground implementation" of this public health strategy. Results from the evaluation would inform best practices to enhance the use of this strategy along the US-Mexico border, as well as in other parts of the US.
**Preparedness Role**

USMU prepares Communicable Disease Response Plans with partners along the US-Mexico border. Both USMU and County conduct regular preparedness tabletop exercises with state, local, and regional partners. The Fellow will complete National Incident Management System and Incident Command System training through ICS-400 and will be provided the opportunity to help design, conduct, monitor and report on preparedness exercises that involve local, state, national and international stakeholders and that have a communicable disease focus. The Fellow will also participate as a staff member in responses as needed and appropriate. Past exercises have highlighted international communication protocols and have had focused on diseases such as foodborne outbreaks, Zika, and invasive meningococcal disease.

**Additional Activities**

Depending on the interests of the Fellow, multiple opportunities are available, including travel to US-Mexico binational meetings and land, maritime and air ports of entry. Fellow may gain experience with writing protocols and policy documents. Projects can be tailored to specific disease or population interests such as tuberculosis and migrant health, respectively.

**Mentors**

**Primary**  
Kathleen Moser MD, MPH  
Medical Officer/Unit Lead

**Secondary**  
Eric McDonald MD, MPH, FACEP  
Medical Director, Epidemiology and Immunizations Services Branch