

Infectious Diseases

CDC and the County of San Diego, CDC - Division of Global Migration and Quarantine and County - Epidemiology and Immunizations Branch

San Diego, California

Assignment Description

DGMQ/USMU and County Epidemiology and Immunization Branch 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, 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 for medical providers and the community during business hours. Will also receive binational disease reports from the four U.S. 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 Descriptive analysis of M.bovis in US – Mexico border counties.

Activity

Mycobacteria bovis is a zoonotic TB species that affects humans as well as animals. Spread to humans is primarily through ingestion of raw dairy products. The highest US rates of M.bovis are found along the California – Baja California border. Current genotyping methods permit identification of this illness among humans, and reporting is required to state and federal levels. The Fellow would perform a descriptive analysis of M.bovis cases in the two California counties directly along the US-Mexico border, and border counties in other states as possible. Expected product would assist in developing improved surveillance and control strategies.

Surveillance Acute Flaccid Paralysis (AFP) Surveillance Evaluation

Evaluation

AFP is a clinical syndrome characterized by rapid onset of weakness progressing to maximum severity within days to weeks, with the absence of spasticity or other signs of disordered central nervous system motor tracts. The differential diagnosis of AFP varies with age, some of which are reportable in California, such as such as botulism and Lyme disease. Others conditions that may present with AFP are not reportable, such as Guillain-Barre syndrome (GBS) and acute flaccid myelitis (AFM). Because of an apparent increase in cases of AFM in 2014 and 2016, clinicians in California were asked to report cases voluntarily. Cases of AFM were reported in San Diego and some were linked to enterovirus D-68 infections. In addition, increased numbers of GBS cases were reported without apparent etiologies. In 2017, AFM becomes a locally reportable condition in San Diego County. This surveillance project will evaluate clinical and laboratory data collected in San Diego on AFM and other reported conditions with AFP. San Diego cases referred to the California Department of Public Health Neurologic Surveillance and Testing Program will be reviewed to determine if improvements can be made in identifying and investigating these cases.

Major Project Health disparities among foreign-born populations in the US

Many health disparities have been described in US-based populations, but further characterization is needed to formulate effective strategies to address specific gaps. The Fellow will perform assessment of selected health disparities and their determinants among foreign- and US-born populations in the US. Potential health issues include mosquito-borne diseases (e.g., Zika, Chikungunya), HIV, enterics, parasitic diseases, immunization coverage. Project would entail analysis of national or local data systems and/or design and implementation of study to assess disease prevalence, and knowledge, attitudes and practices among high-risk populations and their health care providers. The expected product will be a report in a manuscript format suitable for submission to peer-reviewed publication.

Surveillance Activity Assessment of USMU Notify surveillance system

A binational variable, recommended by CSTE in 2013, was 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. The Fellow would receive and 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.

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 ocussed on diseases such as Ebola, Zika, and invasive meningococcal disease.

Additional Activities

Open for discussion. CSTE Fellows and EIS Officers often have the opportunity to work with the CA State Dept of Public Health on multi-county and state foodborne or other illness investigations, some with a US-Mexico binational component. There are many other ideas for projects and surveillance evaluations. Possibilities include trend analysis of salmonella serotypes in SD County and case control study for risk factors, assessment of Shiga toxin-positive shigella data, trend analysis of shigellosis among men who have sex with men in San Diego and other Southern California counties, pilot surveillance for *Cryptococcus gattii* in CA and San Diego County, evaluation of severe acute respiratory infection surveillance in San Diego County, incidence of active and latent TB among immigrants who were diagnosed on immigration exams after US arrival, binational continuity of care evaluation for sexually transmitted infection, etc.

Mentors

Primary	Kathleen Moser MD,MPH Medical Officer, Unit Lead
Secondary	Eric McDonald MD,MPH Director