

Infectious Diseases

Assignment Description:

The fellow will be assigned to Surveillance and Statistics Section of Infectious Diseases Branch, California Department of Public Health. He/she will have opportunity to learn about the California Reportable Disease Information Exchange (CalREDIE), a web-based surveillance system with local health jurisdiction, provider and laboratory data transmission capability as well as alert system. CalREDIE has recently received the national award of Digital Government Achievement Award. Depending on the fellow's interest, background and future goals, there will also be opportunity to evaluate foodborne and waterborne outbreak surveillance data transmitted to CDC via National Outbreak Reporting System (NORS). The fellow can evaluate these systems to assess completeness, accuracy, and timeliness of surveillance data focusing on selected general infectious diseases managed by the Infectious Diseases Branch.

For initial project, the fellow can evaluate surveillance of Legionellosis in California and analyze statewide Legionella morbidity and hospitalization overtime using Confidential Morbidity and detailed case history report as well as Hospital Discharge data. Legionella is an important respiratory bacterial pathogen in the United States, causing many cases of community-acquired pneumonias requiring hospitalization each year. In preparing an epidemiologic summary legionellosis in California we observed an increasing incidence trends. A more in depth analysis of factors such as possible sources of exposure and clinical symptoms would determine if the observed increase in California represents a true increase in disease activity, detection, reporting, or some combination thereof. Dr. Vugia will provide disease subject matter expert consultation and guidance regarding clinical and laboratory aspects of legionellosis to the fellow.

An additional project can focus on analysis of Severe Staphylococcus Aureus Infection (Community-Associated). Severe cases of Staphylococcus aureus infections, including methicillin-resistant Staphylococcus aureus (MRSA) were added to the list of diseases reported in California by healthcare providers in 2008. It's of great interest to analyze California surveillance data using Confidential Morbidity Data, Case history report with detailed information on clinical conditions associated with positive culture, past medical history, hospitalization, laboratory results, antibiotic susceptibility, and epidemiologic information such as exposures and risk factors to learn more about this condition in California. In addition to Drs. Tabnak and Vugia as Primary and Secondary Mentors, Dr. Akiko Kimura, Medical Officer within IDB will provide disease subject matter expert consultation and guidance regarding clinical and laboratory aspects of Severe Staphylococcus Aureus Infection to the fellow.

Additionally, depending on fellows experience, education, and interest, he/she could have some hands-on applied epidemiology experience through helping with an investigation/outbreak through any of other three Sections of Infectious Diseases Branch, namely VBDS, VPH, or DIS.

Day-to-Day Activities:

The fellow will be working collaboratively and co-operatively with other Section, Branch, and Division staffs as a team member and in some areas as a lead. SSS will facilitate fellow's integration and quick familiarization with surveillance activities, CalREDIE, the various surveillance systems used by LHJs to maximize his/her time on specified projects. The Fellow will also have opportunity to participate/attend informational meetings, conferences and trainings.

Potential Projects:

As mentioned under description of fellow's assignment, two main projects will provide opportunities for data analysis and surveillance system evaluation to the fellow, namely: 1) evaluation of California's statewide Legionella surveillance and analysis of legionellosis morbidity and hospitalization overtime using Confidential Morbidity and detailed case history report as well as Hospital Discharge data; 2) evaluation of California's Severe Staphylococcus Aureus Infection (Community-Associated) including methicillin-resistant Staphylococcus aureus (MRSA) statewide surveillance and analysis of morbidity and hospitalization overtime using Confidential Morbidity and detailed case history report as well as Hospital Discharge data.

Preparedness Role:

CDPH has an Emergency Preparedness Office (EPO) that coordinates overall planning and preparedness efforts for CDPH. It plans and executes activities to prepare Californians for public health emergencies, coordinates planning for the Strategic National Stockpile, maintains contact names and numbers for crisis response, oversees statewide public health disaster planning, and coordinates functions related to Risk Communication and Professional Training. EPO has developed a disaster planning website, and provides a number of training opportunities throughout the year. The Fellow will be able to attend the trainings and help with emergency preparedness activities within our program. Many of the diseases that are managed by Infectious Diseases Branch have high hospitalization rates. Rapid and accurate data analysis and data sharing tremendously assist in emergency situations, particularly when dealing with newly emerging infections.

Assignment Location: Sacramento, CA

Primary Mentor: Farzaneh Tabnak, PhD, MS
Chief, Surveillance and Statistics Section of Infectious Diseases Branch
California Department of Public Health

Secondary Mentor: Duc Vugia, MD, MPH
Chief, Infectious Diseases Branch
California Department of Public Health