Infectious Diseases-Quarantine, Infectious Diseases-HAI

Los Angeles County/ Centers for Disease Control and Prevention, Department of Public Health/ Los Angeles Quarantine Station

Los Angeles, California

Assignment Description

The fellow will spend approximately 80% of their time within the Healthcare Outreach Unit (HOU) of Los Angeles County Department of Public Health Acute Communicable Disease Control (ACDC) Program. They will report directly to the Associate Director of ACDC (also acting Director of the HOU). The fellow will perform job duties similar to an entry-level epidemiologist and receive substantial support from mentors in honing their applied epidemiology skills.

The goals of the HOU are to reduce healthcare-associated infections (HAIs) and contain multi-drug resistant organisms (MDROs) through a variety of strategies, including: HAI and MDRO surveillance and analysis of data; educating healthcare providers and public on HAI and MDRO prevention; detect and contain MDROs; improve infection prevention across the healthcare continuum; conduct studies on the epidemiology of HAIs; and coordinate with external partners and healthcare providers to implement evidence-based strategies to reduce the burden of HAIs and MDROs.

The fellow will spend approximately 20% of their fellowship time dedicated to the LA Q Station with a sole focus of epidemiology project completion (i.e. no operational or on-call assignments for the Q Station). Additional opportunities include participation as a member of various federal, state and local organizations in the control and containment of conveyance-related communicable diseases.

Day-to-Day Activities

Day-to-day activities include performing surveillance of healthcare-associated infections and other communicable diseases; providing epidemiologic support during outbreak investigations; conducting outreach to local healthcare settings and partners; conducting epidemiologic analyses using HAI/communicable disease data for intervention; prepare written reports and manuscripts; participate in HOU and ACDC meetings; participate in infection control assessments in healthcare settings.; develop an understanding of antimicrobial resistance and stewardship and HAI prevention strategies; will take on 1-2 long-term project(s) for LA Q Station with an anticipated attendance one day per week at its LAX, International Terminal office.

Ultimately, the goals of the fellowship training are to enhance the fellow’s epidemiologic skills and provide in-depth public health mentorship.
Potential Projects

Surveillance Activity  Legionellosis Surveillance Enhancement and Risk Factor Analysis

Legionellosis is a bacterial infection transmitted through contact with contaminated water. Many of the legionellosis cases seen in Los Angeles County are associated with healthcare exposures. The fellow would work to enhance the current legionellosis surveillance system to better characterize healthcare-associated infections, identify potential risk factors, and build spatial-temporal cluster detection of healthcare-associated and community cases.

Surveillance Evaluation  Evaluation of Maritime Influenza-like Illness Outbreak Threshold

This project aims to quantify the described maritime cumulative ILI reporting procedure through descriptive epidemiology and analysis of the public health usefulness of the ILI threshold of 1.38 cases/1000 passenger-days. Examining the threshold will present an opportunity to reduce reporting burden on ships’ medical staff and, in so doing, perhaps increase ship participation in this voluntary reporting system. In addition to decreasing burden, there is potential to increase the value of any subsequent public health interventions/recommendations by having a more concise measurement of ILI prevalence and incidence.

Major Project  Establishment of Dialysis Surveillance

LAC DPH plans to expand our existing use of the National Healthcare Safety Network by acute care and long-term care facilities to build a healthcare-associated infection and adverse event surveillance system specific to dialysis centers in the County. The fellow would coordinate with external partners, including dialysis facilities and networks, to determine variables and outcomes to collect, and conduct the first county-wide HAI surveillance system for dialysis centers.

Additional Project  Leading and/or Supporting Outbreak Investigations

The unit within Los Angeles County is involved in over 100 healthcare-associated outbreaks annually, for which full epidemiologic investigations are often required. Past fellows have supported and sometimes led large, multi-jurisdictional outbreaks of novel and emerging pathogens. HAI outbreaks occur in a variety of settings, including hospitals, long term care, outpatient surgery, optometry, acupuncture, and dental clinics. Past examples include Conjunctivitis in an Optometry Clinic and Prosthetic Joint Infections among Hip and Knee Arthroplasty Patients in a Single Hospital.

Additional Project  HBAT Emergency Release by Los Angeles Quarantine Station

This project involves the analysis of the variables related to the emergency release of botulism anti-toxin to local hospitals with a goal of making future data-driven decisions to improve this operational process for both patients and public health partners. Variables to be examined include: 1) timing (i.e. time drug requested/report date & time, time drug shipped from QS/delivery notification, time of drug arrival at hospital/receipt confirmation), 2) HBAT utility/drug outcome (i.e. given to case-patient vs. not given), 3) final diagnosis of case-patient/patient outcome (botulism vs. not botulism), 4) transport mode (i.e. air, highway patrol, hospital courier, etc.), and 5) distance of final destination from Quarantine Station.
**Preparedness Role**

The fellow will be expected to respond to acute and emergent problems related to infectious disease epidemiology, including emergency response activities related to naturally occurring and intentional events which have actual or potential impact on morbidity/mortality. Potential roles include outbreak and pandemic response, response to natural disasters (e.g. wildfires, earthquakes), and bioterrorism preparedness and response.

**Additional Activities**

Developing a visual analytics platform for HAI data; identifying HAIs associated with alternative and homeopathic medicine

**Mentors**

**Primary**
Dawn Terashita MD, MPH
Associate Director, Acute Communicable Disease Control Program

**Secondary**
Kara Tardivel MD
Quarantine Medical Officer