

Infectious Diseases- Healthcare Associated Infections (HAI)

Assignment Description

The fellow will be assigned to the Bureau of Epidemiology and Disease Control (EDC) under the supervision of an Infectious Disease Program Manager and the State Epidemiologist. The fellow will work primarily in the Healthcare-Associated Infections (HAI) Program with activities related to HAI outbreak/exposure investigations, data analysis using data from the National Healthcare Safety Network, and coordination of projects for the state's HAI Advisory Committee. Due to the multidisciplinary nature of the Bureau, the fellow will have the opportunity to work across multiple areas including foodborne disease, vaccine-preventable disease, vector-borne disease, HIV/STD, tuberculosis, immunizations, and environmental health. The fellow will also be required to closely collaborate with local health department community health nurses and epidemiologists, as well as representatives from federal agencies.

Day-to-Day Activities

Anticipated day to day activities for the fellow will include:

- Monitoring disease reports to identify outbreaks and risk factors for infection;
- Assisting with outbreak and exposure investigations, primarily related to healthcare-associated infections (HAI), by participating in study design, data collection, data analysis, and intervention recommendations;
- Evaluating and gathering information and data in support of HAI Advisory and Subcommittee activities;
- Producing surveillance reports based on National Healthcare Safety Network (NHSN) data;
- Responding to inquiries from the public and health care providers in Arizona;
- Communicating and coordinating with counties, tribes, other states, CDC, IHS, FDA and USDA as well as with the Office of Border Health with cross border disease investigations;
- Coordinating with the local health departments, State Laboratory and CDC to track specimens, follow up with results, notify providers, and arrange for further testing of specimens/isolates;
- Utilizing the incident command structure during public health emergencies including widespread infectious disease outbreaks.

Potential Projects

- The fellow could conduct an assessment of influenza vaccination coverage in outpatient pediatric facilities. In tandem, the fellow could evaluate knowledge, attitudes, and practices related to annual influenza vaccination in these settings in order to make recommendations for improvements to coverage levels in future years. The fellow will partner with the state HAI Coordinator and the Arizona Immunization Program Office in this endeavor and can utilize the state's roster of Vaccines for Children providers as a target population.

- The fellow could evaluate changes to NHSN data in light of definitional changes occurring in 2014 by conducting analysis of possible increases or decreases in facility reporting and conducting validation among those facilities with significant changes in number of reports.
- The fellow could create a standard report for data displayed on Hospital Compare in order to provide a publically accessible and easily understandable picture of HAIs in Arizona healthcare facilities.
- The fellow could collaborate with the Arizona State Public Health Laboratory, which conducts testing for carbapenem-resistant Enterobacteriaceae (CRE), in order to provide an epidemiologic profile of CRE in Arizona.
- The fellow could work with the Subcommittee on Antimicrobial Stewardship, a subset of the state's HAI Advisory Committee, to complete an antimicrobial stewardship toolkit for Arizona healthcare facilities.
- The fellow could work with the ADHS Refugee Health Coordinator to target prevention and education efforts for refugees in the state. This could be improved by conducting matches between refugee arrival data and ADHS databases including the Hospital Discharge Database and infectious disease surveillance registries to better characterize the health of various refugee populations in Arizona.

Surveillance System Evaluation:

There are several existing surveillance systems used by the Arizona Department of Health Services, which can be used by the CSTE fellow to complete the surveillance system evaluation component.

Healthcare-Associated Infections:

While Arizona does not require public reporting of HAIs, Arizona has a signed data use agreement in place with CDC allowing ADHS access to NHSN data for selected conditions and facility types. The validation of these data will be necessary to establish a reliable statewide picture of HAI activity in Arizona. Numerous technical assistance and validation efforts have been underway for inpatient hospitals; however, dialysis facilities have less available support. ADHS has also recently entered into a robust partnership with dialysis facilities, kicking off a Dialysis Working Group as a subset of the state's HAI Advisory Committee. The fellow could validate dialysis data to ensure that cases reported meet NHSN criteria for infection, that case information is complete, and that all reviewed cases meeting NHSN criteria for infection are actually reported. Validation of denominator data could also be incorporated into the evaluation, with the fellow assessing consistency in methods for collecting these data. Participants in the Dialysis Working Group could be targeted as facilities for validation.

ASIIS:

Arizona has a robust, long-standing immunization registry, ASIIS, which requires healthcare providers to report all childhood immunization records. The registry is a valuable tool for determining the vaccine status of vaccine-preventable disease cases and has been used to evaluate community vaccination programs and uptake of new vaccines. However, a validation of ASIIS is essential to support the accuracy of data used in these vaccine evaluations. A validation would include a review of the timeliness

of immunization reports, as well as a review of the representativeness of data by type of vaccine (DTaP, MMR, etc) and provider type (pediatrician, family practice, etc).

Preparedness Role

The fellow will be implemented into the state's incident command structure during public health emergencies, including widespread infectious disease outbreaks. During emergency responses, EDC staff are typically an integral part of the Operations Section. The fellow may also have the opportunity to assist with development of the public health response task force as part of the state's emergency response plan.

Assignment Location: Arizona Department of Health Services
Phoenix, AZ

Primary Mentor: Joli Weiss, PhD, MS
Epidemiology Program Manager

Secondary Mentor: Kenneth Komatsu, MPH
State Epidemiologist