Infectious Diseases – Healthcare Associated Infections

Arizona Department of Health Services, Bureau of Epidemiology & Disease Control Services
Phoenix, AZ

Assignment Description

The Fellow will be assigned to the Office of Infectious Disease Services (OIDS) in the Bureau of Epidemiology and Disease Control (EDC), under the supervision of an Infectious Disease Program Manager, a senior epidemiologist and the State Epidemiologist. The Fellow will work primarily in the Healthcare-Associated Infections (HAI) Program with activities related to HAI outbreak/exposure investigations; analysis of National Healthcare Safety Network data and surveillance data for invasive infections; and coordination of projects for the state’s HAI Advisory Committee; and will serve as a liaison on HAI-related program activities to the Bureau of Public Health Emergency Preparedness.

Arizona has a strong HAI Advisory Committee, with five active subcommittees, representation from many agencies around the state, and activities encompassing acute care hospitals, skilled nursing facilities, ambulatory surgical centers, hemodialysis centers, and various outpatient facilities. The Arizona Department of Health Services (ADHS) HAI Program plays a strong leadership role in the Advisory Committee. The Fellow will work closely on many of the Committee’s projects, providing the Fellow with opportunities to interact with other leaders in the state’s HAI community, help develop priority materials and outreach activities, and work on a variety of HAI and infection prevention issues across the healthcare spectrum.

The Fellow will also have an opportunity to interact with a number of experienced mentors in OIDS and EDC, and will be part of a large group of epidemiologists who work closely together. OIDS houses almost 20 epidemiologists working on various infectious disease issues, including foodborne, vaccine-preventable, and vector-borne diseases, and analysis and informatics. Also, due to the multidisciplinary nature of the Bureau, the Fellow will have the opportunity to work across additional areas including, healthcare facility licensing, HIV/STD, tuberculosis, immunizations, and environmental health. The Fellow will also closely collaborate with local health department staff, as well as representatives from multiple federal agencies.

Day-to-day Activities

The Fellow’s day-to-day activities will include active participation as a team member within the HAI Program and OIDS. The Fellow will benefit from support from EDC mentors and staff while working on projects and investigations related to the safety and public health concerns in Arizona. These activities will include, but are not limited to:

- 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 data and information in support of HAI Advisory Committee and Subcommittee activities;
- Producing surveillance reports based on data from National Healthcare Safety Network (NHSN), Hospital Compare, and laboratory-reported data for invasive infections;
- Responding to inquiries from the public and health care providers in Arizona;
- Communicating with and participating in Bureau of Public Health Emergency Preparedness HAI-related activities;
Developing and implementing response and prevention activities aimed at reducing transmission of pathogens in the population overall;

Communicating and coordinating with various partners (Arizona State Public Health Laboratory, local health departments, tribes, other states, CDC, IHS, FDA and USDA); and

Utilizing the incident command structure during public health emergencies, including widespread infectious disease outbreaks.

Primary responsibilities of the Fellow will depend on chosen projects and current HAI public health needs within the state. The Fellow will participate in weekly OIDS staff meetings, monthly state laboratory and epidemiology meetings, routine calls with local health department partners, HAI Subcommittee meetings (covering areas such as end-stage renal disease (ESRD), long-term care, training and education, surveillance, and antimicrobial stewardship), and quarterly HAI Advisory Committee meetings. The Fellow will have an opportunity to help plan and participate in the annual Arizona Department of Health Services Infectious Disease Training & Exercise, Long-Term Care Infection Prevention and Control Collaborative, and Arizona Developing Value through Innovation and Communication with ESRD providers (ADVICE) Collaborative.

Potential Projects

Surveillance Validation of NHSN data Evaluation

While Arizona does not require public reporting of HAIs, Arizona has a signed data use agreement with CDC allowing ADHS access to National Healthcare Safety Network (NHSN) data for selected conditions and facility types (http://www.azdhs.gov/phs/oids/hai/surveillance/data-use-agreement.htm). 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 and long-term care have less available support. The Fellow could assist in the development of self-validation methods, not only for acute care facility data, but also for data from dialysis centers or other settings 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 healthcare facilities’ self-evaluation, with the Fellow assessing consistency in methods for collecting these data. The Fellow could also support continuing NHSN educational and training efforts among Arizona’s long-term care and ambulatory surgical centers; this could be accomplished by working with Arizona’s established HAI Surveillance Subcommittee.

Surveillance Disease Surveillance for Invasive Organisms Activity

The Fellow will assist in surveillance of invasive diseases (Group A and B Streptococcus; methicillin-resistant and vancomycin-intermediate or -resistant Staphylococcus aureus) to monitor disease trends and detect outbreaks. This will be accomplished by working with data from the Medical Electronic Disease Surveillance Intelligence System (MEDSIS), a secure web-based, centralized, person-based disease surveillance system supported by ADHS. The Fellow will also support county health departments with case investigations and work with the HAI Program to provide infectious disease subject matter expertise and guidance, as needed.
Major Project  Healthcare Facility Preparedness and Response

ADHS will assess qualified personnel in healthcare facilities for preparedness and response to infectious disease outbreaks in healthcare settings through on-site assessments, observations, and relevant training completed through collaboration between the ADHS HAI Program and the Division of Licensing. The two designated Ebola treatment and assessment centers will be the first to complete the Infectious Disease Certification Program, which may later be expanded to additional facilities. The data collected through on-site infection control assessments will be analyzed to determine gaps in infection control readiness. The Fellow will assist in the development and execution of a three tiered assessment protocol; develop a database to track identified gaps, analyze data, and planned interventions; develop tools to help healthcare facilities meet Infectious Disease Certification Program criteria; assist and provide technical guidance to healthcare facilities during the implementation of developed tools; and assist facilities through the process of addressing and mitigating identified gaps.

Additional Project  Current Infection Control Inventory of Healthcare Facilities in Arizona

The Fellow will assist in creating an inventory of basic data about infection control activities of healthcare facilities in Arizona, including acute care, non-acute care, and ambulatory facilities. This inventory will include a facility’s infection control point of contact, available HAI-related data, and current regulatory/licensing oversight authorities. The Fellow will contact and survey the identified facilities in Arizona, and develop and maintain a database of the surveyed healthcare facilities.

Additional Project  Outbreak Investigation and Response

As needed, the Fellow will participate in HAI-related outbreak investigations. The Fellow will initially serve in a support capacity, but after gaining experience may lead an investigation later in their Fellowship. This will allow for hands on experience; activities may include designing questionnaires, performing interviews, analyzing data, developing outreach materials and presentations. Additionally, the Fellow may have many opportunities to become involved in other communicable disease investigations including foodborne and respiratory outbreaks. We also encourage writing of peer-reviewed manuscripts, as appropriate.

Preparedness Role

The Fellow will be a Bureau of Public Health Emergency Preparedness HAI-related activities liaison. This role will assist in the communication between the Office of Infectious Disease Services and Public Health Emergency Preparedness to ensure all planned activities are in coordinated with Arizona’s targeted improvements, grant activities, and public health outcomes. The Fellow will also be included 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 will have an opportunity to participate in emergency preparedness exercises and drills, developing emergency response plans, creating educational resources and materials for biological, chemical and radiological emergencies, and responding to public health emergencies. 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.
Additional Activities

The Fellow will review and promote HAI Program’s identified areas of priority for Arizona:
- Infection prevention and control
- Injection safety
- Drug diversion
- Pharmacy and compounding
- Antimicrobial stewardship, use, and resistance
- Healthcare worker vaccination

Mentors

Primary
Joli Weiss, PhD, MS
Epidemiology Program Manager

Secondary
Eugene Livar, MD
Healthcare-Associated Infections Program Manager
Laura Erhart, MPH
Senior Surveillance Epidemiologist
Kenneth Komatsu, MPH
State Epidemiologist
Lisa Villarroel, MD, MPH
Medical Director