

Infectious Disease-HAI

The assignment for this Applied Epidemiology Fellow is in the Bureau of Healthcare Associated Infections which is within the Division of Epidemiology, New York State Department of Health (NYSDOH). The Division of Epidemiology is responsible for surveillance and control of infectious diseases in New York State. The Division includes six bureaus: Sexually Transmitted Disease Control, Tuberculosis Control, HIV/AIDS Epidemiology, Immunization, Communicable Disease Control, and the Bureau of Healthcare Associated Infections (BHAH). The Division is directed by the State Epidemiologist, Perry F. Smith, MD.

The BHAH is directed by Rachel Stricof, MT, MPH, CIC, and includes two programs:

1. The Hospital Acquired Infection Reporting Program (HAIRP) oversees mandatory reporting by hospitals of selected procedure-related infections using the National Healthcare Safety Network (NHSN).
2. The Healthcare Epidemiology and Infection Control Program (HEICP) investigates outbreaks of healthcare associated infections and facility-associated communicable disease acquisition.

Both programs provide technical consultation and assistance on infection prevention and control issues to healthcare facilities, county health departments, other state agencies, and throughout the NYSDOH.

It is proposed that this Fellowship will focus on HAI surveillance, prevention and control. There are numerous opportunities for the interested Fellow to experience hands-on epidemiologic field investigation and outbreak control as well as large dataset analysis on a variety of HAI-related topics. The Fellow will have substantial input in determining the projects he or she pursues.

The NYSDOH regulates approximately 240 hospitals and 770 nursing homes statewide. Each facility is required by NYS Sanitary Code to maintain an infection control program and to report any single case of a reportable condition or any increase incidence of infection over baseline rates. The HEICP is responsible for receiving the reports, approximately 1,000 annually, and consulting with the facility to ensure proper response for cessation of transmission, surveillance to monitor for and prevention of future incidents. Investigations in which Fellows might become involved include legionellosis, invasive Group A Streptococcus infection, Clostridium difficile infections, and transmission of multidrug-resistant organisms in a hospital, nursing home, or ambulatory surgery setting. These efforts involve work in the field and in the office to conduct testing and epidemiologic studies.

Additionally, the NYSDOH regulates approximately 230 dialysis centers and 90 ambulatory surgery centers statewide, where Fellows would have the opportunity to conduct field investigations of outbreaks. Recent experiences have included transmission of hepatitis C virus and assessment for infusion products contaminated with bacteria. Outbreak investigations, development of guidelines and studies may also occur in office-based surgery and other non-regulated healthcare settings.

Potential CSTE fellow projects

Healthcare Epidemiology

- Leading and supporting investigations of nosocomial outbreaks in healthcare facilities. Recent investigations have included:
 - HCV transmission in dialysis centers
 - Legionellosis in hospitals and nursing homes
 - Invasive Group A Streptococcus in nursing homes
 - Respiratory syncycial virus (RSV) in neonatal intensive care units (NICUs)
 - Parainfluenza virus and adenovirus in Pediatric Nursing Homes
 - MRSA in hospitals, NICUs and labor & delivery/newborn units
 - Severe *C. difficile* disease in hospitals and nursing homes
 - *Acinetobacter* infections in intensive care units (ICUs)
 - Vancomycin-intermediate *S. aureus* (VISA) in hospitals and nursing homes
- Leading and supporting investigations of healthcare-related disease transmission in non-regulated settings. Recent investigations have included:
 - HBV transmission in an assisted living facility
 - HCV transmission in pain clinics
 - HCV transmission in cardiology clinics
 - Assessment of infection control breaches in a variety of healthcare settings
- Analyzing existing and compiled databases of case and outbreak reports, including:
 - Multidrug-resistant organisms (e.g., MRSA, *Acinetobacter* spp., Extended spectrum beta lactamase-producing bacteria) in healthcare facilities
 - Viral gastrointestinal outbreaks
 - Influenza and respiratory outbreaks
- Supporting and leading development and updating of guidelines and training, including:
 - Mandatory bloodborne pathogen training – update of course content and developing web-based modular units
 - Diagnosis and management of VISA in hospitals and nursing homes
 - Guidelines for investigation and prevention of legionellosis in nursing homes
 - Diagnosis and management of *C. difficile* disease in hospitals and nursing homes

Hospital Acquired Infection Reporting

- Analyzing National Healthcare Surveillance Network data for selected conditions, including:
 - Colon surgical site infections
 - Coronary artery bypass graft surgical site infections
 - Central line associated blood stream infections in adult and pediatric ICUs
 - Central line associated blood stream infections in NICUs
 - Hip joint surgical site infections
- Participating in continued evaluation of NYSDOH-funded prevention projects. Current projects include:
 - Reduction of the incidence of central line-associated bloodstream infections in hospitals (all units including those outside the ICU setting)
 - Reduction of the incidence of central line infections in regional perinatal centers across the state, expanding to all NICUs statewide
 - Determination of the prevalence and incidence of multidrug-resistant organisms in public hospital ICUs

- o Reduction of the incidence of ventilator-associated pneumonia in ICUs
- o Reduction of the incidence of *C. difficile* infections in hospitals, expanding to include nursing homes
- o Description of the prevalence, incidence and transmission patterns of MRSA in select hospitals
- o Evaluation of the use of chlorhexadine bathing on the incidence of blood stream infections in ICUs

Typical day-to-day activities within BHAI (in which the Fellow could choose to participate:

- Consultation with field staff and local health department staff about healthcare associated outbreaks, infection control, and HAI reporting.
- Coordination of investigations between epidemiology, laboratory, and regulatory personnel.
- Weekly conference call with NYSDOH regional staff, all 57 NYS counties, and NYC to discuss events from the previous week.
- Development and dissemination of guidance documents relating to communicable disease control (e.g., disease advisories, public notifications).
- Evaluation of collaborative infection prevention projects throughout the state.

Assignment Location: Albany, NY

Primary Mentor: Joshua K. Schaffzin, MD, PhD

Director, Healthcare Epidemiology and Infection Control Program

PhD, University of Cincinnati College of Medicine (1999)

MD, University of Cincinnati College of Medicine (2002)

Secondary Mentor: Rachel L. Stricof, MT, MPH, CIC

Director, Bureau of Healthcare Associated Infections

Secondary Mentor: Carole L. Van Antwerpen, RN, MSN, CIC

Hospital Acquired Infection Reporting Program Manager