Infectious Diseases-HAI

New York State Department of Health, Bureau of Healthcare Associated Infections
Albany, New York

Assignment Description

The fellow will work as an epidemiologist in the Bureau of Healthcare Associated Infections. He or she will participate in and potentially lead investigations of healthcare-associated outbreaks with support and guidance from Bureau staff. Recent investigations have included Burkholderia cepacia contamination of IV flush syringes, infections with the emerging pathogen Candida auris, hepatitis B transmission in dialysis centers, legionellosis in hospitals and nursing homes, invasive group A streptococcal disease in nursing homes, viral respiratory infections in pediatric long term care facilities, and Clostridium difficile outbreaks in hospitals and nursing homes. The fellow will assist with the monitoring and triage of reports of healthcare-associated outbreaks submitted through the Bureau’s Nosocomial Outbreak Reporting Application (NORA).

The fellow may also assist with the development of internal guidance documents for healthcare-associated infections such as legionellosis and vancomycin-resistant Staphylococcus aureus. Depending on the fellow's interests, he or she may also choose to work with the Hospital-Acquired Infection Public Reporting Program or with other bureaus within the Division on joint investigations or projects.

Statistical support is available from the Bureau statistician. The office atmosphere is congenial, positive, and supportive. Albany is within daytrip range of the Catskills, Berkshires, Adirondacks, and New York City.

Day-to-Day Activities

The Fellow's anticipated day-to-day activities include work on long-term analytic projects and acute outbreak investigations. With the support of mentors and staff, the fellow will work as an epidemiologist alongside other Bureau personnel. The work will involve discussions with our regional field epidemiologists and facility infection control personnel to gather and analyze data and make prevention and control recommendations. There is the potential for field work, such as participating in site visits, depending on the interests of the fellow. The fellow will also participate in day-to-day Bureau activities such as weekly statewide epidemiology calls and monthly Division-wide surveillance meetings.

The fellow will be given ample time to complete projects that are required as part of the fellowship. He or she will have access to New York State's Dickerman library to perform literature reviews.
Potential Projects

Surveillance Activity
Surveillance of Legionnaires' disease in hospitals and nursing homes

After several large-scale outbreaks, Legionnaires' disease has attracted substantial attention in recent months and years in New York State. We are undertaking reviews of our surveillance process to improve timeliness and other aspects of the investigation. The fellow would participate in investigations to learn about the process, review reports using our electronic reporting system, assist with tracking, characterize the outbreaks, and use prospective quality improvement data to identify opportunities for improvement.

Surveillance Evaluation
Surveillance of multidrug resistant organisms

Several emerging multidrug resistant organisms (MDROs) are problematic in New York State (NYS). These include carbapenem-resistant Enterobacteriaceae (CRE), which is already endemic in parts of NYS, bacteria containing the resistance gene MCR-1, and the newly emerging invasive yeast Candida auris. None of these organisms are explicitly on the NYS reportable disease list at this time; rather, they are considered implicitly reportable as emerging/novel pathogens. The fellow will perform a surveillance evaluation of one or more of these organisms (or similar emerging pathogen of interest at the time the fellowship begins), clarify barriers to identification and electronic reporting, and develop recommendations.

Major Project
Analysis of National Healthcare Safety Network (NHSN) catheter-associated urinary tract infection (CAUTI) data

Catheter-associated urinary tract infections (CAUTIs) are a fairly new area of analysis for New York State. CAUTIs are not one of our mandated indicators, but NHSN data is available via a data use agreement with CDC. The fellow would analyze NHSN data to determine if there are outlying hospitals, if CAUTIs result in increased length of stay, and to estimate an attributable mortality. The fellow would then suggest targeted interventions. Depending on the fellow’s interests, NHSN data could be used to further characterize other types of hospital-acquired infections, such as surgical site infections.

Additional Project
Analysis of recommendations for control of group A Streptococcus in hospitals and nursing homes

New York State requires healthcare facilities to report cases of invasive group A streptococcal (GAS) disease that might have been acquired at the facilities. Although there are published guidelines that address some aspects of healthcare-associated GAS disease, available guidelines do not address common non-post-surgical, non-post-partum infections that are frequently reported from long term care facilities and hospitals. The fellow would review available data about these infections and outbreaks, participate in the investigative process, and assist with determination of appropriate recommendations for control of GAS outbreaks in hospitals and nursing homes.
Additional Project Analysis or recommendations for healthcare workers infected or colonized with Salmonella Typhi or Salmonella Paratyphi

New York State laws and regulations related to Salmonella disease are outdated and incomplete. This has resulted in inconsistencies in recommendations related to control of Salmonella disease, especially when the disease occurs in healthcare providers. The fellow would review the literature related to transmission of Salmonella disease, review current laws and regulations, recommend updates and changes, and assist with determination of appropriate recommendations for affected healthcare providers.

Preparedness Role
The fellow will be expected to participate in healthcare facility-related preparedness activities that occur during the fellowship. Additionally, the fellow may participate in more long-term preparedness activities, such as pandemic influenza planning and development of guidelines for facilities. The current CSTE fellow has been working with preparedness personnel on follow-up activities related to Ebola. Additionally, the fellow may have the opportunity to work with the Division's Public Health Emergency Epidemiology Program (PHEEP), which investigates illnesses caused by select agents and plans for the dispensing and tracking of medical countermeasures in the event of an emergency. There is an active local Medical Reserve Corps that provides additional opportunities for preparedness-related activities.

Additional Activities
Outbreak investigations: Outbreak investigations might include Clostridium difficile clusters, Legionnaires' disease in nursing homes, multidrug-resistant organisms (MDROs) in hospitals (especially carbapenem-resistant Enterobacteriaceae and bacteria containing the mcr-1 gene), Candida auris, and transmission of blood borne viruses in dialysis facilities. Occasional site visits are conducted.

Antimicrobial resistance: New York State has begun efforts to combat MDROs such as carbapenem-resistant Enterobacteriaceae and to improve and facilitate antimicrobial stewardship in hospitals. The fellow may work with dedicated Division staff to assist in these efforts or to develop new initiatives.

Mentors
Primary
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Secondary
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