Infectious Diseases - Healthcare Associated Infections

Virginia Department of Health, Office of Epidemiology/Division of Surveillance and Investigation
Richmond, VA

Assignment Description

The Fellow will become a member of the DSI team of epidemiologists. DSI is very focused on applied public health epidemiology, and some of the assignment will involve doing or supporting field epidemiology work through interacting with district health department epidemiologists. Some of the projects will be focused on surveillance, others will involve conducting investigations, and some projects will illustrate the complementary nature of surveillance and investigation activities. Nearly half of the outbreaks reported in the state occur in healthcare facilities including hospitals, long-term care facilities, and assisted living facilities, so there will be ample opportunity to support these investigations of respiratory or gastrointestinal illness, invasive infections, or bloodborne pathogens. Opportunities also exist to work on zoonotic or vaccine-preventable illnesses and to participate in emergency preparedness exercises and activities.

Day-to-Day Activities

The Fellow’s day-to-day activities will involve active participation as a team member within the Healthcare-Associated Infections (HAI) Program and the Division of Surveillance and Investigation (DSI). With support from VDH DSI staff, the Fellow will work on projects related to detecting, monitoring, and responding to communicable diseases of public health importance in Virginia. This may include collecting and analyzing epidemiologic data and reporting findings, working to improve surveillance systems or the use of existing systems, creating information for the public and healthcare providers and guidance for health departments, and giving presentations on public health topics. Outbreak investigations involve collecting information and designing and implementing an analytic approach to identify the source of the outbreak and developing recommendations to prevent further spread of disease. The Fellow will participate in weekly division staff meetings, where current outbreaks, investigations, and special projects are discussed, as well as monthly statewide epidemiology conference calls and semi-annual communicable disease training events.

Potential Projects

Surveillance Evaluation

Enhancing Influenza Surveillance

The Fellow will be responsible for evaluating the current systems for surveillance of influenza. There is significant stakeholder involvement and public interest in influenza surveillance. Laboratory, outbreak, and syndromic (visits for influenza-like illness from emergency departments and urgent care facilities) data are collected year-round to conduct flu surveillance. The evaluation would focus on reviewing the usefulness, timeliness, and specificity of the data in the surveillance system, including a focus on potential improvements surrounding sentinel influenza surveillance and management of laboratory reports in the Virginia Electronic Disease Surveillance System (VEDSS).
Surveillance Activity

The Fellow will be responsible for analyzing state-mandated central line-associated bloodstream infections (CLABSI) data from adult intensive care units in hospitals, as well as any additional HAI measures that may be mandated by legislation, gathered through the National Healthcare Safety Network (NHSN).

The Fellow will evaluate teaching status, bedsize, and patient locations among facilities reporting to NHSN. Healthcare-associated outbreak data reported to VDH by facilities will also be analyzed by the CSTE Fellow.

Major Project Revising Virginia’s HAI State Reports

The Fellow will be responsible for editing Virginia’s public reports of HAI data to adopt the standards outlined by the CSTE/CDC Data Analysis and Presentation Standardization Toolkit, including analyzing and interpreting data, disseminating information in separate reports tailored to consumer and technical audiences, and evaluating stakeholder opinion of the revised reports.

Major Project Antimicrobial Stewardship

The Fellow will be responsible for enhancing antimicrobial stewardship efforts in the state by conducting an assessment of hospital stewardship programs and working with VDH HAI program partners to develop trainings and resources to address identified gaps.

Additional Project Developing Resources for Health Departments, Long-Term Care Facilities, and Hospitals

The Fellow will be involved with creating reference documents for local health department staff, long-term care facilities and hospitals addressing HAI issues such as Clostridium difficile, vancomycin-intermediate/resistant Staphylococcus aureus, carbapenem-resistant Enterobacteriaceae, and other multidrug-resistant organisms.

Special attention will be paid to identify the infection prevention educational needs of critical access hospitals and small acute care hospitals to ensure that those facilities have the necessary resources to identify and prevent healthcare-associated infections.

Preparedness Role

The Office of Epidemiology plays a prominent role in emergency preparedness and response activities. Staff work closely with the VDH Office of Emergency Preparedness to conduct a wide range of activities, which the Fellow will have an opportunity to participate in, including: emergency preparedness exercises and drills, developing emergency response plans, creating educational resources and materials (e.g., fact sheets and provider guidance) for biological, chemical and radiological emergencies, and responding to public health emergencies. The Fellow may also choose to join a local chapter of the Medical Reserve Corps, which will provide for additional exposure to emergency preparedness trainings and exercises.
**Additional Activities**

The DSI HAI Fellow would also be able to work on a variety of interdisciplinary teams that include: participation in the Virginia HAI Advisory Committee, a group that includes the state hospital association, quality improvement association, infection preventionists, healthcare consumers, administrators, hospital epidemiologists, and providers across the continuum of healthcare; partnership with VHQC, a regional quality improvement network-quality improvement organization, on infection prevention initiatives in hospital and long-term care settings; and working with the state chapter of the Association for Professionals in Infection Control and Epidemiology (APIC-VA) to review training needs and coordinate implementation of educational initiatives via webinar, conference call, or in-person meeting for hospitals or long-term care facilities.

Other activities that the Fellow may participate in include: participating in discussion and development of future Virginia HAI regulations and policies; providing technical assistance and training to NHSN users in healthcare facilities, and developing a website for methicillin-resistant Staphylococcus aureus in community settings.

Opportunities will also exist for the Fellow to work on projects with other divisions within the Office of Epidemiology. Within the Division of Environmental Epidemiology (DEE) there are opportunities to work with staff on the surveillance and investigation of zoonotic diseases, including rabies and vector-borne diseases (e.g., West Nile virus). In addition, there are opportunities to work with the Division of Immunization on vaccine-preventable diseases, such as pertussis, measles, and varicella. Such opportunities will provide the Fellow with extensive practical experience and skills, a good understanding of the roles and responsibilities of state and local health departments, and access to significant projects related to the Fellow’s interests and career goals.

Overall, it is expected that the Fellow will acquire a range of practical public health skills and experiences useful in a wide variety of career paths. These activities may also lead to presentations, conference abstracts, and/or peer-reviewed publications. We expect that the Fellow will have the time and autonomy to develop projects of interest, while participation in the Office of Epidemiology’s many activities will provide opportunities to acquire a broad range of skills and experiences.

**Mentors**

**Primary**

Mary Tipple, MD  
Medical Epidemiologist

**Secondary**

Andrea Alvarez, MPH  
HAI/Influenza Program Coordinator