

Infectious Disease

Assignment Description:

The Florida Bureau of Epidemiology (BOE) provides epidemiologic guidance, consultation, technical and field assistance, and training to county health departments, who conduct surveillance for reportable diseases and investigate outbreaks of infectious and other acute diseases. We manage the state's reportable disease surveillance information system (Merlin) and our secure, threaded, moderated web-based system for sharing urgent epidemiologic information (EpiCom), and the state syndromic surveillance system (ESSENCE). We lead the development of policy for disease prevention and control. We conduct special studies to better understand causes and prevention of disease, and are very active in the FDOH's public health preparedness planning and response efforts. Our statewide ESSENCE system is a national leader in incorporating other kinds of data, including poison center consultations, hospitalizations, and reportable disease case data.

Florida (population 18 million) has 67 County Health Departments, one for each county, which are branches of the state Department of Health. Populations served range from less than 10,000 to 2.4 million, and local epidemiologic sophistication has a similar range. As part of our support for county epidemiology staff, the Acute Disease Epidemiology Section has three existing Regional Consulting Epidemiologists, co-located with our major public health laboratory branches in Jacksonville, Tampa, and Miami. In addition we have a Surveillance Unit staffed with 5 MPH level epidemiologists and a fully staffed Surveillance Systems Unit that supports and enhances the technical infrastructure of the surveillance systems (mentioned above).

The CSTE fellow will be based in our Tallahassee office. The Fellow will: participate in Bureau-wide activities and meetings; participate in and lead conference calls with county epidemiologists; work with counties (from the office and in the field) on investigating outbreaks of infectious disease and instituting prevention and control measures; document outbreaks in this area using the National Outbreak Reporting System (NORS); actively use EpiCom as a means of communicating with Florida epidemiologists; conduct special studies; assist in the development of key policies for disease prevention and control and prepare reports, publications and communications.

Fellow's Anticipated Day-to-Day Activities:

On a daily basis the CSTE Fellow will interact with the Acute Disease Epidemiology Section staff, working most closely with the investigation field staff and the staff within the Surveillance Unit. The rhythm of our daily work may include meetings of small teams working on projects, unit and section staff meetings, meetings with IT staff developing enhancements of our information systems, telephone consultations with county health department epidemiology staff or clinicians, one-on-one meetings with the supervisor, attendance at required or skill-enhancement trainings, and quiet time for reading, data analysis and writing of reports and summaries. From time to time our central office staff also go in the field to assist County Health Department staff with high-profile outbreak investigations, studies or surveys, and to participate in structured quality improvement team visits to County Health

Departments. Recently Acute Disease Section Staff were deployed to Santa Rosa County to provide assistance and guidance leading a Pertussis outbreak. Other staff deployments in the last year have also included cluster investigations of the resistant group of enterobacteriaceae known as Klebsiella pneumoniae carbapenemase (KPC)-producing organisms, novel influenza H1N1 clusters, the largest national outbreak investigation to date of *Staphylococcus aureus* contaminated epidural injections in a pain management clinic, as well as a cluster investigation of endemically acquired dengue in Key West.

The CSTE Fellow will have their own projects they will be working on to complete the CSTE Fellowship competencies. These projects will require the Fellow to have some autonomy as they work on the projects but will also require them to convene work groups of state and county level epidemiologists. In addition, the Fellow will serve as a state case reviewer for several diseases of public health importance. In this role, the Fellow will serve as a resource for county health department staff on key issues like interpreting the surveillance case definition, appropriate laboratory diagnostics, and case and cluster investigations.

Potential Projects:

The Fellow will conduct a surveillance evaluation project on our current process for Outbreak Surveillance, which relies primarily on EpiCom to capture key data elements on all significant outbreaks investigated by local and state epidemiology staff. The Fellow will also help design and implement improvements to the current system. This project will rely on both the CDC Surveillance Evaluation Guidelines and the CDC Framework for Evaluation of Surveillance Systems for Outbreak Detection. The Fellow will produce draft guidance for the county health departments as to what types of outbreaks will be required to be reported to the state office, what data will need to be reported about each of the outbreaks and how the data will be described and reported. As a second step the Fellow will work to develop a process for how the data will then be transferred to the National Outbreak Reporting System (NORS).

The Fellow will also investigate outbreaks of public health significance with our environmental health and veterinary public health epidemiology colleagues, and learn and apply principles of public health informatics in collecting, managing, analyzing, and transmitting data.

The Fellow will have access to a wide variety of Florida data sources to explore the burden of infectious disease, laboratory and diagnostic implications, the risk factors for disease, and efficacy of prevention and control measures. One proposed project would be to analyze the Florida BRFSS (with a triennial county-level survey sample size of about 35,000) for variables related to infectious disease, such as non-receipt of influenza, pneumococcal or hepatitis B vaccine, health-care-worker status, HIV risk, recent GI illness and culture for same, and antibiotic resistance awareness. These data have not been thoroughly explored at a state or county level, and could help in discovering and understanding geographical patterns in disease incidence. The relationship within the BRFSS data of infectious disease risk factors to insurance coverage and to health-related quality of life also could usefully be explored.

Role of the Fellow in Emergency Preparedness:

The Fellow will have the opportunity to participate in public health and medical (ESF-8) preparedness and response activities. The Fellow can assist in the development and delivery of discipline-specific training for regional multi-county Epidemiology Strike Teams, who need to be able to execute high-quality epidemiologic work within an Incident Command Structure environment. The Fellow will have the opportunity to participate in training programs and field exercises offered to Epidemiology Strike Team Members.

The Fellow will be activated and deployed for emergency responses (e.g. to hurricanes) along with other central office epidemiology staff members, and have the opportunity to work on surveillance and disease control activities after natural disasters, to assist with population-based post-hurricane surveys, and to investigate acute health problems arising in a natural disaster context. Florida hurricane season extends from June 1 through Nov 30 and there is no shortage of field epidemiology experience that can be gained in Florida in the field of preparedness and response.

The Fellow will have the opportunity to work closely with County Health Departments, State Public Health Laboratories, and the Centers for Disease Control and Prevention on matters regarding public health priority diseases. Coordination with legal counsel, law enforcement, ethicists, and other partners may also be necessary in the case of some public health emergencies.

Assignment Location: Tallahassee, FL

Primary Mentor: Richard Hopkins, MD, MSPH
Medical Epidemiologist
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Secondary Mentor: Janet Hamilton, MPH
Communicable Disease Surveillance and Reporting Unit
Administrator
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