

Infectious Disease

The Tennessee Department of Health is located in Nashville and provides public health services to 6.1 million Tennessee residents. The fellow will be assigned to the Communicable and Environmental Disease Services (CEDS) section of the Tennessee Department of Health (TDH).

CEDS collects and analyzes surveillance information for all general communicable diseases, including vaccine-preventable diseases, sexually transmissible diseases (STD), HIV/AIDS, tuberculosis, zoonotic, vectorborne and foodborne diseases as well as methicillin-resistant *Staphylococcus aureus* (MRSA) and severe *Clostridium difficile* infections. The immunization, hospital infections, public health preparedness, HIV and STD programs are also located within CEDS. CEDS provides guidance to local and regional health departments and health care facilities statewide regarding routine investigations of reportable communicable infectious diseases, emerging infectious diseases, outbreaks as well as public health emergencies, including bioterrorism. CEDS has 140 staff members composed of physicians (infectious diseases, preventive medicine, obstetrics and family practice), veterinarians, epidemiologists, nurses, a public health educator, an entomologist and information technology staff who are available for consultation and/or collaboration. Strong infectious disease, epidemiologic and laboratory support are available at the state and two nearby medical schools. CEDS also is an active participant in CDC's the Emerging Infections Program (EIP). Components of EIP include FoodNet, ABCs, Unexplained Encephalitis and Influenza/Respiratory diseases. As an Emerging Infections Program (EIP) state, there are numerous opportunities for projects including the analysis of multistate data. CEDS also has an exceptionally close relationship with Vanderbilt University. A collegial relationship with infectious disease fellows and faculty makes for a stimulating professional and social experience, as well as frequent collaboration. The partnership involves frequent meetings with the Chairman of the Department of Preventive Medicine as well as access to weekly clinical and research conferences and libraries. Strengths of assignment: Ask anyone! Tennessee has always regarded the EIS assignment, and more recently the CSTE fellowship assignment as a 2-year fellowship in field epidemiology. The fellow's professional development is our primary goal. The fellow will finish his/her stay in Tennessee with an excellent working knowledge of practical epidemiology and public health practice. Our current CSTE fellow, Kimberly Glenn has been extremely productive—her work has been presented at multiple national and regional conferences and already has had an impact on national policy.

Activities

The Fellow will have substantial input in determining the projects they pursue. The fellow's daily activities would comprise work on long-term analytic projects (listed below) and acute outbreak investigations. Other routine activities would include:

- Participation in weekly surveillance meetings with CEDS staff where current outbreaks and investigations are discussed.
- Participation in weekly epidemiology meetings with senior CEDS epidemiologists, Dr. Bill Schaffner (Vanderbilt University) and EIS officer. These meetings generally consist of more academic discussions regarding epidemiology methodologies such as study design, analyses.

- The CSTE fellow will have the opportunity to present at local and statewide conferences of interest.
- Participation in regional epidemiology meetings which feature presentations from epidemiologists and other public health staff throughout Tennessee. Topics include recent investigations in infectious diseases and environmental health.
- Participation in periodic APIC (Association for Professionals in Infection Control) meetings. There are four APIC chapters in Tennessee and the Hospital Infections Program has a very close working relationship with all of the APIC chapters and members.
- After hours on-call beeper (every 12 weeks). Back-up support (State epidemiologist or acting State epidemiologist) will be available.

Potential projects, opportunities for data analyses, outbreak field investigations and opportunities to work on interdisciplinary teams:

- Analysis of FoodNet and other Tennessee morbidity data on the basis of QALYs
- Analysis of large statewide HIV and STD databases
- Analysis of Tennessee enteric pathogen antimicrobial susceptibility testing data
- Analysis of the risk factors for acute hepatitis B and hepatitis C using the NEDSS Base System (complex relational database)
- Analysis of the central line associated blood stream infections data gathered through the National Healthcare Safety Network (NHSN) as part of the new legislation mandating reporting of hospital acquired infections
- Analysis of cases of severe *Clostridium difficile* associated disease reported to the Tennessee Department of Health
- Implement WHONET in sentinel hospitals and develop antibiograms for *Staphylococcus aureus* isolated from skin and soft tissue.
- Outbreak field investigation: There are a plethora of opportunities to investigate a wide variety of outbreaks (in the community or healthcare associated) as the lead epidemiologist, with close supervision and support.

Program or surveillance system evaluation:

The CSTE fellow has the opportunity to do program evaluations on existing programs such as (1) the tuberculosis program in Memphis, (2) the quality improvement program of the Vaccines For Children (VFC) program, (3) rabies control program, or to lay the framework for the evaluation of new programs

such as (4) mandatory public reporting of hospital acquired infections, (5) interventions to decrease community-associated methicillin-resistant *Staphylococcus aureus* (CA-MRSA), (6) interventions to reduce antimicrobial resistant infections in healthcare settings, (7) interventions to decrease central line associated blood stream infections, (8) major multifaceted personal/hand-hygiene campaign, (9) implementation of new rules requiring healthcare workers to be vaccinated against influenza or sign a declination statement.

Other projects may include an evaluation of new surveillance systems such as 1) severe *Clostridium difficile* associated disease; 2) mandatory public reporting of hospital-acquired infections: a) central line associated blood stream infection component or b) surgical site infection (SSI) following coronary artery bypass graft surgery (CABG)

Role of Fellow in State Emergency Preparedness Plan-

In the event of a public health emergency, the fellow would be part of the CEDS response team. The Fellow would serve in either the epidemiologic/surveillance or data-management sub-teams.

Assignment Location: Nashville, TN

Primary Mentor: Marion Kainer, MD, MPH

Director, Hospital Infections Program

Director, Antimicrobial Resistance Program

Advanced Degrees: MPH, Monash University, Melbourne, Australia (1999)

M.B. B.S. (Australian equivalent to MD) University of Melbourne (1989)

Secondary Mentor: Tim Jones, MD

State Epidemiologist, Tennessee

Advanced Degrees: MD, Stanford University (1990)