

Infectious Disease

The California Department of Public Health (CDPH) Tuberculosis Control Branch (TBCB) collaborates with large urban jurisdictions as well as with rural and small health jurisdictions on diverse statewide activities to prevent and control tuberculosis (TB). These activities include surveillance, research, program evaluation, and outbreak investigation. There are approximately 50 staff in the TBCB, including epidemiologists, clinical specialists, program liaisons, communicable disease investigators, and other professional and support staff. California contributes the most TB cases of any state, approximately 20% of the nation's 13,000 annual cases.

The Outbreak Response Team (ORT) is specifically responsible for supporting local efforts to perform complex tuberculosis contact and outbreak investigations. ORT provides a variety of support to local health departments including epidemiological support, data analysis, clinical consultation, patient locating and interviewing, investigation planning and management, and program evaluation. ORT members work closely with other TBCB and CDPH staff, particularly those responsible for surveillance, laboratory testing, liaison with local health departments, and field investigations.

Proposed activities:

The primary activity of the CSTE Fellow will be to participate in the interdisciplinary ORT. The Fellow will meet regularly with members of the ORT to plan and carry out outbreak investigations. The Fellow will also interact frequently with local health department personnel, including visits to local health departments and participation in field investigations. One of the secondary activities for the Fellow will be to provide epidemiologic support to the TBCB Multidrug Resistant TB (MDR-TB) Consultation Service. The Fellow will also have the opportunity to develop additional secondary activities depending on interest. A detailed description of the CSTE Fellow role is provided below.

Data analysis: One of the main activities of the CSTE Fellow will be to provide analytic support to the ORT. Specific activities will include analysis of TB outbreak investigations and MDR consultations and preparation of summary reports, analysis of prevalence of infection to assess disease transmission in outbreak settings, analysis of genotype information to identify outbreaks, and analysis of programmatic indicators to evaluate the performance of local health departments. Depending on the interest of the CSTE Fellow there are many opportunities to participate in other TBCB analytic activities. The CSTE Fellow could assist with analysis of surveillance data, cost-effectiveness data, other local program performance indicators, and clinical data on recent immigrants and refugees. The CSTE Fellow will have the opportunity to gain experience with Microsoft Access and Excel, SAS, and Internet-based data sharing systems.

Outbreak field investigation: The CSTE Fellow will directly lead outbreak field investigations. As of October 30, 2008, ORT was involved in 34 complex investigations in 2008, including 16 outbreak investigations. The CSTE Fellow will be trained in TB outbreak response by working alongside other ORT members. Once trained, the CSTE Fellow will serve as an outbreak "lead." The ORT "lead" is responsible for planning the outbreak response, providing epidemiologic and analytic support to local health departments, interacting with other involved health jurisdictions, and coordinating the outbreak

response activities of ORT. As an outbreak “lead,” the Fellow will also have regular opportunities to work in the field alongside local health department personnel.

Opportunity to work on interdisciplinary teams: Both the ORT and MDR-TB Service are interdisciplinary teams that include epidemiologists, nurses, physicians, field investigators, and laboratorians. The CSTE Fellow will be an integral part of these teams and interact with professionals from these different disciplines on a daily basis. Further, the CSTE Fellow will interact with local health department teams which are also interdisciplinary. Finally, the TBCB has persons from other disciplines including anthropology, health education, information technology, and information systems. The CSTE Fellow will have opportunities to be involved with these other professionals on secondary activities within the broader TB Control Branch.

Program or surveillance system evaluation: TB outbreaks and contact investigations will provide ample opportunities to evaluate routine local health department programs. Program evaluation, an important part of each ORT investigation, will be the responsibility of the CSTE Fellow. In addition, the CSTE Fellow will have the opportunity to formally evaluate the TB outbreak surveillance system for the TB Control Branch. Further, the Fellow could participate in a wide variety of evaluations that are routinely carried out by the TBCB. These include evaluations of the statewide TB surveillance system, indicators of local TB control performance, and national systems to evaluate new immigrants for TB.

State Emergency Preparedness Plan: The Fellow will work actively in collaboration with the TBCB epidemiologist responsible for the TB Control portion of the State Emergency Preparedness Plan. Activities may include helping to determine how to incorporate lessons learned from TB outbreak investigations into bioterrorism and emerging pathogen response protocols, and how to plan for continuity of government operations (keeping state and local TB programs running in an emergency). Local health departments regularly use TB outbreak investigations as an opportunity to test local emergency response systems. As an ORT “lead,” the CSTE Fellow will assist with these tests.

Assignment Location: Richmond, CA

Primary mentor: James Watt, MD, MPH

Chief, Tuberculosis Control Branch, Division of Communicable Disease Control,
Center for Infectious Diseases, California Department of Public Health

Advanced Degrees: MPH, University of California, Berkeley (1995)

MD, University of California, San Diego (1990)

Secondary Mentor: Tambi Shaw, MPH

Acting Chief, Outbreak Prevention and Control Section, Tuberculosis Control
Branch, California Department of Public Health

Advanced Degree: MPH, University of Washington (2005)