

Infectious Disease

Assignment Description

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 TBCB staff, 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 21% of the nation's 11,540 annual TB cases reported in 2009. The Fellow will be an active member of the Division of Communicable Disease Control and the TB Outbreak Response Team (ORT). The 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 TB Branch and Department staff, particularly those responsible for surveillance, laboratory testing, liaison with local health departments, and field investigations.

Day-to- Day Activities

The primary daily activity of the CSTE Fellow will be to participate in the interdisciplinary Outbreak Response Team (ORT). The Fellow will meet regularly with members of the ORT to plan and carry out investigations of outbreaks, as well as analyze and evaluate data from these investigations. The Fellow will also interact frequently with local health department personnel, including making visits to local health departments and directly participating in TB field investigations. One of the secondary activities for the Fellow will be to provide epidemiologic support to the TB Branch Multi-drug Resistant TB (MDR-TB) Consultation Service. The Fellow will also have the opportunity to develop additional secondary epidemiologic activities depending on interest.

Outbreak field investigation: The CSTE Fellow will directly lead outbreak field investigations. Within the past several years, California has experienced TB outbreaks in a variety of settings including: newly arrived immigrant populations, marginally housed persons, correctional populations, schools, immunocompromised persons, and extensive, complex contact investigations. The TB Control Branch is currently assisting in the investigation of 7 confirmed and 4 suspected TB outbreaks reported so far in 2010, including a large interjurisdictional outbreak of 19 confirmed TB cases occurring primarily among US-born adolescents and young adults of Southeast Asian ancestry.

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 interdisciplinary health department teams.

Finally, the TB Control Branch has persons with expertise in 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.

Potential Projects

Data analysis: One of the main activities of the CSTE Fellow will be to provide analytic support to the Outbreak Response Team (ORT). Specific activities will include analysis of TB outbreak investigations and Multi-drug Resistant TB (MDR-TB) 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, there are many opportunities for the CSTE Fellow to participate in other TB Branch analytic activities. The 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 Fellow will have the opportunity to gain experience with Microsoft Access and Excel, SAS, and Internet-based data sharing systems.

Program or surveillance system evaluation: TB outbreaks and contact investigations will provide ample opportunities to evaluate local and state health department programs. Program evaluation, an important part of each ORT investigation, will be one of the CSTE Fellow's responsibilities. In addition, the TB Control Branch has implemented several changes to its TB surveillance system in 2010, including use of web-based reporting and of a revised TB reporting form. The Fellow will have opportunities to evaluate aspects of these major surveillance system changes. Further, the Fellow could participate in a wide variety of evaluations that are routinely carried out by the TB Control Branch or within the Division of Communicable Disease Control. These include indicators of local TB control performance, national systems to evaluate new immigrants for TB, and laboratory reporting practices.

Preparedness Role

The Fellow will work actively in collaboration with the Branch 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 Outbreak Response Team (ORT) "lead," the CSTE Fellow will assist with these tests.

Assignment Location: Richmond, California

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