California_Porco

The California Department of Health Services (CDHS) Tuberculosis Control Branch collaborates with both large urban jurisdictions as well as with rural and small health jurisdictions on diverse statewide activities in the prevention and control of tuberculosis. These activities include outbreak investigation, surveillance, research and evaluation. The Surveillance and Epidemiology Section is specifically responsible for collecting case and contact data, conducting field studies and evaluation, and leading outbreak investigations. Collection and analysis of field and surveillance data, as well as simulation modeling/cost-effectiveness analysis, are core section activities. The spectrum of ongoing and new projects led by the section provides the prospective epidemiology fellow the opportunity to select suitable projects based on their interests and goals. Current areas of focus for the section range from MDR-TB outbreak investigation, studies examining TB-related deaths, molecular epidemiology, pediatric TB, mathematical modeling and cost-effectiveness analysis, and evaluation of surveillance and contact investigation data, and using data to define strategies to improve early case detection.

In addition to its state mandates, the Tuberculosis Control Branch participates in the Tuberculosis Research Consortium, a nationwide collaborative effort involving 22 sites. Current Consortium projects encompass pediatric tuberculosis, prevalence and treatment of latent tuberculosis infection, tuberculosis in the foreign born, multi-drug resistant tuberculosis, and the use of social network data. Potential projects for a prospective fellow include the analysis of data from the Foreign-born Project of the TB Research Consortium to help devise innovative interventions to better prevent and cure TB in this population (accounting for approximately 75% of TB in California), and analysis of data from the Social Network task to determine how to incorporate lessons learned into routine contact investigation practice.

The Outbreak Response Unit of the TB Control Branch provides technical assistance to local jurisdictions to identify and interrupt transmission; activities include creation of databases and analysis of contact investigations to evaluate outcomes and efficacy of this control activity. The Branch also has an ongoing Multi-drug Resistant TB Unit (MDR-TB Unit), which develops statewide strategies to improve surveillance of MDRTB and ensure appropriate treatment and follow-up of MDRTB cases. Several other ongoing research studies provide data for analysis as well as opportunity for conceiving original research questions and analytic approaches. These investigations include: a study early case-finding of tuberculosis in Mexican-born individuals, assessment of the cost-effectiveness of targeted testing (and of domestic tuberculosis B-notification follow-up for new immigrants), analysis of trends in tuberculosis mortality and its relation to HIV/AIDS, an assessment of preventability of tuberculosis deaths, an assessment of methods to improve our ongoing B-notification registry, and an analysis of field data collected on adverse treatment outcomes. The advent of universal genotyping of Mycobacterium tuberculosis isolates has also yielded a rich source of data for analysis. Work in each of these areas (especially work in outbreak investigation) provides an opportunity to work on teams whose members include medical officers, program liaisons, biostatisticians, health educators, and epidemiologists and the opportunity to design a

study and carry it out to dissemination of findings and implementation of policies and interventions.

Finally, the proposed fellow would work actively in collaboration with the Branch medical epidemiologist representative in developing the State Emergency Preparedness Plan (specifically, to help determine how to incorporate lessons learned from tuberculosis outbreak investigation into bioterrorism/emerging pathogen response protocols).

Assignment Location: Berkeley, CA

Primary Mentor:	Travis Porco, PhD, MPH Senior Epidemiologist Surveillance and Epidemiology Section Tuberculosis Control Branch
Advanced Degrees:	PhD, University of California, Berkeley, Biophysics MPH, University of California, Berkeley, Biostatistics
Secondary Mentor:	Jennifer Flood, MD Chief, Surveillance and Epidemiology Section, Tuberculosis Control Branch
Advanced Degrees:	MD, University of California, Berkeley MPH, University of California, San Francisco, Epidemiology