

Infectious Disease

The Fellow will be assigned to the Communicable Disease Control and Prevention Section (CDCP) at the San Francisco Department of Public Health (SFPDH). CDCP works closely with community members, clinicians, and city, state, and private organizations to control and prevent the spread of communicable diseases in San Francisco residents and its visitors. CDCP staff receives reports on over 80 legally reportable diseases and conditions, conduct case and contact investigations, and recommend public health actions to control the spread of disease. See <http://sfcdcp.org> for more information about our Section.

The Fellow will have the opportunity to work within one or more of the three major Units within CDCP—Communicable Disease Control, Communicable Disease Prevention, and Bioterrorism and Infectious Disease Emergencies. These Units are involved in a wide array of activities and projects that include communicable disease control, analytical and descriptive epidemiology, immunization programs, and enhanced surveillance and response planning for bioterrorism and other infectious disease threats and emergencies. CDCP staff work in interdisciplinary teams composed of clinicians, epidemiologists, and disease control investigators to conduct outbreak investigations, special surveillance projects, and surveillance evaluations.

The Fellow will be involved in a variety of activities that will enhance their knowledge and skills in communicable disease epidemiology and public health practice. Mentors will work closely with the Fellow to develop a work plan, timeline and deliverables. The Fellow will have a wide array of opportunities to develop and demonstrate core competencies in epidemiologic methods, communications, and public health practice. The Fellow may become involved in some of the following CDCP activities and projects:

1. The rate of reported cases of campylobacteriosis in San Francisco is significantly greater than rates for California and the United States; the reasons for the high rate in San Francisco are not known. CDCU is expanding its current passive surveillance of campylobacteriosis and is developing testable hypotheses and a research protocol to ascertain risk factors for campylobacteriosis in San Francisco. IRB approval will be obtained before this research project commences.
2. San Francisco has a very high number of immigrants from Asia where Hepatitis B is endemic. SFPDH has received a CDC grant to develop a population-based registry of persons with chronic Hepatitis B that will enable us to better characterize the epidemiology of this disease in our region and to develop targeted prevention strategies.
3. CDCP's surveillance database contains data on over 40,000 cases of disease over a 25 year period. CDCU epidemiologists use SAS to clean, edit and analyze the data and to develop graphical presentations. These analyses and presentations are published annually in a Communicable Disease Surveillance Report, and unusual findings guide special investigations as mentioned above. The Fellow would have the opportunity to participate in surveillance analysis

and in the development of a quarterly surveillance report and special reports that focus on specific diseases.

4. CDCU regularly conducts outbreak investigations and recently has completed several large retrospective cohort studies of food borne outbreaks. Trainees have participated in or co-led investigations under close supervision.

5. CDCP holds monthly Section seminars that provides the opportunity for CDCP Staff and others to present the results of their work, review relevant journal articles or actively brainstorm about specific project directions.

6. CDCP is committed to streamlining and integrating its data systems. CDCP is developing an integrated data system for surveillance and case and outbreak management. CDCP is also developing systems for hospital labs to send results to CDCP electronically. There will be an opportunity to evaluate the impact of these electronic information systems on surveillance performance (e.g., timeliness and completeness).

7. CDCP conducted a pilot enhanced surveillance project of pediatric community-acquired Methicillin-Resistant Staphylococcus Aureus (MRSA) infection in selected San Francisco hospitals. An evaluation of the feasibility and sustainability of this system has not yet been done and would be very beneficial for informing policy direction.

8. CDCP recently developed and disseminated an extensive outreach campaign to the public highlighting "healthy habits" to prevent infectious diseases and to prepare for pandemic influenza. A formal evaluation of the effectiveness of this campaign has not been done and would be very beneficial to inform future programs.

9. CDCP is refining and completing its Infectious Disease Emergency Response Plan. The plan is comprehensive and includes surveillance, epidemiology, and data analysis modules that will guide the response to a large infectious disease or bioterrorist event. Supporting tools such as template surveys, protocols and databases are in development. The Fellow would have the opportunity to work with CDCP epidemiologists to develop additional epidemiologic preparedness tools. He or she would also participate in local emergency preparedness exercises and drills, and could become involved with evaluation activities (e.g., After Action Report).

10. CDCP is developing systems to measure the impact of seasonal and pandemic flu in San Francisco. The Fellow would have the opportunity to work with CDCP epidemiologists to conduct hospital-based electronic active surveillance and to evaluate the methodological feasibility and usefulness of using it to monitor influenza-like illnesses resulting in hospitalizations and emergency department visits. In addition, CDCP plans to evaluate the feasibility of using death records to measure the impact of seasonal and pandemic flu in San Francisco.

Assignment Location:	San Francisco, California
Primary Mentor:	Sandra Huang, MD Director, Communicable Disease Control Unit San Francisco Department of Health
Advanced Degree:	MD, University of California, San Francisco (1990)
Secondary Mentor:	Erica Pan, MD, MPH Director, Bioterrorism and Infectious Disease Emergencies Unit Communicable Disease Control and Prevention Section San Francisco Department of Health
Advanced Degrees:	MD, MPH, Tufts University School of Medicine (1996)