New York City_Balter

Infectious Disease

1) Information about the program

The New York City Department of Health and Mental Hygiene (NYCDOHMH) is a large, and well-staffed Department with expertise in infectious disease epidemiology and surveillance, emergency management, program administration, and public health prevention programs. We are the primary public health agency for over 8 million ethnically and socio-economically diverse people who reside within 321 square miles (the highest population density in the US). NYC is one of the major ports of entry for travelers and commerce and recent immigrants account for a third of the population; therefore, New York City remains highly susceptible to the threat of imported diseases, such as occurred with West Nile virus in 1999.

2) The Fellow's anticipated day-to-day activities

a)The Fellow will be assigned to the Enteric, Waterborne and Hepatitis Unit and have his/her own analytic, surveillance and educational projects to work on daily (described below). In addition, the unit investigates an average of 30 outbreaks/year and the Fellow will participate in all aspects of foodborne investigations with the goal of being able to manage them independently.
b)The Fellow will also work on educational activities regarding foodborne illness. Because of the cultural diversity of NYC this will involve working with many different communities and ethnic groups. Additionally, every effort will be made to provide the Fellow with opportunities to observe or work with other Bureaus that interact with the BCD to better understand the workings of a large local health department.
c)Although the position will be primarily focused on enteric illness, the Fellow will also participate in the general activities of the BCD including attending weekly outbreak meeting and serving in the rotation as Research Scientist of the Week to handle whatever public health issues arise that week in the bureau and analyzing the routine surveillance data to detect possible clusters.
d)The Fellow will also have the opportunity to work on other projects as they interest him/her or relate to enteric illness in the BCD or in other Bureaus which may include projects working with the Bureau of Epidemiology Services to evaluate electronic laboratory reporting of foodborne illnesses and working with the Environmental Laboratory at the Public Health Laboratory.

3)Examples of potential projects that demonstrate opportunities for data analysis, outbreak field investigations, and opportunities to work on interdisciplinary teams.

The Fellow will have the opportunity to work on a variety of projects that will demonstrate the opportunity for data analysis. These projects include, but are not limited to, the following:

a)Developing MS Access databases for data from foodborne illness related case investigations and analysis of these databases. BCD routinely interviews all reported cases of certain foodborne diseases including cases of listeriosis, yersiniosis, and E. coli

O157 infections to collect information on clinical illness and potential sources of exposures. More detailed analysis would provide insight into the epidemiology of these infections in NYC.
b)Analyze antibiotic resistance data for specific foodborne infections including Salmonella, Shigella, and E. coli O157. More detailed and timely analysis would provide insight into the epidemiology and antibiotic resistance issues associated with these infections.
c)Analyze Salmonella serotype data combined with PFGE data that is compiled by the DOHMH Public Health Laboratory. This will give the Fellow an opportunity to work with DOHMH staff from the laboratory
d)Investigating foodborne outbreaks. Outbreaks in New York City are identified from a variety of sources including patients themselves, providers, and analysis of disease reports. The DOHMH investigates approximately 30 foodborne outbreaks each year. The Fellow will take primary responsibility for investigating these outbreaks. The Fellow will have the opportunity to oversee and become involved in every aspect of a foodborne outbreak which will include developing a questionnaire, conducting outbreak interviews, analyzing the outbreak data, and writing the final report. For multijurisdictional outbreaks, the Fellow will participate in multistate calls and calls with CDC, FDA, USDA and other relevant agencies. S/he will have the opportunity to go on restaurant inspections and to take NYC's food safety training.

4) Potential program or surveillance system evaluation projects:

a)In October of 2005, the Advisory Committee on Immunization Practices (ACIP) recommended universal hepatitis A vaccination for children at 1 year of age (12-23 months) as well as vaccination of those older children with identified risk factors for hepatitis A. Due to high rates of hepatitis A infection in specific communities in NYC (see map), catch-up vaccination is recommended for all children, aged 24 to 59 months, who live in these neighborhoods. NYCDOHMH arranged to send letters to all parents of children attending pre-school and kindergarten in these neighborhoods recommending hepatitis A vaccine. The Fellow will assist in evaluation of the hepatitis A surveillance program in New York City with a focus on examining whether the implementation of vaccine programs results in decreased disease incidence.
b)In 2005, 420 cases of Shigella were reported among New York City residents. Antibiotic resistance data suggests that antimicrobial resistance is higher in NYC than elsewhere, with 48% of NYC Shigella isolates showing resistance to 5 or more antibiotics. The current CSTE Fellow has begun collecting data to further understand the epidemiology of Shigella and the prevalence of drug resistance in NYC in order to effectively promote prevention strategies and ultimately reduce incidence. One of the objectives of the study is to assess the impact of multi-drug resistant Shigella infection on clinical outcome. The new CSTE Fellow will be involved in data collection, data management, and data analysis of the data in order to answer this question.
c)There is a high rate of illness due to international travel in New York City. These diseases include typhoid fever, hepatitis A, and shigellosis. The Fellow will conduct data analysis of enteric disease data and work with the health educator to coordinate and

evaluate educational material for enteric diseases specifically related to international travel.
d)Evaluate foodborne outbreak investigations and summarize outbreak data that has been collected over the past five years in New York City.
e)Conducting surveys of laboratories to evaluate laboratory practices with respect to shiga toxin producing E. coli (STEC). The Fellow would be involved in developing the protocol, the survey instrument, data collection, and data analysis.

5) Role of the Fellow in City Emergency Preparedness planning

The NYCDOHMH has responded to a number of citywide and national emergencies in the last few years including the initial outbreak of West Nile virus in 1999, the response to the terrorist attacks and anthrax investigation in 2001, and the Citywide blackout in August, 2003. All employees are assigned to an Incident Command System Section for purposes of planning for and responding to emergencies. The Fellow would be assigned to the Epi and Data Unit within the Surveillance and Epidemiology Section and will be expected to participate in the DOHMH response in the event of an emergency and in all drills and meetings required by the unit.

Assignment Location: New York City, NY

Primary Mentor:	Sharon Balter, MD Medical Director, Enteric, Waterborne, and Hepatitis Unit, Bureau of Communicable Disease, New York City Department of Health and Mental Hygiene
Degrees:	M.D., New York University School of Medicine (1994) M.F.A. Bennington College (2001)
Secondary Mentor:	Vasudha Reddy. MPH Research Scientist III Communicable Disease Program, Bureau of Disease Intervention, New York City Department of Health
Degrees:	MPH, Rollins School of Public Health, Emory University (1997)