

Infectious Disease

This position will be located in the Bureau of Epidemiology's Division of Infectious Disease Epidemiology (IDE), Investigations section. This section is responsible for a broad range of disease surveillance and control activities in Pennsylvania. The Fellow will work with IDE's Investigation, Surveillance and Preparedness Sections. Responsibilities of these sections related to infectious disease prevention and control include: interactions with six DOH regional offices and 10 County or Municipal Health Departments, outbreak and case investigations, surveillance of >50 infectious diseases excluding HIV/AIDS, tuberculosis, and sexually transmitted diseases, data analysis, preparation of reports and educational materials for professionals and the public, assisting in the development of public health policy and regulations. The Pennsylvania Department of Health averages five EPI-AIDS requests and seventy formal disease outbreak investigations each year. Continuous opportunities exist to provide public health consultation and to investigate disease outbreaks. The Department provides a unique opportunity to participate in the ongoing design and implementation of a cutting-edge electronic disease surveillance system. Pennsylvania also has a robust electronic syndromic surveillance system that captures real-time emergency department admissions data. Interaction is also possible with Vaccine-Preventable Diseases, HIV/AIDS, STD, TB, Maternal Child Health, vital statistics, and chronic disease prevention and control programs.

Day-to-Day Activities:

The fellow will fully participate in the day-to-day activities conducted by IDE staff, including participating in disease investigations; conference calls with federal, local and regional partners; attending departmental meetings as well as local, regional and national conferences. Additionally, the fellow will have to opportunity to present at monthly Journal Clubs, epi seminars, and all-day Quarterly Epidemiology meetings attended by 50-100 statewide epidemiology personnel.

Potential Projects:

A. Title of Project: Evaluation of a College/University Immunization Policy Questionnaire

Every two years, the Pennsylvania Department of Health sends out a College/University Immunization Policy Questionnaire to higher education institutions across the Commonwealth to assess current immunization requirements. To date, there has not been a system or procedures in place to analyze the data and provide feedback regarding the results of the questionnaire to participating institutions. The Fellow would create and disseminate institutional "report cards" as a way to provide feedback to the colleges and universities regarding the results of the questionnaire. Finally, the Fellow would provide suggestions to the Division of Immunizations regarding modifications to the 2010 questionnaire. To accomplish this, the data collected from the 2008 questionnaire will be re-analyzed to (1) create a SAS program that will generate automatic reports, individualized for each institution, in a format suitable for distribution and (2) make recommendations for updating the questionnaire. Our current CSTE Fellow has already obtained

data from the Bureau of Health Statistics and conducted discussions regarding the project among all Bureaus involved with the project. The analysis will need to include results in a format that will be understood by those not familiar with statistical language. In addition, the report will be evaluated by the institutions to ensure the results they receive are beneficial. An evaluation questionnaire will need to be developed to accompany the mailed report card to determine if the report card was effective and what improvements can be made.

B. Title of Project: Refugee Health Risk Follow-up and Evaluation

Since the mid-1970s, more than 100,000 refugees and immigrants have been resettled in Pennsylvania. They arrived from many countries where the prevalence of communicable diseases is high. Some refugees arrive with chronic diseases like diabetes, hypertension, prostate cancer, and tuberculosis. As part of the resettlement program, health screening is provided and data is collected in various forms. In 2009, a Refugee Health Program was established in the Department of Health with responsibility to gather health data, identify risk factors, compile and analyze data, and produce reports of pertinent findings. The Fellow would review existing resettlement and health data and conduct analyses to describe the patterns of chronic disease among resettled refugees and examine epidemiological risk factors for chronic diseases. The Fellow would identify specify counties with high proportions of refugees and make arrangements to contact health providers in order to explore and obtain more information; organize information and discuss it with concerned experts; organize meetings with experts in specific disease like cancer, in order to assess the validity and reliability of obtained information; perform refugee data matching with identified chronic disease like cancer; and design an analytical plan that can demonstrate the presence of difference, similarity, and significance of identified risk factors. These activities would be expected to result in a template for an annual report for the Refugee Health Program which would include recommendations for public health follow up and resource allocation.

C. Title of Project: Evaluation of the Pennsylvania Influenza-Like Illness Sentinel Provider Network (Influenza-Like Illness Surveillance Network (ILINet)) BRIEF DESCRIPTION OF PROJECT:

Information on patient visits to health care providers for influenza-like illness is collected through the US Outpatient Influenza-like Illness Surveillance Network (ILINet). The Outpatient Influenza-like Illness Surveillance Network (ILINet) consists of more than 3,000 healthcare providers in all 50 states, the District of Columbia and the U.S. Virgin Islands reporting over 25 million patient visits each year. For this system, ILI is defined as fever (temperature of 100°F [37.8°C] or greater) and a cough and/or a sore throat in the absence of a KNOWN cause other than influenza. The percentage of patient visits to healthcare providers for ILI reported each week is weighted on the basis of state population. This percentage is compared each week with the national baseline. In Pennsylvania, the number of participating ISPN sites has nearly doubled in the 2009-2010 influenza season, but timeliness and completeness of reporting remains problematic. The addition of different types of providers (e.g., college health services) has skewed the baseline rates of ILI, making the data difficult to interpret. The Fellow would conduct a formal analysis of the Pennsylvania ISPN system, including an analysis of factors linked to

suboptimal reporting, and make recommendations to the Department to improve efficiency, accuracy, timeliness and completeness of reporting.

Emergency Preparedness Role:

The fellow will work with the Planning and Preparedness section in different activities designed to improve Pennsylvania's capacity to respond to any natural or man-made event. This will include participating in tabletop exercises, training opportunities, revision of plans and/or operating procedures, etc.

Assignment Location: Harrisburg, Pennsylvania

Primary Mentor: Perrienne Lurie, MD, MPH
Public Health Physician
PA Dept. Health

Secondary Mentor: Veronica Urdaneta, MD
State Epidemiologist
PA Dept. Health