Infectious Diseases

Assignment Description:

The CSTE fellow will be placed within the Surveillance Program of NYSDOH AIDS Institute Division of Epidemiology, Evaluation and Research (DEER) Bureau of HIV/AIDS Epidemiology (BHAE) in Albany, NY. BHAE consists of approximately 50 Albany-based Central Office staff and 14 staff positioned in field offices around the state. BHAE is responsible for receiving laboratory reports of HIV/AIDS related testing for the entire state inclusive of New York City and for producing data for public health use for the entire state. The fellow will participate in HIV surveillance and laboratory data quality activities, taking a major role in the analytic evaluation of HIV/AIDS reports submitted by diagnostic physicians, commercial and public health laboratories, and field surveillance case report data. Activities include evaluating the adequacy and completeness of demographic, identifying, and test results data for NYS, and will involve the development and execution of analytical procedures (e.g., capture/re-capture methodology) for monitoring and reporting of trends in HIV/AIDS related surveillance and laboratory testing within NYS. The fellow will evaluate the implementation of the new multi-test algorithm for HIV diagnosis in NYS and assess the implication of the algorithm change on the detection of new diagnoses, including acute HIV. The incumbent will develop and revise new surveillance reports, contribute to research publications, and make program recommendations for BHAE. Additionally, the fellow will have the opportunity to actively participate in national work groups (for example, the CSTE HIV Surveillance and Implementing the HIV Laboratory Algorithm Workgroups) as well as local AIDS Institute workgroups with topics such as HIV and Aging. The fellow will participate in HIV/AIDS data dissemination activities. The CSTE fellow will be expected to attend NYSDOH Institutional Review Board Human Subjects training, so s/he will be able to fully participate in various BHAE projects.

The fellow will benefit from BHAE's multiple strong relationships and existing collaborations, including organizational alignment of BHAE with the Office of Program Evaluation and Research, a group of ten scientists with program evaluation, prevention and applied epidemiology experience, and the Bureau of STD Prevention and Education (BSTDPE). Additional established relationships exist with 1) NYSDOH AIDS Institute Division of HIV, STD, and Hepatitis Prevention of the NYSDOH AIDS Institute, which directs statewide prevention activities; 2) the HIV Laboratory of the NYSDOH Wadsworth Center Laboratories, which serves as the national laboratory for the CDC HIV Incidence Surveillance project; 3) the New York City Department of Health and Mental Hygiene which shares in the work of HIV surveillance through a state-city Memorandum of Understanding; 4) the CDC, which funds the NYSDOH BHAE to participate in several national projects including HIV Incidence Surveillance, Behavioral Surveillance, and the Medical Monitoring Project; 5) other infectious diseases epidemiology bureaus and programs within the NYSDOH, inclusive of tuberculosis and hepatitis/other communicable diseases; 6) the School of Public Health of the University at Albany, which includes many NYSDOH scientists among its faculty and uses the NYSDOH as a frequent placement site for student internships and projects.

Day-to-Day Activities:

Anticipated day-to-day activities will depend on the particular projects assigned to the fellow. After an extensive orientation to the bureau and the surveillance program, the fellow will become involved in several discrete projects (opportunities outlined below), with daily work time allocated to individual projects, collaborative research, and data analyses. The fellow should expect to meet with Dr. Anderson at least weekly and Dr. Smith biweekly to review and plan the current work tasks. The fellow will actively participate in monthly HIV Surveillance calls with our colleagues in New York City, our CDC assigned epidemiologist, and our national CSTE affiliated colleagues as part of the CSTE HIV Surveillance and Implementing the HIV Laboratory Algorithm work groups. Additionally, the fellow will attend the

larger AIDS Institute monthly staff meetings and may be tasked with updating the group regarding current MMWR reports or research/reports pertaining to HIV/AIDS surveillance. As a member of the surveillance team, the fellow will be invited to all monthly and quarterly surveillance program meetings and conference calls and, as needed, will attend other internal BHAE working group meetings (e.g., Improving Provider Reporting, Data Analysis, eHARS Status, and various registry matching meetings). The fellow will be expected to participate in the semi-monthly BHAE Bureau Seminar Meetings, a collaborative environment through which the research and various data products of the bureau are presented and refined. Occasional travel within NYS is expected.

The fellow will be provided workspace and computer access within BHAE offices in the Corning Tower located in downtown Albany in the Empire State Plaza, the home of New York's state government as well as theatres, the state museum, the NYS Archives, and the state Capitol Building. Albany is part of New York's Capital District which includes the cities of Schenectady, Troy, and Saratoga intertwined with multiple suburban and rural areas. The area has nationally recognized colleges and universities as well as graduate schools in medicine, law, and pharmacy. The city provides a walkable downtown, excellent transportation, and excellent four-season outdoor recreational opportunities in the nearby Adirondack, Catskill, and Green Mountains. The close proximity to New York City, Boston, Vermont, and Montreal enhance the area's cultural and recreational opportunities.

Potential Projects:

Integration of new HIV Diagnosis Algorithm and Case Definition into the HIV Surveillance System: A new national HIV diagnosis algorithm is in the process of adoption which will improve diagnosis of acute HIV, improve confirmation of HIV-2 infection, and eliminate the need for expensive Western blot evaluations in most circumstances. These changes will be accompanied by a new national surveillance case definition of HIV infection. These changes must be communicated to stakeholders and be incorporated into the NYSDOH HIV Surveillance system, which is comprehensive and complex. By law reporting of HIV/AIDS is to the state DOH rather than local health departments and thus, efforts are underway by the NYSDOH to assist labs and clinicians with implementing the multi-test algorithm and to facilitate continued public health reporting of HIV-related results and diagnoses. In addition to provider reporting, the NYSDOH requires that laboratories report any laboratory test, tests or series of tests approved for the diagnosis or periodic monitoring of HIV infection, all confirmed positive HIV antibody or detection tests, all initial and supplemental test results of the multi-test algorithm for HIV detection, unless the algorithm resolves to negative, all HIV nucleic acid tests, all values of CD4 lymphocytes, and genotype resistance results. Thus, over 85 labs report more than a million tests results per year; however several hundred additional labs may need to be enrolled for public health reporting with implementation of the multi-test algorithm. NYSDOH staff review medical records for cases reported with medical providers located outside of New York City. Approximately 75-80% of the NYS HIV/AIDS epidemic is in the city, and the city health department participates in HIV/AIDS surveillance for city providers through a Memorandum of Understanding with the NYSDOH. Data exchanges between the state and city health departments are extensive and allow the state to maintain a statewide HIV/AIDS registry. Within this complex array of activities, the fellow will have multiple opportunities, including the redesign and evaluation of surveillance practices and the algorithm for partner services assignment among persons with newly diagnosed HIV, including acute HIV.

STD Surveillance System Evaluation: In NYS, laboratories and medical providers are required by law to report suspect or confirmed cases of communicable diseases, including sexually transmitted diseases, to the local health department in which the patient resides. Required information includes laboratory test type, specimen source, test results, patient demographics and locality of residence, and selected dates

including date of specimen collection, laboratory test date, date of lab report to the local health department, date of assignment for case investigation, and date of case closure. Syphilis surveillance and investigational activities receive priority status as the timeliness of case diagnosis, treatment, and investigation are critical to interrupting disease spread. The fellow will have the opportunity to conduct evaluation activities, establish a 'report card' for laboratories, providers and health department staff, and utilize the results to review surveillance policies and procedures.

Registry Matching Projects and Analyses: BHAE conducts multiple matching projects with other public health databases for purposes of enhancing disease surveillance; some are episodic (hepatitis, tuberculosis, etc.) and some recur annually (Medicaid, Vital Statistics, Department of Corrections). The opportunity exists for the fellow to take a lead role in several new or recurring match projects: 1) development of a mechanism for ongoing matches between HIV and STD data to allow a more integrated approach to Partner Services; 2) a match of the HIV registry to the AIDS services database; 3) a match of the HIV registry to the statewide ADAP (AIDS Drug Assistance Program) database; 4) cross-matching of HIV, STD, and hepatitis C registries to assess co-infected populations.

Resistance and Subtype Analyses: In 2005, NYS became the first state in the US to implement comprehensive HIV resistance and subtype surveillance through laboratory reporting of nucleic acid sequences from genotypic resistance tests. Opportunities exist for detailed analysis of resistance and subtype patterns among the newly diagnosed and among persons known to have been living with HIV/AIDS, and for the development of new analytic techniques such as assessment of incidence using genotypic data.

Surveillance Data and the National HIV/AIDS Strategy: The National HIV/AIDS Strategy proposes extensive use of HIV/AIDS surveillance data to evaluate outcomes, including calculations of HIV incidence estimates, HIV transmission rate estimates, the proportion of newly diagnosed persons entering care, and the control of HIV viral loads in relationship to recognized health disparities.

Evaluation of Internet Partner Services: Social networking sites, such as Facebook and MySpace, provide opportunities for individuals to connect with others who share similar interests. Similar sexual networking sites like Manhunt, Adam4Adam and Gay.com, provide opportunities for locating sexual partners. Sexual partners identified through the Internet are frequently anonymous; therefore, infected patients are unable to provide their partners' identifiers such as name, address and physical attributes, information traditionally used to track down and notify sexual contacts. In response, the NYSDOH Bureau of STD Prevention and Epidemiology, in collaboration with other DOH agencies, developed Internet Partner Services Guidelines to establish protocols that adapted traditional disease intervention strategies for STD/HIV to the Internet. Internet Partner Services was fully implemented in 2008 with approximately 150 – 200 investigations conducted annually. The fellow will have the opportunity to conduct an evaluation of Internet Partner Services outcomes as compared to traditional Partner Services to assess its added value as a partner management strategy.

<u>Preparedness Role</u>

The fellow will be well-positioned to participate in structured emergency preparedness planning activities and to lend temporary assistance in urgent/emergent public health surveillance activities. NYSDOH leadership expects that Epidemic Intelligence Service and CSTE trainees will be made available for temporary reassignment to emergency activities for the mutual benefit of the trainee and the department. Moreover, DEER staff are expected to contribute as needed to Emergency Preparedness

efforts. In 2009, for example, selected BHAE staff participated in the NYSDOH H1N1 influenza efforts through medical record reviews of hospitalized patients, through membership in surveillance and Clinical Guidelines workgroups, and through participation in phone banks taking vaccine orders. Opportunities available in 2011 included assistance with extensive public health challenges related to severe post-Hurricane Irene flooding in central New York. 2012 brought another weather-related emergency preparedness challenge in the form of Hurricane Sandy.

Assignment Location:	Albany, NY
Primary Mentor:	Linda Lou Smith, MD, MPH Director, AIDS Institute Division of Epidemiology, Evaluation and Research New York State Department of Health
Secondary Mentor:	Bridget Anderson, PhD Director, AIDS Institute Bureau of HIV/AIDS Epidemiology New York State Department of Health