Host site: Fairfax County Health Department Epidemiology & Population Health

Assignment Location: Fairfax, Virginia

Primary Mentor: Ben Klekamp, MSPH

Secondary Mentor: Bob Inthavong, BS in Informatics

Agency Description:

The Fairfax County Health Department serves the approximately 1.2 million residents of the independent health jurisdiction of Fairfax Health District, which includes Fairfax County, City of Fairfax, and the City of Falls Church. The department has approximately 800 full-time staff, with an additional 600 temporary contracted COVID-19 response staff. The department is divided into six divisions, including health services, innovation, environmental health, epidemiology & population health, school health, and laboratory services. The Fairfax County Health Department has the only locally operated public health laboratory in Virginia, which is in the beginning of a significant modernization overhaul. The APHIF will be embedded within the Division of Epidemiology & Population Health, which is has 30 full-time employees (13 epidemiologists, 9 public health nurses, 4 disease investigation specialists, 2 rabies specialists, 2 community health associates). The division has two sections: communicable disease and population health. Within the communicable disease section, the fellow will report to the epidemiology manager overseeing the chronic communicable disease (CCD) program, which investigates HIV, sexually transmitted infections, and hepatitis B & C. While embedded with this program, the fellow will have support and be able to work with other department staff. The work being conducted within the division is expansive, including opioid response, food insecurity, disease control, health equity, public health informatics, and environmental justice. While the scope of the division’s work is large and leads to some specialization, the division overall has an open and welcoming culture where cross-collaboration is commonplace. The fellow will have the opportunity to be exposed and work with many different subject matter experts. All services and programs are driven by the agency's vision of healthy people in healthy communities and its mission to protect, promote, and improve health and quality of life for all in our community.

Assignment Description:

The fellow will be embedded in the Chronic Communicable Disease (CCD) program within the Division of Epidemiology & Population Health. The fellow's secondary member is within the department's Information Technology & Informatics Program and should expect a close working relationship with that program. Embedding the fellow within the CCD program is meant to ensure the fellow comes away with a robust understanding and hands-on experience of how transformative informatics can be for a local
public health efforts and the jurisdiction’s residents. The fellow should expect a diverse day to day experience with long-term projects meant to be worked on in tandem with trainings, meetings, and other duties. Experiences will be meant to build-on each other throughout the fellowship. Initially, other than trainings, the fellow will learn how to conduct reportable disease case investigations (e.g., gonorrhea) to learn how data is collected and be exposed to using reportable disease surveillance databases. As the fellow gains experience and knowledge their duties will shift towards developing regional level surveillance and cluster/outbreak informatics infrastructure and products (e.g., dashboards, reports) for sexually transmitted infections (chlamydia, gonorrhea, syphilis). The fellow will work with governmental and and non-governmental regional partners to gather requirements and refine their work. The fellow will also be working alongside staff from the IT & Informatics program to learn how to gather and document multiple database requirements to scope out a new data warehouse and working with on modernization efforts for the Fairfax County Health Department Laboratory. Local health department work is highly variable and moves rapidly. The fellow should expect to work on other opportunities than those listed in this host site application.

Preferred Background & Skills:

We are looking for a fellow with a very strong work ethic who has initiative and flexibility to conduct self-learning to meet the needs of described or yet to be realized informatics projects. The Fairfax County Health Department is currently undergoing a rapid informatics modernization and opportunities for learning alongside health department staff will be commonplace. Ability to code in SAS, Stata, SQL, or R and learn other software quickly (e.g., Microsoft Power BI, ArcGIS) is needed. Prior experience working with reportable disease case and lab data is a plus. Fellow should be comfortable engaging in detailed technical conversation and be able to translate technical jargon into plain spoken language for conversation with partners. Training (formal or on the job) in epidemiology is expected.

What can the fellow expect to gain from 2 years at this host site?

We hope that our passion for local health public health informatics will rub off on the fellow. Informatics is powerful and with a vision, public health can have a significant positive impact on our community. We hope that the fellow walks away with an full understanding of how to think through the process to conduct high-quality data collection, quality assurance, management, analysis, visualization, and interpretation to drive public health action at the local level (i.e., sub-county level). The cognitive skills gained are meant to be able to be applied regardless of whatever future informatics project the fellow encounters.

Potential Projects include:

Host sites have listed up to 5 projects
Project 1: Development of informatics infrastructure for regional sexually transmitted infection surveillance for trend and outbreak identification

Objective: Develop a sustainable surveillance system for the identification of trends and outbreaks of sexually transmitted infection in Northern Virginia. Deliverables: 1) Requirement gathering plan and documentation, 2) stakeholder meetings, 3) infrastructure, analytics, and data sharing plan, 4) sustainable surveillance system, 5) data sharing products (e.g., dashboard, reports)

Informatics and epidemiology capacity for sexually transmitted infections (STIs) in most local health departments is minimal. Many of the high disease burden areas for STIs in Northern Virginia are located along border areas between jurisdictions. As local health departments typically just use their jurisdictions case data, trends and outbreaks maybe missed. Access to regional data has already been established. By working with stakeholders to gather requirements, develop the system to conduct surveillance, and share information back to local health departments and non-governmental agencies, priorities and actions can be better coordinated to address the rising disease incidence.

Project 2: Requirement gathering for local data warehouse

The fellow will be responsible for working primarily with their secondary mentor to gather and document all database sources, standards, data dictionaries, and data workflows for the systems the Division of Epidemiology & Population Health uses.

The Fairfax County Health Department currently does not have a direct connection to any of the data sources used to conduct public health surveillance or analysis. This foundational work that the fellow will undertake will springboard the work of the department towards developing a local data warehouse where many of these data sources will eventually be stored and made available.

Project 3: Public Health Laboratory Modernization

The fellow will participate in discussions on efforts to modernize the lab. The fellow will work along side their secondary mentor or other informatics staff to help document needed changes/requirements and assist as needed and the fellow’s skills permit to move modernization efforts forward.

The Fairfax County Health Department Laboratory is currently undergoing a significant modernization effort, which includes onboarding whole genome sequencing capabilities. The scope of the modernization are ongoing, but will be in place by the time the fellow arrives onsite. This effort is expected to need significant informatics assistance and the fellow should expect to play a role. This modernization will allow the Fairfax lab to play a much larger role in the national public health laboratory network and provide rapid reference lab services to local and regional healthcare providers.

Additional information about the placement:
The Fairfax County Health Department is rapidly developing our informatics capabilities. We are looking for a fellow that wants to be part of that process and have a hands on role. Public Health Informatics!