Host site: Indiana Department of Health Office of Data Analytics/Epidemiology Resource Center

Assignment Location: Indianapolis, Indiana

Primary Mentor: Eric Hawkins BS, Biology; MS, Epidemiology

Secondary Mentor: Timothy McFarlane, B.S., Medical Technology; MPH, Epidemiology; PhD Candidate, Epidemiology

Agency Description:

The Indiana Department of Health (IDOH) consists of around 800 full-time employees that work within 42 distinct divisions. The mission of the IDOH is to promote, protect, and improve the health and safety of all Hoosiers. The agency vision is to ensure that every Hoosier reaches optimal health regardless of where they live, learn, work or play. The IDOH operates under four core values that include health equity, communication, innovation and integrity. All four of the core values are important in the role of an Applied Public Health Informatics Fellow. It should be noted, however, that innovation in that agency has become a core value. With that value, the IDOH wants to continue to learn, research evidence-informed practices, advance ourselves, and be open to new methods, ideas, and products that help build and expand upon the services we provide. Additionally, the IDOH has taken several data modernization initiatives during the COVID-19 pandemic and truly wants to be a leader and innovator building robust public health data that is readily available to internal and external partners.

Assignment Description:

Within the Indiana Department of Health (IDOH), the fellow will work collaboratively with the Office of Data and Analytics (ODA), the Epidemiology Resource Center (ERC), and the Office of Technology and Compliance (OTC). The main day-to-day activities will be within the ODA working alongside the Informatics team and Data Analysis Team. As several data modernization efforts take place with the IDOH, the fellow will build informatics capabilities as the agency creates new data environments and streamlines data connections among all agency divisions. The fellow will work on operational projects, but will have the opportunity for new and innovative projects.

Preferred Background & Skills:
With all of the data modernization efforts that are building in Indiana, IDOH could utilize a variety of skill sets in a fellow. However, the immediate needs of the agency in the data modernization space are around data science, data analytics, and informatics.

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

In working with the IDOH, the fellow will have the opportunity to be a part of a major data modernization initiative in the agency. IDOH is building out new data architecture and data environments to better serve agency employees, the public and health care providers. Over the next two years, IDOH will have data interoperability among all divisions and have consistent access to data for analysis. As a fellow, skill that will be developed will be focused on public health informatics, data science skills, and data analytic skills.

**Potential Projects include:**

*Host sites have listed up to 5 projects*

**Project 1: Creating a Public Health Master Patient Index**

Most data sources and systems at the Indiana Department of Health are siloed and disparate from one another. In an effort to centralize the agency’s health data and make it more accessible to internal users and external stakeholders, IDOH is engaging in a data transformation to transition to a cloud storage and analytics environment. To fully leverage this new environment, specifically relating to all patient-centric data, an agency-wide patient registry would vastly improve IDOH’s ability to link, match, and deduplicate records. The primary objective of this initiative would be the creation of this registry, and through a routine deduplication and validation process, would maintain master keys to link across all patient datasets across the agency.

Currently, data linkage is done on an ad hoc basis, with the exception of COVID data to identify breakthrough infections. A master patient index would enable IDOH to make these linked datasets much more accessible and timelier, enabling new and more meaningful analysis. Use cases include tracking patients through triage and levels of care (EMS to ED to inpatient) and creating longitudinal views of a patient’s clinical care to measure program and treatment efficacy.

**Project 2: Building COVID-19 Sentinel Surveillance**

The COVID-19 pandemic has created mountains of data for epidemiologists and data analysts to analyze and use. As the COVID-19 pandemic as progressed, the IDOH has learned a lot about the patterns of the disease. This project will consist of building a robust sentinel surveillance tool that will incorporate several key data sources, but without the need for all COVID-19 lab data to be brought into our systems or to be analyzed. The tool will incorporate a geographically distributed subset of laboratory data,
syndromic data, hospitalization data, and excess death data. With this analytic tool, the state will be able to see trends and predict activity without putting burden on healthcare facilities and surveillance systems to incorporate all data.

The project will improve the efficiency of COVID-19 surveillance and reducing the burden on health care providers.

**Additional information about the placement:**

The fellow will be working alongside energetic and driven public health experts who are part of an exciting data modernization effort.