Johnson County Department of Health and Environment

Assignment location:
Olathe, KS

Johnson County Department of Health and Environment
Epidemiology Division

Primary Mentor: Megan Sparks, PhD (Public Health-Environmental Epidemiology), MPH (Environmental Health, Biosecurity and Disaster Preparedness), BS (Animal Science)

Epidemiologist II
Johnson County Department of Healthy and Environment-Epidemiology Division

Secondary Mentor: Elizabeth Holzschuh, Master of Science- Public Health, Microbiology, and Emerging Infectious Diseases

Director of the Epidemiology Division
Johnson County Department of Health and Environment

Work Environment: Hybrid

Assignment Description

Agency Description:

Johnson County serves a diverse and expanding population of more than 600,000 residents through 28 department/agencies/offices. More than 3,600 public servants are dedicated to helping Johnson County remain a safe, vibrant community. The Fellow's position would be housed within the Epidemiology Division of the Department of Health and Environment (DHE). DHE was the first health department in Kansas to be accredited in 2014 by the Public Health Accreditation Board. Towards its vision of being the innovative leader in community health and environmental protection, the Department delivers more than two dozen programs and services. DHE recently underwent strategic planning for FY2023-2025 and cited several strategic priorities ranging from promoting health equity to improving the data infrastructure across the department. The Epidemiology Division will be instrumental in these activities and, thus, the Fellow would have the opportunity to participate. The Epidemiology Division reports to a Division Director, Elizabeth Holzschuh, and comprises three level-two Epidemiologists, two level-one Epidemiologists, and two disease investigators. The Division values innovation, collaboration, courage, and advocacy. We also value humor and teamwork. We have worked closely over the pandemic to cultivate a relaxed, friendly culture that facilitates learning and discussion.
Describe Statistical and Data Analysis Support, Such as Databases, Software, and Surveillance Systems Available to the Fellow:

Johnson County's My Resource Connection (MyRC) is a means for facilitating care coordination for individuals with high needs and frequent interaction with government agencies. MyRC consists of the following components:

- Client database of demographic, contact, and service data regarding individuals who have interacted with approximately 25 participating state and local governmental human service agencies.
- A community services database regarding providers of human and social services (non-profit, faith-based, and governmental).
- ETL processes (Extract/Transform/Load) for importing and ensuring continuously up-to-date client and community resource data into the databases.
- Data enrichment services which links/matches client data across agencies, identifies mutual clients and high utilizers, performs change detection to alert case managers about events regarding their clients, and geocoding of addresses.
- A secure web application with credential-based access that allows users to view data in the client database and make use of the data enrichment services applied to that client data.
- A public-facing web application that allows users to view data in the community services database.

Any additional information about the placement:

The fellow would be expected to work in a traditional office environment and would be permitted to work remotely under the same expectations as regular staff, which allows eligible employees to work remotely not more than 60% of their work schedule unless they have obtained prior approval from their supervisor.

Describe the Preferred Background and Skills the Ideal Fellow For This Site Would Have:

The Fellow should have a strong background in data science and epidemiology, and a foundational knowledge of all aspects of applied public health practice. Specific to the primary project, an understanding of intersectional public health is strongly encouraged.

Projects

Project 1 Title: Using an Interagency Master Person Index to Identify High Utilizers Across Multiple Service Sectors

Project objectives and expected deliverables: Johnson County's My Resource Connection (MyRC) is a means for facilitating care coordination for individuals with high needs and frequent interaction with government agencies. The primary objective is to use My Resource Connection data to establish a data-driven, interagency definition for high utilizers that accounts for multi-system use of services as intended (e.g., immunization services, transportation) vs. encounters with systems that may be
negatively associated (e.g., criminal justice). Other objectives include: validating this new definition against existing client data from myRC, determining common risk factors for individuals determined to be interagency high utilizers.

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- ETL processes (Extract/Transform/Load) for importing and ensuring continuously up-to-date client and community resource data into the databases.
- Data enrichment services which links/matches client data across agencies, identifies mutual clients and high utilizers, performs change detection to alert case managers about "events" regarding their clients, and geocoding of addresses.
- A secure web application with credential-based access that allows users to view data in the client database and make use of the data enrichment services applied to that client data.
- A public-facing web application that allows users to view data in the community services database.

Expected public health impact from this project: Understanding common characteristics of interagency high utilizers is vital to identifying potential risk factors and assessing the potential for early intervention. Further, considering an interagency master patient index, our need is to evaluate this data system through a public health lens in order to establish a theoretical and interagency definition of high utilizer as opposed to the more traditional numerical definition used by clinical care and criminal justice. More traditional definitions for high utilizers cannot adequately capture an interagency service use and fail to consider individuals who are using agency services as intended. Correctly identifying those in need fundamentally relies on an accurate and data-driven definition.

Project 2 Title: Using Past Clinical Data to Conduct an Equity Needs Assessment in Care

Project objectives and expected deliverables:

- Create a master person index for clients across services in the health department
  - Deduplication and merging of visits and records
  - Creating classification system for missingness or discordant race and ethnicity data
- Integrate changes from master person index of JCDHE information into MyRC data to contribute appropriate information for across government associations
- Conduct an equity needs assessment based on client information on our clinic services
  - Uses both qualitative data from medical record and quantitative data

Final report indicating gaps in services or clientele with recommendations for improvements
Expected public health impact from this project: We have no true idea of our overall population served, except for information required by grants. Much of the information reported does not include factors that would be included in an equity assessment. By doing this work, the health department, as well as unique programs, could have actionable data to back up anecdotal data as we move forward our equity and 3.0 work as a department.