

Realizing the full potential of maps and spatial analysis for a community health center – a qualitative approach.

Kevin Hu, MD

PGY 3 Resident, Northwestern McGaw Family Medicine at Humboldt Park

Abstract:

Context: In underserved communities, location is a well-recognized factor influencing health. Geographic information systems (GIS) permit the generation of maps and spatial analyses of a wide array of biological and social determinants of health and have historically enabled some successful public health interventions. However, evidence is sparse regarding sustained use of GIS-based population health strategies at the community health center (CHC) level. In primary care, the full analytical potential of GIS has yet to be realized. Objective: Main objective is to understand how stakeholders in a CHC and its surrounding community would use maps and spatial analytics in their work. Additionally, measure organizational capacity for technology adoption. Human Subjects Review: IRB exemption submission pending.

Design: Qualitative study. Setting: 1 federally qualified health center (FQHC); the surrounding urban, underserved community. Participants will include the practitioners and leadership at the FQHC, its patients, and surrounding community-based organizations.

Intervention/Instrument: Interviews, focus groups, and validated surveys that measure organizational capacity for adopting new technologies, i.e. innovative capacity. All interviews and focus groups will begin with a shared prompt - maps highlighting hotspots for chronic diseases, maternal and infant morbidity and mortality, and social determinants of health.

Main and Secondary Outcome Measures: The main outcome measure will be themes identified from interviews and focus groups about strategies for incorporating GIS.

Secondary Outcome: Innovative capacity scores.

Anticipated Results: Themes may include the use of spatial analyses to address local hazards to public health, to automate the identification of accessible health promoting resources, and to support community development and advocacy work, etc. This CHC will likely score highly in innovative capacity.

Conclusions: Sustainable use of GIS and spatial analysis to inform CHC service delivery and development can be limited by time, expense, and expertise. By posing the question of strategy to diverse stakeholders, our research may highlight future directions for development of GIS-based health tools and discern whether adoption lag owes more to a paucity of actionable ideas, funding, or low innovative capacity all the while simultaneously augmenting organizational change management resources as a product of the interchange.