Advancing the Public Health Information System: Housing Status and Health Data Integration in the Emergency Department

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Overview

Utilization of information technology (IT) in health care has intensified rapidly over the past decade. Health information technology has the potential to improve the health of individuals and the performance of providers, yielding improved quality, cost savings, and greater engagement by patients in their own health care (Buntin, 2011). Advancement toward population health improvements through the expanded capture, sharing, and use of electronic health data from diverse sectors is one of the main drivers of innovation in public health informatics.

The All Chicago Community Health Peer Learning Program is looking to address specified population health issues for the homeless/housing insecure in Chicago through the creation of new information pathways between healthcare providers and social service organizations

ALL IN DATA FOR COMMUNITY HEALTH
- Community Health Peer Learning Program
- Data Across Sectors for Health
- The Colorado Health Foundation
- BUILD Health Challenge

(Data Across Sectors for Health (DASH), 2017)

Objectives

This is a multi-method qualitative study designed to evaluate the All Chicago Community Health Peer Learning Program. Data was collected through key informant interviews, observations and document analysis.

The purpose of this study is to:
- Explore cross-sector data sharing as a driver of population health
- Identify emergent themes and primary uses for future informatics capacity building efforts meant to inform the healthcare system on addressing homelessness
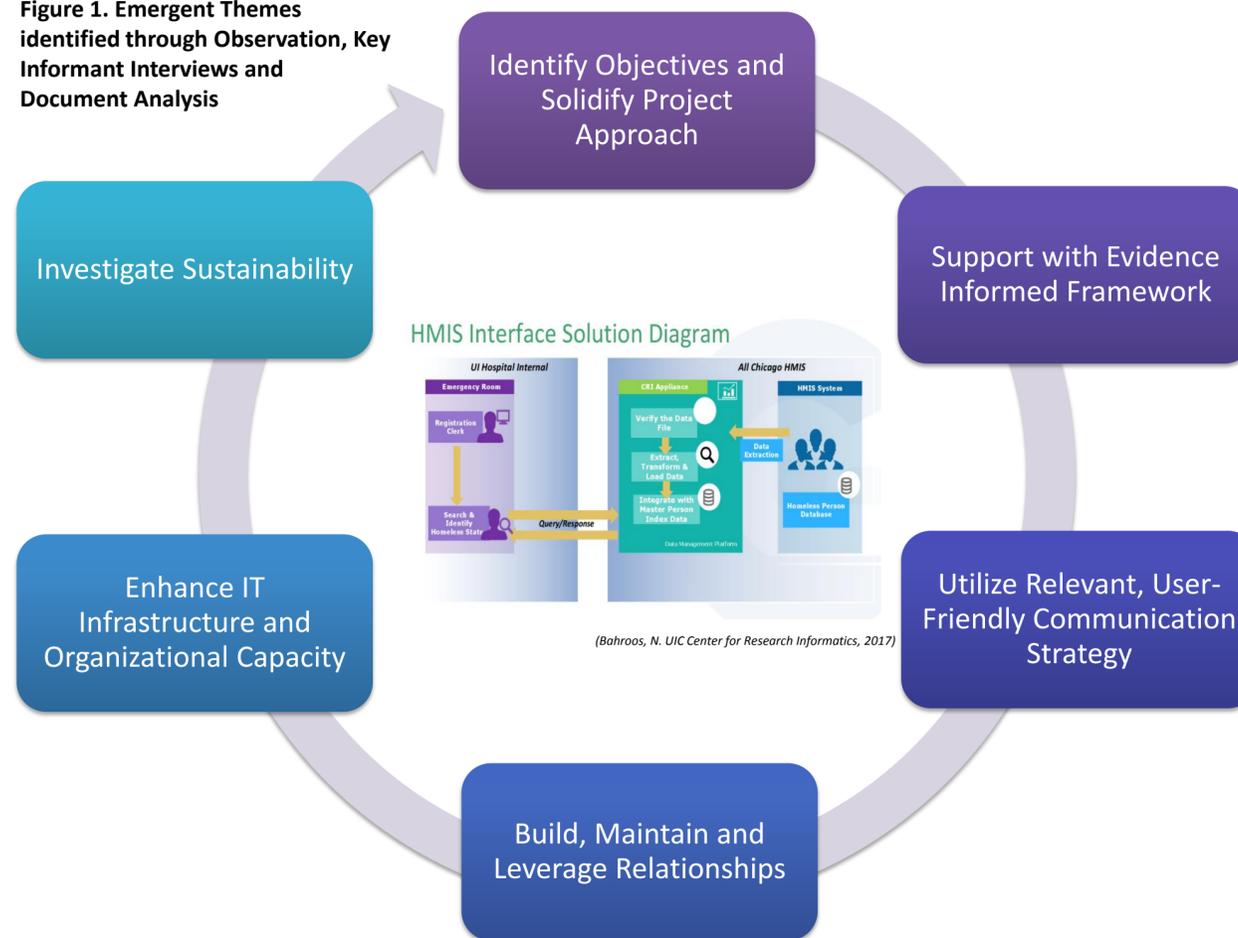
Methods

Data collection and analysis was conducted in three phases. Software for qualitative data analysis: NVivo

Phase I	Phase II	Phase III
• Literature review to develop a guide for observation and analysis • Unstructured participant observation of All Chicago CHP Site Visit – December 1 – 2, 2016.	• Convenience sampling; Key Informant Interviews with Project Stakeholders (n=3) • Interviews transcribed, coded and labeled to identify corroborating themes	• Unstructured participant observation of All Chicago CHP March Advisory Board Meeting – March 14, 2017 • Document Analysis of the Community Action Plan (Draft version 2)

Results

Figure 1. Emergent Themes identified through Observation, Key Informant Interviews and Document Analysis

Identify Objectives and Solidify Project Approach

Support with Evidence Informed Framework

Utilize Relevant, User-Friendly Communication Strategy

Build, Maintain and Leverage Relationships

Enhance IT Infrastructure and Organizational Capacity

Investigate Sustainability

HMIS Interface Solution Diagram

(Bahroos, N. UIC Center for Research Informatics, 2017)

Table 1. Primary Uses of Evaluation Findings

Uses		
Render Judgements	**Facilitate Improvements**	**Generate Knowledge**
• Leadership & Accountability	• Identify Strengths & Weaknesses	• Generalization / Applicability of Methods
• Governance Structure	• Manage Deliverables More Effectively	• Structure Process for Replication
Decisions		
Continuity	Process Improvement	Policy

Data Source: A framework to link evaluation questions to program outcomes. Journal of Extension, (2009).

References:

Anderson, C. (2010). Presenting and evaluating qualitative research. *American Journal of Pharmaceutical Education*, 74(8), 141.

Buntin, M. B., Burke, M. F., Hoaglin, M. C., & Blumenthal, D. (2011). The benefits of health information technology: a review of the recent literature shows predominantly positive results. *Health Affairs*, 30(3), 464-471.

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Discussion

Health Impact
- Increased visibility for hard to service population
- Improved resource allocation addressing homelessness
- Empowered stakeholders equipped with client-level data to further coordinated entry processes
- Identified pathways for cross-sectoral models of care delivery

Management Implications
- Roadmap for engagement of the technical community in addressing social determinants of health
- Value proposition for providers in identifying and understanding utilization patterns for the homeless
- Value-added service in identification of super-utilizers for the emergency department

Limitations

This assessment is preliminary and several limitations have been identified:

- Time
- Limited sample size
- Based on the nature of the relationship that exists between the subjects of study and the researcher, validity of the findings could be jeopardized or enhanced (Jones, 2001).
- The researcher's presence during data gathering, which was unavoidable, could have affected the subject's responses (Anderson, 2010)

Conclusion

Addressing the social determinants of health is critical for achieving health equity and requires broader innovative approaches. The decision-making strategies of the All Chicago CHP can be used to shape and guide organizational capacity building for the future of housing, health and human service delivery systems infrastructure.

The ability to inform organizational strategy through the expanded capture, sharing, and use of electronic health data could foster improved alignment across sectors driving better coordination of care, smarter allocation of resources, and promotion of healthier communities.

Acknowledgments