Title

Creating actionable surveillance to identify opportunities for CVD prevention for those with unmet social needs

Abstract

Background

The burden of undiagnosed and uncontrolled hypertension and other cardiovascular diseases (CVDs) is known to be higher in the communities served by Community Health Centers (CHCs). A multitude of lifestyle and environmental factors may contribute to patients social needs risk, which influences CVD outcomes. Due to barriers in the collection and documentation of patient social needs data in clinical settings, there are limitations in analyzing social and cardiovascular risk concurrently using electronic health record (EHR) data.

Objective

The project aims to establish a partnership-based infrastructure across public health and community health centers that is available to equip frontline care providers and communities to monitor, understand and respond to patterns of cardiovascular diseases (CVD) and risk associated with key social drivers of health (SDOH).

Methods

AllianceChicago (AC), a health-center controlled network, convened a workgroup of clinical, informatics and public health experts to design an extension of the MENDS common data model to incorporate social needs data. Through a series of design sessions, they produced a list of priority considerations and aims for the first iteration of the extended data model.

Results

The MENDS data model was expanded using three tables: Problem List, Social History, Patient Survey, and Social Vulnerability Index (SVI). These social risk tables include screening tool results, semi-structured data and relevant diagnosis codes. An added table utilized the CDC SVI data set with patient location using DeGAUSS methodology to estimate location-based social risk. Querying this data model, AC generated dashboards to demonstrate the relationship of individual and location-based social risk data with hypertension control.

Conclusion

This pilot demonstrated the ability to modify existing data models for analysis of SDOH using patient-level EMR data for public health surveillance, population health, and clinical care optimization. Opportunities to streamline model implementation are being assessed to scale this partnership for future analyses.