
Implementing clinical workflows for patients who have been identified by an automated algorithm for potentially undiagnosed prediabetes, diabetes, or hypertension: A formative evaluation



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Abstract

Background: Health information technology can be leveraged to improve diagnosis of chronic conditions, but few studies have evaluated implementation in real-world settings. Using a population health management platform, the largest health system in Hawai'i partnered with the Department of Health to develop an automated algorithm to identify patients with probable undiagnosed prediabetes, diabetes, or hypertension based on routine laboratory and clinical measures from electronic medical records. Health system leaders collaboratively developed clinical workflows for following up with identified patients for proper care and management. The clinical workflows were implemented in three pilot primary care clinics. We conducted a formative evaluation during the early implementation stage to understand the implementation process and identify barriers and facilitators.

Methods: The evaluation team conducted semi-structured interviews with 11 participants via videoconferencing in October-November 2020. Participants were purposefully selected for their roles in the implementation process across the health system. Interviews were recorded and transcribed, then coded by two evaluators using the Practical, Robust Implementation and Sustainability Model (PRISM) as a guiding framework. The evaluation was approved by the University of Hawai'i Cooperative IRB.

Findings: Overall, implementation of the clinical workflows was impacted by the demands of the COVID-19 pandemic on the healthcare system (*external environment*), as well as turnover in key frontline staff positions (*organizational characteristics*). Despite limited experience with actual implementation of the workflows, participants perceived the workflows as a valuable way to proactively outreach to patients who may have "fallen through the cracks" (*organizational perspective*). The project also aligned with value-based payment programs (*external environment*) and the nurse care coordinators' desire to work "at the top of their licenses" on chronic disease management (*organizational characteristics*). Participants identified the need for additional implementation training and support to address limited staff resources and increase provider awareness (*implementation and sustainability infrastructure*).

Implications for D&I Research: This formative evaluation served as an implementation strategy to capture and share local knowledge about implementing the clinical workflows in the pilot primary care clinics. The evaluation findings, guided by PRISM, suggest that the health system's implementation and sustainability infrastructure should provide ongoing technical assistance as the clinical workflows are rolled out across primary care clinics.

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