Optimization of Clinical Decision Support Tools for the Care of Older Adults with Diabetes Mellitus Type II

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ABSTRACT

In 2012, the Centers for Medicare and Medicaid Services (CMS) released their criteria for eligible providers requiring the healthcare providers (HCPs) to use clinically relevant information to identify patients who should receive reminders for preventive/follow-up care and led these patients the reminders, per patient preference (CMS, 2012, Objectives). The mandate requires organizations to review the process of providing preventive and follow-up care reminders and to develop clinical decision support systems (CDSS) that will prompt the HCPs to order the necessary interventions and follow-up care for the patient. The project focused on optimization of existing CDSS in the electronic health record system (EHR) of a primary care clinic located in the southern United States. The CDSS prompts the HCPs to order the necessary preventive and follow-up care, specifically for older patients with Diabetes Mellitus Type II (DM II), based on standardized clinical practice guidelines to help guide NPIF treatment decisions relevant to such facors age, race, and glycated hemoglobin (HbA1c) measurements, for the care of older patients with DM II.

OBJECTIVES

1. Determine the number of patients within the clinic for which use of CDSS tools for DM II is appropriate.
2. Using current guidelines, quantify the current state of care for older adults with DM II using data retrieved from the EHR prior to revision of existing CDSS DM II tools.
3. Integrate CDSS optimization for older adults with DM II and HbA1c.
4. Obtain feedback from the healthcare team to be able to devise, test, and implement an improved CDSS DM II system.

THEORETICAL FRAMEWORK: ROGER’S DIFFUSION OF INNOVATION

- Invention: The implementation of the existing CDSS is the EHR to increase efficiency in the care of older adults with DM II
- Adoption: The communication through the social system. The transfer of information between the provider at the clinic, the patient from the EHR providers and the project investigator is crucial to the successful adoption of the proposed enhancement to the existing CDSS
- Implementation: The main reason for using the CDSS is to improve patient care outcomes.
- Consequences: The main reason for using CDSS is to improve patient care outcomes.

IMPLEMENTATION

Implementation was a two-phase process that began after approval, was received from the Institutional Review Board at the University of Alabama in Huntsville.

Phase One

- Add alerts to the clinical EHR and learn how to use the system
- Address the functional needs of the EHR
- Identify the efficiency and usability of the CDSS specific to the care of patients with DM II
- Implement current state workflow and obtained approval for enhancements
- Submit optimization request to the EHR provider

Phase Two

- Determine the number of patients in the clinic who could benefit from the CDSS by running a query in the EHR
- Identify the current state of care for older adults with DM II in the EHR by reviewing existing records in the EHR
- Communicate the recommended enhancements
- Receive approval to submit enhancement requests to the EHR vendor
- Implement the level user functionality enhancement
- Communicate the enhancements to ensure that the interventions were appropriate for the clinic.

APPLICATION TO PRACTICE

- Evidence-based practice tools may assist the healthcare team in directing the path for preventive care and management of DM II
- The use of CDSS presents HCPs to order recommended interventions that are based on CGIs
- It is mandatory to provide the necessary preventive and follow-up care, specifically for older patients with DM II
- The refinement of the existing CDSS tools allow the HCP to meet the criteria for Meaningful Use, due to the improvement in the EHR that allows the HCP to improve the care of older adults with DM II

Barriers

- Limitations of the EHR functionalities in the EHR, which do not support and CGIs for all users, thereby creating the need to have the CDSS for each CGI separately
- HCP-specific CGIs places the EHR at risk of losing uniformity in the integration of CGIs across the platforms
- Rigorous functions limited to pre-designed queries without the capability to customize by end-user
- EHR lacked functionality to pull documentation of preventive care management measures into separate sections of patient e-notes
- CGIs lacking standards of care for cognitive impairments in patients with DM II that were not integrated in the EHR

Sustainability

- System evaluation and annual review process for the CGIs
- Development of the CDSS for patients with DM II
- Usability of the process for building CGIs for other diagnoses

REFERENCES