

Implementation Outcomes of a Health IT Program For Vulnerable Diabetes Patients

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Summary: This study is evaluating the Self-Management Automated Real Time Telephone Support (SMART-Steps) Program, which was developed through a previous Agency for Healthcare Research and Quality grant (R18 HS 017261). SMART-Steps used an automated telephone self-management (ATSM) support system to provide monitoring and education diabetic patients enrolled in the San Francisco Health Plan (SFHP). ATSM used health information technology (IT) to help patients self-manage outside traditional ambulatory settings, blending automated pre-recorded telephone queries and education with targeted ‘live’ telephone counseling by care managers. Care managers called if patients responded ‘out of range’ to a query, such as not having checked their blood sugar in the past 7 days. Counseling focused on self-efficacy and self-management skills. The research team is evaluating SMART-Steps Program’s effect on patient-centered outcomes, safety events, and measures from the Healthcare Effectiveness Data and Information Set amongst English-, Spanish-, and Cantonese-speaking diabetes patients. SMART-Steps provides a unique opportunity to examine the real-world implementation process for an evidence-based health IT intervention.

The objective of this study is to describe implementation fidelity—the degree to which the intervention is delivered as intended—for core ATSM intervention components. The core components were: 1) population-based data linkage to determine eligibility; 2) electronic exchange of health information to deliver ATSM queries to patients; 3) electronic integration of health information to identify patients requiring a call-back for an ATSM trigger; and 4) electronic integration of data to identify patients requiring a callback for a medication or laboratory trigger. Additionally, the study will describe the potential impacts of moderating factors, or barriers to implementation fidelity as well as adaptations of ATSM from planned to actual implementation. Moderating factors will include representation of participants versus eligible patients as measured by demographics and baseline clinical measurements, quality of intervention delivery in call-backs, and consistency of delivery over time. The team will review findings and identify adaptations made during implementation to inform future scale-up efforts and create an ATSM implementation guide for dissemination. This information will help interpret results from health IT interventions and guide adaptation and scale-up activities by organizations undertaking similar programs.

Specific Aims:

- Estimate the proportion of patients identified as SMART-Steps-eligible who were ineligible, and describe reasons for ineligibility. **(Achieved)**

- Determine if SMART-Steps patients received ATSM calls with intended frequency (weekly), content (questions/language), and duration (27 weeks). **(Achieved)**
- Estimate the frequency with which electronic exchange for out-of-range triggers (from ATSM and SFHP clinical registry/pharmacy claims) resulted in a documented call-back, in a sample of patients stratified by language. **(Ongoing)**
- Compare SMART-Steps-enrolled to -eligible patients for clinic, age, language, sex, hemoglobin A1c, insulin use, blood pressure, cholesterol, and prior medication non-adherence. **(Achieved)**
- Describe the quality of intervention delivery from care managers call-backs, including frequency of supplemental self-management support, call duration, adherence to protocols, and creation of patient action plans, for a diverse sample of patient triggers. **(Ongoing)**
- Over the course of SMART-Steps implementation, identify differences in average length of callbacks, proportion of call-backs made for triggers, and whether wait-list patients (vs. not) had differential ATSM engagement. **(Upcoming)**
- Summarize fidelity assessment findings, adaptations and implications for real world ATSM implementation and related health IT interventions into a guide, with SFHP partnership. **(Ongoing)**

2011 Activities: The research team's focus in 2011 was on the quantitative and qualitative analysis of the implementation of fidelity of the SMART-Steps Program protocol. They analyzed study enrollment data to determine which patients participated, declined, or were not contacted due to limited resources, including unable to contact or not eligible as determined by screening. Comparison of demographic and clinical characteristics by these groups allowed the study team to look for differences in participation rates. Additionally, an analysis of care manager telephone call records was conducted to determine the frequency with which the care manager was able to speak with the SMART-Steps participant. Finally, the study team conducted interviews with the SFHP staff to identify facilitators and barriers of following the research protocol.

As last self-reported in the AHRQ Research Reporting System, project progress and activities are on track and project budget spending is roughly on target.

Preliminary Impact and Findings: To participate in the study, patients needed to meet the following criteria: diabetic, enrolled in the health plan; and English-, Cantonese-, or Spanish-speaking. Patients were screened based on these criteria using the health plan records and the electronic medical record. The SMART-Steps Program was offered as a health plan member benefit, but due to limited resources it was not possible to enroll all members. The analysis of members who declined study participation or were not contacted because of limited resources indicated that there were no differences in demographic characteristics. The call manager telephone data showed that more than 95 percent of calls were correctly delivered. For calls that were not correctly delivered, one reason included calls not going out to newly enrolled participants

The SFHP staff who participated in the interviews reported an overall positive experience with the SMART-Steps Program. The following barriers to protocol fidelity were identified: 1) due to high staff turnover during database development, many people contributed the development process, which resulted in a slightly cumbersome user interface; 2) call managers reported that it was difficult to triage calls; and

3) due to the structure of the health plan, care managers were required to contact a designated “point person” in clinic if the patient had a serious issue; however, the call managers would have preferred to communicate directly with the provider.

Target Population: Acute Respiratory Infections, Adults, Chronic Care*, Diabetes, Elderly*, Low Literacy, Low-SES/Low Income*, Medicaid, Medically Underserved, Medicare, Racial or Ethnic Minorities*: Cantonese and Spanish-speaking

Strategic Goal: Develop and disseminate health IT evidence and evidence-based tools to support patient-centered care, the coordination of care across transitions in care settings, and the use of electronic exchange of health information to improve quality of care.

Business Goal: Knowledge Creation

** This target population is one of AHRQ's priority populations.*