

## Harnessing Health Information Technology for Self-Management Support and Medication Activation in a Medicaid Health Plan

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<b>Organization:</b>	University of California, San Francisco
<b>Mechanism:</b>	RFA: HS07-007: Ambulatory Safety and Quality Program: Enabling Patient-Centered Care Through Health Information Technology (PCC)
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<b>Project Period:</b>	September 2007 – August 2011
<b>AHRQ Funding Amount:</b>	\$1,130,769

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**Summary:** The Self-Management Automated Real Time Telephone Support (SMART-Steps) Program enhanced an automated telephone self-management (ATSM) support system to provide ethnically-diverse, publicly-insured adults and older adults who have diabetes with surveillance, education, and additional telephone care management guided by questions on patient behavior. This work built on a previously-funded Agency for Healthcare Research and Quality (R21 HS 014864) project by implementing modifications to adapt the program for sustained use by users with low literacy. Through a quasi-experimental study design, the project team examined the effects of the intervention among SMART-Steps Program participants from the San Francisco Health Plan (SFHP), a Medicaid plan. Enrolled patients were randomized to the ATSM-only group (SMART-Steps ONLY), the ATSM-plus group (SMART-Steps PLUS), or the usual care comparison group that subsequently received ATSM-only or ATSM-plus services. In the SMART-Steps ONLY model, patients responded to a rotating set of questions on self-care, psychosocial aspects of care, and receipt of preventive services. Patients with an answer that was “out of range” on an item received an immediate automated health education message. Patients with an answer “significantly out of range” received the automated message plus a followup person-to-person call from a SFHP care manager. In addition to those services, the SMART-Steps PLUS model had supplementary phone communications from the ATSM care manager to the patient triggered by data derived from pharmacy claims and a diabetes registry. These calls provided further education about medication adherence based on clinical criteria developed by a clinical advisory board.

Dr. Dean Schillinger and his research team conducted patient surveys to analyze outcomes such as perspectives on the structure of their care and the interpersonal processes of care. To analyze patient safety, the team explored characteristics of adverse events: triggers, frequencies, their nature, preventability or ability to be ameliorated, and clinician awareness. To analyze effects of the intervention on relevant metabolic and clinical processes and outcome measures, the team used electronically-available clinical and administrative data.

### Specific Aims:

- Measure the effects of a Medicaid health plan-directed ATSM on patient-centered outcomes among ethnically-diverse health plan enrollees with diabetes. **(Achieved)**
- Explore whether combining ATSM with an additional patient-directed health information technology innovation—a medication activation communication strategy triggered by pharmacy claims data—yields differential effects on patient-centered outcomes compared to ATSM alone. **(Achieved)**

- Quantify and characterize patient safety events triggered and/or identified through active surveillance among ATSM participants. **(Achieved)**
- Measure differences in the frequency and nature of patient safety events among participants receiving ATSM-only versus ATSM-plus medication activation. **(Achieved)**
- Explore the effects of ATSM interventions on Healthcare Effectiveness Data and Information Set (HEDIS)-relevant metabolic and clinical process and outcome measures when compared to usual care. **(Achieved)**
- Explore whether ATSM-plus medication activation is superior to ATSM-only with respect to HEDIS-relevant metabolic and clinical process and outcome measures. **(Achieved)**

**2011 Activities:** The SFHP continued to enroll health plan members in the SMART-Steps Program in 2011. A total of 910 members were assessed for eligibility. Of those, a total of 362 enrolled in SMART-Steps. Members were excluded if they did not meet the inclusion criteria (220), could not be contacted (168), or declined to participate (160). The enrollees included 186 Cantonese, 107 English, and 69 Spanish speakers. A total of 278 baseline surveys were completed (78 percent), with 252 (91 percent) of first-time followup completed. Furthermore, 114 of 128 eligible participants (89 percent) completed their second interview.

The research team worked closely with SFHP outreach and care management staff in a consultative and supportive role. Support included: monitoring quality assurance of care manager efforts, facilitating communication between SFHP staff and community provider sites, ensuring accurate interpretation of daily and weekly data reports, and promoting secure monthly data exchange between the Community Health Network diabetes registry and the SFHP staff to allow SFHP to identify potentially-eligible SFHP members. The team also monitored the fidelity of the participant randomization process, the wait-listing procedures intrinsic to the quasi-experimental design, and the care management protocols.

The research team also focused on data collection and data cleaning. Data analysis included: 1) a comparison of patient-centered outcomes and quality of life among patients randomized to the intervention and control arms; 2) a comparison of ATSM to ATSM-plus for participants transitioning into the intervention group; 3) an analysis of clinical outcomes for hemoglobin A1C and low density lipoprotein cholesterol; and 4) an analysis of safety events.

A 1-year no-cost extension was used to extend study recruitment. The project timeline was therefore adjusted to allow time for data analysis in 2011. As last self-reported in the AHRQ Research Reporting System, project progress was on track and project budget spending was on target. The project was completed in August 2011.

**Preliminary Impact and Findings:** SFPH members who enrolled in SMART-Steps were significantly more likely to be younger, female, Hispanic/Latino, non-English speaking, and less likely to be white/Caucasian. There were no significant differences in hemoglobin A1c, systolic blood pressure, diastolic blood pressure, or low density lipoprotein between those who enrolled and those who declined to participate in the study. Further data analysis will continue beyond the funding period.

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**Target Population:** Adults, Diabetes, Elderly\*, Low Literacy, Low SES/Low Income\*, Medicaid, Medically Underserved, Medicare, Racial or Ethnic Minorities\*, Safety Net, Uninsured

**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:** Implementation and Use

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