

## Ambulatory Care Compact to Organize Risk and Decisionmaking

---

<b>Principal Investigator:</b>	Chueh, Henry, M.D.
<b>Organization:</b>	Massachusetts General Hospital
<b>Mechanism:</b>	RFA: HS07-007: Ambulatory Safety and Quality Program: Enabling Patient-Centered Care Through Health Information Technology (PCC)
<b>Grant Number:</b>	R18 HS 017190
<b>Project Period:</b>	September 2007 – August 2011
<b>AHRQ Funding Amount:</b>	\$923,783

---

**Summary:** Increased emphasis on care guidelines and efforts that focus on a relatively narrow set of quality measures to improve quality of care have transformed the practice of medicine in ways that are both good and bad for patients and clinicians. Standardized care algorithms attempt to promote uniform compliance with evidence-based care. Underutilization of standardized care algorithms may be due to their inability to accommodate individual patient and clinician preferences and values. With greater access to health information via the Internet and other media, patients are increasingly involved in the medical decisionmaking process. At the same time, advances in health information technology (IT) have ushered in electronic health records (EHRs), increasing capacity to identify and track patient populations within a health system. These advances facilitate the design of new models of primary care delivery that employ system-level health IT tools to promote patient and clinician partnerships.

This project involved designing, developing, implementing, and evaluating a comprehensive, practical, and innovative model of care delivery to support the process of shared decisionmaking. The system, titled Ambulatory Care Compact to Organize Risk and Decisionmaking (ACCORD), allowed patients to collaborate with clinicians to establish, monitor, and track shared clinical care plans. ACCORD interfaced with the Massachusetts General Primary Care Practice-Based Research Network's preexisting internally developed EHR system.

The project team developed ACCORD to help providers and patients manage followup activities for primary care visits. The team selected the following domains for ACCORD maintenance: preventive health screenings, abnormal findings followup, and medication monitoring. ACCORD enabled patient-specific care plan development to reduce miscommunication between providers and patients by presenting care plans as explicit "compacts" or agreements between provider and patient, and provided explanatory information about the risks of not adhering to the plans.

The project activities were organized into three stages. In Stage 1, the team designed, built, and tested the system to develop a usable method of compact authoring and tracking. In Stage 2, they tested the tool to determine if providers and patients were comfortable creating compacts and if the tool was effective in this capacity. In Stage 3, the team conducted a randomized controlled trial (RCT) in a primary care practice and an institution-wide cohort study in another primary care practice to examine system adoption and process measures. The RCT examined differences in outcomes, such as preventive screening test completion, chronic disease management, patient engagement, patient knowledge, patient-provider communication, patient and clinician satisfaction, and various system-utilization metrics.

### Specific Aims:

- Design a model for patient-centered primary care that facilitates patient-clinician partnerships that results in documented followup care plans that can be tracked reliably to reduce the risk of care plans being lost to followup in busy primary care networks. **(Achieved)**
- Develop a health IT architecture and software (i.e., ACCORD) to support the developed patient-centered care-delivery model. **(Achieved)**
- Implement and evaluate ACCORD in an RCT within the Massachusetts General Primary Care Practice-Based Research Network. **(Ongoing)**

**2011 Activities:** The research team completed design of the RCT. Revisions were made to accommodate recruitment delays and the new scenario for initiating ACCORD from patient lists in Oncall Answers result sets, the local EHR. The study design for the RCT focused on three ACCORDs expected to be appropriate for a relatively high frequency-of-use study population. The population eligible within the study time frame was identified by query, and both the control and intervention groups were targeted for additional enrollment support. Intervention group providers were trained to use ACCORD in both the episodic, one-problem-at-a-time scenarios initially conceived, and the cohort-based scenario in which providers proposed the same range of ACCORD options to a list of patients matching specific indications.

The 1-year no-cost extension provided the necessary time to continue research activities, which were slowed due to delays in the development of the patient portal. Activities will continue past the end of the project period to complete the final aim. The project will utilize resources beyond AHRQ funding to complete this work. As last reported in the AHRQ Research Reporting System, project progress was mostly on track and project budget spending was on target. The project period ended in August 2011.

**Impact and Findings:** Focus group findings centered on: 1) patient and provider perception of decisionmaking; 2) strategies patients and providers use to improve shared decisionmaking; 3) desired characteristics of the ACCORD system from the patient and provider perspectives; and 4) perceived benefits and concerns of the ACCORD system. Desired characteristics reported by patients included integration with specialists, assistance with support for topic-specific communication, and access to vetted information authored in- and outside Massachusetts General Hospital. Desired characteristics reported by providers included integration with clinical information systems and workflow and support for post-visit review that includes automated detection of events suitable for ACCORD, such as detecting that a chest X-ray report contains mention of a “solitary pulmonary nodule.” Patients and providers alike wanted the system to facilitate the preparation of topics for upcoming visits.

Patients’ reports on the usefulness of the reminders varied, since many already use a variety of personal systems. Providers cited “always on” reminders to patients and adjustable reminders to providers as a desired characteristic of the ACCORD system. Patients believed that ACCORD had the potential to provide more direct access to the information patients need, reduce barriers to communicating with their physician, and clarify care plans. Providers felt that a mechanism to expose patients to appropriate topics and educational materials prior to a visit would allow patients to participate more effectively in decisionmaking. Chronic disease management, preventive health care, medication management, and followup of non-urgent but potentially concerning findings were all areas reported as amenable to shared decisionmaking.

Participants noted concerns about the security of health information accessible via the Internet, the

difficulty of locating relevant and up-to-date consumer health information, the potential limited utility of the system for patients with low computer literacy, and the need for integration of ACCORDs with care plans created by patients with other care providers not participating in ACCORD. Both providers and patients expressed concerns about the time it would take for providers and patients to use the ACCORD system during visits.

---

**Target Population:** Adults

**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

---

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