

Project Title:	Using Information Technology for Patient-Centered Communication and Decisionmaking about Medications
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Organization:	Northwestern University
Mechanism:	RFA: HS07-007: Ambulatory Safety and Quality Program: Enabling Patient-Centered Care through Health Information Technology (PCC)
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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

Summary: The overarching objective of this multi-component intervention is to develop a protocol to reconcile medications through the phases of the patient-provider clinical encounter. The project, approximately mid-way through its progress, provides patient education materials and medication lists automatically extracted from the Certification Commission for Healthcare Information Technology (CCHIT) certified Epic Systems' electronic medical record (EMR), which is known as EpicCare (Epic version Spring 2007 IU 2), to patients as they check into the multi-specialty, primary care center for their physician visit. Patients then review the medication information contained within the system, indicating if there are any discrepancies or if they have any related questions or concerns. The nurse reviews patient-provided information and places the output into the rooming sheet for the physician. The physician will then clarify any issues with the patient, update the patient's medication list in the EMR, and, if prescribing a new medication, the system will automatically generate a plain-language medication information sheet for the patient. The information sheet is automatically generated through project-developed dot phrases (system macros that automatically fill in descriptive text prompted by key words) in the EMR, an enhancement to the functionality of the pre-existing Epic EMR.

The clustered, controlled clinical trial will be randomized at the "pod" level, as the clinic is organized into four areas ("pods") with separate nursing staff and physicians. Through the post-visit interviews and data extracted from the EMR, the project will measure outcomes such as post-visit discrepancies in the medication list and the patient's functional understanding of their medication regimen, questions on adherence and safety, as well as a series of process measures to assure that the intervention is translatable to other organizations.

Specific Aims

- Develop and test a multimedia program (which has been since revised to an educational print piece) to help patients understand the importance of both giving and receiving accurate information about medications (Pre-Visit Patient Intervention). **(Ongoing)**
- Use the EMR to encourage patient-centered medication management and extend the EMR medication management capability by training nurses to engage in a patient-centered review of *current medications* immediately before a patient sees the doctor. Leverage the EMR by developing a template that physicians can easily access and display on-screen to engage in a patient-centered discussion about *new medications* under consideration. **(Ongoing)**

- Work with the Practice-Based Research Network to disseminate and track the use of effective interventions, and create pathways for facilitating national distribution to other practices. **(Upcoming)**

2008 Activities: The team has created a physician-patient working group and conducted a series of focus groups with patients to collect feedback on both medication information sheets and patient education materials. The team developed content for a patient education DVD, and subsequently decided that it would be more feasible, effective, and disseminable to use the content in print materials provided to the patient upon check-in for their doctor's visit. After this decision, the team developed a folder of general medication management and tailored informational materials for patients. The tailored materials include medication information sheets automatically generated through dot phrases in the EMR. The team has developed low-literacy, plain-language content describing the medication's purpose, dosage instructions, side effects, and proper responses for patients for 400–500 of the top prescribed medications. The content and medication reconciliation protocols were developed through an iterative process, incorporating feedback from patients, physicians, pharmacists, IT specialists, health literacy experts, and other key informants. The team has pilot-tested Phase One of the reconciliation process and completed data collection from 200 patients for their baseline data.

Preliminary Impact and Findings: The baseline data collection was completed and the data have been analyzed. Preliminary findings showed that 50 percent of participants indicated a medication discrepancy where at least one medication on their medication list was one that the patient was not actually taking. Another 50 percent indicated that they were taking a medication on the printout in a manner differently than it was listed. Five percent of patients indicated taking a prescription that was not listed on the printout at all, out of 35 percent who indicated taking either an over-the-counter or prescription medication that was not listed.

Selected Outputs

The team has developed prototype print materials to support patients' ability to engage in a medication review and reconcile medications at the time of the encounter.

Grantee's Most Recent Self-Reported Quarterly Status: The team is in the process of remediating the under spending. Modifications to the protocol have been finalized, and the materials for the intervention have been purchased (four large printers for clinics and myMeds medication folders). A candidate has been selected to fill the position of research assistant (to replace the budgeted study nurse, who is no longer needed under the new protocol), beginning in May 2009.

Milestones: Progress is mostly on track.

Budget: Spending is roughly on target.