

Project Title: Implementing a Low-Literacy, Multimedia Information Technology (IT) System to Enhance Patient-Centered Cancer Care

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Organization: Evanston Northwestern Healthcare Research Institute

Mechanism: RFA: HS07-007: Ambulatory Safety and Quality Program: Enabling Patient-Centered Care through Health Information Technology (PCC)

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AHRQ Funding Amount: \$1,198,839

Summary Status as of: December 2008

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: This project modifies and tests a low-literacy-friendly talking touchscreen multimedia information and assessment system for patients being treated for breast and colorectal cancer. CancerHelp® Patient Education Software is a widely used interactive touchscreen software program developed by the CancerHelp Institute, which provides patient education on diagnoses, treatment, support, side effects, prevention, and screening. It contains easy access to cancer information from National Cancer Institute (NCI) sources, user statistics, and customizable features. This project, approximately mid-way through its progress, tests the hypothesis that use of the CancerHelp® Talking Touchscreen will affect patient satisfaction with health care, patient-provider communication, cancer-related knowledge, patients' self-efficacy, treatment adherence, and health-related quality of life (HRQL).

To facilitate the system's feasibility and usefulness to low-literacy patients, the team is adapting the system to incorporate less text on all screens; providing patients with the option to choose between text-based and audio presentation of the education materials, communication tools, and assessment questions; adding multi-cultural images; and adding videos for certain modules. Patients are able to print information and generate a visit-specific checklist of their top priorities to discuss with their providers. During regular visits to cancer care centers for treatment, participants will interact with the adapted CancerHelp® Talking Touchscreen, available at any time during clinic hours via a kiosk at the site. At the conclusion of their in-clinic cancer treatments, participants in the intervention arm will also receive a post-treatment cancer survivorship care plan (modeled on templates from the Institute of Medicine) that summarizes the cancer treatments they have received and provides appropriate aftercare recommendations, including detailed contact information for future appointments. Participants' clinicians review the care plan with them and instruct them to provide a copy to their primary care physicians, who will gradually reassume responsibility for patients' health concerns after cancer treatment. This survivorship care planning is designed to minimize the interruptions in care that can occur when patients complete their cancer treatments.

The intervention will be evaluated through a randomized trial of 200 patients with breast or colorectal cancer conducted at 3 ambulatory cancer care centers. Patients in both the intervention group and control group will use the talking touchscreen to complete surveys on knowledge, satisfaction, HRQL, and other study measures up to three times during and once after treatment. Both groups will receive diagnosis- and treatment-specific brochures. However, only patients randomized to the intervention arm will have access to the CancerHelp® Talking Touchscreen patient education software adapted for this intervention.

Specific Aims

- Test whether a low-literacy-friendly multimedia information and assessment information technology (IT) system used in daily clinical practice improves patient outcomes during treatment in 200 recently diagnosed breast and colorectal cancer patients, based on the primary endpoints: satisfaction with health care communication, knowledge of cancer and treatment, self-efficacy, adherence to recommended treatment, and HRQL. **(Ongoing)**
- Evaluate the relationships between patient characteristics, resources, needs, health behaviors, and health outcomes using the Behavioral Model for Vulnerable Populations. **(Upcoming)**
- Test whether use of the multimedia IT system improves the following patient outcomes regarding the early post-treatment surveillance period (3 months after treatment): adherence to recommended post-treatment surveillance care, and HRQL. **(Upcoming)**

2008 Activities: The team has conducted the developmental and logistical procedures to incorporate computer kiosks into the clinical sites. Once the team reviewed and revised their data collection instruments, they submitted the materials to the talking touchscreen informatics team and the evaluation questions to their Expert Advisory Panel to gather input on final software content. Based on analysis of the feedback received, the team programmed the CancerHelp® modules to incorporate suggested modifications and integrated audio components into the Talking Touchscreen, including the development of breast and colorectal cancer modules; video clips of the site physicians and a co-investigator to reinforce provider interest in the discussion topics presented by the system; audio recordings for all text in the questionnaires; and patient-physician communication tools for patients, such as a “Topics for Today” checklist. The team conducted a pre-test of the system with 12 patients across the 3 clinical sites that will participate in the full clinical trial.

Preliminary Impact and Findings: Preliminary findings from the pre-test found that participants thought that the "Topics for Today" covered all relevant topics that they might want to discuss with their providers and found the system valuable, useful, and usable.

Selected Outputs

Cancer Care Communication (C3): Implementing a Low Literacy, Multimedia Information Technology System to Enhance Patient-Centered Cancer Care. American Academy on Communication in Healthcare (AACH) Research and Teaching Forum, Joint Annual Meeting of the American Association for Cancer Education (AACE), Cancer Patient Education Network (CPEN), and European Association for Cancer Education (EACE); 2008.

Cancer Care Communication (C3): Implementing a Low Literacy, Multimedia Information Technology System to Enhance Patient-Centered Cancer Care. Fall Scientific Research Poster Reception; 2008; NorthShore University Health System Research Institute, IL.

AHRQ 2008 Annual Conference presentation: Cancer Care Communication (C3) ([PowerPoint® File](#), 3.4 MB; [Web Version](#)).

Grantee’s Most Recent Self-Reported Quarterly Status: The project is somewhat under spent, approximately 5-20 percent. The project team is evaluating modifications to the CancerHelp® software, such as delivering module content as videotaped segments and re-programming the software to deliver up-to-date NCI content. The team anticipates that these enhancements will bring them in proportion to their original funding.

Milestones: Progress is mostly on track.

Budget: Somewhat under spent, approximately 5 to 20 percent.