

eCoach: Development and Pilot Testing of a Decision Aid for Prostate Cancer

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Summary: Patient preference is critical for selecting optimal treatment but research shows major discrepancies between patient preferences and actual care received. These discrepancies threaten patient autonomy, put patients at risk, and lead to costly and unnecessary treatments. Shared decisionmaking (SDM) can lead to better alignment of patient preferences and care received. Using SDM, patients and providers make decisions based on clinical recommendations as well as patients' values, preferences, and health care goals.

Although numerous decision aids have been developed to facilitate SDM, they vary in quality and fail to overcome barriers such as lack of clinician time; patient low literacy and providers' inability to recognize when patients do not understand; and the inability to fully assess risks and benefits of treatment. Embodied conversational agents (ECAs) are computer-animated characters that simulate face-to-face conversation. ECAs have the potential to facilitate SDM, particularly among patients with limited health literacy. In addition, these agents promote active learning and decisionmaking, provide patients with critical information independent of a provider, and permit the personalization of content regarding risks and benefits.

Prostate cancer is an ideal condition to investigate the use of ECAs because it is the most common cancer diagnosed among men in the United States, and ranks second for tumor site-specific mortality. The use of prostate-specific antibody (PSA) as a screening test has led to earlier diagnosis of prostate cancers, some of which may never lead to harm. Because treatment can have harmful side effects, it is critically important to educate prostate cancer patients about the risks and benefits of treating their cancer. Yet current decision aids for prostate cancer treatment have failed to provide patients with needed decision support. The goal of this project is to develop a virtual ECA coach, known as eCoach, to provide patients with personalized information in a literacy-sensitive, dynamic fashion. eCoach will be developed to support patient decisionmaking, provide evidence-based clinical information, and guide patients with prostate cancer through SDM.

Specific Aims:

- Investigate the usability and feasibility of using an embodied conversational agent (called eCoach) to facilitate shared decisionmaking in men with localized prostate cancer. **(Ongoing)**
- Conduct a pilot study to assess the effect of eCoach on decisional conflict among men with localized prostate cancer. **(Upcoming)**

2012 Activities: The project is in the initiation phase. During the first quarter of the project, personnel were hired and the research protocol was submitted and approved by the institutional review board. Technology development began with programmers role-playing the parts of patients receiving a prostate cancer diagnosis and urologists making the diagnosis. This experience helped programmers to understand the dynamic of the interaction between the patient and the urologist, and reinforced that discussions between patients and providers tend to be free-flowing, with the patient asking questions that direct the conversation in ways that can be unpredictable. This information will be factored into the structure of the ECA.

As last self-reported in the AHRQ Research Reporting System, project progress and activities are on track, and project spending is somewhat underspent in anticipation of upcoming costly activities.

Preliminary Impact and Findings: This project has no findings to date.

Target Population: Cancer, Men*

Strategic Goal: Develop and disseminate health IT evidence and evidence-based tools to improve health care decisionmaking through the use of integrated data and knowledge management.

Business Goal: Knowledge Creation

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