

Using Innovative Communication Technology to Improve the Health of Young African-American Women

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Summary: While research has revealed significant racial disparities in pregnancy outcomes, national programs to improve pregnancy outcomes center on providing care for women during pregnancy and helping them enter prenatal care early. This project is part of an emerging effort to engage young women and improve their health before they get pregnant.

The project included the development of an intervention to promote the health of African American women who are 15-to-21-years old. It used theory-based behavioral change techniques and an existing clinical patient education system—the Virtual Patient Advocate (VPA), previously developed by a team led by the principal investigator under an AHRQ-funded study—to deliver the behavior change intervention. The VPA is an innovative communication channel that features an animated computer character that simulates face-to-face conversation with patients via the Internet. Previously, the researchers applied aspects of this technology to provide patient education upon hospital discharge. This VPA system featured novel social networking capabilities to increase the reach and efficacy of the new intervention.

Research staff conducted focus groups to solicit participants' recommendations to maximize the target population's uptake of the system by building relevant behavioral messages and ensuring that the VPA system is convenient and easy to use. The system was adapted from the VPA originally designed for the ReEngineered Discharge program (Project RED) to provide: 1) a personalized and comprehensive assessment of preconception risks; 2) culturally appropriate health promotion messages; and 3) an individualized behavior change discussion for each risk identified. This integration of social networking technologies increased the reach of the intervention while increasing adherence to its recommendations.

Project Objectives:

- Design a new VPA for a Web-based behavior change and patient activation system that is informed by qualitative research with the target audience. **(Achieved)**
- Develop VPA dialogue for 15- to-21-year-old African American women. **(Achieved)**
- Develop a social networking interface that allows users to recommend other people who could benefit from the intervention, and perform a proof-of-concept test of this new system to improve the health of African American women. **(Achieved)**
- Analyze the impact of the newly designed system. **(Achieved)**
- Disseminate this new technology to at least two other academic medical centers. **(Achieved)**

2011 Activities: The VPA was modified based upon user feedback. Enrollment for pilot testing was completed at the preconception peer educator training, a project of the Office of Minority Health. Members of the research team explained the study to potential participants and conducted the consent

process. Participants were then given a username and password to log into the VPA system and complete the intake questionnaire. Each participant went through a demonstration of the system with the character Gabby to get a brief introduction on how to use the system. The demonstration gave participants the opportunity to listen to information from three pre-determined health risks, and required them to write a story to make sure that the story writing process was clear before they started using the system from home. The research team found that the story writing process is key in promoting social networking and developing peer-to-peer connections. After the demonstration, each participant filled out a survey regarding her feedback about the system and was given a handout with instructions for using the system from home.

All data analysis was completed. Data will be reported in publications and will focus on: 1) system usage from the pilot; 2) risk assessment results; and 3) qualitative work, including focus groups and pre-testing interviews.

Due to time needed in other areas of development, such as major adjustments to the story-authoring tool based on pre-test feedback, the team was not able to incorporate social networking functions into the VPA system. However, the current system can be updated with various social networking functions, such as providing each user with a landing page and allowing users to comment on each other's stories for future projects.

Impact and Findings: Focus group findings provided key insights into the VPA. Participants indicated that the stories should be in first person, from the perspective of the system users instead of the VPA agent. Across all eight focus groups, participants confirmed that they use Facebook and that the system should at least have some Facebook-like functionalities. Participants thought that the overall layout and design of the health survey were straightforward and easy to navigate. Also, participants thought that the questionnaire was very long and would prefer to have the option to fill it out over multiple sessions. This feature will be part of future projects.

Pre-testing showed that participants felt that the health survey was useful, easy to complete, and took an appropriate amount of time. Eighty percent of participants felt that it was easy to talk to Gabby; 73 percent 'trusted' Gabby; and 87 percent felt comfortable telling Gabby everything about their health. Eighty percent would use health information from Gabby to improve their health, and 87 percent felt that Gabby did a good job answering their questions. Seventy-three percent felt that the session with Gabby was just the right length. Eighty percent of participants reported that they would use their My Health To-Do List, which is a list of participant goals based upon their health survey, and 67 percent indicated that they would write their own stories from home if they could continue using the system.

During the 2-month pilot, six of the nine pilot testing participants logged in to the Gabby system at least once. For those six participants, there were a total of 63 sessions during the 2-month trial, for an average of seven sessions per user and maximum of 18 sessions. The average session lasted 12 minutes, and ranged from 2 to 32 minutes. Two participants reviewed all of their risks; on average, each participant who logged in to the system at least once reviewed 11 risks. There were 128 total risks identified, 67 of which (53 percent) were discussed with Gabby. Of the 67 risks discussed, participants chose to add 43 to their My Health To-Do List, for an average of 7.2 risks per participant. When asked at the 2-month followup phone call about the risks that were added to the "My Health To-Do List," participants reported that 83 percent of their risks were either resolved or the participant had taken some action to resolve them.

Target Population: Racial or Ethnic Minorities*: African Americans, Teenagers, Women*

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: Knowledge Creation

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