

Healthy Teens TXT ME: Information Technology to Change Teen Health Risk Behaviors

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Organization:	Dartmouth College
Mechanism:	PAR: HS08-269: Exploratory and Developmental Grant to Improve Health Care Quality through Health Information Technology (R21)
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Summary Status as of:	December 2010

Target Population: Obesity, Teenagers

Summary: Adolescence is a time of rapid and complex change during which health risks stem more from the behavioral factors than the biomedical factors. While many behaviors are experimental, habits and coping patterns developed during this developmental stage may continue into adulthood. Research has shown that school-based interventions for major risks are often nominally effective or ineffective. Interventions that use motivational interviewing and technology to enhance screening and counseling of adolescents are costly; intensive; and require additional time, staff, or computer resources not generally available to most primary care providers. This project seeks to utilize information technology (IT) to develop an integrated screening, counseling, and post-visit support system to change two key adolescent health risks: limited physical activity and tobacco use.

The project team will program and test the Healthy Teens personal digital assistant (PDA) screening program software that will support effective clinician counseling about exercise uptake and tobacco cessation. In addition, the software will be programmed to produce a summary report that will transfer data into patient electronic medical records for future reference. A system of IT-based post-health visit supports will be created to help teens increase exercise and decrease tobacco use. The first support will be tailored cell phone text messaging provided to teenagers who indicate that they are interested in behavior change. A Healthy Teens TXT ME social network site will be established for project participants to share experiences and support their change efforts. The text messages sent to teens will inform them about developments and new links on the network site.

Two feasibility pilots of the TXT ME program will be implemented with post-visit support in four primary care practices over 3 months. Clinicians and office staff assessment will determine the utility of and any barriers encountered with the enhanced office system. Two cohorts per feasibility pilot will be recruited from adolescents who indicate at their clinic visit that they want to increase their physical exercise. The first cohort will be the control and its role limited to survey completion. The second cohort will receive the post-visit supports for tobacco or exercise via cell phone text messaging and will have access to the social network site. Teen acceptability and short-term-change efforts will be assessed. Tobacco use messages will be developed during year 2 for later delivery.

Specific Aims:

- Enhance the TXT ME PDA-based health risk screening tool with clinician prompts to support

effective counseling for exercise uptake and tobacco cessation from evidence-based literature and existing public health and patient counseling programs. **(Ongoing)**

- Develop the format, message delivery algorithm, and technological processes to link PDA-based teen health screening data from the primary care visit to tailored followup health behavior change text messages delivered by cell phone. **(Ongoing)**
- Develop the prototype of adolescent health behavior change support via a social network Web site that links adolescents in the project and provides access to Web-based resources. **(Ongoing)**
- Conduct a small feasibility trial of the exercise component of the TXT ME model that will use PDA technology to screen adolescents who are interested in changing exercise patterns and prompt clinicians to provide reinforcement via post-visit text messaging to help teens make these changes. Evaluation will include short-term outcomes related to text message design and health behavior outcomes. **(Ongoing)**

2010 Activities: The study staff explored different models of support for exercise, investigated smoking cessation Web sites for adolescents, and sought input from the target population. Message development included a literature review and key informant data gathering about motivators to change exercise habits. Messages were developed to help teens advance through the following phases: priming to take action, initiating, relapse, and maintenance. Beta testing of the software was completed and modifications were finalized. A social network site was developed to support adolescent health behavior change by linking adolescences to others in the project trying to change a specific health behavior, either exercise or tobacco. Each of the 11 participating sites had clinician training to demonstrate the features of the PDA that prompt counseling with a motivational interviewing approach.

The principal investigator has met with each participating site to discuss and initiate recruitment and enrollment. Given that the study subjects are adolescents, the recruitment process requires contacting both the parent and the adolescent. As of the end of 2010, 105 control patients were recruited, the majority of which have transitioned into the intervention phase. Approximately 40 percent of those who expressed interest in more frequent exercise provided telephone contact information to learn about the study. Sixty-one percent of contacted control subjects ages 15-19 years enrolled in the study. For younger teens, who often did not have a cell phone, the enrollment rate was approximately 20 percent.

Grantee's Most Recent Self-Reported Quarterly Status (as of December 2010): The project is progressing as scheduled. Project milestones are being achieved on time and budget spending is roughly on target.

Preliminary Impact and Findings: Early data indicate that 44 percent of younger teens and 57 percent of older teens are interested in increasing their exercise.

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