

Health Information Technology to Support Clinical Decision Making in Obesity Care

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Summary: Domestically, the prevalence of overweight youth has nearly quadrupled in the past four decades. This dramatic increase has led to the emergence of associated comorbidities such as dyslipidemia, hypertension, type 2 diabetes, musculoskeletal disorders, respiratory conditions, and emotional problems. In addition, there are increased risks of cardiovascular disease and cancer as these youth become adults.

The American Medical Association has published recommendations, and the National Association of Pediatric Nurse Practitioners has developed family-centered, culturally-sensitive clinical practice guidelines for obesity prevention among youth. However, past research suggests that guidelines rarely change clinical practice and outcomes. Health information technology (IT) may provide a mechanism to better implement these guidelines via decision support and tailored patient education materials.

Dr. Bonnie Gance-Cleveland and her research team have developed HeartSmartKids™, a computer support system for clinical decisionmaking and tailoring patient education to facilitate the translation of recommendations into practice. This study is employing a comparative effectiveness trial to evaluate HeartSmartKids with and without technology decision support on the implementation of the current guidelines at school-based health clinics for children ages 5 to 12. Outcome assessments will be conducted at the provider and system levels. The research aims to eliminate health disparities for the conditions related to childhood obesity via the translation of evidence-based guidelines into practice by the providers who care for youth at risk for these obesity-related conditions.

Specific Aims:

- Evaluate the effectiveness of Web-based training with and without computerized clinical decision support on provider's process and outcome behaviors related to implementing the current guidelines for prevention of obesity and related conditions. **(Ongoing)**
- Explore the role of health IT in the processes of system change for implementation of the guidelines for prevention of obesity and related conditions, including the facilitators, barriers, and impact of the care model on change. **(Upcoming)**

2011 Activities: Site recruitment and institutional review board (IRB) approval was a major focus of the project in 2011. To date, the research team has recruited 24 sites in six states. IRB approval has been obtained for 22 of the sites. Some of the sites accepted Arizona State University's (ASU's) IRB approval, while others required separate protocols. Among sites that did not accept ASU's IRB approval, some sites required one protocol while others required two protocols, one for the parent organization and the

other for the school district. In total, the project team wrote 17 IRB protocols. Of sites with IRB approval, 11 sites with 11 providers were randomized to the technology intervention arm, and the other 11 sites with 13 providers were randomized to the nontechnology control arm. Several of the sites that originally committed to study participation dropped out due to staffing changes, budget cuts, or competing demands. As a result, the project team will recruit two additional sites in 2012.

As IRB approval was received for each site, the study team initiated baseline data collection. This data collection process requires three discrete steps: 1) a provider satisfaction survey for each provider; 2) 32 chart audits at each site; and 3) 32 parent satisfaction surveys at each site. As of the end of 2011, surveys were completed by 22 providers, chart reviews were completed at 16 sites, and a number of parent surveys were completed at 10 of the sites. The parent surveys have been found to be the most challenging aspect of data collection, as children are not always accompanied by their parents at school-based clinics.

When baseline data collection is complete, iPads with the HeartSmartKids software will be mailed to the clinics. Providers are then trained to use the system. Of the six sites that have received the technology, five have installed the software. The project team reported that some sites have old computers that resulted in compatibility issues. Additionally, the computer skills of the staff were a barrier at a few sites. The HeartSmartKids staff and the IT support staff at the sites have worked closely to resolve these issues. Followup data collection will occur after the training and again at the end of the study.

An eLearning Web site for the Web-based training was developed and finalized. The purpose of the Web site is to teach providers about the program through four modules: 1) overview of recommendations; 2) motivational interviewing; 3) culturally-sensitive care and community collaboration; and 4) sharing lessons learned.

As last self-reported in the AHRQ Research Reporting System, the project is on track in some respects but not others. Progress is slightly behind schedule due to difficulties recruiting and retaining sites. Project spending is on target.

Preliminary Impact and Findings: Among providers who have begun the training, providers rated their satisfaction as good or very good. When asked what aspects of clinical practice they will change as a result of the training, responses included using more motivational interviewing to help families set realistic goals and following the recommendation for repeat laboratory tests when clinically appropriate.

Target Population: Obesity, Pediatric*

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: Implementation and Use

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