

## Health Information Technology to Support Clinical Decision Making in Obesity Care

---

<b>Principal Investigator:</b>	Gance-Cleveland, Bonnie, Ph.D.
<b>Organization:</b>	Arizona State University - Tempe Campus
<b>Mechanism:</b>	PAR: HS08-270: Utilizing Health Information Technology to Improve Health Care Quality Grant (R18)
<b>Grant Number:</b>	R18 HS 018646
<b>Project Period:</b>	September 2010 – July 2013
<b>AHRQ Funding Amount:</b>	\$496,977

---

**Summary:** Domestically, the prevalence of overweight youth has nearly quadrupled in the past 4 decades. Accordingly, so have the comorbidities of obesity, which include dyslipidemia, hypertension, type 2 diabetes, musculoskeletal disorders, respiratory conditions, cardiovascular disease, and emotional problems.

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 or outcomes. Health information technology (IT) may provide a mechanism to improve implementation of 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 help translate recommendations into practice. This study is employing a comparative effectiveness trial to evaluate Web-based training with and without HeartSmartKids, technology decision support for the implementation of the current guidelines at school-based health clinics for children ages 5 to 12. Outcome assessments are 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 who are 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. **(Ongoing)**

**2012 Activities:** Site recruitment and institutional review board (IRB) approval was a major focus of the project in 2012. To date, the research team has recruited 23 sites in six States and IRB approval has been obtained for all of them. Thirteen sites were randomized to the technology arm and 10 to the control arm.

The data collection process requires three discrete steps: 1) a provider knowledge and self-report of behavior survey for each provider; 2) thirty-two chart audits at each site; and 3) thirty-two parent satisfaction surveys

at each site. As of the end of 2012, surveys were completed by all providers, 663 chart reviews were conducted, and 250 parent surveys were completed. The parent surveys have been the most challenging aspect of data collection, as children are not always accompanied by parents at school-based clinics.

When baseline data collection was completed, iPads installed with the HeartSmartKids software were mailed to the clinics and providers were trained to use the system. The project team reported that some sites have old computers that were incompatible with Web-based training delivery and networks that did not support wireless needed for the iPads. Additionally, limited computer skills of staff were a barrier at a few sites. The research team, along with the HeartSmartKids staff and the IT support staff at the sites have worked 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 previously 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. Weekly coaching calls were used to increase provider engagement in the study. The calls included a focus on plan-do-study-act cycles to guide providers through development and implementation in their clinics. The final module will conclude with a poster session at which the providers will present their project implementation progress in their clinics. Many of the provider projects focus on increasing identification of children who are overweight, obese, and/or hypertensive, the use of motivational interviewing, and education techniques to teach children about achieving healthier weights.

Due to challenges with site recruitment and IRB approval, Dr. Gance-Cleveland is using a 1-year no-cost extension. 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 because several of the sites that originally committed to study participation dropped out due to staffing changes, budget cuts, or competing demands. Project spending is on track.

**Preliminary Impact and Findings:** Providers consistently rate their satisfaction with the HeartSmartKids intervention 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.*