TLC-HEAT: Telephony-based Self-care for Overweight Children

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ABSTRACT
Efforts to use information technology (IT) to link pediatric primary care patients in the home with their clinicians have been rudimentary to date. We have developed a model information system that uses a ubiquitous user interface, the telephone, and the electronic health record (EHR) to support health behavior change and weight loss for overweight urban children and their parents. In this paper, we present the technical architecture and underlying psychological theories used to build the system.

INTRODUCTION
Advances in telecommunications technology have made it possible to link patients in their homes to clinical information systems via computer, telephone, and other devices – creating new opportunities for the application of information science to support the ambulatory care of children. Telephony is especially well suited to urban families since it is conversational (does not involve reading or typing) and is widely available with few barriers to use.

TLC-HEAT
The Telephone-linked Communication for Healthy Eating and Activity Today (TLC-HEAT) System is an integrated information system with two components: 1) a self-care component delivered at home through totally automated telephone conversations (including text-to-speech (TTS), and active speech recognition (ASR); and 2) a primary care component that uses data from the self-care system and evidence-based clinician recommendations to support clinical care.

Figure 1. TLC-HEAT System Architecture

CONCLUSIONS
There is a pressing need for inexpensive, effective interventions for the early treatment of pediatric overweight. The HEAT system is a model system for broadly accessible, IT-enabled, self-management and clinical care for overweight children. The model, if shown to be successful could be widely disseminated and applied to other chronic conditions as well.

REFERENCES