Supporting everyday self-management practices for pediatric patients with epilepsy

Jonathan Bidwell, Elizabeth E Mynatt, PhD
Georgia Institute of Technology

Daniel C Tarquinio, DO, Cherise Frazier, MD, Eliana Kovitch
Emory School of Medicine, Children’s Hospital of Atlanta (CHOA)

Cam Escoffery, PhD
Rollins School of Public Health, Emory

Motivation

How can interactive computing help adolescent patients and family members to collect daily patient health data for informing epilepsy treatment and managing symptoms?

Mobile/wearable data collection for family self-reporting

The Everyday Computing Lab (ECL) is working with adolescent patients (11-18 years old), caregivers and clinicians at the Children's Healthcare of Atlanta (CHOA) to investigate how mobile and wearable computing can support self-management (i.e. adhering to medication, reporting seizures and health behaviors and self-regulating behaviors).

The study is ongoing and will include 75 families at CHOA. The research will investigate mobile surveys, context-sensitive notifications, health tracking and incentives through a multi-stage study design.

- Self-reporting / data collection
  - Mobile phone surveys for documenting
    Seizure events and relevant behaviors

- Medication adherence
  - Include automated medication adherence as a part of daily self-management rituals

- Improving self-management skills
  - Measure pre/post patient activation and patient self-efficacy as indicators for successful self-care

- Support family & clinical observations
  - Make collected data available on a mobile dashboard for informing symptom management

Mobile/wearable data collection for family self-reporting

Android/iOS smartphone (twice daily, once weekly surveys)
Health dashboard (mobile Android/iOS app)
Fitbit Charge 2 (steps, sleep)
E4 wristband (night time seizure events)
Medication adherence tool (records morning/evening intake)

Contact Information: Jonathan Bidwell, bidwe@gatech.edu