Diabetes affects approximately 25.8 million people in the United States, or 8.3% of the population, and is the seventh leading cause of death in the nation. Due to the severity and number of complications from diabetes, self-management education and self-care are incredibly important to maintaining the health and wellbeing of those with diabetes. The use of mobile phones and mobile applications in disease control management is in its infancy. However, mobile phone ownership is becoming increasingly common and the usage of mobile applications is increasingly common. Nearly half (46 percent) of American adults own a smartphone, as of February 2012, an increase of 11 percentage points since May 2011. Mobile phones have shown some positive effect in the diabetes self-management space, but most interventions relied on text messaging. Due to the explosion of health-focused mobile applications (apps), there are 8112 apps in the iTunes store under the category “Health and Fitness” and 5452 apps under “Medical.” There is a strong need for theory-driven, evidence-based interventions in the app space to provide effective diabetes self-management tools to patients in the places that are most convenient to them.

This analysis will rate the top 50 downloaded apps for diabetes self-management in the iTunes store against criteria, developed based on a literature review of best-practices, to assess use of behavior change theory as well as evidence-based guidelines for diabetes self-management practice. The apps will be rated based on their inclusion of the following behaviors: blood glucose monitoring, medication management and adherence, physical activity, healthy diet, problem solving, risk reduction, and psychosocial adaptation; as well as use of the most common theoretical frameworks for diabetes management, including the Theory of Planned Behavior, the Health Belief Model, and Social Cognitive Theory. A second, independent reviewer, trained in the use of the rating criteria, will rate fifteen percent of the applications (eight applications). A Scott’s Pi analysis will be conducted to compare the reviewers’ ratings in order to confirm the validity of the criteria. Finally, common characteristics of the top scoring applications will be noted and recommendations made for further research in mobile application development for diabetes and other chronic health conditions.

Data coding and analysis is currently ongoing and will be complete by 12/7.