

HEALTHY WEIGHT ON FHIR

Team ScienceFreaks

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Introduction

The Team

- Jim Vaughan - OMSCS/Student
- Joseph George - OMSCS/Student
- Hassan Borteh - OMSCS/Student
- Michael Roth - OMSCS/Student
- Brodrick Stigall - OMSCS/Student
- Lance Hundt - OMSCS/Student
- Dan Abel - OMSCS/TA Mentor
- Alyson Goodman - External Mentor/CDC



Introduction

The Problem

Childhood obesity is a major concern in the United States. It affects almost 1 in 3 children ages 2-19 (according to healthiergeneration.org). Childhood obesity can lead to more serious and costly health problems. In addition, there are often emotional and quality of life issues that arise among patients who deal with childhood obesity. By creating an easy-to-use, standards-based application it will be easier for clinicians to implement evidence-based practices that combat childhood obesity.



Introduction

Objectives

- Build on work of previous teams
- Work with a researcher familiar with childhood obesity
- Create a prototype application
- Maintain a high level of collaboration between Team ScienceFreaks and the external mentor



Research

Children with a BMI at or above 95 percentile are considered obese. mHealth technology such as SMART on FHIR apps can help physicians in intervention design, delivery and diffusion of treatment, and prevention via cost-effective approaches.

- A standardized tool should take advantage of both structured (weight, height, ...) and unstructured data (physician's notes, discharge info, ..) for identification of obesity.
- Survey by Nutrition Health and Nutrition Examination Survey (NHANES) from 2011 to 2012 concluded that 16.9% (95% CI, 14.9%-19.2%) of youth between 2-19 years old are obese.
- Physicians and providers can use the tool for designing personalized healthy eating and activity habits and following the habits history.



Research

Further knowledge can be gained about prevention and treatment of childhood obesity through surveys and interviews of physicians.

- Memphis Tennessee is a regional hub for pediatric health care. St. Jude and Methodist Le Bonheur Childrens' Hospitals are both located there.
- Access to Clinicians and Health workers at Methodist, and St. Jude along with the many health care providers in the area will provide useful information.
- The diversity of this team provides access to even more regions and sources of information to guide the application



Business Case

Why is helping childhood obesity important?

- Childhood obesity is increasing at an alarming rate
- 12+ million U.S. obese children & rates have tripled since 1980

How will the SMART on FHIR app solve this problem?

- Clean data structure
- Supports HTML5
- Open-Source
- Community

Can this assist medical professionals?

- Yes



Solution



Understand and evaluate previous work done for this application

Guiding principles for solution development:

1. Data standard is FHIR
2. SMART application on FHIR
3. Use CDS Hooks for seamless clinician workflow
4. Use synthetic data available at GaTech

- Initial contact with TA/External Mentor on 10/4 through piazza and email
- Setting up online meeting with TA/External Mentor during Week 2 to gather app requirements and technical details of previous work



End of Presentation

Thank you!