

Meet PETE: A REACH Innovation Proposal

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Biographies

Melissa Peeler, RN, BSN, graduated with her Bachelor of Science in Nursing from the University of North Carolina at Wilmington. She is currently enrolled in East Carolina University's Doctorate of Nursing Practice program with a focus in primary care as a Family Nurse Practitioner. Melissa's background includes acute care rehabilitation in which she holds a national certification as a Certified Rehabilitation Registered Nurse (CRRN), and in a progressive care stepdown unit.

Rebecca Smith, RN, BSN graduated summa cum laude from South University in Tampa FL. Her nursing background has predominately focused on the critical care needs of the acutely ill. Currently, Rebecca is working in a progressive care stepdown unit and holds a national certification as a Progressive Care Certified Nurse (PCCN). She is pursuing her Doctorate of Nursing Practice at East Carolina University, concentrating in the primary care of the family unit as a Family Nurse Practitioner.

Sarah Tapscott, RN, BSN graduated from Samford University in 2011. She has practiced nursing in several care areas including: emergency department, travel nursing, pediatric sedation, radiation/oncology, and plastic surgery. She is currently pursuing her Doctorate of Nursing Practice at East Carolina University with a concentration in primary care as a Family Nurse Practitioner.

The Problem

The American population's waistline is expanding every year. From 1971 to 2011 the preponderance of childhood obesity in the United States tripled, with a reported one in three children and adolescents being either overweight or obese (American Heart Association, 2014). Past surgeon general, Dr. Richard H. Carmona explained the severity of the growing childhood obesity epidemic stating, "the increasing rates of obesity, unhealthy eating habits, and physical inactivity, we may see the first generation that will be less healthy and have a shorter life expectancy than their parents" (2004). Since, this epidemic has inspired various programs established by The Centers for Disease Control and Prevention (CDC), The National Institutes of Health (NIH), The Institute of Medicine (IOM), congress, and the former First Lady Michelle Obama. Unfortunately, no real change has been seen. This epidemic is predicted to be an even greater threat to our Nation unless we find a way to effect change.

The Idea

As the American population consumes more and moves less there is one device that connects us all. This constant can be found in the pocket of a student's jeans, the purse of a cheerleader, the hand of a boy on the bus, or the backpack of a grade-schooler, the smart mobile phone. It is a device that connects our society and keeps us informed. Mobile phones have shifted from convenience to ubiquity, regardless of socioeconomic status. With most homes discontinuing traditional land line phone services, mobile phones are how people stay connected.

What if it was possible to use these devices to educate and inspire the youth of our nation? What if a mobile phone application (app) existed that was as addicting to play as "Candy Crush", tracked food like "My Fitness Pal", and helped people work out like "The Daily Burn"? Best of all, what if it was free?

Envision the fusion of all these health tracking apps with a fun game that rewards the player with virtual coins for healthy choices and penalizes the player by removing coins for poor choices. These coins allow the player to upgrade their personal avatar, choose a “cheat” snack or meal without losing points, and even allows for a free program upgrade once a defined number of coins are collected. What if it were possible to take this app even a step further and link the app, not only to friends and family, but to the player’s health care provider’s (HCP) account?

What ensues is PETE, a health centered app that is designed to encourage Play, Educate and Train our youth on healthy lifestyle choices, and to promote Exercise. PETE is an easily accessible app that is fun to play, interactive, promotes health, and can be linked to the HCP with real time health statistics that are easily downloadable. PETE allows the child, family, friends, and the HCP to work together with a child and promote healthy eating and activity goals. PETE even provides a modality for the HCP to reward a patient with coins and leave a personalized accolade. PETE is all free, all interactive, and for all children of all backgrounds.

A Vision into Reality

In order to make PETE a reality, the app would need a diverse team to help create and inspire the design. An application programmer to develop PETE is essential. Other team members would include: healthcare providers, lawyers, marketing specialists and above all else, children. Focus groups of children from different cultures and economic status would help the development process of the app to ensure maximum quality and effectiveness.

Safeguarding each child’s personal information and ensuring that the standards of The Health Insurance Portability and Accountability Act (HIPAA) are met would be of primary importance in the development and operation of this application. It will need strong security to ensure any information being passed to the HCP is not abused and leaked to the public. The HCP

would also need to ensure any downloadable data was secured as part of that child's electronic medical record. Maximizing the technology will require extensive work in licensing existing technology, creating and patenting new technology, and copyrighting.

Marketing techniques would need to be created for sharing the app with HCPs. A focus group of Eastern North Carolina pediatricians would help the marketing and distribution techniques before the initial roll-out. Once successfully adopted by pediatricians in the target region, the marketing campaign could extend the use of the app among all pediatric providers in the state of North Carolina and eventually to other states.

Why North Carolina?

Obesity, at all ages, puts a person at an increased risk for many cardiovascular health problems including hypertension, cerebral vascular accident, and carotid artery atherosclerosis, among many other non-cardiac issues. These diseases kill North Carolina citizens at an astounding rate. Obesity also contributes to North Carolina's position on the map of the most annual strokes, the leading cause of long-term disability in the United States (American Stroke Association, 2016). Change can be most effectively induced beginning with children.

It has been shown children who are obese are more likely to become adults who are obese, with risk factors that are more severe as they age (Bass & Eneli, 2015 & Jarvis, 2016). However, there is evidence that if a child can lose and maintain their weight before adulthood, their risk of cardiovascular disease is similar to those of children who did not struggle with obesity as children (Jarvis, 2016). This is significant because, according to the 2011 National Survey of Children's Health, 31.4% of children ages 10 to 17 years of age that live in North Carolina are overweight or obese. In fact, North Carolina ranks 28th in the Nation for the national obesity rate with 22 states having healthier, more active children. When polling four

Southeastern N.C. counties; Pender, New Hanover, Duplin, and Brunswick, an astounding 32% of the children were considered overweight or obese (Eat Smart Move Smart North Carolina (ESMSNC), 2014). Strikingly, New Hanover County reported that only three out of 19 children were overweight or obese, reflecting data that is significantly different than that of the surrounding counties (ESMSNC, 2014).

One possible reason for this variation could be attributed to a prevalence of families making a higher annual income within New Hanover County (County Health Rankings & Road Maps, 2016). This lends support to the theory that people living in a higher socioeconomic bracket tend to have a lower incidence of obesity than those who live in an area of low income. The association between socioeconomic status and increased risk of all the diseases related to an unhealthy lifestyle and obesity provides evidence as to why the proposed app must remain free. It needs to be available to children of all socioeconomic backgrounds, most of all the less privileged.

Our goal for this innovation is to create a fun, interactive mobile phone and personal computer app specifically made for children. This app could potentially aid North Carolina in the fight against childhood obesity. By engaging children and using a platform that they are familiar with, this app can educate the youth with the vital nutritional and exercise skills they need. These skills are essential for maintaining a healthy lifestyle and enabling our future North Carolina citizens obtain a better quality of life. Through play, PETE can use exercise to train and educate children to make healthier decisions.

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