“Let’s Talk About It” Mobile Application for Teen Pregnancy and STI Prevention

mHealth Implementation Plan

by
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ABSTRACT

Currently, numerous mobile health (mHealth) interventions are being developed across the globe to help improve public health outcomes. Earlier this year, our three-person team of Masters in Public Health students came up with a teen pregnancy prevention and Sexually Transmitted Infections (STI) protection mobile application (app) idea and presented it at the 2013 University of North Carolina (UNC) Science Expo event in Chapel Hill. Based on a review of evidence-based mHealth interventions, theories for changing teen health behavior, and the feedback from the first phase of the project, I have developed a process for development and testing of the mobile app with the ultimate goal of reducing teen pregnancy and Sexually Transmitted Infections in North Carolina. This paper documents the implementation and formative development of the *Let's Talk About It* mobile app intended to bring teen health resources to young people's fingertips. This process includes project management, measurement and evaluation, launch and marketing, and a plan for scale-up and sustainability. The strengths of this process are the involvement of the target audience and teen health experts in the development stages and the use of continuous evaluation methods to refine the app. The risks include the time required, unexpected financial costs, and potential competition.

INTRODUCTION

What is mobile health (mHealth)?

MHealth – the use of mobile health applications to improve people's health – is a new and dynamic field where technology and health intersect. mHealth Alliance defined mHealth as "medical and public health practice supported by mobile devices," including mobile phones, tablets, and any other wireless technology (mHealth Alliance, n.d.). Mobile applications (apps) provide diverse opportunities for access to and dissemination of health information and services to a wide range of audiences in both developed and developing countries by offering symptom assessment, education, resource location, and tracking of treatment progress (Luxton et al, 2011).

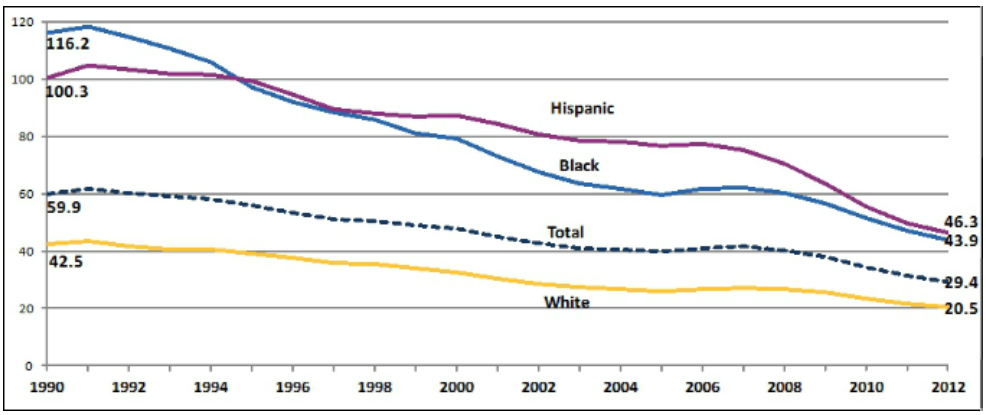
As of October 2013, there are over two million apps available between Apple and Google Play, the two largest mobile app stores; approximately 97,000 of these relate to health and fitness and average 300,000 downloads per day (Cook, 2013). As new mobile apps are developed and expanded daily, the total number of apps targeted at a specific population, teenagers aged 15 to 19 years for example, is indeterminate. Based on Apple and Google Play platform searches using the keywords "teen health," there are 216 mobile apps targeting teenagers on various health topics, the majority of which relate to physical activity and nutrition and which also include mental health, bullying, beauty, and teen pregnancy. Based on a similar search using the keywords "teen pregnancy" and "teen pregnancy prevention" there are 9 apps related to the topic of teen pregnancy and safe sex practices. With many of these apps being introduced this year, these figures reflect an upward trend in targeting teen populations with mobile technology.

PROJECT OVERVIEW

Problem and Opportunity

In 2011, almost half of all high school students reported they have had sexual intercourse (Center for Disease Control, 2011a). In the United States, the current birth rate for girls aged 15-19 is higher than any other developed country—29.4 births per 1,000 girls, ranging from 20.5 for Caucasian girls to 46.3 for Hispanic girls as demonstrated in Figure 1 (Hamilton, Martin, & Ventura, 2013). Additionally, almost one in five (17%) teen mothers has a repeat pregnancy (Office of Adolescent Health, n.d.). When accounting for abortions and miscarriages, as well as all live births, the teen *pregnancy* rate in the United States includes an even higher percentage of girls. According to the Adolescent Pregnancy Prevention Campaign of North Carolina (APPCNC), North Carolina has the 16th highest teen pregnancy rate in the nation at 43.8 per 1000 15-19 year old girls. Ethnic and racial disparities are pronounced with a broad range of pregnancy rates of 30 for Caucasian girls to 61.6 and 71.1 (per 1,000) for African-American and Hispanic girls, respectively (North Carolina State Center for Health Statistics, 2012).

Figure 1: Birth rates per 1,000 females ages 15-19 in the United States, by race/ethnicity, 1990-2012



Source: Hamilton, B. E., Martin, J. A., & Ventura, S. J. (2013). Births: Preliminary data for 2012. Hyattsville, MD: National Center for Health Statistics.

Although state and national teen pregnancy and birth rates have declined in the past two decades, it is important to continue addressing teen pregnancy because of the social and economic

costs to teen parents and their children. Many girls drop out of school due to pregnancy, often becoming single mothers. According to the Centers for Disease Control and Prevention (CDC), teen pregnancy and child birth cost US taxpayers over $10 billion per year in health care and foster care, and result in lower high school graduation rates for teen parents (CDC, 2012).

Among teen health issues, pregnancy and sexually transmitted infection (STI) prevention often go hand-in-hand as both can be prevented by the use of condoms by sexually active teens. According to the CDC, approximately four million new cases of sexually transmitted diseases (excluding HIV) in the United States occur among teenagers (CDC, 2011a). Chlamydia and gonorrhea cases are also good indicators of teen sexual health as they are more common among adolescents than any other age group (APPCNC, n.d.).

Of the many health determinants for teen pregnancy and sexually transmitted infections, one major factor is a lack of comprehensive sex education. A recent standardized sex education test administered to students in Washington D.C. revealed that a majority of fifth through eighth grade students lacked a basic understanding of the human body; although high school students scored an average of 75% on reproduction, they demonstrated a lack of knowledge about how to get health information and help (Office of the State Superintendent of Education, 2012). Teenagers are often not aware of local, inexpensive, and teen-friendly (i.e. comfortable, not judgmental) resources that can assist them with learning about and selecting the best pregnancy prevention and STI protection options. Moreover, many state programs have limited funding available for research and development of teen-friendly health resources.

In order to address this critical gap, a mobile app seems like a logical next step as mobile technology becomes more available and widely adopted across various demographic and socioeconomic groups (Leena, Tomi, and Arja, 2005). According to the Pew Internet & American Life Project, 78% of

teenagers in the United States now have a cell phone. Smartphone adoption among American teens has increased from 23% of teens in 2011 to 37% of teens in 2013, and teenagers are increasingly relying on mobile access to the internet versus using a desktop or laptop computer (Pew Internet & American Life Project, 2013a). As reported by Rideout and colleagues, a Kaiser poll found more than half (55%) 7th-12th graders reported using the Internet to learn about a health issue affecting themselves or someone they know. High-school students, teenage girls (66% of 15- to 18-year-old girls) in particular, are even more likely to look up health information online (Rideout, Foehr, and Roberts, 2010).

Project Background

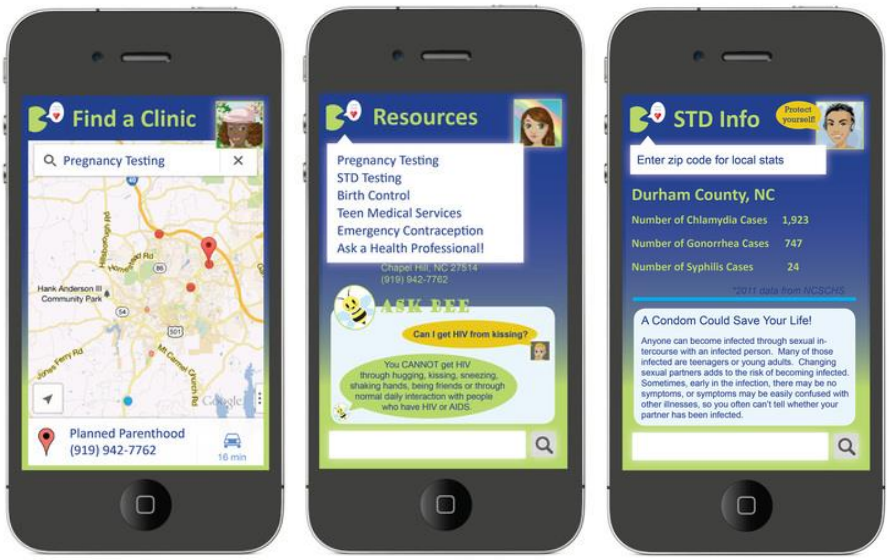
The *Let's Talk About It* team traces its origins to the UNC *Public Health Leadership Program Project Management* class in Spring 2013. It was developed in response to an assignment to plan and present a public health project for the campus and community-wide 2013 Science Expo. Our three-member team found that teen health was an overarching theme and interest for all members, in particular developing a project to reduce teen pregnancy. We identified a need for a reliable and confidential source of readily available information based on observations that young people have questions about sex, pregnancy prevention, and STI protection that they may not feel comfortable talking about with their parents, teachers, and peers. In response to state and national trends, an interactive mobile app was considered the most tangible option that met the potential need in the community and our interests. Although mobile apps are becoming more popular in health care and public health fields, our team noticed a gap in pregnancy prevention apps specifically oriented toward teen needs, finding only one similar app available on the Android and iPhone platform in early 2013. The app we found called **Pregnancy Prevention, Birth Control Techniques** (developed in 2011) seemed like a dated mobile app for audiences of all ages who want to learn about birth control methods. Additionally, it costs $0.99 to download, which seemed futile for information readily available on the internet at no cost and a costly option for teenagers who generally do not have a steady income.

A mobile app geared towards 15-19 year olds provides a user-driven accessible means of clear, concise, and accurate pregnancy and STI prevention information with the intent of increasing safe sexual behaviors among teenagers. Apps are a relevant way to reach young people who are the most active users of mobile technology (Pew Internet & American Life Project, 2013a). At the 2013 UNC Science Expo, a free all-day family event at UNC Chapel Hill that included exhibits, behind-the-scenes tours of research labs, and science activities for people of all ages, our team presented the idea to the public along with a whiteboard prototype in Figure 2. The whiteboard prototype included a visual presentation of several features in the app as they would appear on the smart phone once downloaded, as follows:

1) **Ask a Health Professional (Ask Bee)** – Because it is not always easy to find reliable information online, our goal was to partner with teen health providers in order to give real-time, credible, private answers to teens' personal questions about sexual health and relationships.
2) **Find a Teen Health Clinic** – This feature allows the user to search for resources by topic or location. The results display the address, phone number, and website for all available organizations and health services in the user's area that specialize in teen health as determined by the *My Location* mobile feature or manual zip code entry.
3) **Community Fast Facts** – Statistics are displayed by user's location or can be searched by county within North Carolina This brings teen health information closer to home and empowers teens to take action.
4) **Teen Health Game** – There are many myths pertaining to teen sexual issues, and this game's intention was to provide a fun, interactive way for teens to self-test their birth control, pregnancy, and relationship knowledge.
5) **Educational Information about Birth Control and STIs** – This searchable platform with pictures and instructions provides the user with up-to-date birth control and STI information.

We determined that our app would address several issues that may not be covered in current sex education curriculum, physician advice, and parental guidance and support; therefore, we decided on using basic language so that it is understandable for teenagers of all reading levels. Additional research and evaluation of the proposed text will need to be undertaken in order to determine the optimal reading level for teenagers in North Carolina. We also chose a discreet, unisex icon that would appear on the teen's mobile device for privacy, which was also a recommendation from ISIS/Youth+Tech+Health, a California-based teen empowerment non-profit organization, as was using basic teen-friendly language (Boyar, Levine, and Zensius, 2011). The blue-green theme is bright with a chat bubble that corresponds with the *Let's Talk About It* name. Additionally, another feature of the app is that teenagers can create customizable avatars that pop up in the upper-right corner of the screen allowing for optional personalization.

Figure 2: Whiteboard Prototype Presented at the 2013 UNC Science Expo



During the Science Expo, our team leveraged the opportunity to evaluate the project by gathering feedback from the community in attendance. Our evaluation consisted of a three question, 5-

point Likert scale survey for parents and teens who visited the Expo table. The 5-point Likert scale survey, based on the Likert scale developed by psychologist Ransis Likert, allows respondents to indicate their level of agreement or disagreement with proposed statements on a symmetric 1-5 scale (Allen and Seaman, 2007). The survey addressed content and usability of the app and included a blank area for comments and suggestions. As the team lead at the Science Expo, I also recorded general comments from parents without teenage children, college students, and others who chose not to complete the survey. We surveyed 16 teenagers and 23 parents (see *Appendix A* for the detailed UNC Science Expo Survey and Results). There were no negative responses with only one neutral response from a parent ("Neither Agree nor Disagree") for the overall mobile app usability. Though we did not gather feedback specifically regarding the design, color, and icon of the mobile app and its appeal to male and female teenagers, our intent was to design a unisex and discreet green-blue icon with a chat bubble representative of the open conversation about teen sexual health. Some additional limitations in our survey method were sampling bias as those individuals uninterested in teen health, public health, or mobile technology would likely not approach our table. However, we assumed this risk and created a simple title ("*Let's Talk About It*") that did not specifically indicate the project's topic but was still relevant to its intent. After receiving overall positive feedback from the community during the Science Expo, we decided to pursue the idea and develop the mobile app.

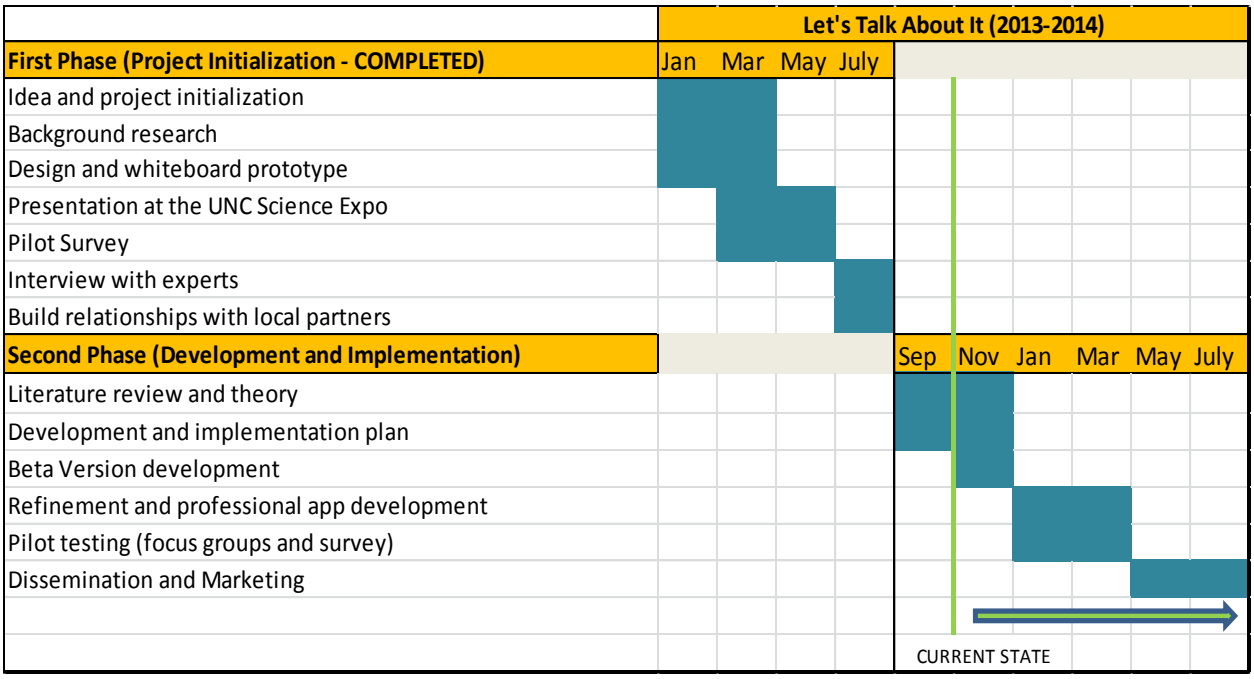
DEVELOPING AND IMPLEMENTING mHEALTH INTERVENTIONS

Methods to inform the mobile app development include lessons learned from the first phase, interviews with mHealth experts, a literature review, and integration of health behavior and sociological theories. Our team used classic project management guidelines for completing the first phase of the project, that included lessons learned as the integral last step of the class project that set the stage for the next phase. After the UNC Science Expo, our team interviewed Allyna Steinberg from the NYC

Department of Public Health, who developed the **Teen NYC Prevention Plus** mobile app, as well as two experts from Marie Stopes International, whose team conducts research on mHealth use in quality improvement of sexual and reproductive services globally.

Figure 3 demonstrates the work that has been completed during the first phase of the project, including interviews, and the work to be completed in the second phase of the project. Through interactions with local partners, our team recognized the importance of basing public health interventions on evidence and theory. In the beginning of the second phase, I conducted a literature review to find evidence-based mHealth interventions and learn more about mHealth intervention development and implementation. I additionally researched health behavior and sociological theories applicable to our mobile app development. As signified in Figure 3, we are in phase two of *Let's Talk About It* mobile app development as of this writing.

Figure 3: *Let's Talk About It* Project Overview



Lessons Learned and Interviews

Post UNC Science Expo, the general feedback indicated that the idea was great, and many participants were surprised that these types of apps were not already widely used. Participants were also excited that North Carolina could be at the forefront of an innovative teen health intervention for pregnancy and STI prevention and could serve as an example to other states. Based on the feedback and lessons learned from the first phase of the project, our team decided to develop the beta version of the app with several adjustments. The two new features include:

1) **What to Expect** – Honest and light information on sexual health and clinic visit expectations acknowledging recommendations from the ISIS/Youth+Teen+Health group so that "the tone of the online communications resonates with youth. It should be forthright, intelligent, and with a touch of humor" (Boyar, Levine, and Zensius, 2011, p. 36).
2) **Birth Control and Treatment Reminders** – Brief, less-than-160-character messages that will deliver humorous, discreet birth control and treatment reminders to users who subscribe to these services (Levine, McCright, and Klausner, 2008).

We decided to eliminate the game feature because game development requires a large amount of resources and developer time; additionally, based on the teenager feedback at the Science Expo, including such comments as "Not too many games, seems less mature," it appeared that interest in educational games was low. On the other hand, teenagers were very enthusiastic about the chat with a health professional option **(Ask Bee)**, and because *BrdsNBz,* a text messaging service that provides confidential and factual sexual health information to young people ages 14 to 19, has been successful, we decided to find a way to adopt the text messaging system into the app. Additionally, we added the peer-reviewing option in form of a *Like/Dislike* button of the local teen health providers, in order to promote trustable resources and a positive experience for teenagers. Finally, we decided not include

socially or politically sensitive information, such as determining one's sexual readiness, because there is no evidence-based practice or tools to assess sexual readiness. Furthermore, the available information is not suitable for an app.

During the summer, our team had the opportunity to interview Allyna Steinberg from the NYC Department of Public Health, Maternal, Infant and Reproductive Health Bureau, who developed and launched the **Teen NYC Prevention Plus** mobile app in May 2013. The app's focus is to reduce teen pregnancy and STD infection in New York City (NYC), based on her development of a booklet of clinics around the city that were identified as teen-friendly. The NYC health department funded its development into a mobile app so it is more widely and easily accessible. Within one month, their app had 2,500 downloads at no cost to the user. Another expert interview with a member of Marie Stopes International confirmed our decision to remove the games feature from our app. Their team did extensive research on the idea of developing sexual health mobile phone games to reach youth and found that the use of games for sexual health information is more accepted in developing countries than developed countries.

Literature Review

The purpose of the following literature review is to gain knowledge regarding development, implementation, and evaluation of mHealth interventions, more specifically using mobile apps in public health to inform the development of the *Let's Talk About It* mobile app. PubMed and Google Scholar were used to search the following key terms: "mHealth interventions," "teen health," "mobile app," and "teen pregnancy." These key terms were selected to identify relevant sources that will address the following questions:

1) Have mHealth interventions been successful in improving public health outcomes?
2) Is there evidence for using mHealth interventions in health behavior change among teenagers?

3) Have similar mobile apps been invented, and if so, were they successful in increasing safe sex behavior or reducing teen pregnancy and STIs?

Smartphones provide a good platform for the delivery of behavior interventions because they are highly valued devices by individuals, used frequently throughout the day, offer the opportunity to bring "real-time" and "on-the-go" health information (avoiding timing barriers to behavior change), and provide a cheap, convenient, and less stigmatizing intervention through discreet features and user privacy (Dennison et al, 2013). In 2012, a systematic review of thirty-two mHealth interventions published in peer-reviewed journals suggests that mHealth interventions receive positive response among technology users, particularly young people, and that text-based and video-based interventions show promise in changing health behavior regarding both treatment and prevention. In particular, for individual-level prevention interventions, like the use of sunscreen for example, a daily text message reminder to perform this task yielded a significantly higher sunscreen use rate per week than did the control group (Buhi et al, 2012). This evidence could translate to daily text reminders for other preventative behaviors, more specifically as a text reminder (or a push notification feature of a mobile app) to take birth control pills at the same time every day. Furthermore, for mobile apps with an "ask a health professional" feature, the developer should incorporate an explanation of the main intent of the feature to the users. For instance, a family planning and pregnancy mHealth intervention implemented in Africa and summarized by Gurman, Rubin, and Roess specifies what the messaging feature intends to do to combat wasting health professionals' time with unrelated questions or solicitations. Additionally, it is important to consider the timing and length of alert notifications in order to limit intrusiveness and reach the target audience. (Gurman, Rubin, and Roess, 2012)

One of the *Let's Talk About It* project goals is to translate evidence-based health behavior studies into a mobile application. Although research on evidence-based mHealth methods is in

relatively early stages, other evidence-based interventions provide scientifically-tested practices in teen health that can be applied through mobile applications. In 2012, the Office of Adolescent Health (OAH) compiled over 30 evidence-based programs that have proven effective in reducing the number of teen pregnancies and STIs over the past fifteen years. While most are school-based programs, many programs emphasize the importance of health clinic follow-up with teenagers post consultation or post diagnosis of STIs (Office of Adolescent Health, n.d.). Mobile applications can be a good resource for maintaining health provider contact and presenting available resources in different areas across the state. Furthermore, the CDC developed a website dedicated to effective, evidence-based programs for HIV/STD prevention, which includes testing resources and guides for professionals working with youth (CDC, 2011). Based on the CDC evidence-based programs, the ACT Youth Center of Excellence made recommendations for successful youth interventions which would target behaviors most responsive to change (such as condom use), tailor activities to each group, and involve teens in decision making and capacity building (DiClemente & Sales, 2010). Mobile technology has the capability to recommend features and activities based on user preferences, which can be beneficial for tailoring positive messages for teenagers. The Healthy People 2020 website also identifies evidence-based interventions to reach teen health goals, including increasing number of adolescents who have annual wellness checkups, reducing number of young people who acquire STIs (particularly gonorrhea and chlamydia), and reducing pregnancies among adolescent girls. Additionally, five studies cited by Advocates for Youth indicate that providing access to contraceptive services and methods would make a program more effective (Pagliaro and Gipson, 2001), which is again one of the primary aims of the mobile app. By providing nearby locations for teen-friendly health resources as rated by their peers, the mobile app has the potential to increase the number of people who visit a health provider on a regular basis.

There is little research on the development and evaluation of mobile applications for health behavior change specific to teenagers. However, based on preliminary studies, apps can be a successful

source of information and data and can influence change within this target audience (Dennison et al, 2013). In a recent focus group on improving existing teen pregnancy and STI prevention programs, California teenagers indicated that they want programs they can relate to and greater access to health services, testing, and condoms. They also indicated that this would encourage them to spread the word to their peers. While participants did not acknowledge that searching Google or Facebook constituted "using technology"—the term used by professionals in the study—they added that they wanted more accurate information online and via mobile phones, particularly resources and links to doctors and free clinics (Boyar, Levine, and Zensius, 2011). Another young adult focus group in the United Kingdom suggested mobile app developers consider the following: the cost and effort of downloading and setting up the app; positively framed alerts and reminders that are pertinent but not too frequent; making the app discreet and with adequate privacy settings; and including expert advice and feedback to guide people in how they can change behavior (Dennison et al, 2013; Luxton et al, 2011). Finally, over 30% of Hispanic and African-American teenagers surveyed by ISIS, currently known as Youth+Teen+Health, are interested in mobile technology regarding teen health, particularly birth control reminders and instructional videos relevant to teen life (Boyar, Levine, and Zensius, 2011). Two-way communication and understanding the target audience seem to be a common theme between the different groups and should be noted in the development of the mobile app.

Several teen pregnancy and STI prevention mHealth interventions targeting teenagers exist today, including the APPCNC's successful *BrdsNBz* text messaging service that was recently expanded nationally (see *Appendix B* for a complete list of teen resources). Additionally, there are six mobile apps similar to ours geared toward reducing unintended pregnancy in the United States, four of which were developed in the past year during the inception of the *Let's Talk About It* project and only three of which target teenagers specifically:

1) **Teens in NYC Protection Plus (2013, NYC only, $0)** – The mobile app allows teenagers who live in New York City to search for clinics in their neighborhood that provide sexual health services for teens. Features include "where to go," "what to get," and "what to expect."
2) **Pregnancy Prevention, Birth Control Techniques (2011, $0.99)** – Outdated mobile app for audiences of all ages who want to learn about birth control methods.
3) **Oregon Reminders (2013, $0)** – A new mHealth program developed by Youth+Tech+Health (YTH) for all ages that provides a private, secure way for people to set their own health reminders, such as those for birth control, via text message, voicemail, or email.
4) **Bedsider's Condom Pro (2012, $0)** – A mobile app game for ages 17 and above allows users to practice proper techniques for using condoms. Bedsider LLC also has a great website for teen health information, but currently, only has this game available as a mobile app.
5) **Avoid Pregnancy (2013, $0)** – A teen pregnancy education app developed in October 2013 by a private developer provides basic information on avoiding and preventing teen pregnancy.
6) **Girls Inc. (2013, $0)** – Teen Sexual Health App for girls developed in October 2013 by the Middle School Pregnancy Prevention Program and Teen Health Ambassador Program at Girls Incorporated of Lynn with funding from the Massachusetts Department of Public Health Office of Adolescent Health and Youth Development, with facts and myths about teen health, frequently asked teen health questions, and quizzes about STIs and contraception.

Theoretical Foundation

Many stakeholders and funders want to ensure that projects they are funding are supported by theory and evidence. As the ACT Youth Center for Excellence indicates, it is necessary to take a focused approach that targets only feasible areas of behavior change in order to create sustainable pregnancy

and STI risk reduction among teenagers (DiClemente & Sales, 2010). The *Let's Talk About It* mobile app is based on several health behavior and sociological theories.

According to Bull and colleagues, behavior change is most prominent among those who receive tailored materials and have higher self-efficacy (Bull et al., 2001). Many conceptual models of behavior change in public health share the notion of self-efficacy, which is an individual's belief in their ability to succeed through action in a particular situation. Bandura further argues that self-efficacy influences different aspects of behavior: adopting a new behavior (e.g. a sexually active teenager learning to use a contraceptive method), inhibition of existing behavior (e.g. avoiding unsafe sex practices), and disinhibiting of behavior (e.g. lack of knowledge of local teen-friendly health clinics for medical check-ups) (Bandura, 1994). A teen health intervention based on self-efficacy aims to improve the individual's belief in effectively avoiding pregnancy and STIs, which is one of the main goals of the mobile app. The mobile application targets teenagers at the individual level of the social-ecological framework, rather than at the interpersonal, community, or population level (CDC, 2009; Sallis, Owen, and Fisher, 2008); in other words, it focuses on beliefs and knowledge possessed by an individual by generating motivation and a sense of responsibility through reminders, prompts, and incentives. The individual level is an appropriate choice for this intervention, because without the teenager's knowledge of personal health, awareness of available resources, and motivation to change behavior, it is difficult to affect the norms on the community or population level.

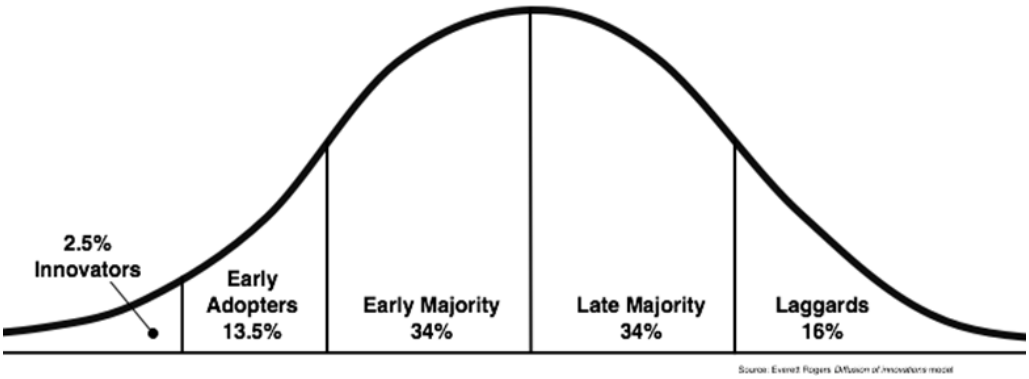
Furthermore, social learning theory and social cognitive theory were the most used frameworks in successful STI prevention programs because they incorporated modeling activities (demonstrate how to put on a condom), skill building activities (role play about how to communicate with a partner), and self-efficacy (confidence that condom was used correctly) (DiClemente & Sales, 2010). The social cognitive theory is useful in health behavior change as it shows the relationship between personal,

interpersonal, and environmental factors. A program called SiHLE offers an application of this theory. In SiHLE, young women have the opportunity to practice proper condom use skills, which helps them develop a positive attitude and norm about consistent condom use (OAH, n.d.). The *Let's Talk About It* app takes into account the need for visuals to demonstrate how to use birth control and what to expect in order to increase teenager's confidence in safe sex practices.

Most successful adoption of a public health intervention results from understanding the target population and the factors influencing their rate of adoption. In health promotion, the audience must be interested in and understand the health information that is presented in order to accept the message and create dialogue with others (Bull, 2001). Through careful analysis of innovation adoption, Rogers identified factors that influence the rate of adoption by communities in his diffusion of innovation theory. These factors include the characteristics of the social system, the innovation itself, and the characteristics of early and late adopters (Rogers, 1983).

This theory is applicable to mobile app adoption by teenagers that aims to change their behaviors regarding sexual health. While it may take a few years before the majority of teenagers begin downloading health apps on their smartphones, developing these apps for the early adopters, who are typically open to all new technology, will help diffuse the message to later adopters by word-of mouth including those who may not yet have a smartphone (Boyar, Levine, and Zensius, 2011). Figure 4 demonstrates the succession of consumer adoption of an innovation, in this case a mobile app, in a normal distribution graph. Innovators and early adopters tend to drive modern advances, and because teenagers are often on the cutting edge of new technology, it would appeal to North Carolina teenagers to be the first users of a new mobile app and model a path for others. The majority adopters must be persuaded by their peers to download and use the mobile app; therefore, attractive visuals as well as information delivery style appealing to teenagers (simple language, humor) would help the initial adopters increase uptake of this app further.

Figure 4: Roger's Diffusion of Innovation Theory



Because mHealth is a new field and the use of technology is rapidly changing, the publications used in this literature review may quickly be outdated. However, these studies and theories provide an overview of teen health within a mobile landscape and insight into teenagers' use of technology to learn and communicate about health. In order for the mobile app to be successful in North Carolina, several factors must be considered in its development:

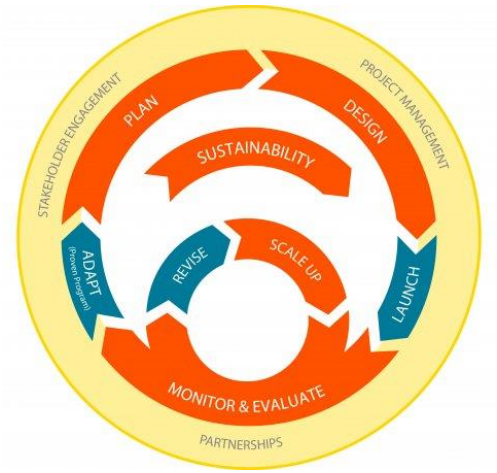
1) The mobile application should be free or low-cost so that it is easily obtainable by the target audience and sustainable either through grant funding, crowd-sourcing, or the operating agencies' budgets.
2) The mobile application should be relevant and culturally appropriate to the target audience and respectful to the education efforts of the medical and public health community, teachers, and parental guidance.
3) The mobile application should produce better health outcomes in the focus areas of teen pregnancy and STD protection.

IMPLEMENTATION PLAN

Following concept and solution development, Johns Hopkins Bloomberg School of Public Health in collaboration with FHI 360 and Management Sciences for Health recommend an implementation

process for mHealth interventions, which consists of six components: project management, partnership development, preparing for launch, monitoring & evaluation, scale-up, and sustainability (K4Health, 2013). As demonstrated in Figure 5, the project cycle includes these components, while highlighting launch, revision, and adaptation as critical steps, as well as stakeholder engagement, partnerships, and project management as ongoing components. Our plan includes ongoing involvement of partners and stakeholders in the development, testing, and refinement of the mobile app, along with project management ensuring timely task execution. In addition to knowledge from the literature review, the guide provides a schematic strategy for success.

Figure 5: mHealth Implementation Schematic



Source: FHI 360 (K4Health, 2013)

Project Management

In the first phase of our project, our team relied on classic project management tools, including development of the project charter, Work Breakdown Structure (WBS), Gantt chart, stakeholder register, communication plan, and undertook lessons learned (Wysocki, 2009). Based on the lessons learned, we found it necessary to plan staffing needs and have a contingency plan in the beginning of the new phase. We decided to include volunteers in the beginning of this development and

implementation project as we did for the Science Expo. By engaging our primary stakeholder–the end users–to obtain feedback as the mobile app is developed, this approach is an example of agile project management, which is also reflective of the K4Health model. Additionally, we learned that it is necessary to start with a narrow scope and build upon it, which is why we decided to build a beta version before investing in a developer to make a fully functional mobile application.

Team Bio sketch

Tobias (Toby) McNulty is an MPH graduate student in the Public Health Leadership Program at the UNC Gillings School of Global Public Health. He is also a local entrepreneur, having started a successful technology design and development firm, Caktus Group, with college friends. Toby is passionate about linking technology with public health and serves as our business development director and tech adviser.

Zinaida Mahmutefendic is also an MPH graduate student in the Public Health Leadership Program at the UNC Gillings School of Global Public Health. She is the project lead for the implementation and dissemination of the app and will consult with other team member on an as-needed basis to coordinate issues of staffing, stakeholder input, budget and scheduling. She contributes to the creative process of the mobile app content and teen outreach, working on research, design, building partnerships, and implementation of the aims of the project phases.

Katie Donohue was also an original team member during the first phase, but had to drop out from the project post-graduation. Toby and I are currently operating as a two-member team with potential for expansion.

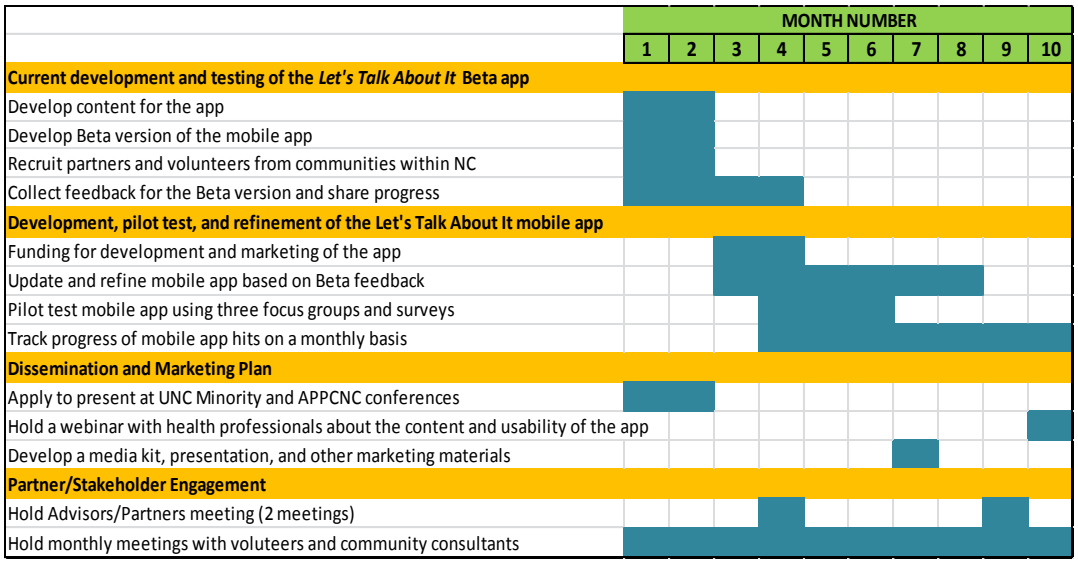
Key partners include the Adolescent Pregnancy Prevention Center of North Carolina (APPCNC), the Women's Health Branch at the Division of Public Health, and Cabbarus Health Alliance Teen Task

Force (see *Appendix B* for details). Additionally, our team relies on guidance and support regarding social marketing from Mike Newton-Ward, a social marketing professor at UNC Gillings School of Global Public Health.

Timeline

The critical steps to achieving our goals are indicated in the timeline in Figure 6, and specific tasks are defined by the detailed Work Breakdown Structure provided in *Appendix C*. Achieving the set goals per the designed months indicated in Figure 6 will position this stage of the project for a timely completion. Current beta development and testing phase, which overlaps with the planning period for the official implementation starting in January, is also included in the WBS and timeline. This flexible planning structure is an agile project management approach, typically used in creating innovative products to ensure structure does not hinder creativity (Wysocki, 2009, p.310). The WBS will be updated on a weekly basis to provide a snapshot of the project's progress in regards to the schedule and work completed and will also serve as a guide for the team, partners, and stakeholders.

Figure 6: *Let's Talk About It* Implementation and Dissemination Timeline



Scope and Objectives

For this project, specifically the implementation and dissemination plan of the *Let's Talk About It* mobile app, the aim is to develop the app and pilot test its effectiveness in assisting teenagers with selecting pregnancy prevention resources in their communities. A secondary goal is to educate the teenagers about birth control and STIs to increase self-efficacy for safe-sex practices among teenagers, thus reducing the number of pregnancies and STI incidence within this population. One way to ensure these goals are achieved is by setting SMART (Specific, Measurable, Achievable, Realistic, and Timely) objectives and measuring performance (CDC, n.d.).

The SMART objectives for *Let's Talk About It* are:

1) **Present the mobile app to at least 200 public health professionals and teen health educators across North Carolina within the first six months of implementation.**
2) **Achieve at least 5000 mobile app downloads within the first six months of implementation**, an estimate based on the interview with the NYC Department of Public Health. This result would demonstrate that teenagers in North Carolina are interested in using the mobile app.
3) **At least 95% of pilot participants (teen user groups and health providers/educators) will rate the ease and usefulness of the *Let's Talk About It* mobile app as very good to excellent within the first six months of implementation.** The criteria are based on preliminary satisfaction ratings at the 2013 UNC Science Expo, and it will be collected through a brief survey to be developed in month 3 of the project. The results would demonstrate teen interest in using the mobile app and health professionals' interest in recommending the mobile app to their teen patients.

4) **The *Let's Talk About It* mobile app will be rated at least 4 stars out of 5 in the Apple and Google Play platforms within the first year of implementation.** Currently, similar apps are rated from 3 to 4.5 stars (out of 5 possible) indicating medium to high satisfaction with these apps.

Measurement and Evaluation

Success of implementation will be measured by timely completion of all tasks and activities using the Work Breakdown Structure (*Appendix C*) and reaching project goals, including completion of tasks and indicating if the app meets the needs of the users. Using a free online app developing software, *PhoneGap*, we are currently creating a beta version of the mobile app. Because we are recruiting teen volunteers to work with us, the quality of the beta version will be measured by analyzing their personal feedback, which will be gathered through surveys about the demo content and features. Based on this feedback, we plan on working with a developer to build a high functioning mobile app.

Once we have a developed prototype (in month 5), we plan on holding three teen focus groups to assess the appeal, usability, and usefulness of the mobile app. Focus groups will be used for gathering teen participants' insight for further app refinement as they allow for in-depth discussion, stimulate views within a group context, and require a short period of time for gathering information. One of the focus groups will be scheduled with the Cabarrus Health Alliance Teen Task Force and the other two groups will include volunteers from two local high schools, with each group consisting of 8-10 mixed gender participants, ages 15-19. Our team will develop open ended questions for the focus groups (in month 4). We have submitted this project for review to the UNC IRB and have received preliminary indication that it will not need approval because we will not be collecting identifiable data from participants.

Additionally, we plan on including a simple Likert-scale survey after the APPCNC conference in spring 2014 based on a convenience sample of volunteers to gauge health professional and teen health educator interest and support for the app. Possible additional measurements in the future include the number of app downloads, number of "Like/Dislike" ratings for the local resources, and number of health professional messages sent and received, whose measures depend on privacy and user settings still to be determined.

Risk Analysis

Several challenges may arise during program planning and implementation that may jeopardize our efforts. According to program planning theory, these challenges typically include the political environment, consistency with local, state, and national priorities, acceptability to providers and recipients, financial resources, and technical feasibility (Issel, 2008). It will be important to analyze the need for funding to further develop the mobile app, currently estimated at $8000. Previously, we have discussed using a crowd-sourcing platform, such as *Kickstarter* (see *Appendix B*), to raise funds for a professional developer, but recently we were advised to apply for grant funding through partners and keep *Kickstarter* as a backup.

In addition to financial challenges, the student-based nature of the team presents a risk of staff turnover due to graduation, employment, or moving away. Because one of our team members already dropped out, the remaining two members have discussed commitment to the project for the next year and the possibility of expanding the team for the purpose of alleviating the time constraints of each member. Additionally, as we work with local partners to deliver comprehensive teen health information, we may encounter organizations that do not agree with our project or are not willing to share resources with our team. For example, in the case that we are unable to collaborate with the APPCNC's BrdsNBz Text Message Warm Line respondents to provide real-time chat responses, we are

keeping a back-up log of interested teen health providers at local health departments and schools who may be able to volunteer as a response team. Another innovative option, recommended to our team by social marketing expert Mike Newton-Ward, is contacting teen health providers who are active in social media (i.e. Twitter, Facebook) about involvement with the Ask Bee feature of the app.

The team will additionally need to examine the acceptability of the mobile app to the participants, stakeholders, and the North Carolina community through focus groups and surveys and ensure their needs are appropriately met. Incentives should be considered during the pilot program as they are typically successful in securing participation of a target population. Currently, our team has contact with the Cabarrus Health Alliance, who is willing to provide an incentive to their Teen Task Force to participate in the *Let's Talk About It* focus group in February. Positive social marketing can be helpful in presenting the mobile app as a resource tool in addition to parental, health provider, and teacher guidance. This may also help mitigate potential backlash from religious or socially conservative groups who feel abstinence is the only approach to decreasing teen pregnancy. For this reason, our team has decided to include abstinence in our educational features and set a Terms of Use policy that reflects the absence of involvement by politically motivated organizations.

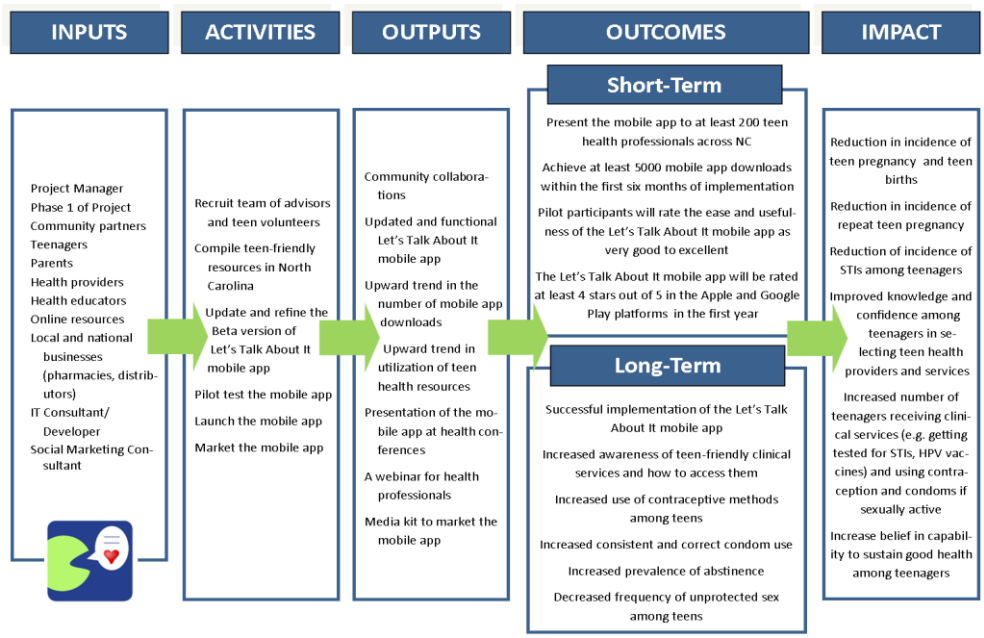
Furthermore, despite receiving positive feedback during phase one of the project, it is possible that our team may encounter negative feedback during phase two. If any negative feedback relates to the features and functions of the mobile app, our team is open to further quality improvement of the content and features, which may extend the official launch date by a few months. We would also take into consideration any constructive criticism regarding the necessity and usability of the mobile app in North Carolina, despite the positive feedback and growth in development of similar apps across the county, and adapt as necessary.

Finally, unforeseen circumstances or opportunities may challenge the timely development and implementation of the app. For example, as mobile apps are becoming more popular (two similar apps launched in October 2013), new apps could be in the developing stages here in North Carolina. For this reason, our team intends to maintain a conversation with partners to avoid overlapping projects and begin piloting the *Let's Talk About It* beta version by the end of the year. On the other hand, an opportunity may arise to expand the project to neighboring states prior to the official launch of the *Let's Talk About It* app. Through agile project management, our team remains open to adjustments to our timeline if it provides for a better product and better teen health outcomes. Furthermore, we will continue to discuss risk management strategies and contingency plans at our monthly meetings.

Logic Model

A logic model provides an overview of inputs, activities, and outputs of the project and provides a supplemental guide to the workplan (Work Breakdown Structure) and timeline for developing a realistic budget and implementation plan (CDC, 2008). A logic model can also be a useful tool in grant proposals as they give an overview of the program and its short-term and long-term objectives (Issel, 2008, p.178, 278). Our logic model for implementation of the mobile app, shown in Figure 7, illustrates the causal relationship between different phases and activities of the project. It highlights the inputs or essential resources needed for activities to occur, including staff and community resource investments. The activities reflect the critical steps of the project necessary to produce outputs, which are main targets delivered by the mobile app and our team. The short-term and long-term outcomes state our goals for the project, which are expected to contribute to a larger impact. The planned items (inputs, activities, and outputs) of the logic model are essential to achieving results and should be monitored throughout our project implementation cycle.

Figure 7: Logic Model for Implementation of the *Let's Talk About It* mobile app for teens



Partners and Stakeholders Register

The partner and stakeholder register is a project management tool that lists the internal and external individuals, groups, and organizations that can influence the success of the project in a positive or a negative manner. It can be used as a checklist for contacting stakeholders for input and gauging their continuous interest in project activities, as well as used to develop our communication strategy and responsibilities (Evarts, 2013).

The register in Figure 8 identifies the stakeholders involved in the *Let's Talk About It* mobile app development, the level of impact they have in the project, the deliverables they are accountable for, and strategies for ongoing meetings and communication. We used the categorization assessment of stakeholders – responsible, accountable, consulted, and informed (RACI) – to identify project impact (Suchan, n.d.). Suchan explains that, in RACI, 'responsible' refers to an individual or group responsible for completing a task, 'accountable' is typically the project manager accountable for the tasks being

completed, 'consulted' is a person or a group who is consulted about the task but not charged with completing it, and 'informed' is a person or a group who is kept informed about the project but typically has no responsibility. In order to maintain an overview of the parties directly and indirectly involved and/or impacted by the project, the project manager will update the stakeholder register as new stakeholders become involved in the project or their level of project impact of changes.

Figure 8: Stakeholder Register

Stakeholder Name	Project Impact	Information and Deliverables	Strategies to Communicate and Gain Support	
Project Team * Zinaida Mahmutefendic * Tobias McNulty	Consulted, Informed, Accountable, Responsible	Discuss and ensure completion of tasks Develop mobile app	Ongoing	Monthly in-person meetings, email and/or Google Docs
Partner Organizations and Consultants * APPCNC * DPH Women's Health Branch * Cabarrus Health Alliance * Mike Newton-Ward * TBD	Consulted, Informed	Request for collaboration Discuss content for mobile app Test beta version of mobile app	2 times in 2014	In-person meetings (January and June 2014), email, website
Health Providers * Local Health Departments * Primary Care Providers * Teen Clinics	Consulted, Informed	Final project description	Ongoing	Conference presentations (February and May 2014), webinar, email, website
Volunteers * Teenagers * Public health students and professionals	Consulted, Informed, Responsible	Test beta version of mobile app Discuss content for mobile app	Every 2 weeks	In-person meetings (TBD), email
Parents	Informed	Visual prototype of mobile app	Ongoing	Website, mobile app store

Stakeholder Name	Project Impact	Information and Deliverables	Strategies to Communicate and Gain Support	
Teenagers ages 15-19 * Teen Task Force * High school focus groups TBD	Consulted, Informed	Visual prototype of mobile app Discuss content for mobile app	Ongoing	Website, mobile app store, focus group, school, health provider

Launch and Social Marketing

I have met with Mike Newton-Ward, a social marketing professor at UNC Chapel Hill, to discuss making the app appealing to the target audience and stakeholders. In order to successfully launch and market the mobile app, our team will consider the four Ps of social marketing: product, price, place, and promotion as we develop a product that influences teen behavior (Lee and Kotler, 2011). Health promotion is typically successful if it integrates all 4Ps.

Product includes the core product and all the benefits that the target audience (teenagers) will achieve by performing a certain behavior. In our case, the benefits of using the mobile app include knowledge about local resources, privacy, convenience, and sexual self-efficacy. For example, if a teenager has a question that they are too embarrassed to ask their parents or friends, they can privately and with minimal effort ask a health professional for advice using their mobile phone.

Price refers to the costs (monetary and non-monetary) that the target audience pays for adopting a certain behavior. There are no monetary fees associated with using the app; however, teenagers must have a smart-phone and take the time to download the *Let's Talk About It* app in order to use its services. We discussed possible incentives, such as downloadable coupons for free condoms, to encourage teenagers to download the app.

Place refers to "when and where" the target audience will be encouraged to perform a certain behavior or acquire a tangible service. For example, teens may not be going for regular health check-ups because they are not aware of teen-friendly places or do not obtain preventative supplies because they had a bad experience buying condoms in the past. The app will not only show them locations of all available clinics or pharmacies nearby, but also whether it has teen-friendly staff based on peer feedback.

Finally, a promotion strategy helps maximize communication efforts using key messages and various communication channels, and we plan on using social media and events to promote the mobile app (Lee and Kotler, 2011). Bottom line, the mobile app product is a convenient resource, and the less young people need to go out of their way to make a change, the more likely they are to make it.

Scale-Up and Sustainability Plan

In order to ensure that the information provided in the mobile app remains up to date and relevant throughout the state of North Carolina, our goal is to plan for the future housing of the mobile app within one of the state organizations. Sustainability will be a topic at both advisor/partner meetings in 2014 to gauge interest of partnering organizations in housing the mobile app post-implementation. Additionally, the sustainability plan logistics will depend not only on the implementation partners, but also potential funders for development and marketing of the app. Other resources for sustainability include tech support and time health educators and providers spend responding to texts. General tech support can be obtained on an as-needed basis from our Information Technology staff or that of our partner organizations, or from other external resources, such as tech savvy volunteers or local schools and libraries. Sustainability of the "ask a health professional" feature can be ensured through innovative means of delivering information instantly, such as social networking (Twitter, Facebook) as many health professionals are active in social media platforms on a daily basis.

While our team is open to scaling up nationally once we have evidence in terms of feedback, outcomes, and effectiveness of the app at the state level, a scale-up plan has not yet been developed. In order to expand the health clinic/pharmacy locator nationally, our team will require a way to identify and locate teen health resources across the country, as these resources are not compiled within a national directory or easily searchable on existing mapping platforms (Google Maps, iMaps). Currently, we are working only with North Carolina partners to compile relevant resources for teenagers.

Conclusion

There are many promising teen pregnancy and STI prevention interventions; however, there is room to explore new opportunities using mobile technology as it becomes more widely used among teenagers. Mobile app developers must be in tune with the latest evidence-based intervention research, health behavior theories, and needs of their target audience in order to create a successful product and improve teen health outcomes. Furthermore, mobile apps are a convenient method of developing two-way communication between teens and health professionals. This document contains information that will be useful in developing funding proposals and charters, but can also serve as an implementation guide for future mHealth interventions.

APPENDIX

APPENDIX A: 2013 UNC Science Expo Surveys and Results

TEEN SURVEY

Age: ___

1. The content of the app is relevant to me.
○ Strongly Agree
○ Agree
○ Neither agree nor disagree
○ Disagree
○ Strongly Disagree

2. I would use an app about pregnancy prevention and STD protection.
○ Strongly Agree
○ Agree
○ Neither agree nor disagree
○ Disagree
○ Strongly Disagree

3. Comments/Suggestions

PARENT SURVEY

1. The content of the app is appropriate for teenagers.
○ Strongly Agree
○ Agree
○ Neither agree nor disagree
○ Disagree
○ Strongly Disagree

2. I would want my child to have access to an app about pregnancy prevention and STD protection.
○ Strongly Agree
○ Agree
○ Neither agree nor disagree
○ Disagree
○ Strongly Disagree

3. Comments/Suggestions

TEEN SURVEY RESULTS (April 2013)

• 16 surveys completed

• 8 male (14-17 yrs), 5 female (13-17 yrs), 1 unknown, 2 outside age range (11 yrs and 21 yrs)

• Male: Strongly agree/agree

- "Cool"
- "Give honest uncensored answers"
- "Seems useful, don't know how you would spread awareness or how many people would download"

• Female: Strongly agree/agree

- "Love this idea! So cool! I would tell all my friends!"
- "Not too many games, seems less mature"
- "Not from NC, live in VA"

• Unknown: Strongly agree

PARENT SURVEY RESULTS (April 2013)

• 23 surveys completed, have teenage or pre-teen children

• 14 Strongly Agree, 8 Agree or both

- "Good presentation, very much needed for the teens! Thanks"
- "Interested to see it launch!"
- "I like your app picture, very discrete"
- "Sometimes kids pay more attention to a trusted source than they do to their parents."
- "Where do I give money?"

• 1 Neither Agree nor disagree

- "Well, it's up to parents to teach their kids"

Other comments collected by team:

– Surprised many apps don't exist for this already

– Could serve as an example for other states

– College students like it as well

– Health providers enthusiastic about the chat option

– There are many teens without a smartphone

– Surprised by NC statistics, particularly the low number of Planned Parenthood locations in our state

APPENDIX B: Content Resources

Local and State Resources

Adolescent Pregnancy Prevention Campaign of North Carolina (APPCNC)
http://www.appcnc.org/
A local organization working to help communities prevent adolescent pregnancy through a combination of advocacy, collaboration, and education.

BrdsNBz Text Message Line (66746)
http://www.appcnc.org/projects-services/brdsnbz-text-message-warm-line
The BrdsNBz Text Message Warm Line provides confidential, factually accurate answers to sexual health questions via text message. A young person simply texts a question, and a trained health educator responds within 24 hours.

Division of Public Health Women's Health Branch
http://whb.ncpublichealth.com/services.htm
Teen Pregnancy Prevention Initiative (TPPI) within the Women's Health Branch funds communities across North Carolina to implement programs that prevent teen pregnancy and support teen parents.

Planned Parenthood of North Carolina
http://www.plannedparenthood.org/centralnc/
Planned Parenthood of Central North Carolina provides education programs, health care, and advocacy to help reduce unintended pregnancy and sexually transmitted infections, especially among teens, people with limited incomes, and the uninsured.

Gaston County Youth Connected Program
http://gastonyouthconnected.org/
A Gaston County organization dedicated to reducing Gaston County's teen pregnancy rate by 10% by 2015 and developing infrastructures in the community that can support evidence-based pregnancy prevention strategies, including program services for youth that are integrated with clinical services for youth.

National and Online Resources

Bedsider: http://bedsider.org
This website has a lot of good information for teenage boys and girls, but there is not a mobile app. They also sponsored Condom Pro, a mobile game to practice putting on condoms.

YTH: http://yth.org/#projects
Website about new ways to advance the health of youth and young adults through technology.

Kids Health: http://kidshealth.org/teen/sexual_health/
Website for adolescent health information

The Playbook: http://theplaybook.org
A social marketing campaign targeting sexually active older teenagers (ages 18-19).

Sex, Etc. http://sexetc.org/
Sexetc.org has comprehensive sex education information online.

England free condom finder app: http://www.bbc.co.uk/news/uk-england-kent-16567855
Mobile app idea from the United Kingdom.

Planned Parenthood Live Chat for teenagers: http://www.plannedparenthood.org/info-for-teens/
An online chat service for teenagers about sexual health.

Condom delivery service: http://news.discovery.com/tech/apps/sos-condom-app-delivers-great-package-130201.htm

Tech soup: http://www.techsoup.org
Resource for non-profits, but there is some good information relevant to our mobile app development.

Kickstarter: http://www.kickstarter.com/hello?ref=nav
A crowd-funding platform for innovative projects.

Other health website links targeting teenagers: http://www.commonsensemedia.org/website-lists/health-websites-for-kids-and-teens

APPENDIX C: Work Breakdown Structure

WORK BREAKDOWN STRUCTURE (through December 2013)		TIME TO COMPLETE	
Develop content for app		**October-November 2013**	**18days**
	Research available resources online	COMPLETE	-
	Recruit local teen volunteers	IN PROGRESS	5days
	Recruit local partners to serve as Advisors	IN PROGRESS	3days
	Work with partners and volunteers to identify resources	October-November 2013	10days
Develop beta mobile app		**October-November 2013**	**10days**
	Download PhoneGap	COMPLETE	-
	Learn PhoneGap	COMPLETE	-
	Create beta version of mobile app	IN PROGRESS	10days
Administrative Deadlines		**November-December 2013**	**9days**
	Let's Talk About It Master's Paper Draft (planning period)	COMPLETE	-
	Let's Talk About It Master's Paper Final Draft (planning period)	COMPLETE	-

	Apply for Minority Conference poster (TBD)	TBD	2days
	Apply for APPCNC Conference (due 11/25/13)	November 25, 2013	2days
Present and test beta mobile app		**October 2013-January 2014**	**16days**
	Update website and buy domain	IN PROGRESS	2days
	Review beta app with local teen volunteers	November-December 2013	10days
	Compile suggestions for updates and implementation	November-December 2013	2days
	Plan to present to the Advisory Partners	December 2013	2days
WORK BREAKDOWN STRUCTURE (Dec 2013 – July 2014)		TIME TO COMPLETE	
Funding for development and marketing plan		**December 2013-January 2014**	**15days**
	Find funding opportunities	December 2013-January 2014	3days
	Create marketing plan	January 2014	3days
	Create budget	January 2014	2days
	Write proposal for funding	January 2014	5days
	Apply for funding	January 2014	2days
Update and refine mobile app		**December 2013-May 2014**	**26days**
	Recruit developer	December 2013-January 2014	2days
	Work with partners and volunteers to develop resources	January 2014-May 2014	5days
	Work with partners and volunteers to test and adapt resources	January 2014-May 2014	5days
	Compile contacts for all LHDs regarding teen health	December 2013-January 2014	2days
	Contact LHDs about teen-friendly resources in their area	February 2014	2days
	Update content and refine the app based on feedback	January-February 2014	10days
Measurement & Evaluation Plan		**January-March 2014**	**14days**
	Develop plan for tracking website hits, app downloads	January 2014	3days
	Develop focus group questions	January-February 2014	3days
	Recruit two additional test sites	January 2014	5days
	CHA Teen Task Force focus group	February 2014	1day
	Hold Focus Group 2	March 2014	1day
	Hold Focus Group 3	March 2014	1day
Disseminate mobile app		**February-July 2014**	**32days**
	Work with partners and volunteers to market the app	May-July 2014	5days
	Update website and plan future updates	April 2014	3days
	Create a media kit	April 2014	8days
	Create presentation and handout	April 2014	8days
	Present product at UNC Minority Conference (poster)	February 2014	1day
	Present product at APPCNC conference	May 2014	1day
	Work with partners on sustainability plan	June 2014	5days
	Hold a webinar for health professionals and educators	July 2014	1day

Meeting Grid		TIME TO COMPLETE
Let's Talk About It Team Meetings	Zinaida, Toby	1 hour (monthly)
Advisors/Partners meetings	Zinaida, Mike, APPCNC, DPH, TBA	JANUARY and JUNE 2014
Social marketing meetings	Zinaida, Mike	1 hour (monthly)
Volunteers	Zinaida, Volunteers	1 hour (bi-weekly at first, then monthly)
IT consult meetings	Zinaida, Toby, TBA	1 hour (weekly during phase)

*DAYS based on part-time schedule

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