



The Computerworld Honors Program

Honoring those who use Information Technology to benefit society

Final Copy of Case Study

YEAR:
2012

STATUS:
Laureate

Organization name:
OhioHealth

Organization URL:
www.ohiohealth.com

Project Name:
OhioHealth Mobile App

What social/humanitarian issue was the project designed to address? What specific metrics did you use to measure the project's success?

As is well documented in the literature, informed and educated patients are better consumers of health care resources and are better able to manage their own health conditions. Since the number of smart phones in use around the world has risen to be 52% of all cell phones, this seemed a viable technology to use. With those realities in mind, OhioHealth partnered with vendors to develop mobile applications which can be deployed on smart phones through the Apple and Google Android marketplaces to deliver real-time and up-to-date healthcare information to our patients. Studies show that only 25% to 35% of what physicians tell patients while in the hospital or in their offices is retained. People need reinforcement of the education on their health conditions to manage and improve their well-being. For example, obstetric patients who are expecting babies can use the OH Mobile app to receive real-time anticipatory "messages" prompting them to be prepared for upcoming tests or procedures, to know what questions to ask at their next visit, and to be aware of what symptoms they should observe for during their pregnancy. Process metrics that are currently being tracked are: a) total downloads of the application; b) percent of consumers who utilized the application more than twice (repeat visits); c) total page views; d) average page views per visit to the application; e) percent of app utilization occurring geographically in Ohio (as an indicator of market share); f) number of reminder messages sent to patients proactively; g) number of patient timeline views (patients following their course of care).

Please describe the technologies used and how those technologies were deployed in an innovative way. Also, please include any technical or other challenges that were overcome for the successful implementation of the project.

The OH Mobile application leverages mobile smart phone technology. A multimedia approach to delivery of content (audio, video, and text) is taken to accommodate different styles of learning. The application was built for deployment through the Apple and Google Android marketplaces. It is configured so the consumer gets the impression of both customization and personalization. An individual consumer can profile up to ten relationships on the single application (e.g., spouse, child, mother, etc.). The application learns about each person, then combines that knowledge in real-time to deliver content or messages that are appropriate to the situation. For example, there is a special test on unborn babies called the "triple screen" for birth defects that needs to be performed between the fifteenth and eighteenth weeks of gestation. If the patient waits until the nineteenth week, it is too late to have the test performed. By using OH Mobile, the expectant mother can be reminded at 15 weeks gestation that this test would be discussed at their next physician visit; it provides the background information that the patient can use to make an educated decision about the test. Some of the challenges that needed to be overcome for successful implementation and how they were overcome included: a. some snafus with data integrity within physician databases (addressed by cleaning up the data); b. need for multiple interfaces from various systems (addressed by building seven interfaces from other sources); c. resistance by physicians for having their photos taken and provided online (overcome by letting them know we would use "old" photos we had on file); d. lack of marketing or raising awareness in the early pilot (addressed by using a prescription pad within physician offices to "order the app" and by posting on the corporate website consumer portal).

Please list the specific humanitarian benefits the project has yielded so far.

The technology provides education for health conditions in a broad array of people. It encourages people to take responsibility for learning about and managing their health. The application leverages timing of delivery of content; for example, preoperative instructions to refrain from eating and drinking after midnight, which medications to take the morning of surgery, etc., are delivered before a surgical procedure, while postoperative instructions (e.g., how to care for an incision) are delivered after the procedure. Communications to pregnant women are based on timing, i.e., the number of weeks gestation. The content is delivered on a mobile platform, which makes it very convenient and increases compliance with education. The initial pilot with obstetric patients was spring 2011. Application usage results were: 24% of enrolled patients visited the app over five times, 1,769 patients used the timeline views, and 724 application visits were made. During the pilot, the only means of marketing about the application was word of mouth. More recently, a paper "prescription pad" was made available to participating physician offices. Now, eight months into its adoption for obstetrical and cardiology patients, measurable benefits related to app utilization are as follows: a. Total application downloads: 2345; b. Percent consumers using application more than twice: 89%; c. Total page views: 64,775; d. Average page views per application visit: 3.67; e. Geographic distribution in Ohio: 90% visits to the app are occurring in our market; f. Number of reminder messages sent to patients: 4,019; g. Number of patients following their course of care: 1,523. We plan to expand to more patient types and to measuring true health care outcomes. We will need to do a statistically valid test with experimental and control groups for the latter, short-term, with orthopedic patients.

Please provide the best example of how the project has benefited a specific individual, enterprise or organization. Feel free to include personal quotes from individuals who have directly benefited from the work.

This project has benefitted individual patients, physicians and their practices, and the OhioHealth organization. It can serve as the starting point for a patient's personal online health record through journaling one's experiences during a health condition such as recovery after a heart attack. It provides easy access to information for informed decision-making by the patient. We made a conscious decision to not push protected health information (PHI) to the patient and opted instead to install a sense of accountability and responsibility in the patient by encouraging them to enter their profile, etc. An additional benefit is gained with integration of the map application on the smart phone since the OH app also contains the address of the physician office. "This is something that empowers patients to be more informed when they arrive for their office visits," said OB/GYN Andrew Bokor, MD, Grant Medical Center, one of the first physicians to offer the application to his patients. "It links them to our office phones, provides directions to the hospitals where we deliver, and gives them information 24/7 at their fingertips about the stages of fetal development or common pregnancy-related problems such as hemorrhoids. I don't think there is any way it won't improve quality of women's health care and outcomes." The physicians have also benefitted since their patients are receiving content specifically created by OH physicians. As the application becomes more content-rich and adopted by more patients, it may be able to influence patient satisfaction, physician satisfaction, market share, and ultimately revenue.