

MyHealth Inc

Authors:

Zach Williams – From Boone, NC
Third Year Medical Student

Anthony Mayen – From Asheville, NC
Third Year Medical Student

Ryan Zeigler – From Outer Banks, NC
Third Year Medical Student

Christian Cook – From Wilmington, NC
Second Year Dental Student

MyHealth Inc

Background

Adherence is one of the largest modifiable factors that impacts health care plans, health systems, and patients' health outcomes. Theories and ideas abound on methods to improve adherence, including improving patient education and accessibility of healthcare information. Likewise, research suggests increasing patient autonomy empowers patients and improves outcomes.

Americans today are more "mobile" than ever before. Nearly 92% of Americans have cellular devices and 68% of all devices are smartphones, up nearly two-fold from 2011. The increasing ubiquity of smartphones allows new opportunities for meaningful impact on an individual's healthcare. While at present, many applications exist for compiling health information, most lack the depth and integration capabilities needed to bring healthcare users and providers together.

Whether it be the corporate sector or healthcare, people respond to incentives. One large study in the Midwest showed a significant increase in patients' adherence to exercise programs when offered up to 20% reduction of out-of-pocket medical costs. Yet such incentives need not be costly. Researchers looking at the compliance rates of San Francisco's homeless population noted increased compliance rates for individuals receiving five dollars weekly. More than just an external reward, incentivizing patients' involvement in their health allows them to see immediate benefits for routine monitoring and empowers them to take charge of their health behaviors and practices.

At the intersection of medicine and technology, MyHealth Inc is an incentivizing, user-friendly, and comprehensive application that would bring significant benefits to patients everywhere, and specifically the people of North Carolina. MyHealth Inc addresses adherence difficulties by empowering patients with a rewards based incentive system, integrated with easy-to-use technology, and allows patients to easily track their health care data to remain an active participant in their healthcare.

Platform Basics

The MyHealth App is designed for smartphone use and can also be used on any computer or tablet. This allows the application to be convenient and mobile. The application is designed to be extremely user friendly and simple. At its basic function, the application serves as a recorder for health care data. Data entry will be assigned point values. Point values are redeemed for rewards. Recorded data is integrated with other health care electronic systems and applications. All data is organized to facilitate provider review at appointments. Research reveals the most valuable features of health behavior applications according to users are: low effort and pleasant to use, include features to help users track health-related behavior, include setting and monitoring goals, provide feedback and advice that guide people in how they can change behavior, generate positively framed alerts and reminders that are relevant and timely but not too frequent, and provide accurate and reliable information and tracking functions.

Integration

One of the most exciting aspects of MyHealth Inc is the integration with all areas of a patient's healthcare. Access to patients' personal health system EHR will allow them to view recent labs, communicate with their provider, and schedule appointments. Patients will also have the capability of data input from a variety of bluetooth sources (i.e. SmartScale, blood pressure cuffs, glucometers, electronic toothbrushes, fitness bands, and smartwatches). It will compile data from these sources such as exercise performed, blood glucose levels, number and timing of teeth brushings, heart rate, blood pressure, etc. The app will reciprocally communicate with the EHR, updating the patient's chart. This will allow for better health documentation, aiding providers in diagnosis and management. Based on the information from the chart regarding the patient's age, demographic, and current problem list, the app will offer educational videos on topics such as checking pulses, stretches and home exercise suggestions, and warning signs for chronic conditions or new-onset emergent problems for which they are at risk.

Tracking Function

The application would allow the user to record data directly into a health diary. The application will store this data and display the data in graph or table format. Additionally, the application can be configured to alert the user or provider if certain parameters are passed. The health care diary can also include health care concerns and ability to upload photographs directly. Recordable options are unlimited, but initially would include:

- Weight*
- Blood pressure readings*
- Blood sugars*
- Medication schedule*
- Exercise log*
- Sleep data*
- Diet/Nutrition*

Medications

Medication compliance rates have much room for improvement, particularly in those with chronic conditions. The MyHealth Inc application puts the tools for success in the hands of the user with features such as comprehensive medication lists, along with pictures of medicines and alarms for frequency of dosing. Additionally, integration into EHRs will allow for refill reminders and requests for certain medicines.

Rewards System

The MyHealth application is based around an incentivized program for storing and tracking healthcare data. An incentivized medicine program is based upon rewards, tangible or not. The MyHealth Care System can be customized between insurance companies, providers, businesses, or health care organizations. The rewards system is set up in achievement tiers. Points are assigned based on percentage adherence to prescriptions, recommendations for age, attending scheduled appointments, recording BP levels, etc. Bonus points can be achieved for recording exercise and dietary data.

Physical rewards points can be redeemed for just about anything and can be customized for insurance companies, providers, businesses, or health care organizations. Examples of possibilities include decreasing co-pays or deductibles, gym memberships, gift cards, massage treatments, or tangible gifts (towel, gym bag, fruit of month, blueplate/hello fresh box, etc). Additional rewards could be achieved by the user recruiting friends and family members to use the app and reviewing, recommending, and rating local public exercise venues.

Logistics

The financial basis of the MyHealth Inc reward system can vary depending on the patient's insurance and health care plan. The downloadable application itself would be free. Insurance companies would directly pay the MyHealth Inc business per patient and specific tier reward. Rewards could then be offered through the MyHealth Inc interface directly. Doctors offices or health care systems could directly provide the rewards to patients based on MyHealth Inc achievements.

Discussion

MyHealth Inc addresses each aspect of the quadruple aim, but most of all, this application improves patient experience and outcomes. By combining technology with incentive programs, MyHealth Inc allows patients to be hands-on with their own health. Providing incentives increases patient's motivation and empowers them to improve their own health. The health diary function and integration improves patient data collection and helps with provider communication and decision making. Lastly, the pharmacy function allows organization of medical regimens and decreases medication adherence problems. All of these impact the patient experience and health outcomes. Specifically for the residents of eastern North Carolina, adherence to diabetes and hypertension treatment plans are extremely important for individual patients and the health care system overall. MyHealth Inc app facilitates data entry, especially for patients that are less educated, through its user friendly interface with alerts and reminders.

MyHealth Inc also addresses each of the other aspects of the quadruple aim. By the application compiling of health information and data in an organized fashion that is immediately available to the provider, maximizing work-flow and improving provider satisfaction. Further integration with other providers, the EHR, and MyChart will provide optimal utilization of all platforms. Providers also enjoy taking part in the care of motivated and informed patients. Additionally, improving patient adherence and knowledge will allow physicians to work at the top of their degree.

Improvements in patient health outcomes reduce healthcare costs, and as healthcare resources move toward a capitation model, the cost each patient contributes to the system becomes paramount. MyHealth Inc improves patient adherence and experience through motivation and incentives, reducing healthcare costs in the long run and improving population health.

Unfortunately, MyHealth Inc is not yet a reality and many things would need to be accomplished in order for this innovation to become a reality. On a large scale, as smartphone ownership and

use increases, so too grows the impact of the application. Additionally, providers would need to have access to the data on the application and integration with EHR and MyChart. Arrangements with healthcare organizations and insurance plans would need to be established to determine finances of rewards portion.