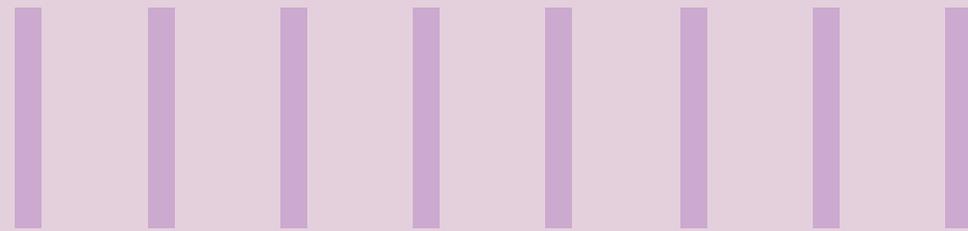# PLAY TO STAY HEALTHY

Abstract

Smartphone users in the United States spend an average 158 minutes on their phones every day, with games taking up 50 minutes (32%) of that time. The time spent on productivity apps, in comparison, clocks in a mere 3 minutes (2%) per day.

This behavioral dichotomy is easily explained - gaming is designed to stimulate the pleasure centers of the brain and trigger the release of dopamine to reward and reinforce behavior. Productivity, on the other hand, is a chore.

But what if gaming could be applied to mundane activities to make them fun, and thereby change behaviors or develop skills? The concept, called gamification, is rapidly gaining traction in the corporate world including the healthcare industry, where wellness apps are being employed to promote healthy lifestyle practices and improve self-care. Health plans are at the forefront of this development, not least because healthier members mean lower costs to insurance companies. For instance, the American Diabetes Association says that wellness intervention in the pre-type 2 diabetes stage can drastically reduce the direct and indirect cost of diabetes, estimated at US$176 billion and US$69 billion respectively.

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Managing costs and well-being with wellness apps

With the advent of individual insurance market, health plans will now need to provide cost-effective health insurance choices to consumers to competitively expand their member base. The reformist agenda of the Patient Protection and Affordable Care Act (PPACA) in the form of Medical Loss Ratio (MLR) mandate is also adding momentum to health plans' quest for cost efficiency. Health plans need to ensure spending of 80-85% of premium revenues on medical care, failing which they have to pay penalty / provide discounts to members.

In addition, as health plans begin transforming business models (from B2B to B2C) they are exploring differentiated means to better meet individual consumer demands. One such differentiator for health plans has been embracing mobile healthcare applications to assist members in improving their overall well-being while reducing cost of care.

Chronic diseases, like coronary heart disease and type-2 diabetes, account for over 75% of the US$2.8 trillion annual expenditure on healthcare. People with three or more chronic conditions also constitute the costliest 1% of patients and account for 20% of healthcare spending. Most chronic diseases can be managed or even prevented by making minor changes in lifestyle. Accordingly, there's a strong case to adopt wellness apps to stay healthy and eventually reduce cost of care.

What's more, the timing is propitious, coinciding with the rising popularity of wellness apps. According to a 2012 survey, 19% of smartphone users have a minimum of one health app on their cellphones with exercise, diet, and weight apps being the most popular types. According to Infosys' survey on "Engaging with Digital Consumers", 76% of consumers will sign up for a mobile app to help them track their health goals and adhere to their doctor's treatment plan.

Utilization – it's a goal!

That said, a number of challenges unique to wellness apps must be tackled before their potential can be realized. Improving utilization is arguably the most important of these challenges. While app adoption boosts consumer-centricity, it's app utilization that is key to improve wellness and lower healthcare costs. Mobile apps are notoriously fickle, and their adoption (read downloading) does not guarantee utilization. 26% of downloaded apps are used only once with a majority of the remainder being discarded by the tenth use. Since the envisioned benefits of healthcare apps, for health plans as well as consumers, accrue only on frequent and prolonged usage and engagement, stickiness and utilization are critical to the realization of long-term goals.

So, how can health plans improve utilization, which usually involves changing human behavior?

Gamification could be the answer!

Gamification is the use of game design and game mechanics in non-game environments to engage a target audience.

Game psychology

According to the Fogg Behavioral Model (FBM), three elements – motivation, ability and trigger – must converge at exactly the same time to yield the desired behavioral response. The absence or lag of even one element or the lack of a minimum level of motivation and ability amongst users, called the activation threshold, can foil the occurrence of behavior. And even when motivation and ability levels are above the activation threshold, a trigger has to be applied at the appropriate time to catalyze the response.

There is reason to believe that gamification can apply the trigger to change behavior, which in this case means higher app utilization. It would do this by leveraging both game design and game mechanics.

Game design is the process of designing the content and rules of a game besides the environment, storyline, and characters central to it. **Game mechanics** are techniques to deliver incentives to users to engage with the game. They are tools that leverage the natural desire of human beings for competition, accomplishment, reward and self-expression.

Specifically in the case of wellness apps, gamification needs to accomplish the following goals:

- *Inspire behavioral change in users* – The app must engage a particular group of users and urge them to change a target set of conducts. For example, a gamified fitness app should focus on engaging and encouraging users to exercise regularly. A gamified chronic illness management app should provide motivation and support while enabling the patient to manage the illness.

- *Develop skill* – The app should encourage competition and collaboration among users, employing game mechanics, such as points, achievements and leaderboards. It must also engage users in a more immersive learning experience, for instance, by offering exercise-related advice through photographic, video and audio instruction, to improve the quality of workouts.

However, from a perspective of promoting utilization, the **target audience** is the most important consideration for health plans, followed by game mechanics and game design. In fact, the audience profile must inform the strategies for both the aforementioned. Gamification should be led by rich and deep insights about target customer lifestyles, behaviors, interests and motivations.

One example of such insight comes from British writer, professor and game development pioneer Richard Bartle, who has defined four player types based on his research: Achievers, Killers, Explorers and Socializers.

- **Achievers** are compulsive winners who chase fortunes and covet leaderboard positions. In a fitness app, an achiever would meet all fitness goals and ascend the leaderboard consisting of all members.

- **Killers** prefer demolishing human opponents rather than computer script and enjoy creating in-game havoc just for the fun of it. To them, body fat may be depicted as a monster in an obesity management app.

- **Explorers** are avid information seekers. A hidden bonus can help sustain engagement amongst this type, and a fitness app backed by an interesting theme and audiovisual content could pique their curiosity.

- **Socializers** like to connect with different players, and apps with integrated messaging, forums or social media channels will keep them occupied. They are the kind to track workouts, compete, and brag about their success stories to other users on social media channels.

Game craft

Strictly speaking, users are never exclusively of any one social type. They might exhibit characteristics from other profiles depending on the situational context. The challenge before health plans is to map each target audience or user profile to game mechanics to arrive at an appropriate game design. Given that the target audience, game mechanics and game design can combine in multiple ways, payers are effectively looking at custom-building gamification functionality for a number of scenarios. This promises to be expensive – in terms of time, upfront investment and long-term maintenance – which could well deter health plans in the absence of a workable solution.

Health plans need to put in place a strategy to create game design that is focused on multiple/specific audience type. Next, they must look for accelerators that could help in the development and testing of game design for the type of audience determined by this strategy. While there are several third party tools to choose from, an accelerator that is delivered in a "gamification as a service" model offers obvious advantages – to experimenting health plans, it provides quick results with significant cost savings (compared to building apps from ground up) and to those with bigger goals, the comfort of scaling up to widespread adoption. Functionality is equally important and health plans must be careful to choose an accelerator that is capable of defining game rules and configuring gamification mechanics such as points, badges, levels, and so on. As far as possible, health plans must test this approach in a pilot program, and based on its success at building utilization, retain or modify the approach for the long run.

That said, the fact that health plans members would already be comfortable in using third party wellness apps or digital health devices cannot be ignored. To be able to tap this section of members, health plans need to open up their platforms to support app integration with third party tools. In such a scenario, third-party app user would perform the wellness activities with the help of a specific app. However the scores, accomplishment of goals, leaderboards etc. can be linked, tracked and collaborated by health plans gamified integrated platform.

Endgame

Gamification of wellness apps has the potential to dynamize engagement among users to elevate mere download into actual utilization. Higher utilization is the key to promoting wellness en route to lower healthcare costs. Just as a comprehensive and well thought-out roadmap that considers target audience, game mechanics and game design, is the key to a successful strategy for health plans.

Look who's playing

Many private insurers are proactively pushing the envelope to deliver mHealth apps that effect behavioral change to ensure overall good health.

UnitedHealthcare, the health plan behind mobile initiatives like OptumizeMe and Health4Me, has launched a game called Baby Blocks to incentivize Medicaid moms to stick to their prenatal checkup schedules.

Earlier this year, Aetna launched CarePass, a platform that aggregates some of the most popular health and wellness apps and displays data on a unified dashboard based on the consumer's choice of apps. The company also announced plans to integrate personal health records and medication adherence apps.

"Gamification" to improve consumer engagement for a wellness solution provider

The client, a leading disease and wellness management provider wanted to create an engaging wellness product that leverages 'game mechanics' to transform member engagement, enable long-term behavior change and improve health outcomes while optimizing healthcare costs.

Infosys Public Services engaged with the client to develop this next-generation, innovative product built on a consumer engagement framework. We created the foundation platform– a personalized portal, with multiple views and role based access, thus delivering best-in-class user experience. The product is actively being used by 20,000+ members, improving member engagement significantly. Interactive, fun experience and innovative incentive mechanisms (social reward points etc.) of the product is aimed at ensuring sustained engagement and driving guaranteed improvement in health outcomes.

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