By digitally transforming how consumers interact with the healthcare system, payers and providers can help individuals better manage and monitor their health, leading to higher levels of engagement, better outcomes and lower costs.

Transmit the blood sugar results from a digital glucose monitor. Snap a photo of breakfast to capture its calories. Upload your latest weight reading and number of steps walked. Once done, get an instant fitness report via your tablet. No, this isn’t a scenario from Doctor Who. It’s a reality for an increasing number of healthcare consumers.

A radical reshaping is taking place of how individuals interact with the U.S. healthcare system, thanks to a proliferation of technology advances, such as wearable activity monitors like Fitbit and Jawbone, at-home medical devices such as glucose and blood pressure monitors, and mobile transmission of all types of consumer and business data. These interactions, referred to as “connected health,” often are touted as the tonic for achieving healthcare’s triple aim: reduced cost, improved quality of care and enhanced patient experiences as consumers take more responsibility for their care.

It would be a mistake, however, to focus only on consumers’ self-directed interactions with these powerful and smart devices. The bigger and more important story is told by the vast volumes of data that healthcare consumers are generating with their wearables, devices, smartphones, apps, Web searches and more. We call these personal and persistent collections of data “Code Halos.”

So far, much of the market is overlooking the essential processes of analyzing a patient’s Code Halo to uncover hidden insights and meaning, and then acting on those findings with real-time, individualized responses. Yet these data-fueled interactions are necessary for the industry to achieve its goals, as these engagements will encourage individuals to adopt and maintain more effective health practices, whether to sustain their health and engage in preventive care or better manage a chronic condition.

**Getting the Most from BYOhD**

More than ever, individuals are empowered to manage their own healthcare. These “activated” patients have the tools to collect data on vital signs, genetics, health history, fitness levels, activity levels, body-mass index, sleep patterns and more. All of the data generated by “bring your own healthcare devices” (BYOhD) is becoming part of an individual’s Code Halo.

Further, these activated consumers have a total medical spend that is 21% lower than passive ones. These consumers offer a glimpse of the
healthcare industry’s future: smart mobile tools, greater individual accountability for health management, and reduced medical spending. Contrast these individuals with passive consumers, who only see healthcare professionals after a problem develops, fail to fill prescriptions and neglect to follow the latest information on their conditions.

But while self-monitoring is an improvement over passivity, it doesn’t sustain behavioral changes all by itself. Last year, we launched a Fitness Challenge in which 270 Cognizant employees received pedometers and were encouraged to “walk around the world,” compiling mileage via their daily steps (see sidebar, next page). The pedometer was the only support tool provided. Our analysis showed that after about seven weeks, activity faded. Further, while some apparently highly motivated participants achieved their goals, 80% of the group did not achieve their desired results. The missing piece, it turns out, was real-time, high-touch interactions, such as personalized coaching. This is what the industry needs to offer as a complement to the high-tech data collection model. These interactions drive meaningful engagement that sustains patient behavioral changes, increases quality of care, and improves the customer experience while lowering costs. Under this engagement model, the following changes will be possible by the year 2020:

- Instead of intermittent physician office visits, individuals will interact with passive/virtual and active/live coaches whenever needed.
- Health education will improve, with educational data pushed to individuals based on their current health or condition and personality type.
- Passive data collection and transparency, in addition to coaching, will increase adherence to prescriptions, fitness and therapy regimens.
- Patients will join a nurturing ecosystem that provides encouragement and motivation.

The right platform will combine motivation, ability and triggers – three interlocking pieces that will ensure that patients sustain new, different and better behaviors.1

Achieving Meaningful Patient Engagement via Connected Health

Equipped with these insights, we built a connected health platform, called HealthActivate, that integrates the following features to achieve successful, sustainable engagement:

- **Analytics.** Our platform collects the BYOhD data that consumers are willing to share from virtually any device, insulating healthcare organizations from operating system and device differences. Our analytics engine then deciphers the meaning created at the intersections of these Code Halos, using this meaning to power all interactions.

  For instance, an automatic upload of data such as self-reported food consumption, a real-time blood sugar reading and the number of steps taken in a given timeframe can reveal how well a patient is managing a condition. Analytics also determines what kind of coaching and/or intervention will be most effective for the patient’s profile (see sidebar, page 34). The analytics engine continually monitors the data streams to trigger necessary alerts and notifications to patients and/or coaches.

- **Patient activation.** Success here requires an understanding of various patient segments and what motivates them, as this can determine optimal interactions and incentives. Some consumers are motivated by team-based challenges, while others are inspired by immediate feedback. Some patients are satisfied with intrinsic rewards, such as receiving a badge for attaining a new fitness level. Others look for extrinsic value: a free device for reaching a specific level or winning a department lunch. Gaming principles are built into medical and prescription adherence, vitals monitoring, diet and fitness management and patient education.

- **Coaching.** Coaches actively participate in the patient’s journey, facilitating instead of dictating care. Our connected health platform enables virtual and live coaches to help patients set and track goals, and it proactively prompts interventions when needed. This personal reinforcement, informed by analytics, helps patients gain the knowledge, skills and confidence to manage their own healthcare effectively.
Closing the Circuit for Empowered Healthcare Consumers

Healthcare institutions must engage patients beyond the physician’s office to achieve the improvements necessary to support emerging value-based care models. Interactions can range from daily smartphone app reminders and tips, to weekly calls from a remote nurse or coach to set goals and overcome objections, to real-time alerts from a virtual coach about maintaining blood sugar levels or low-cost generic drugs.

Many of these interactions initially will be with healthcare consumers who are already activated and generating patient Code Halos. By supporting these consumers with a proven engagement framework like the one detailed above, healthcare organizations can begin truly transforming their patient care, quality and cost models. This approach will not only enable the healthcare industry to enhance ongoing cost containment measures, but it also represents an opportunity for players to step forward and match individuals’ efforts to manage and be accountable for their health.

Quick Take

A Personal Commitment to Wellness

Our engagement platform, HealthActivate, supports an internal program called iCommit2Fit. Employees with high body-mass index readings were given a Fitbit monitoring device, as well as access to nurses for weekly goal-setting meetings. Compared with the Fitness Challenge initiative, we saw greatly improved fitness results, which we attribute to personal coaching and accountability to a third party. All participant segments showed improvements, with the majority increasing from the self-reported baseline average of 33,000 steps per week to an average of 70,000 in four weeks, then sustaining that level for 19 more weeks as of this writing.

One of our clients has launched a pilot program using HealthActivate to engage nearly 2,500 diabetes management program members. The platform will monitor medical adherence, offer real-time feedback on at-risk behaviors and promote sustainable change with tips, challenges, quizzes and incentives.
A Patient and Her Virtual Coach

In our vision of consumer engagement, it all starts with patient Code Halo data collected via a “bring your own healthcare device,” or BYOhD. Together, these elements congeal to form a radically new approach for enabling a rich set of effective interactions that transform the patient-provider relationship.

Consider the following scenario: Sally is managing her diabetes with the help of her smartphone, BYOhD and the connected health platform. She starts her morning by stepping on her wireless scale; she’s already wearing a Fitbit activity tracker that will upload data on the quality of her sleep the night before and will count her steps and activity level throughout the day.

(Sally’s smartphone receives a ping.)

Sally: “Oh, that’s my 7:30 reminder. Time to take my Metformin.”

(Sally takes her medication, then taps the “TAKEN” button on her phone.)

Sally: “That was good for 50 points. I need about 750 more to earn that digital scale that measures body fat percentages.”

(By clicking “TAKEN,” Sally opens an app that reminds her of today’s goal: keep her blood sugar in her safe target range. The app also offers a one-minute video with tips about how to accomplish that.)

(Sally watches the video as her coffee brews. When she returns to the home page, there’s an offer to engage in a three-day medication adherence challenge.)

Sally: “Let’s see: Confirm all my medication doses for three days and earn 500 bonus points. I can do that – I’ll earn that scale in no time. I accept!”

(Sally clicks on the button, and the virtual coach pops up.)
Virtual Coach: “Wow! 500 points will really move you ahead! I know you can do it. One dose, one day at a time!”

(With that, Sally takes her evening blood sugar reading. It uploads to the connected health platform, where the analytics indicate her results are just within normal range. The virtual coach pings her.)

Virtual coach: “Good job today, Sally!”

(Sally clicks on “side effects” to answer the app’s query. The app then offers a “call pharmacist” button. Sally clicks, and she and the pharmacist discuss her symptoms. The pharmacist recommends that Sally take the dose with her lunch instead of on an empty stomach. The connected health platform notifies Sally’s health coach of the call to the pharmacist. If Sally were to skip another dose, the platform would trigger an alert to a live coach to contact Sally.)

Sally: “Another 50 points toward my scale. Hmmm ... my blood sugar level is better when I do more steps and remember to eat a real lunch. I’m going to pack a lunch for tomorrow and try to get up to 8,000 steps.”

(At dinner time, Sally’s phone app prompts her to take her medicine. She does and enters “TAKEN.” Sally also reviews her blood sugar history.)

At 1:00 p.m., when Sally’s phone beeps again to remind her to take her Metformin dosage, this time she clicks “NOT TAKEN.” The app asks her why she is not taking the medication.

Sally: “I always seem to get nauseated with this midday dose.”

With that, Sally takes her evening blood sugar reading; it uploads to the connected health platform, where the analytics indicate her results are just within normal range. The virtual coach pings her.
Footnotes


Author

Nagaraja Srivatsan is a Senior Vice President and Venture Partner on the core leadership team of Cognizant’s Emerging Business Accelerator Program. Previously, he led Cognizant’s Life Sciences Practice for a decade. Prior to joining Cognizant, he was with Silverline as Senior Vice President of Client Solutions. Srivatsan received his B.S. degree from B.I.T.S. in India and his M.S. from Northwestern University. He can be reached at NSrivatsan@cognizant.com.

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