# Changing patient behavior: the next frontier in healthcare value

To address the rising cost of chronic conditions, health systems must find effective ways to get people to adopt healthier behaviors. A new person-centric approach to behavior change is likely to improve the odds of success.

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**Changing individual behavior** is increasingly at the heart of healthcare. The old model of healthcare—a reactive system that treats acute illnesses after the fact—is evolving to one more centered on patients, prevention, and the ongoing management of chronic conditions.

This evolution is essential. Across the globe, a fundamental shift in healthcare risk is taking place, driven by an aging population and the increasing incidence of behaviorally induced chronic conditions. Health systems are innovating on the delivery side to meet this challenge through a growing emphasis on primary care, integrated care models, and pay-for-value reimbursement.

Yet more must be done to reorient health systems toward prevention and the long-term management of chronic conditions. In an analysis we conducted of US healthcare costs (which are now nearing $3 trillion annually), 31 percent of those costs could be directly attributed to behaviorally influenced chronic conditions. Fully 69 percent of total costs were heavily influenced by consumer behaviors. Poor medication adherence alone costs the United States more than $100 billion annually in avoidable healthcare spending.[1] The burden consumer choices place on low- and middle-income countries is similarly staggering: Harvard and the World Economic Forum have estimated that noncommunicable diseases result in economic losses for developing economies equivalent to 4 percent or 5 percent of their GDP per annum.[2] Unless health systems find ways to get people to change their behavior (in terms of both making healthier lifestyle choices and seeking and receiving appropriate preventive and primary care to manage their health conditions), they will fail in their quest to tame healthcare costs without impairing care quality or access.

Designing and implementing programs that enable people to achieve sustainable behavior change is hard. Few programs tried in the past achieved sustained impact. However, many of these interventions were rooted in the old model of healthcare, focusing on the treatment of clinical problems after an acute event. Too often, the interventions had poor program design, insufficient measurement rigor, and implementation issues. The failures led many health system leaders to be skeptical about whether *any* behavior change program can achieve long-term impact.

We believe that behavior change programs can succeed, but only if their design paradigm is rethought. This article describes an emerging approach—a *person*-focused paradigm that uses a behaviorally based rather than disease-based orientation to drive sustainable behavior change. Instead of assuming that individuals are fully rational, it recognizes that human decision making is affected by systematic cognitive biases, habits, and social norms. Instead of focusing exclusively on the clinician-patient relationship, it seeks to create a supportive ecosystem that engages individuals and those closest to them.

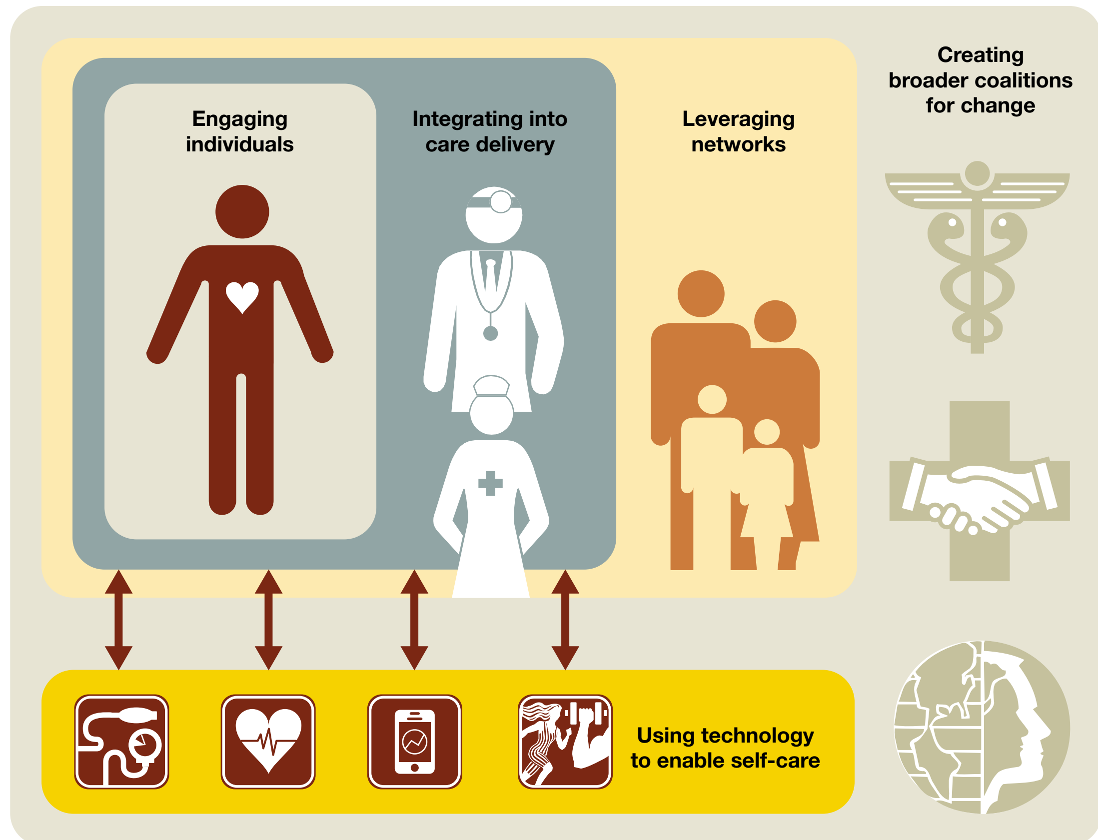
Our perspectives draw on an analysis of global trends, our extensive experience working with clients throughout the healthcare industry on this topic, and interviews with leading experts. They are grounded in emerging insights from the behavioral sciences that shed light on how individuals actually make decisions, as well as new technological advances. Leveraging these insights, we have developed an integrated framework to help healthcare organizations across the value chain understand the new paradigm and how they can design and implement high-impact, patient-focused interventions.

[1] Osterberg L, Blaschke T. Adherence to medication. *N Engl J Med*. 2005;353:487-97.

[2] Bloom DE et al. *The Global Economic Burden of Noncommunicable Diseases*. World Economic Forum and Harvard School of Public Health. 2011.

## Exhibit 1

## New paradigm for patient behavior




### Elements of the paradigm

The new person-focused paradigm for behavior change has five major components (Exhibit 1):

- Engaging individuals more effectively by taking advantage of new insights from behavioral psychology and behavioral economics

- Integrating behavior change as a core component of new care delivery models

- Using the power of influencers and networks to support behavior change

- Utilizing remote and self-care-oriented technologies to support and empower individuals, and connect them to clinicians and other influencers

- Adopting a multi-stakeholder approach, which includes public-private partnerships, to support high-impact societal and primordial prevention interventions

### Engaging individuals

Insights from behavioral sciences are being widely used in financial services, retail, and other sectors to influence what we buy, how we save, and other aspects of our behavior. Yet the

design of most health-related products, services, and interventions remains remarkably unaffected by these discoveries into how humans make decisions. For example, traditional clinically driven interventions assume that individuals understand their own health issues and usually act rationally to address them; however, this is often far from the case. In a survey we recently conducted, 76 percent of the participants with high-risk clinical conditions described themselves as being in excellent, very good, or good health (Exhibit 2). Programs that fail to account for this gap between individuals' actual health status and how they understand and experience their health on a day-to-day basis (and thus how willing they are to change their behavior) miss the boat in terms of design. Often, these programs simply attract individuals who are already "activated" to change their behavior, rather than reaching those who need help before they can take proactive steps to improve their health.

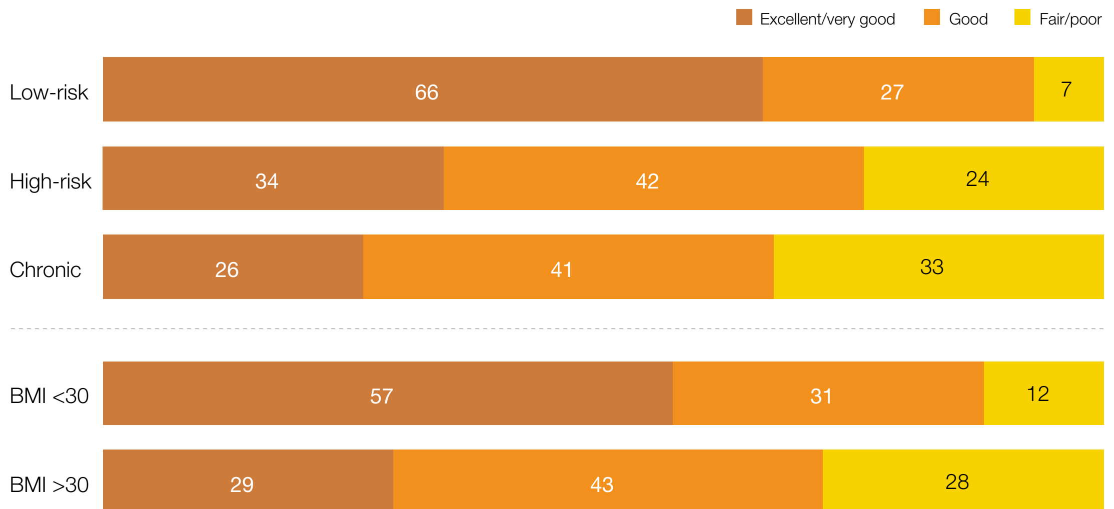
What does good design look like? With regard to behavior-change interventions, three innovations appear to be most important.

*Behaviorally based segmentation should be used to deepen insights into specific groups.* Current approaches to patient segmentation and predictive modeling tend to center on clinical conditions. However, change interventions are more likely to be successful if they take into account additional factors, such as a person's behavioral profile or motivation to change. These insights enable more focused targeting of the groups of people for whom impact is most likely to be achieved. They also make it possible to design programs that more effectively address practical barriers to change.

## Exhibit 2

## Most people think they are significantly healthier than they are

Respondents' self-assessment of their health status by different risk categories,[1] %




[1]Based on derived health profile.

Source: McKinsey Retail Healthcare Consumer Survey

> "Incentives that take people's cognitive biases (e.g., loss aversion, regret aversion, optimism, and present-biased preferences) into account are more effective than direct cash rewards."

For example, most programs geared to "ER frequent fliers" or people with high hospital admission rates target patients through risk-, disease-, or condition-based retrospective reviews of high-cost episodes. Incorporating additional behavioral insights permits a more nuanced approach. In a recent project for a large US payor, we used demographic, family structure, and consumer purchase data (e.g., nature of purchases, car ownership, etc.) to construct a social isolation index (a variable intended to measure each individual's degree of social connection) for the target population. When combined with claims data, this index enabled us to more effectively predict, among groups with equivalent at-risk chronic conditions, which people were likely to have a high-cost emergency room admission or inpatient event.

We found, for example, that hospital costs were 24 percent higher for socially isolated individuals than for socially connected individuals with an equivalent level of clinical risk, and that the socially isolated individuals also had lower prescription drug use. Such insights can help identify key patient subgroups before high-cost episodes occur by "typing" members against defined predictors; interventions targeted toward these subgroups can then be designed with the right focus (e.g., field-based extender services and medication adherence interventions for socially isolated individuals).

*"Person-focused pathways" should be used to support people as they attempt to alter their behavior.* Most disease management programs remain rooted in a clinically based view of the world. For example, they may correctly identify a patient with diabetes or another chronic condition, but do not fully address the fact that the same patient may also be overweight, suffer from heart disease, have mild-to-moderate depression, mistrust his clinician, and be socially isolated.

Clinical insights are critical, but our experience shows that program designs are more effective when they directly address the root causes and barriers to behavior change and provide interactions with the right timing and frequency to ensure impact. In essence, these designs translate clinical insights into person-focused pathways that support individuals from the point at which they decide to make changes to the point that the new behaviors are sustained.

A simple example demonstrates the impact of guiding patients to the behavior-change interventions that are most suited to them, based on their needs. In England, we worked with a regional payor to improve diabetes care by defining behavioral segments among affected patients and then matching the right portfolio of support programs to each segment. General practitioners were trained to identify which segment patients belonged to by asking a few

simple questions and then to direct them to the behavior change intervention that best met their needs. This simple steerage led to a ninefold increase in program enrollment (from 7 percent to 63 percent) within six months and, more importantly, to a higher rate of program completion. Similarly, even very simple defaults, such as automatic mail-order enrollment for prescription renewals, can help address patients' barriers to adherence.

Active communication along the pathway is also critical, because frequent feedback encourages behavior change. A study on weight loss we conducted with leading behavioral economists suggests that giving people frequent, automated feedback helps improve weight loss.[3] Text messaging is being increasingly used to support patients with diabetes or other chronic conditions and to send them educational materials, medication reminders, and tips on disease management; preliminary results are encouraging.

*Behaviorally based incentives should be used to encourage change.* Incentives are an increasing part of the toolkit for addressing behavior change. Two-thirds of US companies, for example, now offer employees financial incentives to encourage healthy behaviors.[4]

Well-designed incentive programs have demonstrated impact. Discovery's Vitality program, for example, informs members about their health status, encourages them to set behavior-dependent health goals, and then rewards them for attaining those goals. Members earn points for behaviors ranging from undergoing diabetes screening to healthy purchases in supermarkets, and in turn receive a mixture of short- and longer-term rewards, including cinema tickets and discounted flights. Discovery estimates that the program has lowered participants' overall healthcare costs (on a risk-adjusted basis) by about 15 percent.[5] Innovative corporate wellness programs, such as those offered by Limeade, are also gaining traction.

The structure of the rewards matters. Incentives that take people's cognitive biases (e.g., loss aversion, regret aversion, optimism, and present-biased preferences) into account are more effective than direct cash rewards. We recently tested behaviorally based incentives using a "regret lottery" design.[6] The goal was to get a company's employees to complete a health risk assessment. Half the employees were given cash incentives directly; the others were divided into small teams that were then enrolled in a lottery. Each week, one team would win the lottery, but rewards were distributed only to team members who had completed the assessment. The winning teams were widely publicized to leverage anticipated regret (people's disinclination to miss their chance of winning the big prize the week their team was selected). The result: 69 percent of the employees in the lottery completed their assessments, compared with 43 percent of those given direct incentives.

[3] In press.
[4] *Performance in an Era of Uncertainty.* 2012 Tower Watson employer survey results.
[5] Morris G. Presentation about Discovery's Vitality program. Oxford Health Alliance Summit. 2010
[6] Haisley E et al. The impact of alternative incentive schemes on completion of health risk assessments. *Am J Health Promot.* 2012;26:184-188.

### Integrating behavior change into new care delivery models

Many health systems are putting increased emphasis on primary care, especially through the use of integrated care delivery models designed to improve the health of the population. To succeed, these new models must extend their reach outside of the four walls of a clinician's office so that they can support patient behavior change beyond traditional clinician-patient interactions. This requires new capabilities, including clinical workflow tools to support patient targeting, care alerts sent to both clinicians and patients, enhanced communication and care management support for patients, and remote monitoring. More fundamentally, clinicians must adopt a patient-centered approach when they interact with patients, one that focuses on understanding the whole person and their barriers to change.

A good example of this kind of model is CareMore, a California provider that focuses on seniors. One of its primary goals is to encourage behavior changes crucial for effectively managing chronic conditions. CareMore combines technological innovations, including electronic medical records (EMRs) and remote monitoring, with a wide array of nontraditional services (e.g., caregiver support, preventive podiatry, no-cost transportation to its offices, house calls by physicians and nurse practitioners, tailored fitness centers, and an intervention team that goes to patients' homes to investigate nonclinical problems).

CareMore reports that its risk-adjusted costs are 15 percent lower than the regional average for comparable patients and its clinical outcomes are above average. For example, its amputation rate among diabetes patients with wounds is 78 percent below the national average, and its rate of hospitalization for end-stage renal disease is 42 percent below that average.[7]

[7] Reuben DB. Physicians in supporting roles in chronic disease care: the CareMore model. *J Am Geriatr Soc.* 2011;59:158-60.

"Health choices are not made in a vacuum. When faced with a health event, people follow the treatment advice of friends and family 86 percent of the time."

### Using the power of influencers and networks

Health choices are not made in a vacuum. Our research shows that when faced with a health event, people follow the treatment advice of friends and family 86 percent of the time. Some health promotion efforts already recognized the importance of these influencers. For example, adult smoking cessation programs in the United Kingdom and elsewhere are increasingly targeting young children, because parents who smoke are more likely to respond to their children's concerns than to the prospect of their own poor health.

Payors and providers have also come to appreciate the power of influencers to support behavior change and have used peer programs with considerable success. In Philadelphia, for example, the US Veterans Affairs (VA) Medical Center created a peer program to encourage better diabetes self-management among African-Americans (a group with a higher-than-average prevalence of diabetes and a significantly increased risk for complications). The program first identified "mentors"—other diabetes patients who were already keeping their glucose levels under good control—and gave them training. Program participants were then assigned

mentors with the same demographic background (gender, age, etc.). The participants and mentors interacted on a weekly basis, primarily by telephone. After six months, the participants had achieved an 11 percent drop in their average glucose levels (from 9.8 percent to 8.7 percent), a change sufficient to decrease their risk of disease-related complications.[8] In contrast, a control group of patients who did not have mentors experienced no improvement in their glucose levels during the study. Nearly two-thirds of the participants in the peer program said that having a mentor who also had diabetes was important in helping them control their own glucose levels.

As the VA program demonstrates, peer-based networks can be relatively easy to implement. As long as the peer matching is done in a way that resonates with participants, these networks can provide an additional support system to help sustain behavior change.

### Utilizing remote and self-care-oriented technologies

Frequent, real-time communication and feedback are important in supporting change efforts. Traditional models of care delivery have, at their core, face-to-face interactions between clinicians and patients. New technologies, however, are augmenting this interaction model and fundamentally transforming the ways in which clinicians deliver—and individuals and their friends and family consume—care. Mobile apps, for example, can facilitate tracking and monitoring. Wireless devices can transmit adherence information directly from pill boxes, scales, or even ingested "smart pills." Webcams enable remote consultations. Ultimately, these remote and self-care-oriented technologies may help create a truly interactive healthcare ecosystem for patients.

Many of these new technologies are gaining traction, particularly in developing countries,

[8] Long JA et al. Peer mentoring and financial incentives to improve glucose control in African American veterans: a randomized trial. *Ann Intern Med.* 2012;156:416-424.

where access remains an issue. However, they are also being increasingly used in more developed countries. In the United Kingdom, for example, a large trial of telehealth devices for patients with social care needs and chronic conditions has produced positive results. Participants received either home monitoring equipment or a set-top box that could be connected to their TVs; the devices enabled patients to ask questions about their symptoms, gave them visual or audio reminders when measurements were due, showed educational videos, and charted a graphical history of recent clinical readings. In the trial, telehealth device use appeared to reduce the number of emergency room visits and hospital admissions, as well as one-year mortality rates.[9] Studies among US Medicare and VA patients have also shown that telehealth devices decrease healthcare utilization. In these studies, use of the devices has produced savings of up to 13 percent.[10]

[9] Steventon A et al. Effect of telehealth on use of secondary care and mortality: findings from the Whole System Demonstrator cluster randomized trial. *BMJ*. 2012;344:e3874.

[10] Baker LC et al. Integrated telehealth and care management program for Medicare beneficiaries with chronic disease linked to savings. *Health Affairs*. 2011;30:1689-1697.

### Adopting a multi-stakeholder approach

There is increasing recognition that if health systems are to address the full range of issues adversely affecting patients' health, healthcare leaders will need to partner with a broader set of stakeholders to create an environment conducive to driving healthier behaviors and achieving impact. We have worked closely with clients attempting to create such broad coalitions, which we believe are crucial for achieving strong, sustained behavior changes.

For example, we worked with major retailers and food manufacturers in one country to address the challenge of obesity by creating a "movement" to raise awareness and spur consumers, employers, children, communities, and organizations to action. With the support of a multi-stakeholder coalition, a plan was developed in which the CEOs of participating retailers and food manufacturers committed their organizations to certain targets and actions. These ranged from healthy school partnership programs, workplace fitness and nutrition programs, and joint manufacturer/retailer initiatives to lower caloric intake and increase caloric transparency. Although the economic impact and health consequences of these types of efforts are hard to quantify, they are critical in creating an environment that supports more direct interventions.

More direct impact can be achieved through appropriately focused government interventions and public-private partnerships. A classic example is increased taxation on cigarettes, but more creative interventions are also possible. In Argentina, for example, a government-sponsored conditional-transfer program aims to reduce average sodium intake; bakers have been asked to decrease the amount of salt in their bread but are directly compensated for lost revenues from lower sales.

> "Re-orienting health systems around a model focused on prevention, long-term management, and patient-centered care will require top-down leadership and advocacy."

**Impact and implementation**

We believe that the new person-focused paradigm described here is likely to deliver stronger results than traditional behavior change programs have produced. Disease management programs rooted in the old model of healthcare typically achieve savings in the range of 2 percent to 5 percent of medical costs. Based on our experience and the studies published to date, we estimate that programs designed under the new paradigm could deliver a 10 percent to 15 percent reduction in those costs in target populations, in addition to productivity gains, better outcomes, and better quality of life.

Implementation of the new paradigm is challenging, though. One significant issue is scalability: while many of the needed elements exist and pilots abound, there are few instances of anyone applying all of the design elements at scale. The cost of building the underlying infrastructure (e.g., platforms to administer incentives and provider EMR systems to enable effective patient insights) is also an issue—although, in most cases, low-tech, cost-effective approaches exist, and ongoing innovation is simplifying and lowering the price of many technologies.

The biggest obstacle, however, is the mindsets of healthcare leaders and clinicians. Most remain rooted in the old model of healthcare. Many are highly skeptical of behavior change programs; some do not even consider behavior change as part of a health system's remit. These attitudes hinder the fact-based evaluation of behavior change programs and the adoption of proven successes.

Re-orienting health systems around a model focused on prevention, long-term management, and patient-centered care will require top-down leadership and advocacy. Such leadership is necessary if health systems are to meet the coming wave of healthcare challenges.

If health systems are to address the shifts in healthcare risk now taking place—especially those resulting from chronic conditions—they must find ways to get individuals to adopt healthier behaviors. New behavior change programs based on a person-focused, rather than disease-focused, paradigm are proving that it is possible to achieve strong, sustained results. However, a change in mindset is required if these programs are to gain widespread use.

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