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## LEARN FROM ONLINE RETAILERS

Personalized recommendation engines are coming to healthcare

Sam Glick

In the past decade, consumers have shifted from worrying about sharing personal financial information when shopping on the internet to embracing online retailers' recommendations for them. That is because the best online retailers offer customers a curated and highly personalized shopping experience. They empower shoppers with in-depth product information and peer opinions and seem to know what a consumer is looking for before the person asks for it – and sometimes even before she or he knows they want it.

Now, healthcare companies are experimenting with digital capabilities to see if they can encourage a similar level of influence in

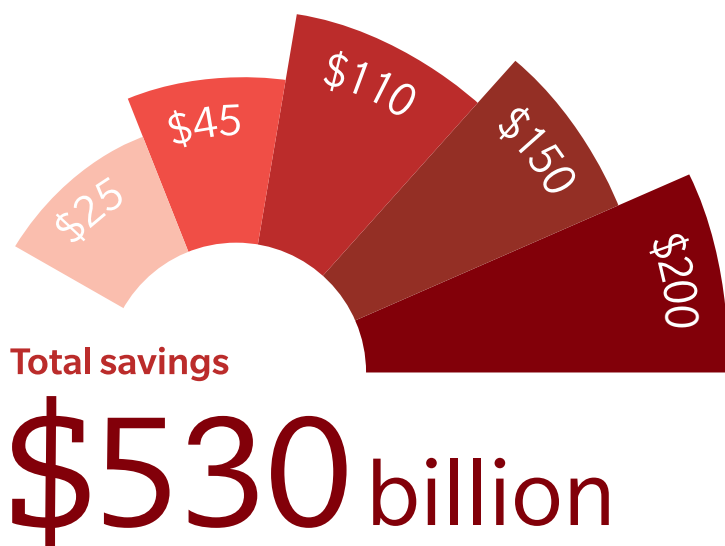
people's lives. By doing so, they are testing the limits of the potential power of repurposing online retail innovations that consumers have become accustomed to in varied industries and potentially revamping healthcare in the process.

For example, digital technology company Omada Health helps individuals lose weight and prevent diabetes through online behavioral counseling. Iora Health attacks unnecessary care by pairing technology-powered patient analytics with high-touch, team-based care at its network of primary-care clinics. And Aetna's iTriage app helps people find the most appropriate and affordable care by searching a database of symptoms and probable

### THE DIGITAL HEALTH REVOLUTION IN DOLLARS AND CENTS

IF PEOPLE BECOME AS WILLING TO LISTEN TO HEALTHCARE COMPANIES AS THEY ARE TO ACCEPTING SUGGESTIONS FROM ONLINE RETAILERS, UP TO \$530 BILLION IN ANNUAL HEALTH SPENDING COULD BE ELIMINATED. HERE'S HOW:

US \$ BILLION



#### IMPROVED CARE COORDINATION

Better communication and information sharing could lead to more efficient care and \$25 billion in savings.



#### SITE OF CARE EFFICIENCY

Guiding people to the most appropriate site of care for their condition – be it an emergency room or retail clinic – can save \$45 billion.



#### LIFESTYLE IMPROVEMENT

Reducing risk for and incidence of lifestyle diseases, such as obesity and type 2 diabetes through healthy-living prompts and aid could trim \$110 billion.



#### OVERTREATMENT REDUCTION

It's estimated 30 percent of medical testing, procedures, and medication is unnecessary. Helping people get only the care they need could trim \$150 billion.



#### MEDICATION ADHERENCE

Interventions to improve medication adherence in people with chronic disease would lead to improved health and trim \$200 billion.

causes. The app also provides details on the care that is most suitable for that condition, along with the nearest medical providers, and detailed descriptions and cost information on recommended tests and treatments that take into account the individual's specific insurance coverage.

Healthcare innovations like these raise intriguing possibilities. If, like online retailers, healthcare companies manage to develop digital platforms that can influence people's choices, they might achieve the holy grail of healthcare: behavior change. Once that happens, conditions like diabetes might become less prevalent in the population, and the quality of people's lives, overall, would be improved.

At the same time, improved care coordination, site-of-care efficiency, lifestyle improvement, reduction in overtreatment, and higher medication adherence could result in more than \$500 billion a year in healthcare savings.

Today, significant hurdles exist to realizing this vision. For starters, the data fueling digitally focused healthcare companies remains fairly limited in scope. People can auto-schedule appointments and receive alerts if there is a delay at a provider's office. But that's a far cry from the data that would be required for healthcare companies to develop truly useful and proactive tools that would empower people to make healthy choices.

Still, it's clear from the changes already underway that digital healthcare is not a far-off future. It is already playing out in doses across multiple fronts that offer lessons to other healthcare companies, and also to other industries struggling with how to better digitally connect with their customers.

Consider the case of Proteus Digital Health. Proteus is a digital technology company that uses an ingestible sensor, a wearable patch, and a software application to track medication adherence. The ingestibles, including pills that are activated by stomach acid, detect medication intake and physiologic data, and can alert an individual (or healthcare provider) if medication is skipped or not taken in the correct dosage. The technology allows people to better manage diabetes, hypertension, and other medication-dependent conditions.



Empowering people to monitor chronic care conditions like diabetes could significantly cut United States healthcare spending, since such expenses account for 85 percent of medical expenses. It's estimated about half of people with chronic illnesses fail to take their medication as prescribed.

The health system has long struggled with how to modify people's behavior to help them prevent or manage these conditions. By using digital capabilities to develop highly personalized insights into an individual's behavior, Proteus is digitally enabling people to cope with their condition. It's both high-tech and vastly more high-touch than previous disease management efforts.

Some people might find this kind of frequent insight into personal health matters to be subtly – or literally, as in the case of Proteus – invasive. But remember that's how many consumers felt when Amazon and Google began to suggest products based on a digital consumer profile – all too often with amazing accuracy.

If the healthcare industry can develop useful and proactive tools, and if it can engender the kind of consumer interest that retailers enjoy today, then not only will improvements in individuals' well-being be attained; the healthcare landscape as a whole will also be profoundly changed.

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