

# THE WALL STREET JOURNAL.

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OPINION | COMMENTARY

## Health-Care Innovations Are Coming to Your Digital Device

New technology to keep you well, from virtual doctors' visits to pills that talk to your smartphone.

By **REGINA BENJAMIN** and **ANDREW THOMPSON**

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Mobile phones and tablets have pushed themselves to the center of modern life. Instead of going to the bookstore, readers download the latest novel direct to their devices. Online shopping has left malls quieter than ever. Video chatting helps far-flung families stay in touch.

Health care needs this same kind of disruption. Chronic diseases like hypertension and diabetes are the major medical problems of our time. They are mainly treated at home with drugs and lifestyle modifications. Managing these chronic conditions is difficult, but failing to do so inevitably leads to emergency room visits, heart attacks, strokes, enormous costs, and huge burdens on nursing homes and other social-care institutions.

Personal technology can make routine medical care and healthy living easier. Seeing a doctor can be a hassle, particularly for hourly workers who don't have a lot of flexibility. But putting off doctor visits can make patients sicker until they finally show up in an emergency room, the most expensive point of care. To ease appointment stresses, Kaiser Permanente (where one of us, Dr. Benjamin, is on the board of directors) allows patients to visit doctors virtually, including by videoconferencing, via a mobile app. The system is easy to use and works on Android or iPhone. Last year more than 50% of all Kaiser physician interactions were virtual—over a million every week.

A cellphone can also help manage Type 2 diabetes, which is most often the result of being overweight and inactive. A company called Omada Health has built mobile tools to help patients track their food, exercise and weight against goals set to reverse their Type 2 diabetes. The key is that technology makes these interventions convenient, affordable and scalable.

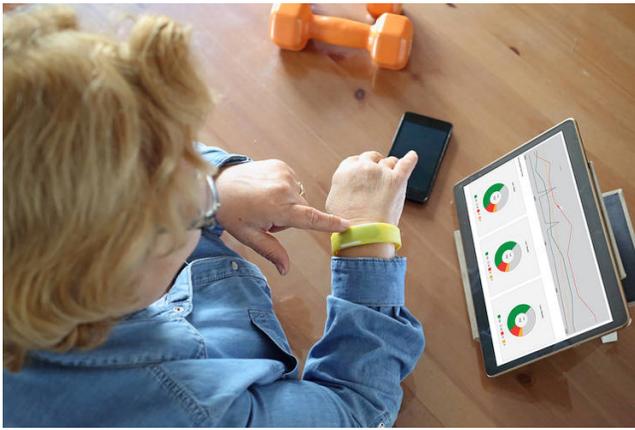


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Many patients don't do a good job taking their pills. Studies show that less than 50% of patients adhere to their medication regimens—

often they don't even pick up the prescription. The huge costs that this noncompliance adds to American health care have been estimated at \$290 billion a year. Proteus Digital Health (where one of us, Mr. Thompson, is CEO) has developed an FDA-cleared solution. Commonly prescribed drugs—such as metformin for Type 2 diabetes or losartan for high blood pressure—are combined with a microscopic sensor that turns on when swallowed. A small wearable patch detects the pills and tracks the person's wellness, sending information to the patient and, with permission, to the doctor. Studies conducted by Proteus show that patients using the system take their medication 80% of the time or more, with improved outcomes as a result.

Digital technology can also relieve upward pressure on health-care prices. One example: New drugs are expensive in part because pharmaceutical companies have only a limited window, seven to 10 years, to recoup their investment before the patents expire. Digital medicines create new competitive barriers: First, the technology is patent protected. Second, users who become familiar with these systems and accumulate data on them are likely to be loyal customers. These advantages enable drugs to have extended product life cycles. As a result, research-and-development investments can be recouped over longer periods, and prices can be moderated.

Changing the payment model for medicine is vital, too. Today governments, insurers and patients buy expensive components: drugs, devices, professional services. What they really want is outcomes: weight loss, managed diabetes, controlled blood pressure. Digital technology can allow companies to offer solutions and then take responsibility for ensuring that they work. Omada can get paid for delivering weight loss; Proteus can get paid when patients take their drugs on time.

All of this technology is already in use. But leadership is required to make digital health a new standard of care throughout the U.S. If

Medicare stays focused on paying for prescriptions instead of outcomes, then companies will have little incentive to innovate. What's needed is new, streamlined regulatory and reimbursement frameworks that can support a new health ecosystem. Washington should also subsidize broadband access and smartphones for those who cannot afford them, to ensure that vulnerable populations are not left out.

A health-tech renaissance can help all Americans—but especially veterans, the elderly and the poor—take control of their well-being. Who knew your cellphone would turn out to be such excellent medicine?

*Dr. Benjamin served as U.S. surgeon general, 2009-13. Mr. Thompson is CEO of Proteus Digital Health.*

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