Google Fitbit

Consumer Wearables in Value-Based Care

Bridging the gap between advice and action

Dear reader,

As a practicing cardiologist, I often see patients with chronic disease and have come to appreciate the nuances of their care. Some of the most powerful interventions—changes in lifestyle, early detection of disease, engagement in health—occur outside the doctor's office. There is increasing recognition that managing health at a population level is important and can have tremendous impact.

It's been more than a decade since value-based care started making waves in healthcare. And from the start, there have been three core goals of the new model: creating a better patient experience, improving population health outcomes, and reducing healthcare costs. But while most tend to agree that we're moving toward a future where value-based care becomes the dominant model, it remains a challenge to figure out how to make that happen in a way that really works for everyone.

As digital health expands, we are seeing more and more ways that technology can enable this impact. This paper summarizes some ways in which wear-ables can improve popu-lation health and support value-based care.

Sincerely,
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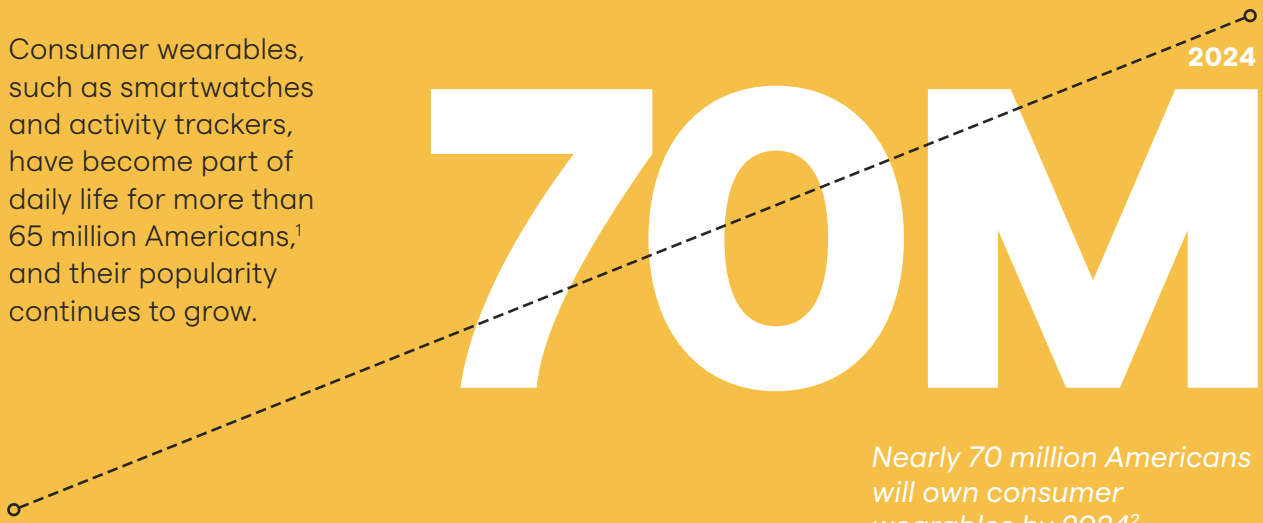
Value-based care (VBC) aims to meet the healthcare challenges of an aging America, where chronic conditions such as diabetes and hypertension are on the rise. Yet the U.S. healthcare system was designed to manage acute illnesses such as infections and is centered around episodic visits to the doctor.

Given the nature of chronic diseases, supporting patient lifestyle changes and understanding patient health on a day-to-day basis are critical to successful health outcomes. However, as the industry shifts from volume to value, it's often difficult for providers, health systems, and payers to engage patients in their health on an ongoing basis. The answer to these challenges? It might already be on patients' wrists.

ADOPTION OF WEARABLES IS ON THE RISE

Consumer wearables, such as smartwatches and activity trackers, have become part of daily life for more than 65 million Americans,[1] and their popularity continues to grow.



Not only are wearables growing more popular, but they're also becoming more sophisticated.

Today's consumer wearables can track key health indicators including:[3]

- Heart rate and heart rate variability
- Oxygen saturation
- Skin temperature
- Breathing rate
- Sleep quality and amount
- Activity and steps
- Stress metrics

Functionality to track factors such as heart rate, and oxygen saturation are making wearables increasingly appealing to seniors as a tool for monitoring their own health.

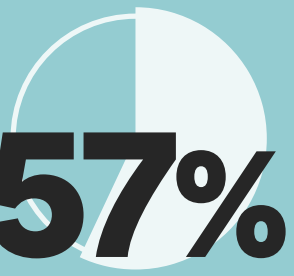
—25% of Americans aged 60-69 and —20% of those aged 70+ own consumer wearables.[4]

Making the case for wearables in value-based care

For value-based care to succeed, patients and providers have to work together. Here are eight practical ways wearables can help.

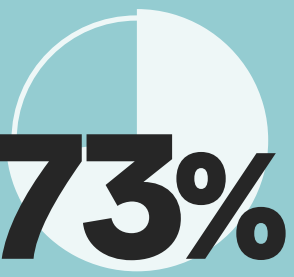
1 / Ongoing data collection

Data from wearables offers providers valuable insights into the state of a patient's health between clinic visits. This information helps providers connect the dots between recommended care plans, what patients actually do, and how patient actions affect health outcomes. Without the need for an office visit, providers can see how well treatment plans are working and whether they need to adjust their recommendations.



57%

of wearable owners believe data from their wearables would be helpful when talking to their providers.[5]



73%

Seniors who use digital tools to help manage their health and wellness.[6]

2 / Disease prevention

Getting daily feedback from their wearables on how their behavior impacts their well-being and health metrics can help motivate people to make positive lifestyle changes. For instance, physical inactivity is a contributing factor in many chronic diseases,[7] including diabetes. It's estimated that making lifestyle changes could prevent up to 90% of prediabetes and Type 2 diabetes cases.[8]

Wearables can prompt patients to be more physically active by tracking physical activity, allowing users to set activity goals, and gamifying activity to incentivize them. Medical interventions involving a consumer wearable device have been shown to lead to statistically significant increases in daily step count and moderate-to-vigorous physical activity among users.[9]

37M

37 million Americans have diabetes.[10]

96M

96 million U.S. adults have prediabetes.[11]

1 IN 4

1 in 4 U.S. adults get no physical activity outside of their jobs.[12]

76%

76% of wearables owners say the device helps them be more physically active.[13]

3 / Disease management

6 IN 10

6 in 10 U.S. adults and 8 in 10 older Americans have at least one chronic condition, such as heart disease, diabetes or arthritis.[17] [18]

Chronic conditions can mean frequent emergency department (ED) visits and hospital stays. By enabling patients with chronic conditions to monitor and understand their key health metrics at a glance, wearables can help them take greater ownership of managing their health, possibly reducing the need for emergency visits and lowering the high costs of care.

In one study, a cardiac rehabilitation program that incorporated wearable devices and personalized recommendations for activity resulted in higher fitness levels, improved outcomes, and lower costs for patients using the devices.[14] A randomized control trial also showed that a wearable combined with a continuous glucose monitor showed a sustained reduction in hemoglobin A1c whereas the continuous glucose monitor on its own had only a temporary reduction.[15] Finally, research on patients with COPD found that consumer wearables could be an effective coaching tool, motivating patients to increase their physical activity.[16]

74%

74% of wearables owners say the device helps them manage a chronic condition.[19]

4 / Supportive care

Patients and providers can use wearables to help enhance quality of life, support rehabilitation, and improve outcomes for people with cancer.

For example, wearables can encourage greater physical activity, which has been shown to predict better quality of life and better clinical outcomes for cancer patients.

One study of patients with advanced cancer found that higher physical activity levels were associated with lower risk of hospitalization and death, as well as better health status as assessed by providers.[20]

Wearables may also have a role in cancer prevention. The Breast Cancer Weight Loss (BWEL) study, sponsored by the National Cancer Institute and the Alliance for Clinical Trials in Oncology, is currently enrolling nearly 3,200 women with early stage breast cancer to test if lifestyle changes supported by wearables can help prevent their disease from returning.[21]

5 / Patient engagement

A device that's always on the patient's wrist is an ideal way to deliver reminders to take medication at scheduled times. Providers can also use wearables to send messages around preventive health actions. Patients can get reminders to schedule a colonoscopy, a vaccination, or an annual wellness visit. Multiple studies have shown that reminder notifications can significantly reduce missed appointments,[22] improving continuity of care and lowering costs.

6 / Data science

Research studies show that data from wearables helps improve the prediction capabilities of risk prediction models for hospital readmissions. In one study of cancer patients, lower physical activity levels during inpatient recovery from surgery were associated with a higher risk of 30- and 60-day hospital readmission.[23]

By tracking individuals' key health indicators, wearables could potentially monitor real-time population health trends, such as contagious disease outbreaks, so healthcare professionals could respond to them more quickly. Case in point: a study showed that using wearable devices to measure health metrics like respiration rate, heart rate, and heart rate variability (HRV) may lead to better early detection and monitoring of COVID-19.[24]

7 / Disease detection

One of the most exciting uses for wearables is detecting disease early on. As an example, wearables that monitor irregularities in users' heartbeats over time can help detect atrial fibrillation (AFib) and notify patients, who can then discuss their heart health with their doctors.[25] Such early alerts could lead to faster diagnoses and ultimately, better health outcomes. A study in JAMA suggests that this approach would be cost-effective, and even more so with wearables costing $150 or less.[26]

One wearable user whose health metrics alerted him of a potential AFib consulted a cardiologist, who discovered an aortic aneurysm; this potentially life-threatening condition is now being monitored by a team of doctors. The patient also self-monitors, using his wearable device to check for AFib regularly, track his physical activity, and ensure his heart rate stays within the recommended range during exercise.[27]

8 / Supporting healthcare workers

Workers are essential to the success of any value-based initiative, and their wellbeing matters too. It's long been recognized that healthcare workers face a great deal of stress, and that has only increased with the pandemic. While burnout is a complex, multi-faceted problem, wearables can be an important tool for building resilience.

In a program at the Orlando Veterans Administration Healthcare System, nurses reported positive effects after incorporating wearables into their work unit and daily routine.[28] And in another study of the impact of wearables on emergency medicine residents, "*subjective improvements in overall wellness and physical activity were noted among the entire study population.*"[29] Finally, the use of wearables not only helps healthcare workers with their own wellbeing, it empowers them to talk to their patients about wellbeing and resilience as well.

Just what the doctor ordered

Successful value-based care depends on close collaboration between patients and their care teams. That calls for new tools. While more innovations surely lie ahead, making the most of existing technology such as consumer wearables can help to enhance patient engagement, improve health outcomes, and reduce care costs.

By arming patients with the intuitive tools to take charge of their wellbeing—engaging them with information, activities, and challenges—and giving providers and care teams actionable data to help patients live healthier lives, wearables can help bridge the gap between advice given and action taken.

Want to learn more about the important role wearables can play in value-based care? **Contact us today**.

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