ISSUE DIGEST

Wearable Devices

How are wearables influencing care outcomes?

PREPARED FOR

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In this digest:

How are wearables influencing care outcomes?

- The Advisory Board's take
- Recommendations for your team
- Highlights from recent publications

Our Issue Digests cover top strategic priorities for the health plan Chief Medical Officer.

Each digest focuses on a question, opportunity, or challenge facing the health plan CMO. We summarize key insights—which may include thoughts on relevance, urgency, and value—on a particular issue, offer recommendations for your team, and provide an overview of recent publications on the topic.

A sampling of other topics covered:

- **The cost curve is bending—now what?** *How plan CMOs should respond to changing trends in health spend*
- **Why are providers reluctant to engage in downside risk?** *A comparison of findings from the top five industry surveys*
- **What are the potential costs of cost-sharing?** *An examination of the health care affordability crisis*
- **What strategies can payers deploy to reduce pharmacy spend?** *Trends in specialty pharmacy utilization*

How are wearables influencing care outcomes?

A look into the wearable industry and evaluation of potential health plan use cases

OUR QUICK TAKE

- **Health plan uptake is still early:** The wearable device market is growing dramatically, with revenue expected to reach $60 billion by 2022—mainly driven by employers and life insurers. Most recently, health plans have shown interest in using wearables to improve care and lower costs through more personalized and frequent member interactions. However, few insurers (such as Aetna, Oscar, BCBS Association) currently offer wearables as a covered benefit, so it is not yet clear how plans determine whether wearables are a worthy investment.
- **Focus on attainable, clear objectives**: Evidence of cost reduction through use of wearables is limited, and demonstrated effects have only a short duration. Most studies show ROI concentrated to certain disease conditions (e.g., diabetes, heart disease) and limited to clinical and patient-reported outcomes, such as lower A1c levels, increased activity, and healthier eating.
- Plan CMOs evaluating wearables should narrowly scope the intended outcome of offering these devices as a covered benefit. Having clearly defined outcomes will streamline the plan's evidence-generation process and appeal to employer groups looking to build wellness programs.
- **Align to broader strategies**: Clearly defined outcomes also allow plan CMOs to expand on traditional measurements of ROI, such as dollar amount saved, to incorporate metrics like increased enrollment, digital engagement, and member interactions. Some plans use wearables to build a repository of knowledge about their members through timely and large amounts of data collection. Other plans want to attract specific demographics in enrollment, manage chronic conditions with heavy monitoring, or identify the rising risk members.

DATA SNAPSHOT

Wearable industry expected to grow by 40% in the next five years

Financing wearable devices

$60 billion
Estimated wearable device revenue by 2022[2]

$79
Ideal price of smartwatch quoted by employers[3]

$600 - $800
Annual cost per employee for employer wellness program with smartwatches[3]

$200 billion
Potential savings attained over 25 years by offering members wearables[4]

3-year results of Humana's wearable program[5]
(n=8,015 Humana employees)

18% **Decrease in claims costs** for highly engaged members versus 17% increase for low engaged

44% Decrease in employee **sick days**

Wearable device companies

Ranked by share of wearable market[6]

	Company	Market share	*Year-over-year growth*
1	Apple	29%	40%
2	Xiaomi	14%	45%
3	Fitbit	8%	-10%
4	Huawei	7%	147%
5	Samsung	6%	85%

1. Tec crunch, 2019.
2. ABI Research, 2017.
3. Springbuk, 2019.
4. Health payer intelligence, 2017.
5. Humana, 2016.
6. IDC Worldwide Quarterly Wearables Tracker, 2019.

Source: Chief Medical Officer Roundtable research and analysis.

Recommendations for your team

DISCUSSION QUESTIONS

Targeted questions to bring to your next team meeting

- What outcomes are we hoping to achieve through wearables (e.g., cost control, increased enrollment rates, member satisfaction)?
- How should we measure and quantify the ROI of subsidizing wearables for our members?
- What member populations are we trying to attract by offering wearables?
- How can we partner with employers to share the investment costs of offering wearables as a covered benefit?

CASE STUDY TO SHARE

How Blue Cross health plans use wearables for diabetes care management

Member uses wearable to track glucose → Onduo tracks member's clinical information → Onduo diabetes educator discusses member with doctor → Doctor tailors treatment for member based on data

- **Program description**: Blue Cross Blue Shield in Arkansas, Georgia, and South Carolina partnered with Onduo, a digital health company, to offer members with type 2 diabetes a wearable that monitors their glucose levels and access to certified diabetes educators. The device adheres to a patient's stomach and sends data automatically to Onduo's mobile applications to simplify the process for members.[1]
- **Results**: Within 6-9 months following enrollment, participants saw lower blood sugar levels by an average of 0.5 to 2 points. Members also had an overall increase in hemoglobin A1C tests and diabetic nephropathy screenings.

RELEVANT READING

Recommended for your internal teams

+ Blog post: Beyond 10,000 steps: How wearable technology can improve health care delivery
+ Blog post: Smart watches, smart care: How wearables can improve patient engagement

External journal articles

- Patel M, Foschini L, et al., "Using Wearable Devices and Smartphones to Track Physical Activity," *Annals of Internal Medicine*, (2017).
- Petersen S, "New Wearables Cut Health Care Costs With Better Monitoring," eWeek, February 28, 2019,
- Farr C, "Apple's groundbreaking heart study signals a new era of medicine, and doctors are debating the results," *CNBC*, March 18, 2019.
- Plowman R, et al., "Digital medicines: clinical review on the safety of tablets with sensors," *Expert Opinion on Drug Safety*, 17, no. 9 (2018): 849-852.

1) BCBS.com.

Highlights from recent publications

JAMIA (June 2018): Wearables proven to predict health events Learn more

+ **Summary of major findings:** JAMIA identified discrete instances in which data obtained from wearables were predictive of or significantly associated with health outcomes (i.e., mortality, readmissions). For example, a study of 84 chronic heart failure patients found that fewer steps per week were associated with mortality during the 710-day follow-up period. Another study saw that among those with baseline cardiovascular disease, baseline step counts and change in baseline step counts both correlated with mortality during the 6-year follow-up. Additionally, a study of 71 patients with metastatic peritoneal cancer proved that higher daily step counts were predictive of 30- and 60-day readmissions even after adjusting for other risk factors.
+ **Methodology:** The Journal of the American Medical Informatics Association analyzed research studies on wearables published between 1997 and 2018.
+ **Limitations:** Only eight studies found a correlation in using wearables to predict outcomes.

ADVISORY BOARD INSIGHTS

Wearables have the potential to influence how high-touch care is delivered to at-risk members.

Plan CMOs should deploy wearables to members with high-cost conditions, such as cardiovascular disease or diabetes, where wearable devices have shown demonstrable results in health improvement.

RAND (Dec 2018): Rewards paired with apple watch increases intensity of physical activity, rather than just frequency Learn more

+ **Summary of major findings:** Discovery, a South African multi-national insurance group, found that offering incentives combats sedentary lifestyles and increases physical activity. Discovery's Vitality Active Rewards Program paired with an Apple Watch benefit makes monthly repayments for an Apple Watch in amounts linked to physical activity thresholds that the individual reaches per month. Those that use this benefit have an average increase of tracked activity days per month of about 34%, which equates to 4.8 days of additional activity per month. The correlation between increased physical activity and the Apple Watch benefit persisted for at least the 24-month repayment period of the device.
+ **Methodology:** RAND Europe to assess the benefits of their Vitality Active Rewards with Apple Watch benefit across the U.S., South Africa, and the UK compared to those who only participate in the Active Rewards program without the use of the Apple Watch.
+ **Limitations:** The study does not discuss outcomes outside of physical activity, such as clinical or cost outcomes.

An increase in physical activity alone has not proven to decrease health care costs, though some conditions are proven to benefit from physical activity.

However, increased activity is correlated with overall wellness and satisfaction, so employers may find this metric appealing as a benchmark of success for using wearables.

Springbuk (Jan 2019): Using a wearable cut one employee's annual insurance bill by $1200 Learn more

+ **Summary of major findings:** 35% of 2017's Healthiest Employers include wearables in their corporate strategy, and 49% of employers are considering buying devices for employees to influence productivity and satisfaction, and lower health care costs. The Human Cloud At Work study showed that wearables increased employee job satisfaction by 3.5% in one year. A Goldsmith study revealed that employees with wearables were 8.5% more productive. Through use of wearables and rewards for meeting health plan wellness goals, Iron Mountain's LiveWell program reduced doctor visits and lowered overall health care costs for employees for the first time since 2013. Another study showed that after two years, employees who opted in to a wearable program cost about $1,242 less than the control group.
+ **Methodology:** Springbuk, an employer-facing health analytics software company, reviewed various case studies for using wearables in workplaces.
+ **Limitations:** Springbuk conducts their own studies and is a vendor for employer wellness.

Given rising employer interest in wearables, plans are well positioned to partner with them to achieve similarly related goals and potentially split the upfront investment costs.

Rather than feeling pressured to offer wearables to members, plans should view employers as a resource for helping the plan advance population health goals.

1) Health Payer Intelligence; Becker's Hospital Review.

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