

# SIR 2025 Annual Conference

CHICAGO, IL  
Fairmont Hotel in Chicago

May 4-6, 2025



**SIR** | SOCIETY OF  
INSURANCE  
RESEARCH

# SIR 2025 Annual Conference

CHICAGO, IL  
Fairmont Hotel in Chicago

May 4-6, 2025



# Capturing the Hearts & Minds of Customers

Francois Millard, Vitality Ltd



**Which company is considered  
*'Earth's most customer-centric company'?***

# Earth's most Customer Centric Company



## **Amazon's Vision:**

(circa 2002)

- To be Earth's most customer centric company.
- To be the place to find discover and buy anything you want online.
- To use technology to drive innovation.

## **Very precise definition of what Customer Centricity is:**

- Listen
- Invent
- Personalize.

# Earth's most Customer Centric Company



“As companies grow and scale, maintaining focus on meeting customers' requirements at speed becomes more difficult as other business imperatives and pressures (e.g. cost, infrastructure, competition) arise. But the necessity of understanding your customers' needs and desires, and rapidly inventing solutions that meet those needs, is more critical than ever for companies looking to remain innovative in an increasingly uncompromising business environment.”

# “Jeff, what does Day 2 look like?”



“Day 2 is stasis. Followed by irrelevance. Followed by excruciating, painful decline. Followed by death. And that is why it is always Day 1.”

There are many ways to center a business. You can be competitor focused, you can be product focused, you can be technology focused, you can be business model focused, and there are more. But in my view, obsessive customer focus is by far the most protective of Day 1 vitality.

# Which Day is Insurance Companies Operating in?



Who is the customer?

Insurance is sold not bought.

Sales (underwriting) process has not fundamentally changed in 100 years

Service viewed as an expense.

Solutions designed for internal efficiency rather than the client

Metrics focused on production, revenue & expenses

Retiring the fax machine was a big deal

# It is hard to capture the hearts and minds of customers through a product that's mostly invisible



The objective of insurance is to financially guard against unpredictable life occurrences. In short, when you buy an insurance policy, you make monthly payments, called premiums, to purchase protection from monetary repercussions related to things like accidents, illness or even death.<sup>1</sup>

"... our ultimate aspiration there is starting to use actuarial data to work for you rather than against you. We both have the same goal in mind which is longevity for you. Can we surface that data in a way that will help you rather than make you feel like you're being penalized ...".<sup>2</sup>

1. Source: *Insurance Objectives*, Lisa McQuerrey, June 28, 2018, <https://work.chron.com/insurance-objectives-23793.html> accessed Dec 2022

2. Source: Claire Burns, Center for Customer Insights at Yale SOM, 2017, <https://www.youtube.com/watch?v=Fw8K67CXPYQ&t=1713s>, accessed Dec 2022



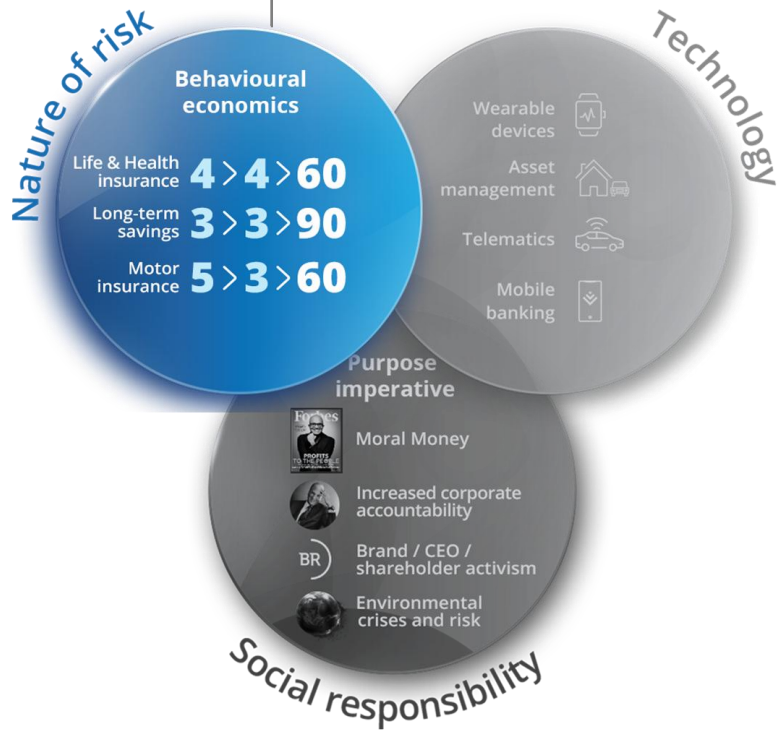
BUT:

**Insurance is the ultimate shared value industry, where social impact is integral to economic success. Reducing accidents, improving health, and helping organizations better prepare for economic risks all improve the profitability of insurers.**





The understanding of behaviour has become crucial



### Mortality and morbidity



### Long term savings

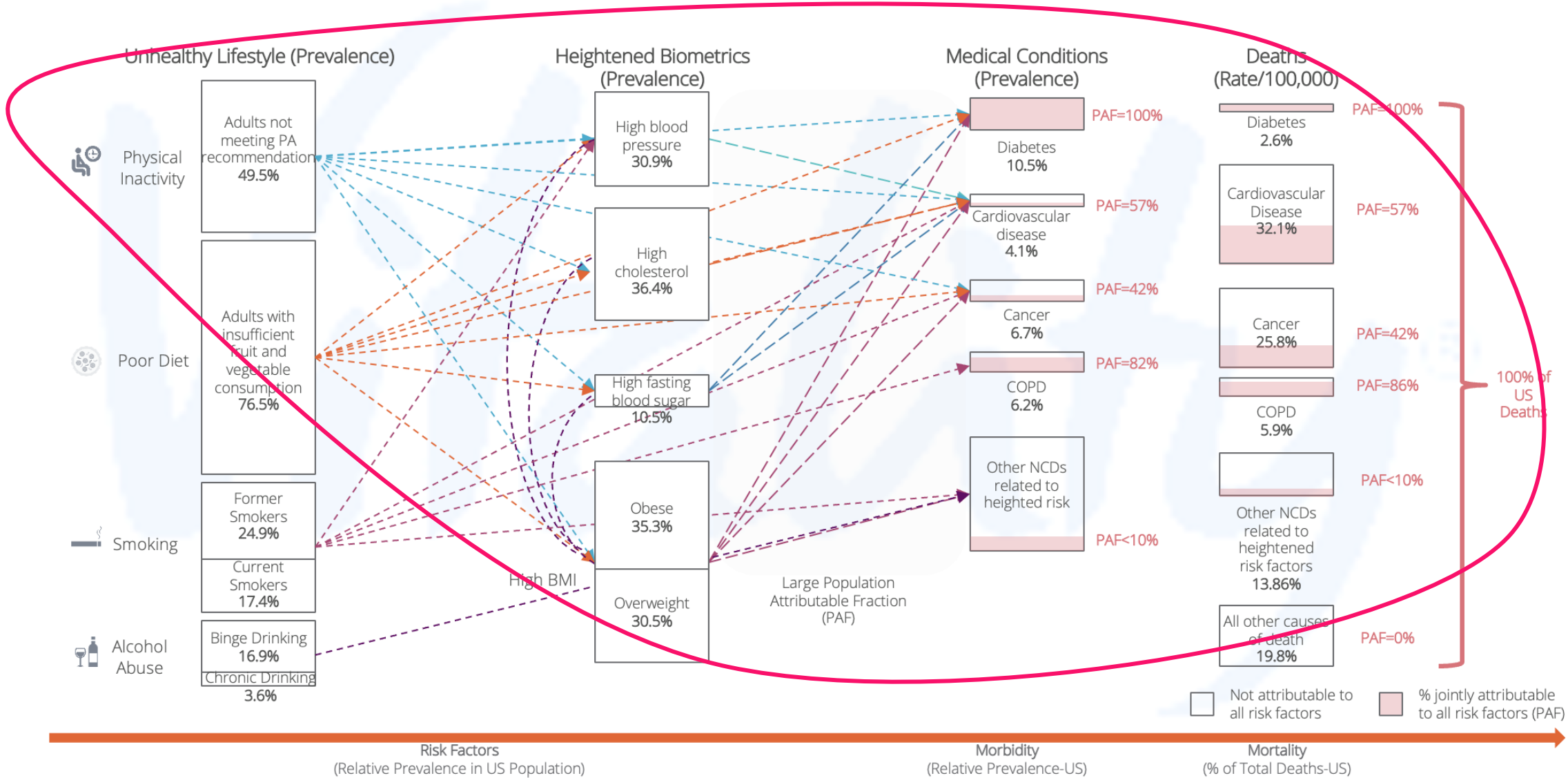


### Banking



### Motor insurance





Sources: US data: GBD 2016, CDC-BRSFF, various years)



OUR CORE PURPOSE

**To make people healthier, and  
enhance and protect their lives**

**We know exercise makes people healthier**



**If we can make people exercise more**



**We can make people healthier**

# When it comes to Digital Engagement Ecosystems - It's not just about technology – effective Engagement Strategies are needed<sup>1</sup>

**VIEWPOINT** Wearable Devices as Facilitators, Not Drivers, of Health Behavior Change

**Manish S. Patel, MD, MSA, MS**  
Philadelphia VA Medical Center, University of Pennsylvania, Philadelphia.

**David A. Asch, MD, MSA**  
Philadelphia VA Medical Center, University of Pennsylvania, Philadelphia.

**Karen G. Volpp, MD, PhD**  
Philadelphia VA Medical Center, University of Pennsylvania, Philadelphia.

Author Reading at [jama.com](http://jama.com)

Corresponding Author: Manish S. Patel, MD, MSA, MS, 4221 Guilford Dr, Blockley Hall, 12th Floor, Philadelphia, PA 19104 (spatel@upenn.edu)

**Several large technology companies** including Apple, Google, and Samsung are entering the expanding market of population health with the introduction of wearable devices. This technology, worn in clothing or accessories, is part of a larger movement often referred to as the “quantified self.” The notion is that by recording and reporting information about behaviors such as physical activity or sleep patterns, these devices can educate and motivate individuals toward better habits and better health. The gap between recording information and changing behavior is substantial, however, and while these devices are increasing in popularity, little evidence suggests that they are bridging that gap.

Only 7% to 2% of individuals in the United States have used a wearable device, but annual sales are projected to increase to more than \$50 billion by 2018.<sup>1</sup> Some of these devices aim at individuals already motivated to change their health behaviors. Others are being considered by health care organizations, employers, insurers, and clinicians who see promise in using these devices to better engage less motivated individuals. Some of these devices may justify that promise, but less because of their technology and more because of the behavioral change strategies that can be designed around them.

Most health-related behaviors such as eating well and exercising regularly could lead to meaningful improvements in population health only if they are sustained. If wearable devices are to be part of the solution, they either need to create enduring new habits, turning external motivations into internal ones (which is difficult), or they need to sustain their external motivation (which is also difficult). This requirement of sustained behavior change is a major challenge, but many mobile health applications have not yet leveraged principles from theories of health behavior.<sup>2</sup>

Feedback loops could be better designed around wearable devices to sustain engagement by using concepts from behavioral economics.<sup>3</sup> Individuals are often motivated by the experience of past rewards and the prospect of future rewards. Lottery-based designs leverage the fact that individuals tend to assign undue weight to small probabilities and are more engaged by intermittent variable rewards than with constant reinforcement. Anticipated regret, an individual's concern or anxiety over the reward he or she might not win, can have a significant effect on decision making. Feedback could be designed to use this concept by informing individuals what they would have won had they been adherent to the new behavior. Building new habits may be best facilitated by presenting frequent feedback with appropriate framing and by using a trigger that captures the individual's attention at those moments when he or she is most likely to take action.

**Identifying and Addressing the Gaps**  
Using wearable devices to effectively promote health behavior change is a complex, multistep process. First, a person must be motivated enough to want a device and be able to afford it; this is a challenge, because some devices can cost hundreds of dollars. Perhaps for these reasons, wearable devices seem to appeal to groups that might need them least. In a survey of wearable device users, 75% described themselves as “early adopters of technology,” 48% were younger than 35 years, and 29% reportedly earn more than \$100 000 annually.<sup>4</sup> The individuals who might have the most to gain from these devices are likely to be older and less affluent. To better engage these individuals, wearable devices must be more affordable, or new funding mechanisms are needed. For example, employers and insurers might pay for a device that helps individuals better adhere to their medications, potentially yielding significant downstream health care savings. Or, devices that demonstrate effectiveness could be financed in a manner similar to that for prescription drugs.

Second, once a device is acquired, a person needs to remember to wear it and occasionally recharge it—additional behaviors required from individuals who may have a difficult time already. Many wearable devices require data to be sent to a phone or computer, adding additional steps and more equipment. According to one survey (n = 6223), more than half of individuals who purchased a wearable device stopped using it and, of these, one-third did so before 6 months.<sup>5</sup> One potential solution might be to better leverage smartphones: most people with these phones carry them often. Ideally, using a smartphone does not require any effort beyond setup—like an app that gets its power from the phone that people are already accustomed to regularly charging. Because data can be transmitted passively via a cellular connection, there is no need for individuals to actively update their data. Although smartphones are expensive, many people already have them, and the reach of these devices is increasing.

Third, the device must be able to accurately track its targeted behavior. Accelerometers, commonly found within wearable devices, have been well studied for tracking step counts. However, newer technologies, such as those that measure heart rate or sleep patterns, have not been well validated. Similar to mobile health applications, the increase in the availability and types of wearable devices has not been matched by appropriate testing or oversight to make sure they work.<sup>6</sup> Wearable devices are unlikely to have the same capabilities as home devices that measure blood pressure or track medication adherence. However, a smartwatch may facilitate feedback from these devices, forming a better

JAMA February 3, 2015 Volume 313, Number 5 459  
Copyright 2015 American Medical Association. All rights reserved.



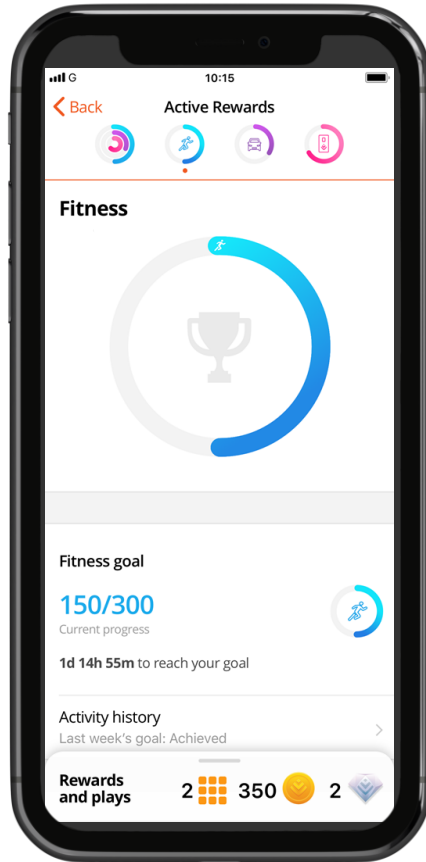
Using wearable devices to effectively promote health behavior change is a complex, multistep process. First, a person must be motivated enough to want a device and be able to afford it; this is a challenge, because some devices can cost hundreds of dollars.

Although wearable devices have the potential to facilitate health behavior change, this change might not be driven by these devices alone. Instead, the successful use and potential health benefits related to these devices **depend more on the design of the engagement strategies** than on the features of their technology

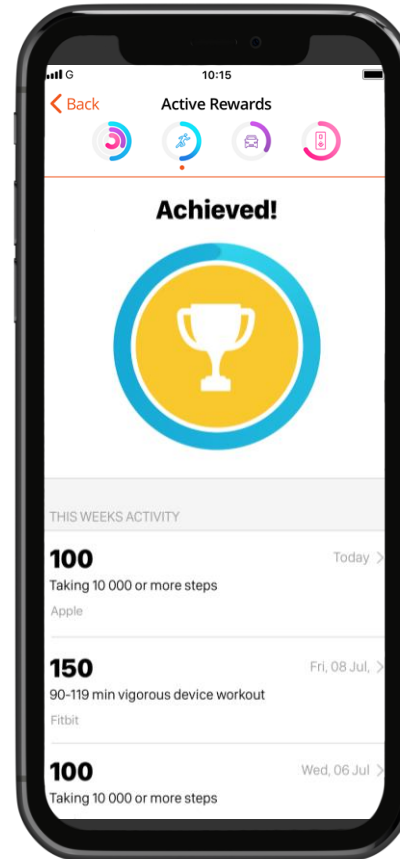
1. Patel MS, Asch DA, Volpp KG. Wearable Devices as Facilitators, Not Drivers, of Health Behavior Change. JAMA. 2015;313(5):459–460. doi:10.1001/jama.2014.14781



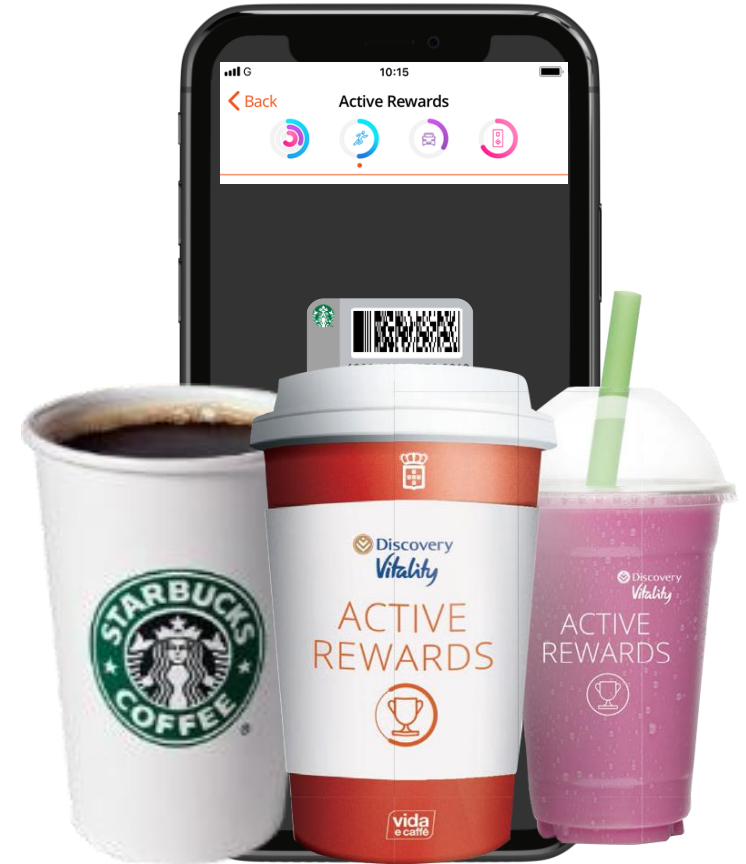
# Vitality **Active Rewards**



Personalized

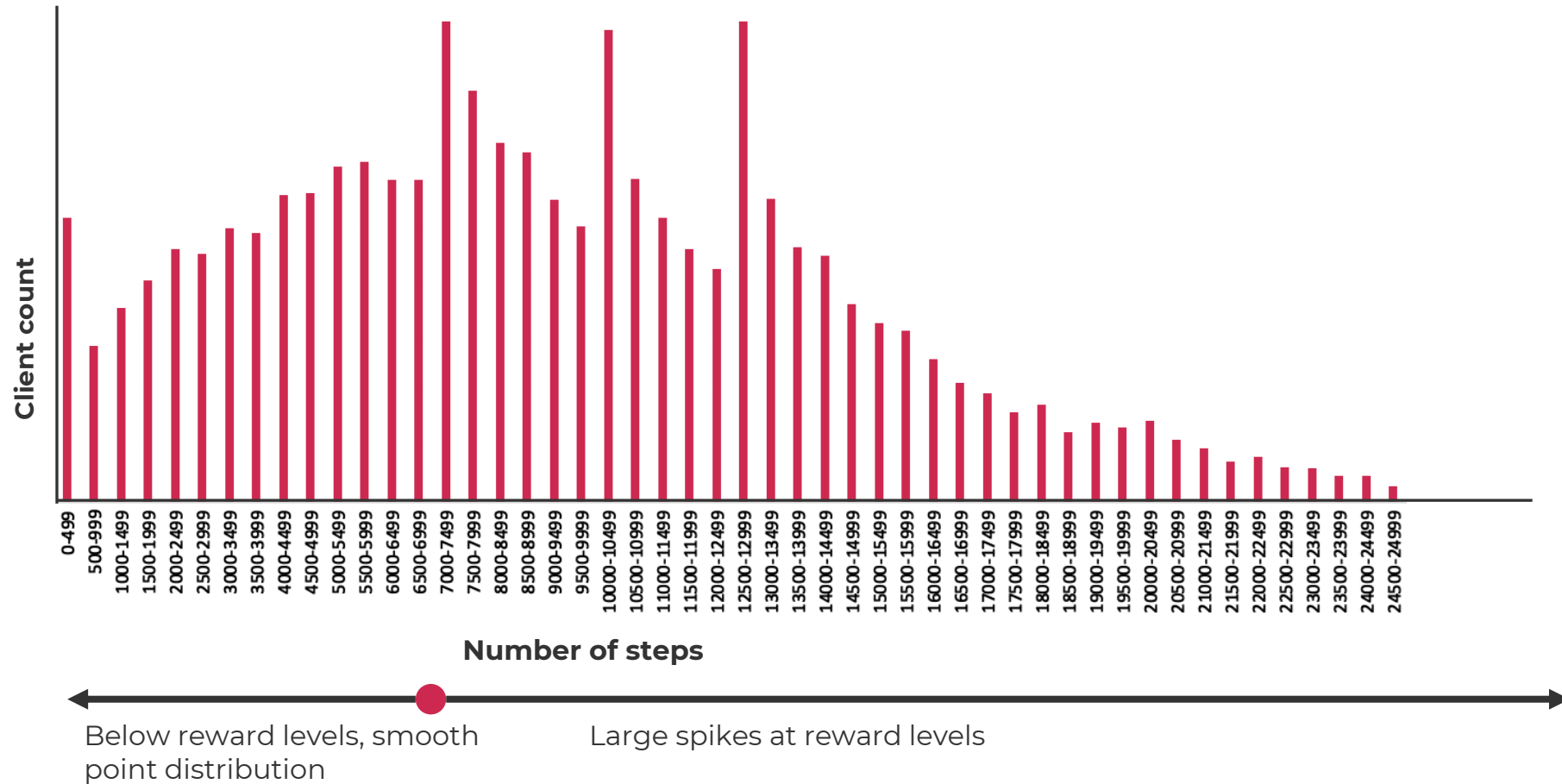


Dynamic



Gamified

# Incentive induced physical activity patterns



# Also required is an effective funding mechanism for customer technology as it is typically costly for the average customer<sup>1</sup>



## Annals of Internal Medicine

## LETTERS

### OBSERVATION: BRIEF RESEARCH REPORT

#### Using Wearable Devices and Smartphones to Track Physical Activity: Initial Activation, Sustained Use, and Step Counts Across Sociodemographic Characteristics in a National Sample

**Background:** Interest in using wearable devices and smartphones to monitor daily health behaviors, such as physical activity, is growing (1, 2). Many large employers are using these technologies in workplace wellness programs (3). The precision medicine initiative has described how data collected by these technologies can be used to better target interventions. However, the characteristics of persons who use these devices are poorly understood.

**Objective:** To describe rates of initial use of activity trackers, sustained use after 6 months, and step counts across different sociodemographic characteristics from a wellness program offered across the United States.

**Methods and Findings:** Data on activity tracker use, mean daily step counts, and sociodemographic characteristics between 2014 and 2015 were obtained from Humana for insured persons with access to HumanaVitality (now Go365), a wellness program offered across the United States. Median household income from U.S. Census data was linked using ZIP code. Data were received deidentified and deemed exempt from review by the University of Pennsylvania Institutional Review Board.

The program supported more than 60 wearable devices and smartphone applications. Activity trackers needed to be connected to the wellness platform once, and then data were transmitted automatically as the device was used. The program had a daily goal of 10 000 steps and used gamification with points and levels. Points were earned for reaching goals or logging workouts. Commercial insurance plans offered additional points for the first and fifth workout each week. Achieving higher levels made points redeemable for gift cards or other prizes more valuable. The maximum expected daily incentive value ranged from approximately \$0.25 to \$0.40.

Initial activation rates were evaluated during the 2-year period. To allow for 6 months of follow-up for sustained use and step counts, we evaluated persons who activated by 30 June 2015. We estimated the proportion of persons still transmitting step data at 6 months and their mean daily step counts and the proportion who had achieved mean step count goals (10 000 steps per day). The top and bottom first percentiles of step counts were removed as outliers. All analyses were conducted using SAS, version 9.4 (SAS Institute).

The sample (n = 4 489 852) was 53.0% female and 37.4% elderly (aged ≥65 years) (Table 1). During the 2 years, 1.2% of persons activated a device (0.2% in 2014 and 1.0% in 2015). Initial activation was done by 1.4% of women and 0.9% of men, 2.8% to 3.1% of younger adults (aged 23 to 49 years) and 0.1% of elderly persons, and 1.2% to 1.6% of those with a median annual household income of \$50 000 or higher and 0.7% to 1.0% of those with a lower income. Among those who activated a device, 69.2% (84.1% among elderly persons)

used a Fitbit and 13.7% (14.3% to 17.3% among younger adults) used an Apple product.

Six months after activation, 80.0% overall, 90.4% of elderly persons, and 85.9% of Fitbit users had sustained use of the activity tracker (Table 2). The mean daily step count was 7683 overall, 8420 among men, 7291 among women, and 8085 among Fitbit users.

**Discussion:** This study had 3 main findings. First, activity tracker activation, sustained use, and step counts varied across sociodemographic characteristics. Second, initial activation was low, particularly among older and lower-income persons; however, overall activation rates increased between 2014 and 2015. Programs should consider ways to better engage older persons and those who may be less able to afford these devices. Third, sustained use and mean step counts were high among those who initially activated their devices, perhaps partly because of the program's use of gamification and incentives. We have previously shown that these approaches can be effective in other settings (4, 5). Programs should consider testing those types of engagement strategies to improve device use and physical activity outcomes.

This study has limitations. Data were from a single insurer, incentives and program promotion could vary by insurance and employer, race/ethnicity was unavailable, and data from persons who used a device but did not activate it with the program were not captured. Sustained use over longer periods needs further study.

To our knowledge, our study is 1 of the first national evaluations of activity tracker use among a large, diverse sample. Our findings offer new insights to better design interventions using wearable devices and smartphones.

Mitosh S. Patel, MD, MBA, MS  
University of Pennsylvania and Crescenzo Veterans Affairs  
Medical Center  
Philadelphia, Pennsylvania

Luca Foschini, PhD  
Evidation Health  
Santa Barbara, California

Gregory W. Kurtzman, BA  
Jingsan Zhu, MBA, MS  
Wenli Wang, MS  
Charles A.L. Rareshide, MS  
University of Pennsylvania  
Philadelphia, Pennsylvania

Susan M. Zbilowski, PhD  
Humana  
Seattle, Washington

**Disclaimer:** Dr. Patel had full access to all the data in the study and takes responsibility for the integrity of the data and the accuracy of the data analysis.

**Grant Support:** By the University of Pennsylvania Health System through the Penn Medicine Nudge Unit. Dr. Patel is supported by career development awards from the U.S. Department of Veterans

This article was published at [Annals.org](http://Annals.org) on 26 September 2017.

[Annals.org](http://Annals.org)

Annals of Internal Medicine

3

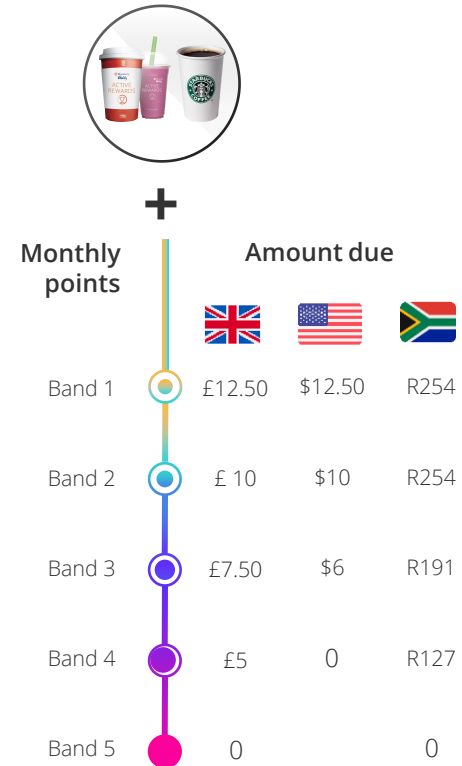
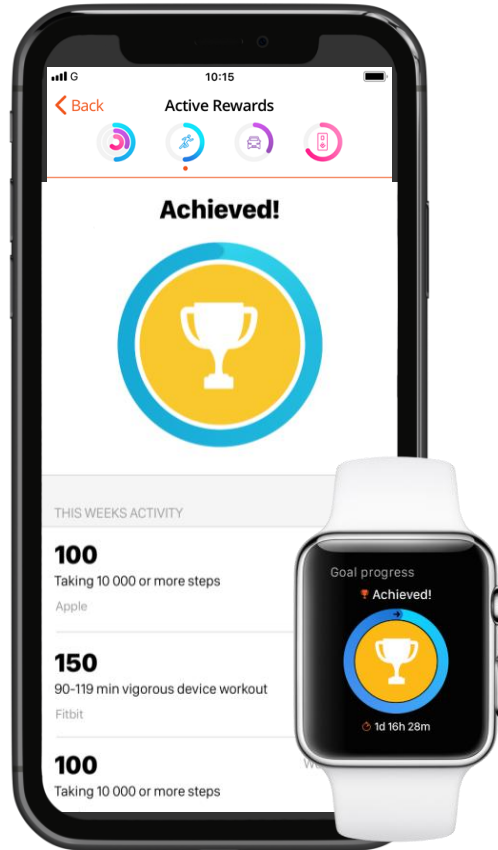
## Using Wearable Devices and Smartphones to Track Physical Activity: Initial Activation, Sustained Use, and Step Counts Across Sociodemographic Characteristics in a National Sample

Insight #1: During the 2 years, **1.2%** of persons activated a device (**0.2% in 2014 and 1.0% in 2015**).

Insight #2: Programs should consider ways to **better engage older persons and those who may be less able to afford** these devices.

1. Patel MS, Foschini L, Kurtzman GW, Zhu J, Wang W, Rareshide CA, et al. Using Wearable Devices and Smartphones to Track Physical Activity: Initial Activation, Sustained Use, and Step Counts Across Sociodemographic Characteristics in a National Sample. *Ann Intern Med*. 2017;167:755–757. doi: 10.7326/M17-1495

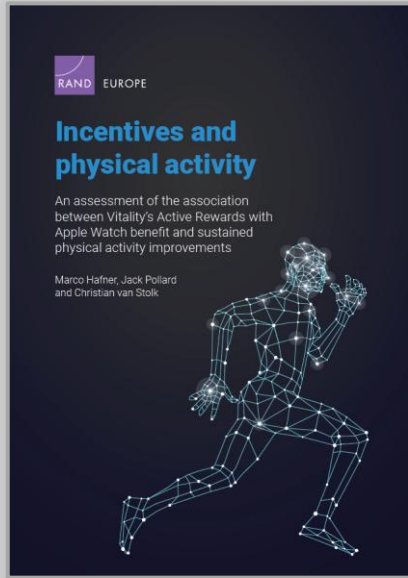
# Vitality Active Rewards with **Apple Watch**



# Vitality Active Rewards + Apple Watch Studies



The largest behavior change study on physical activity based on verified data



Three countries

**422 643** people, **91 000** Apple Watch users



Longitudinal tracking

Before and after taking up Apple Watch

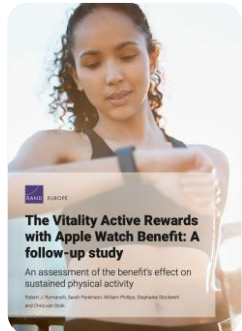


Granular data

Demographic data

Biometric information

Physical activity engagement



UK follow-up study

**660 212** people, **172 301** Apple Watch users



Longitudinal tracking, similar data as above

Before and after taking up Apple Watch

1. Hafner, M., Pollard, J., & Van Stolk, C. (2018, November 27). Incentives and physical activity: An assessment of the association between Vitality's Active Rewards with Apple Watch benefit and sustained physical activity improvements. RAND Corporation. [https://www.rand.org/pubs/research\\_reports/RR2870.html](https://www.rand.org/pubs/research_reports/RR2870.html)

2. Romanelli, R. J., Parkinson, S., Phillips, W., Stockwell, S., & Van Stolk, C. (2023, December 6). The Vitality Active Rewards with Apple Watch Benefit: A follow-up study. RAND Corporation.

[https://www.rand.org/pubs/research\\_reports/RRA2623-1.html](https://www.rand.org/pubs/research_reports/RRA2623-1.html)

# Apple Watch benefit incentivizes behavior change



**+34%**




INCREASE IN PHYSICAL  
ACTIVITY

**+4.8 DAYS**

PER MONTH  
OR ALMOST

**ONE FULL  
WORK WEEK**

Increase in physical activity for Apple Watch members  
per month




	%	Days
	28%	3.6
	31%	4.7
	44%	6.1

# Incentivizes the right type of activity and appeals to at-risk groups






## HIGHEST INCREASE IN INTENSIVE PHYSICAL ACTIVITY

Increase in physical activity for Apple Watch members per month

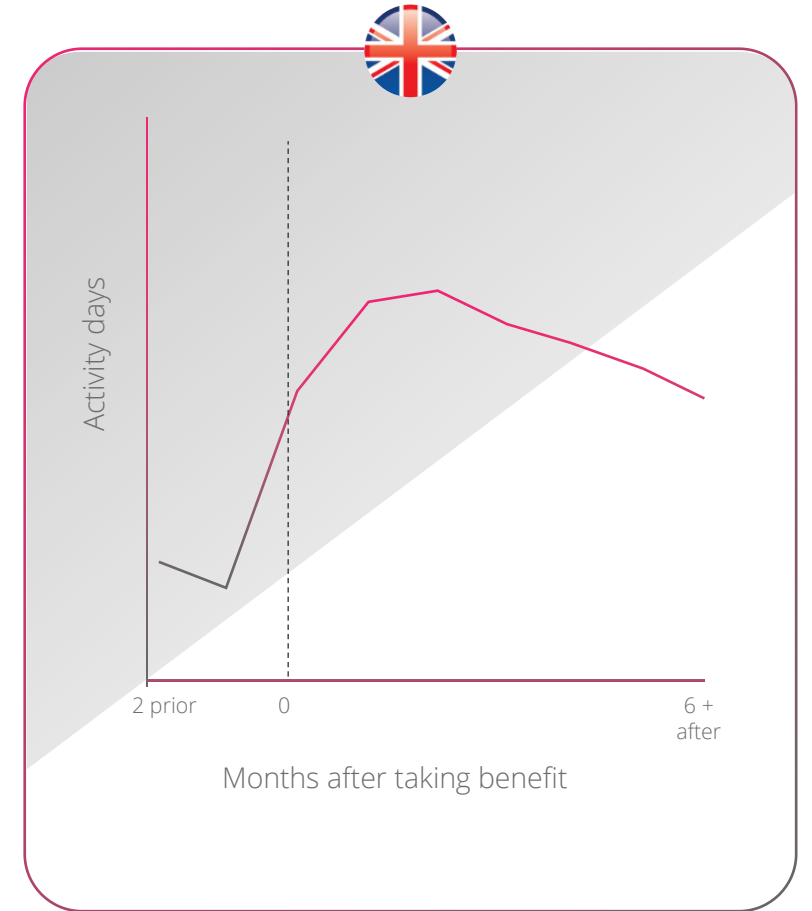
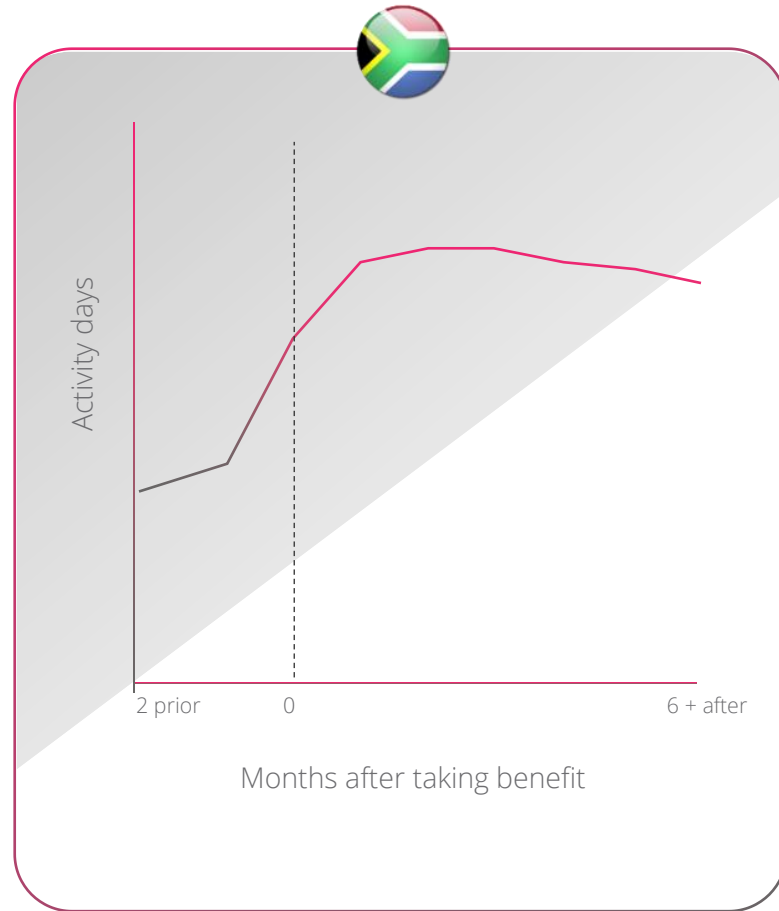
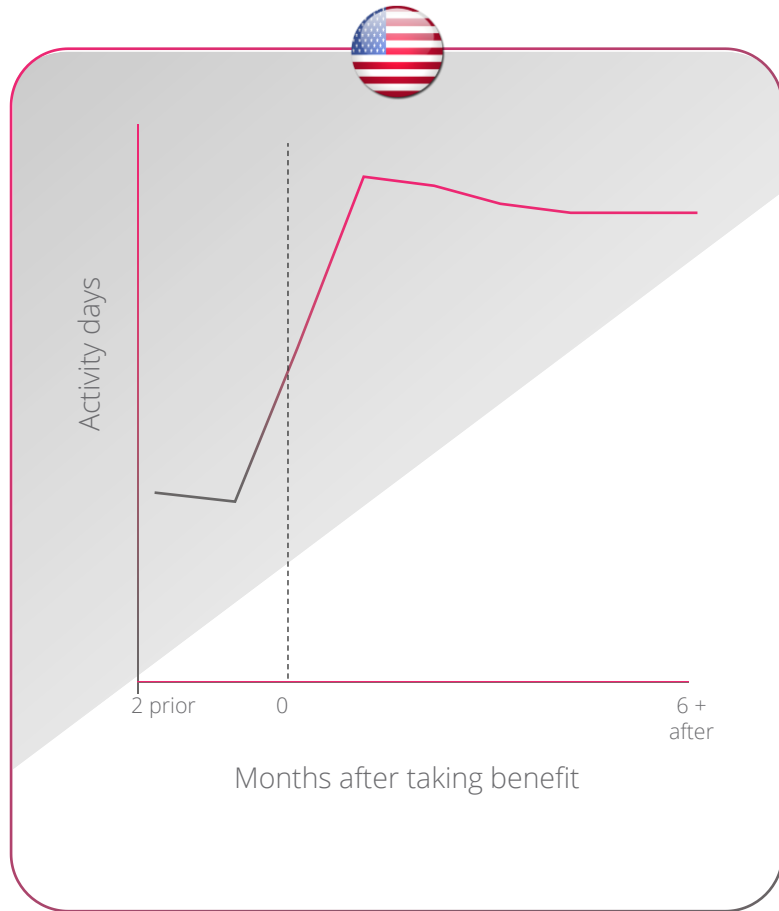
 Light	+27%
 Standard	+31%
 Advanced	+49%

## SIGNIFICANT INCREASE FOR HIGHER-RISK MEMBERS

Increase in physical activity for members with a BMI > 30 and lowest activity quartile

	+160%
	+206%
	+109%

# Increase in physical activity is sustained



**We know exercise makes people healthier**



**If we can make people exercise more**



**We can make people healthier**

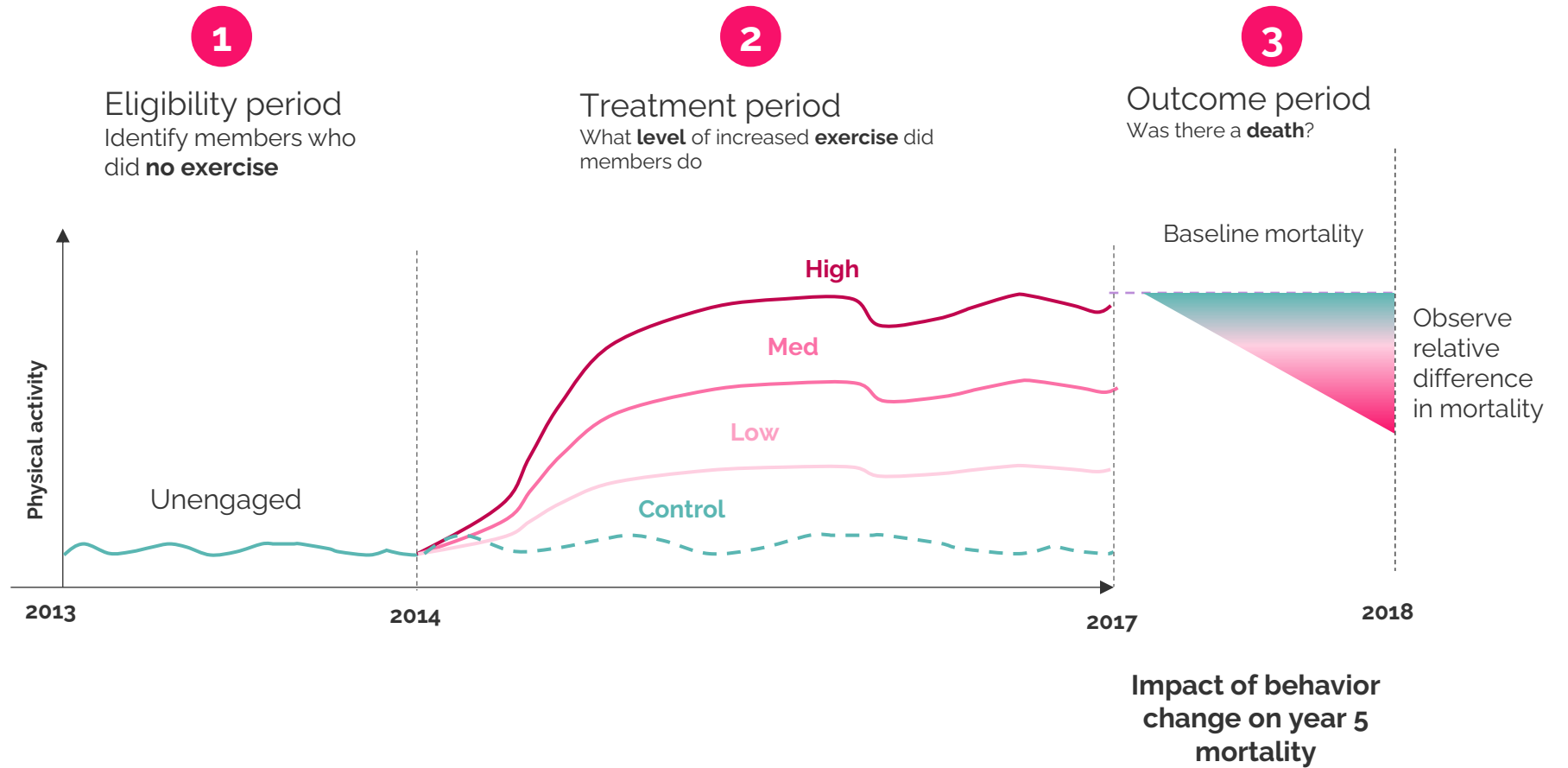
# Quantifying the impact of behavior change



Participants  
**502 062**

Period  
**5 years**

Gender split  
(female)  
**51%**



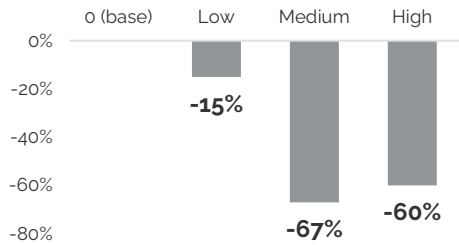


# The causal effects of behavior change are profound

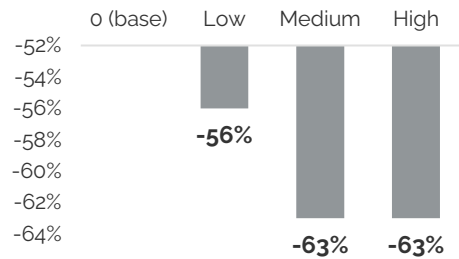


## Unadjusted mortality

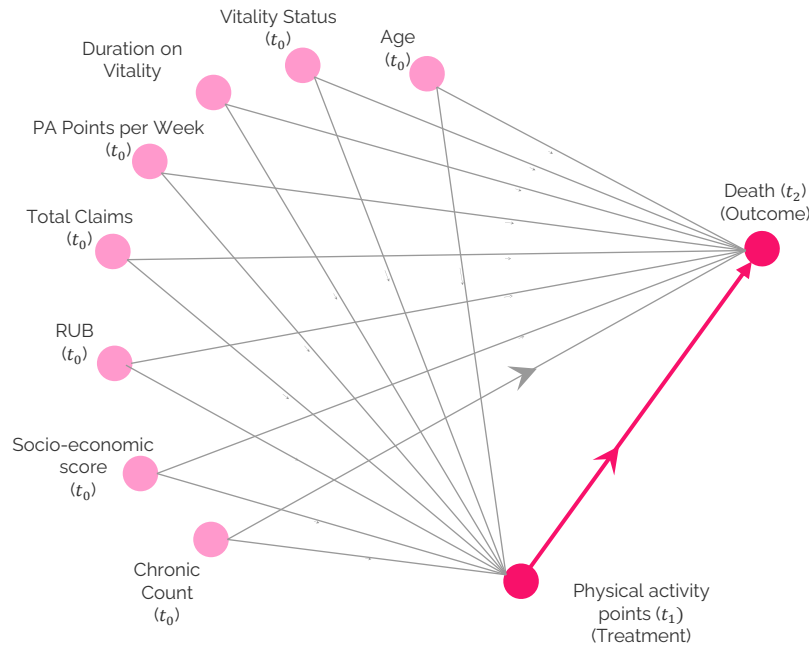
### Age 45-65



### Age 65+



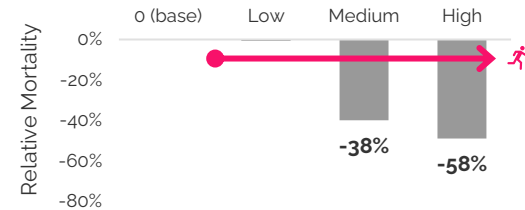
## Isolating the impact of exercise



502 062 members    2013 – 2019 period of study    36.6bn exercise points earned    Causal forest

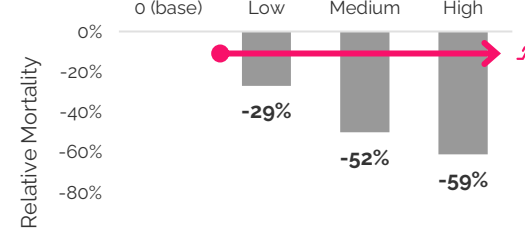
## Key insights: how exercise reduces risk

### Age 45-65



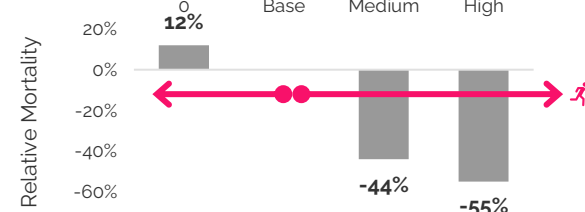
Significant improvements as PA increases

### Age 65+

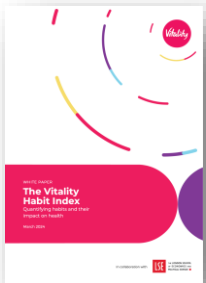


Impact of PA increases as you get older

### Age 45-65



Maintenance is important for already active members



Source: Vitality Group International, Inc., & London School of Economics and Political Science. (2024, March). The Vitality Habit Index: Quantifying habits and their impact on health. LSE Consulting. <https://www.lse.ac.uk/business/consulting/reports/the-vitality-habit-index>

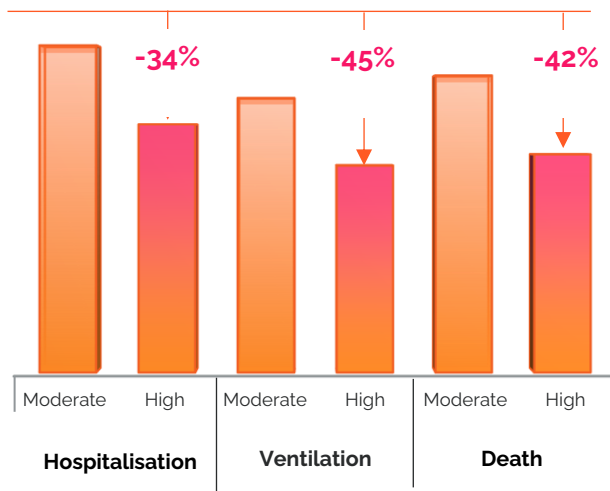
# Impact extends to communicable diseases

## Engagement in Vitality Health is linked to better COVID-19 clinical outcomes

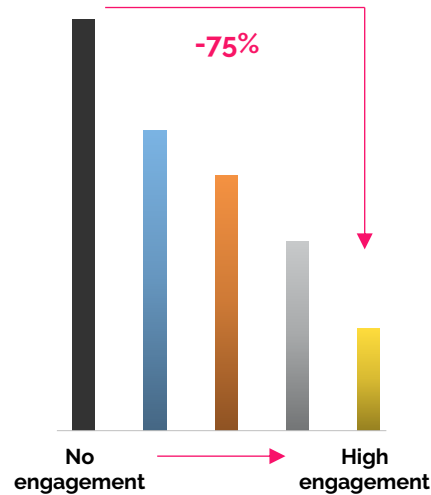


**Small steps, strong shield –**  
published in British Journal of Sports Medicine

Low Activity base



Relative COVID-19 mortality by Vitality Status



We have learnt that with infectious diseases (such as Covid-19), mortality and morbidity can be affected by the **same factors which Vitality has always tried to address**

During COVID-19, more engaged Vitality members had a **lower risk of mortality**

Managing health risk by leveraging behavioral economic principles is a fundamental approach that is relevant in environments around the world

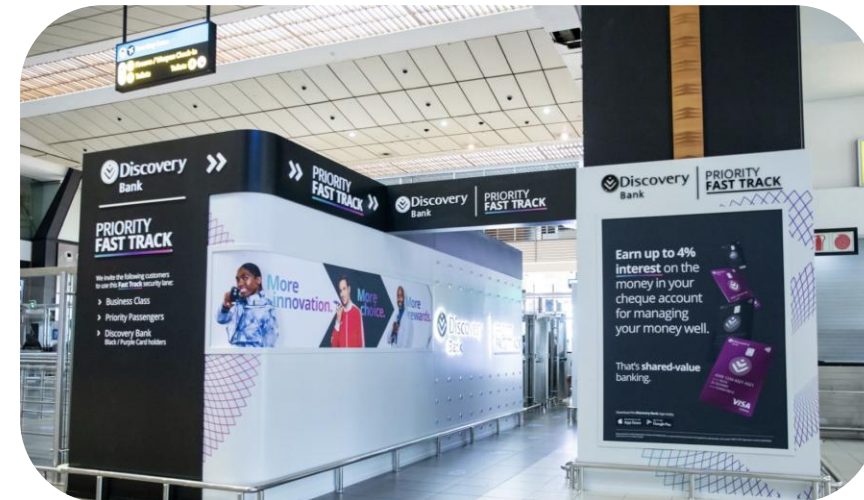
Highly active members have a **42% lower COVID-19 mortality risk**

# Our customers experiences on a day-to-day basis are not just digital, but also physical



Material discounts and easy in-store visibility and access

Benefit is felt at the point of sale



# Our customers experiences on a day-to-day basis are not just digital, but also physical



# DATA + TECHNOLOGY + AGILITY (RAPID RESPONSE) SAVES LIVES




## COVID high-risk patients' pulse oximeter intervention



### COVID 19 PULSE OXIMETER STUDY OUTLINE



Through the convergence of:

-  Advanced **data** capabilities
-  Modern **technology**, and the
-  Mobilisation of **benefits**...

...Discovery Health managed to fund and distribute pulse oximeters for high-risk members diagnosed with COVID-19:



2 March 2020 –  
31 October 2020



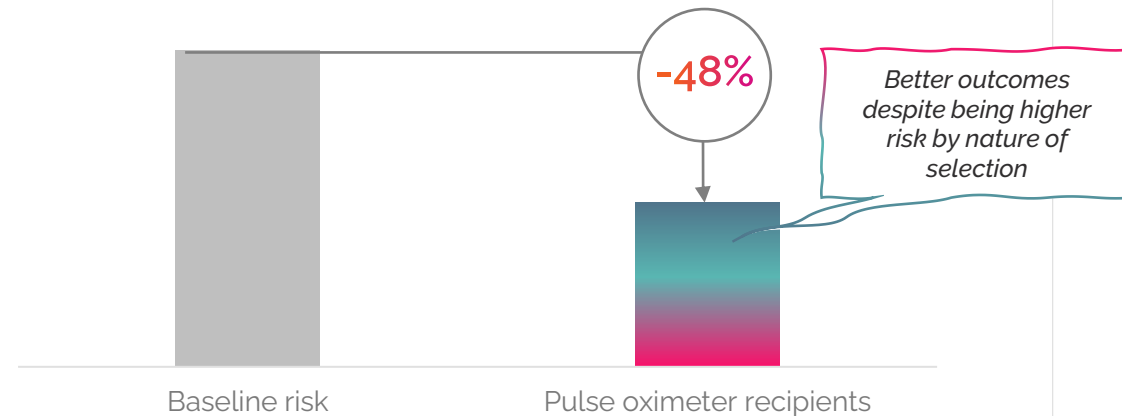
38,645 high-risk members  
in the group



8,113 received  
pulse oximeters

### OUTCOMES OF THE INITIATIVE

#### Comparison of 60-day mortality rate



**Likelihood of death nearly halved as a result of pulse oximeter use**  
**Broader impact on the group**



Improved early  
detection



Lower case  
severity



Regular monitoring  
of conditions



# SIR 2025 Annual Conference

CHICAGO, IL  
Fairmont Hotel in Chicago

May 4-6, 2025



# Capturing the Hearts & Minds of Customers

Francois Millard, Vitality Ltd