



SCALABLE PREVENTION INSIGHT REPORT

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ABOUT GARMIN HEALTH

[Garmin Health](#) empowers innovative third-party digital health solutions with the Garmin Health Connected Ecosystem, comprised of the Garmin product portfolio^A and its data integration services. By leveraging the Garmin Health API and SDKs, organizations can receive real-time or existing biometric data – with customizable levels of granularity – in accordance with their specific privacy policies. Garmin Health is a globally focused division of technology leader Garmin, collaborating with entities in areas like healthcare, research, employee benefits, insurance, fitness and defense. For more information, connect with us on [LinkedIn](#), sign up for our [newsletter](#) or visit us online at garmin.com/health.

LETTER FROM JOERN WATZKE, SENIOR DIRECTOR GARMIN HEALTH GLOBAL SALES & SCOTT BURGETT, SENIOR DIRECTOR GARMIN HEALTH ENGINEERING

JOERN WATZKE

Senior Director Garmin Health Global Sales

As the health and wellness industry expands, prevention continues to be one of the primary discussion points, and for good reason. Aging populations and growing rates of chronic conditions are straining traditional care models, resulting in growing gaps for people limited by geography, income, mobility and other factors.

Scalability – in our case leveraging Garmin wearables^A for third-party solutions – addresses some of these issues. This report delves into the challenges of the standard preventive care model, contributors to the changing wellness landscape and some of the ways our collaborators are evolving their respective industries.

Thank you for reading,

Joern Watzke



SCOTT BURGETT

Senior Director Garmin Health Engineering

Chronic illnesses like cardiovascular disease (CVD), obesity and mental health disorders are currently the focus of prevention models not just because of their prevalence, but because lifestyle modifications can play a role in mitigation and reversal. We discuss this in great detail with our [Diabetes Insight Report](#).

The biometric data collected by the sensors in our devices^A does far more than activity tracking. Resting heart rate, sleep duration and quality, stress – all of these provide valuable data points, especially when tracked consistently. This is one of the reasons we have prioritized long-lasting battery life in our product ecosystem.

Scalability is a vital component to meet the needs of our global populations, and I am excited to see the ongoing changes in research, remote patient monitoring and other industries.

Sincerely,

Scott Burgett



EXECUTIVE SUMMARY

Preventive care is widely recognized as one of the most effective strategies for reducing the burden of chronic disease, yet current models remain too episodic, reactive, and resource-intensive to meet the needs of growing global populations. With billions lacking access to essential health services or experiencing financial hardship when seeking care, limited engagement with screenings, early detection and longitudinal risk management are reflective of the urgent need for scalable approaches supporting earlier intervention and behavior modification.

Consumer-grade wearables^A are helping enable that shift by expanding access to continuous, real-world biometric data outside of traditional clinical settings. Signals such as heart rate, heart rate variability (HRV), sleep, activity, respiration, and estimated VO₂ max provide a more longitudinal view of health than point-in-time clinical snapshots alone.

When aggregated and integrated into digital health platforms, these biometric inputs can extend beyond individual self-monitoring to inform population-level insight, risk stratification, and program design. However, the value of wearable data depends not only on the adoption of provider and user, but its translation into clinically relevant signals and integration into existing workflows. As Garmin Health collaborators demonstrate across healthcare, research, insurance, employee benefits, and fitness ecosystems, scalable prevention will depend not only on data collection, but on the combination of continuous monitoring, intelligent analytics, and actionable interventions that reduce burden while improving long-term outcomes.

TOPIC OVERVIEW

The Prevention Gap

Despite progress in addressing preventable chronic conditions, healthcare still relies heavily on an episodic model—meaning care often comes only after problems arise. This leaves many without adequate support. Today, 4.6 billion people globally lack access to essential services, and more than 2 billion face financial hardship when seeking care^{1,2}. These barriers limit the impact of preventive measures like screenings and early detection³.

At its core, the issue is structural: healthcare is still focused on treating illness rather than preventing it. As rates of chronic disease continue to rise⁴, this reactive model is increasingly misaligned with what people need.

Key indicators of a preventive care gap include:

- **Access constraints:** Traditional, facility-based services are unavailable to billions worldwide, contributing to the growing global burden of healthcare, overall.
- **Cost barriers:** Preventive care can remain an expensive option for many, with out-of-pocket costs or difficulties navigating reimbursement undermining access and utilization.
- **Lack of visibility:** Chronic conditions are often underdiagnosed until the disease progresses to a tipping point of visible, severe symptoms.

Perhaps most illuminating is this statistic: **74% of deaths worldwide** occur from noncommunicable diseases, many of which are driven by modifiable risk factors⁴.

Shifting to Continuous, Data-Driven Care

Over the past decade, consumer-grade wearables^A – notably smartwatches and fitness trackers – have redefined how people track physical activity, understand baseline biometric indicators of health and adapt behavior^{5,6}. With advances in sensor technology, physiological signals can be monitored more continuously and in greater detail outside of a medical facility than ever before⁷. This has wide-ranging ramifications across different wellness-focused industries, including healthcare.

As the incorporation of 24/7 biometric monitoring becomes normalized in daily life, its role is expanding beyond fitness and well-being into more specialized spaces. For example, the usage of longitudinal health data from Garmin wearables^A is now routinely used in non-clinical settings for research, increasing the scope of studies previously limited by cost and location^{5,7}. Additionally, Garmin Health collaborators have shown how data from wearables can be incorporated in proactive measures across the care continuum, from [monitoring the tremors of patients with Parkinson's](#) to [helping women better understand changes in metabolic health](#).

These developments underscore the changing paradigm of how health is routinely measured and managed. The adoption of continuous, real-world biometric data has the potential to shift reactive, episodic care to something more uniquely optimized for longitudinal insights and early, personalized intervention^{7,8}. Early adopters in the healthcare space utilizing these data streams in conjunction with AI for analysis and automation are addressing some of the core issues with the traditional preventive care model⁹.

From Biometrics to Population-Level Insight

Prevention is generally predicated on modifiable behaviors and lifestyle factors—including, but not limited to, physical activity, nutrition, sleep, and stress—that collectively shape long-term health outcomes⁴. Some of the most prominent biometric indicators for noncommunicable disease mitigation include:

- **Heart rate and resting heart rate:** An integral signal of cardiovascular health and general fitness⁸.
- **Heart rate variability (HRV):** Indicates autonomic nervous system balance and adaptation to stressors¹⁰.
- **Sleep duration and quality:** Acknowledged as an increasingly important factor in metabolic health, cognition, longevity and recovery^{11,12}.
- **Physical activity:** Core factor in cardiovascular health and chronic disease reduction¹³.

- **Respiration rate and oxygen saturation (SpO2):** Pulse ox helps quantify sleep quality and general health^{14 15}.
- **VO₂ Max:** Considered the gold standard to evaluate aerobic fitness and all-cause mortality risk¹⁶.

For an individual, this data serves as a helpful reference for changes in health and well-being. But it also has the capacity, when aggregated and analyzed across a population, to provide powerful insights that can drive public health policy and systemic changes⁶.

- **Early identification in health trends:** Widespread, statistical variances in cardiovascular strain, stress and physical inactivity may serve as important datasets for health systems determining resource allocation and focus^{6 13}.
- **Real-world, complementary inputs:** Citizen science initiatives offer a valuable data source that, used in tandem with traditional clinical research, can yield unique findings for historically under-researched demographics⁵.
- **Evaluation of impact over time:** The continuous assessment of biometric data at scale helps inform policymakers and healthcare leaders about the efficacy of public health initiatives, supporting refined strategies and tactics in real time⁶.

Input to Action: Changing the Status Quo

The current healthcare model is largely based on isolated data points from patient exams and labs, relying on the expertise of a clinician to use this limited information to craft a diagnosis. This is, in part, why the growing demand on health professionals is straining an already over-burdened industry. For biometric data from consumer-grade wearables^A to ease pressure, rather than create an influx of patient requests for clinical validation, integration into medical workflows is essential⁹.

This is where the third-party digital health solutions of Garmin Health collaborators can bridge the gap between continuous biometric data streams and actionable insights informed by the expertise of professionals. The [Garmin Health Connected Ecosystem](#) (GHCE) offers the versatility of different wearables^A and integration methods, providing a degree of flexibility that enhances scalability and implementation.

The result is a proactive, personalized and continuous model of care that can help achieve the following:

- **Data translation:** Integrated systems, often incorporating AI, convert biometric information into clinically relevant indicators, highlighting deviations instead of overwhelming medical staff with raw data points⁹.
- **Seamless workflows:** High-quality data and insights are only useful if they are incorporated into existing clinical dashboards and systems, reducing the friction of multiple interfaces.
- **Prioritized, scalable intervention:** Passive but continuous monitoring allows providers to understand which patients are high-risk and in need of additional care, while still expanding population coverage⁷.
- **Closed-loop care:** As data is turned into insights and insights help lead to earlier intervention, the ongoing feedback loop can enable earlier detection, personalized responses and optimized outcomes⁹.

And, while healthcare is a major area of focus for innovative prevention protocols, similar benefits can be seen in insurance, gyms and fitness providers, employee benefits and research industries. In these settings, biometric data supports enhanced engagement, risk-informed decision-making and data-driven outcomes from programs built for efficiency and scale⁶.

GARMIN HEALTH USE CASES

National Taiwan University

Taiwan

Researchers from National Taiwan University have developed a mobile-assisted case management platform using GHCE data with digital questionnaires to support preventive mental health care. By combining continuous wearable biometrics—such as heart rate, sleep stages, and activity levels—with patient-reported inputs, the platform enables machine learning models to predict panic attacks up to seven days in advance.

This “heads-up” approach supports early intervention, while clinicians can define individualized biometric targets (e.g., resting heart rate of 55–60 bpm or at least 50 minutes of deep sleep). Together, the platform’s integration of high-resolution wearable data and analytics shifts care from reactive symptom management to proactive, personalized support for individuals with panic disorder.

University of Colorado and Mayo Clinic

United States

University of Colorado and Mayo Clinic researchers have leveraged the GHCE to build a foundational tool for studying physician burnout. This tool provides physicians with real-time visibility into their own physiological data. By tracking variables like sleep quality, daily step counts, and heart rate variability, clinicians can gain objective insights into their physical manifestations of stress. This increased self-awareness acts as an early warning system, allowing individuals to identify patterns of exhaustion before they escalate into chronic burnout. The study “Smartwatch Use and Physician Well-Being: A Randomized Clinical Trial” indicates that having access to this data significantly improves resilience and reduces the prevalence of burnout compared to those without wearable insights. Ultimately, future interventions could transform passive data collection into a protective resource that helps sustain long-term mental and professional well-being.

Vitality

Multinational

Powered by Vitality Active Rewards, Vitality’s behavior change program integrates GHCE data to drive preventive health through sustained, data-driven engagement. By combining continuous tracking of activity, sleep, heart rate, and other program inputs, the platform delivers personalized goals and incentives that encourage healthier behaviors over time.

This model has been associated with measurable improvements in engagement, including increases in average monthly exercise days from 10 to 14 in South Africa, 11 to 17 in the UK, and 8 to 16 in the US following device integration. These behavioral shifts can translate into meaningful outcomes, including a 39% lower mortality risk between least and most engaged members in the UK, a 46% reduction in cardiac-related healthcare costs, and a 47% improvement in retention among highly engaged (Platinum) members. Overall, the platform moves beyond passive tracking to enable proactive, scalable prevention through continuous data and incentive-based behavior change.

YourPrevention

Germany

The YourPrevention (yP™) platform utilizes the GHCE to make mental health more quantifiable through continuous, data-driven monitoring. By combining Garmin wearable biometrics—such as heart rate variability, day stress, sleep, and Body Battery™—with additional behavioral and contextual inputs, the platform analyzes trends over time to identify early indicators of stress and recovery imbalance.

These insights enable timely, personalized interventions, such as coaching or behavior adjustments, before symptoms escalate. By translating 24/7 biometric signals into actionable guidance, the yP™ platform supports a proactive approach to mental well-being, shifting from reactive management to early, preventive engagement.

LOOKING FORWARD: THE FUTURE OF SCALABLE PREVENTIVE CARE

Wearable technology is increasingly embedded in the everyday lives of people across the world^{5,6}. From athletes to office workers, retirees to active-duty service members, continuous biometric data is used to optimize personal performance and overall well-being. The next step is the integration of continuous, high-quality data streams into preventive care workflows, empowering an overtaxed healthcare system to adapt from treating the sickest, most expensive patients to addressing disease development before it reaches a critical threshold.

A paradigm shift is already occurring as information silos are removed, AI models become more adept at converting large amounts of data into actionable insights, and conversations around longevity and healthspan continue dominating wellness-centered industries⁹.

As research from Garmin Health collaborators continues to indicate, biometrics from consumer-grade wearables^A supply useful, important, and actionable data. Platforms leveraging the GHCE build on this foundation by integrating wearable biometrics into digital health interfaces and analytical systems, enabling more meaningful, real-world health insights.

Through this integration, these platforms move beyond passive data collection to support more continuous, insight-driven engagement—creating a future filled with increasingly proactive, personalized possibilities for preventive care.

^A Garmin wearable devices are consumer wellness devices and are not medical devices under the regulation of any jurisdiction, including Regulation (EU) 2017/745. They are not intended for the diagnosis, prevention, monitoring, or treatment of any disease. Any medical or clinical functionality described is provided by a third-party solution and is solely based on their interpretation of data gathered from various data sources.

ENDNOTES

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