

Transitioning From Wellness to Health: How digital wellness tools are impacting the healthcare landscape

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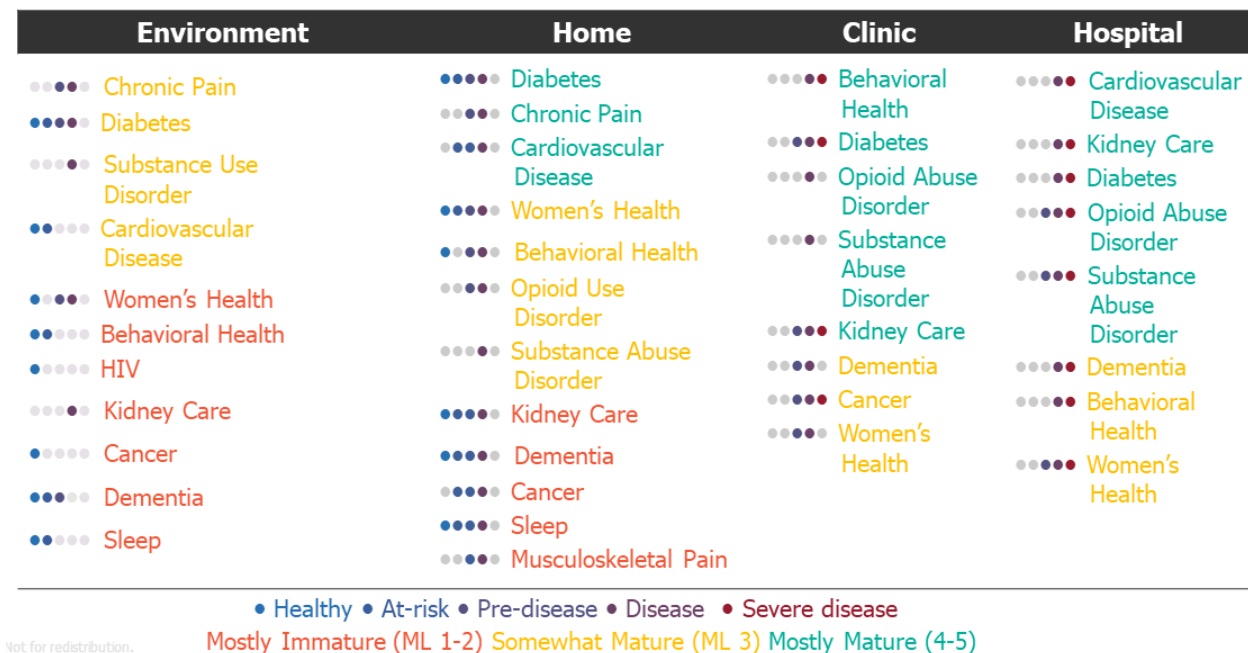
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Executive Summary

The current healthcare system of only treating disease as it arises unsustainably costs the global economy trillions of dollars each year. There is currently a necessary shift toward wellness as a form of preventative care. In this report, we define the traditionally nebulous space of wellness and highlight where shifting opportunities are allowing for nontraditional players to engage. **Wellness is a part of healthcare**, and by engaging with it, there are opportunities to form future strategies around disease verticals with solutions that are steadily becoming more mature.

The maturity of solutions that address both when and where care is provided



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The current health paradigms are untenable

Globally, healthcare systems are facing tremendous challenges. Healthcare spending exceeds trillions of dollars in many developed nations and continues to spiral out of control across the globe. As [established previously at Lux](#), a sharp rise in the prevalence of chronic diseases and the rise of the new middle class will not only add to these costs but also put pressure on existing healthcare resources. The pandemic in 2020 exacerbated the issues facing healthcare, especially as the long-term health effects of this COVID-19 remain to be understood.

In this report, we examine how the healthcare sector is seeing a paradigm shift that fundamentally affects how, when, and where healthcare will be delivered to consumers. We analyze the opportunities the shift holds for stakeholders.

Two emerging paradigms in delivering healthcare promise to address the pressures faced by healthcare systems

DECENTRALIZATION OF HEALTH (THE WHERE OF CARE)

Traditionally, care has predominantly been delivered in clinics and hospitals. As the number of people seeking care rises dramatically, be it due to a rise in the aging population, chronic conditions, or a richer middle class, it is not feasible for care to be delivered in a centralized manner.

Emerging technologies like [wearables](#), [biosensors](#), [digital biomarkers](#), and [artificial intelligence](#) are decentralizing the provision of care so that they can be delivered at home, at work, on the commute, or at the gym or the grocery store.

CONSUMERIZATION OF HEALTH (THE WHEN OF CARE)

Currently, the healthcare industry takes a triage approach whereby healthcare is delivered only when most needed by consumers and largely focuses on managing disease and associated symptoms.

However, a proactive approach is emerging that focuses on maintaining the health of those who are healthy and putting a premium on wellness over cure. Such an approach, again enabled by digital technologies like wearables, biosensors, and artificial intelligence, can go a long way toward keeping people healthy and thereby alleviating the pressures on the healthcare system.



The trouble with wellness

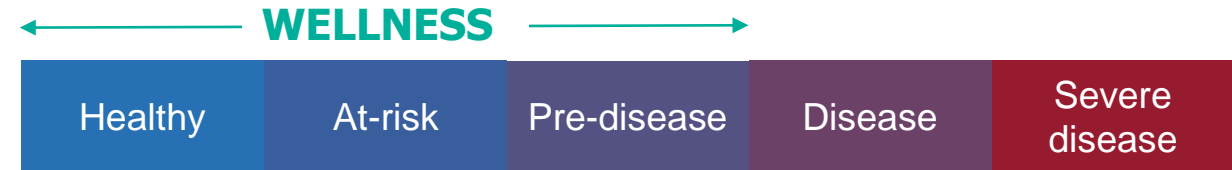
“Wellness” is poorly defined. It is often considered “lesser” than healthcare because it is not subject to the same regulatory scrutiny as traditional Western medical treatments. The Oxford dictionary defines wellness as “the state of being in good health,” but many wellness solutions shy away from the word “health” because they fear making health-related claims.

The glut of products that make unsubstantiated claims further undermines solutions that are demonstrated to support wellness, which are key to achieving and maintaining good health. This is a problem because, as we described previously, healthcare continues to be under tremendous pressure – a pressure that can be relieved only by helping populations remain healthy rather than defaulting to curing illness as it arises. While wellness is not totally independent of disease states (as wellness principles support the treatment of disease), a focus shift toward wellness coupled with lower regulatory hurdles makes for an ideal opportunity for nontraditional players to engage.



What is wellness?

Wellness is simply nonspecific preventative healthcare to help consumers stay healthy (see graphic below).



At Lux, we define any solution to be a wellness solution if it meets three key criteria:

- Supports evidence-based* approaches to care along the health spectrum⁺
- Demonstrated documentation of efficacy (i.e., some form of clinical validation)
- Falls within the categories of exercise, nutrition, and/or recovery (see next slide)

*Evidence-based medicine is a systematic approach to clinical problem-solving that allows for the integration of the best available research evidence with clinical expertise and patient values.¹

⁺Wellness also complements and supports the explicit treatment of disease states, although the focus of this report is on the early stages of the health spectrum.

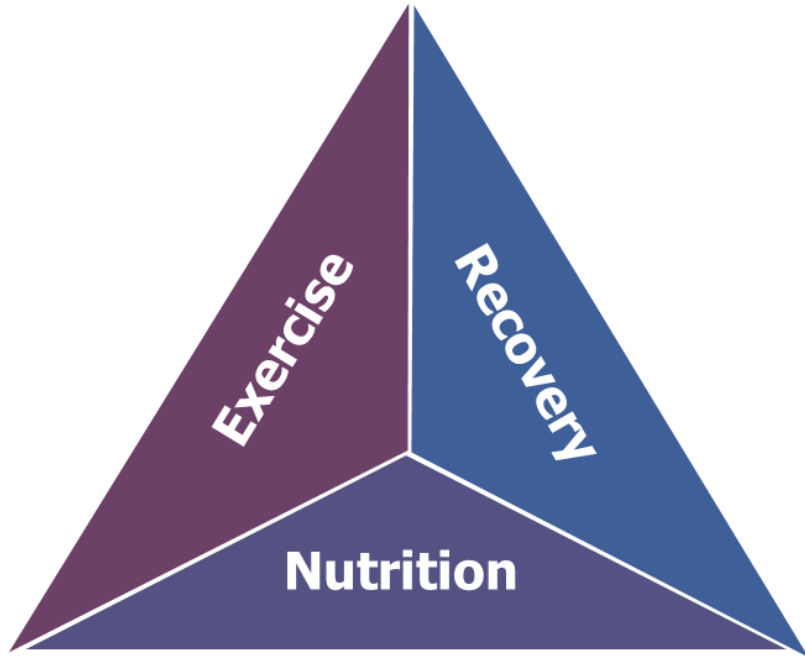
¹Sackett DL, Strauss SE, Richardson WS, et al. Evidence-based medicine: how to practice and teach EBM. London: Churchill-Livingstone, 2000

The three pillars of wellness

Wellness requires that both physical and mental states work together to keep a person healthy, which means using the right mix of exercise, nutrition, and recovery.

	Exercise	Nutrition	Recovery
Physical Wellness	<p>Activity level is a continuum that challenges the body to adapt, resulting in overall improvement or maintenance of health</p>	<p>Whole/fortified foods, nutraceuticals, and supplements alter physiology and metabolism directly or indirectly via the microbiome</p>	<p>Rest and recovery from stressors is critical for tissue repair, immunity, and restoring homeostasis</p>
Mental Wellness	<p>Activity is linked to reduced risk of emotional problems and improved sleep quality; exercise helps to increase mental alertness and improve energy levels</p>	<p>Dietary metabolism plays a crucial role in mood modulation through the gut-brain axis and is essential to the synthesis of neurochemicals responsible for regulating mood</p>	<p>Adequate recovery time from mental and emotional challenges supports mental health, resiliency, and vitality</p>

There is a great deal of interdependency among the three pillars of wellness



Despite the tendency for solution providers to look at exercise, nutrition, and recovery as units that can be addressed separately, the reality is that they are interconnected. Take the example of lifting weights. The exercise helps the body adapt and get stronger, and it is fueled by proper nutrition. However, the act of lifting weights increases blood flow, leading to greater uptake of nutrients. After the weightlifting session, adequate recovery is when the body can optimally use nutrients to repair muscle tissue and also when the actual “strength gains” of the exercise session happen.

Focusing on a single pillar is a missed opportunity to help consumers understand the role that a solution can play in their overall wellness. Demystifying wellness for the consumer can be a strong value proposition on its own.

INTERDEPENDENCY CAN BE A CHALLENGE OR AN OPPORTUNITY

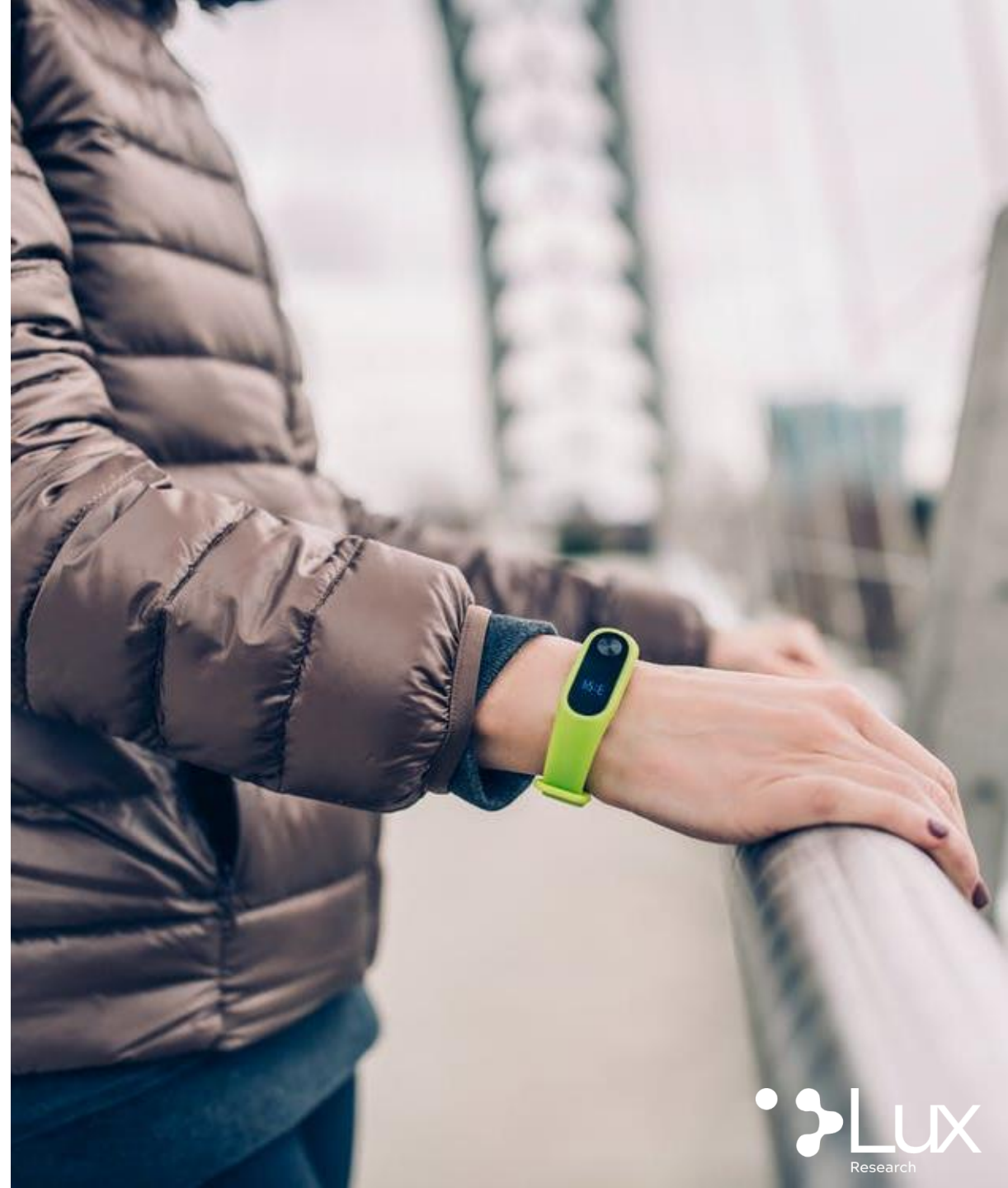
While the challenge of the interdependent nature of the pillars of wellness can be that it is impossible to separate the value of each pillar from that of the others, there is benefit to showing a multimodal approach in a solution. For example, Whoop makes a fitness wearable, which suggests a focus on exercise, but one of its key propositions is not just monitoring exercise but overlaying information about recovery for a more optimized wellness management experience. Leaning into how a product can support more than one pillar is an attractive proposition to consumers.

The key to building good wellness offerings is measurement and actionability

There are many ways in which wellness can be measured, both subjective and objective. Typically, only one pillar of health is assessed at a time, and measurements are tied to desired outcomes like weight loss. Increasingly, there is a need to validate improvements while the desired outcome is “in progress.” To meet this need, digital solutions are uniquely suited to collecting the data that can validate progress. Physiological metrics like increased heart rate variability (HRV), lowered heart rate, and sleep cycle patterns can all be used to develop digital biomarkers for validation and to indicate any changes that may need to be made in use. Validating a wellness offering for a consumer is a critical hurdle to successful market traction.

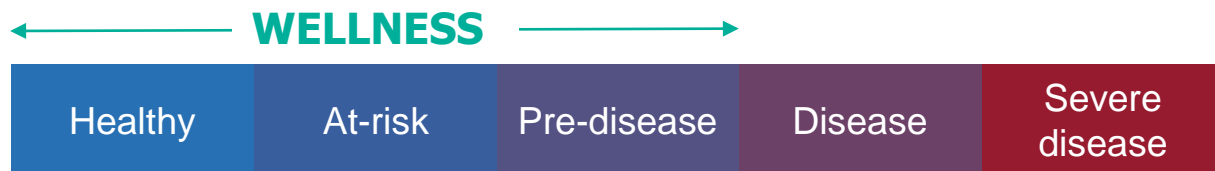
LUX TAKE

Regardless of the measurement method, a key value proposition is actionability. The measurement chosen must give users a sense of what action to take, which may mean confirming that their actions are on the right track or suggesting course correction.



Understanding maturity is critical to engaging in this paradigm

To participate in wellness, the emerging healthcare paradigm, clients should understand how digital health solutions are likely to mature. Toward this end, we have developed a complete maturity model for digital health across the entire health spectrum. Clients can use this maturity model to lay out a clear long-term strategic roadmap for digital health with intermediate milestones. This maturity model will also help companies to separate digital health solutions that are viable today from those that may be effective further down the horizon.



Use the digital health maturity model to plan a long-term strategy and intermediate milestones

Maternity Level	1	2	3	4	5
Healthy	People are responsible for manually logging and tracking data around health, and interpreting that data	Digital tools allow for both manual and automatic tracking of health data and act as data repositories	Health data is collected automatically, and the data is used to incentivize continued healthy behavior choices	Automatically collected data is used to predict scenarios around improving healthy habits and meeting goals	Collected data is used to automatically trigger different behavior modification tools to help users course-correct
At risk	People are responsible for modifying their own behaviors to course-correct	Digital tools make recommendations based on manually and automatically collected data	Distinct digital tools use behavior management to direct consumer behavior	Behavior management tools are built in as part of a wellness platform to help consumers course-correct	Platforms help direct and modify consumer behavior
Pre-disease	A “pre-disease” state is only identified through annual physical-based lab tests; people must modify their behaviors independently	Digital tools are used to manually and automatically collect data that can be used to inform physician conversations	Digital tools are able to identify a pre-disease state through digital biomarker development and identify ways in which consumers can course-correct	Digital tools are used to get earlier predictions on disease and make recommendations to users to modify behavior	Digital tools leverage both digital biomarkers and behavior management tools to automatically modify behavior
Disease	Information and tips on how to manage a disease are available on web sites and apps	Community boards and research message boards allow for information sharing and clinical trial awareness	Digital biomarker measurements and home testing allow for integration of real-time health state results to facilitate physician discussions	Platforms collect information from multiple sources and combine it with the latest validated research to integrate with the therapeutic approach	Digital platforms leveraging personal health information and test results combined with published research direct disease management automatically
Severe disease	Information on managing a disease is available on web sites	Apps and forums allow for matching to clinical trials and studies, functioning as support systems	Digital biomarker measurements allow for more data-driven physician discussions	Individual remote monitoring tools allow physicians to observe patient health and make treatment corrections	Remote monitoring platforms allow physicians to track health and remotely intervene as needed

Identifying opportunities in digital health and wellness

METHODOLOGY

On the following slide, we show how digital tools are impacting specific health indications. These tools vary in terms of maturity and, depending on the health indication, have varying levels of impact in terms of when and where they provide care. The underlying data for creating this chart was collected from a variety of sources, including:

- Academic literature reviews
- Primary interviews
- Press releases
- News publications

Opportunities lie in providing care in a decentralized setting and in the wellness realm of the health spectrum

On the Go	Home	Clinic	Hospital
●●●●● Chronic Pain	●●●●● Diabetes	●●●●● Behavioral Health	●●●●● Cardiovascular Disease
●●●●● Diabetes	●●●●● Chronic Pain	●●●●● Diabetes	●●●●● Kidney Care
●●●●● Substance Use Disorder	●●●●● Cardiovascular Disease	●●●●● Opioid Abuse Disorder	●●●●● Diabetes
●●●●● Cardiovascular Disease	●●●●● Women's Health	●●●●● Substance Abuse Disorder	●●●●● Opioid Abuse Disorder
●●●●● Women's Health	●●●●● Behavioral Health	●●●●● Substance Abuse Disorder	●●●●● Substance Abuse Disorder
●●●●● Behavioral Health	●●●●● Opioid Use Disorder	●●●●● Kidney Care	●●●●● Substance Abuse Disorder
●●●●● HIV	●●●●● Substance Abuse Disorder	●●●●● Dementia	●●●●● Dementia
●●●●● Kidney Care	●●●●● Kidney Care	●●●●● Cancer	●●●●● Behavioral Health
●●●●● Cancer	●●●●● Dementia	●●●●● Women's Health	●●●●● Women's Health
●●●●● Dementia	●●●●● Cancer		
●●●●● Sleep	●●●●● Sleep		
	●●●●● Musculoskeletal Pain		

● Healthy ● At-risk ● Pre-disease ● Disease ● Severe disease
 Mostly Immature (ML 1-2) Somewhat Mature (ML 3) Mostly Mature (4-5)

Outlook

1

Key defining paradigms in healthcare are changing, with an emphasis on the role of the consumer

While monitoring and managing of disease will always have its place, the focus in healthcare is shifting toward helping people stay well in their homes rather than triaging after people get sick. The consumerization of health also has an implicit shift in burden – with cost expenditures in terms of time, effort, and money shifting to consumers over traditional payers.

2

The lines between health and wellness are blurring

Leaning into building solutions that embrace the role of wellness in managing healthcare will be a critical play for nontraditional health players. Key to these solutions will be the ability to prove the value of these solutions to consumers with data-validated offerings that lend actionability to user decision-making.

3

Digital opportunities exist in untapped healthcare segments

While diabetes and cardiovascular disease have a fair number of targeted wellness solutions, there are still addressable segments around sleep, behavioral health, and other areas. Moving forward, wellness will be playing a greater role in both prevention and clinical care, so clients should be looking to which markets make the most sense for their offerings.



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