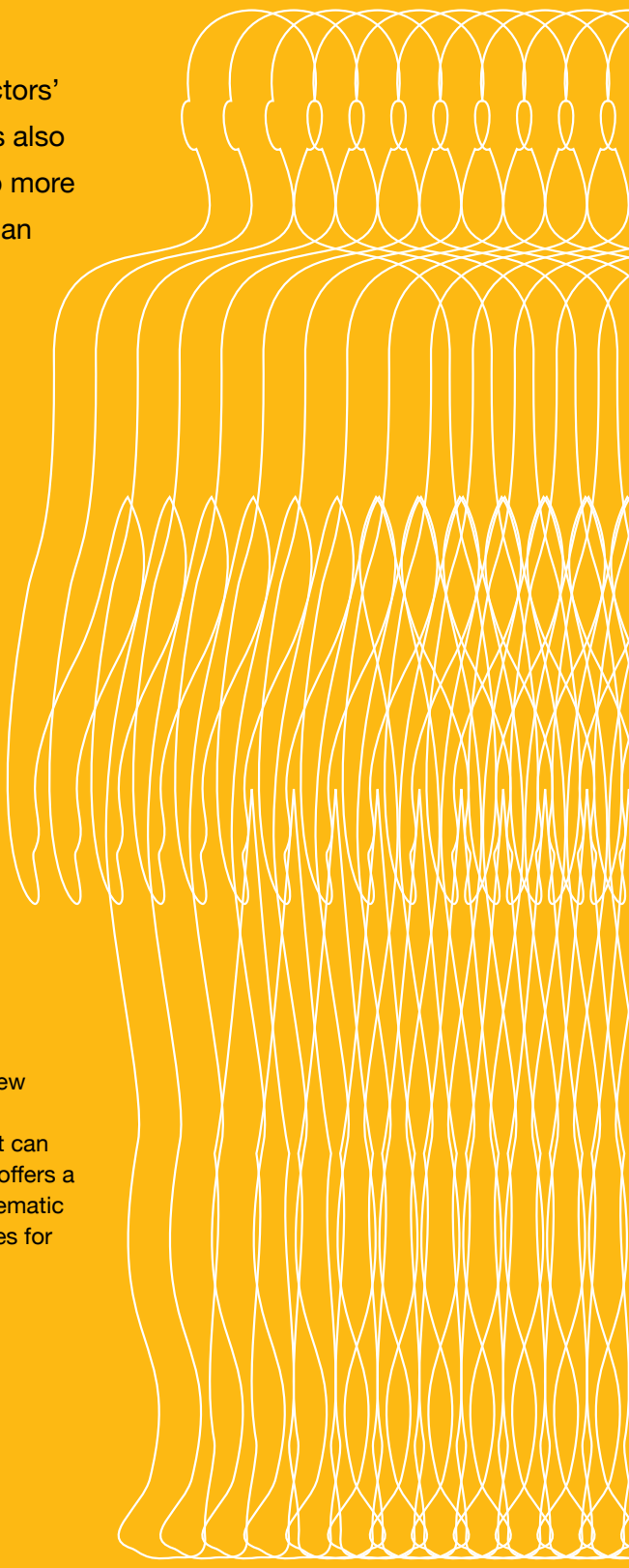
building capacities for well-being

FORECAST PERSPECTIVES



As practices in health and medicine move from hospitals and doctors' offices to more diverse areas of our lives, the meaning of health is also shifting. Purely pathological definitions of health are giving way to more elusive, personal concepts of well-being. This shift is opening up an expanded landscape where health interventions are not solely focused on mitigating risk but are also aimed at building our capacities for health, happiness, and satisfaction. Our evolving relationship with stress is an example of the shifting nature of health risks and capacities. Reducing stress improves emotional well-being and in the process, reduces blood pressure and risks for other diseases, making improved psychological well-being a means of improving long-term physical health. From the foods we eat to the neighborhoods we live in, we're increasingly structuring our lives around building capacities to improve health and well-being.

These broader concepts of well-being are emerging at the same time that advances in the life sciences are extending our abilities to treat illness and manage disease—not only in our bodies, but also in our social and physical environments. As the global population ages and more of us have to deal with chronic illness and obesity, we will need to consider how our evolving notions of well-being fit within the contradictory context of increased disease.

This year, the Institute for the Future's Health Horizons Program set out to systematically explore a future in which health interventions focus on creating new capacities. In the *Future of Science, Technology, and Well-Being* forecast map (SR-1309), we highlight a series of convergences in science and technology that can improve people's capacities for well-being. This series of forecast perspectives offers a deeper look at resources that can help us produce well-being. They offer a systematic framework for understanding how to create interventions based on our capacities for preventing illness, managing disease, and creating happiness and well-being.

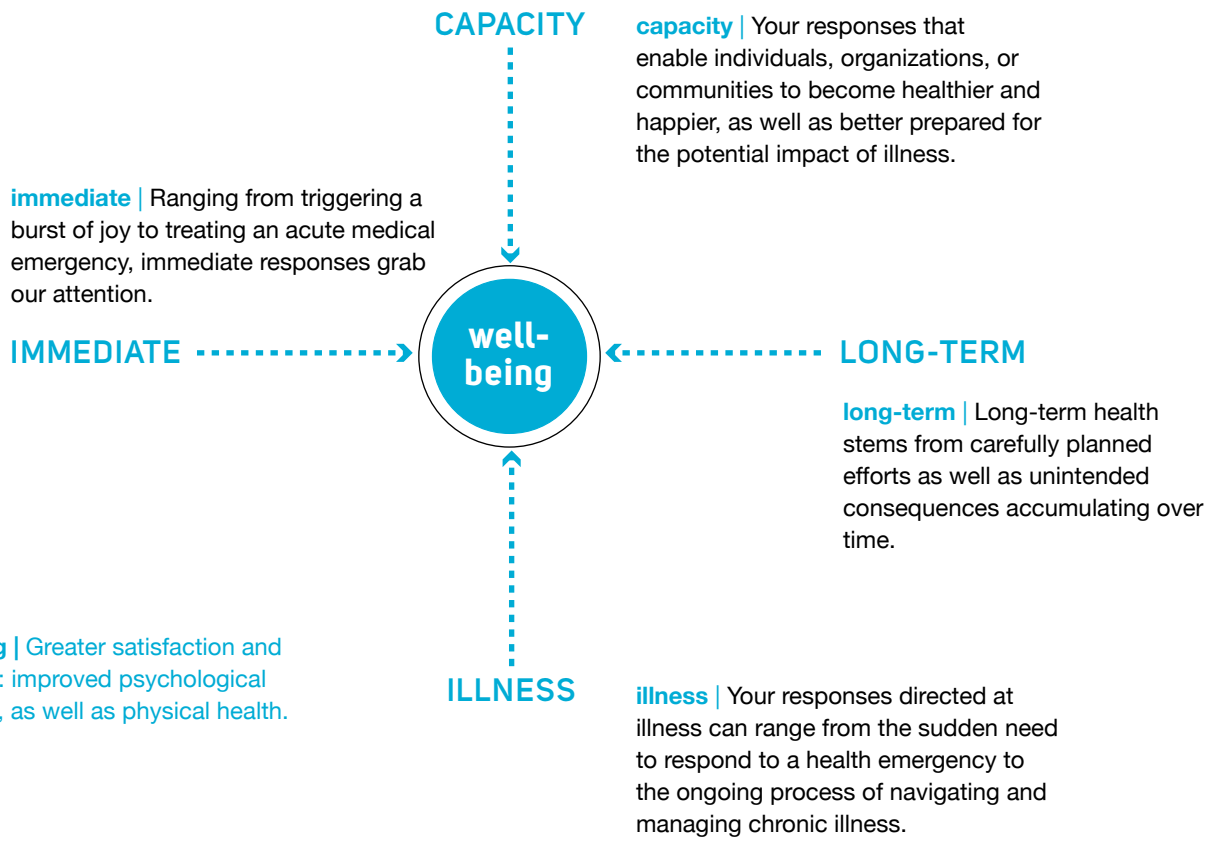
transforming our bodies and lifestyles

The statistics are startling—a billion people across the world are overweight, 700 million people worldwide will be over the age of 65 in 2020, and an estimated 130 million Americans suffer from chronic illnesses. We've transformed our bodies and changed our lifestyles in ways that discourage well-being; we move less and sit more, we cook less and eat more prepared foods, we spend more time indoors, and we are under more stress.

In the face of these troubling trends, our approaches to health and well-being have yet to evolve. We continue to rely on a health care system that's designed to treat episodic health problems even though our health needs and goals have grown well beyond occasional treatments to alleviate suffering. While this expansion signals a variety of new responses to improving health it also poses new dilemmas and challenges. The boundary between a new capacity and a physical or mental advantage over others is not always distinct. The landscape of our possible responses to this challenge has expanded (see figure below). For most of us, health goals extend beyond the absence of disease to involve creating and building well-being. And the practices, strategies, and interventions that focus on building our capacity for well-being may be quite different than those that focus only on treating illness.

Well-being Response Landscape

mapping actions in the global health and well-being economy



Source: IFTF

generating well-being responses

Responding in this expanded landscape creates new opportunities for developing a wider variety of products, services, and practices. You can use this framework as a tool for creating innovative responses that aim to improve the health capacities of individuals, networks, and environments.

The response landscape presents two apparent dichotomies: both illness and health capacities, and both immediate and long-term time frames. Although the components of this framework may seem like distinct areas, they influence each other. For example, our immediate daily food choices affect our long-term health.

As you work with this response landscape, you can begin to consider innovations that address both immediate and long-term well-being. You can also consider appropriate responses to the paradoxical relationship between increased disease burdens and expanded concepts of health that give the chronically ill greater avenues for improving their well-being.

ILLNESS

Your responses to illness can range from an emergency intervention to an ongoing process for navigating and managing chronic illness. The increase in chronic disease is already creating a shift away from episodic interventions to continuous care. In the coming decade, it will be essential to create responses that not only work on the level of the individual body, but also tap resources in our networks and the environment. Understanding an illness such as hypertension may seem like a quantifiable process, but a growing body of research shows that effective responses to hypertension can range from helping individuals with food choices to redesigning neighborhoods.

CAPACITY

Health capacities rise from a shift in thinking of health as simply a matter of risks and illnesses to thinking about health assets we can use to create short-term and long-term well-being. For example, we can create new health capacities by aiding the bottom-up efforts of residents in a food desert to improve access to healthy food, or by helping an elderly cancer patient decide how to navigate palliative treatment options in a way that allows more time with friends and family. We can view capacity-building responses as enabling individuals, organizations, or communities to become healthier and happier, as well as better prepared for the potential impact of illness.

IMMEDIATE

We tend to favor immediacy when it comes to rewards and underestimate the long-term impact of present-day behavior. For example, we know smoking is bad for us yet 20% of Americans still smoke, with the rate running as high as 50% in parts of Asia. A disconnect between immediate rewards and long-term effects is often a contributing factor in many illnesses. A strategy that uses immediacy to improve long-term health might include daily just-in-time text messages encouraging people to quit smoking.

LONG-TERM

Interventions that manage long-term health range from controlling blood pressure with medication to redesigning urban spaces in a way that encourages physical activity. In many cases, our responses and decisions will have lingering, long-term effects regardless of whether we consciously or systematically consider those effects.

As you consider your efforts toward improving well-being, keep this response landscape in mind. How are you responding today? And where do you want to be ten years from now?

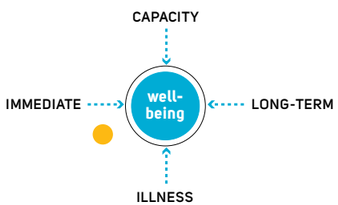
plotting responses, mapping actions

The sections below highlight the four major shifts described in this series of forecast perspectives. For each forecast, a key response strategy is mapped onto the well-being response framework below. Viewed individually, the responses offer examples of different strategies to build capacities for well-being.

Together, they point toward an expanded landscape for innovative ways to build health capacities in our bodies, networks, and environments. As you consider these forecasts and responses to the challenge of transforming our bodies and lifestyles, think about how you can develop responses that more systematically build health capacities in the next decade. How can you act in this expanded landscape to improve heath and well-being?

Forecast: Making Sense of Sensors

Sensors and sensor networks are not new; they already play a role in our health and well-being. Over the next ten years, sensors will become smaller and more pervasive, making possible more continuous monitoring and new understandings of our bodies and the world we live in. They'll allow us to see, at far greater resolution than currently possible, the factors affecting our well-being and the choices we make, as well as provide a view of our health at a cellular level.

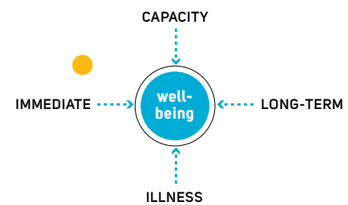


Response:
Manage chronic disease better with closer monitoring

The management of chronic illness will evolve as sensor technology proliferates and makes it possible for health care providers and even patients to continually monitor and track critical health information such as blood sugar levels or blood pressure. Access to these data streams may require rethinking what it means to manage illness on a daily basis—in the hospital, at home, or on the go. Data visualization tools and easy-to-use feedback loops will make our responses to changes in health indicators more immediate and effective.

Forecast: Tinkering Toward Innovation

The worldwide practice of tinkering—experimenting, repairing, and often failing—will become a fundamental source and driver of innovation in many areas, particularly for the social industries of health and well-being. The capacity of organizations to evaluate and streamline the global practice of tinkering will be critical for strengthening the innovation pipeline and improving both individual and collective capacity for health and well-being.

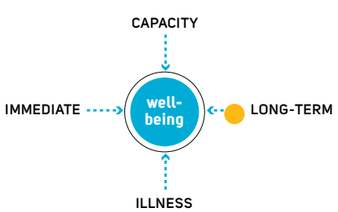


Response:
Encourage tinkering at all levels

Scientist, writer, and thinker John Seely Brown has argued that, in the digital age, tinkering is an essential mode of knowledge production. Networked tools and technologies enable not only individual tinkering, but also social tinkering that builds on the experiments of others. Instead of characterizing tinkering as a "weekend activity," we should consider it a core practice for innovation in the social industries and integrate it into the formal innovation process.

Forecast: High-Resolution Diversity

Our understanding of the differences among humans is evolving. Over the next decade, advances in science and technology will help us perceive our differences and similarities at the level of cells, molecules, genes, and brain patterns. These high-resolution views will provide insight into our biological health as well as our responses to chemical, social, and environmental factors.

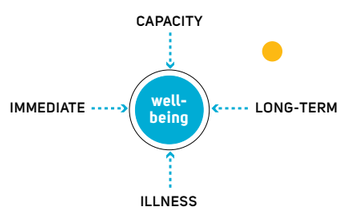


Response:
Personalize care and target offerings

As technological advances reveal meaningful points of diversity, opportunities to use this knowledge to personalize treatment of illnesses will expand. For example, advances in neuroscience will create new understandings of learning styles that we can use to encourage changes in behavior and promote targeted, more persuasive, and more effective health strategies. High-resolution techniques can also help us identify specific products, foods, and other factors that challenge our health.

Forecast: Embedded Health

In the coming decade we'll see the introduction of real-time filtering tools and feedback to curate information, choices, and options for advancing health and well-being. Individuals and groups will build their own custom filters and embed feedback mechanisms and rules into personal devices, local environments, and even bodies. These solutions will encourage people to stick with their long-term health goals by reshaping the context of their daily lives.



Response:
Understand the role of design in environmental health

Most of the research in environmental health focuses on the impact of pollutants and chemicals on the body. The near future will see interest move to the redesign of physical spaces to promote healthier behaviors and choices. Over the next decade, a better understanding of how social environments shape human information processing and health-related behavior will aid us in designing and building environments that promote well-being.

the future of science, technology, and well-being

This series of forecast perspectives is part of Health Horizon's year-long exploration of the Future of Science, Technology, and Well-Being. Developed as part of Health Horizons' research deliverables, they provide insight into how advances in science and technology enable new efforts at well-being. After you've surveyed the response landscape, you can begin to assess the impact of these developments on your work. From there, you can plan actions that take these long-term possibilities into account.

Below are descriptions of this year's research deliverables along with guidance for using them to inform your strategic responses over the coming decade.

2020 Forecast Map: The Future of Science, Technology, and Well-Being

This ten-year forecast map explores the exciting convergences shaping our responses to health challenges that open new scales of innovative action. Use this map to gain foresight into some of the possible convergences of advances in science and technology.

Forecast Perspectives: Building Capacities for Well-Being

This overview and series of four perspectives offers detailed forecasts on how we can increase our capacities for health and well-being. The series includes:

Making Sense of Sensors offers a comprehensive look at how measurement tools will enable us to continuously measure and understand health in our bodies, networks, and environments.

High-Resolution Diversity explores how advances in neuroscience and genetics will help us better understand meaningful diversity among people in order to improve health and well-being.

Tinkering Toward Innovation argues that the practice of tinkering will lead to iterative improvements that drive a new wave of social innovation in health.

Embedded Health examines new ways to curate and filter information in order to provide contextual cues to shape health choices.

As you consider these forecast perspectives, think about how you can develop your own responses aimed at building capacities for well-being.

Artifacts from the Future

A series of artifacts from the future depict how new products, services, and innovations will improve well-being for individuals, networks, and environments. Designed to provoke new thinking and make forecasts more tangible, use these artifacts to consider how innovative responses might fit into different contexts.

Response Innovation Deck

A set of cards that provides the building blocks of our forecasts, this deck explains many of the emerging science and technologies that can guide your actions. It also includes cards to help you consider how to develop more resilient and sustainable solutions. Designed to work in tandem with Health Horizons' *Strategic Action Toolkit*, this innovation deck can be used to identify new possibilities or to focus long-term strategic planning efforts.

About the …

HEALTH HORIZONS PROGRAM

We offer clients a deep understanding of the global health economy in the next three to ten years. The core of our work is identifying trends and discontinuities that will reshape health and health care systems, technology and the workplace, and human identity.

For more information about IFTF's Health Horizons Program contact **Dawn Alva** at (650) 233-9585 or **dalva@iftf.org**.