The Institute For the Future

NOVA contracted with the Institute for the Future (IFTF) to complete this map. IFTF is an independent nonprofit research group founded in 1980 by a group of former RAND Corporation researchers. IFTF is committed to building the future by understanding it deeply.

IFTF works with organizations to help them make better, more informed decisions about the future and provides the foresight to create actionable insights. It brings a combination of tools, methodologies, and a deep understanding of emerging trends and discontinuities to its work with companies, foundations, and government agencies.

Methods

To develop the trends depicted on the map, researchers from across disciplines worked together to identify the trends and discontinuities shaping the future landscape of health, information, communication, the workforce, and technology. IFTF combined futures research analysis with more quantitative research to provide a deeper understanding of the changing workforce landscape in healthcare.

In launching the project, the researchers consulted IFTF’s existing research projects, including: Future of Health and Health Care 2020 highlighting the pressing challenges facing health and healthcare, and key response strategies likely to shape change; The Future of Work looking at convergent trends in technology and how a new workforce, with new technological skills, waits in the wings; Mobile Health examining the explosion of ubiquitous mobile communication and computing opportunities with resulting opportunities for innovation in health management, service delivery and consumer/patient engagement; Open Health applying the principles of open innovation to the global health economy; Baby Boomers: The Next 20 Years exploring the transition of the country’s 77 million boomers from mid-life to later life over the next two decades; Bioctinium and Social Media introducing the concept of bio- logical citizens and examining how this transformation relies on advances in technology and social media; Personal Health Ecologies Framework outlining a broad set of resources, practices and strategies people leverage to support their health, make decisions, and interact with the health care system; Rethinking Disability arguing that the disability space is emerging as a major hot zone of marketplace innovation; and Ruby’s Request examining the future of caregiving in the United States.

Researchers infused a healthcare workforce focus with previous findings by applying a modified Delphi method to aggregate expert opinions and related assumptions, and built on experts’ ideas. IFTF and experts focused primarily on disruptive trends that would expand the traditional thinking around the future of Silicon Valley’s healthcare workforce and training strategies over the coming decade.

The purpose of the map is to spark new conversations about roles and employment opportunities that may open up in the health ecosystem of Silicon Valley over the next decade. Use this map as a conversation catalyst.

FUTURE FORCES OF CHANGE MAP: 2010-2020

TRENDS SHAPING THE HEALTHCARE WORKFORCE

This map of trends shaping the healthcare workforce in Silicon Valley 2010–2020 highlights key disruptive shifts in the technology and socio-demographic landscape, new ways that people will converge on and manage health and caregiving, and new intersections between health, the environment, and food.

The map is to help you think about the future of the healthcare workforce in engaging and constructive ways. The map’s forces of change indicate new concepts or patterns of behavior that will disrupt traditional assumptions about the future of health and healthcare in Silicon Valley and beyond. The influencing forces will demand new sets of worker skills and produce new workforce opportunities. The five identified forces of change are:

- Children’s health needs
- Collaborative caregiving
- Diversity redefined
- Green health
- Quantified selves

The convergence of an aging population, chronic disease burden, and the next decade’s changing technological landscape serves as the springboard for the disruptive forces of change identified on this map. These forces will change how one works within and recieves care in the healthcare system. Review and consider what this will mean to workers and patients.

For every forecast there exists a litany of potential implications; those below are by no means the only workforce implications possible. Focusing on the following five disruptive drivers of change for the healthcare workforce attempts to address the complexity of the future with a set of pointers that will help job seekers better prepare for what may be ahead. Please reflect on the below implications and consider them when planning actionable steps towards a future career in the healthcare workforce.

Children’s Health Commons

More community-based interventions will open up employment opportunities to prevent and reduce childhood obesity outside of formal healthcare settings and clinicians. There will be generative occupational focus, with jobs for specially trained fitness coaches to motivate and instruct children; nutritionists and cooking instructors, specialized in teaching the skills required to prepare nutritious, affordable family meals; and software and game designers to develop fun, engaging technological tools to encourage physical activity for the young and technologically-minded.

Schools will have to manage health conditions, emerging as a result of increased childhood obesity, such as diabetes. This will produce more jobs in schools and across communities to support health management for children’s chronic conditions. Already, California schools are required to have non-medical staff members trained to administer insulin and help children monitor blood-sugar levels. More ancillary positions will become available to support children in managing their health conditions in a variety of settings.

Collaborative Caregiving

Caregiving will be one of most important—and redefined—health roles of the 21st century. The role of the caregiver will be transformed—from the constantly needed nurse and housekeeper to a more intelligently applied companion. The subsuming of the roles and responsibilities of caregivers will allow for advances in technology to take care of the monitoring and maintenance aspects, and allow caregivers to concentrate on the more subtle, nuanced social support for those in need.

Early examples of this change already exist in the “dashboard” interfaces for nurses who remotely monitor the vital signs and daily self-reports of large groups of patients. Remote monitoring will demand caregivers with skills in data processing and identifying patterns out of a deluge of data. Additional opportunities will arise for those able to connect large health IT systems to sensor networks and personal monitoring technologies that people are using in their homes and assisted living situations. In the meantime, traditional caregiving roles such as healthcare aide and home health aide are projected to grow much faster than the average for all occupations.5

Diversity Redefined

Over the next decade, diversity will reshape the healthcare workforce and patient populations of Silicon Valley. In addition to medical interpreter and translator employment (projected to increase 22% between 2018 and 2028), an increased awareness of the differences in the norms, behaviors, and attitudes around the meaning of health across cultures will open up opportunities for community healthcare workers whose cultural back grounds and upbringings resemble those of the people they serve.4

Healthcare navigators will assist in determining the most appropriate care regimes by communicating healthcare provider needs as well as the circumstances and understandings of the patients. Increased transparency around persistent racial, cultural, and socioeconomic disparities in health outcomes will drive new supporting opportunities to aid medical professionals in determining the environmental, social, and economic realities of their diverse patient population in order to provide better care.4

Green Health

Increased attention from the healthcare industry to manage, monitor, and improve its environmental footprint will spur new demand for performance managers, evaluators and auditors to develop new metrics, collect data, and analyze the costs and the benefits of all green initiatives.6 In addition, the building, renovating and refurbishing of hospitals, assisted living settings, labs, and clinician offices will be heavily influenced by this trend of green health. Healthcare organizations will realize a new function as building companies, many with mandates to procure green materials and implement green processes. Inside hospitals, the trend toward forward, local, and organic food will flourish with in-hospital farmers markets and partnerships with small, local farms.7 An emphasis on locally sourced, health food choices will create staffing needs focused on developing localized supply chain, and new employment opportunities will open up in the reprocessing and remanufacturing of medical devices.8

Quantified Selves

Presently, large interorganizable clinical information systems are the focus of health information technologies (HIT) and information communication technology (ICT) systems. This oversights the growing practice of self-quantification. Increasingly, people track and measure themselves, from fitness to mood to chronic pain. With gadgets to monitor sleep, mobile apps to record food intake, and ever easier-to-use data visualization tools, individuals are leveraging strategies people leverage to support their health, make decisions, and interact with the health care system. Rethinking Disability arguing that the disability space is emerging as a major hot zone of marketplace innovation; and Ruby’s Request examining the future of caregiving in the United States.

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Workforce Implications

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future forces of change
2010–2020 trends shaping the healthcare workforce

Drivers of change are major forces of transformation that will shape the future of healthcare and workforce opportunities in Silicon Valley. These distinct directional shifts point to new concepts or new patterns of behavior that will disrupt traditional narratives and assumptions about the future of health and healthcare over the next decade.

Workforce implications describe how the drivers of change will open up new workforce opportunities to respond to the expanding needs of Silicon Valley.

Help wanted ads from the future suggest new roles and functions that might emerge in the future healthcare ecosystem. Imagine the possibilities of occupations that do not exist today but could exist in some form in the future.

Signals are examples, or early indicators, of the changes described by the drivers of change.

Pace of change reflects the speed at which the drivers will evolve, mature, and spread throughout Silicon Valley between 2010 and 2030. near-term = 0–3 years mid-term = 3–5 years long-term = 5–10 years

An aging Silicon Valley
San Jose population growth by age group 2007–2030
near-term = 0–3 years mid-term = 3–5 years long-term = 5–10 years

One in five Bay Area children overweight
18.2 to 23.2%
23.2 to 25.8%
25.8 to 30.5%
30.5 to 35.1%
Source: www.noharm.org

Quantified selves
People will be tracking, visualizing, and analyzing their fitness levels, chronic pain, sleep, diet, and other factors, and health-care providers will be looking for support in integrating this patient-generated data into clinical HIT infrastructure.

Sustainability initiatives—from the design and construction of green hospitals, to the greening of pharmaceuticals, medical, and cleaning supplies, to green sourcing of food and beverage offerings within a healthcare setting—are sprouting up across the healthcare industry, and new metrics and accounting structures will be required to demonstrate their efficacy.

New organizations advocate for health and sustainability

job seeker of the future

healthcare workforce
future forces of change

Workforce implications

- Near-term needs for supporting occupations will include: medical interpreters and translators, and trainers and counselors in culturally agile care.
- Awareness of the differences in the norms, behaviors, and attitudes among the香港 of health-care opportunities for people with diverse backgrounds.
- Navigators will bridge the needs of providers and the circumstances of the patient to help determine the most applicable care regiments.

School Chronic Care Liaison
To administer insulin and help children monitor blood-sugar levels during the school day

School Chronic Care Liaison

- Near-term needs for supporting occupations will include: home health aides, personal assistants, health data analysts, and IT technicians.
- Caregivers will be needed to monitor the sensor data from multiple patients to ascertain when in-person support is required.
- It will support will be essential to integrate internal IT infrastructure with external sensor networks and personal health technologies.

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