The Healthcare Mandate

How to Leverage Disruptive Innovation to Heal America's Biggest Industry

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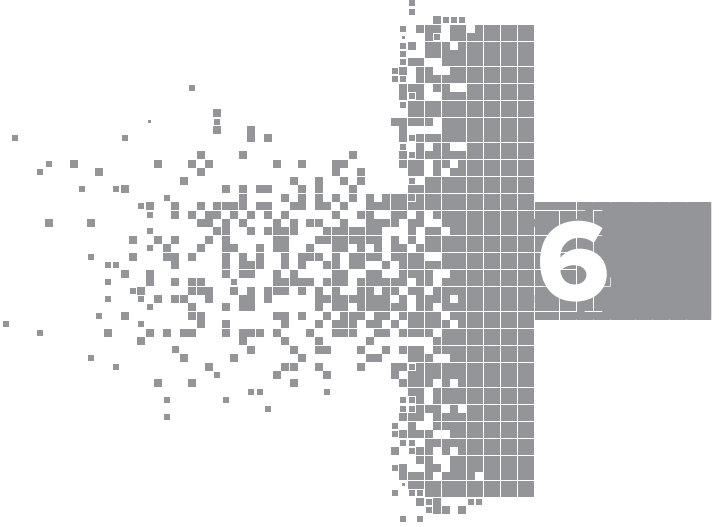

The Six Steps of the Big Shift

It's no secret that your constituents—the people in your community or practice for whose health you are responsible—are feeling and behaving more like consumers of a service. They no longer look at healthcare professionals as demigods who deserve to be treated with awe and deference. When they get sick or break a bone, they want prompt, friendly treatment. They want to be in and out of the hospital or doctor's office as quickly as possible after undergoing a safe and effective cure. They don't want to be lectured about their weight or smoking, even though they should be. They want the doctor or nurse practitioner to fix their problem at a reasonable cost and send them home.

In recent years in the industry, there has been increasing awareness of the consumerization of healthcare. Medicine is becoming proactive and is meeting constituents on their own turf, so to speak. As a service that's anticipatory and preventive, it will leverage the unique biology, genomic profile, life history, and environment of constituents to help them stay healthy, assess their probability of developing disease, pinpoint emerging symptoms, and then (if necessary) design appropriate treatments while the disease is easily contained.

The Big Shift represents the increasing *personalization* of medicine—the ability to see and analyze the individual patient's unique behaviors,

genetic makeup, and environment to customize the healthcare provider's approach to lifelong wellness.

The Big Shift in healthcare is being driven by technology, in particular the emerging ability to gather a steady stream of real-time measurements on the individual constituent. The challenge will be to take this growing flood of data and turn it into actionable information about health and disease. This new approach is disrupting the existing healthcare industry. It's becoming clear that the business plans of every sector of the healthcare industry are being entirely transformed.

Here are the six steps of the Big Shift.

1. Anticipate

With biomedical sensors monitoring the body's component systems, unusual or unforeseen variations from homeostasis can be detected before either the constituent or caregiver is aware of symptoms. By identifying those changes at the molecular level and combining that data with the constituent's genomic information, medical history, and environmental data, the constituent healthcare operating system module will be able to predict when an anomaly in a biological network represents either a shift toward poor health or progression to disease. As the capabilities of such instruments are improved—as history has shown will be inevitable—the proteins and other components in blood will reveal the health status of every major organ in the body, enabling accurate predictions of disease causation and progression and alerting primary caregivers and specialists to take action.

Anticipation of disease can also be made at the macro-level, by using data to identify and track health trends emerging within a population—for example, a rise in the rate of obesity or the emergence of an infectious disease. This data can be cross-referenced to data from the constituent to identify if he or she is at risk.

2. Identify

Not every anomaly in a constituent's health data stream represents a disease or decline in the quality of the constituent's health. The constituent should not be unduly burdened by "false alarms." If the constituent is notified of a potential problem and then hurries to the doctor, only to discover that the information didn't warrant intervention, then he or she will learn to ignore such messages. A key driver of the Big Shift is our increasing ability to parse data and extract information about a condition that represents a threat to health.

Disease comes from a variety of sources, including communicable diseases (such as HIV/AIDS), noncommunicable lifestyle diseases (diabetes), and psychological diseases with a physical manifestation (anorexia nervosa). With advancing age and/or manifestation of chronic disease and comorbidity, functional and physiologic health will decline. Aging is associated with increases in the likelihood of chronic diseases and comorbidities, thereby intensifying their negative effects on health and well-being.

More quality data means better anticipation and identification. Internal data from the genetic, molecular, cellular, and organ levels provides indicators of early signs of diseases. Genetic data will reveal any predispositions to disease that may align with the internal data. Environmental data, such as the presence of toxins in the soil or water, adds to the mix, as well as allowing the formulation of appropriate public policy and individual screening.

For example, if a constituent's data sensors show elevated levels of arsenic in the body, the central module or "brain" (which I'll describe in the pages ahead) will instantly check for any evidence of pollution in the groundwater or public water supply. Let's say the data sweep reveals news articles describing a local mining operation that has been accused of polluting groundwater with toxins including arsenic. With this evidence, the constituent's primary care physician will contact the constituent, inform the constituent of the data point, and ask from what source

the household gets its water. If the constituent replies, "City tap water" (which is known to be safe), then the search for the source needs to continue. If the constituent replies, "From our well," then a plan of action can be drawn up, which will begin with testing the well water while urging the constituent to drink only bottled water.

3. Prevent

The ability to anticipate and identify an emergent disease will in turn make it possible to prevent or minimize the effects of the disease, limit its severity, and lower the cost of treatment. The approach recognizes that individuals respond very differently to drugs and other types of medical interventions, as well as to lifestyle factors such as food, activity, and sleep.

It has long been known that the DNA differences between individuals contribute not only to their unique physical characteristics but also to their differing susceptibility to disease. It's become possible to sequence an individual's genome quickly and inexpensively, providing the healthcare professional with a wealth of information on the susceptibility of the constituent to genetic diseases and aspects of gene expression. Caregivers will be able to take into account how each person's DNA, environmental exposures, and life experiences will influence the person's biological systems. The result will be personalized predictions of disease and personalized responses to disease.

4. Empower

Empowerment has two faces.

One is that your constituents are increasingly accustomed to questioning the medical establishment. They are behaving less like patients and more like consumers. They don't want to sit in the waiting room for

an hour. They don't want to call the medical center and be put on hold or sent to voicemail. They have choices—for many medical procedures, they can even go to a foreign country for treatment at a lower cost. In 2016, over 11 million travelers left the United States in search of affordable healthcare. A recent report by Visa and Oxford Economics stated that this figure will grow by up to 25 percent every year for the next decade as the competition among countries for health tourists becomes increasingly intense.

Constituents looking for cosmetic surgery can fly to Brazil. For dentistry, they go to Mexico. Panama, Costa Rica, India, Turkey . . . the list of competitors to US healthcare providers is long. As a healthcare executive, you may have thought that contracting with a medical lab in India to read x-rays at a fraction of the cost you paid the lab in the US was a right reserved for the industry. Guess what? Your constituents are thinking just like you. They're saying, "Why should we pay top dollar for a medical service when we can get the same quality in India?"

The second face is that medicine has a longstanding tradition of taking a top-down approach, whereby an expert diagnoses and treats the individual. This approach may be appropriate when infectious diseases and acute injures are the main health concerns. If you slip a disc in your back, you want to place yourself under the care of a skilled orthopedist. If you get HIV/AIDS, you want the drugs that will defeat the virus. But with chronic lifestyle diseases now being the primary health crisis, the new approach involves the constituent and his or her family actively participating as primary stakeholders in the care being given.

If a patient breaks a leg, it's pretty easy for that patient to follow the doctor's orders and hobble around in a cast. But for a patient who has prediabetes, active participation is key to returning to good health.

With the service of ubiquitous digital devices, constituents will take the lead in collecting their own health-related data. Empowering individuals to interpret the collected data gives them tools for early detection of signs of diseases.

5. Unify

The approach of the heathcare mandate is that the healthcare industry and the unlicensed wellness industry should be *one and the same*. The goal is to *unify* wellness and healthcare, and there are two important reasons for doing this:

1. As a healthcare provider, you need to be involved with your constituents in every aspect of their wellness. You do not want your constituents to be participating in a vast and generally unregulated wellness industry—following diets, taking supplements and medications, listening to wellness gurus—without your participation and oversight.
2. Your constituents are consumers who expect a seamless healthcare experience. They want to come to you and discuss a problem without having to transfer files, produce records, or bring you up to speed on their efforts to stay healthy. They want one-stop wellness/healthcare shopping.

"Healthcare" and "wellness" should be synonymous. They should not represent two different spaces. *Staying healthy* and *being cured of disease* are two sides of the same coin. The same system can, and should, serve both needs.

Consumers don't care what we call it. They just want to live a happy, healthy life. They don't care if the person helping them is in the wellness industry or the healthcare industry. That's a distinction we've created through legislation and tradition.

The healthcare mandate is also the wellness mandate. But for simplicity in discussing the issue, we're using the term "healthcare" to encompass both.

Having said that, looking at the healthcare mandate from the dual points of view of the consumer and the healthcare provider, we need to break down the barriers of the various healthcare/wellness fiefdoms and

provide a frictionless consumer experience. Other industries work very hard to do this, and the healthcare industry should also.

In the old days—like the twentieth century—communication between members of a healthcare team was a cumbersome process. If you're old enough, you remember when your patient file was literally exactly that—a bulging file folder full of papers and x-rays. If you went to a specialist, your file had to be copied. Every practitioner had his or her own silo, and it was tough to coordinate efforts.

It was also incredibly easy for patients to go "doctor shopping" to get meds because one doctor had no idea of the patient's history with another.

The advent of digital records changed all that—to a point. Information flows more easily now, and will in the future; but human attitudes are slower to respond. Professionals in the healthcare industry still have the impulse to protect their own turf. Meanwhile, constituents only want results. And for the price they pay, it's understandable they get frustrated with poor service and red tape.

We have the opportunity to change that and to make healthcare as seamless as what the consumer experiences in any other industry.

6. Incentivize

Under our current system there's very little incentive for professional healthcare providers to focus on wellness as opposed to treatment. The big profits are in treatments that require advanced technology and pharmaceuticals, as well as the services of specialists.

The family doctor—who for generations was the frontline healthcare provider and the person who knew the most about the health of a family—is an endangered species. According to MarketWatch, there's significant financial incentive to avoid the traditional vocation of a family doctor. While primary care physicians make between $177,370 and

$231,107 a year, orthopedic surgeons make more than double, between $374,550 and $616,360 a year.

These differences are not just a matter of a doctor wanting to get rich. According to the Association of American Medical Colleges, in 2018 the average student loan debt for four years of medical school, undergraduate studies, and higher education was $196,520. For dental school, it was even higher: $287,331.

Young doctors are under pressure to earn. "With a $197,000 student-loan balance, you would owe $2,212 a month on the standard, 10-year federal repayment plan, assuming a 6.25 percent average interest rate," according to a calculation by the personal finance site NerdWallet.[1]

Primary care physicians must deal with the time and expense of managing their practice. Doctors who leave medical school with significant student debt may opt for the stable income of a job in a hospital, with the prospect of advancement.

As Walter W. Rosser, in his article "The Decline of Family Medicine as a Career Choice," asked: "Why would anyone choose a medical career with an excessive workload, an unclearly defined role, information overload, and the lowest pay? Many specialties have a clear definition of tasks and knowledge requirements and appear to provide more academic opportunities."[2]

In the United States, the per capita supply of primary care physicians is dropping. According to the article "Association of Primary Care Physician Supply with Population Mortality in the United States, 2005–2015," by Sanjay Basu and others, between 2005 and 2015 the per capita supply of primary care physicians decreased from 46.6 per 100,000 population to 41.4 per 100,000 population, with greater losses in rural areas. Because, as the research has shown, primary care physicians are very good at saving lives, there is a negative impact when there are fewer of them. Basu and coauthors found that every 10 additional primary care physicians per 100,000 population produced a 51.5-day increase in life expectancy. In contrast, 10 additional specialist physicians per 100,000

population produced a 19.2-day increase in life expectancy. The positive impact of specialists, who are more expensive than primary care physicians, is less than half that of primary care doctors, who are closer to their constituents and are likely to see them in both sickness and in health.[3]

Too many of the proposed "reinventions" of our healthcare system don't address the daunting question of "Who's going to pay for this?" Until we figure out a way to make the business of constituent wellness as attractive and remunerative as becoming a medical specialist, we're going to be stuck with our current broken system.

Wellness Creates Wealth

The fact is that *wellness creates wealth*. Not for pharmaceutical companies or hospitals, but for society as a whole. To look at one narrow example, studies show that healthy employees are more productive than unhealthy ones, and productivity translates into increased societal wealth. Healthy employees are better at staying focused, handling tasks, and saving their companies money. Enhancing their well-being can lead to drastic improvements in their performance.

As Standdesk.co reported, a study by Brigham Young University (BYU) found that absenteeism is reduced by 27 percent in employees who maintain a good diet and exercise regularly. Companies that invest in wellness get a solid return. For example, SAS (previously called Statistical Analysis Systems) offers programs including recreation centers, swimming pools, and on-site healthcare. It also offers its employees unlimited sick days, but on average, employees only take two per year.

The BYU study found that employees who eat healthier are 25 percent more likely to have increased performance throughout their day. And a study by the World Economic Forum and the Harvard School of Public Health found that employees with healthy habits were 3.1 times more productive than their unhealthy peers.

Exercise releases endorphins through the body, which improve cognitive function, making employees more alert and less likely to have accidents or be mentally disengaged.[4]

Company wellness programs are designed to change the behavioral patterns that can lead to chronic illnesses like asthma, cancer, obesity, heart disease, and diabetes. When employees change their behavior, employers see lower healthcare costs. A study by the University of Louisville found that changing certain unhealthy behaviors decreased the average number of health risks among employees from five or more health risks to zero to three risks. Every dollar invested in a wellness program generated seven dollars in healthcare savings.[5]

Healthy employees are productive employees, but to get the best results, corporate leaders need to ensure that wellness programs are all-encompassing. It's a very simple formula: The more they invest in their employees, the more they get back.

TAKE ACTION!

- Your organization needs to know and invest in the six steps of the Big Shift:
  1. Anticipate
  2. Identify
  3. Prevent
  4. Empower
  5. Unify
  6. Incentivize
- The wellness industry and the healthcare industry will, and should, become one and the same, and healthcare leaders need to plan accordingly. There are two important reasons for doing this: healthcare providers need to be involved with their constituents in every aspect of their wellness, and constituents are consumers who expect a seamless healthcare experience.
- As public policy, we need to encourage future doctors to become primary care physicians who are charged with "case-managing" their constituents.
- Wellness is not only morally good; it's good for business. Wellness creates wealth for society as a whole. Keeping employees healthy is not an unrecoupable expense; in fact, it provides a solid return on investment.

About the Author

Nicholas J. Webb is a preeminent healthcare futurist, professional speaker, award-winning inventor of medical devices, and author. He works with some of the top healthcare organizations—including Pfizer, Blue Cross, Siemens Healthcare, the American Hospital Association, and the American Academy of Dermatology—to help them lead their market in enterprise strategy, patient experience, and innovation. He has been awarded over 40 patents by the US Patent and Trademark Office, and he has invented one of the first wearable technologies and one of the world's smallest medical implants. He is the founding Chief Innovation Officer of the Center for Innovation at Western University of Health Sciences in Pomona, California, where he also serves as an adjunct professor of innovation.

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