



Delta

Volume 2

*Perspectives on the Future of
Health by HDR*



CHANGING MODELS

With foresight and awareness, leaders can pull the right levers to flip the system.

CHANGING DRIVERS

Technology should enhance—not drive—the fundamentally human experiences of healthcare.

CHANGING CONNECTIONS

How personal and community health are improved through the concept of connectedness.

Health Design at HDR

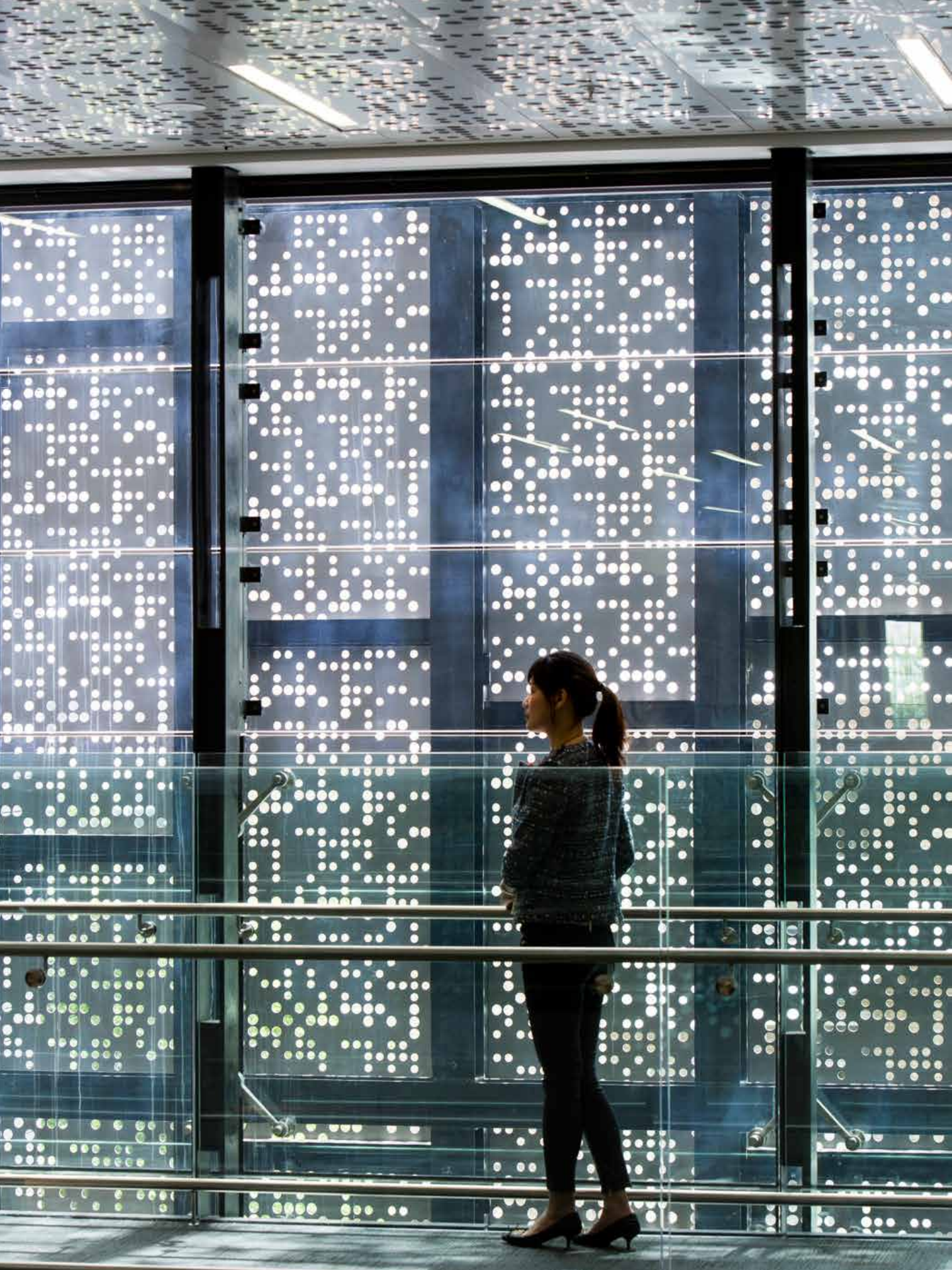
We believe that every healthcare environment should be as unique as its context. That's why we embrace a deep understanding of our clients' missions and then design with empathy for patient, family and staff experience. We've worked on hundreds of healthcare facilities in rural, suburban and urban settings. Our portfolio includes outpatient clinics, small community hospitals, large public safety net facilities, academic medical centers and, most recently, community designs with health and wellness values at their cores.

We help our healthcare clients across the globe imagine the future. We explore the strategies, services, products and environments needed to influence it, always remembering that innovation comes in all shapes and sizes.

About Us

For more than a century, HDR has partnered with clients to shape communities and push the boundaries of what's possible. Our expertise spans nearly 10,000 employees, in more than 200 locations around the world—and counting. Our engineering, architecture, environmental and construction services bring an impressive breadth of knowledge to every project. Our optimistic approach to finding innovative solutions defined our past and drives our future.





change

verb

- to make different in some particular : alter
- to make radically different : transform
- to give a different position, course, or direction to

Adverbs frequently used with change:

completely, considerably, dramatically, drastically, fundamentally, radically, significantly

Contents

— CHAPTER 1

The Transformation of Healthcare

How to Pull the Levers for the Most Profound Impact

11

— CHAPTER 2

End-to-End Experiences

How Healthcare Can Reach Its Digital Nirvana

31

— CHAPTER 3

The Value of Placemaking in Healthcare

How the Built Environment Can Impact Human Behavior

49

—

Trends Affecting Healthcare

How External Forces Can Influence the Future of Healthcare

73

There's little about doing business today that's easy. **Change is the new normal.** Competition comes from all directions. Start-ups are displacing established industry giants. Once-coveted offerings are transforming into commodities and vice versa. Consumer needs are elusive and constantly evolving. Creating the new is harder than ever when you don't know what to create and conventional problem-solving methods only lead to incremental improvements.

New challenges require new tools and methods—and a sound strategy that’s grounded in solutions to simultaneously meet organizational and human needs.

We’re a global design firm that works with diverse clients in healthcare and many other industries. As design strategists and practitioners, we’re in the business of manifesting transformative ideas. We’ve experienced firsthand the power of these kinds of ideas, and we’ve developed a rigorous approach to help execute them.

And that’s where this book comes in. It builds on the premises put forward in the inaugural publication in this series—Delta Volume 1—about how to respond to increasing unknowns in the industry while encouraging future-focused innovation. We’ve written this second edition to focus on ideas that hold great potential for transforming healthcare delivery.

Our ideas are generated by a collective of individuals who have different backgrounds and experiences that coalesce around a unique mission: To improve health through inspired design. And while our roots are in architecture, we know that great healthcare design isn’t just about creating a beautiful building. It’s about beautifully designing a strategy, a process, a technology or an experience that transforms healthcare delivery in ways big and small. Our team includes nurses and health system executives, industrial engineers and economists, experience designers and data scientists, sustainability champions, interior designers, landscape architects and urban planners, along with architects, designers and others who strive to catalyze change.

Change comes down to people designing better solutions for other people. It’s about seeing the world through a different lens, and exploring healthcare from a different angle. It’s about shaping the world around us to improve the healthcare experience and, ultimately, health outcomes. It’s about accelerating transformation by sharing ideas with those who can take the seeds and help them grow.

It’s about helping organizations just like yours to innovate and transform to make a lasting impact on the lives of the people you serve.

—Let’s get started.

Storytellers

Caroline DeWick
Tom Lee
Amy Lussetto
Kaia Nesbitt
Susanne Pini
Roberto Seif
Beth Zacherle

Creative Director

Dylan Coonrad

Choreographers

Katie Sosnowchik
Paula Brammier

Scribes

Lou Ann Bunker-Hellmich
Troy Parks

Supporting Cast

Hank Adams
Chris Bormann
Scott Foral
Jim Henry
Tom Trenolone
Joel Worthington

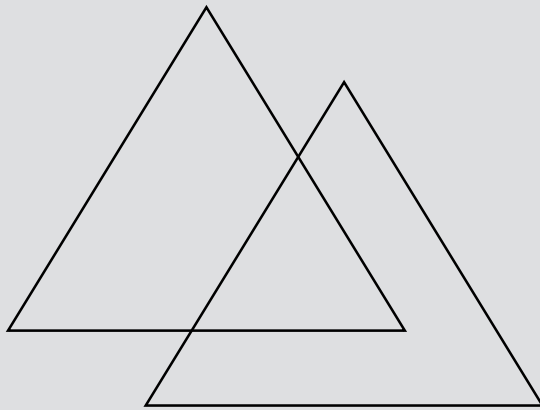
Co-conspirators

Ashley Tucker
Zachary Brewster
Cally Larsen
Amy LaMar

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Two-Minute
Chapter Summaries



The Transformation of Healthcare

How to Pull the Levers for the Most Profound Impact

The term “transformation” has gained immense popularity over the past 20 years as organizations have learned to embrace and master digitization, automation and, most recently, social networks. They’re using the term to describe how technology has and continues to leapfrog obstacles to size, scale, speed and efficiency.

But beneath these massive upgrades, underlying business models aren’t changing. And that’s what’s required for a full-scale metamorphosis—like a caterpillar emerging from the cocoon as a butterfly. Business transformation in its absolute sense should be understood in terms of ideas, systems and methods that don’t simply *supplement* an existing operating model, but in most instances *supplant* it.

The need for transformation is becoming an exigent priority for healthcare executives because the healthcare system, as it’s configured today, is unsustainable and ill-equipped to handle market pressures. These include a push for affordability, addressing lifestyle-related illnesses, solving for maturing consumer expectations and the role and influence of technology in people’s lives. By studying systems theory, we know that transformation in healthcare can happen not by enhancing the components of the system—facilities, staff, tools, etc.—but by focusing on its other parts: purpose and relationships.

The downfall of Blockbuster and rise of Netflix provides a great example. In four short years, Blockbuster went from the undisputed retail leader in movie rentals to bankruptcy

because it never stopped seeing itself as a retailer in a time when e-commerce and digital streaming began to reshape consumer behavior. Netflix, on the other hand, embraced the promise of streaming as a major opportunity. It deliberately initiated a transition from its original mail delivery model toward digital distribution, thus redefining the purpose and the relationships of the system itself.

How can healthcare organizations begin the transformation process?

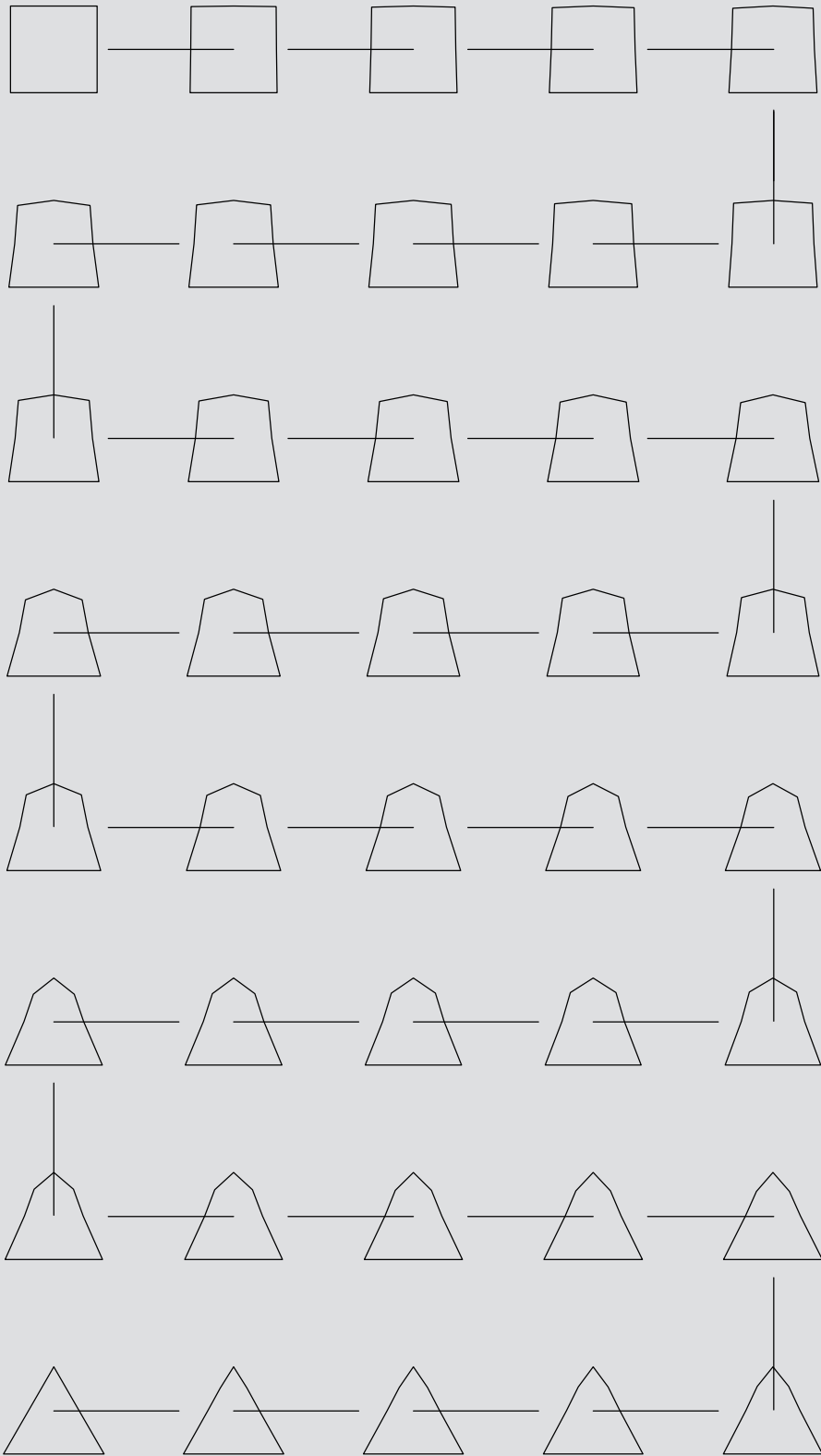
—— **Identify the scope of transformation** by understanding how larger social, economic and technological trends impact their patients, and how these will subsequently shape their attitudes, behaviors, perceptions and expectations about healthcare.

—— **Challenge the system’s purpose and its relationships**—not its components—realizing that small paradigm shifts can have an exponential impact.

—— **Make structural adjustments** that promote and support the new kinds of relationships and behaviors necessary to execute the vision.

—— **Stay vigilant and introduce mechanisms** to escalate and correct small incongruences before they grow and take on a life of their own.

—— **Empower people to own it.** Give people the leeway to let their personal styles shine as they embrace new behaviors.



A butterfly will never take flight as long as it still sees itself as a caterpillar.

End-to-End Experiences

How Healthcare Can Reach Its Digital Nirvana

Healthcare organizations face competition from a myriad of new market entrants: start-ups, technologies, devices or titans from other industries. Because these new entrants are built very differently than traditional provider organizations, they're free from the legacy of brick-and-mortar facilities, payor rules and labor contracts.

Healthcare leaders wonder where to even begin to compete.

While it's easy to become enamored by these latest advancements, especially in technology, the value proposition must center on enabling end-to-end experiences as patients move through the system of care. All too often, technology efforts are add-ons that don't address patients' needs and increase the administrative burden on providers. In other words, they're a lose-lose proposition. When looking at technology trends, start with the desired end result—whether it be patient experience, efficiency or clinical quality. Every technology solution must simultaneously meet an end-user need and a business need.

Five shifts reveal how technology can enable, not drive, experiences.

Digital Health → Digital Therapeutics: Apps that combine behavioral economics, adherence tracking, coaching and peer connections could be “prescribed” by a physician, integrated into the care plan and paid for by insurance.

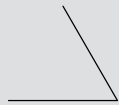
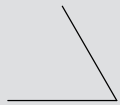
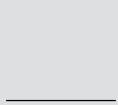
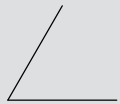
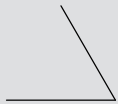
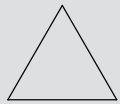
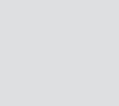
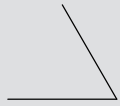
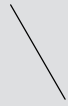
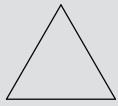
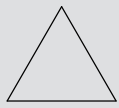
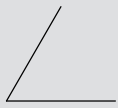
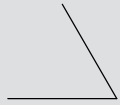
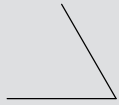
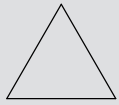
Mobile Apps → Phygital Experiences: These experiences blend physical and virtual environments for a frictionless and enhanced experience, adding value when and where patients come to see their provider.

Big Data → Small Data: Wearables connect individuals' self-monitored health information (“little data” or self-analytics) to population health data, allowing health systems to influence health outcomes beyond the four walls of their facilities in a way that has never been done before.

Quantified Self → Remote Monitoring: Advancements in clinical-grade sensors and algorithms now make it possible to remotely monitor patients at home, just as if they're in the hospital.

Internet of Things → Internet of Actions: Instead of collecting and analyzing real-time data from physical assets, systems and infrastructure, the true value lies in connecting sensors and embedded devices to orchestrate and automate interactions that can be triggered by things like customer arrival, movement through a facility, completing an interaction or a departure.

These trends come together to create an ambient intelligence, technology that is so pervasive and advanced that the user interface completely disappears into the background of our lives—spoken or unspoken. Technology won't replace face-to-face provider interactions anytime soon because patients still value seeing their provider. But they want it to be a superior experience. Providers need to use technology to better honor patients' time, add value to their on-site visits, and enhance their interactions with caregivers.



Organizations that derive insights generated in the course of serving customers and running their enterprise have a distinct competitive advantage.

The Value of Placemaking in Healthcare

How the Built Environment Can Impact Human Behavior

Place—and more specifically the design of place—can either encourage or hinder human connections. Placemaking, as its name implies, is literally about how we make places in the broadest sense to foster human interactions and connections, encourage activities and inspire feelings that reflect values or aspirations.

Placemaking activates spaces and draws people in to play, interact and enjoy. Consider Chicago’s Millennium Park or the Ferry Building in San Francisco: These “spaces” become “places” that invite visitors to stay by making them feel personally and culturally connected to the community around them. Placemaking can happen at many scales, from a large urban context to public sidewalk seating.

Its power lies in its ability to achieve both immediate and long-term impacts, from sparking a new relationship that leads to collaboration to fostering healthier lifestyle choices. Both are critical considerations for healthcare leaders. Placemaking is especially important when it comes to treating lifestyle-related diseases—particularly chronic illnesses. Recent models of population health suggest that access to clinical care and quality of care account for only 20% of health outcomes, while health behaviors and lifestyle choices (30%) and social and economic factors (40%)—elements that can be influenced by placemaking strategies—contribute far more significantly.

How might we think differently about placemaking principles in order to make the greatest impact?

—— **Understand the context and culture of the community.** Placemaking is successful only when it’s genuine to the community.

—— **Design for creative collisions.** Focus on building opportunities for social interactions and collaboration in order to enable greater support, trust and a sense of belonging among patients, family members, providers and the broader community.

—— **Constantly evolve.** The physical, cultural and social identities within communities are now vast and varied, and should be reflected in a changing, flexible environment.

—— **Capitalize on moments.** Certain activities, such as waiting for appointments, can be activated to make the time more productive, inspired and connected.

—— **Make the invisible, visible.** Patients share the most intimate details of their lives; if health systems and civic organizations also shared what makes them tick, then trust, shared values and openness are engendered.

—— **Don’t go it alone.** Think beyond silos and acknowledge the overlaps—and combined power—among civic, retail, health and wellness organizations to achieve bigger goals and more impactful outcomes.

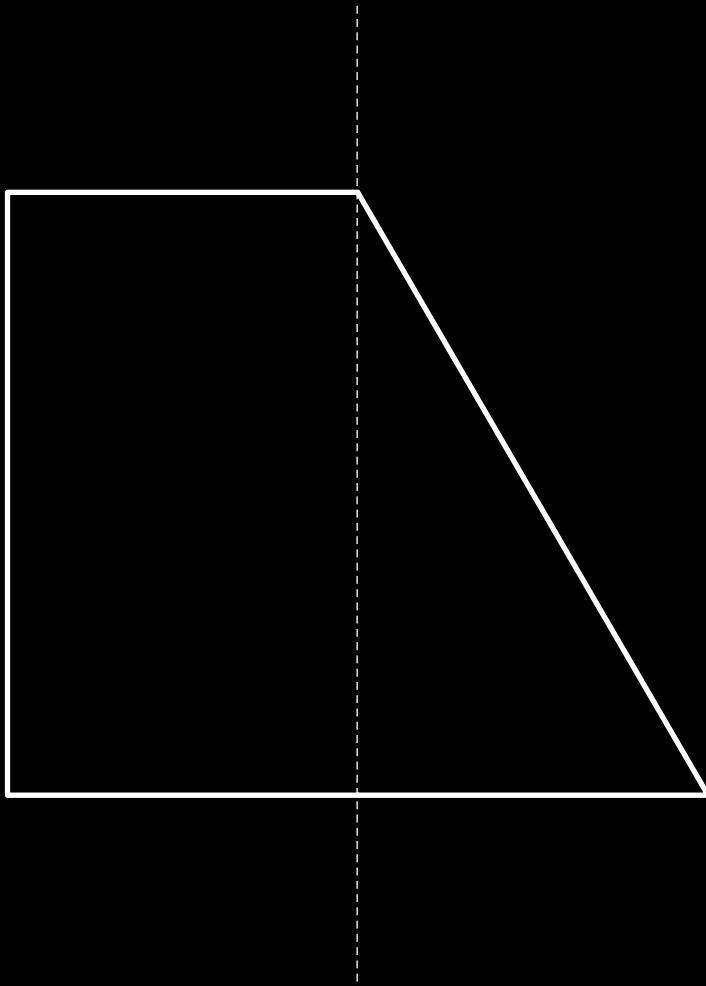
Healthcare leaders, who are often the largest employers in an area and significant contributors to a community’s economic value, can be the best champions for the connections between place and health.



Placemaking can help create a new health-based foundation for communities—and unique micro-communities—enabling people to enjoy longer, happier, more fulfilling lives. It can reduce the cost of care, instigate growth and economic development in communities, and build a competitive edge for healthcare systems.



VOLUME 2



The Transformation of Healthcare. How to Pull the Levers for the Most Profound Impact



TRANSFORMATION is one of those overused terms by executives, entrepreneurs, politicians and business journalists. Just like its cousins, “innovation” and “disruption,” its repeated use to exaggerate achievements and embellish corporate goals has reduced its intended meaning. Whether used to describe a change in suppliers, the acquisition of a new capability, the creation of a new department or to give layoffs a more enlightened name, “transformation” is the catch-all word of the moment.

Over the past two decades, the use of the term has gained momentum as organizations have learned to embrace and master technological tools such as digitization, automation and, most recently, social networks. Technology has and continues to upgrade virtually every capability of the enterprise. It has allowed organizations to leapfrog obstacles to size, scale, speed and efficiency. But beneath the massive upgrades, the underlying business model that supports legacy organizations has not changed that much. It has just been significantly boosted.

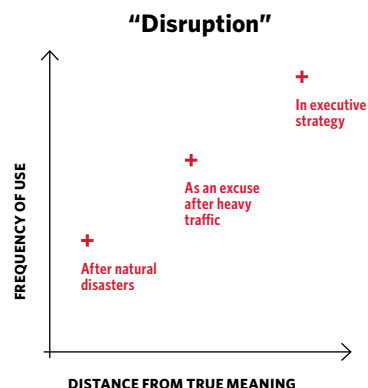
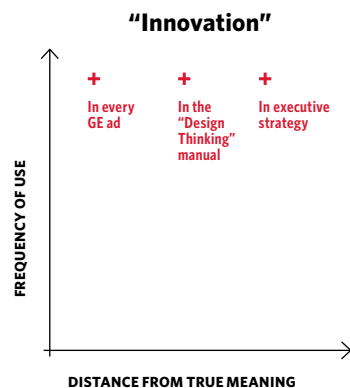
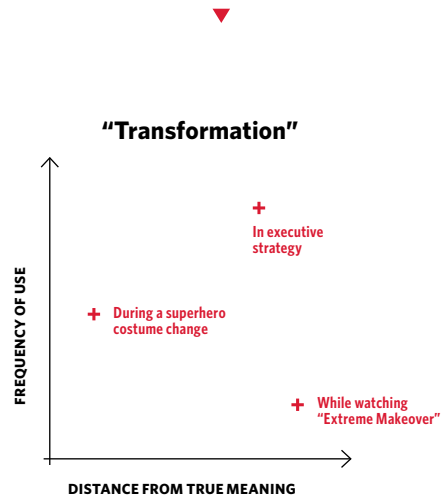
But it’s important not to confuse optimization and upgrades—even if highly innovative in nature—with true transformation.

Transformation is more than the power-boost that comes with optimization and upgrades. It’s a full-scale metamorphosis, just like that of a caterpillar emerging from the cocoon as a butterfly. The caterpillar can become larger, faster and more efficient, and, with superior powers, it will likely dominate over the rest, cover more ground and gobble up more leaves. But fundamentally, it’s still a caterpillar.

Upgrades allow organizations to keep up with immediate market demands, and it’s true that the cumulative effect of upgrades can lead a system to evolve over time. However, it’s important to recognize that in most cases, the effect can be compared to moving from caterpillar 1.0 to caterpillar 2.0.

The need for transformation is becoming an exigent priority for healthcare executives. The

BUZZWORDY TERMS AND HOW THEY’RE COMMONLY USED



This distinction between gradual evolution and rapid transformation is important: Business transformation in its absolute sense should be understood in terms of ideas, systems and methods that don't simply supplement an existing operating model, but in most instances supplant it.

healthcare system, as it's configured today, is unsustainable and ill-equipped to handle the various and real pressures of the market. These include a push for affordability, addressing lifestyle-related illnesses, solving maturing consumer expectations and the role and influence of technology in people's lives.

It's also true that transformation is a complex undertaking. But the good news for healthcare organizations is that the efforts are not new, and we can learn from previous cases.

And there's more good news: Transformation can happen at various scales, from small projects in contained systems such as a nursing unit, to the full-scale redesign of outpatient delivery. Furthermore, leading and inducing transformation is a competency that can be learned by utilizing methods to enhance foresight.

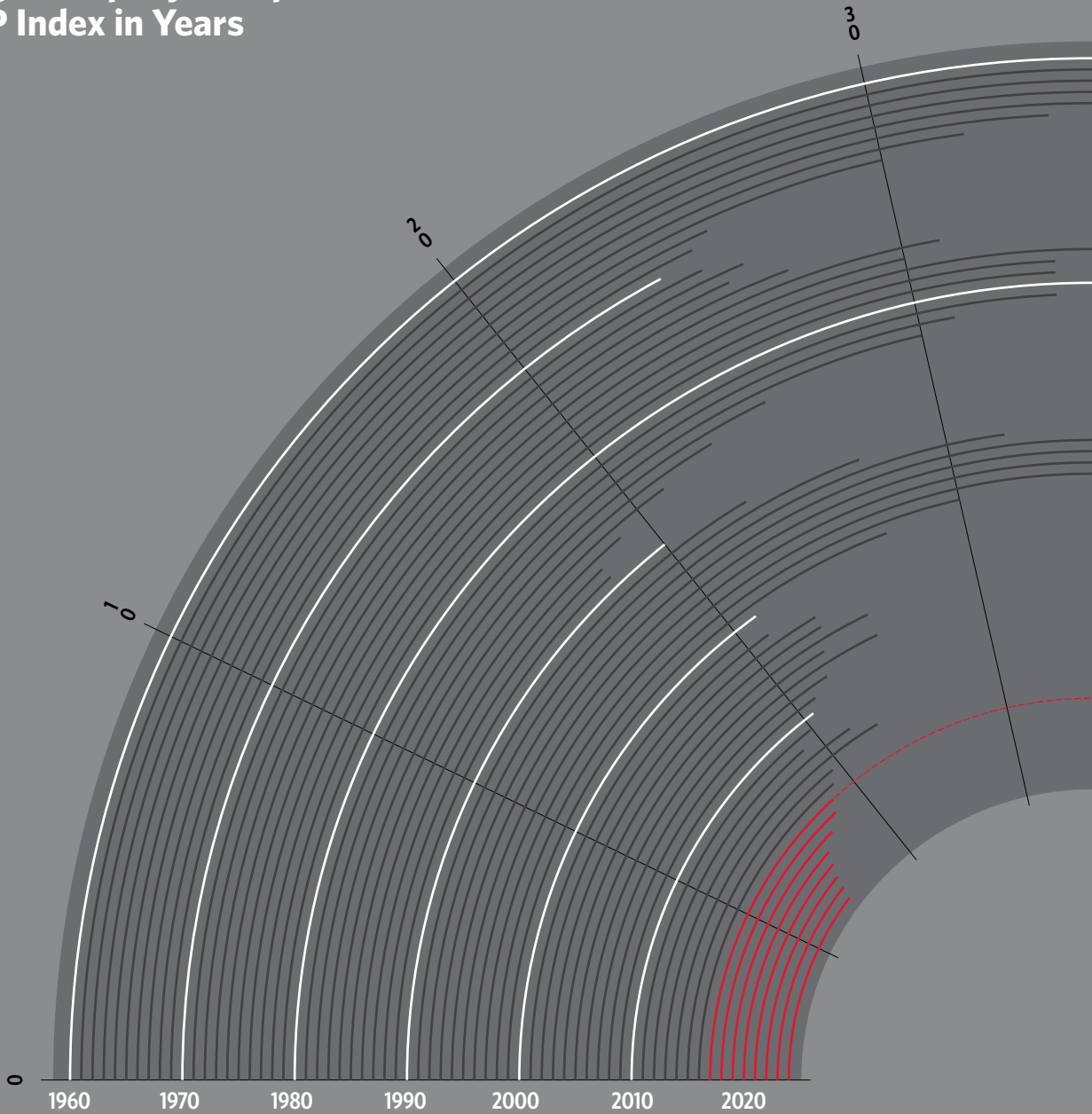
We can explore these levers by tapping into a few unusual sources, including a study of concepts from Systems Theory, as well as by examining the stories behind the transformation of IBM and Netflix.



Average Company Lifespan on S&P Index in Years

1961
62.5 years

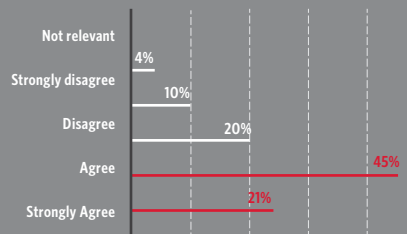
2024
15 years



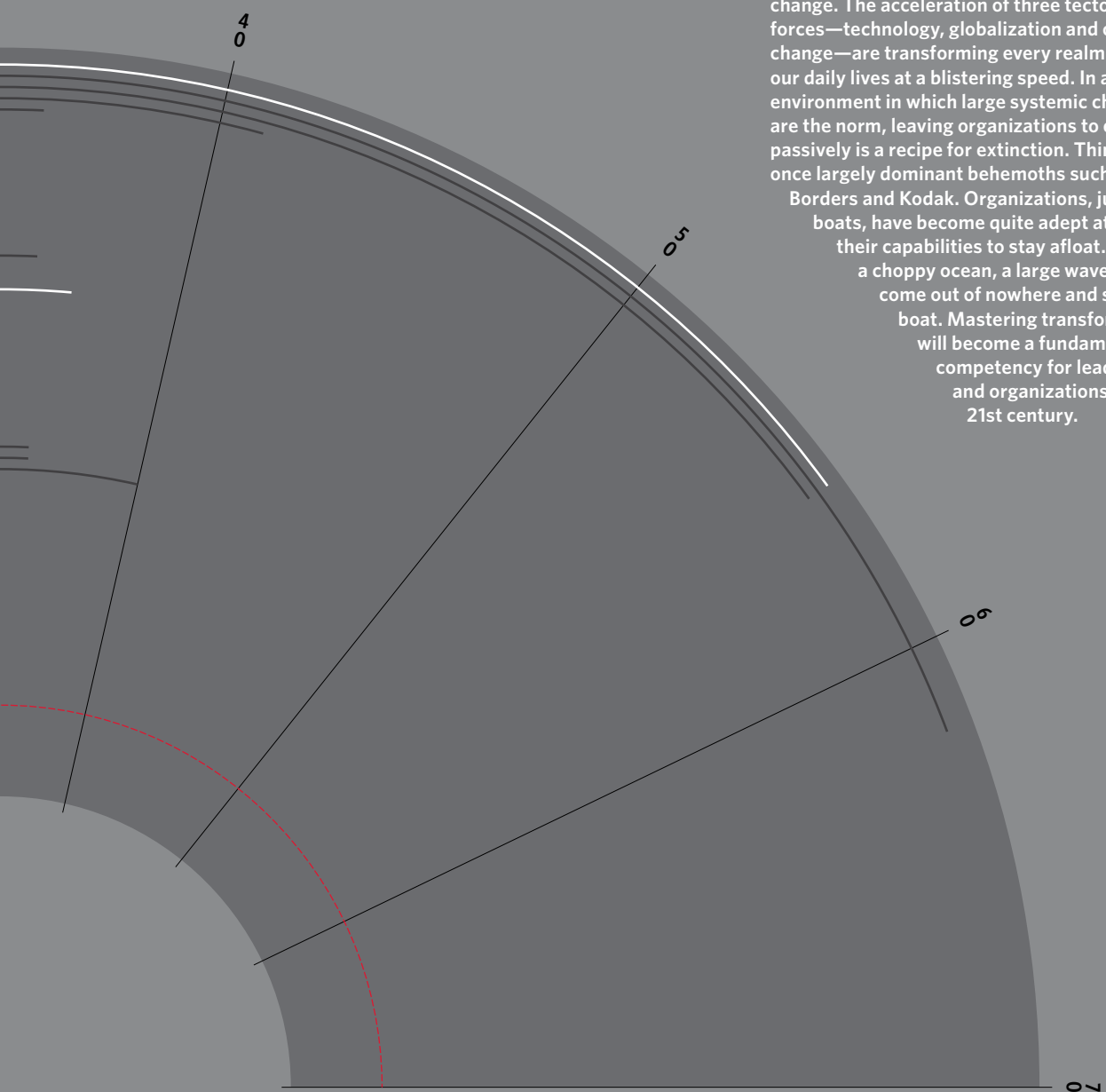
INNOSIGHT surveyed executives from 91 companies with revenues greater than \$1 billion across more than 20 industries, including leaders of companies in automotive, consumer goods, computing, finance and insurance and healthcare. These are some of their responses.

Widespread recognition of need to transform

To what degree do you agree or disagree with this statement?
“Our organization recognizes the need to transform—that is, to change our core offerings or business model—in response to rapidly changing markets and disruption.”

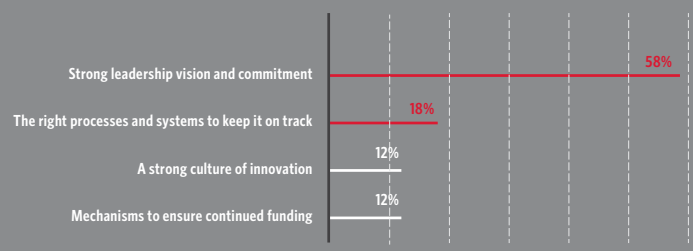


As a society, we live in a time of unprecedented change. The acceleration of three tectonic forces—technology, globalization and climate change—are transforming every realm of our daily lives at a blistering speed. In an environment in which large systemic changes are the norm, leaving organizations to evolve passively is a recipe for extinction. Think about once largely dominant behemoths such as Sears, Borders and Kodak. Organizations, just like boats, have become quite adept at boosting their capabilities to stay afloat. But in a choppy ocean, a large wave can come out of nowhere and sink the boat. Mastering transformation will become a fundamental competency for leaders and organizations in the 21st century.



Leadership vision is the make-or-break factor

“What’s the primary reason for the success of your transformative innovation project?”



Systems Theory and What It Means for Transformation in Healthcare

Every system is organized around a **PURPOSE**. It's the larger objective that the entire system is structured to pursue. Importantly, purpose isn't about a mission statement, an edict or a proclamation; the purpose of a system can only be discerned by observing it and its aggregate behavior. Sometimes we assume that the purpose of a system is to achieve X, but in reality, we notice that everything is aligned and incentivized to achieve Y. For example, we may discern that the purpose of the law enforcement system is to protect citizens from perpetrators and criminals, but in some countries it's mainly used to keep the population from revolting against the ruling power.

RELATIONSHIPS are the threads that hold the various pieces of the system together; they're the connections that exist between the parts to provide a structure. In our law enforcement analogy, these relationships include laws, codes of conduct, intelligence networks, reporting structures, incentives, procedures and so on. Because relationships are intangible, sometimes they're hard to see—both literally and figuratively.

Finally, **COMPONENTS** are the basic building blocks of the system. They're tangible and fairly easy to recognize in the real world. In the law enforcement system, brick and mortar facilities, staff, weaponry, vehicles, communications infrastructure and so on are all examples of components. These components are necessary to make the system work, but they aren't sufficient on their own. Without relationships to connect the components and a purpose to align them, they're simply loosely organized parts and pieces.

ACCORDING TO SYSTEMS theorist Donella Meadows, a system is “an interconnected set of elements that is coherently organized in a way that achieves something” (Meadows, 2008). Many systems exist in the world, some simple and some complex. A university is a system. The human body is a system. A computer is a system. Some systems are deterministic, in that they produce a known and relatively linear outcome—such as what happens when you pull the drain plug out of a bathtub filled with water. Some are evolutionary, in that they change and adapt to various forces and often give rise to other systems—such as how the national economy spurred the banking system.

In general terms, systems have three kinds of parts: Purpose, Relationships and Components.



Purpose
The larger objective that the entire system is structured to pursue



Relationships
The connections that exist between the individual parts of a system



Components
Tangible artifacts of the system through which interactions are commonly held

So, why does any of this matter for healthcare?

Healthcare delivery is made up of a complex set of parts bound together by interactions and interdependencies. It is, in effect, a system.

From our study of complex systems, we know that transforming a system requires us to pull certain levers. Doing so in the right ways can have a profound impact.

Components—the most tangible parts of the system—are often where we look first when considering change. Unfortunately, in most instances, changing the components does little to transform the system. Consider football as an example. Players and coaches come and go. Equipment and stadiums are upgraded, even considerably over time. But if you watched a television broadcast of the New York Giants in 1960 and another in 2017, you'd likely still recognize that you were watching a game of football.

Similarly, upgrading facilities, adding new specialists and introducing new technologies may help elevate certain aspects of quality or efficiency in healthcare delivery, but for the most part, the system as a whole continues operating as usual. Changing components alone will not transform the overall delivery model.

Make no mistake: Incremental enhancements are both a necessary and critical aspect of improving healthcare. They may not, however, be enough to transform it.

Systems can, in fact, evolve over long stretches of time when aggregate changes in their components reach a tipping point. But, just like in the case of caterpillar 2.0, evolution doesn't always result in transformation. For example, it's undeniable that the means to deliver care has evolved substantially over the past 30, 50 or 100 years. Today's hospitals are significantly more efficient and filled with amenities and conveniences that didn't exist before. New technologies and

//

The components of a typical hospital system have evolved and improved.

The purpose and many of the relationships that define how the system behaves have not.

groundbreaking research account for greater accuracy, faster resolutions and better outcomes. However, if we step back and look at the bigger picture, we'll notice that while the components of a typical hospital system have evolved and improved substantially, the purpose and many of the relationships that define how the system behaves have not. The "appointment" or its equivalent is still the fundamental building block of operations. Face-to-face appointments are still the cornerstone of delivery, even though expertise doesn't scale well in this model, and so on.

It's our view that focusing exclusively on enhancing the components of the system—facilities, staff, tools, etc.—will not be enough to meet the myriad complex challenges that health delivery systems face. If we truly want to cause a system to transform, then we need to focus on its other parts: purpose and relationships.

Back to our football example: If we changed the purpose of the game—and the rules that govern the game—from "score the most points" to "finish with the least amount of injuries," it's obvious that the game would fundamentally change.

“ — ”

From our study of complex systems, we know that transforming a system requires us to pull certain levers. Doing so in the right ways can have a profound impact.





It wasn't a stone that killed Goliath. It was the assumption that David would engage in hand-to-hand combat.



Transforming Stories at Scale

Blockbuster fails to transform, while Netflix takes over.

THE DOWNFALL OF BLOCKBUSTER is an example of a system that failed to pull the right levers in the face of a sweeping change in its external environment. Just a little more than a decade ago, Blockbuster was the undisputed retail leader in movie rentals with more than 25,000 employees and 8,000 stores. Just four years later, in September 2010, the company filed for Chapter 11 bankruptcy due to challenging losses. While many factors, from short-sighted focus to mismanagement, contributed to the company's demise, the key reason was the fact that Blockbuster never stopped seeing itself as a retailer in a time when emerging channels and technologies, such as e-commerce and digital streaming, began to reshape consumer behavior from store pick-up to on-demand. This inability to change its business-as-usual brick and mortar mentality propelled the entire system into a downward spiral.

When Netflix arrived onto the scene as a mail-order DVD rental operation, Blockbuster executives dismissed the start-up given its lack of scale

and niche nature. Instead of hiring leaders from the tech industry, they continued favoring executives from other large retailers such as Walmart and 7-Eleven. Six years after Netflix began carving out a sizeable piece of the market, Blockbuster countered with its own mail service. But the executives treated it as an incremental distribution channel—essentially a “me-too” component. And it failed. Still holding on to its retailer mindset, Blockbuster underestimated the impact of video streaming, and doubled down on its in-store amenities including the aggressive promotion of popcorn, candy and beverages. This continued focus on upgrading its components blinded the organization from realizing that video distribution as a whole was forever changed, and its system of retail stores was ill-equipped to address the market demands.

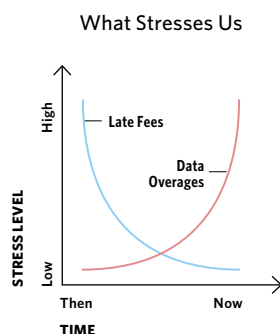
Netflix, on the other hand, embraced the promise of streaming as a major opportunity and took the opposite approach. Online file sharing was rapidly changing the way content was delivered. The company understood the new emerging landscape and positioned itself as an early adopter. By 2005, when faster broadband and better video compression became available, Netflix deliberately initiated a transition from its mail delivery model toward digital distribution. Instead of just diversifying its components, Netflix redefined the purpose and the relationships of the system itself.

Netflix is a consumer data company that uses its entertainment content platform to monetize insights generated by its data. Fundamentally, that is the company’s purpose. Where Blockbuster focused on distribution channels and video rentals, Netflix focused on data, preference prediction and content generation, all using a pure subscription model that is different from Blockbuster’s now defunct membership model.

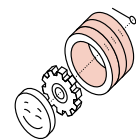
Consider the Netflix Adam Sandler phenomenon. In 2014, Sandler’s last Hollywood studio-produced film, “Blended,” was disappointing at North American box offices. Shortly thereafter, Netflix signed Sandler to a multi-year deal to produce films. And according to the Netflix 2017 annual report, consumers spent more than “half-a-billion hours enjoying the films of Adam Sandler.” What Netflix knew that Hollywood studios did not was precisely who watched Sandler movies, where in the world they watched them (his movies are extremely popular outside of North America, for example) and with what frequency. This ability to capitalize on and cater to consumer behavior and interest is one factor that is contributing to the \$2.5 billion quarter-after-quarter revenue that Netflix enjoys from its streaming services.

Today, Netflix is in 160+ countries and is now considered the only “global TV network.”

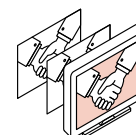
In healthcare, companies like Omada Health and Clover Health are following a similar path by using platforms that upend traditional delivery models to generate data that helps them predict behaviors and intervene with methods that the same data suggests will work. And they’re doing this for some of the patient segments that traditional healthcare struggles to serve well, such as people who have chronic illnesses and for Medicaid risk products.



HERE ARE SOME OF THE SPECIFIC LEVERS THAT NETFLIX PULLED TO TRANSFORM :



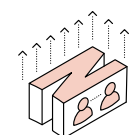
— Designed a lean, cost-effective operating model using predictive analytics to deliver instant and superior levels of consumer satisfaction.



— Enabled distribution from TV networks, such as NBC, Starz, etc., to rapidly expand its content offerings.



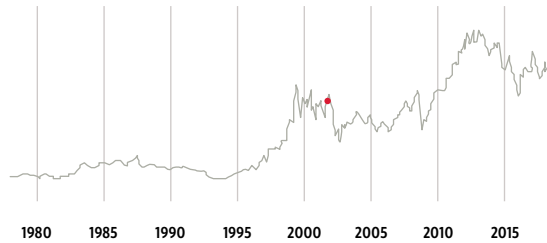
— Built partnerships with film studios to introduce original movies and binge-worthy series such as “House of Cards,” “Orange Is the New Black” and “Narcos,” which have accounted for large increases in subscription. Content development was shaped by understanding subscriber watch patterns and preferences across its member base.



— Developed performance incentives and a code of conduct to encourage decisiveness, freedom and personal responsibility, which all support a culture of empowered and driven employees.

IBM: From computer manufacturing to knowledge and solution services.

IBM Stock Performance



TRANSFORMING AN INDUSTRY by way of a start-up, like our Netflix example, is arguably easier than transforming an existing multinational company rooted in its traditions and operating procedures. But evidence shows that the same levers have the power to transform large systems with long legacies. IBM is no stranger to transformation. Perhaps its largest in history began with an insight about the future of artificial intelligence.

In the 1990s, following a decade of financial struggles, the company began a restructuring plan to diversify its operations in light of an increasingly commoditized business for personal computers and mainframes. Under CEO Lou Gerstner, “Big Blue” returned to financial health, mostly by carving a sizeable presence in outsourcing and IT consulting services.

When another pond has all the water, it's time for the big fish to learn to fly.



In 2002, Gerstner's successor, Sam Palmisano, observed that the world was transitioning toward a future during which everything would become instrumented, interconnected and intelligent. Trillions of bits of information were being exchanged by everyone, everywhere. IBM, he believed, could potentially harness the power of data to solve the biggest challenges among organizations and governments around the world. A new vision, "Smarter Planet," was born out of a simple change in perspective, yet its effects were astounding. **It changed—in a subtle and nuanced way—the main purpose and goal for IBM.** Whereas the old mindset focused on creating data-processing systems (hardware) to manage complexity, the new purpose shifted to creating a means to extract intelligence out of complexity. This meant thinking and acting like a knowledge organization and less so like a computer manufacturer.

In order to achieve this vision, IBM reworked itself as an entirely new type of company. Making the leap from a large, hierarchical, multi-national operation to a nimble, knowledge- and services-oriented network required IBM to break away from its past glories and its 100-year-old "IBM ways."

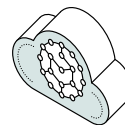
Studying IBM's market performance reveals another important transformation lesson. Notice that the company's stock value had increased, but was relatively volatile during Palmisano's efforts. In fact, in the early

days of the transformation, performance actually declined. With a new purpose and a new organizational structure that aligned with that purpose came a learning curve. But once the system realigned, it performed markedly better and began a decade-and-a-half upward climb.

In the latter half of this decade, IBM's performance has again reversed course. New inventions such as its AI supercomputer Watson have not yet fully matured. Competition in the market of public cloud services is fierce against titans such as Amazon, Oracle, Microsoft and Google. Furthermore, companies (and IBM clients) are adopting these public cloud services and moving away from running their own data centers—an additional blow for a large portion of IBM's consulting force and business lines focused on hardware deployment.

Without a doubt, IBM will have to reinvent itself once again, and early indicators offer insight into how they might do this. In 2015, IBM invested significantly in the acquisition of design talent in an attempt to become the "world's largest design firm." Their belief is that the combination of design methods and mindsets, business acumen and engineering superiority will ultimately produce better outcomes. Time will tell. What's important is that they aren't sticking with the status quo, but rather, are actively infusing catalysts to fundamentally remake the business.

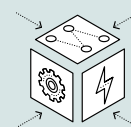
HERE'S HOW IBM TRANSITIONED FROM A TECHNOLOGY MANUFACTURER TO A KNOWLEDGE AND SOLUTIONS ORGANIZATION:



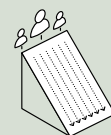
— Divested its hardware manufacturing business and many of the products and technologies that it invented in order to invest in new strategic capabilities such as cloud computing, enterprise software, artificial intelligence and analytics



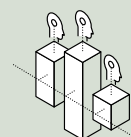
— Acquired PwC Consulting from Price Waterhouse Coopers, as well as a variety of service organizations to gain access to knowledge workers who understood the needs and processes of every industry



— Replaced its traditional hierarchical reporting structures with a new generation of thinkers, organized in teams around strategy, technology and operations



— Transformed a culture of 150,000 employees by focusing on empowering teams to better serve clients by pushing decisions and actions downstream



— Realigned and redesigned incentives, performance goals and reporting disciplines

The Five Lessons of Leading Transformation

Transformation is not only a complex and arduous undertaking, it is largely dependent upon the unique circumstances and readiness of every organization. Healthcare is somewhat unique. In other industries, innovation/transformation is often achieved by substituting quality for cost, at least initially. This is a trade-off that many are willing to make for products and services. But in matters of health, very few people are interested—understandably—in making this trade-off willingly. While we know there's no such thing as a success formula or silver bullet, a number of lessons are worth applying to healthcare transformation.

1 **In order to understand the scope of transformation, leaders must look for clues and early indicators beyond their industry boundaries.**

In hindsight, every transformation, whether sudden or gradual, is the consequence of an unforeseen (or underestimated) external factor approaching a tipping point. If one thing is true about change it's that, by the time it comes knocking on the door, it's already too late. The forces that will shape the future of healthcare already loom at the fringes. Excessive focus on competitive activity, healthcare best practices and industry news can blind leaders from external forces. Measuring patient and member satisfaction, for example, or tracking best practices in healthcare is like driving a car while staring into the rearview mirror. While observing the immediate surroundings in the rearview mirror at regular intervals is critical to safe driving, unless we pay attention to the external environment and where we're headed, we'll never successfully navigate our path. In healthcare, that means placing more focus on understanding how larger social, economic and technological trends are impacting the activities and daily lives of members and patients, and how these trends will subsequently shape their attitudes, behaviors, perceptions and expectations about healthcare.

2 **Small paradigm shifts can have an exponential impact.**

Organizations are complex systems. The list of elements that need to be impacted can be overwhelming. Our case studies show that pulling a few levers can have an enormous effect. Start with challenging the system's purpose and its relationships—not its components. Even a small shift around what kind of business the organization is in can cause the entire system to flip. For example, the leaders at Kaiser Permanente recently introduced a new paradigm to shape outpatient delivery systems. Instead of just focusing on the means to attract more patients into their clinics and system, they asked how they might integrate care into the daily lives of people, even when these people aren't thinking about it. We talk in healthcare about patient centeredness, but the traditional paradigm still requires patients to come to us. The KP model challenges that paradigm, and asks what solutions can be developed to meet people where they are (physically, psychologically, socially and economically). The implications of this simple change of perspective extend far beyond new ancillary services. It has led the organization to fundamentally reimagine its entire care delivery model around a series of business platforms. The new paradigm is informing the way KP now thinks about facilities, partnerships, business models, staffing and skills.



3

Rules, incentives and constraints must fully support the new paradigm.

With transformation, the maxim of 1% inspiration and 99% perspiration also applies. Articulating and communicating the case for change, and watching employees nod their heads vigorously as they sign the new manifesto, is the fun part. But everything will come crashing down if the organization fails to follow up with structural adjustments that promote and support the new kinds of relationships and behaviors that are necessary to execute the new vision. It's very hard to let go of the status quo. In fact, changing it will be met with great resistance by those who have mastered the game. But preserving the same reporting and power structures, policies and reward mechanisms that brought earlier successes may be counterproductive in the new world. Though still in its infancy, consider the reorganization announced in late 2017 by Intermountain Health. Recognizing the administrative and strategic pitfalls of organizing services and leadership geographically, Intermountain upended its structure. The new model creates two parallel yet equal internal organizations: One to focus on community and preventive care, the other to focus on the acute, specialty and hospital businesses. Metrics, leadership and governance systems are all being designed to support this dual focus.

4

Transformation is a movement. Unless senior leaders constantly check and reinforce their efforts, the system will naturally fall back to its old ways.

In the language of systems theory, this is known as the principle of entropy: When systems are left to their own devices and issues are not corrected, they tend to fall into disrepair. The task of leading transformation cannot be treated as a standalone project in a sea of other pressing priorities, nor is it something that can be delegated down to an oversight committee. Leading transformation must become the core priority of the C-suite. And here's where the consistency of story matters. Leaders must heavily invest their time in developing the vision, rigorously clarifying it and telling the story in clear and compelling ways at all levels—all the time. But the effort doesn't stop here. Leaders must stay vigilant and introduce mechanisms to escalate and correct small incongruences before they grow and take on a lives of their own. For example, if one of the goals is to cultivate a culture of empathy, employees must feel safe to speak up against ill-tempered behaviors, unrealistic deadlines, playing to favorites and/or managers who lead by fear.

Consider this real-world example from healthcare. When the CEO of Lakeland Health wanted to reinvent the healthcare experience for patients, he instituted a new rule: "Bring your heart to work." Dismayed by patient satisfaction scores that ranged between the 25th and 50th percentile, his simple but courageous plan went something

like this: “No one aspires to work in an organization that frequently lets its customers down. Because Lakeland didn’t have access to additional resources, it needed to do better by touching the hearts of patients. By making sure patients know not only how well Lakeland cares for them, but how much Lakeland cares *about* them.” Specifically, he charged every staff member to tell patients who they were, what they were there to do and then share a heartfelt “why.” For example: “I’m Tom, and I’m here to change your dressings because we want you home in time for your granddaughter’s wedding.” The outcomes were remarkable: In each of Lakeland’s acute care facilities, scores exceeded the 90th percentile just three months after the initiative was implemented. But simply articulating a new purpose wasn’t enough. Change required visible leadership support in order to propagate it throughout the system. Senior leaders made daily rounds. They collected stories from their rounds and shared these widely. They recognized staff on the spot who demonstrated compassion. And they did this repeatedly through small, frequent interactions that reinforced the behaviors that they wanted.

5

Empower people to own the effort.

For transformation to happen, it takes a “village.” It doesn’t only impact the physical elements of the organization, but also how employees see themselves as contributors to the change. Leaders must set conditions that empower people to manifest the system’s purpose. Give people the leeway to let their personal styles shine as they embrace new behaviors rather than giving them a prescribed approach. For example, in an effort to deliver a more flexible and personalized level of service for guests, Hyatt Hotels revamped its employee training from long, lengthy procedure manuals to simple guidelines focused on desired outcomes. When a guest checks in, employees are no longer required to follow a prescribed set of greetings, questions and answers. Instead, Hyatt employees are given guidelines, such as “You should be able to make your guest smile within the first 30 seconds,” or “Figure out a way to surprise and delight your guest.” In the new world, employees train through role play rather than through rote memorization. Since the new approach was introduced, nearly every hotel has reported improvements to its guest and employee satisfaction scores. Obviously, we’re not advocating toward relaxing indispensable clinical protocols and safety procedures. The point of this example is to illustrate the benefits of an empowered culture.

Leaders need to evaluate the shifting ground beneath their organization, not only to detect the warning signs, but also to gather signals of what their growth strategy for the future should look like.

“

INNOSIGHT, Scott D. Anthony, Patrick Viguerie, Andrew Waldeck

THE HEALTHCARE SYSTEM, as we know it today, needs more than a series of upgrades. It needs to transform to adapt to new market pressures. The existing model, which was conceived in the early 20th century, is ill-equipped to handle the emerging demands of the 21st century. Optimizing processes and components, such as new facilities and IT systems, will continue to be a competitive necessity, but it will do little beyond upgrading a legacy system that's already in peril. It's time to rethink systems within healthcare—from small- to large-scale—down to their core.

Whether pursuing transformation for an Emergency Department, a single hospital or a network of providers, leaders must focus on challenging the fundamental rules and relationships that govern these systems. In order to do this, they must first broaden their lens beyond the boundaries of the industry. Industry's best practices have limited success in anticipating the future because they are built on addressing problems that were created in the past. Change scenarios must encompass more than local demographics, competitive activity, legislative changes and medical technologies; it's crucial to keep a close pulse on other domains such as retail, workplace, community and economic development and fringe industries. This will help leaders develop a broader view into changes in consumer lifestyles, expectations and preferences. They also must recognize the larger indicators of change in human behavior, including the events, technologies, social changes and geopolitical realities that will shape future market demands.

Armed with foresight, leaders must invest a heavy amount of time into articulating and communicating a clear and compelling vision of the future. In each of the case studies that we have presented, it's clear that an articulation of a vision had a significant impact on fully redefining the role of these organizations. Design practices help here. There are

many ways to convey a message beyond words and business cases. Leaders must use images, stories, media and physical experiences to capture the minds and hearts of their organizations. In other words, storytelling needs to be relevant, honest, immersive, adaptive and frequent.

But inspiration is only part of the story. Transforming an organization will also require transitioning norms, structures and incentives. These shifts are easier said than done. Change is always met with resistance. Even the smallest incongruences have the power to derail the effort. Incongruences are like weeds in a garden. If not removed swiftly, they can take over the entire lawn, causing the system to quickly fall back to its old ways. In system's theory lingo, this is entropy.

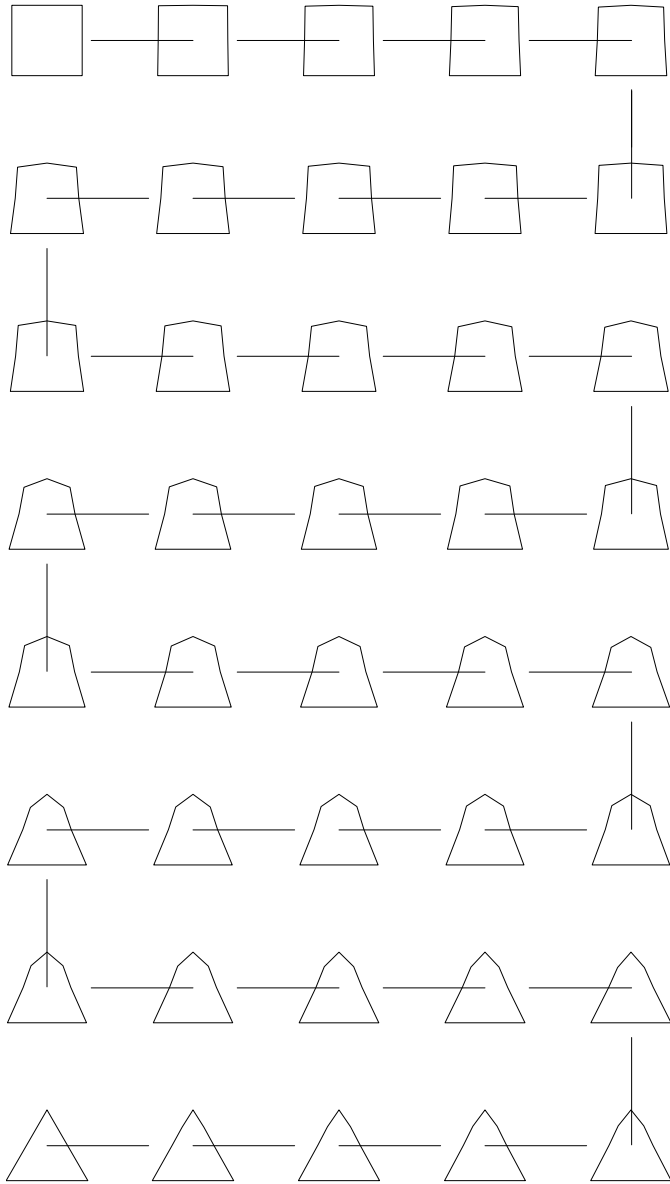
And finally, while transformation starts at the top, it only materializes when every individual embraces the change with full conviction. Having motivation and clarity of purpose is one thing, but a deep change in the way people think and act is another. Here is where empowerment plays a role. Study after study shows that empowered organizational cultures outperform those with rigid, top-down cultures. Ultimately, a butterfly will never take flight as long as it still sees itself as a caterpillar. ▲

EXTERNAL FORCES

"In order to pursue transformation at any level, it's critical to understand trends occurring outside the industry. What's happening in retail, workplace or other fringe industries can signal new realities that will shape future attitudes, behaviors, perceptions and expectations about healthcare."



Roberto Seif
STRATEGIC INNOVATION
DESIGNER



HOW TO INTRODUCE THESE CONCEPTS INTO YOUR ORGANIZATION.

▼

What are the key forces and trends inside and outside of the healthcare industry that will impact the way healthcare is delivered in the next 20 years?

▼

In order to transform, what does your organization need to stop doing? What do you need to start doing differently?

▼

What are the key barriers to driving change in your organization? What mindsets need to be changed? Why?

▼

What skills and competencies will you need to bring into the organization to meet the changing needs of patients and families?

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FOR SOURCES CITED IN THIS ARTICLE, SEE PAGE 78

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End-to-End Experiences.

How Healthcare Can Reach Its Digital Nirvana



HEALTHCARE, like every other industry, is in the middle of a digital transformation.

Healthcare organizations face competition from a myriad of new market entrants. It seems that every day ushers in another potential disruptor, whether it's a start-up, a new technology or device or a titan from another industry entering the healthcare realm. These new entrants are built very differently than traditional provider organizations. They have no "sacred cows." They're free from the legacy of brick-and-mortar facilities, payor rules and labor contracts. They can design their technology-enabled service offering from the ground up. Their service offering relies on the talent of software developers, UX designers and data geeks, rather than the expertise and reputation of providers. This unconventional background makes new entrants highly agile to test different product and service offerings until they find what resonates best with consumers. They're free to bite off small pieces of the health

and wellness pie, without having to care for the difficult cases. And they're likely to leverage novel partnerships to deliver a superior service without having to build all of the required infrastructure.

The pace of technology advancement already exceeds the capacity for organizational change and it seems to be accelerating. The tech industry was built upon rapid change. Moore's law predicts that computing capacity will double every two years. Obsolescence is fundamental to the business model for hardware, software, data and devices. Something new and better is always around the corner.

Consumers rapidly adopt these new mobile devices, mobile apps, digital platforms and wearable devices. Their desire for convenience and on-demand access is relentless, and a seemingly unlimited number of new services emerge to meet these demands: Uber, Blue Apron, Amazon Prime and Door Dash are just a few.

Healthcare leaders are left to wonder: "Where do we even begin?"

// **The pace of technology advancement already exceeds the capacity for organizational change, and it seems to be accelerating.**

DIGITAL MISTRUST

"Consumers very much want convenience and access through technology, but they don't entirely trust it without knowing a human expert is looking out for them."



Hank Adams
GLOBAL DIRECTOR, HEALTH

THE AMOUNT OF DATA WE GENERATE EVERY DAY, IN BYTES.

2,500,000,000,000,000,000,000

[2.5 QUINTILLION]

This would fill 10 million blu-ray discs, the height of which when stacked would measure the height of four Eiffel Towers on top of one another.

All too often, technology efforts are add-ons that don't address patients' needs and only serve to increase the administrative burden on providers—a lose-lose proposition. We're all too familiar with the rocky start experienced during the transition to electronic health records (EHR) that were designed to capture clinical activities for billing purposes. Though expectations were high, the EHR didn't necessarily enhance the provider or patient experience. It did, however, open the door to the age of digitization in healthcare. For better or worse, the EHR and the patient data it contains are the foundation upon which all other digital health initiatives are built. While developments like patient portals, mobile health apps and telehealth make some aspects of healthcare more convenient for patients, adding new components to an already complex system is not a catalyst for transformation.

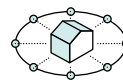
While it's easy to become enamored by the latest advancement in [you can fill in the blank here], pursuing disconnected solutions is detrimental. The value proposition for technology should center on enabling the end-to-end experiences that patients have as they move through the system of care.

For example, many provider organizations are inspired by the advent of voice interfaces and personal assistants. Triage and symptom checking could be well-suited for this type of

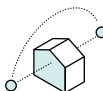
CHARACTERISTICS OF A WELL-DESIGNED END-TO-END EXPERIENCE:



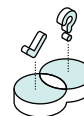
— Contains clearly identifiable start and end points, even when one end-to-end experience leads into another



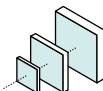
— Connects the built or virtual environment with service delivery and operations in a holistic manner



— Often extends beyond the service provider's site of service, both before and after the interaction



— Integrates a series of defined touch points, while accommodating spontaneous and unplanned interactions



— Anticipates and fulfills the needs of users throughout the journey



— Grants the user a level of choice and autonomy as they move through the experience



— No degradation of service



— No loss of information

conversational interaction backed by artificial intelligence. Care protocols already exist, so it's a matter of translating these protocols to a new platform. The implementation would be fairly straightforward for a skilled team of developers. Integrating it into the continuum of care is much harder. But it's important to recognize that triage is one step in the patient's journey as he or she navigates treatment options for urgent or unknown symptoms.

In this context, the focus is to create an efficient and intuitive experience for the patient through a combination of touchpoints. If triage is inconclusive or recommends a face-to-face visit, the system might suggest urgent care locations with estimated wait times. The patient could make an urgent care reservation, which forwards the data collected during the voice interaction to the urgent care staff.

Big Data Generated Over Time



Anticipate the End-to-End Experiences that Technology Enables

A CLOSER INSPECTION of technology adoption rates shows that the situation is not as dire as it seems. While it took personal computers 30 years to achieve full adoption, tablet devices took only eight years. Technology adoption is accelerating, but it still takes nearly a decade for a new technology to gain widespread penetration. Early adoptions happen quickly; 10% market penetration of tablets occurred in two years. Maturing to 40% market penetration took another two years. Saturating the market to 75% penetration took another four years.

The lesson is—in an era when it feels as if we don't have time—there is time to evaluate new technology, explore the potential application to the clinical enterprise and assess the value proposition of implementation. When looking at technology trends, start with the desired end result—whether it be patient experience, efficiency or clinical quality. Every technology solution must simultaneously meet an end-user need and a business need. Technology is the enabler, not the driver.

Here are five shifts we expect to see in the near future.

Digital Health

Digital Therapeutics

Since the advent of the smartphone and app store, a deluge of health and wellness apps has hit the market. Understandably, consumers are confused and look to providers for guidance. Digital therapeutics, which combine behavioral economics, adherence tracking, coaching and peer connections, require clinical trials and regulatory approval. This validation is essential to winning the trust and recommendation of physicians. Importantly, these treatment options can be “prescribed” by a physician, integrated into the care plan and paid for by insurance.

Mobile Apps

Phygital Experiences

Consumers manage their lives from the super computer in their hand. In many ways, the mobile device is our new “home base.” However, consumers recognize they can't do everything virtually. There's still value in going places, doing things and interacting with people. For interactions that are better on-site and face-to-face, like those in healthcare, consumers expect a frictionless and enhanced experience. Phygital experiences—the novel blend of physical and virtual environments—can add value when and where patients come to see a provider.

Big Data → Small Data

The proliferation and evolution of technology has given rise to an ever-increasing volume of user-generated data. Big Data encompasses these large data sets, as well as the algorithms and tools developed to extract insights from them. While Big Data can reveal behavioral patterns and generate recommendations, a more individualized approach is necessary to anticipate developing health issues and change behavior. This is “little data” or self-analytics. Wearables are one solution for connecting individuals' self-monitored health to population health data. Adapting and personalizing to the individual will allow health systems to influence health outcomes beyond the four walls of their facilities in a way that has never been done before.

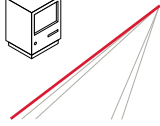
Quantified-Self

Remote Monitoring

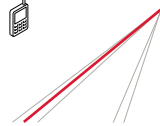
Wearable devices that track activity levels, heart rate and sleep patterns have become both popular and widespread, but the data is clinically dubious. Simply put, the patients who use these devices are generally fit and healthy. Patients who could benefit most from this tracking are slow to adopt, and little clinical evidence exists that proves whether wearables change behavior or improve outcomes. The advancement of sensors and algorithms now makes it possible to remotely monitor patients at home as if they were in the hospital. This new generation of clinical-grade sensors are smaller, easier to use and are becoming increasingly cheaper, all of which suggest wider adoption in the near future.

ADOPTION RATES OVER TIME

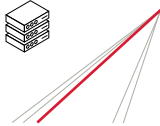
How long it took consumer technologies to achieve 75% market penetration.



PERSONAL COMPUTER
30 YEARS



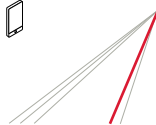
CELL PHONE
28 YEARS



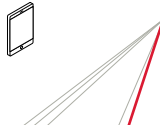
INTERNET
25 YEARS



HDTV
10 YEARS



SMARTPHONE
10 YEARS



TABLET
8 YEARS



DeGusta, Michael. MIT Technology Review, 2013

Internet of Things

↳ Internet of Actions

The Internet of Things (IoT) consists of small sensors and computing devices embedded into everyday objects that send and receive data over the internet to one another. These sensors empower organizations to collect and analyze real-time data from physical assets, systems and infrastructure. The true value of these devices is not in collecting data, but in triggering workflows, anticipating and choreographing services on behalf of the user. The Internet of Actions (IoA) connects sensors and embedded devices to initiate automated responses. Users are able to manage seamless workflows that enhance their daily routines. Similarly, businesses can orchestrate and automate interactions triggered by things like customer arrival, movement through a facility, completing an interaction or a departure.

AMBIENT INTELLIGENCE

These five trends come together to create an ambient intelligence, technology that's so pervasive and advanced that the user interface completely disappears into the background of our lives—spoken or unspoken. Voice interface digital assistants are the precursors to intelligence embedded in furniture, vehicles and buildings that not only respond to our needs, but also gently nudge us toward healthy behavior.



AMAZON DESIGNS A FRICTIONLESS END-TO-END EXPERIENCE

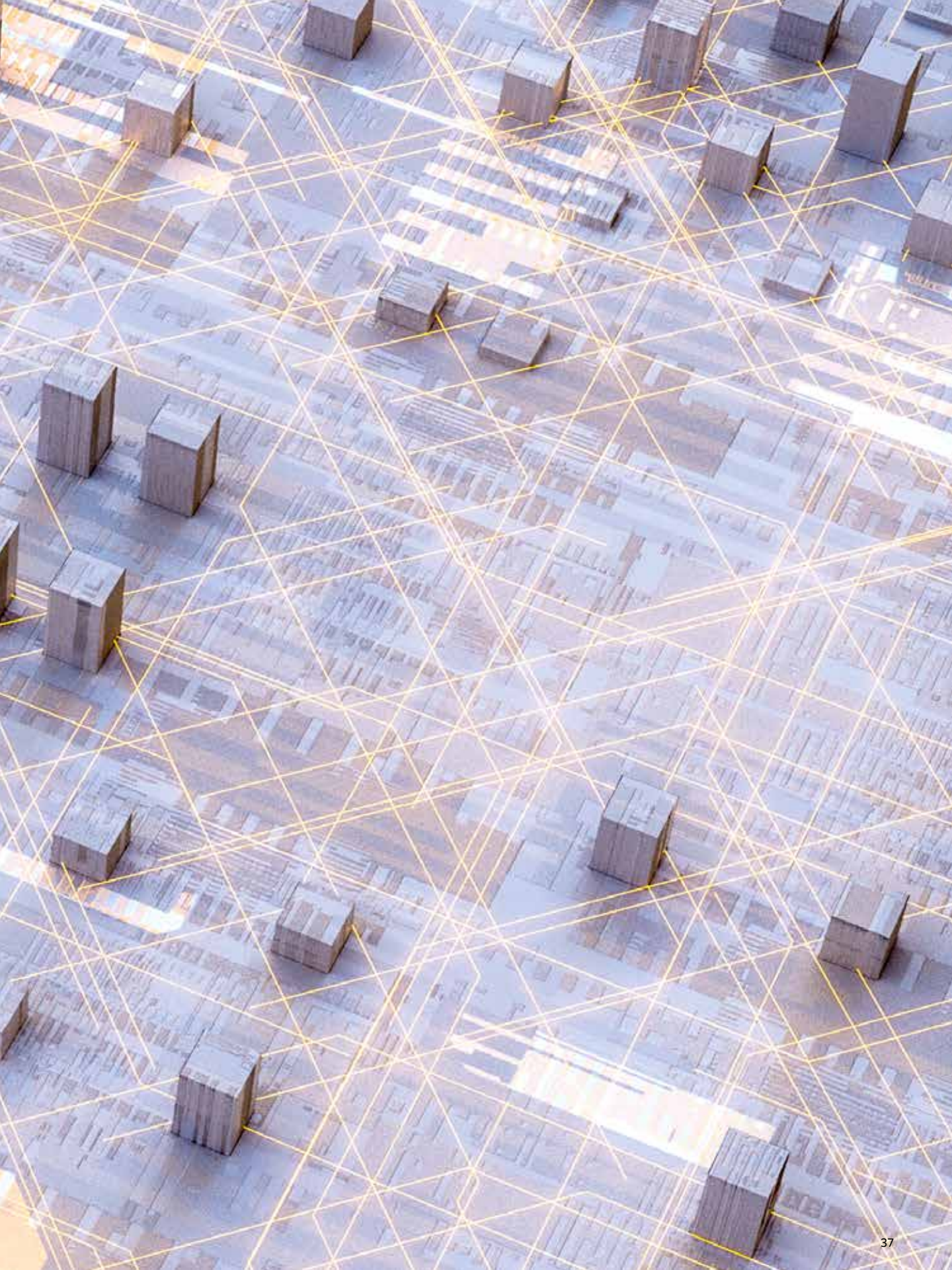
AMAZON GO

Amazon's latest foray into bricks-and-mortar retail is an excellent example of a frictionless phygital experience. Shoppers swipe their smartphone at a turnstile when entering the store to establish their presence and create a link to their Amazon account for payment. The products are like a high-end convenience store: beverages, beer and wine, snacks, sandwiches, ready-to-eat meals, as well as limited produce, salads, meats and meal kits. The store recognizes when items are taken off the shelf and adds them to the shopper's virtual cart using a combination of computer

vision, sensors and machine learning. Amazon describes this process as one similar to applying self-driving car technology to a retail environment. This same technology also tracks shopper movement and behavior within the store, which is more insightful than the loyalty card purchase data collected by most retailers. Since cameras are mounted in the ceiling, the technology is unobtrusive. When they're done shopping, shoppers simply walk out of the store and receive their receipt within minutes.

“ — ”

Every technology solution must simultaneously meet an end-user need and a business need. Technology is the enabler, not the driver.



Smart Bets

HEALTHCARE LEADERS should identify the strategies that perform well under both fee-for-service models and value-based reimbursement models. Technology can be a key enabler for these strategic initiatives. Things like improving efficiency and controlling costs will always be beneficial. A great example of this approach would be to lower post-surgical readmissions. Outpatient surgery is an end-to-end experience that can be improved by technology, both on-site and for recovery at home. There are significant financial incentives to provide patient and caregiver support to lower the risk of infection, poor therapy adherence and ultimately risk of readmission.

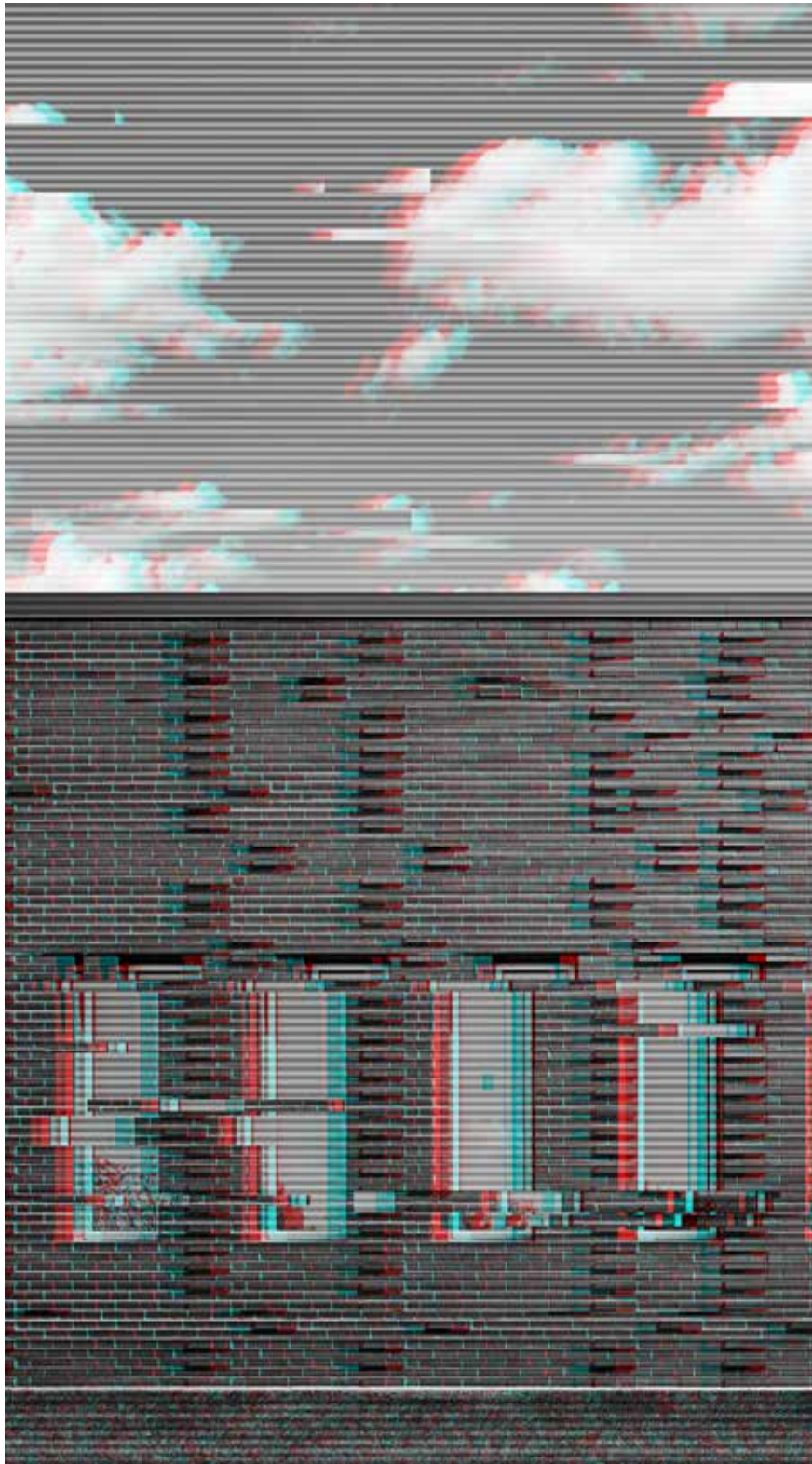
More generally, survey the care continuum for issues of quality, communication and care coordination that align with financial drivers. Engage cross-functional teams to generate ideas for how human-technology hybrids can improve the experience.

EXPANDING THE HEALTHCARE LANDSCAPE

“We’re seeing the landscape of healthcare expand beyond the capabilities of medicine. Art, music, nutrition, nature, fitness—these are all contributing factors and hardly any are being addressed in a typical hospital, not to mention a traditional physician visit. We must broaden our definition of wellness and adapt the healthcare environment appropriately.”



Caroline DeWick
STRATEGIC INNOVATION
DESIGNER





Enhance the face-to-face experience.

Technology will not replace all face-to-face provider interactions anytime soon. And patients still value seeing their provider, but they want it to be a superior experience. Use technology to better honor their time by adding value to their time on-site and enhancing the provider interaction. The current generation of patient portals and mobile health apps don't distinguish whether the user is at home, out and about or at a healthcare facility. This context is important. When they're off-site, they're looking for convenience. When they're on-site, patients want a sense of progress and a sense of control over their environment. Phygital experiences put the bricks-and-mortar context front and center, augmenting it with information, guidance and the occasional sense of delight.

Forward Clinic is a tech-enabled primary care clinic launched in San Francisco in early 2017. Like many concierge medicine practices, Forward has designed all aspects of the practice, including technology, the facility and service model, to enhance the patient-provider relationship. It has gone beyond other concierge practices in the way technology is interwoven to support the on-site experience. Forward Clinic has identified every step of the experience—both

for the patient and provider—that leads to dissatisfaction, and then applied technology to improve it. It began with a smart combination of repackaged, existing technology as the building blocks, and then developed a few highly differentiated technologies to enable the desired experience. Before the exam, patients visit a custom-designed biometric kiosk to capture their vitals. Some of the off-the-shelf components include iPad registration, a mobile app, on-site

lab testing, genetic testing and approved wearable devices.

The exam room is recognizable, yet enhanced with a large screen monitor and a comfortable exam chair for a more consultative interaction. The real difference in the exam room is the physician's ability to present the patient's medical history, genetic information, wearable data and lab results in real time. Forward also developed proprietary AI to function



as a medical scribe to capture physician notes from the interaction, as well as help the physician filter and focus on the most relevant information. It also created its own care management platform to house the medical record, ingest and present data, populate the mobile app and enable secure patient-provider communication.



Augment and extend the provider.

Human experts in the form of providers and care teams are the fundamental unit of care delivery. Patients look to their providers as experts who can quickly filter a pile of information, identify patterns and make recommendations. Unfortunately, this one-to-one model doesn't scale well. Even one-to-many models like health coaches or patient navigators are not economically viable at larger scales. Technology can help automate "the dumb stuff" and scale the influence of the provider to thousands of patients. Look for opportunities to create "human-technology hybrids" that honor the importance of human expertise, and scale their influence through automation, personalized content, behavioral economics and digital engagement. Importantly, this type of digital engagement gives providers a clear sense of patient adherence and progress.



Digital therapeutics, like **Omada Health**, are great examples of this type of hybrid. Omada Health is a behavior change program for chronic diseases that combines human coaching with adherence monitoring, peer influence and digital interactions. It was the first online diabetes prevention program in the United States. Its platform harnesses both behavioral economics and data science to reinforce progress and intervene before poor adherence becomes a bigger problem. Members receive a welcome kit containing a wireless scale, handbook, resistance band and measuring tape. They interact with their coach, connect with peers, and track food intake, activity levels and weight through the mobile app. The program is highly effective, lowering the risk of diabetes by 30%, stroke by 16% and heart disease by 13% in one year. It estimates employers and health plans will recoup the cost

of the program in two years and save \$2,000 per enrollee over five years. As of January 2018, Omada is embarking on a large, randomized, controlled study to measure the effectiveness of integrating the Omada program into clinical practice.

"What's really exciting about this clinical trial is that we also are studying how best to integrate effective, scalable preventive services, especially digitally enabled ones, into typical clinical practice," said Paul A. Estabrooks, distinguished chair in the Social and Behavioral Health Department at UNMC and principal investigator of the study, in a statement. "In fact, we'll be able to shed some light on strategies that will really speed the translation of high-quality, research-tested diabetes prevention interventions into sustained clinical practice."

The Hospital for Sick Children (SickKids) in Toronto, in collaboration with IBM, set out to use real-time vitals monitoring to predict and anticipate nosocomial infection. Researchers have shown through retrospective data analysis that the warning signs for such infections begin 12 to 24 hours before any overt signs manifest. The challenge is that the changes in vital signs are subtle and still within the normal range. Although clinical monitors

take measurements many times per second, the data is summarized as point-in-time values every 30 minutes, losing the richness of trends over time and during real-time changes. Clinicians worked with software developers to translate clinical rules into algorithms to assess the streaming vitals data in real-time. Project Artemis, the resulting analytical platform, is currently undergoing clinical research to demonstrate its effectiveness.

"I think the framework would also be applicable for any person who requires close monitoring. These kids are at home, going to school, participating in sports—they're mobile," said Dr. Andrew James, staff neonatologist. "It leads into the whole idea of sensors attached to or even implanted in the body and wireless connectivity. Theoretically, we could ultimately monitor these conditions from anywhere on the planet."



Driven by real-time data.

Kevin Plank, CEO of Under Armour, calls data "the new oil." Organizations that are able to derive insights generated in the course of serving customers and running their enterprise have a distinct competitive advantage. For online retailers, social media platforms and app developers, this data can be more valuable than the product or service that generates it. They can identify operational issues as they arise, anticipate the behavior of customers and use a variety of interventions to redirect customer behavior. While the healthcare provider possesses incredible amounts of data about the clinical status of patients, understanding patient behavior, preferences and motivations remains elusive. Further, the healthcare facility, the core of the healthcare delivery system, has been ignored in digital transformation. The right technology components are now available to give healthcare leaders real-time visibility into patient flow, patient experience and panel health status, whether patients are on-site or remote.



Maintain connections in between.

Pregnancy represents a transformational experience for an expecting mother and a well-defined care plan. The 12 to 14 prenatal appointments with an OB for low-risk pregnancy is standard. Despite these frequent exams, the expecting mother has questions and concerns between visits. Mayo Clinic developed a technology-enabled care model called **OB Nest** to facilitate communication, enable direct support from the nursing team and meet the needs of patients outside of scheduled visits. To develop the platform, the design team and OB physicians conducted 14 experiments, ranging from care team messaging to in-home monitoring to online peer communities, to test different engagement models with patients and providers. Insights generated from these experiments, whether successes or failures, informed the development of a single cohesive model of care that can be used throughout Mayo's OB practice. The

resulting technology-enabled model of care prioritizes convenience without sacrificing support and quality care. Four prenatal visits are replaced by virtual visits with a nurse, either by phone or online. Between visits, the expecting mother is supported through secure messaging, an OB nurse phone line, online care community and self-monitoring. The end-to-end experience is created by a blend of in-person visits, an expanded care team and digital engagement.

Most people interact with the health system a few times a year in 20-minute increments. Even the sickest, most complex patients consider themselves “patients” for only a small fraction of their lives. People make decisions that impact their health every day. Providers and health systems have very little visibility into these choices, and therefore limited visibility into adherence. Clinicians need platforms that help fill the gaps in between appointments. Our research shows that people welcome digital interactions as a way to stay connected with their providers. They are looking for reminders, checklists to keep them on track and motivated. People are generally willing to share health, activity, and lifestyle data if it will be used to improve their diagnosis and treatment.



THE DIGITAL HEALTH WORLD needs to be connected to the world of care delivery. There must be a connection between how care has been delivered in the past and how it must be delivered safely and efficiently in the future. Who knows that past better than healthcare professionals who have been there and recognize the shortcomings of episodic care? And who is more prepared to lead the creation of this future state?

Healthcare technology is not about chasing the latest and greatest gadget; it's about harnessing technology to augment and enhance the fundamentally human experiences of healthcare. Healthcare leaders should take a disciplined approach to assess the value proposition of new technology offerings relative to the care model and consumer-to-patient journey—and then make investments that are well-positioned for both the fee-for-service model and value-based payment modes. ▲

Mirror, Mirror

The design of homes, and specifically the centers of attention and activity, has changed as our lifestyles have evolved. Formal parlors have been replaced by family rooms, man caves and home theaters. Front porches have been replaced by patios, decks and outdoor kitchens. Once deeply rooted neighborly communities are being overshadowed by sprawling apartment and condominium complexes and endless cookie-cutter subdivisions, where everyone pulls into their garage, stays in their fenced-in backyard and perhaps only knows their neighbors by the cars they drive.

What was once a culture of community is now one based on independence and convenience—especially with digital commerce and the on-demand expectations of today’s generations.

How does this influence the built environment in terms of health and healing? The answer is simple: Bring health and healing to the home.

Now, more than ever, we can create a center of attention for health and wellness within the home by shifting monitoring, diagnostics and equipment from the hospital and clinic to the home. This new functionality is not a space unto itself, but an ambient intelligence woven into the natural flow of life activities. The hallway mirror becomes a daily vitals check, an information display and a video portal for clinical consults. It replaces the need to physically drive to a physician. It puts the health status of an individual literally in front of their face. Furthermore, it opens doors to health and wellness that may otherwise be hard to attain across urban and suburban sprawl.

Further preparing the home to react to, or even predict, health status changes is the way of the future. When health status changes, due to disease, injury or aging, the home is ready to be the primary venue of care. Proper outlets, fixtures and vents are the new norm in the architectural space, and additional equipment is dispatched by an autonomous vehicle to be installed in the appropriate room. Face-to-face interactions with care providers are supplemented by remote monitoring, virtual check-ins and self-care options. The home becomes the hospital and the patient is humanized as the dweller.

A
▼

- + Biometric Bathroom Mirror
- + Wearable Device
- + Bedroom Lights

= DAILY NUTRITION STATS

B
▼

- + Smart Grocery Cart
- + Menu Tracking
- + Fitness Watch
- + Smart Scale

= BMI STATS, PROGRESS, RECOMMENDATIONS

C
▼

- + Roomba Vacuum
- + Kitchen Fan
- + Outdoor Air Quality Sensor
- + Weather Channel Feed

= COPD AIR QUALITY HOME & COMMUNITY REPORTS

D
○

- + Car Seat Sensor
- + Office Chair Sensor
- + Couch Sensor

= DAILY SEDENTARY METER

E
□

- + Smart Fridge
- + Grocery Store List
- + Geo-Location Mapping
- + Rx Diet
- + Meal Tracking

= DAILY VITALS RECORD

F
■

- + Wearable Device
- + Smart Blood Pressure Cuff
- + Smart Exam Room

= AUTO-ADJUST ENVIRONMENTAL CONTROLS TO CALM PATIENT

G
■

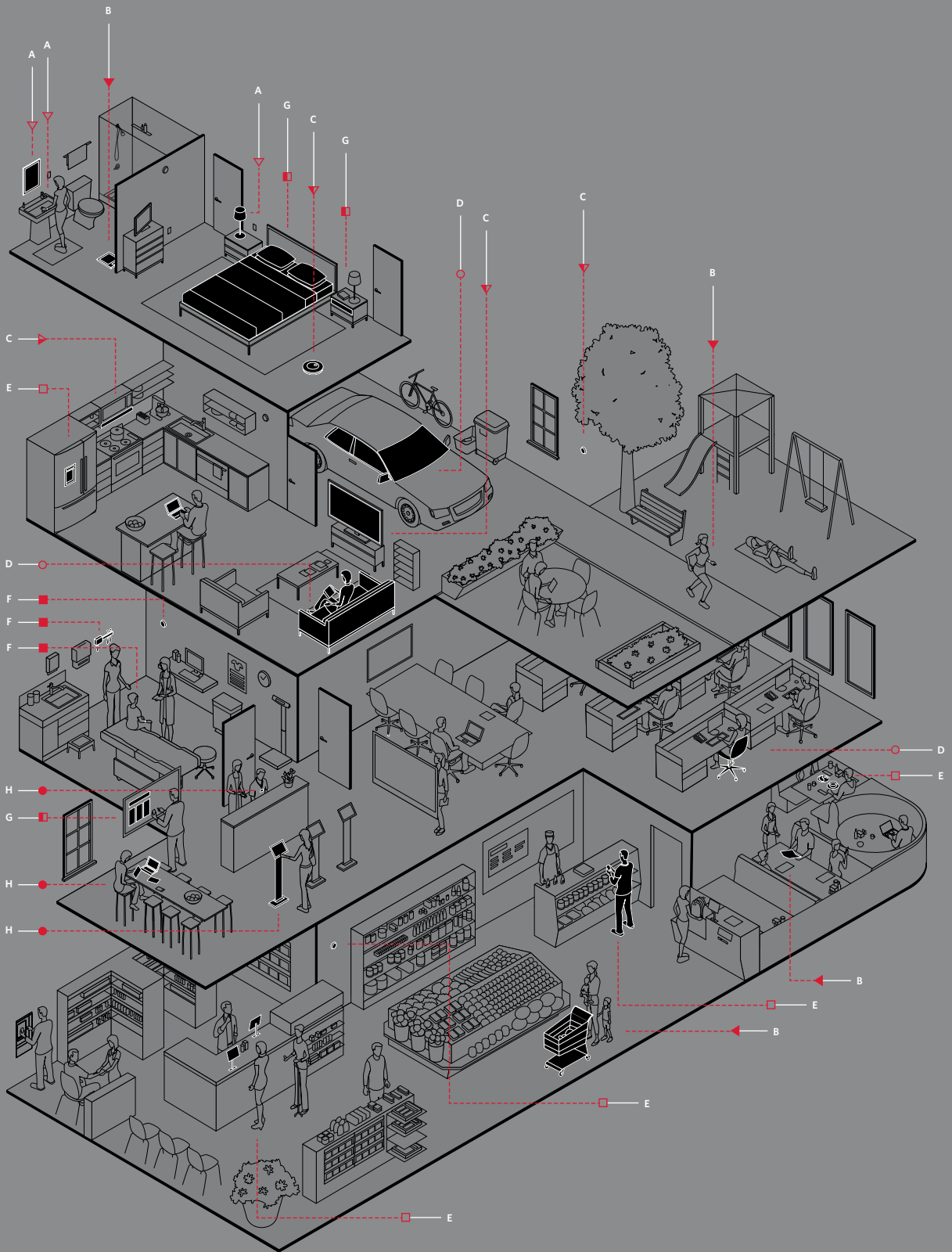
- + CPAP Machine
- + Smart Bed
- + Live Physician Tracking

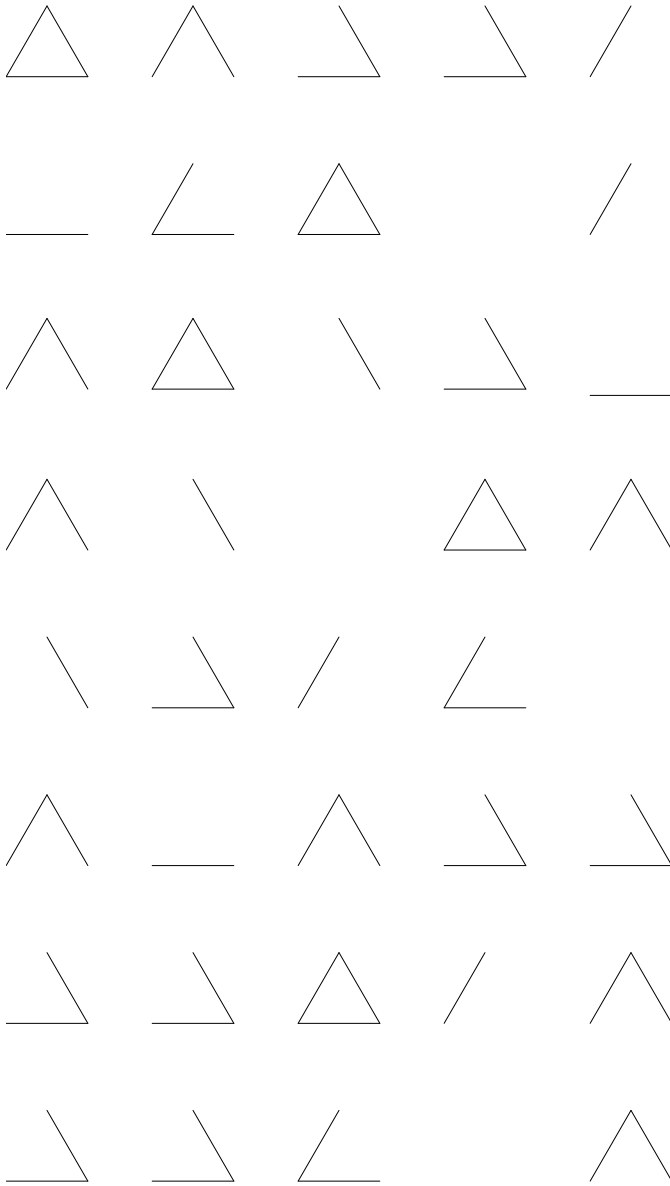
= DAILY SLEEP STATS

H
●

- + Kiosk Check-In
- + Doctor Tracking
- + Edu-tainment

= FULFILLING WAIT FOR PATIENT





HOW TO INTRODUCE THESE CONCEPTS INTO YOUR ORGANIZATION.



What end-to-end experiences could technology help us with?



Do the desired results from these experiences meet a user need, a business need or both?



How can we identify the care continuum for issues of quality, communication and care coordination that align with financial drivers?



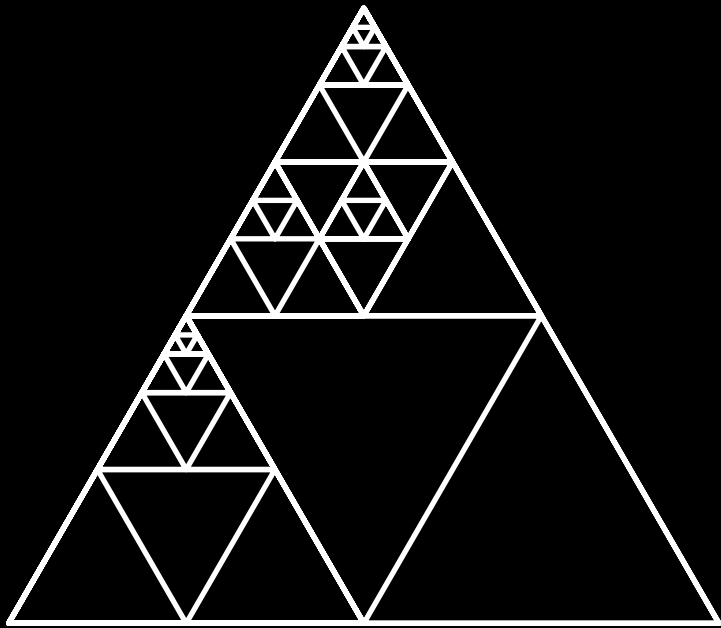
How might we engage cross-functional teams to generate ideas for how “human-technology hybrids” can improve the experience?



What opportunities exist to actually create these human-technology hybrids?

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FOR SOURCES CITED IN THIS ARTICLE, SEE PAGE 78



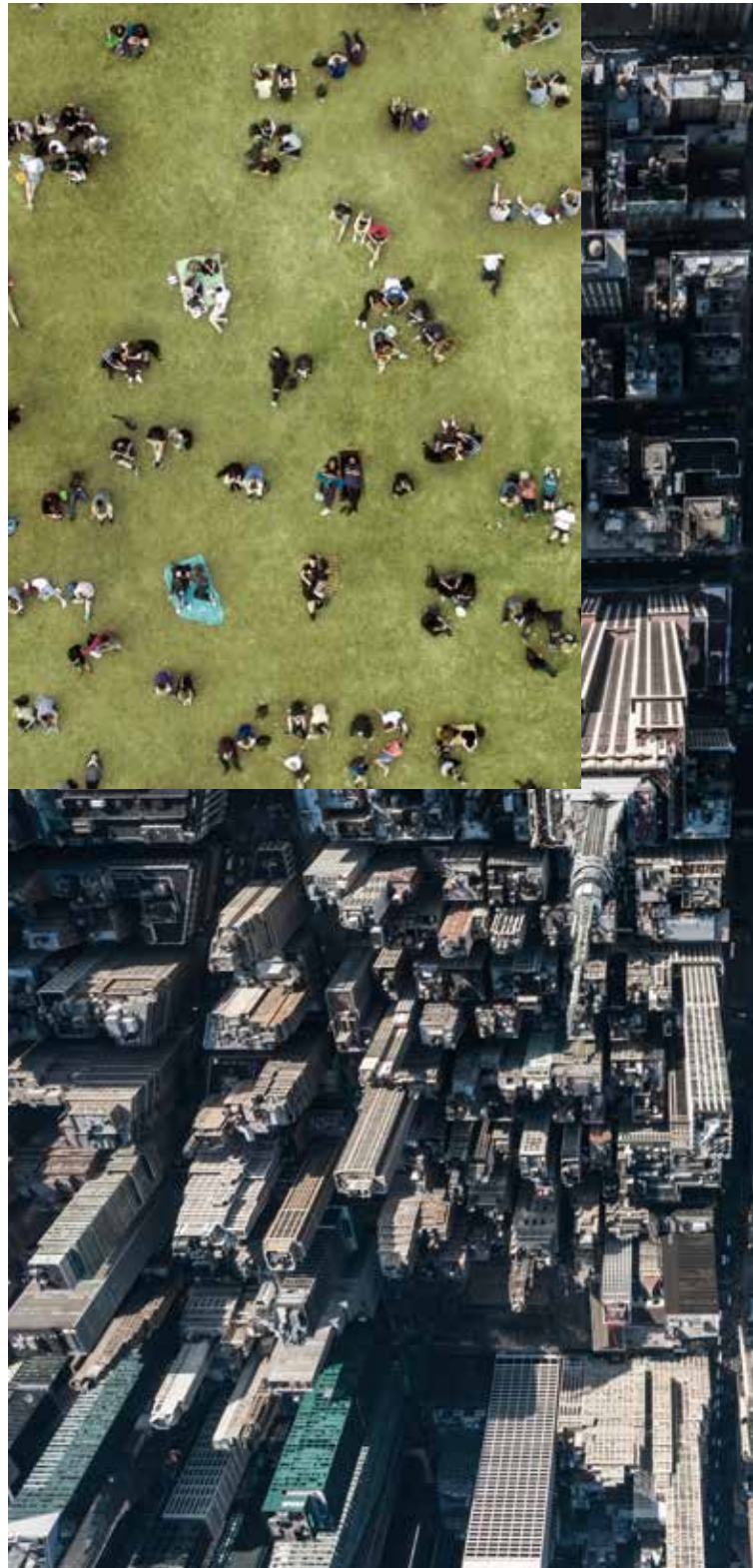
The Value of Placemaking in Healthcare. How the Built Environment Can Impact Human Behavior



TWENTY-FOUR HUNDRED years ago, Aristotle wrote of the importance of human connectedness and the role that leaders should have in facilitating connections that enhance human development. More recently, drawing on the pioneering work of Andrés Duany and Peter Calthorpe—both modern-day urbanists—Charles Montgomery argues that “The power of scale and design to open or close the doors of sociability is undeniable.” His point is that place—and more specifically the design of place—can either encourage or hinder human connections.

Most healthcare leaders aren’t familiar with Duany, Calthorpe or Montgomery. At least a few are probably behind on their Aristotle. But most have some working knowledge of innovator Steve Jobs. One of Jobs’ early design projects was the current Pixar building, a brownfield development located on the east side of the San Francisco Bay in Emeryville, California. To the casual observer, Pixar’s headquarters comes across as an adult playground, full of what appears to be gratuitous amenities, like an oversized amphitheater, sports fields and internal congregation areas. What many fail to appreciate is the excruciating planning detail that guided the building’s patterns of movement (i.e., any area that attracts people for something other than heads-down work, including entry and egress routes, toilets, refreshment stations, etc.) were all strategically located to encourage collaboration and random encounters.

Those gratuitous amenities were actually designed to bring people together. **Underlying each of these design choices was a central tenet: Intentionally designed place—or placemaking—fosters community.**





What is Placemaking?

AS THE NAME implies, placemaking is literally about how we make places in the broadest sense—the human interactions and connections that are fostered, the activities that occur, the feeling that’s evoked, the symbolism that outwardly reflects a set of values or aspirations.

The built environment is an essential component of placemaking. For instance, think about whether you would rather spend an afternoon in a lush, tree-lined park or in an abandoned, concrete-covered lot. Also consider how physical objects give subtle clues about how to use a space, e.g., a park bench suggests different behavior than the lounge chairs smattered throughout the Highline in New York City.

And while the physical environment is important, so too is a focus on interpersonal connection, community and even economic development. The roots of placemaking date back to the 1960s when urbanists put forward people-centered principles in sharp contrast to the traditional planning perspectives of their day. While mid-century urban planning was characterized by top-down decision-making and car-centric policies, these new approaches aimed to shape human-scaled environments that facilitated social interaction in public spaces and improved the quality of life in the community, starting with the individual.

Placemaking activates spaces and draws people in to play, interact and enjoy. We’ve all experienced public spaces that have been designed well—whether it’s Millennium Park in Chicago or the Ferry Building in San Francisco—these “spaces” become “places” inviting visitors to stay by making them feel connected, personally and culturally, to the community around them. Placemaking happens at many scales, from a large urban context (a neighborhood

or planning district, for example) to smaller areas (like public art projects, pockets of green space on city blocks or even public seating areas on sidewalks).

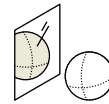
AT ITS CORE, PLACEMAKING STRIVES TO:



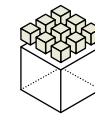
— Build social capital through community partnerships and networks of individual connections



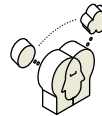
— Create meaningful, memorable spaces that draw people in



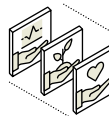
— Reflect the unique assets of each particular community (e.g., cultural and natural features)



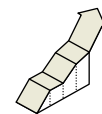
— Emphasize the human scale



— Understand and respond to the needs of the community members



— Foster a sense of belonging



— Drive economic development

The power of placemaking lies in impacts that can be immediate (e.g., sparking a new relationship that leads to collaboration, crossing organizational silos) and long-term (e.g., fostering healthier lifestyle choices, boosting financial performance). Both are critical considerations for healthcare leaders.

Outside/In:

Placemaking + Social Capital =
Improved Outcomes

WHILE SEVERAL COMPETING definitions of social capital are bandied about in social science literature, a widely accepted description comes from Robert Putnam's seminal book, *Bowling Alone*, which states: "Social capital is the connection among individuals—social networks and the norms of reciprocity and trustworthiness that arise from them." In communities and organizations, social capital means how people relate to each other and what that means for how they work together. This includes factors like trust, cohesion, support and engagement. Through his extensive research on social capital, Putnam concluded that community and personal health were at risk due to decreased connectedness.

A 2013 *Harvard Business Review* blog posting makes a strong case for the importance of building social capital in healthcare organizations:

“ For a discipline so fundamentally altruistic, healthcare is oddly dysfunctional around relationships. That's changing fast, of course, as providers are finding that cooperation is as critical to caregiving as cutting-edge tests and therapeutics. Yet building social capital—the trust and reciprocity among individuals and between groups—is rarely a specific focus of organizational leaders, though we believe it is as essential as financial resources for health care delivery systems.

According to the authors, research suggests that positive outcomes associated with greater levels of social capital in healthcare organizations include increased coordination of care, increased job satisfaction and organizational commitment among staff and faster dissemination of evidence-based medicine. Higher levels of social capital (in the form of better communication between staff and patients) may also be associated with improved patient outcomes, such as shorter lengths of stay and improved functional health. Other studies link social capital to mortality, life-expectancy, cancer, cardiovascular disease, obesity, diabetes and various functional outcomes.

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Through his extensive research on social capital, Putnam concluded that community and personal health were at risk due to decreased connectedness.

A SMARTER WAY

"Technology makes it increasingly easier to live in our own bubble, but placemaking can bridge divides, decrease social isolation, and make us more empathetic. How can we really solve for problems like chronic disease, addiction, and gun violence without it?"



Beth Zacherle
STRATEGIC INNOVATION
DESIGNER



Building social capital is fundamental to the process of placemaking. Consequently, a significant benefit—enhancing the connections between people and improving related outcomes—could surely be derived from bringing placemaking inside healthcare organizations and communities.



Inside/Out:

Placemaking, the Social Correlates of Health and Economic Development

Place and the Social Correlates of Health

Today's healthcare delivery model is mostly organized around acute, episodic and less frequent interactions. The model—wherein, a physician provider diagnoses and treats—is effective for “mechanistic” kinds of issues such as emergency cases, surgery, issues that can be addressed primarily or exclusively with medication and so on. Without doubt, the need for acute, episodic care will endure.

But increasingly, the nature of people's health conditions is changing. Today, lifestyle-related disease—particularly chronic illness—is burdening the system both in terms of demand and cost. Recent models of population health suggest that access to clinical care and quality of care account for only 20% of health outcomes, while health behaviors and lifestyle choices (30%) and social and economic factors (40%) contribute far more significantly.

Physicians can diagnose disease and recommend treatment, but success ultimately requires a deep understanding of the social, non-medical issues that manifest in clinical problems over time if not addressed. These characteristics create a much more complex situation, one that the episodic care model is ill-equipped to solve.

To that end, community engagement beyond the walls of the traditional healthcare institution has received renewed attention, primarily to address what is often known as the social determinants of health. (Of note, we prefer the term “social correlates of health,” which sounds less deterministic). While great uncertainty currently exists regarding the future of healthcare policy and legislation in the United States, “The train has left the station” when it comes to this shift in focus: Community leaders, private sector-payers, employers and healthcare providers all agree that achieving better outcomes at a lower cost will only be possible by applying holistic disease prevention and wellness interventions upstream.

As she assumed the responsibility of associate editor for the *American Journal of Public Health*, Hortensia Amaro wrote:

“The last three decades have produced a large and rich body of research documenting that where we live, grow, work and play determine not only life opportunities, but also determine risk of illness and individual actions taken to prevent or treat illness. As a result, at the forefront of contemporary public health discourse are complex questions of how to move upstream in community- and population-level interventions to improve health.

Yet, progress on how to move upstream in our actions has developed more slowly than progress in our ability to describe the role of context and community-level factors that shape major causes of morbidity, mortality and well-being.”

Placemaking can help create a new health-based foundation for communities—and unique micro-communities—enabling people to live longer, happier, more fulfilling lives. It can reduce the cost of care, instigate growth and economic development in communities and build a competitive edge for healthcare systems. Placemaking, vis-à-vis the development of social capital, can help improve outcomes. It is, therefore, worth considering as one solution to address the upstream correlates of disease.

Yet, Amaro's question is worthy of further consideration for healthcare leaders: How might we move upstream to make the greatest impact through a focus on place?

Short Distances to Large Gaps in Health

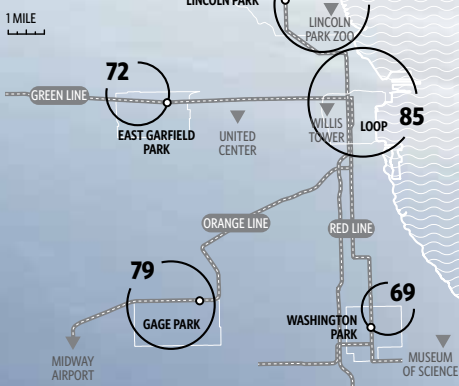
Across America, babies born just a few miles apart have dramatic differences in life expectancy. Developed by the RWJF Commission to Build a Healthier America, the following city maps show life expectancy values alongside common geographic landmarks, such as subway stops and highway exits, to illustrate how opportunities to lead a long and healthy life can vary dramatically by neighborhood in communities across the United States.

IN THIS CHAPTER:

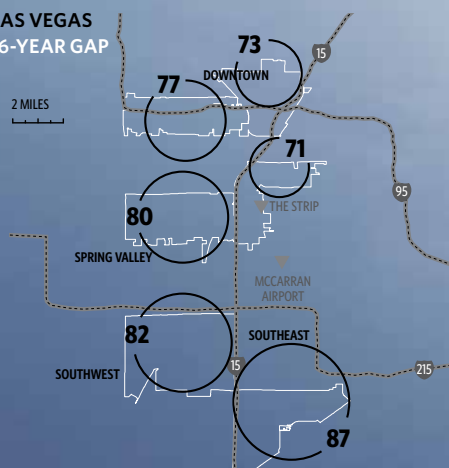
Chicago ILLINOIS	Las Vegas NEVADA	Phoenix ARIZONA	Richmond VIRGINIA	Trenton NEW JERSEY
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CHICAGO 16-YEAR GAP



LAS VEGAS 16-YEAR GAP



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Central to this solution is the idea that a community cannot be healthy unless it is economically secure.

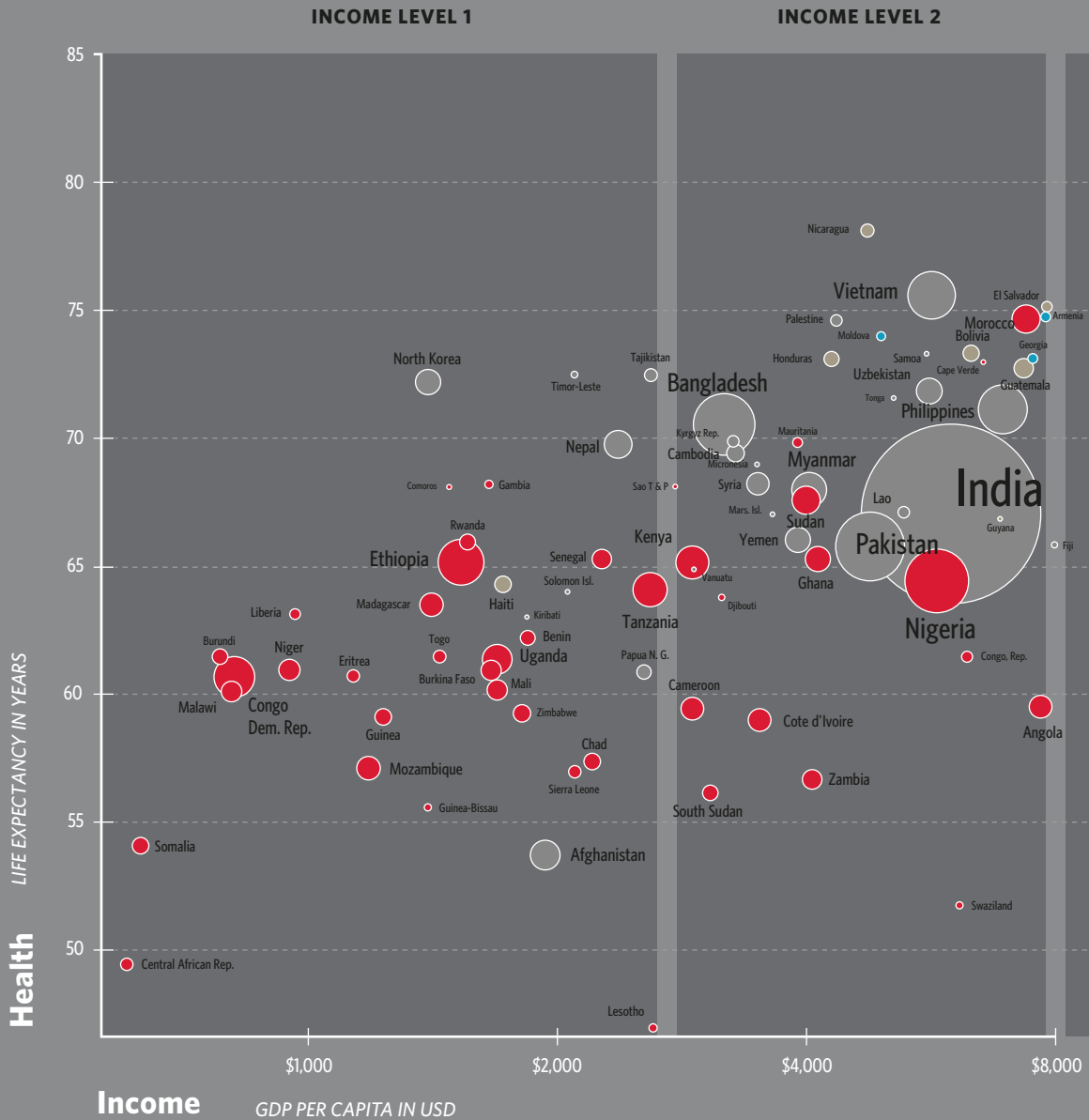
Placemaking and Economic Development

In 2013, Kaiser Permanente (KP) launched a project called Re-Imagining Ambulatory Design (RAD), an ambitious initiative to recast the entire ambulatory delivery network from the ground up. One of the initiative's platform solutions, called CULTIVATE, focused on leveraging KP's collective purchasing power and workforce to improve health at the community level. Central to this solution is the idea that a community cannot be healthy (i.e., successfully address the social, non-medical correlates of disease) unless it is economically secure.

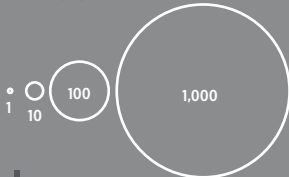
KP started CULTIVATE in one of its most underserved geographies, an area in south Los Angeles with some of the greatest health disparities in the Southern California region. Beyond the traditional community health needs assessment, KP partnered with community and civic leaders, local small businesses, national businesses committed to investing in overlooked areas and an economic development partner called the Initiative for a Competitive Inner City (ICIC). Together, this collective of leaders is focusing on ways to develop and enhance core business competencies within the community to help businesses gain access to equity and debt financing. Further, more established organizations have committed to co-locating branches of their businesses with local players to enhance community value. For example, KP located a new 100,000-square-foot ambulatory center as an anchor in the community. Serving more than 50,000 local residents annually, the building was constructed in part by community members who underwent a job retraining program. The focus is to improve wages, create a sustainable pipeline of job creation and intentionally invest in workforce development and directed purchasing.

Arguably, this is a form of placemaking: using intentional design—in this case, of business—to affect change and improve life at both the community and individual level. As dollars are invested into underserved areas, like south LA, and into established business partnerships with local proprietors, the complexion of the community begins to change. Tax dollars are generated, which go to infrastructure improvement. Blighted and abandoned buildings are razed and replaced. Green space is developed. And so on.

How Income Can Predict Life Expectancy, by Country



Size by Population
In millions

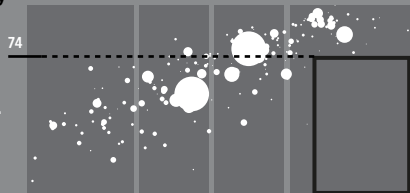


Color by Region



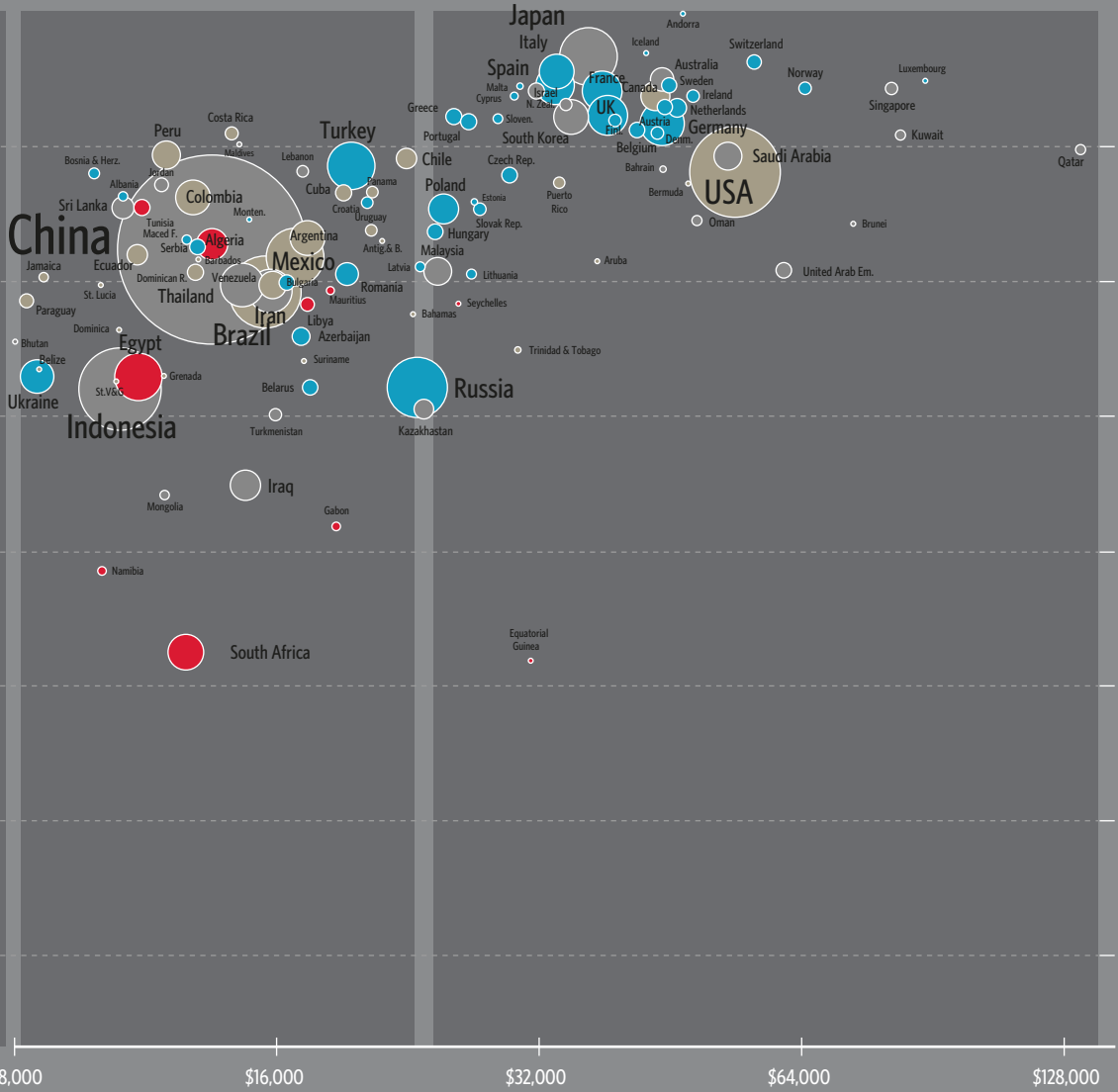
The Healthy Wealthy

There are no countries in this high-income zone that have a life expectancy below 74.



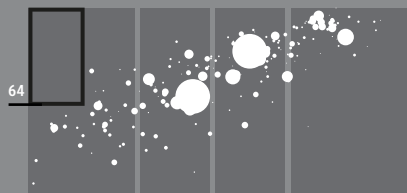
INCOME LEVEL 3

INCOME LEVEL 4



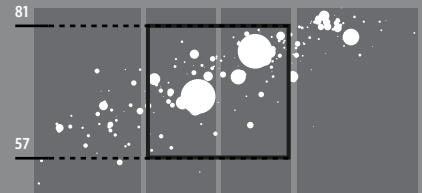
The Sad Truth

There are no countries in this low-income zone that have a life expectancy above 64.



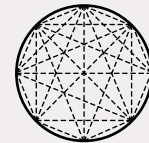
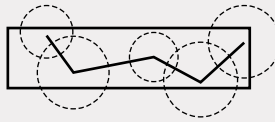
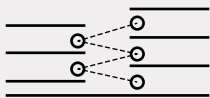
The Wide Gap

Most countries fall into the middle-income zone, but still display a wide range of lifespan, depending on how money is used and distributed.



Placemaking at Scale

Placemaking is about how we make places in the broadest sense—the human connections that are fostered, the activities that occur, the feeling that’s evoked and the symbolism that reflects a set of values or aspirations.



BUILDING

Shirley Ryan AbilityLab

The building was organized much like a city or town with homes (patient rooms), streets (corridors) and neighborhoods (patient care floors) all contained in the larger community (building), and a sense of neighborhood belonging on each floor. While there are intentional interactions, this organization also encourages serendipitous moments of intersection to occur.



COMMUNITY

Peña Station NEXT

This community plan is designed as a “Wellness Network” with five nodes. The central community node, “Living” is organized around a central park, with a wellness center, grocery store and residential and commercial uses activating the edges. Planners created unexpected pairings—yoga + kitchen garden, loading dock + track, school + grocery—that enable new, more productive ways to engage in our environment.



NETWORK

Kaiser Permanente CULTIVATE

In order to have a greater impact on the health of its members and its communities, Kaiser Permanente sought to unleash the potential of its entire organization, leverage its large workforce, its purchasing power and its relationships through this new strategy. By reaching out to a broad network throughout Southern California, KP uses its assets and resources to focus on reducing the harmful determinants of health that can’t be influenced by the traditional medical model: education, employment, poverty, housing, social structures and access to healthy food and transportation. It has also embarked on a demonstration project with the Initiative for a Competitive Inner City to drive economic prosperity in America’s inner cities through private sector investments to create jobs, income and wealth for local residents.

A Strategy for Applying Placemaking in Health and Healthcare

WITH SO MANY different sources of influence and contributing factors, affecting change and improving health and wellness can seem daunting for healthcare systems and the communities in which they reside. While many providers and healthcare organizations understand health this broadly, a tendency exists to default to a narrow treatment-based perspective on care delivery. In reality, improving health and wellness is a difficult, multi-layered, complex problem in need of creative, new solutions.

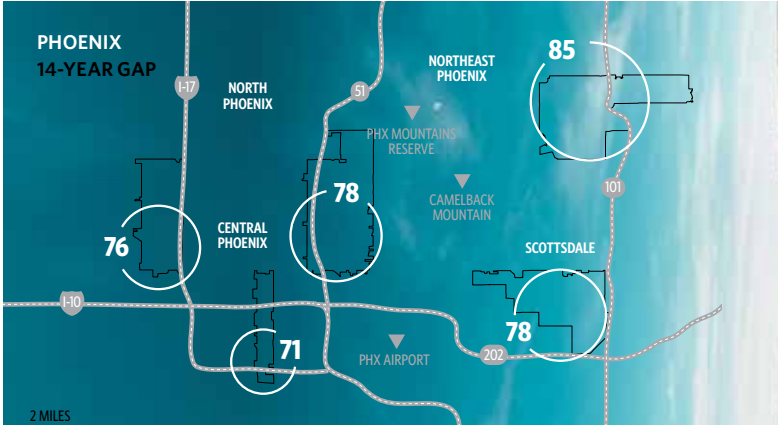
Drawing on findings and observations from past and current projects, we contend that one approach to tackling these problems, in the future, is to apply established principles of good urban design. By simply looking at the principles differently, and by translating them for application in the context of community and individual health and well-being, significant change can be realized quickly and with minimal investment, in many cases.

1 Understand the Context and Culture of the Community First

A recent report by the Project for Public Spaces emphasizes the importance of understanding the characteristics of individual communities:

“ Placemaking is not just about the outcome of an improved place, it is grounded in the process itself— observing, listening to and asking questions of the people who live, work and play in a particular area in order to understand their specific needs and aspirations for the place.

Placemaking is successful only when it is genuine and reflective of the community in which it occurs. Consequently, an essential preliminary step is to garner a deep understanding of the context and culture of the community where a place will be made. In the previous Kaiser Permanente example, leaders didn't assume they knew the community or its needs, nor did they rely solely on the outputs of a needs assessment. Only through meaningful partnerships and a year-long dialogue with community residents and leaders did KP start to form an impression of the context and culture of the community.





Design for Creative Collisions

Like the Pixar example, an essential pillar of placemaking is a focus on social interactions and building social capital, which are key not only to delivering quality healthcare by providing improved opportunities for collaboration among care team members, but also enabling support, trust and a sense of belonging among patients, family members, providers and the broader community.

Social capital is built through repeated opportunities for exchanges between members of a network (e.g., patients, care teams, community members, civic partners, senior leadership and researchers). Exchanges may be formal (e.g., grand rounds, patient conferences, community group meetings) or informal in

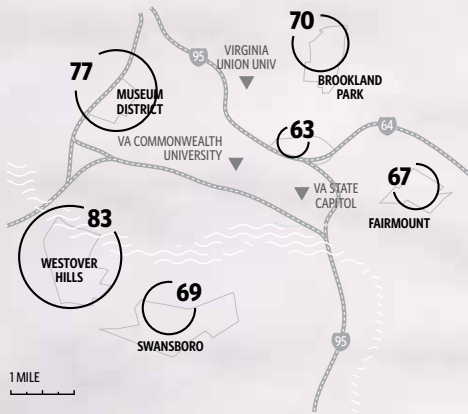
nature (e.g., personal socializing, chance encounters). And while it's reasonable to think that the people who need to collaborate and interact will find a way, happenstance takes planning—and placemaking can help.

This can be accomplished by providing close and accessible spaces that allow different groups of people to intermingle, such as a new approach to workspaces, areas of respite, green space or food service amenities. But in the end, location is key. If people have to travel too far, they simply won't travel for most things. To go back to our Pixar example, it is reported that in early designs Steve Jobs actually proposed only one set of bathrooms for the complex, thus forcing occupants to cross into the building's central spine and

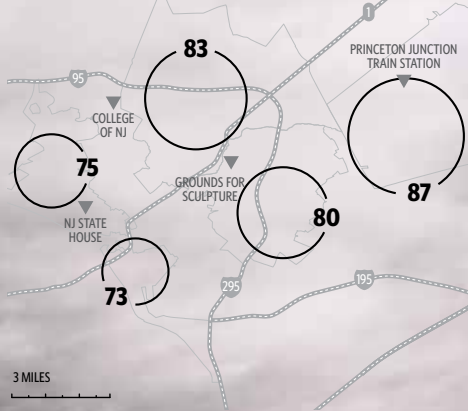
atrium multiple times each day. His theory was that this would induce unexpected collisions, the proverbial curbside consultations that often spark new ideas and cross-pollinate communication across organizational siloes. Thankfully, Jobs' colleagues eventually convinced him to allow a second set of toilets.

The Pixar example aside, outfitting spaces with whiteboards for musings and comfortable seating to facilitate lingering can also encourage creative collisions. Scheduling meetings that bring people together is great, but also providing a place to allow these collisions to happen in an unplanned way is essential in building social capital and networks of connections.

RICHMOND
20-YEAR GAP



TRENTON
14-YEAR GAP



// **The physical, cultural and social identities within communities are now vast and varied, and should be reflected in a changing, flexible environment.**

3 **Constantly Evolve**

Communities, and the individuals within them, are undergoing rapid change compared to past decades. An individual in the United States moves, on average, 11.4 times in their lifetime, will hold seven jobs by the age of 40 and will undergo an average of 9.2 surgeries. In the recent past, most people grew up, lived and died within very small areas where shared values were easily identifiable. The people, customs and routines of a community were familiar and didn't change much over time. This is no longer the case. Today, there is much more mobility—on a physical, social and virtual scale—with people connecting across multiple channels and to people who may not have been accessible in the past. The physical, cultural and social identities within communities are now vast and varied, and should be reflected in a changing, flexible environment.

Rapidly changing conceptions of health and well-being require health systems and communities to stay abreast of the latest trends. Project for Public Spaces, the preeminent thought leaders in the field of placemaking for 50 years, emphasize the importance of anticipating and accommodating change:

“ By nature, good public spaces that respond to the needs, the opinions and the ongoing changes of the community require attention. Amenities wear out, needs change and other things happen in an (urban) environment. Being open to the need for change and having the management flexibility to enact that change is what builds great public spaces and great cities and towns.

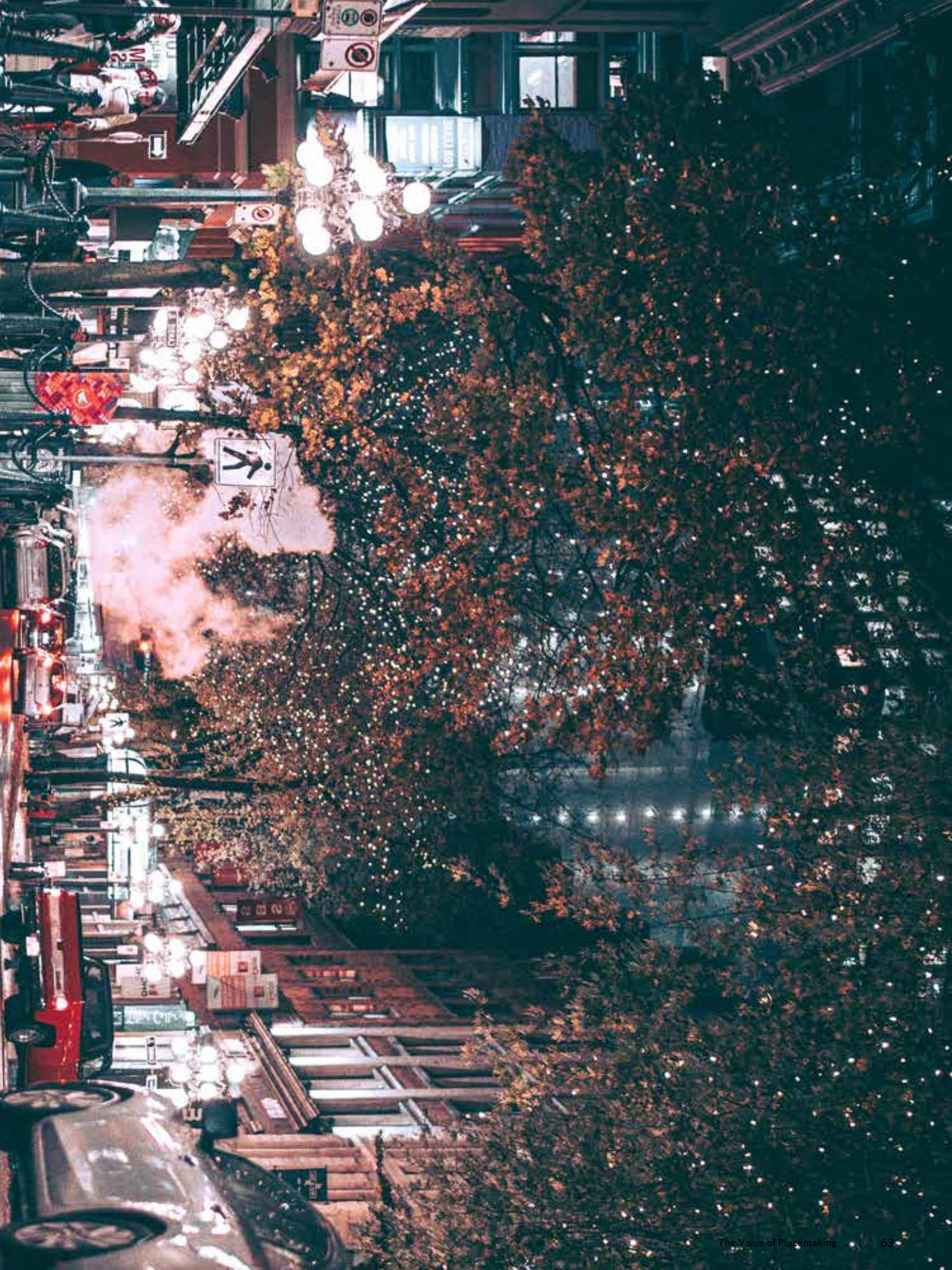
In the case of Peña Station NEXT, a new master planned, transit-oriented suburban community adjacent to the Denver International Airport, the importance of inclusion and evolution were revealed during ethnographic interviews. The community will bring new residents and visitors to this area of Denver. But as plans evolve, it will be important to embrace diversity, cater to all ages and meet the needs of those who already live in the area. Services and offerings will grow and evolve as the population increases and needs change. The Peña Station master plan was created to allow for flexible evolution of phased development, demonstrating the importance of planning for change in placemaking.



“ — ”

Placemaking is successful only when it is genuine and reflective of the community in which it occurs.

Consequently, an essential preliminary step is to garner a deep understanding of the context and culture of the community where a place will be made.



Capitalize on Moments

There are certain activities, such as waiting, that need to occur in a healthcare setting. But what if this time could be activated to make it more productive? What if family members going through similar experiences could be near each other to offer support and to share? What if the space inspired people and helped them to feel hopeful? These are all ways to capitalize on moments.

The Shirley Ryan AbilityLab (formerly the Rehabilitation Institute of Chicago or RIC) serves as an excellent example of this principle. Patients include those with catastrophic, complex injuries or chronic diseases and conditions that have led to the loss or significant impairment of a physical or cognitive function (ability), such as walking or speaking. Helping patients regain ability—as extensively and quickly as possible—through research-based therapeutic interventions is the primary goal of the new Shirley Ryan AbilityLab.

This level of lost ability is concomitant with major emotional and psychological challenges, and no therapy will be effective without motivation and hope. Caregivers and families can help motivate patients to work hard and keep going, but the building and interior experience of the hospital is also very intentionally designed to motivate and heal. This purpose-driven environment is particularly important because rehabilitation patients tend to have long stays in the hospital. As a result, almost every space—from staircases, corridors and dining areas to patient rooms—is activated to reinforce therapeutic goals. The resulting aesthetic and physical environment play a partnering role in helping patients to more quickly achieve their best outcomes and return to their lives.

Another example of capitalizing on moments comes from our earlier Peña Station NEXT example. Traditionally, services within a community (e.g., retail, schools, healthcare) are separate and well-defined. Planners for Peña Station reconfigured this long-standing siloed approach and instead offered unexpected pairings, such as yoga + kitchen garden, loading dock + track, school + grocery, that enable a new, more productive way to experience healthcare, the neighborhood and the community.



Make the Invisible, Visible

High social capital is built on a foundation of trust, reciprocity and openness. After interviewing user groups for several projects, we have found that people feel more connected when they can see the inner workings of a system; when they can look behind the curtain and see some of the magic, so to speak. Think of the open-kitchen concept popular in many restaurants. What used to be entirely opaque to patrons—the inner workings of the kitchen—is now designed to give guests visibility into the operation.

The more honest and transparent a hospital, health system, neighborhood, small town or city can be, the easier it is for people to be open to connecting and building relationships. In the case of healthcare, patients are sharing the most intimate details of their lives; it behooves health systems—and civic organizations that have a role in the broader aspects of health and wellness—to share, at least a little, about what makes them tick in an effort to reciprocate. Placemaking, and the deep connections and high social capital it engenders, can only be successful when trust, reciprocity, shared values and norms and openness are apparent to all.

Some of the ways to achieve this include visually accessible conference rooms, laboratory spaces that facilitate observation of the latest research, staff sharing their own stories through art or visual displays and clear, frequent information around wait times and delays.

Making the walled-off visible and fluid is truly at the heart of a dramatic shift in the underlying



philosophy of the Shirley Ryan AbilityLab. Frustrated by the number of scientific discoveries that never make it out of the laboratory, leadership set out to revolutionize rehabilitation medicine. Traditionally, research has been conducted in laboratories far removed from and out of touch with patient needs. The culture and vision of the new Shirley Ryan AbilityLab embeds scientists directly into the clinical domain to facilitate firsthand direct observation of patient issues and problems, thereby “advancing human ability” through the integration of clinical care and cutting-edge research. Lab spaces, typically closed off and separate from clinical areas, were designed to be transparent, integrated with clinical areas

and centrally located. Another invaluable benefit of transparency is the ability for patients to be able to see each other working hard, understanding that they are not alone and can support one another.

TRANSPARENCY MATTERS

“The best, most impactful relationships in life are two-directional. Intimacy, which is foundational to great care, requires trust, and one way to gain trust is by sharing what makes us tick.”



Amy Lussetto
STRATEGIC INNOVATION
PRINCIPAL

Don't Go it Alone

Another key principle of placemaking is building partnerships. As consumers' expectations shift to more of a wellness focus, they are looking to healthcare and communities to be a more comprehensive resource. Healthcare facilities are evolving to become community centers supporting education around prevention and opportunities for wellness. And these services are ripe for partnerships. The opportunity to use health and wellness as guiding principles for the design of our environments and experiences requires us to think beyond silos and acknowledge the overlaps between civic and retail and health and wellness organizations.

Consider, for instance, a bike share program. Most cities cannot afford to offer the amenity without an outside investor. By developing a bike share partnership, benefits are enjoyed by both the city and the partner. The program reduces pollution and increases sustainability and air quality for cities, while also improving the health outcomes of its users.

BREAKING DOWN SILOS

"The way we create communities might literally save our lives. We need to explore unique and perhaps even unexpected partnerships to investigate how wellness can be defined in a more place-specific way, such that the distinct health needs and opportunities of all members of the local community can be addressed. This vision will create a long-term roadmap for the growth and evolution of communities that prioritize the health, wellness and overall quality of life of their people."

Similarly, Panasonic's collaboration with the City of Denver to install smart sensors throughout Peña Station NEXT will help the city better distribute financial and labor resources for services such as snow plowing. In turn, Panasonic benefits from having a real-time test lab that enables continued leadership in the development of cutting-edge smart technologies. Additionally, Denver International Airport is a part land-owner in the project, and thus a partner with the City and County of Denver. Kaiser Permanente has signed on as a partner for the Wellness Center, and may also sponsor a "Thrive Path," which creates strong pedestrian connectivity throughout the community. The developer has also reached out to education partners, including Colorado State University, to create lifelong learning and other educational opportunities.



Kaia Nesbitt
DESIGN PRINCIPAL





The Way Forward

TODAY, CIVIC LEADERS are facing unprecedented challenges with limited resources, increasing frequency of disasters and the desperate demand for more resilient neighborhoods, communities and cities. Health and wellness organizations are under pressure to reduce the cost of care, which often requires getting upstream and impacting health-related behaviors to create sustainable improvements to the bottom line. The overlap between is the mission to improve the quality of life and drive growth and investment while being responsible stewards of limited resources.

So, what if we applied the principles of placemaking and the benefits of partnership to other aspects of designing our environments and experiences? How might health and wellness organizations, civic leaders and other industries partner to build spaces that foster collaboration and drive innovation in health and community growth? How might they partner to improve educational environments that excite kids to learn, improve sustainability and pave the way for future generations to invest in their cities through jobs, technologies and community programs, all the while building strong community bonds and a sense of belonging?

The power of placemaking partnerships is the ability to tackle issues-based projects in order to achieve bigger goals and more impactful outcomes, and this is where the greatest opportunities lie. Often as the largest employer in an area, or at least as a significant contributor of economic value to a community, healthcare leaders must be champions for the connections between place and health. ▲

Serendipity Happens Here

Improving health and wellness is a multi-layered and complex problem in need of creative solutions. Here's a few examples of what can happen when health and wellness organizations, civic leaders and other industries collaborate to parlay imaginative ideas into seemingly serendipitous engagements that result in beneficial outcomes to tackle the problem head on.





1

Montreal Seesaws

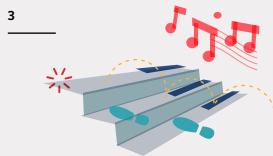
This innovative, interactive and playful public space installation is made up of 30 seesaws at Place des Festivals in Montreal. The seesaws—which vary in size and are fitted with LED lights and speakers—produce musical and light patterns depending on the speed and angle of each board.



2

My 16th Street at the Denver Prototyping Festival

The Denver Prototyping Festival invites local designers, artists and makers from all walks of life to submit proposals for engaging, interactive outdoor art along the 16th Street Mall in downtown Denver. The prototyped concepts explore ways to create a greater sense of place and community ownership in shared public spaces.



3

Piano Stairs

To encourage people to take the stairs more often, Volkswagen applied what it calls “fun theory” to the stairs leading out of the Odenplan subway in Stockholm, Sweden, transforming them into an oversized piano keyboard. Stepping on each stair tread creates a musical note, making the journey up and down fun and beneficial to health at the same time.



4

Belgium's Living Street Project

For the past few years, residents and city officials of Ghent, Belgium have been invited to participate in a unique collaborative urban design experiment: to imagine how they might use residential streets if there were no cars or fast traffic, and then to see those dreams brought to life, at least for a short time. The resulting “Living Streets” transform once unsafe front yards into new temporary parks and spaces for play and socializing, redefining the use of public space and fostering a new sense of community. The installation was so successful that neighbors likened it to a “never-ending block party.”



5

The 606

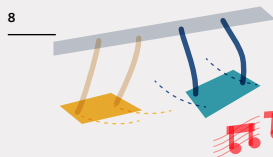
A coalition of non-profit, city and civic organizations recently converted an abandoned railway on Chicago's northwest side to a 2.7-mile trail for bikers, runners, walkers and families to enjoy. By taking cues from how people wanted to use the space (residents would sneak onto the abandoned path to run), they embraced and encouraged healthy living by providing easy access to safe spaces. With unparalleled views of the city, and fast, easy access to downtown, The Bloomingdale Trail, the centerpiece of the larger 606 trails and parks system, brings much needed open space and a transit alternative to several urban residential neighborhoods.



6

Zombies, Run! and The Walk Apps

Zombies, Run!, a wildly popular smartphone fitness game (boasting over 1 million players), sends participants (survivors of a zombie apocalypse) on exciting fictional “missions” to reach the remaining human outposts. Along the way, players gather supplies, rescue other survivors and, most importantly, outrun the fast-approaching zombies. The app has been so successful that the UK's Department of Health worked with the creators to build a second version called The Walk which is accessible to people of any fitness level and nudges users to walk more.



7

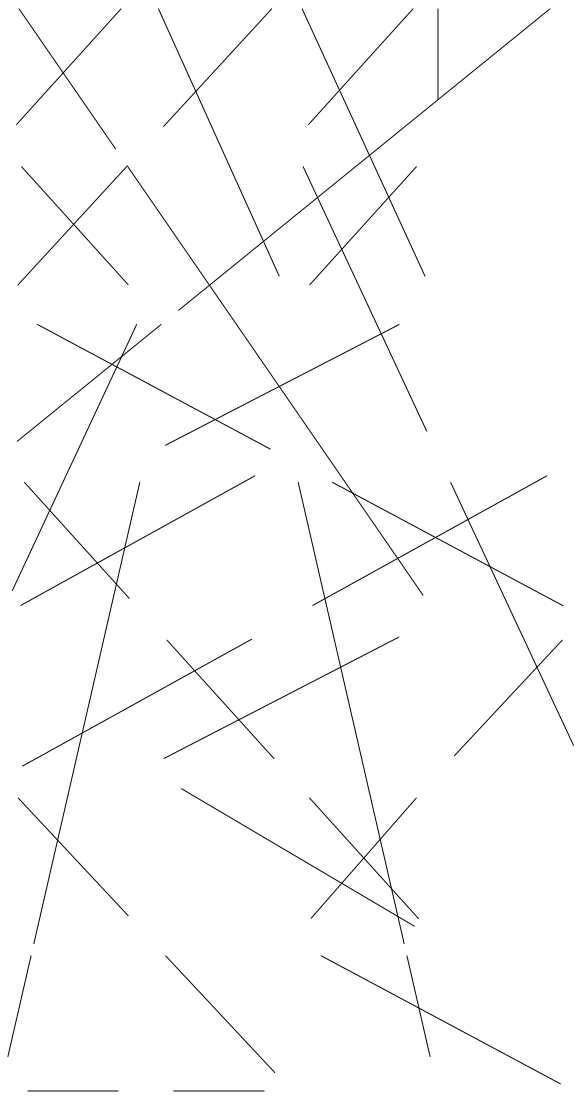
VegFest

VegFest, held in cities from coast-to-coast and around the world, aims to celebrate the health and environmental benefits of a plant-based life style through vegan food offerings, educational speakers and entertainment. A wide variety of vegan cookbooks and clothing items are also available for purchase at the events.

8

Musical Swings

An installation of 21 musical swings beckons visitors to play at Le Quartier des Spectacles in Montreal. When in motion, a different musical note emanates from each swing and a number of melodies are created when the swings move in unison. The installation encourages people to work together to discover new possibilities.



HOW TO INTRODUCE THESE CONCEPTS INTO YOUR ORGANIZATION.

▼

After reading this article, can we identify ways in which we have implemented placemaking strategies (even if they weren't formally identified as such)? If yes, how do we think users feel in those spaces? What works? What doesn't? How can we improve them?

▼

What specific outcomes do we want to achieve by our efforts to build social capital?

▼

What economic impacts would benefit our community? What placemaking concepts might contribute positively to those impacts?

▼

What actions can we take to become more transparent with our patients and in the broader community?

▼

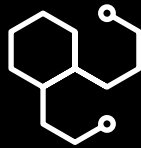
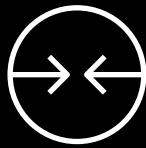
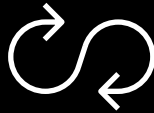
How might placemaking concepts benefit each of our current patient populations? How about new patient populations that we want to attract?

▼

What existing partnerships do we have with whom we can explore placemaking concepts? What types of partnerships are we lacking? Which non-traditional partners should we explore?

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FOR SOURCES CITED IN THIS ARTICLE, SEE PAGE 78



Trends Affecting Healthcare.

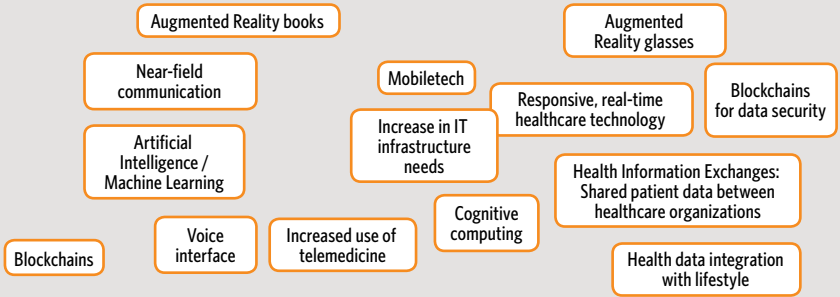
How External Forces Can Influence the Future of Healthcare

One key principle of innovation is the idea of context. For example, if we wanted to reinvent a chair, we might consider the chair in the context of a living room or office first. The same thinking can be applied to healthcare. In order to reimagine healthcare, we need to examine it more broadly in the context of market forces that shape opportunities for innovation.

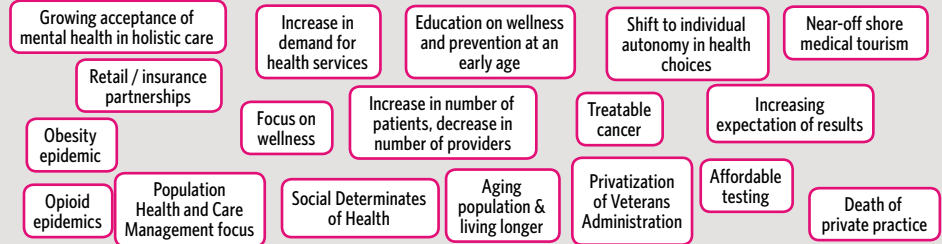
We call these contextual elements “planks” and have defined six important ones that impact how care is delivered. Within each plank, we’ve identified trends and predicted a time when each achieves full-scale adoption. We invite you to review these planks and discuss their impacts on your organization and on the healthcare field—and most especially on your patient populations.



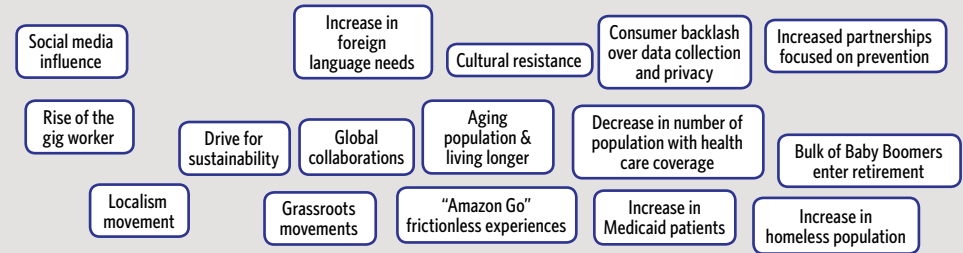
Technology



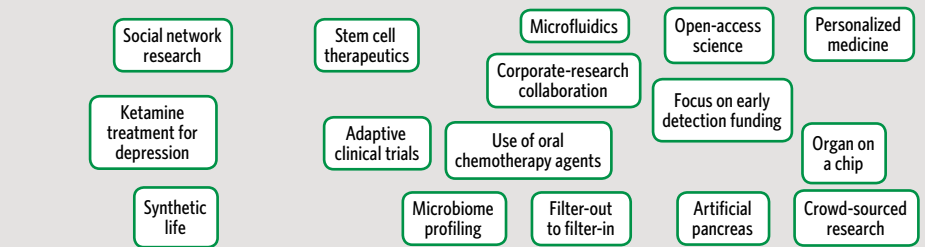
Health & Wellness



Socio-Cultural



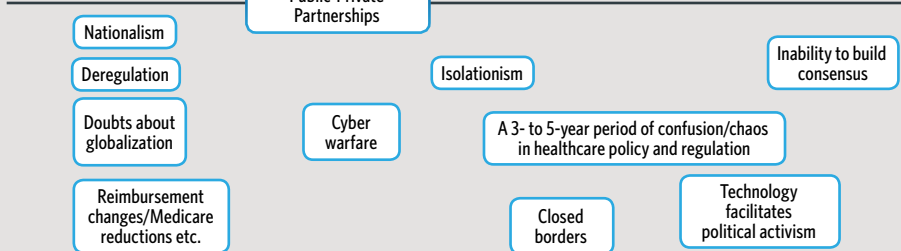
Scientific Advancement/Research



Economic



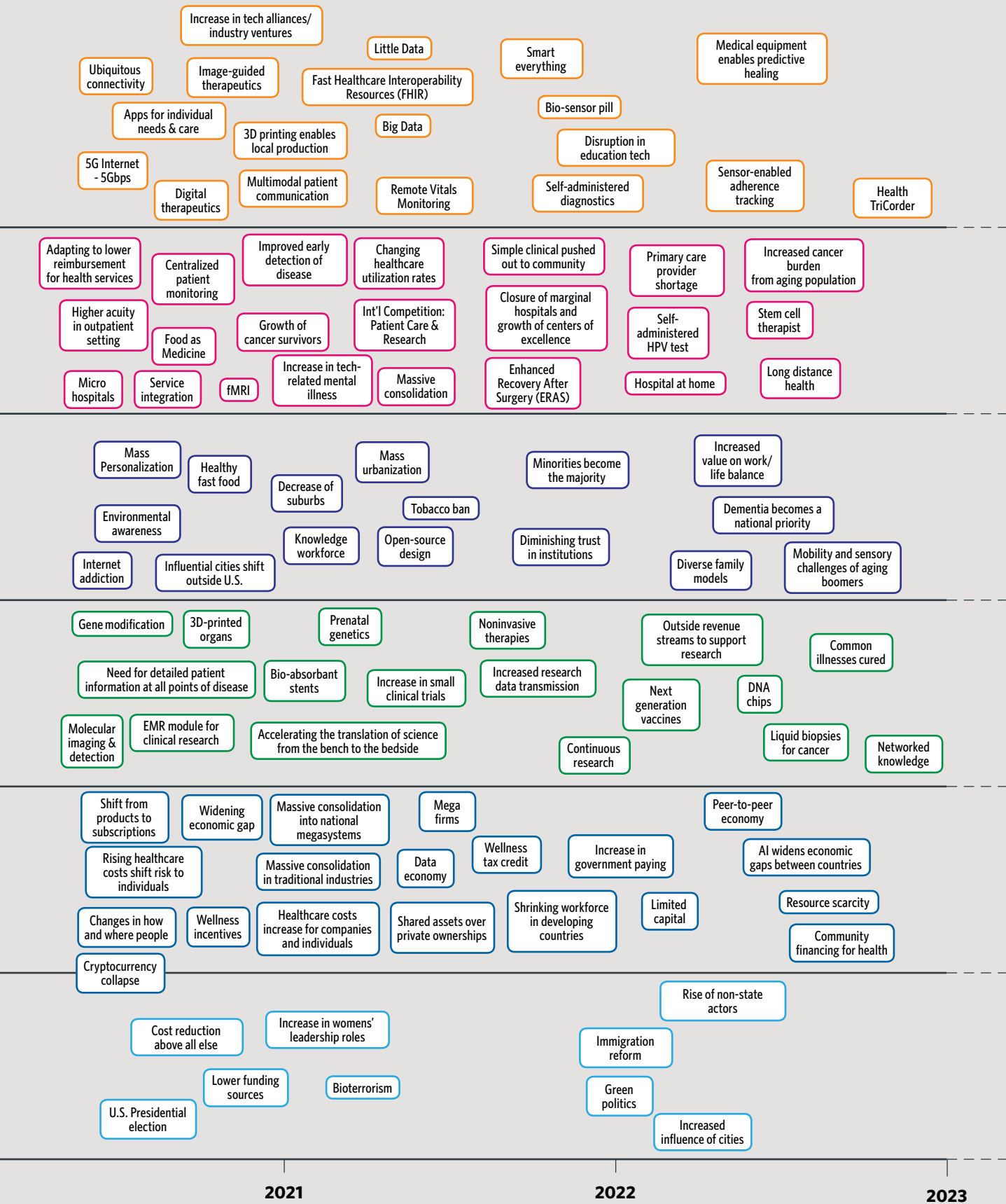
Geo-Political

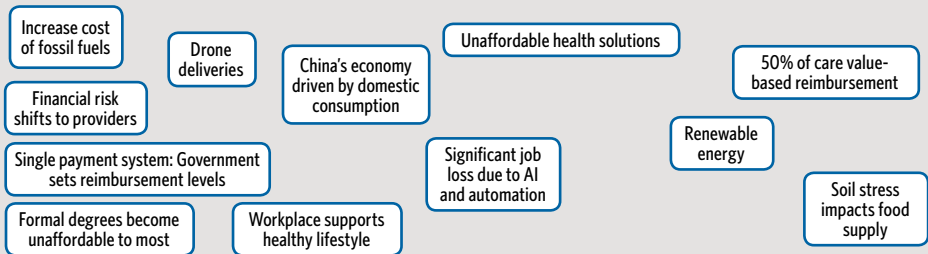
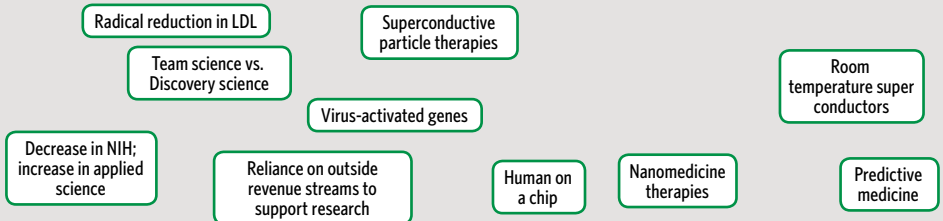
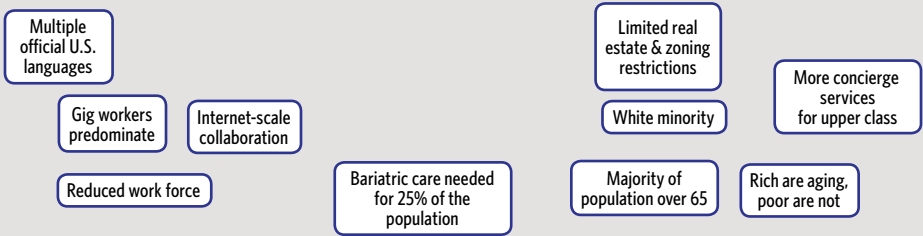
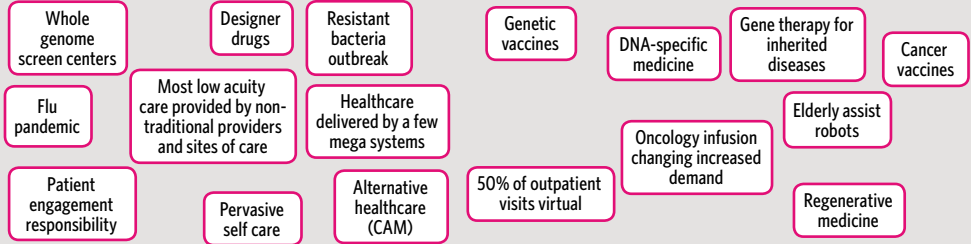
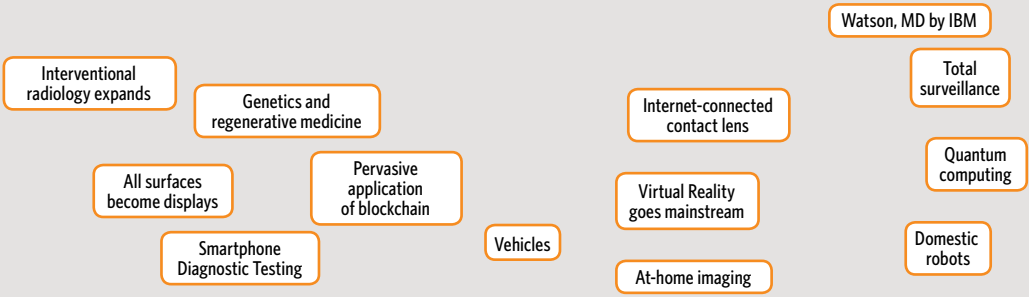


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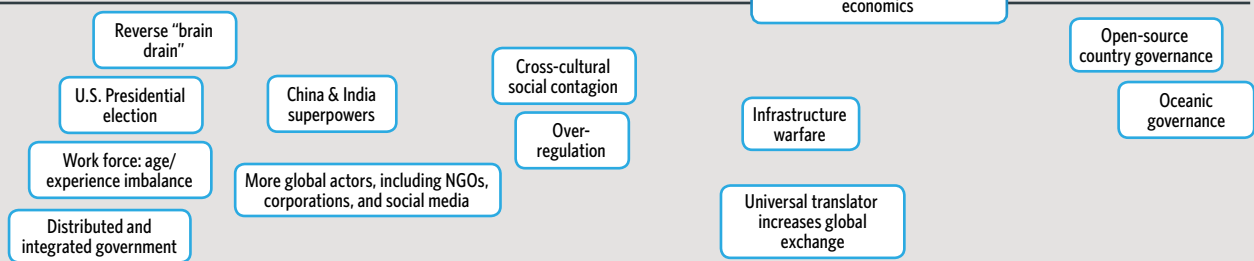
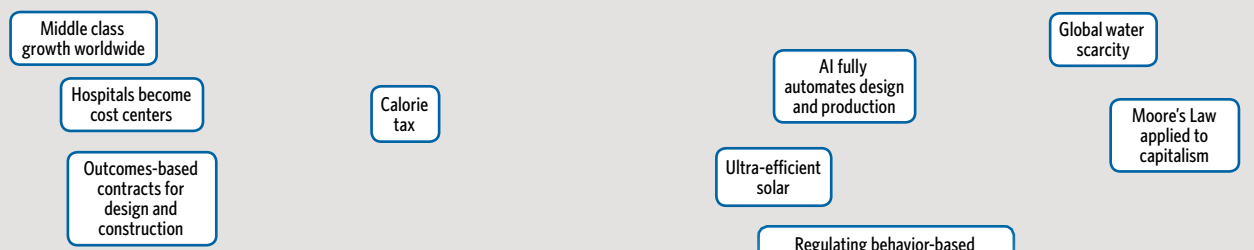
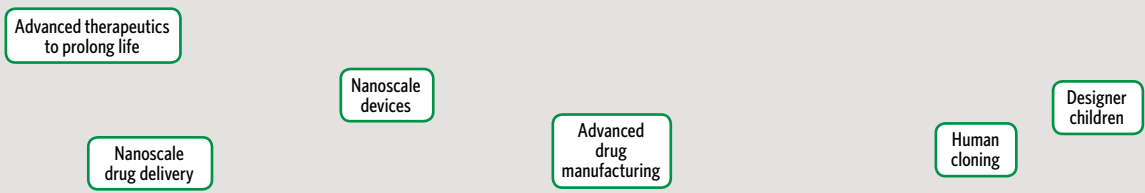
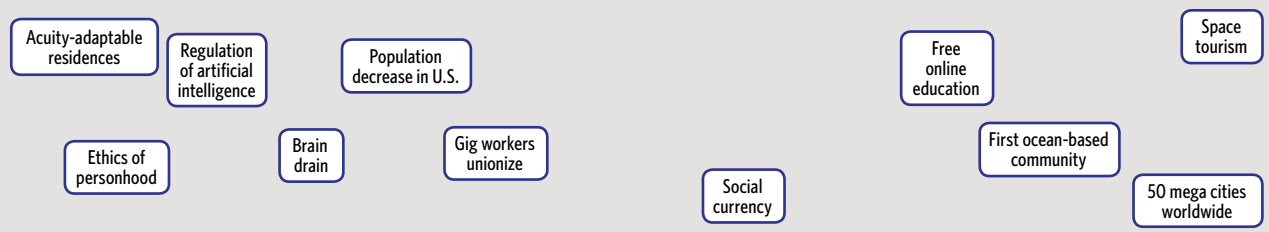
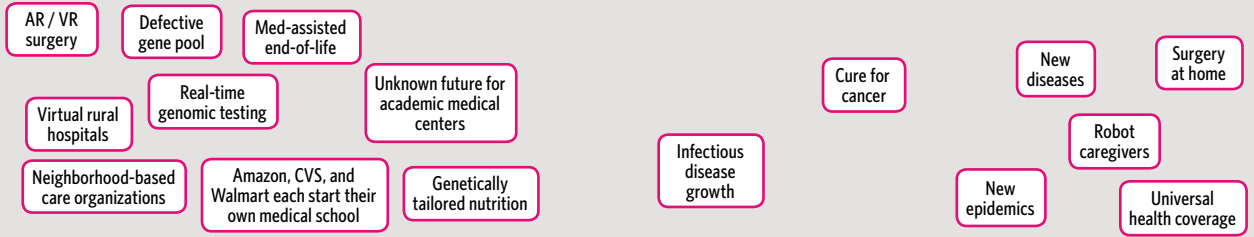
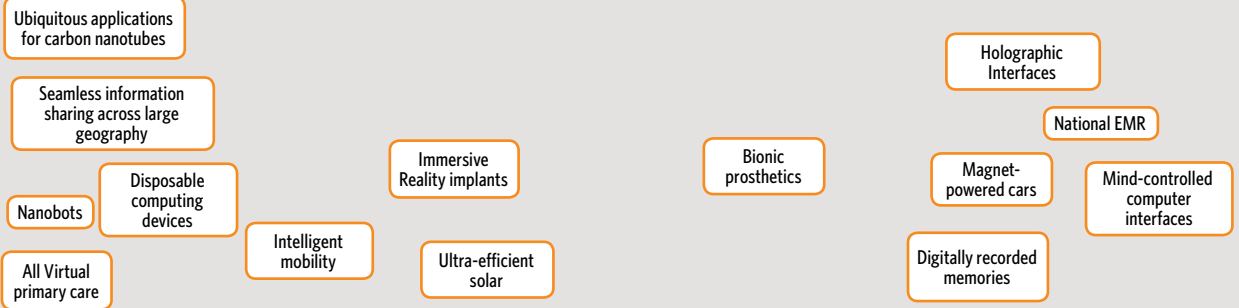




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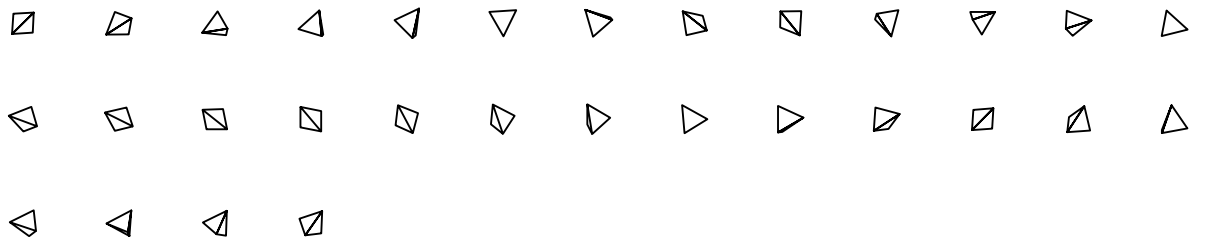
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