



New Health Economy

PwC Health Research Institute

The traditional healthcare delivery model continues to evolve into an ecosystem of collaborators with interrelated value drivers

December 2015

The health industry has long been a closed and highly-siloed system. But powerful global forces are transforming the industry into a nimble, innovative and modular ecosystem serving the consumer, with profound implications for players new and traditional.

The coming plug-and-play health ecosystem

Millions of consumers across the globe have downloaded health apps, strapped on wearables, consulted clinicians on their phones and sought care in clinics or hospitals run by companies more commonly associated with activities like making flat-screen televisions, selling discounted merchandise, distributing soda and running hip airlines and hotels.

Scientists are editing genes, advancing 3D bioprinting and further developing ways—such as implantable drug delivery devices—to improve drug adherence. The cost of diagnostics is falling even as these tools become more sophisticated. The same is happening with biosensors, fueling creation of new paths to deliver care, anywhere, anytime.

This evolving health industry—this New Health Economy—is undergoing a fundamental restructuring. This change will have profound consequences for traditional players—healthcare’s providers, payers, biopharmaceutical and medical device companies and the enterprises that serve them. It also will crack open enormous opportunities for new players, many of whom are investing heavily in people, technologies and creative partnerships to drive disruption.

While digital health advances grab headlines, this restructuring is about far more than technological strides. Health’s business models are changing; new business models are forming. The industry’s very value chain is being re-engineered by powerful global drivers—downward pressure on costs, increasing chronic diseases, an aging population, surging consumerism, the embrace of value-based models, the arrival of new entrants and, yes, transformative advances in technology.

The industry has long been a business-to-business system of silos—healthcare providers, insurers, drug makers, med tech companies, for example—connected by contracting models and payment and largely isolated from consumers. These powerful forces buffeting the system—from consumerism to new entrants to tech—are knocking these silos down.

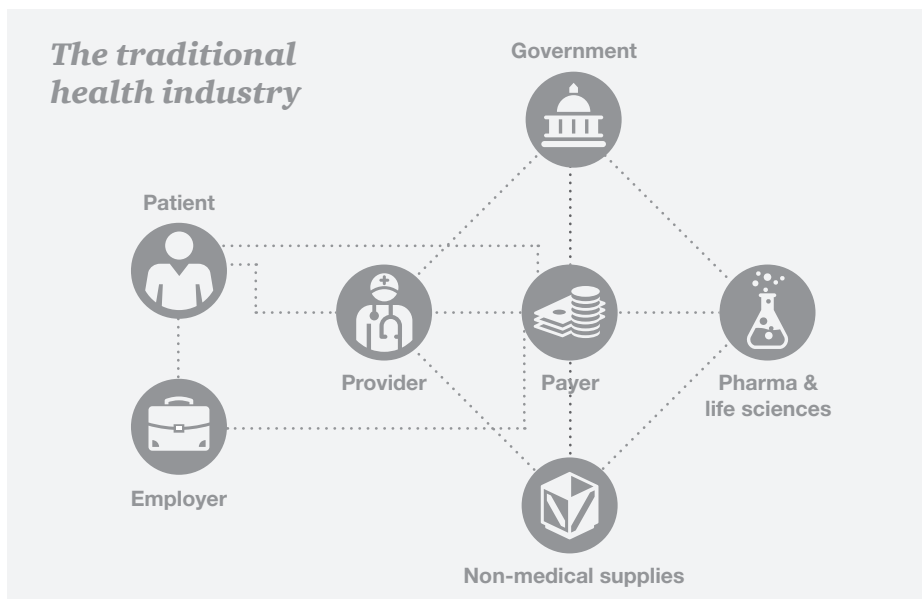
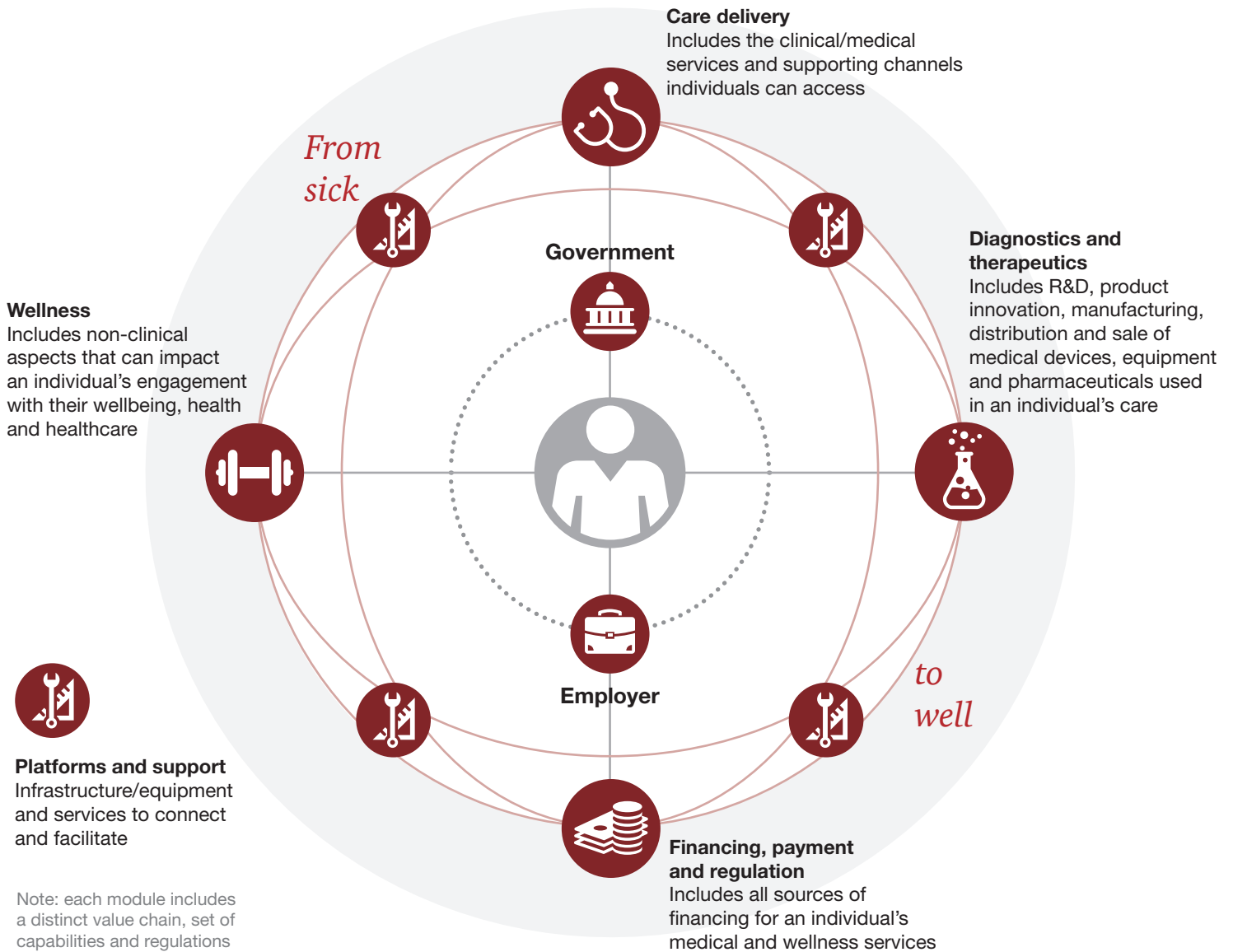
What is emerging, instead, is an ecosystem comprised of five modules focused on the consumer: care delivery; diagnostics and therapeutics; financing and payment; wellness; and platforms and support (see figure 1). Within these modules, many players—alone or in partnership—can fulfill the needs and desires of the consumer, who will be able to pick and choose health and treatment options based on considerations such as value, cost, personal preferences, technology platforms, rewards and more.

This change—to a modular, plug-and-play system in which many players collaborate to fulfill the needs and desires of the consumer—is far more accessible to new entrants, which can tackle discrete parts of the system without having to control, own or understand the whole. This ecosystem is a more dynamic system, one that is more responsive to consumers and far more fertile for innovation.

For example, imagine a partnership between an automotive company, an academic medical center (AMC), a data analytics company and a drug maker. Each party brings its own capabilities to the partnership with the aim of giving consumers a new way to monitor their health—in their cars. The carmaker hosts the platform for data collection, installing biosensors in its seats and steering wheels. The AMC offers consumers actionable insights produced by a data analytics firm monitoring the car-based sensors; the drug maker uses the data for research and to power value-added services accompanying their drugs. New value is unlocked, with not a silo in sight.

Or imagine a partnership between a global retailer, a bank, health systems and a 3D bioprinter. Their aim is to offer consumers an affordable, seamless, anywhere-anytime way to obtain bioprinted material for use by their local hospitals. Each brings its own capabilities to the

The New Health Economy ecosystem



Global forces—from consumerism to technological advances to the arrival of new entrants—are helping transform the closed and high-siloed traditional health industry into a plug-and-play ecosystem of modules serving the consumer.

partnership. The retailer has thousands of locations in neighborhoods across the globe to distribute 3D bioprinted material, which can then be used in procedures provided by partner health systems. The bank helps consumers finance the care.

This is a path that already has been paved by other industries. For example, like much of healthcare today, computers were once extraordinarily expensive, complex and complete systems. They were difficult to improve—even small tweaks caused cascading effects on the rest of the system. Their complexity required total devotion to one vendor, which installed, maintained and upgraded the machines.

Then, in the 1960s, a prominent technology company introduced a new family of computers. The system was, essentially, plug-and-play, meaning many parts of the system could be swapped out without causing problems elsewhere. This design revolutionized the industry, allowing many players to build for the system without having to understand or have access to the whole.¹ New companies appeared to create and sell services and parts for the family of computers. The tech ecosystem was born. Innovation bloomed, leading to Pong, Apple's Macintosh, the PalmPilot, Bluetooth, Alibaba, the Xbox, Facebook and Grumpy Cat.

These transformations—from a closed and siloed system to a modular ecosystem—greatly accelerate the rate of innovation. In closed systems, in which small changes affect the

whole, innovation moves at the pace of the slowest player. In a modular one, many organizations are free to work on many different parts without disturbing the whole. Innovation speeds up. New economic value is created and captured by innovators.

This change is happening now in the New Health Economy. There has been an explosion of new health business models. The industry is decentralizing. Organizations are weaving health into their DNA, as a means to manage internal costs, grow their core businesses or capture new markets. Retailers are becoming health companies. So are technology and telecommunications companies. Consumers are embracing new ways to access and pay for care; their expectations are changing too.

As in the technology industry and other sectors that have undergone similar transformations of their value chains and business models, the shift will occur in fits and starts. There will be headline-grabbing wins and losses. The history of the tech industry is a tale of companies that failed spectacularly, that reinvented themselves, that rode the tidal wave of growth to astonishing success. The same will be true of health.

To survive and thrive in this disruption, enterprises will need to identify their core capabilities and understand how those strengths provide differentiated and sustainable value to their consumers, customers and partners. They will need to identify gaps in their capabilities and how to address them. Organizations will need to understand

how they fit in the evolving ecosystem. Which capabilities are worth owning versus leveraging through partnership? Which make sense to sell?

Traditional players will need to build resiliency. They will need to develop an offensive position to the changes occurring in the industry, not a defensive one. They will need to anticipate where competition is likely to come from, considering players from other industries, other geographies. Care delivery will no longer preserve geographically-defined monopolies. New players will need to understand their target in the ecosystem, and how to attain the necessary capabilities to play there.

The health industry is in the midst of a transformation that is unlocking vast new opportunities and forcing organizations—both new and traditional—to rethink their places within it. The result will be a more innovative, value-driven and nimble New Health Economy, better able to fulfill one of mankind's most fundamental needs—to be and stay well.

¹ Baldwin, Carliss Y., and Kim B. Clark. *The Power of Modularity. Vol. 1, Design Rules.* Cambridge, MA: MIT Press, 2000.