Cognizant

Digital Business

Rethinking Health Plan Business Models for the Emerging On-Demand Digital Economy

Even as on-demand healthcare platforms disrupt the industry, they create possibilities for new value propositions, partnerships and business models that will further reshape the cost and delivery of care.

Executive Summary

We live in an on-demand world. Consumers expect convenience, simplicity, speed and immediate satisfaction - sometimes even at the expense of quality and privacy. Numerous large technology vendors and digital start-ups are actively responding to the call, leveraging peer-to-peer sharing and on-demand environments to upend traditional supply and demand equations.

Innovative techniques and next-generation technology platforms have radically reshaped supply chains in many industries - examples include Amazon in publishing and retail, Uber and Lyft in transportation, and iTunes in music (see Figure 1). Healthcare is next. How might on-demand healthcare platforms reshape - and potentially disintermediate - the traditional health plan value proposition?

Change: The only constant

Next-generation technologies are reshaping supply chains across all industries and are now beginning to impact healthcare.



Figure 1

Through our experience and interaction with clients across the healthcare space, we've spent a good deal of time analyzing the impact of these forces. Moreover, we have actively engaged some of our most strategic healthcare clients in future-mapping and forecasting exercises intended to help predict:

- What the healthcare industry will look like in five years.
- The opportunities of digital disruption for health plans.
- Where health plans should place their big bets.
- How health plans should become future-ready.

This white paper synthesizes the output and initial conclusions of our future-mapping work and explains why and where a consumer-to-business (C2B) on-demand healthcare platform economy is emerging, the new business models it will shape, and what types of "no-regrets" investments will serve health plans regardless of which scenario plays out.

Innovative techniques and next-generation technology platforms have radically reshaped supply chains in many industries. Healthcare is next.

The shape of things to come: The on-demand platform economy

Although healthcare has lagged other industries in on-demand offerings, this is about to change. Market dynamics and digital are affecting every aspect of the healthcare industry. Venture capital investment in on-demand healthcare is rising rapidly, making it one of the fastest growing on-demand segments.¹ At the same time, healthcare is one of the most active segments of artificial intelligence (AI) investment.² The U.S. generated \$14 billion in global business in 2015 for telehealth and telemedicine services, with a predicted increase to nearly \$20 billion by 2020.3 Add in the estimated \$20 billion worth of annual investments in mobile health and virtual care over the next five years, and a very different healthcare ecosystem comes into view in the not-too-distant horizon.

The evidence clearly indicates that the on-demand economy – broadly defined as business activity created by technology platforms that fulfill consumer demand via the immediate provisioning of goods and services - is already at work in healthcare (Figure 2, next page). Services such as Doctor on Demand, HealthTap, American Well and Teladoc are already enabling hundreds of thousands of consumers to consult physicians in real-time via mobile apps. Pager and Heal provide in-person physician house calls on-demand.

Consumers will access a wide range of healthcare services via on-demand platforms fueled by "systems of intelligence," which are virtual machines powered by Al and machine learning, data and processing power. APIs will enable external players to plug their offerings into the platform.

This phenomenon isn't limited to start-ups. Enterprises are adopting on-demand at scale. More than half of Kaiser Permanente's physician-patient interactions are now virtual, overtaking in-person interactions.⁴ Nearly all large payers now reimburse for some virtual visits - and government is backing the approach. Private payer telehealth parity laws now exist in 31 states, plus Washington, D.C., and 20 states (plus D.C.) have Medicaid parity laws.⁵

Some believe the overall complexity of healthcare delivery and funding models render the industry immune to the radical disruption associated with on-demand platforms; we disagree.

The on-demand healthcare ecosystem

Consumers will access a wide range of healthcare services via on-demand platforms fueled by "systems of intelligence," virtual machines powered by Al and machine learning, data and processing power. APIs will enable external players to plug their offerings into the platform.

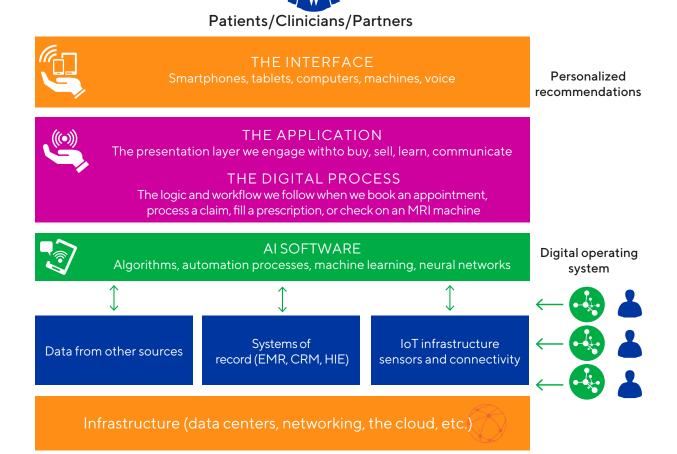


Figure 2

Direct-to-consumer laboratory testing is reportedly a \$211 million market and forecast to reach more than \$353 million by 2020.6 Cloud and mobile technologies are enabling providers and consumers to tap into what's essentially a global supply of clinical expertise. As a result, an ever-increasing number of primary care providers and specialists are augmenting their traditional practices by engaging in virtual care consultations, providing diagnostic and treatment services delivered via on-demand platforms.⁷

Some believe the overall complexity of healthcare delivery and funding models render the industry immune to the radical disruption associated with on-demand platforms; we disagree. These technology and cultural currents are already eroding the foundations of health industry business models and their corresponding value propositions. Technology – from automation and analytics, to wearables and in-home monitoring devices - is advancing steadily and creating ever more business possibilities.

Ubiquitous smartphones plus the Internet of Things (IoT) plus the app economy all add up to a level of consumer empowerment that will profoundly impact the core value propositions of today's health plans and managed care organizations.

The on-demand economy will empower consumers to choose healthcare providers and services based on convenience and personal criteria vs. the rules of a third-party gatekeeper or health insurer - accelerating price and quality transparency.

Moving at "Silicon Valley speed," these technologies are laying the groundwork for a comprehensive, consumer-centric, on-demand healthcare platform that promises to radically transform how healthcare is accessed, delivered and paid for. The platforms powering this shift will transcend business-to-business (B2B) or business-to-consumer (B2C) models: C2B platforms will empower consumers to build their own systems of care. Ubiquitous smartphones plus the Internet of Things (IoT) plus the app economy all add up to a level of consumer empowerment that will profoundly impact the core value propositions of today's health plans and managed care organizations.

Probing the on-demand platform economy

Incumbent stakeholders will need to evolve as quickly as the technology. C2B platforms pose existential threats to key organizing principles of today's managed care organizations and could undermine the industry's migration toward larger, more integrated systems. The shifting environment is creating opportunities for new entrants, with billions of dollars of incumbent revenues ultimately in play.

The on-demand economy will empower consumers to choose healthcare providers and services based on convenience and personal criteria vs. the rules of a third-party gatekeeper or health insurer - accelerating price and quality transparency. Freed from the confines of proprietary PPO and HMO provider networks, consumers will shop for an array of competitively priced wellness and medical services offered by the everincreasing supply of primary care providers, specialists and ancillary service providers choosing to practice healthcare via on-demand platforms.

As substantial amounts of primary and specialty care become easily accessible through Internetenabled care, virtual care or self-care, patient satisfaction will increase, as will the amount of time physicians are able to focus on critical care needs.

All industry players will feel the impact of the C2B healthcare platform economy and on-demand marketplace:

- I Health insurers will be confronted with the erosion of their core value proposition: building proprietary provider networks and offering volume-based provider discounts.
- I Integrated delivery systems will face new demands for transparency in quality and pricing and new models of competition.
- **Biopharma and medical device companies** will face consumer-driven demands for evidence of the value of their offerings.

Emerging business model archetypes for the C2B on-demand economy

As traditional value propositions are disrupted and new players enter, health plans will need to reassess and refine their business models. To better understand potential options, we engaged several of our most strategic clients in a series of future mapping and foresight exercises to identify potential health plan business models for 2020 and beyond.

The following sections briefly describe four of the alternative business model archetypes that emerged from our future-casting strategy sessions. We are not suggesting that organizations target one model over the other; in practice, organizations are likely to blend these models and adopt hybrid approaches based on their market positions, the populations they serve and the competitors they face.



Over the past decade, we have seen health plans diversify into higher margin businesses that take them further and further away from traditional insurance business models. In fact, diversification into non-insurance lines of business (LOBs) has increasingly become table stakes for many large health insurers, including Cambia Health Solutions, Guidewell Mutual Holdings, Highmark Group, Aetna Group, UnitedHealth Group and others. These companies are either acquiring or incubating digitallyfocused healthcare start-ups or monetizing existing health plan platforms (analytics, claims processing, care management, sales and marketing) by selling them as-a-service to other payers or into the emerging risk-bearing provider market.

As the industry enters the on-demand economy, one business model option for health plans is to leverage their existing investments in digital technology assets and platforms to create a gamechanging on-demand platform. The platform would help power the new digital healthcare marketplace connecting producers and consumers (see Figure 3, next page).

A successful on-demand platform will provide delightful experiences to consumers by giving them convenience (access), affordability and transparency. It will be two-sided, managing both the supply and demand areas of the client ecosystem, and driving consumer experience.

New competitors have already emerged, finding opportunities in supplying platform technology and/or the apps and services available via a C2B on-demand health platform. In addition, Amazon is reported to be developing a healthcare platform, and other large tech companies, including Apple, Google, GE and even eBay, all have healthcare platform aspirations. However none have achieved scale - yet.

Game-changing digital health platform

A successful on-demand platform will provide delightful experiences to consumers by giving them convenience (access), affordability and transparency. It will be two-sided, managing both the supply and demand areas of the client ecosystem, and driving consumer experience.

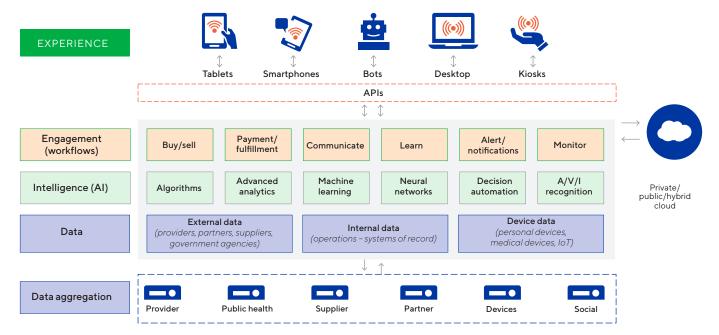


Figure 3

Incumbent health plan players with existing technology-focused LOBs may have a unique advantage when it comes to developing a scalable and intelligent platform empowering healthcare consumers: their deep familiarity with the array of specialized service providers and suppliers required across the healthcare continuum (wellness, prevention, chronic care, acute care, etc.) and market segments. Health plans are already adept at managing healthcare demand and supply and have long-standing relationships with providers and suppliers.

The challenge will be leveraging this industry and technology expertise to deliver an on-demand fulfillment capability that sits within an ecosystem of health app and service providers with plug-and-play offerings. This ability will be the new business differentiator.

It is unlikely that a single end-to-end platform winner will appear. Rather, a set of winning platforms will likely coexist and address specific domains, such as virtual care, decision support, consumer engagement and information aggregation and sharing. In addition, a proliferation of solution providers will emerge. Each will want to integrate with and provide services to this new platform-enabled economy. This path may also be a viable business model option for some health plans.



The C2B healthcare on-demand economy will disintermediate some of the key value propositions of today's managed care organizations (e.g., proprietary provider networks and negotiated provider discounts). The on-demand economy will drive down prices for certain medical services and bring the industry closer to market-driven price transparency and consumer financial accountability.

This will likely accelerate the current trend toward high-deductible and catastrophic insurance products, coupled with health savings accounts (HSAs). If these trends diminish the value of managed care networks and preferred pricing arrangements, then health plans may consider returning to their pre-managed care origins and pursue a classic insurance model of benefit design, risk management and underwriting.

Some organizations will leverage this expertise and become a one-stop shop for all of a customer's varied insurance needs. These entities will serve consumers and businesses with bundled and unbundled offerings for life, property, health, auto, long-term care and other insurance needs.

These diversified insurance players will have the economies of scale necessary to better manage profit and loss across multiple lines of business. This flexibility should enable these companies to take creative approaches to health-related insurance, going beyond catastrophic care policies with health savings accounts and creating personalized policies targeted to very specific market segments.

Companies like Geico, AIG and others will also find this opportunity attractive and will aggressively enter the health insurance markets - providing stiff competition to incumbent health insurers and health plans.



Rapidly accelerating digital technologies give consumers more control over the care they want and need. This trend has the potential to upend the healthcare industry's move toward greater consolidation and scale. In the not too distant future, financially accountable, self-directed, tech-enabled consumers will avail themselves of a range of on-demand health services from a variety of providers. As a result, they will essentially be able to create their own systems of care, controlling not just where they access care, but also how and from whom, as well as the price they pay.

The impact of these changes on integrated healthcare delivery models stands to be immense, forcing the industry to reconcile the tension between large, closed-network, fully integrated healthcare systems that prioritize efficiency and scale, and newer, more distributed digital upstarts that emphasize speed and consumer experience (see Quick Take, next page).

Quick Take

A perspective on providers

The on-demand healthcare economy will disrupt traditional providers along the entire continuum of care. Consumers will increasingly have access to apps and tools that allow them to navigate a complex healthcare ecosystem, picking and choosing location, cost and quality based on their own personal criteria, essentially building their own "customized to me" system of care.

Diagnostic and therapeutic innovations, precision and personalized medicine and continued advances in technology that reduce costs and enable "anywhere" care will create even more momentum behind highly personalized, consumer-driven systems of care. These innovations already are evident: the da Vinci Surgical System and other robot-assisted surgery; remote ICU monitoring; telemedicine networks like Teladoc and HealthTap; and more in-home care and house calls.

As such innovations reduce the cost of care, many consumers may be able to afford direct payments vs. filing a claim. In turn, more health plans may be designed for catastrophic care or specific types of chronic conditions, further reshaping provider reimbursements.

Providers must consider how these trends will affect their value proposition, which for integrated delivery systems has been to offer employers and health plans a wide range of care within a single network to control quality and costs. Providers may need to retool or amplify this value proposition; we continue to investigate these developments and will share more in-depth analysis on the impact of the on-demand healthcare economy on providers in upcoming reports.

As accelerating market forces and technology advances transform the industry, "healthcare" will transition to "lifecare" through cheaper, quicker and more convenient care delivery.

> Yet on-demand healthcare and integrated delivery are not mutually exclusive. In fact, some of the largest integrated delivery systems (IDS), like Kaiser, are now providing on-demand healthcare at the enterprise level. The combination of IDS and the on-demand healthcare platform economy will fuel integrated delivery at scale and accelerate the viability of national accountable care organizations (ACOs).

Integrated delivery systems have proved their value. The science underlying evidence-based medicine and population health management clearly indicates that integrated systems of care deliver better cost and quality outcomes than fragmented ones. Integrated delivery models also have demonstrated the cost-saving advantages associated with narrowing consumer choice to a vetted and curated set of costeffective providers. Due to the absence of real price and quality transparency, healthcare has long been resistant to traditional market-driven economics. The closed-system characteristics of IDS have proved to be effective "proxies" for open markets, aligning incentives to manage both the supply and demand sides of the equation.



As accelerating market forces and technology advances transform the industry, "healthcare" will transition to "lifecare" through cheaper, quicker and more convenient care delivery. Artificial intelligence innovations will provide consumers with new tools for lifestyle management and personal health monitoring. Demand for disease prevention, stress reduction, optimized health and quality-of-life enhancements will grow. Health plans are expanding their roles as intermediaries and trusted advisers into this potentially lucrative health, wealth and lifestyle management space.

Health plans have long played a valuable role in helping consumers understand the financial impact of the plans they buy and have invested significantly in tools that can help members manage healthcare financial responsibilities and their health risks. Many health plans are already diversifying into adjacent services (i.e., expanding beyond population health management to address the social determinants of health); moving beyond wellness into lifestyle services and support; and broadening the array of services they provide to help members manage health savings accounts and health finances to include non-health related personal finances.

However, as health plans pivot to focus on these adjacencies, they'll have plenty of competition. Retirement and traditional wealth advisers are already beginning to include health risk management and healthcare financial management in the services they are bringing to market, including funds management related to long-term care, health savings accounts and other health-related matters. Players in adjacent industries, such as P&C/life insurance and financial services, are offering new ways to manage healthcare financing alongside traditional wealth management.

Competition for lifecare customers also will accelerate the convergence of the hospitality, spa, medical and tourism industries. Watch for destination health resorts, medical facilities with prevention programs, age management centers, hotels with medical and wellness offerings, and healthy lifestyle residential communities to emerge. Each of these entities offers health plans opportunities for alliance partnerships and new business models focused on prevention and healthy lifestyles. Examples include advisory services, credentialing of providers, contract management, etc. While these partner ventures may be "radical adjacencies," the on-demand health economy will call for health plans to embrace these types of unusual opportunities.

Making 'no-regrets' investments

Significant barriers must be overcome before these shifts in healthcare market dynamics can fully be realized - but the direction is clear. The pace at which consumers are replacing traditional healthcare services with digital ones is rapidly accelerating. The remaining open questions are:

- When will we reach a tipping point?
- I How painful will the disintermediating effects be on traditional payer business models?

In light of these uncertainties, we suggest health plan payers consider a variety of no-regrets investments to cover themselves regardless of the scenario that plays out. Migrating toward any of the emerging business models will require investments in new technology and capabilities. The key to no-regrets investing will be to identify the capabilities and characteristics required for success in the emerging C2B on-demand economy that will also serve the business well today.

In our view, organizations that adhere to the following guiding principles will create value today while positioning themselves for future success.

Mobile first

Mobile devices are everywhere, and consumers have made it clear they want to use them to manage their healthcare. When developing on-demand strategies and building solutions, health payers must design for mobility options first. (For more on this topic, see our report "The Digital Mandate for Health Plans").

Minimize assets

Use public, private or hybrid cloud services to modernize IT capabilities cost-effectively. The cloud offers increasingly sophisticated infrastructure, data center and application options that enable organizations to streamline and simplify IT operations and adopt innovative solutions while avoiding capital investments.

Invest in artificial intelligence, machine learning and automation

Al, intelligent machines and robotic process automation deliver cost and efficiency benefits today. Hardcoding business rules into software, member services chatbots and clinical decision support systems are just a few examples of how automation and Al can enable healthcare organizations to streamline rote tasks and improve services. Al and automation also power systems of learning that will enable health payers to engage on very individualized levels with health consumers (see Figure 4).

Investing in "applied" or narrow AI to automate specific tasks will enable healthcare organizations to begin delivering better experiences and reduce expenses. Narrow Al applications incorporate machine intelligence so they can "learn" from transactions, external data sources and systems of record. These learnings net significant business advantages, from accelerating processes such as interpreting radiological films and adjudicating claims, to anticipating the life stage needs of individual healthcare consumers.

Applied AI streamlines healthcare processes

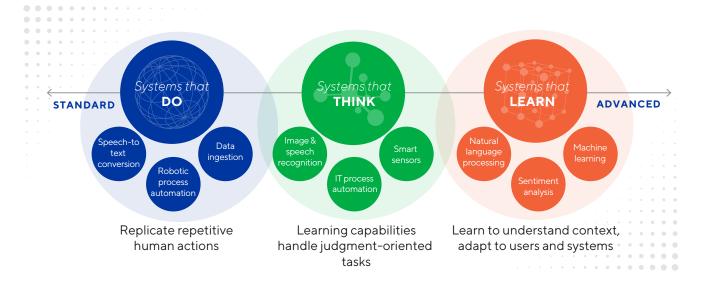
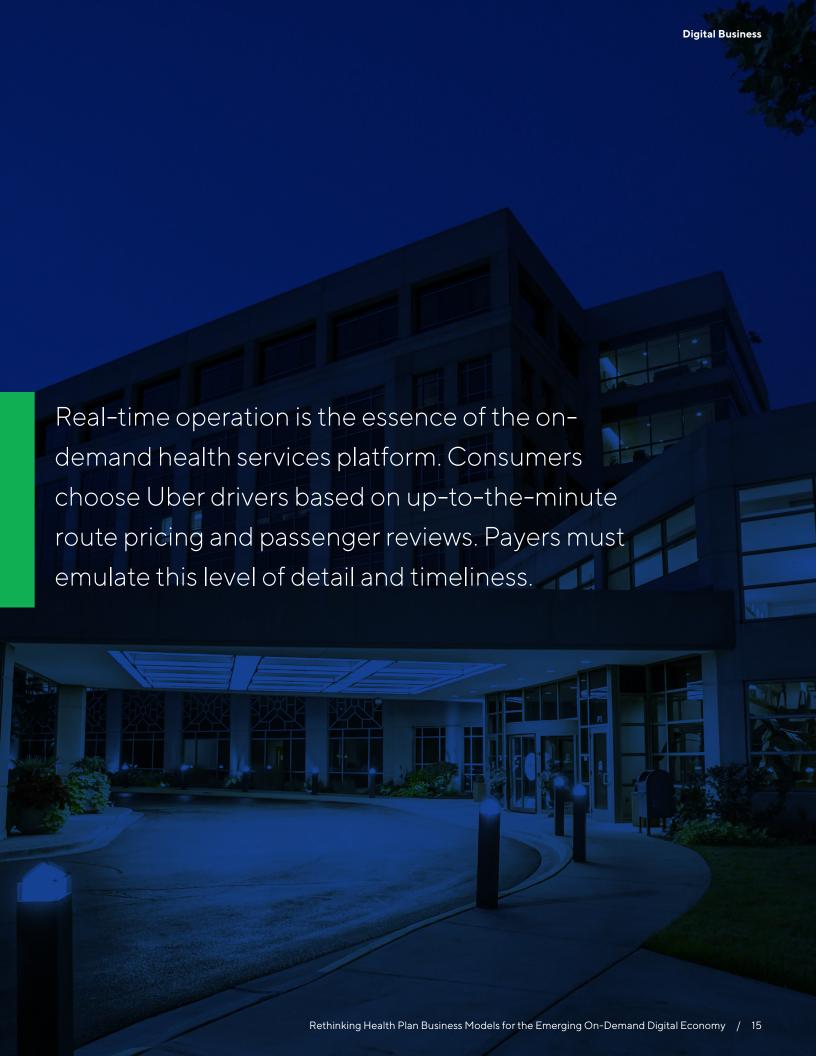


Figure 4



Collaborate across the payer, provider and pharma value chains

The requirements of value-based care are causing traditional industry boundaries to blur as health plans, healthcare systems and biopharma companies all strive to prove they deliver optimal outcomes. Greater collaboration among these sectors, such as clinical data sharing, would likely enable analytics tools to distill more meaningful insights to collect evidence, refine therapies, improve adherence, etc., for better outcomes.

Simplify & modernize legacy assets

By rationalizing and consolidating IT assets and streamlining processes with virtualization and automation, healthcare organizations can reduce costs and reallocate resources to next-generation capabilities. Adopting cloud and methodologies like DevOps enables healthcare organizations to build those capabilities more quickly and cost-efficiently.

Enable real-time transactions

Real-time operation is the essence of the on-demand health services platform. Consumers choose Uber drivers based on up-to-the-minute route pricing and passenger reviews. Payers must emulate this level of detail and timeliness.

Existing companies will need to embrace the on-demand economy and transform their service and delivery systems to meet consumer demand, or find themselves upended by those that embrace this shift.

Final thoughts: what to do today about tomorrow

The following actions will enable healthcare organizations to create mechanisms and processes to complement the aforementioned guiding principles and reap greater benefits.

- I Determine where to position the company within the digital ecosystem. This positioning should be flexible, yet specific enough to guide investments and initiatives. Taking inventory of current market strengths and core competencies should help reveal the best business model for the organization.
- I Sell the vision to key stakeholders. Getting a group of influential champions behind the vision helps ensure the organization is working toward a common goal.
- I Create a plan for the digital transformation. Sequence the plan for quick wins, such as addressing obvious pain points and meeting clear market demand. Each win will help drive acceptance of the overarching vision.
- **I** Establish sponsorship and governance. Many organizations make ad hoc digital investments with no overarching governance or maintenance strategy. A digital owner, such as a chief digital officer, and a supporting strategy office should vet all key initiatives and programs related to digital capabilities to ensure they align with the organization's objectives.
- Accelerate the budgeting process. Budgeting must reflect the speed of the market. Organizations should move from annual budgeting to quarterly to monthly, and allocate funds rapidly and dynamically. Succeeding with digital transformation often requires cutting budgets for legacy operations. That said, IT automation and simplification enables legacy operations to run more efficiently, freeing up funds that can be directed to new initiatives.
- I Learn to innovate under pressure. Reinforce the importance of rapid, continual business model innovation. Institutionalize a culture of innovation across the enterprise that rewards iteration, prototyping, failing fast and trying again.

The C2B on-demand healthcare platform economy will reward new value propositions and erode existing ones. Digital health start-ups are challenging industry incumbents with new business models and new ways of engaging customers. Existing companies will need to embrace the on-demand economy and transform their service and delivery systems to meet consumer demand, or find themselves upended by those that embrace this shift.

Future mapping exercises cannot offer certainties, but they do help clarify possibilities rooted in facts and trends. With possible destinations in sight - and armed with the knowledge of their relative strengths - health plans can plot their course toward the future and take better charge of their destinies.

Endnotes

- Bruce Japsen, "Health On-Demand Attracts \$1B in Investments," Forbes, Feb. 2, 2016, https://www.forbes.com/sites/ brucejapsen/2016/02/02/investment-in-on-demand-healthcare-companies-to-hit-1-billion/#3922c7b84ae9.
- Clifton Leaf, "Where AI Will Pay Off Most in Healthcare," Fortune, June 19, 2017, http://fortune.com/2017/06/19/ healthcare-artificial-intelligence-accenture/.
- "Telehealth Expansion Initiatives Helping to Increase Patient Choice and Access," The National Law Review, May 20, 2016, https://www.natlawreview.com/article/telehealth-expansion-initiatives-helping-to-increase-patient-choice-and-access.
- Kia Kokalitcheva, "More than Half of Kaiser Permanente's Patient Visits Are Done Virtually," Fortune, Oct. 6, 2016, http:// for tune.com/2016/10/06/ka is er-permanent e-virtual-doctor-visits/.
- Paul Elish, "Telehealth's Year in Review: 5 Trends in State Policies," Advisory Board, Jan. 26, 2017, https://www.advisory.com/ research/market-innovation-center/the-growth-channel/2017/01/state-telehealth-2017.
- Meghana Keshavan, "20 Key Players in the Direct-to-Consumer Lab Testing Market," MedCityNews, Jan. 20, 2016, http:// medcitynews.com/2016/01/20-key-players-in-the-direct-to-consumer-lab-testing-market/.
- Robert Pearl, "Engaging Physicians in Telehealth," NEJM Catalyst, July 10, 2017, http://catalyst.nejm.org/engagingphysicians-in-telehealth/.
- Eugene Kim, "Amazon Has a Secret Health Tech Team Called 1492 Working on Medical Records, Virtual Doc Visits," CNBC, July 27, 2017, http://www.cnbc.com/2017/07/26/amazon-1492-secret-health-tech-project.html.

About the authors



William Shea

Vice-President, Cognizant Consulting's Healthcare Practice

William (Bill) Shea is a Vice-President with Cognizant Consulting's Healthcare Practice, where he leads the payer market segment including health plans, pharmacy benefit managers and government programs. He has over 20 years of experience in management consulting in the health industry across payer, purchaser and provider markets. Bill has significant experience in health plan strategy and operations in the areas of digital transformation, consumer engagement, value-based care, provider network management and product development. He can be reached at William.Shea@cognizant.com.



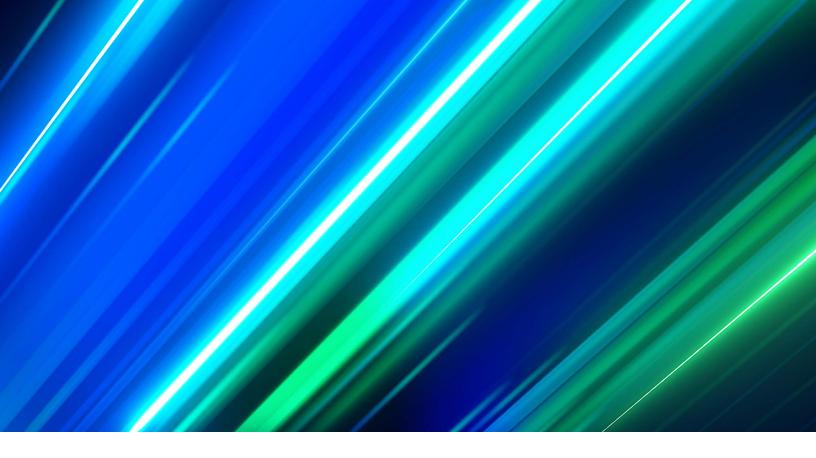
Patricia Birch

Senior Vice-President, Cognizant Consulting's Healthcare Practice

Patricia (Trish) Birch is a Senior Vice-President with Cognizant Consulting's Healthcare Practice, where she leads the company's healthcare consulting group. Trish has over 25 years of experience in operations and management consulting and is a published author and speaker on issues facing the industry. She has years of hands-on experience managing and executing complex business and technology programs, and has served many of the largest organizations across the industry. Trish can be reached at

Acknowledgments

The authors would like to thank Soumitra Nanda, Senior Director, Cognizant Consulting's Healthcare Practice, and Anand Jha, Director, Cognizant Consulting's Healthcare Practice, for their contributions to this white paper.



About Cognizant Consulting

With over 5,500 consultants worldwide, Cognizant Consulting offers high-value digital business and IT consulting services that improve business performance and operational productivity while lowering operational costs. Clients leverage our deep industry experience, strategy and transformation capabilities, and analytical insights to help improve productivity, drive business transformation and increase shareholder value across the enterprise. To learn more, please visit www.cognizant.com/consulting or e-mail us at inquiry@cognizant.com.

About Cognizant Healthcare

Cognizant's Healthcare Business Unit works with healthcare organizations to provide collaborative, innovative solutions that address the industry's most pressing IT and business challenges — from rethinking new business models, to optimizing operations and enabling technology innovation. A global leader in healthcare, our industry-specific services and solutions support leading payers, providers and pharmacy benefit managers worldwide. For more information, visit www.cognizant.com/healthcare.

About Cognizant

Cognizant (Nasdaq-100: CTSH) is one of the world's leading professional services companies, transforming clients' business, operating and technology models for the digital era. Our unique industry-based, consultative approach helps clients envision, build and run more innovative and efficient businesses. Headquartered in the U.S., Cognizant is ranked 193 on the Fortune 500 and is consistently listed among the most admired companies in the world. Learn how Cognizant helps clients lead with digital at www.cognizant.com or follow us @Cognizant.

Cognizant

World Headquarters

500 Frank W. Burr Blvd. Teaneck, NJ 07666 USA Phone: +12018010233 Fax: +12018010243 Toll Free: +1888 937 3277

European Headquarters

1 Kingdom Street Paddington Central London W2 6BD England Phone: +44 (0) 20 7297 7600 Fax: +44 (0) 20 7121 0102

India Operations Headquarters

#5/535 Old Mahabalipuram Road Okkiyam Pettai, Thoraipakkam Chennai, 600 096 India Phone: +91 (0) 44 4209 6000 Fax: +91 (0) 44 4209 6060

APAC Headquarters

1 Changi Business Park Crescent, Plaza 8@CBP # 07-04/05/06, Tower A, Singapore 486025 Phone: + 65 6812 4051 Fax: + 65 6324 4051

© Copyright 2020, Cognizant. All rights reserved. No part of this document may be reproduced, stored in a retrieval system, transmitted in any form or by any means, electronic, mechanical, photocopying, recording, or otherwise, without the express written permission from Cognizant. The information contained herein is subject to change without notice. All other trademarks mentioned herein are the property of their respective owners.