Strategic Risks Threatening US Hospital Systems

How to Compete in a Shifting Landscape

Sean Day, MPhil Technology Policy Candidate 2017/2018, Judge Business School

2018 Cambridge - McKinsey Risk Prize

Bio-sketch and Photo Page

Student Name: Sean Day

Email contact: sean.t.day.91@gmail.com

Title of Submission: Strategic Risks Threatening US US Hospital Systems: How to Compete in a Shifting Landscape

I am a candidate for the degree:

MPhil Technology Policy

Bio-sketch

Sean Day is currently an MPhil student studying Technology Policy at the Judge Business school. Previously he was a business and operations analyst with the population health division at Epic, a large electronic health record vendor in the US.

He holds an undergraduate degree in bioengineering from Union College in Schenectady, New York. After graduating from Union Sean was awarded the Thomas J Watson Fellowship, during which he researched the intersection of technology and culture in the management of physical disabilities in Ethiopia, India, Japan, and Argentina.

When he graduates from Judge Sean plans to move back to the US to continue working in the digital health sector.

2018 Cambridge - McKinsey Risk Prize Declaration Form

Student Name: Sean Day

Email contact: std33@jbs.cam.ac.uk

Title of Submission: Strategic Risks Threatening US Hospital Systems: How to Compete in a Shifting Landscape

Number of words of submission: 3980

I am a candidate for the degree: MPhil Technology Policy

Academic Institution/Department: Judge Business School

Declaration

I confirm that this piece of work is my own and does not violate the University of Cambridge Judge Business School's guidelines on Plagiarism.

I agree that my submission will be available as an internal document for members of both Cambridge Judge Business School and McKinsey & Co's Global Risk Practice.

If my submission either wins or receives an honourable mention for the Risk Prize, then I agree that (a) I will be present at the award presentation ceremony 20 June 2018, (b) my submission can be made public on a Cambridge Judge Business School and/or McKinsey & Co websites.

This submission on risk management does not exceed 10 pages.

Sean Day

(Electronic Signature)

1.0 Introduction

In a healthcare system notorious for inefficiency US hospital organizations have long maintained a central role in care delivery. Predictions of disruption have swirled for years while the ebb and flow of healthcare reform proposals have become a steady feature of national conversation. Meanwhile, hospital leaders have grown accustomed to surviving in an increasingly competitive business with shrinking margins. Yet change is in the air. A convergence of trends in the healthcare economy may produce a shift where hospital organizations risk losing their dominant position in the business of delivering care.

1.1 Setting the stage

The business of healthcare delivery in the United States is evolving. It is finally making the paper-to-digital transition thanks to a push from the Health Information Technology for Economic and Clinical Health (HITECH) Act, part of the 2009 stimulus [1]. By 2015 96% of hospitals and 78% of physician offices were using electronic health records, up from just 9% of hospitals and 17% of physicians in 2008 [2]. It's about time.

At the same time, the volume-to-value transition is gaining momentum with the Medicare Access and CHIP Reauthorization Act (MACRA) of 2015, which promotes new alternative payment models (APMs) in addition to the accountable care organizations (ACOs) promoted by the Affordable Care Act (ACA). By 2016 APMs had over 30% of Medicare payments and 25% of payments for commercial plans, Medicare Advantage, and Medicaid [3].

Healthcare is also consolidating. Hospitals continue to merge and acquire physician practices amidst a flurry of activity in other parts of the healthcare value chain [4]. From UnitedHealth's purchase of DaVita's doctor group to CVS's proposed merger with Aetna and the mysterious Amazon-JPMorgan-Berkshire Hathaway healthcare venture, consolidation is breaking down traditional industry barriers [5],[6],[7]. Hospital systems increasingly find themselves navigating a complex landscape of partners and competitors, some of whom offer new value propositions to patients such as retail clinics or telemedicine services.

The convergence of value-based incentives and health information technology (HIT) in a consolidating healthcare economy is a potent mix that is ripe for change.

1.2 Why now?

These trends impact how, where, and by whom value is created in the healthcare system. Emerging business models pose a threat to incumbent healthcare systems because, as I will argue, new entrants may be better positioned to take advantage of an increasingly consumer-driven healthcare economy and an increasingly robust digital health infrastructure.

Our aging population is living longer with chronic diseases [8], and healthcare is moving beyond hospital walls to meet the growing needs for post-acute and preventative care [9]. Hospitals are already being forced to adapt to falling revenue from inpatient admissions. From 2006 to 2014, inpatient discharges for Medicare Part A beneficiaries dropped 17% while outpatient visits for Part

B beneficiaries rose 33% [10]. For now, shifting investment to profitable outpatient business lines can make up for losses on the inpatient side. But outpatient settings are precisely the ones that are most vulnerable in a digital consumer-focused market.

Here lies the root of the risk to hospital systems. If new entrants capture a significant portion of the outpatient market, many hospital systems will struggle to remain financially viable. As Michael Porter puts it, "in a well-functioning health care system, the creation of value for patients should determine the rewards for all other actors in the system" [11]. It is not clear that hospital organizations are positioned to capture those rewards.

In this paper I discuss three weaknesses of hospital systems facing a new healthcare landscape. I propose future scenarios derived from key dimensions of change, the degree of HIT interoperability and the extent of consumer-driven healthcare. My purpose is to present a framework that unifies several strands of forecasting and strategic thinking in healthcare, and to characterize the risks posed to the business of hospital organizations.

2.0 Here be dragons

Incumbent hospital organizations are entering uncharted waters and must tread carefully. Sprawling hospital systems strive for economies of scale in the creation of value, which Porter defines as "health outcomes achieved per dollar spent" [12]. But these organizations have three important weaknesses that will inhibit their ability to deliver high value care.

2.1 Digital capability

As we move past the early stages of meaningful use [13], the next wave of HIT adoption will be marked by a shift in focus from processes to patient needs [14]. And caring for patient populations in a value-based reimbursement world demands digital talent [15]. Other than a handful of leaders like Johns Hopkins in predictive analytics [16], most hospitals currently rely heavily on outside vendors for their digital needs [17]. Hospital systems may be ceding digital capital necessary for the creation of new value by relying too heavily on third party technology and analytics [18]. The new competitive landscape means entrants with the digital experience and deep pockets to develop in-house health analytics capability will be more dynamic in responding to the needs of patients.

2.2 Experience in consumer markets

Healthcare consumerism is growing slowly but surely as patients are burdened with higher out-of-pocket costs [19]. Long shielded from traditional market forces, hospital organizations generally lack experience in consumer markets [20]. Not so for their new competitors. Entrants to the care delivery space such as CVS and UnitedHealth have various degrees of experiences marketing to consumers and improving the customer experience. Their tacit marketing knowledge and ability to harness data to understand consumer behavior will be difficult for hospitals to replicate [21].

2.3 Business model conflicts

Hospitals will struggle to integrate new models of care delivery that clash with their existing business model. Physician-hospital mergers already tend to raise physician costs without improving quality. [22]. The challenge of playing "two-game at once" will become even more pronounced if and when hospitals decide to expand into new service areas like retail clinics or

telemedicine [23],[24]. Such innovative care delivery models are certainly part of the healthcare industry, but hospitals leaders must think carefully about whether they belong in that market [23].

Clayton Christensen advocates for separating these new models from the hospital business model. He points out that hospitals are "solution shops" that deliver value by employing doctors and nurses to solve complicated problems, similar to consulting firms and advertising agencies [25]. But a retail clinic relies on process efficiency to perform routine clinical tasks like testing for strep throat and then writing and filling a prescription. Its business model more closely resembles that of retailing or restaurants. Such "value-adding process businesses" are emerging in our new competitive landscape, and hospitals may struggle to compete with more focused entrants should they choose to do so.

3.0 Drivers of change

This paper takes the volume-to-value, paper-to-digital, and consolidation trends as constants that define today's healthcare economy. Within this environment, trends in interoperability and consumer-focused healthcare are more uncertain. Hospitals need to make strategic decisions that depend on the future state of these two dimensions.

3.1 Interoperability

The lack of interoperability has so far frustrated aspirations for a truly connected healthcare ecosystem. Technical barriers arising from the lack of reliable standards between electronic health records (EHRs) of different vendors are exacerbated by state-level variation in privacy laws, as well as organizational boundaries between local care providers [26],[27]. Today's healthcare internet is an eclectic mix of health information exchanges (HIEs), standards, and direct hospital-to-hospital connections [26]. Additionally, organizations may see increased data liquidity as a threat to their business interests [28], although value-based reimbursement should incentivize more data sharing [27]. Hospitals and their EHR vendors are being pushed to make data more freely available to patients and competitors [28], but the future state of interoperability is far from clear.

It is not just the technical capability to exchange medical data that matters but also the ease with which it is exchanged and understood by patients and providers. Should true interoperability be achieved we may witness an increasingly fluid customer base of patients finding value at new access points beyond hospital walls [26]. One can imagine a future where a mixture of retail clinics, home health providers, and wellness applications create a growing share of value in the healthcare system by drawing on medical data captured at high cost in hospital systems.

3.2 Consumer-focused healthcare

Consumer-focused healthcare that shifts more purchasing power and decision making to patients is emerging as an important force in the healthcare economy. High-deductible health plans (HDHPs) grew in popularity following the recession as employers shifted costs to workers [29]. Out-of-pocket costs for workers grew 67% from 2010 to 2015 [30]. Failed efforts to repeal the ACA last year also saw a growing interest in raising the contribution limit for health savings accounts (HSAs), and similar proposals may be revisited [31]. Increased cost sharing has been promoted as a strategy to control healthcare spending by reducing unnecessary procedures, though there are concerns that patients struggle to differentiate necessary from unnecessary care [32],[33].

In addition to cost sharing on the demand side there are supply side factors increasing pressure on hospital systems to be more consumer centric. New care delivery models such as retail clinics, urgent care centers, and telemedicine offer patients a level of convenience and customer service they have come to demand from other industries [19],[34]. States that enact telehealth parity laws or relax scope of practice laws will ease the spread of these new business models [35],[36],[25].

If price-sensitive patients face a growing number of ways to access the healthcare system, it will change the nature of competition. Hospital systems will be challenged to not only reduce prices and transparency, but also improve customer service while marketing to a digitally savvy customer base.

3.3 Connecting the dots

To illustrate the role of these two drivers, consider a highly stylized view of two patients' interactions with the healthcare system shown in Figure 1. Our simple patient is relatively healthy and accesses the healthcare system mostly for minor acute problems and her annual exam. Our complex patient has diabetes and suffers from depression. He receives a more integrated and coordinated care experience.

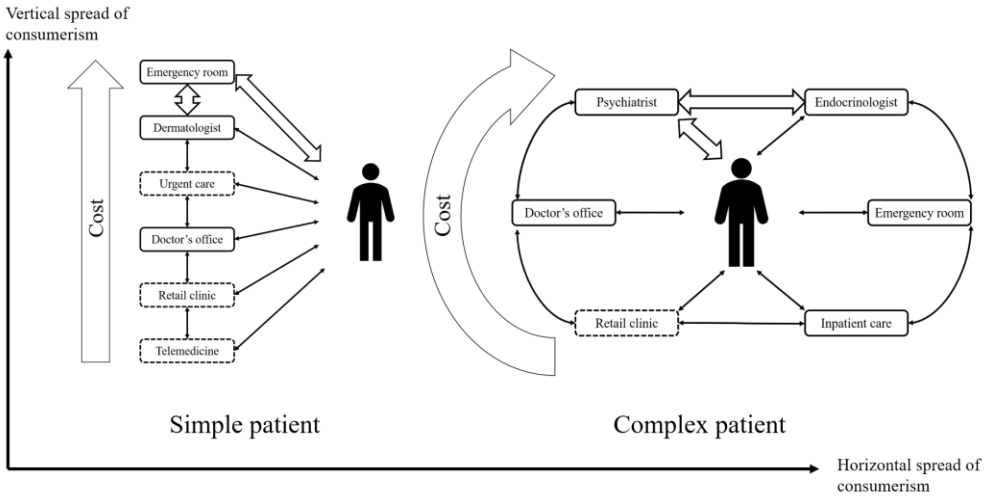

Figure 1. The role of interoperability and consumer-focused healthcare in care delivery for simple and complex patients.

Interoperability, the glue that holds the continuum of care together in today's digital world, is incomplete and uneven, as represented by the various sized arrows between access points. Healthcare consumerism contributes to the expansion of new access points like those shown in dashed boxes.

We can conceptualize interoperability in terms of transaction costs. Greater interoperability means lower transaction costs for exchanging medical data. Drawing parallels to Ronald Coase's theory of the firm [37] and Thomas Friedman's "global flatteners" [38], high levels of interoperability allow integrated care to be delivered to our complex patient by multiple organizations collaborating digitally. Today many hospital organizations achieve internal interoperability but not

inter-organizational interoperability. This necessitates consolidation to bring various medical professional under one roof to deliver coordinated care.

Healthcare consumerism is most recognizable today at lower-cost access points like retail clinics and telemedicine services that appeal to patients with minor ailments based on price and convenience [39]. This is roughly the bottom left-hand corner of Figure 1. But consumer-focused healthcare will grow increasingly important if consumerization spreads vertically to more expensive services [40]. How will hospital systems respond if Amazon-JPMorgan-Berkshire starts a chain of outpatient surgery centers? There are already hints of this trend, though from an incumbent not an entrant, with Geisinger's ProvenCare initiative, a warranty for surgical procedures [41].

Consumerism may also spread horizontally if retail clinics and telemedicine services become central to the management of chronic illnesses. Such efforts to deliver integrated care to complex patients through new access points would be enhanced by, and likely require, significant interoperability. If out-of-pocket costs remain high, Apple might decide to expand its new mobile health record [42] into a platform that makes it easy for providers across organizations to coordinate care around patients with chronic diseases. The prospect of horizontal expansion of consumer-focused healthcare should set off alarm bells for hospital leaders. As Ateev Mehrotra, associate professor at Harvard Medical School, points out, "the money is not in low-acuity care… the money is in chronic illness" [43].

4.0 Scenario planning

We can now start to tease out implications of consumer-focused healthcare and interoperability for hospital systems' business strategy. I take a 5-year view of these trends to create the four scenarios described in Table 1 below.

It is worth noting that both dimensions are currently trending upward, so "low" levels of interoperability or consumer-focused healthcare in 5 years may be higher relative to today. High interoperability, defined by low data transaction costs, means it is easy and intuitive for patients and providers to exchange data securely. High consumerism means patients are empowered to make significant decisions about the care they receive. Patients have financial skin in the game, as well as high health literacy and access to information necessary for making informed decisions.

4.1 Rise of the ACOs

In the absence of normal market forces, new entrants with innovative care delivery models will find it easier to work with hospitals rather than compete against them. This collaboration will be simplified by interoperability, creating new opportunities for value creation.

The key to success in Rise of the ACOs will be to form innovative partnerships with outside organizations that will drive success in a pay-for-value world. Hospitals can take advantage of new low-cost models of care delivery without the burden of bringing together conflicting business models under one roof. They need to enhance their own digital capabilities to become the hub that tracks and manages population health across this network of partners.

Table 1. Scenario planning for US hospital systems.

	Low consumerism	High consumerism
Low data transaction costs (high interoperability)	*Rise of the ACOs* Data flows freely and patients continue to access the system as they are accustomed to doing. Interoperability improves care coordination among organizations, favoring the growth of more dynamic collaborations like ACOs over hospital mergers. Most likely	*New Front Door* Patients start accessing the system through more convenient, lower cost competitors. Large hospital systems find themselves over invested in outpatient services, struggle to control referrals to their specialists, and lose negotiation power with payers as they provide less value. Likely
High data transaction costs (low interoperability)	*Consolidated Health* Barriers to data exchange between organizations favor large, integrated healthcare systems with comprehensive IT platforms. Switching costs reinforce patient preferences for traditional access points to keep patient care within hospital systems. Not very likely	*Fragmented Care* Patients burdened with high deductibles turn to lower cost alternatives for primary care offered by insurance companies and new entrants like CVS. Data remains siloed within organizations, so care is poorly coordinated between different care settings. Unlikely

4.2 Consolidated Health

Some would argue that this is the world we exist in today. Hospitals in Consolidated Health merge and buy up outpatient practices in response to growing pressure to deliver value-based care from powerful payers. Unlike in Rise of the ACOs, effective collaboration requires tight organizational partnerships to overcome the persistent barriers to interoperability.

Hospitals should continue to consolidate and focus on delivering care in the lowest cost setting. They need to expand their own primary care offerings while reducing excess hospital capacity. Data analytics must become a core competency for these large hospital systems as they take on increasing financial risk for patients while operating the entire continuum of care. Conflict between the business models of the hospital and new access points like urgent care centers and telemedicine services will be best resolved by creating separate organizational structures for the solution-shops and the value-adding process businesses.

4.3 New Front Door

A broad base of patient-consumers and high data liquidity will produce a surge of new entrants to the market. This is where the threat of consumerism spreading horizontally from simple to complex patients comes into play. Hospitals may find themselves over extended in the outpatient business after years of acquiring physician practices if the competition offers more attractive value

propositions. This scenario poses significant risk to hospitals as they will create a shrinking portion of the overall value in the healthcare system.

To succeed in New Front Door hospitals should slim down and focus on their more defensible business of providing secondary and tertiary care. In this world where hospitals are but one of many actors delivering care it is less important to be the hub for integration. The roles of care coordination and population health management, along with the necessary digital capabilities, may fall to insurance companies who have a greater financial stake in patient outcomes.

4.4 Fragmented Care

This is a worst-case scenario that would be bad for hospitals and patients alike. Price-sensitive patients will be driven to more convenient, low-cost access points without the interoperability necessary to coordinate care. Hospitals will struggle to manage their value-based contracts when many patient interactions are effectively invisible. New access points like telemedicine may initially appeal to younger, healthier populations, which could destabilize the hospitals' patient mix. This scenario serves as a warning to policy makers as well. Rising out-of-pocket costs may have harmful unintended consequences if progress on interoperability does not keep pace.

As in the New Front Door scenario, hospitals will need to slim down their outpatient services and embrace transparency. They may keep some outpatient business lines open when they are still profitable or necessary to deliver quality care to patients with chronic conditions. Improving digital capability is more important in Fragmented Care than in New Front Door. Hospitals will need to fill the gap in care coordination for complex patients. Ownership of the EHR leaves them best placed to try to manage population health and coordinate care in a low interoperability world.

4.5 Discussion

The Rise of the ACOs and New Front Door scenarios are more likely because there is broader consensus on the desirability of interoperability than consumer-focused healthcare. The barriers to interoperability are mostly technical and legal, so it is more a question of when, not if, we will achieve free-flowing medical information. The out-of-pocket costs driving healthcare consumerism are subject to the whims of politics, and therefore more uncertain. I have doubts that giving patients more choice and skin in the game will overcome persistent market failures stemming from the information asymmetry inherent in healthcare and health insurance. But the mutually reinforcing nature of interoperability and consumer healthcare discussed above means that hospital leaders should evaluate both dimensions carefully. Regional and state-specific factors discussed in Section 3 are a useful starting point for developing a business strategy using the framework presented in this paper.

References

[1] D. Blumenthal, "Launching HITECH," *N. Engl. J. Med.*, vol. 362, no. 5, pp. 382–385, Feb. 2010.

[2] E. Jamoom and N. Yang, "Table of Electronic Health Record Adoption and Use among Office-based Physicians in the U.S., by State: 2015 National Electronic Health Records Survey," 2016.

[3] D. Muhlestein, R. Saunders, and M. McClellan, "Growth Of ACOs And Alternative Payment Models In 2017," *Health Affairs*, 28-Jun-2017.

[4] C. Knapp, J. Peterson, R. Gundling, C. Mulvany, and W. Gerhardt, “Hospital M&A: When done well, M&A can achieve valuable outcomes,” Deloitte Center for Health Solutions, 2017.
[5] Z. Tracer, “UnitedHealth Buys DaVita’s Doctor Groups for $4.9 Billion,” *Bloomberg*, 06-Dec-2017.
[6] S. Terlep, A. W. Mathews, and D. Cimilluca, “CVS to Buy Aetna for $69 Billion, Combining Major Health-Care Players,” *Wall Street Journal*, 04-Dec-2017.
[7] N. Wingfield, K. Thomas, and R. Abelson, “Amazon, Berkshire Hathaway and JPMorgan Team Up to Try to Disrupt Health Care,” *The New York Times*, 30-Jan-2018.
[8] “Multiple Chronic Conditions—A Strategic Framework: Optimum Health and Quality of Life for Individuals with Multiple Chronic Conditions,” U.S. Department of Health and Human Services, Washington, DC, Dec. 2010.
[9] S. Burrill and A. Kane, “Deloitte 2017 survey of US health system CEOs: Moving forward in an uncertain environment,” Deloitte Center for Health Solutions, 2017.
[10] J. Bresnick, “Inpatient Volume, Revenue Drops as Outpatient Care Makes Gains,” *RevCycleIntelligence*, 11-Nov-2014.
[11] M. E. Porter, “What Is Value in Health Care?,” *N. Engl. J. Med.*, vol. 363, no. 26, pp. 2477–2481, Dec. 2010.
[12] M. E. Porter, *Redefining Health Care: Creating Value-based Competition on Results*. Harvard Business Review Press, 2006.
[13] M. Miliard, “Is the post-EHR era upon us?,” *Healthcare IT News*, 07-Oct-2014. .
[14] S. Biesdorf and F. Niedermann, “Healthcare’s digital future,” *McKinsey & Company*, Jul-2014. .
[15] M. Morris, K. Abrams, N. Elsner, and W. Gerhardt, “Practicing value-based care,” *Deloitte Insights*. .
[16] G. Slabodkin, “Johns Hopkins Hospital command center is first of its kind,” *Health Data Management*, 24-Jan-2017.
[17] S. Padarthy, “Connecting the Dots in Digital Healthcare,” *Digitally Cognizant*, 02-Mar-2017.
[18] J. Bughin and J. Manyika, “Measuring the full impact of digital capital,” *McKinsey & Company*, Jul-2013.
[19] J. Cordina, R. Kumar, and C. Moss, “Debunking common myths about healthcare consumerism,” *McKinsey & Company*.
[20] E. J. Emanuel, *Reinventing American Health Care*. New York, NY: PublicAffairs, 2014.
[21] “Top health industry issues of 2018 A year for resilience amid uncertainty,” PwC Health Research Institute, 2017.
[22] J. Goldsmith, L. Burns, A. Sen, and T. Goldsmith, “Integrated Delivery Networks: In Search of Benefits and Market Effects,” National Academy of Social Insurance, Feb. 2015.
[23] C. D. Charitou and C. C. Markides, “Responses to Disruptive Strategic Innovation,” *MIT Sloan Management Review*, 2003.
[24] C. E. Pollack, C. Gidengil, and A. Mehrotra, “The Growth of Retail Clinics and the Medical Home: Two Trends in Conflict?,” *Health Aff. Proj. Hope*, vol. 29, no. 5, pp. 998–1003, May 2010.
[25] J. Hwang and C. M. Christensen, “Disruptive innovation in health care delivery: a framework for business-model innovation,” *Health Affairs*, vol. 27, no. 5, pp. 1329–1335, Oct. 2008.

[26] “Connecting Health and Care for the Nation A Shared Nationwide Interoperability Roadmap,” Office of the National Coordinator for Health Information Technology (ONC), Oct. 2015.
[27] “Report to Congress: Challenges and Barriers to Interoperability,” The Health Information Technology Policy Committee, Dec. 2015.
[28] “2016 Report To Congress on Health IT Progress,” Office of the National Coordinator for Health Information Technology (ONC) Office of the Secretary, 2016.
[29] S. G. Yi, “Consumer-Driven Health Care: What Is It, and What Does It Mean for Employees and Employers?,” US Bureau of Labor Statistics, Oct. 2010.
[30] “2015 Employer Health Benefits Survey,” Kaiser Family Foundation, Sep. 2015.
[31] Michelle Andrews, “GOP Seeks To Sweeten Health Savings Account Deals. Will Consumers Bite?,” *Kaiser Health News*, 14-Jul-2017.
[32] C. White, P. Ginsburg B., H. Tu T., J. Reschovsky D., J. M. Smith, and K. Liao, “Healthcare Price Transparency: Policy Approaches and Estimated Impacts on Spending,” Westhealth Policy Center, Washington, DC, May 2014.
[33] A. M. Haviland, M. S. Marquis, R. D. McDevitt, and N. Sood, “Growth of consumer-directed health plans to one-half of all employer-sponsored insurance could save $57 billion annually,” *Health Affairs*, vol. 31, no. 5, pp. 1009–1015, May 2012.
[34] “5 must-have upgrades for the consumer-focused health system,” *Advisory Board*, 2016.
[35] T. Yang, “Health Policy Brief: Telehealth Parity Laws,” Health Affairs, Aug. 2016.
[36] J. Spetz, S. T. Parente, R. J. Town, and D. Bazarko, “Scope-of-practice laws for nurse practitioners limit cost savings that can be achieved in retail clinics,” *Health Aff. Proj. Hope*, vol. 32, no. 11, pp. 1977–1984, Nov. 2013.
[37] R. H. Coase, “The Nature of the Firm,” *Economica*, vol. 4, no. 16, pp. 386–405, Nov. 1937.
[38] T. L. Friedman, *The World Is Flat: A Brief History of the Twenty-first Century*. Farrar, Straus and Giroux, 2005.
[39] S. Coughlin, J. Wordham, and B. Jonash, “Rising consumerism: Winning the hearts and minds of health care consumers,” *Deloitte Insights*, 26-Jan-2015.
[40] J. Bush, *Where Does It Hurt? An Entrepreneur’s Guide to Fixing Health Care*. Portfolio, 2014.
[41] G. F. Burke, “Geisinger’s Refund Promise: Where Things Stand After One Year,” *NEJM Catalyst*, 12-Jan-2017.
[42] “Apple announces solution bringing health records to iPhone,” *Apple Newsroom*, 24-Jan-2018.
[43] S. Melendez, “Here’s What The CVS-Aetna Merger Says About The Future Of Healthcare Clinics,” *Fast Company*, 04-Dec-2017.