

# Health Care “Prime”

The Shaping of Health Care in America Through M+A and Innovation

This is a notable period for the modern health care industry in America. The health care ecosystem is evolving at an accelerating pace. How health care is owned, organized, delivered and paid for in the future will be different than in the past; mergers and acquisitions and innovation are the most significant change agents in this remaking.

Through analyzing recent exemplar mergers and acquisitions and innovation activities, this white paper uses the conceptual framework of ownership, organization, delivery and payment in seeking to explain the future state envisioned by those shaping health care.

## CONCEPTUAL FRAMEWORK



We've labeled the cumulative activity during this period of accelerating change as Health Care "Prime" because, to a large degree, we first noticed the potential implications through the four areas of this conceptual framework in the announced formation of a new health care company by Amazon, JP Morgan and Berkshire Hathaway (the "**Amazon Venture**"). While itself not the announcement of a specific deal or the introduction of a specific innovation, the Amazon Venture involves and will likely prompt a range of interest in both mergers and acquisitions and innovation.

The lens of ownership, organization, delivery and payment provides insights into how mergers and acquisitions and innovation are being utilized to effectuate the following principal themes and outcomes that we have identified as defining the future of health care:

- Private equity ownership
- Value-based care
- Consumerism
- Integrated care continuum
- Data revolution
- Shift from in-patient to out-patient care

## FUTURE OF HEALTH CARE THEMES AND OUTCOMES



## M + A

Mergers and acquisitions are one of the most significant enablers being used in the redesign of health care. For the year-to-date period ending June 2017, there were 472 announced or closed health care deals, a record volume.<sup>1</sup> For the same year-to-date period ending June 2018, there were 530 deals announced or closed, a 12.3% increase over the already record prior year.<sup>2</sup> This high volume of mergers and acquisitions activity is projected to continue in the near term.<sup>3</sup>

The following widely-publicized “mega” deals announced or closed in the last 18 months illustrate application of the conceptual framework of ownership, organization, delivery and payment in understanding the future state’s predominant themes and outcomes:

PARTIES	STRUCTURE	DEAL VALUE
Amazon, Berkshire Hathaway and JP Morgan	Forming new independent health care company	Unknown
Amazon and PillPack	Amazon acquiring PillPack, an online pharmacy	~ \$1 billion
Cigna and Express Scripts	Cigna acquiring Express Scripts	~ \$52 billion
CHI and Dignity Health	Merger of CHI and Dignity Health forming new national health system	~ \$28 billion
CVS Health and Aetna	CVS Health acquiring Aetna	~ \$69 billion
Humana, TPG, Welsh Carson and Kindred Healthcare	Consortium of Humana, TPG and Welsh Carson acquired Kindred	~ \$4.1 billion
KKR and Envision Healthcare	KKR acquired Envision	~ \$9.9 billion
Optum and DaVita Medical Group	Optum acquiring DaVita Medical Group	~ \$4.9 billion

## INNOVATION

Innovation is another significant driver in health care’s transformation. Historically, health care has been largely immune to disruptive innovation.<sup>4</sup> Much of what is thought of as health care “innovation” in past decades has really served to sustain, rather than disrupt, an industry that is known for rising costs and non-patient centric outcomes.<sup>5</sup>

Recent health care product, service, business model, technology and knowledge innovations, however, when viewed through the conceptual framework of ownership, organization, delivery and payment, evidence how the predominant themes and outcomes identified are becoming the future of health care. New entrants into the market with new ownership structures, such as Amazon, new health delivery models, such as telehealth and employer on-site clinics and new technologies, such as artificial intelligence and 3D printing, are a few of the recent innovations driving transformation in the health care sector.

<sup>1</sup> Bloomberg Law, “Insight: Strong Health-Care Deal Activity Seen in 2018’s First Half,” <https://news.bloomberglaw.com/health-law-and-business/insight-strong-health-care-deal-activity-seen-in-2018s-first-half>.

<sup>2</sup>Id.

<sup>3</sup> Bain & Company, “Global Healthcare Corporate M&A 2018,” [https://www.bain.com/contentassets/6613e8d7596b4f28ad413f85b64ab41e/bain\\_brief\\_global\\_healthcare\\_corporate\\_manda\\_2018.pdf](https://www.bain.com/contentassets/6613e8d7596b4f28ad413f85b64ab41e/bain_brief_global_healthcare_corporate_manda_2018.pdf).

<sup>4</sup> Clayton Christensen, Andrew Waldeck and Rebecca Fogg, “How Disruptive Innovation Can Finally Revolutionize Healthcare,” <https://www.christenseninstitute.org/wp-content/uploads/2017/05/How-Disruption-Can-Finally-Revolutionize-Healthcare-final.pdf>.

<sup>5</sup>Id.



## OWNERSHIP AND ORGANIZATION

Due to complex federal and state regulatory schemes, the ownership and organizational structures historically present in health care are limited. Owing to restrictions by state corporate practice of medicine laws, licensure requirements, certificates of need and federal and state self-referral and anti-kickback laws and regulations, the main players in the health care economy have been hospitals, health systems, universities, physicians, insurance companies, drug manufacturers and governmental payor programs like Medicare and Medicaid. The result, to varying degrees across the country, has been fragmented and under-capitalized ownership and organizational structures in health care.

### *Private Equity Ownership*

Private equity ownership is playing an ever-increasing role in the ownership of health care in America. This is demonstrated through a growing volume of investments and mergers and acquisitions in recent years. Health care private equity activity in 2017 reached \$42.6 billion in disclosed value, and the number of deals rose to 265, up 17% from 2016.<sup>6</sup> An aging population, a physician shortage, new developments in drugs and devices and fragmented and often inefficient payment and delivery systems make health care ripe for the consolidation, aggressive expansion, management and operational expertise, new technology adoption and efficient capital, among other strategies, that private equity funds apply successfully in other industries.<sup>7</sup>

Two of the identified deals include, directly or indirectly, well-known private equity investors – the acquisition of Kindred Healthcare by Humana, TPG and Welsh Carson and the acquisition of Envision by KKR.

The Humana consortium’s acquisition of Kindred — which followed shortly after their acquisition of Curo Health Services’ home health business for \$1.4 billion — aims to enhance access to care for patients and funnel additional health benefits to seniors through Medicare Advantage.<sup>8</sup> The acquisition of Curo allows Humana to “dip their toe” in the water of home health, hospice and community-based services while at the same time facilitating the integration of Kindred with its other provider types along the care continuum.<sup>9</sup>

KKR’s acquisition of Envision also followed shortly after its acquisition of AMR, Envision’s ambulance unit, for \$2.4 billion.<sup>10</sup> KKR has been on a buying spree recently in the health care space with additional acquisitions, including PharMerica Corp., WebMD Health Corp and Nature’s Bounty Co, among others.<sup>11</sup>

<sup>6</sup> Bain & Company, “Global Healthcare Corporate M&A 2018,” [https://www.bain.com/contentassets/6613e8d7596b4f28ad413f85b64ab41e/bain\\_brief\\_global\\_healthcare\\_corporate\\_manda\\_2018.pdf](https://www.bain.com/contentassets/6613e8d7596b4f28ad413f85b64ab41e/bain_brief_global_healthcare_corporate_manda_2018.pdf).

<sup>7</sup> Bain & Company, “Global Healthcare Private Equity and Corporate M&A Report 2018,” [https://www.bain.com/contentassets/c69b2e6d50314251b83982c206a93361/bain\\_report\\_global\\_healthcare\\_private\\_equity\\_and\\_corporate\\_manda\\_report-2018.pdf](https://www.bain.com/contentassets/c69b2e6d50314251b83982c206a93361/bain_report_global_healthcare_private_equity_and_corporate_manda_report-2018.pdf).

<sup>8</sup> Forbes, “Humana and Private Equity Finalize \$1.4 Billion Curo Health Hospice Deal,” <https://www.forbes.com/sites/brucejapsen/2018/07/11/humana-and-private-equity-finalize-1-4-billion-curo-health-hospice-deal/#5612ef12493c>

<sup>9</sup> Metz Taggart, “Inside the Kindred Deal... and Why it Makes Sense,” <http://mertztaggart.com/inside-the-kindred-deal/>.

<sup>10</sup> Reuters, “KKR to take Envision private for \$5.57 billion in Healthcare Push,” <https://www.reuters.com/article/us-envision-hlthcr-m-a-kr/kkr-to-take-envision-private-for-5-57-billion-in-healthcare-push-idUSKBN1J718Y>; The New York Times, “K.K.R. Said to Be Near Deal to Acquire Envision Healthcare,” <https://www.nytimes.com/2018/06/10/business/dealbook/kkr-envision-healthcare-deal.html>.

<sup>11</sup> The Wall Street Journal, “KKR Nears Deal to Buy Envision Healthcare,” <https://www.wsj.com/articles/kkr-nears-deal-to-buy-envision-healthcare-1528651400>.

## *Private Equity Ownership – continued*

As traditional health care providers focus on reducing costs and expanding the quality and access of care, private equity funds and the capital they provide are becoming more entrenched in the health care industry. The strategy of aligning engagement, care, scale and capital investment that is patient centric will likely be a central investment thesis for private equity in the years ahead.

## *Integrated Care Continuum*

Evolving market pressures are requiring both traditional and non-traditional health care participants to transform business models, broaden their reach and diversify their market presence. Health care companies are increasingly expanding or collaborating to deliver a more comprehensive offering of services across a larger span of the patient care continuum. This theme of the “integrated care continuum” and the growing focus on providers’ ability to control the entire cost and care outcome of a patient is a driver of several of the identified mega deals. The addition of post-acute ancillary service lines, non-traditional deal making between providers and non-providers and the blending of providers and payors illustrate this move towards the integrated care continuum.

The CVS, Cigna, Humana and Optum deals are examples of mergers and acquisitions where companies are pushing to integrate the patient’s care experience into one integrated care continuum. The CVS and Optum deals, in particular, highlight this outcome as large vertical combinations of a payor and a provider, aligning engagement, products and services around a well-recognized consumer brand.

CVS’ announced acquisition of Aetna would result in the combination of CVS’ approximately 9,800 retail drug stores and large pharmacy benefits management platform with Aetna’s insurance business. The combination is predicated on reducing clinical care costs, reducing emergency room visits and improving patient care coordination.<sup>12</sup> UnitedHealth Group formed Optum in 2011 by combining existing pharmacy and care delivery services, and Optum’s acquisition of DaVita Medical Group is expected to further its goal of becoming a leader in vertically integrated services.<sup>13</sup>

The Amazon Venture highlights the potential for major business model innovations in how health care is owned and organized through the integration of employer and employee. If the Amazon Venture’s partners – Amazon, JP Morgan and Berkshire Hathaway – are successful in their endeavor to significantly reduce health care costs to their employees and by extension themselves, it is inevitable that other large employers will follow. Just as Amazon has successfully created an alternative platform to brick and mortar retail, the Amazon Venture presents an opportunity for a similar change in the delivery of health care products and services to consumers.

Historically limited to hospitals and health systems, the universe of organizations interested in acquiring physician practices, home health and hospice agencies and ambulatory facilities now includes national physician aggregators, health plans and private equity funds. On the sell side, providers now have a more diverse pool of willing buyers for assets or structures that were previously limited to a small selection of capable companies.<sup>14</sup> In the case of physician practice aggregation, private equity is investing through management services organization models in order to gain scale around non-clinical administrative and support services to grow physician practices while maintaining compliance with state corporate practice of medicine laws. This is more evidence of consolidation as part of the integrated care continuum.

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<sup>12</sup> CNBC, “CVS, Aetna shareholders approve drugstore’s acquisition of health insurer,” <https://www.cnbc.com/2018/03/13/cvs-aetna-shareholders-approve-merger.html>; The Hill, “Benefits of CVS/Aetna merger far outweigh the costs,” <http://thehill.com/opinion/healthcare/390933-benefits-of-a-cvs-aetna-merger-far-outweigh-the-costs>.

<sup>13</sup> Healthcare Dive, “Optum a step ahead in vertical integration frenzy,” <https://www.healthcaredive.com/news/optum-unitedhealth-vertical-integration-walmart/520410/>.

<sup>14</sup> Advisory Board, “4 ways recent payer – provider M&A activity is reshaping health care,” <https://www.advisory.com/research/health-care-industry-committee/the-bridge/2018/01/mergers-and-acquisitions>.



## DELIVERY

Traditional settings for health care delivery have been limited to primary care clinics, physician specialty clinics, hospitals, surgery centers, post-acute care facilities and long-term care facilities, such as assisted living facilities, nursing homes and skilled nursing facilities. Innovations in technology and medicine are changing how and where health care is delivered. Virtual health, concierge medicine, retail clinics, clinic-based and mobile urgent care and employer on-site clinics are just a few of the ways forward-thinking health care companies are evolving delivery models to provide patients with more choice and more convenience at less cost.

### Consumerism

The rise of consumerism, or the trend that patients are treated as consumers with choices in their health care options, has been accelerating recently. Giving patients the ability to choose how, where and from whom they receive their care is becoming a competitive necessity for providers as many patients now demand the convenience, attentiveness, value and price transparency to which consumers are accustomed with other non-health care products and services.<sup>15</sup>

Amazon's acquisition of PillPack characterizes the importance of consumerism in redefining health care delivery. Amazon is widely recognized as one of the leading consumer-focused businesses in the world, providing its customers with the highest levels of convenience and value. PillPack has been described as making patients' lives easier by saving them time and simplifying the pharmacy process, leaving them feeling healthier.<sup>16</sup> Health care companies that have struggled to achieve a consumer-focused approach may turn to mergers and acquisitions as a way to achieve this goal, and non-health care companies who are already consumer focused in their industry may follow Amazon's lead by entering the health care industry.

lora Health, founded in 2010, is representative of how the theme of consumerism is transforming health care delivery.<sup>17</sup> Built around a small care team, lora clinics have patients meet with a health coach to discuss personalized needs before meeting with a physician. The health coach method offered by lora allows physicians to focus their expertise on specific issues, thereby reducing costs. Under lora Health's approach, patient satisfaction scores are high, with retention rates exceeding 95% in most clinics.<sup>18</sup>

Telehealth and other remote health care innovations also exemplify how consumer choice in health care is redefining how patients receive care. A full 76% of U.S. health systems either have, or expect to implement, consumer-focused telehealth

<sup>15</sup> Bain & Company, "Global Healthcare Private Equity and Corporate M&A Report 2018," [https://www.bain.com/contentassets/c69b2e6d50314251b83982c206a93361/bain\\_report\\_global\\_healthcare\\_private\\_equity\\_and\\_corporate\\_manda\\_report-2018.pdf](https://www.bain.com/contentassets/c69b2e6d50314251b83982c206a93361/bain_report_global_healthcare_private_equity_and_corporate_manda_report-2018.pdf).

<sup>16</sup> TechCrunch, "Amazon buys PillPack, an online pharmacy, for just under \$1B," <https://techcrunch.com/2018/06/28/amazon-buys-pillpack-an-online-pharmacy-that-was-rumored-to-be-talking-to-walmart/>

<sup>17</sup> Clayton Christensen, Andrew Waldeck and Rebecca Fogg, "How Disruptive Innovation Can Finally Revolutionize Healthcare," <https://www.christenseninstitute.org/wp-content/uploads/2017/05/How-Disruption-Can-Finally-Revolutionize-Healthcare-final.pdf>.

<sup>18</sup>Id.



## Consumerism – continued

programs by the end of this year.<sup>19</sup> American Well, a telehealth company and health system partner, found that 20% of patients would switch their primary care provider if another provider in their area offered telehealth services.<sup>20</sup> Consumer demand for convenience is redefining how health care is delivered, and the adoption of technologies like telehealth will be one of the means by which providers advance to the future state.

Many companies are also taking a more active role in employee health care by providing employer on-site health clinics, providing a convenient care delivery location where employees already spend most of their days. Amazon and Apple have both announced that they are establishing on-site primary care clinics, and rather than contract with a third-party provider, have decided to move the operations internally.<sup>21</sup> Amazon is launching a limited clinic for a small number of employees in its Seattle headquarters, while AC Wellness, Apple's network of clinics, has been on an aggressive hiring spree.<sup>22</sup> Headed by Sumbul Desai, former chief of Stanford's digital health center, many of AC Wellness' initial hires have been wellness professionals, such as nurse practitioners or exercise and nutrition specialists, not doctors.<sup>23</sup> These hires and the push for on-site clinics reflect not only the movement towards more convenient care, but also the realization by employers that upfront investments in quality and convenient preventative care for employees will ultimately reduce much larger health care costs down the road.<sup>24</sup>

## Shift From In-Patient to Out-Patient Care

Coinciding with the rise of consumerism, there is also an ongoing shift away from in-patient care settings to ambulatory or out-patient care settings. Annual increases for the cost of new drugs and devices used during in-patient care have been higher than the corresponding reimbursements by payors, leaving patients who pay out-of-pocket making up the gap.<sup>25</sup> Admissions have dropped 12% for in-patient care over the last decade, and one-in-four hospitals are facing operating losses on in-patient activity.<sup>26</sup>

Many of the identified mega deals are emblematic of the shift to consumer-focused, convenient health care delivery in ambulatory or out-patient care settings away from more costly in-patient care settings. The Humana and CHI deals in particular highlight the shift favoring ambulatory or out-patient care settings.

Following the closing of the acquisition of Kindred by Humana, TPG and Welsh Carson, Humana is expected to merge Kindred at Home with Curo Health Services to create one of the largest home health and hospice providers in the nation.<sup>27</sup> William Fleming, Humana's President of Health Care Services, points to reduced hospitalizations, reduced emergency room visits the extension of physician and clinician care to the patient's home as some of the goals for its Humana at Home service offerings.<sup>28</sup>

In the CHI deal, which involves the merger of two of the country's largest non-profit hospital systems, the CEO of CHI, Kevin Lofton, emphasizes the combined organization's ability to invest in areas like telehealth and advanced out-patient care.<sup>29</sup> Lloyd Dean, the CEO of Dignity, also specifically calls out Amazon and other businesses as sources of inspiration for new smarter, consumer-driven models of care.<sup>30</sup> The new organization may allow for the reduction of costs at scale through the successful integration of the two systems' operations and new delivery approaches, such as expanding the use of micro-hospitals.<sup>31</sup>

<sup>19</sup> H&HN, "TeleHealth Adoption to Double by 2018," <https://www.hhnmag.com/articles/8350-telehealth-adoption-to-double-by-2018>.

<sup>20</sup> American Well, "One in Five Consumers Would Switch to a Doctor that Offers Telehealth Visits," <https://www.americanwell.com/press-release/one-in-five-consumers-would-switch-to-a-doctor-that-offers-telehealth-visits/>.

<sup>21</sup> Becker's Hospital Review, "Here's why Amazon and Apple are betting on medical clinics," <https://www.beckershospitalreview.com/facilities-management/here-s-why-amazon-and-apple-are-betting-on-medical-clinics.html>.

<sup>22</sup> CNBC, "Apple's first hires for its health clinics show how it's thinking differently about health care," <https://www.cnbc.com/2018/08/02/apples-first-hires-for-its-clinics-are-delivering-care-and-not-just.html>

<sup>23</sup> Id.

<sup>24</sup> Becker's Hospital Review, "Here's why Amazon and Apple are betting on medical clinics," <https://www.beckershospitalreview.com/facilities-management/here-s-why-amazon-and-apple-are-betting-on-medical-clinics.html>.

<sup>25</sup> Paul Keckley, "Are Community Hospitals Obsolete?" <http://www.paulkeckley.com/the-keckley-report/2018/1/29/are-community-hospitals-obsolete>

<sup>26</sup> Id.

<sup>27</sup> Home Health Care News, "Humana Posts Highest-Ever Share Price Following Kindred, Curo Deals," <https://homehealthcarenews.com/2018/07/humana-posts-highest-ever-share-price-following-kindred-curo-deals/>

<sup>28</sup> Metz Taggart, "Inside the Kindred Deal...and Why it Makes Sense," <http://mertztaggart.com/inside-the-kindred-deal/>.

<sup>29</sup> Denver Business Journal, "Exclusive: Catholic Health Initiatives CEO opens up on Dignity Health merger," <https://www.bizjournals.com/denver/news/2018/03/26/exclusive-catholic-health-initiatives-ceo-opens-up.html>

<sup>30</sup> San Francisco Business Times, "Behind the mega-hospital merger that will make this San Francisco health system into a \$28 billion behemoth," <https://www.bizjournals.com/sanfrancisco/news/2018/04/05/dignity-health-chi-merger-healthcare-innovation.html>

<sup>31</sup> Id.



## PAYMENT

The standard payment model in health care is fee-for-service. The patient pays and the provider receives payment, based on the services furnished. This model has its benefits but is frequently criticized as resulting in unnecessary services and failing to account for patient outcomes. The billing and administration processes of the fee-for-service model are also criticized as inefficient and too costly. Since the passing of the Affordable Care Act in 2010, providers are increasingly being held more accountable for cost and care outcomes. The transition from a fee-for-service to a value-based payment model is driving many health care companies to engage in mergers and acquisitions and innovation activities.

The emergence of the “data revolution” and advances in data analytics are anticipated to shape the future of payment and processing systems, reducing inefficiencies and streamlining historically burdensome processes. More than a third of respondents to a recent health care survey cited the pace of technological change as the most significant issue they will face in the coming years.<sup>32</sup>

Recent mergers and acquisitions and innovations depict these thematic changes to a system of health care where payment for health care services is centered on value-based care that also utilizes the benefits of the growing data revolution to reduce costs and improve patient outcomes. Moreover, many of the mega deals are aligning with significant demographic trends, the promise of data and digital health innovation, the rollout of the integrated care continuum across defined robust populations and payment reform.

### **Value-Based Care**

As companies come to terms with the shift from a fee-for-service reimbursement environment to one that is value-based, they will logically seek out more vertical consolidation in order to capture the entire care continuum.<sup>33</sup> A key driver of the integration of the care continuum and increased focus on patient outcomes is the ability to receive payment for outcomes that are within the provider’s control. Without integration of the care continuum, the provider does not have adequate control over patient outcomes, and by extension, is not willing to be at risk related to reimbursement for the services provided.

Vertical acquisitions and the blending of providers and payors, such as seen in the CVS and Cigna deals, are examples of mergers and acquisitions implementing the future state of value-based care.

<sup>32</sup> WestMonroe, “Reshaping Healthcare M&A: How Competition and Technology are Changing the Game,” <https://www.westmonroepartners.com/Insights/White-Papers/Healthcare-MA-Survey>.

<sup>33</sup> EY “Health Reimagined – Value over Volume,” <https://www.ey.com/gl/en/industries/health/ey-health-reimagined-value-over-volume-healthcare-ma-trends>.



## Value-Based Care – continued

In the CVS acquisition of Aetna for instance, CVS intends to utilize the presence of Aetna in its network of walk-in clinics to more broadly spread its fixed costs and to enhance care coordination as patients navigate multiple clinic and pharmacy options.<sup>34</sup> In Cigna's announced acquisition of Express Scripts, Cigna highlighted the deal's potential to accelerate care coordination and value-based delivery for customers and clients, with an expansion of outcome-based relationships with pharmaceutical manufacturers rather than simply consumption relationships.<sup>35</sup>

Certain technology innovations are also evidence of the move towards the future state of value-based care. 3D printed medical devices allow for highly personalized, lower-cost medical products compared to previous technologies. Open Bionics, a 3D printing prosthetic initiative, provides personalized prosthetic options ranging from \$100 to \$200, while traditional prosthetics range from \$5,000 to \$50,000.<sup>36</sup> This technology also allows a surgeon to study exact, 3D printed replicas of a patient's organs before surgery and additive manufacturing techniques allow for mass customization and reduced waste.<sup>37</sup> These types of innovations resulting in dramatic cost savings and improved patient outcomes are critical to achieving successful value-based care.

## Data Revolution

The rise of data analytics in health care has the potential to dramatically improve patient care outcomes, which under value-based care, will result in higher reimbursement for providers. With the movement to value-based care decisions and payment models, both payors and providers are looking to capitalize on the massive amounts of data they have on hand or have obtained through acquisitions. Additionally, the combination of payors and providers, as seen in some of the mega deals, creates the opportunity for sharing this data, allowing providers to better identify and implement quality care improvements.

Optum's acquisition of DaVita Medical Group evidences how mergers and acquisitions are moving the market towards a state of increased utilization of data by major health care players. The Optum deal follows the trend of combining physicians, clinical laboratories, out-patient surgery centers and urgent care centers into a single network to reduce costs and enhance access to high-quality care.<sup>38</sup> Andrew Hayek, CEO of OptumHealth, also cites the role of the company's data analytics operations and capabilities in its acquisition of DaVita Medical Group as a means of enhancing patient care and providing greater value to patient communities.<sup>39</sup>

Artificial intelligence is one of the most interesting technology innovations associated with the data revolution in health care. A recent projection found that 90% of U.S. hospitals and insurance companies will implement artificial intelligence systems by 2025.<sup>40</sup> In one example, Watson Oncology, a collaboration between the IBM Watson artificial intelligence program and Memorial Sloan Kettering, is assisting oncologists by synthesizing the latest research available with individualized patient information to provide improved care and outcomes.<sup>41</sup> Artificial intelligence also has the potential to substantially reduce and streamline operational tasks and improve the accuracy of patient diagnoses. The potential for artificial intelligence to be disruptive is dependent upon not only the isolated introduction of new technology, but the fundamental integration of this technology with patient interactions and health care providers, and in turn, how providers are reimbursed for the encounters.<sup>42</sup>

<sup>34</sup> The Hill, "Benefits of CVS/Aetna merger far outweigh the costs," <http://thehill.com/opinion/healthcare/390933-benefits-of-a-cvs-aetna-merger-far-outweigh-the-costs>.

<sup>35</sup> Forbes, "Cigna CEO: We'll Pay for Drugs that Work with Express Scripts Clout," <https://www.forbes.com/sites/brucejapsen/2018/08/02/cigna-ceo-well-pay-for-drugs-that-work-with-express-scripts-clout/#6a7580bebbd6>

<sup>36</sup> Deloitte, "Top 10 Health Care Innovations," <https://www2.deloitte.com/us/en/pages/life-sciences-and-health-care/articles/top-10-health-care-innovations.html>

<sup>37</sup> Id.

<sup>38</sup> UnitedHealth Group, "DaVita Medical Group to Join Optum," <https://www.unitedhealthgroup.com/newsroom/2017/1206davita.html>

<sup>39</sup> Optum, "DaVita Medical Group to Join Optum," <https://www.optum.com/about/news/davita-medical-group-to-join-optum.html>

<sup>40</sup> Forbes, "Five Technologies that will Disrupt Healthcare by 2020," <https://www.forbes.com/sites/reenitadas/2016/03/30/top-5-technologies-disrupting-healthcare-by-2020/#6fbb5f7d6826>

<sup>41</sup> Memorial Sloan Kettering Cancer Center, "Watson Oncology," <https://www.mskcc.org/about/innovativecollaborations/watson-oncology>

<sup>42</sup> Clayton Christensen, Andrew Waldeck and Rebecca Fogg, "How Disruptive Innovation Can Finally Revolutionize Healthcare," <https://www.christenseninstitute.org/wp-content/uploads/2017/05/How-Disruption-Can-Finally-Revolutionize-Healthcare-final.pdf>.

# PATIENT-CENTRIC FRAMEWORK



## CONCLUSION

This era of accelerating change in the health care ecosystem, what we label as Health Care “Prime,” is centered on the patient. The patient-care-centric conceptual framework of ownership, organization, delivery and payment helps us understand how the emblematic themes and outcomes of the future state of health care are being implemented through recent mergers and acquisitions and innovation. Private equity ownership, the integrated care continuum, value-based care, the data revolution, consumerism and the shift from in-patient to out-patient care settings as seen in the Amazon Venture, recent mega deals and recent health care product, service, business model, technology and knowledge innovations, will be the reality of the future state of health care.

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