



Opportunities and challenges in an evolving market

2020 healthcare and life sciences investment outlook



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Overview

Our analysis of the *2020 KPMG Healthcare and Life Sciences Investment Outlook* survey results sheds light on how the investment landscape will be impacted by significant changes in the healthcare and life sciences industry. Specifically, this paper looks at influential disruptors and evolving market trends across eight subsectors, as well as policy and regulatory developments that could signal additional challenges and opportunities.

We divided the subsectors into three categories based on how their impact on the changing marketplace is opening up investment opportunities:



The innovators

Healthcare IT (HIT); pharma and biotech; and medical devices (including diagnostics): Investors will keep an eye on emerging signs of innovation that could facilitate personalized treatment modalities, potential cures for diseases, and an improved patient experience.



The consolidators

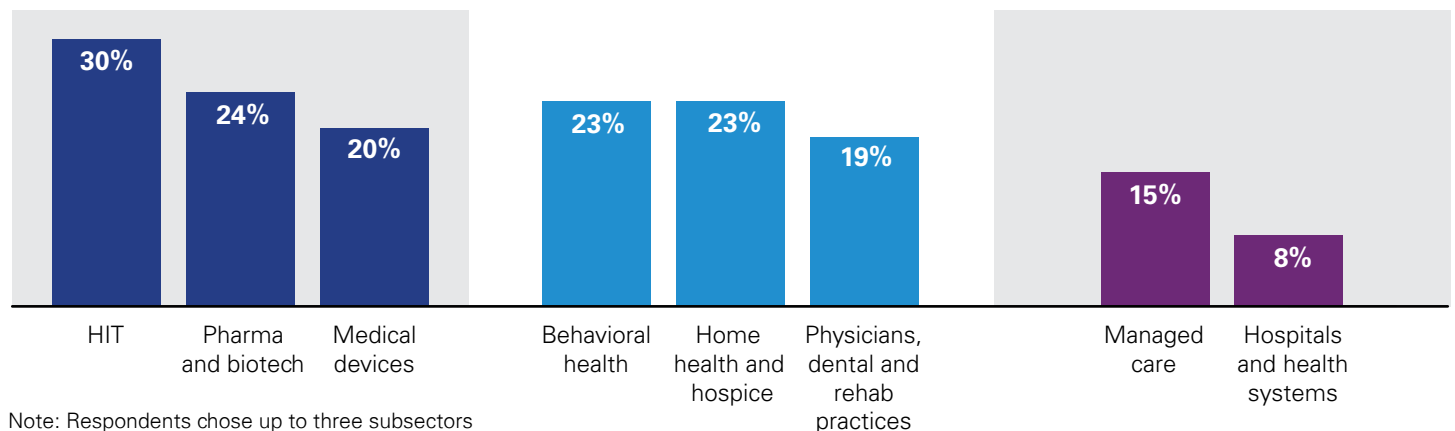
Behavioral health; physicians, dental and rehab practices; and home health and hospice: Investors will play an integral role as these organizations pursue consolidation.



The foundation

Hospitals and health systems and managed care: As these organizations are still the pillars of the healthcare industry, investors may uncover opportunities related to new ways of delivering patient care and lowering costs.

Levels of respondent investment interest, by subsector



Note: Respondents chose up to three subsectors

This outlook survey highlights the dynamics at play in each of the eight subsectors—**current state, emerging trends and potential areas of investor focus**. Discerning investors will be able to use this report to evaluate subsector opportunities and challenges in the context of an increasingly complex healthcare and life sciences marketplace.

Introduction

The healthcare and life sciences industry is moving toward a dramatically different future, where more diseases are cured, treatments are personalized, and patient/consumer preferences are at the center of decision-making. In this context, there are a number of trends that have significant potential to open up opportunities for investors.

The industry as a whole is seeing a wide spectrum of innovation—from interoperability of useful health data, to next-generation therapies and personalized medicine, to robotic surgery and artificial-intelligence-enabled medical devices.

Both regulatory requirements and market realities are driving movement toward value-based care. This movement will be achieved through the use of advanced analytics to drive a greater focus on outcomes and the patient experience. As the move toward value goes hand in hand with closer scrutiny of healthcare costs, many organizations in healthcare and life sciences are adopting new alternative payment and reimbursement models. It is important to note, however, that—even as new initiatives help patients better manage and pay for increasingly expensive services

and drugs—ongoing political developments, including the outcome of the 2020 election, could impact the broader system and investment priorities.

After significant government- and growth-driven technology investments over the past decade, there is a need for organizations to increase their focus on performance optimization. These considerations are particularly applicable for organizations in subsectors that are more likely to pursue roll-ups to gain better market penetration and achieve significant economies of scale.

Finally, the evolving view of the patient as connected consumer is driving vertical integration in subsectors as varied as pharma and biotech, medical devices; physicians practices, and home health. Designed to create entities that meet the needs of the whole patient, we believe these investment opportunities will be increasingly prevalent in the years to come.

While some of these trends will have an impact across all subsectors examined in this paper, others will have particular salience in one or more areas, as evidenced in the subsector analyses that begin on page 8.



Current state of the healthcare and life sciences deal market

Healthcare and life sciences deal activity was robust in 2019, up 40 percent year-to-date in November 2019, as compared to the same time period in 2018. According to Bloomberg Law, the subsectors with the highest volume of deals include life sciences and pharmaceuticals; healthcare IT and software; and long-term care.¹ Only 23 percent of respondents indicated that they thought the life sciences sector was in or nearing a bubble. And 39 percent of respondents said they thought the healthcare sector was in or nearing a bubble. In both sectors, respondents expressed the belief that, if a bubble is on the horizon, it won't occur for more than 12 months. However, it is important to bear in mind that the 2020 election will likely prompt additional investment considerations.

Thirty-five percent of respondents said they believe there are strong fundamentals in healthcare and 28 percent expressed the same belief for life sciences. Respondents said that they commonly find that healthcare assets are properly valued in high-growth businesses (32%) and lower-middle-market companies (26%). Life sciences assets that respondents say are properly valued are commonly found among private equity- and venture-capital-backed companies (38%) and licensing/joint venture opportunities (26%).

For more detailed survey results, see pages 26-27.



Creative deals proliferate

Given opportunities driven by fragmentation, new models of care delivery, and high valuations, there are a number of unique deal structures emerging. One of the newer trends across a variety of healthcare subsectors is that of joint acquisitions involving private equity firms and corporate buyers. For example, Towerbrook Capital Partners and Ascension Health jointly acquired the hospice company Compassus in a 50/50 split,² and Cardinal and Clayton, Dublier & Rice did a carve-out of naviHealth.³ The second major deal trend is in strategic portfolio rationalization, e.g., Novartis's spin-off of Alcon,⁴ Tenet's planned spin-off of Conifer,⁵ and Ironwood's spin-off of Cycleron.⁶

Impact of disruption on investment activity

The disruptors that could have a significant impact on healthcare and life sciences investment activity in this coming year include the 2020 election, shift to value in healthcare, paying for innovation in life sciences, new market entrants, and social determinants of health (SDOH). Investors should take these developments into account as they make decisions, bearing in mind that disruption can yield both opportunity and risk.



2020 election

When asked how the 2020 elections would impact investment, nearly half of our survey respondents expressed the opinion that it could cause a decrease (37%) or significant decrease (12%) in investment activity in 2020. This result represents nearly three times as many respondents in aggregate as the next highest negative disruptor (*Shift to Value*). Perhaps not surprising, this outlook on investment reflects the deep divide in public opinion on many of the fundamental issues of our time. For example, in December of 2019, national polls indicated that 36.7 percent of Americans believed our country was headed in the “right direction,” while 56.8 percent believed the country was headed in the “wrong direction.”¹

National healthcare spending continues to outpace inflation with patients paying a greater share of the costs. Most Americans agree that they are paying too much for healthcare and the pressure to “do something” about costs has never been greater. Congress held numerous hearings in 2019 on the high cost of prescription drugs and the prospects for bipartisan agreement seemed promising for most of the year. However, as the year wore on, it became clear that 2019 was not to be the year for major bipartisan, bicameral action to reduce the burden of increasing healthcare costs. That said, in December of 2019, Congress passed and the President signed a bipartisan spending plan that eliminated Affordable Care

Act (ACA) taxes, extended funding for a number of bipartisan priority programs through May 22, 2020, and included a number of provisions that were beneficial to healthcare and life sciences companies. It is unclear whether the second session of the 116th Congress will complete work begun on the high costs of prescription drugs and surprise billing, as the prospects for major legislation in any presidential election year tend to diminish with each passing week.

With so much to come in 2020—from the aftermath of impeachment to the long road through the party conventions to the general election—we view our investment outlook through the prism of what is likely to occur before the November elections versus what may occur after the elections. Given the pace of deal activity through the end of 2019, investors seem to have adapted to investment in a changing political environment. Barring any unforeseen catastrophe, and as long as the economy remains robust, we believe that investment activity is likely to continue to be relatively strong, perhaps through the summer and up until the elections. As reflected in our survey, we believe it’s possible that investment activity could moderate after the election, depending upon who is elected and what changes in healthcare and life sciences policy are contemplated by a new administration and the majorities elected to serve in the 117th Congress.

For further information, please see:

¹ RealClearPolitics. Direction of the Country. Accessed December 19, 2019 at https://www.realclearpolitics.com/epolls/other/direction_of_country-902.html



Shift to value in healthcare

According to the Health Care Payment Learning and Action Network (LAN), 35.8 percent of U.S. healthcare payments flowed through alternative payment models (APMs) in 2018.⁷ However, only 14.5 percent of payments were in models that included downside financial risk for controlling healthcare costs and maintaining high-quality care, which are likely to qualify providers for participation in advanced APMs according to the Centers for Medicare and Medicaid (CMS).⁸ To the extent that organizations are willing to take on risk, there may be opportunities for investors (particularly in private equity) to pursue investment deals that result in roll-ups and other organizational structures that facilitate APMs.

To further incentivize providers to take on increasing financial accountability for the care they provide, CMS continues to develop and launch new APMs—including accountable care organization (ACO) models, bundle- and episode-based payments, population-based payments,

and other innovative arrangements. For example, payment models that are primary-care-focused, such as Direct Contracting and Primary Care First,⁹ and specialty-focused, such as End Stage Renal Disease (ESRD) Treatment Choices Model and Radiation Oncology Model,¹⁰ will give providers additional opportunities to adopt new approaches to payment and delivery. In addition, CMS is incentivizing better management of patient care and costs through approaches that include reimbursing home health providers based on patient characteristics rather than volume. Similarly, private sector payers are increasingly pushing providers toward risk-based payment arrangements.

56% of survey respondents think the *shift to value* will increase investment activity



Paying for life sciences innovation

Investors are increasingly excited about a broad spectrum of new products coming to market. These include specialty drugs for rare diseases, advanced medical devices, artificial intelligence (AI) from the back office to the operating room, telemedicine technologies, and much more. At the same time, these innovations can come with high price tags. For example, research and development (R&D) costs for specialty drugs average \$2.6 billion per product, according to recent estimates.¹¹ As a result of pricing pressure,

manufacturers need to reconcile and explain the tradeoffs between the high cost of medical advances and other alternatives and compete on added value.

70% of survey respondents think that *paying for innovation* will increase investment activity



New market entrants

High-profile technology disruptors are continuing to enter the healthcare arena in areas with significant consumer impact—new models of drug distribution; advanced care delivery models; centralized and transparent platforms for decision-making, etc. For example, Amazon and others are using natural language processing (NLP) and machine learning capabilities to read electronic health records (EHRs) and make suggestions for treatments based on past medical conditions, procedures and prescriptions.¹² Sixty-one percent of survey respondents said that new market entrants would increase investment activity in

both healthcare and life sciences. However, organizations that have limited resources for in-house technology development should evaluate potential partnerships with technology leaders in order to gain access to deeper consumer insights and powerful analytics platforms.

61% of survey respondents said that *new market entrants* would increase investment activity



Social determinants of health (SDOH)

It is increasingly accepted that social determinants of health (SDOH)—lifestyle, economic, and environmental factors—all contribute significantly to an individual's health and well-being. There are a number of ways in which this is playing out: (1) Fourteen hospital systems are investing \$700 million in SDOH initiatives.¹³ (2) AHIP launched Project Link to facilitate insurer collaboration to address SDOH.¹⁴ (3) Using SDOH data within EHR systems is showing the potential to improve care coordination, lower costs, and contribute to population health, although a standardized

process for documenting SDOH data in EHRs is still needed. For investors, upstream health interventions to address SDOH could open up opportunities in sectors such as behavioral health and home health, where addressing social needs can be critical.

48% of survey respondents said that *social determinants of health* would increase investment activity

Subsector analyses >



Healthcare IT and revenue cycle management



Current state

As the *shift to value* continues, organizations have the dual challenge of increasing interoperability to improve clinical performance and the patient experience, while simultaneously taking unnecessary costs out of the system through automation and other technology tools. Healthcare IT (HIT) was again ranked as the top subsector of investment interest in our survey: 76 percent of

respondents thought the subsector would grow faster than the overall healthcare and life sciences market, and executives from other subsectors expressed interest in investing in HIT as well. HIT products of greatest interest to investors include healthcare analytics/informatics, cloud-based EHRs/workflow applications, revenue cycle management software, and telemedicine.



Emerging trends

Government interoperability mandates

Following Meaningful Use (MU) incentives and requirements from the 21st Century Cures Act, CMS and the Office of the National Coordinator for Health IT (ONC) have published Interoperability and Patient Access proposed rules. If finalized, providers and payers would be required to exchange electronic health data with other members of a patient's care team and relevant payers. Hospitals would be expected to send automated notifications to other treating providers when a patient is admitted, discharged, or transferred. Those providers that interfere with, prevent, or materially discourage access, exchange, or use of electronic health information could face penalties and/or public reporting for perceived "information blocking."¹⁵

Ensuring patient access to their data

Understanding that patient access to their own medical records plays a central role in improving outcomes, the Department of Health and Human Services (HHS) has created a number of programs to encourage patient access. For example, through the Promoting Interoperability program (formerly MU), healthcare organizations will be scored not only on interoperability, but also on the degree to which they allow patients to access their health data.¹⁶ Further, the Blue Button 2.0 program was created to allow Medicare beneficiaries to securely connect their claims data to apps and other tools developed by innovators.¹⁷



Potential areas of investor focus

EHR enhancement technologies

Interoperability of patient data in EHRs is increasingly critical to care coordination for individuals who suffer from chronic diseases. Such patients are often treated by multiple providers, making care coordination difficult without technologies that connect disparate systems. Optimizing EHR systems and moving data to the cloud are key to this connectivity, as is echoed by the fact that 69 percent of survey respondents thought that greater interoperability and growth of application programming interfaces would increase investment in HIT.

Many providers feel that EHRs disrupt their workflow, with low EHR usability ratings highly correlated with physician burnout, according to a recent study from the Mayo Clinic, Stanford University and the American Medical Association (AMA).¹⁸ As a result, demand is growing for solutions that optimize EHR functionality and allow interoperability between systems. For example, visualization and reporting software is being implemented on top of EHR systems to improve collection and understanding of clinical data. And many EHR systems are moving from on-premises installations to the cloud through services like ClearDATA, which provides a secure, compliant multi-cloud solution.¹⁹

Finally, while healthcare providers and payers understand how SDOH can impact a patient's health status, 78 percent of provider executives said they lack the data to identify the social needs of their patients, according to a recent survey.²⁰ To address this, tools are being created to promote the use of ICD-10-CM codes to capture SDOH data in EHRs.²¹ There are also new sources of data that help payers identify and prioritize the most effective SDOH programs, e.g., Revel's recently launched Social Determinants of Health Assessment.²²

Technologies along the patient access and revenue cycle continuum

Most healthcare organizations now realize that consumer interactions should be transparent, tech-enabled, and aligned to meet the needs of all patients—from Generations X, Y, and Z to aging baby boomers and beyond. Therefore, a fundamental shift is underway to treat patients as consumers. Patients are responsible for an increasingly large share of their healthcare costs, with deductibles upward of \$6,000 and premiums and out-of-pocket costs

for families with large employer coverage averaging \$22,000, with more than one-third of that amount coming out of the family's pocket.²³ Faced with these costs, consumers are becoming more discerning about not only convenient access to care, but also their financial experience.

More and more, providers are addressing patient access and revenue cycle issues as one consumer-centric continuum—seeking out software and revenue cycle management vendors that can help them integrate such areas as capacity management, intuitive appointment scheduling, visit efficiency, consumer financial experience, revenue operations, and more.²⁴ Studies have shown that a well-managed revenue continuum can determine whether or not a patient will return for follow-up care and that failing to address these issues can result in significant net revenue leakage and degradation of cash flow.

Intelligent automation

Traditional notions of IT in healthcare are expanding to include intelligent automation technologies. AI, machine learning, and NLP tools can provide interfaces to the EHR. In turn, these technologies can be used to analyze the abundance of data that health systems and payers possess to drive care continuum improvements and determine the relative efficacy of different procedures for certain conditions. Further, AI can be used to pinpoint coding options that minimize unpaid bills and maximize revenue. For example, healthcare payment technology companies Zelis Healthcare and RedCard Systems recently merged to provide health systems and payers with advanced payment optimization solutions.²⁵ And Olive, a healthcare-specific AI solution as a service, automates costly, high-volume tasks, such as insurance eligibility checks, code matching, and data migrations.²⁶

Finally, to better manage the approximately 25 percent of total healthcare spending that could be considered unnecessary or duplicative,²⁷ healthcare organizations are increasingly looking to lower costs by using robotic process automation (RPA) for time-consuming administrative tasks, such as billing, claims processing, EHR data entry, coding, documentation management, and master file maintenance.²⁸

For detailed survey results, see pages 28-29.

Pharmaceutical and biotechnology products and services



Current state

The global pharmaceutical pipeline continues to grow with the new wave of innovation coming from next-generation therapies and personalized medicine. At the same time, manufacturers are diversifying across multiple platform types and pursuing different strategies. Some companies are investing in vertically integrated capabilities, which allow them to capture market segments before second movers emerge and to position themselves as the best partners for emerging biotechs. Other competitors are taking a more conservative approach by following large capital investments with multiple partnerships across different innovative platforms, which gives them time to determine which will eventually show the most potential. Several market trends could have a significant impact on how aggressive the industry remains on valuations and manufacturers' overall approach to acquiring access to these new technologies.

Top-of-mind issues for the industry are potential vulnerability to pricing legislation and effective partnerships with payers to ensure patient access to high-value, but expensive, new therapeutics. As pharmaceutical companies think through their deal theses or whether to launch new high-value therapies, they are investigating

innovative reimbursement models with payers. Annuity, outcomes-based reimbursement models may become the new norm for very high-cost drugs, ensuring that the next generation of disease-modifying and functionally curative therapies earn access at fair prices.

There is potential that legislation to control drug prices will advance, which 58 percent of our survey respondents believe could have a negative impact on investment. At the same time, there are a number of indicators that investors remain optimistic about continued deal activity in this subsector: 66 percent of our survey participants said they believe the life sciences sectors will grow faster than the overall healthcare and life sciences market, and 68 percent of respondents believe there will be an increase in deal activity in 2020. Indeed, 2019 was a growth year for oncology, immunology and rare disease deals: Audentes/Astellas (\$3B),²⁹ GSK/Tesaro (\$5.1B),³⁰ BMS/Celgene (\$74B),³¹ Merck/Peloton (\$1.05B + \$1.15B in milestones),³² and Gilead/Galapagos (\$3.95B upfront and a \$1.1B equity investment)³³ were capped off by Sanofi/Synthorx (\$2.5B)³⁴ and Merck/ArQule (\$2.7B)³⁵ for a strong close to the year.



Emerging trends

Unprecedented prices and alternative reimbursement models

R&D costs for specialty drugs average \$2.6 billion per product, according to a study published by the National Center for Biotechnology Information.³⁶ The average cost to patients for orphan drugs is 4.5 times greater than for non-orphan drugs, although the differential is decreasing.³⁷

For example, Novartis's Zolgensma, introduced in 2019 for spinal muscular atrophy, a progressive disease that typically prevents a child from living past their second birthday, has a record list price of \$2.1 million.³⁸

Even as many of these drugs provide possible cures to historically terminal cancers and rare diseases, the industry continues to face negative public attention on drug pricing. Congressional and administration efforts to rein in prices continue, causing apprehension in the industry about proposals such as international reference pricing, HHS price negotiations, importation of prescription drugs, penalties for price increases exceeding inflation, reforms to pharmacy benefit manager practices, reforms to Part D benefit design, and increased transparency and reporting requirements. In this climate, some manufacturers are looking at creative reimbursement models, particularly for high-priced specialty drugs:

- **Annuity payment models:** With new cell and gene therapies, long-standing pricing and reimbursement models may not be viable, particularly since treatments target small patient populations and/or involve a single dose or short course of a curative therapy. Increasingly, manufacturers and payers are forging annuity payment contracts through which payers can reimburse drugs in installments over the course of months or years, which help mitigate long-term risk for payers and

tie payments to agreed-upon patient outcomes. For example, Novartis has an annuity payment arrangement for Zolgensma, allowing payers to pay \$425,000 per year based upon sustained disease remission.³⁹

- **Value- and outcomes-based payment arrangements:** In order to reduce access barriers for new-to-market novel therapies and gain exclusivity in markets with high unmet needs, many drug manufacturers are moving toward outcomes-based contracts (OBCs) with payers. OBCs in the U.S. increased 53 percent between 2016 and 2018, and 70 percent of pharmacy and medical directors from managed care organizations (MCOs) either have some form of OBC or planned to have one in 2019. Since 2016, 43 value-based pharmaceutical deals have been executed in the United States, 17 of which were tied to population-based outcomes and 22 of which relied on outcomes on a per patient basis.⁴⁰ Although we are seeing many OBCs for cardiology and oncology drugs, they may eventually be used in the rare disease space as well.



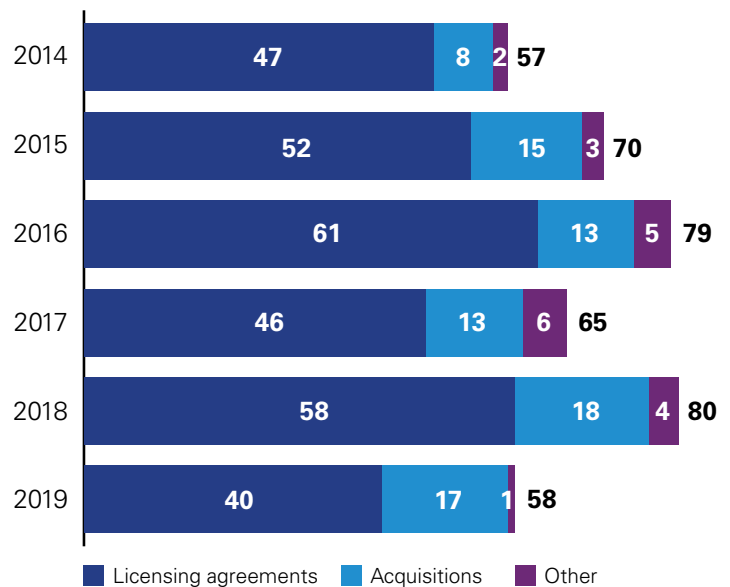
Potential areas of investor focus

Innovation

Innovation in pharma is at an all-time high, as manufacturers replace off-patent blockbuster drugs with a much greater focus on personalized medicine and nucleic-acid-based technologies for cancer and rare diseases. Eighty-five percent of survey respondents said *paying for innovation* would likely increase investment in the pharma sector.

- **Emerging rare disease and cancer drugs:** In addition to small molecule drugs and antibodies, there are a number of new drug types for rare diseases: Next-generation nucleic acid-based therapeutics target rare diseases at the genetic level and prevent the manifestation of disease-causing proteins.⁴¹ Viral vector-based therapies—modified viruses that can penetrate cells and tissues to cure disease—are emerging as treatments for cancer, infectious diseases and rare disease genetic disorders.⁴² As of 2018, the Center for Drug Evaluation and Research (CDER) had approved 59 novel drugs, with 34 for rare or orphan diseases affecting 200,000 or fewer Americans,⁴³ and there were approximately 499 viral vector-based therapies in the global pharmaceutical pipeline.⁴⁴ Finally, in 2019, there were 58 deals in cell/gene therapy, with 17 full acquisitions—a number that will likely increase in 2020.⁴⁵

Cell and gene therapies, deal types (2014-2019)



Source: Informa

— **Personalized, or precision, medicine** aims to deliver the right therapy for the right patient at the right time. In addition to patient clinical history and social/environmental factors, physicians use the patient's molecular profile and disease state to raise the probability of achieving a positive and pinpointed clinical outcome. Approximately 75 percent of the oncology pipeline today qualifies as precision medicine,⁴⁶ e.g., simple single-mutation therapies, therapies targeting the immune system like PD1/PDL1, and true N of 1 therapies like precision-medicine vaccines and gene therapies. For example, Bayer's Vitrakvi (Larotrectinib), a precision medicine that was FDA approved under an accelerated process last year, targets neurotrophic receptor tyrosine kinase (NTRK) gene fusion-positive solid tumors. Next Generation Sequencing (NGS) or other diagnostic tests are used to assess tumors prior to treatment.⁴⁷ In clinical trials, Vitrakvi achieved a 75 percent overall response rate, and a duration of response of 73 percent lasting six months or longer. Precision therapies require new manufacturing processes, new diagnostic tests as gatekeepers to the therapies, and, at times, completely new supply chains and go-to-market approaches, which can fortify new life sciences tools and services businesses with worldwide reach (see next section on medical devices).

Companies with vertically integrated platforms

As pharmaceutical companies increasingly center their business models on gene therapies, RNA antisense oligonucleotide therapies, and cell therapies like CAR-T (all of which fall into the nucleic asset category and survive on modified viruses), completely new R&D and manufacturing models will be required. Due to manufacturing capacity issues, some drug makers, such as Pfizer, choose to own the whole spectrum of R&D and manufacturing. In these cases, the capacity to manufacture viral vector-based therapies and plasmids can become a competitive differentiator and allow the company to be viewed as an attractive partner to small and mid-sized biotechs looking for a manufacturing path. In other cases, manufacturers may not want to take on the risk of ownership and, instead, will utilize third-party partnerships. In the rare disease space, it may be particularly critical to develop winning R&D and manufacturing platforms that enable repeatable commercial success over the next decade, at least until manufacturing capacity constraints become less of a risk to future commercial success.

First-to-market breakthrough innovations

Pharma manufacturers introducing functionally curative drugs are more focused than ever on being first to market, as most of these drugs have small target patient populations. The first functional cure to market may quickly address the prevalent population, leaving any second mover in the commercially unappealing position of competing for market share among incident patient pools. In the rare disease space, revenue curves rise and peak quickly (3 to 5 years, versus 10 to 12 years for standard pharmaceuticals), so laggards won't have a sufficient market to address. Smart large cap first movers recognize this issue and have been targeting capabilities and then investing in them, e.g., Pfizer's acquisition of Bamboo, followed by a \$500 million manufacturing investment.⁴⁸



Pharmaceutical services organizations

As pharma continues to evolve toward specialty drugs and complex biologics, the sector will need a wider range of development capabilities and increased manufacturing capacity to facilitate speed to market. Larger companies, and those manufacturing autologous therapies, may want to own the entire supply chain until greater economies of efficiency can be achieved. Other more cost-conscious competitors will continue to outsource to strategic pharma services partners, although this approach raises some potential risks associated with lack of full control, particularly when it comes to capacity constraints.

The pharma services category is broad and of particular interest to investors. Two of the most relevant entities are contract research organizations (CROs) and contract development and manufacturing organizations (CDMOs):

- **CROs:** Between 2015 and 2020, the market for clinical development conducted by CROs is expected to grow from \$25.7 billion to \$36.7 billion.⁴⁹ Leading CROs have not only a clear understanding of the complexities of the trial process, but also advanced capabilities in

managing patients, e.g., e-recruiting, real-time patient monitoring, and tools to manage compliance. While there is investment interest across the CRO space, organizations that possess advanced analytics used in oncology and rare disease drug development are becoming increasingly attractive.

- **CDMOs:** The CDMO industry is currently fragmented, with the top five companies accounting for 15 percent of total market size.⁵⁰ However, recent studies indicate that the market is poised to grow 5 to 7 percent over the next five years.⁵¹ In the rare disease space, smaller pharmaceutical firms are turning to CDMO partnerships for their expertise in manufacturing, formulation development, and regulatory compliance, among other capabilities.⁵² Mergers and acquisitions in this space are increasing, with significant consolidation expected in the next few years to facilitate supply chain efficiencies, accelerated speed to market, and expansion into new geographies.

For detailed survey results, see pages 30-31.

The innovators

Medical devices, instruments and equipment

Current state

Innovation in med tech is robust. Advances in robotic surgery are transforming routine and not-so-routine procedures; precision medicine is linking diagnostics and therapeutics; and smart wearables facilitate detailed patient tracking. Further, the trends toward value-based care and convergence with other healthcare sectors (particularly pharmaceuticals) are leading to the creation of platforms comprising complementary products to treat specific diseases.

The total value of medtech M&A deals rose significantly from 2018 to 2019. However, average deal size decreased, as smaller, innovative transactions outpaced large deals like Stryker/Wright⁵³ and Genomic Health/Exact Sciences.⁵⁴ As we look forward, the med-tech arena is expected to continue to grow at a pace of more than 5 percent per year, with annual sales worldwide expected to reach \$800 billion by 2030, according to a recent KPMG study.⁵⁵ Further, the recent permanent repeal of the 2.3 percent excise tax on medical devices could spur continued growth in investment interest.



Emerging trends

Impact on outcomes

Historically, medical device manufacturers have focused on hardware designed for hospitals as end users. However, with the shift toward lower-cost, more convenient sites of care (including the home), as well as real-time communication between patients and physicians, there is pressure to create devices that consumers can operate more easily. To truly improve outcomes, medical devices must be interoperable with EHRs to capture data that can be used to deliver better interventions and create an integrated patient experience. Further, as new entrants play a more important role in care delivery, med techs are aware that the race is on to deliver secure, data-driven, value-based care approaches. For example, Google's Project Nightingale is using advanced AI and machine learning to suggest targeted changes in patient care to improve outcomes.⁵⁶ Although the patient data-gathering methods used by Google and other tech companies have

raised some privacy concerns, med-tech companies are increasingly focused on forging partnerships with technology leaders.

Convergence with other subsectors

For many years, medical device manufacturers based their growth strategies on incremental product enhancements, adjacent product lines, and geographical expansion. While these considerations are still in play, med-tech companies are more focused on the idea of convergence with other sectors, in order to improve outcomes as the industry moves toward value-based care. Diagnostics and device makers are now commonly working with pharma companies on joint offerings to provide full patient customization. For example, Loxo Oncology partnered with diagnostics company Illumina to develop tests that determine patient eligibility for Loxo's cancer drugs, across tumor types.⁵⁷



Potential areas of investor focus

Non-invasive diagnostics options

In diagnostics, there is a continuing quest for less invasive and non-invasive technologies. For example, Exosome Diagnostics, a company that developed a liquid biopsy/clean-catch urine diagnostic for prostate cancer, was purchased by BioTechne for \$250 million in cash and up to \$325 million in milestones.⁵⁸ The product's key value proposition is avoidance of unnecessary prostate biopsy.

Robotic surgery

The robotic surgery market has attracted major M&A interest, with buyers investing more than \$6 billion in new platforms. Device makers are looking for innovative products to fill out their platforms, e.g., Medtronic's recent \$1.7 billion acquisition of Mazor Robotics, which focused on robotics-assisted products for spine and brain surgeries.⁵⁹ J&J recently acquired Auris Health to gain access to the Monarch robotic diagnostics platform, which can be used to perform lung biopsies and is expected to be approved

for cancer surgeries in the future.⁶⁰ Other innovations include robot cameras that physicians can control with eye movements and a GPS-like map that can be projected onto a patient's body before surgery.⁶¹

AI-enabled devices

AI remains a top area of innovation across healthcare. The technology is widely recognized as key to improving patient outcomes, by enabling physicians to offer patients more personalized and precise interventions. AI is already starting to be used for clinical decision support, predictive analytics, and chronic disease management. The FDA has approved a number of medical devices driven by AI software, including one that can detect diabetic retinopathy and one that can alert providers to the likelihood that a patient will suffer a stroke.⁶² Finally, AI is transforming the imaging sector, both in new equipment and by making existing instruments smarter, faster, and more reliable.

For detailed survey results, see pages 32-33.

Behavioral health



Current state

There has been significant deal activity in behavioral health over the past decade, and the subsector remains attractive to investors today. Behavioral health ranked as the third highest area of possible investment growth in this year's survey, with 71 percent of respondents expressing the belief that investment activity would increase in 2020. This subsector comprises a variety of specialties across mental

health and substance abuse, with interest in the latter driven by awareness of the opioid epidemic.⁶³ Intellectual development disorders (IDD) is another growth area, driven by rising demand for treatment of autism spectrum disorders (ASDs) with applied behavioral analysis (ABA) as the treatment of choice.

Mental health and substance abuse



Emerging trends

Improved patient access

An insufficient supply of qualified behavioral health practitioners has led to inadequate networks, with more patients forced to choose between paying out-of-network rates and forgoing treatment altogether. According to recent research from the Substance Abuse and Mental Health Services Administration (SAMHSA), only 44.4 percent of adults with a mental illness received treatment, and only 11.1 percent of adults with a substance abuse disorder received treatment at a specialty facility.⁶⁴ Efforts

to improve patient access include: integrating mental health and substance abuse treatment where possible (detailed in the next section); collaborative care models (combining primary care and mental health), which are showing both encouraging clinical outcomes and significant return on investment for employers;⁶⁵ and the increasing acceptance of telemedicine reimbursement by CMS and other payers.⁶⁶

Integrated mental health and substance abuse treatment

We see a trend toward coordinating mental health and substance abuse treatment, as they often co-occur: 9.2 million U.S. adults experienced both a mental illness and a substance abuse disorder in 2018, according to the National Survey on Drug Use and Health.⁶⁷ There is a great deal of research showing comorbidity between substance abuse and anxiety disorders (generalized anxiety disorder, panic disorder, and post-traumatic stress disorder); mood disorders (depression and bipolar disorder); some personality disorders (borderline personality disorder, antisocial personality disorder); and attention-deficit hyperactivity disorder (ADHD).⁶⁸ Integrated

treatment programs for dual diagnoses of mental illness and substance abuse—such as the Hazelden Betty Ford Foundation⁶⁹ and Spectrum Health Systems⁷⁰—evaluate and treat each disorder concurrently.⁷¹ Today, 18 percent of substance abuse treatment programs and 9 percent of mental health treatment centers are qualified to treat dually diagnosed patients,⁷² which presents opportunities for future growth. Further, the percentage of dually licensed clinics varies by state, with Massachusetts, for example, citing that 29 percent of its behavioral health clinics are licensed to treat both mental health disorders and substance abuse.⁷³



Potential areas of investor focus

Opioid addiction treatment centers

According to estimates from HHS, the number of individuals in the U.S. receiving medication-assisted treatment for opioid addiction rose 38 percent between 2016 and 2019, from approximately 921,000 to 1.27 million.⁷⁴ Due to the growing volume of patients in need and the surety of reimbursement, the specialty remains a very attractive investment target. Eighty-two percent of survey respondents said that increased focus on the opioid crisis will increase investment interest in substance abuse clinics. There is a trend toward roll-ups of smaller, high-quality clinics—particularly if the deals facilitate the ability to address patient needs across the continuum of care (from detox to outpatient treatment to high-end residential treatment). If immense opioid settlements in state lawsuits materialize in the next few years, there will likely be significant spending on education and awareness, as well as the potential for investment in treatment programs.

Organizations that effectively manage risk

As investors consider roll-ups of substance abuse treatment centers or combined substance abuse/mental health clinics, it is important to consider the issue of risk. Due to the propensity for relapse among substance abuse patients, there is pressure on providers to demonstrate lower relapse rates. On the other hand, the upside is significant for quality substance abuse centers that can show improved patient outcomes. Critical considerations include assurance of in-network coverage and plans for expansion into geographies that are not highly concentrated (as opposed to those with a surplus of treatment centers, such as Florida and Arizona). For example, Shore Capital Partners recently invested in Brightview Health to expand medication-assisted addiction treatment to Ohio and surrounding states,⁷⁵ and Riverside purchased Florida-based Lakeview Health, with plans to expand into Texas and Pennsylvania.⁷⁶

Intellectual development disorders (IDD)



Emerging trends

Mandated commercial coverage for ABA therapy

Applied behavioral analysis (ABA) has become the gold standard for treatment of a variety of IDD, with a particularly compelling success rate for ASDs. ABA therapy has been proven to increase IQ, verbal skills, and social functioning in approximately 50 percent of individuals with autism, if they receive treatment before age four.⁷⁷ The efficacy of the treatment has led to mandated commercial coverage in 46 states—as well as higher reimbursement

rates—over the last seven years. While reimbursement rates have leveled off to some extent now that networks of ABA providers are established, the specialty is still a very attractive target for investors given the need for services. Approximately 1 in 59 children in the U.S. has been identified with an ASD, according to estimates from the CDC's Autism and Developmental Disabilities Monitoring (ADDM) Network.⁷⁸



Potential areas of investor focus

Organizations pursuing operational improvements

Although there has been strong investor interest in the IDD space over the past few years, the market is still very fragmented. Given the high multiples, investors in the few existing roll-ups with geographic scale are looking to make operational enhancements. At the same time, the efficacy of ABA and the growing volume of patients needing

these services has solidified the attractiveness of IDD practice roll-ups for investors, as evidenced by Blackstone's acquisition last year of the Center for Autism and Related Disorders (CARD).⁷⁹

For detailed survey results, see pages 34-35.



Physicians, dental and rehab practices



Current state

For several years, hospitals and managed care plans have been acquiring physicians practices, in part for their ability to refer patients. By contrast, healthcare investors and independent physician management companies are more focused on building scale to allow physicians practices to function independently. Particularly in specialty care, we are seeing several paths to growth, including roll-ups

with similar entities to help achieve economies of scale, exploration of ancillary revenue streams, optimization of previous investments through more effective practice integration, and alignment with emerging value-based payment models. Forty-six percent of respondents to our survey noted that the primary transaction thesis in this space is roll-up strategies.



Emerging trends

Pursuing economies of scale

While taking cost out of back-office processes has proven to be effective to some extent, the need to address profitability issues is driving some physician owners to consider deals to help achieve scale. While significant roll-up activity continues in specialties like dental, dermatology, ophthalmology, radiology, and physical therapy, the next frontier to watch for deal activity includes allergy, gastroenterology, orthopedics, podiatry, and urology. Specialties like urology have become particularly attractive investments for health systems and investors due to the growing demand for services from an aging population.⁸⁰

Addition of ancillary services and adjacent specialties

Among specialties with both progressing and emerging platforms of scale, there is a trend toward deal activity that involves the addition of ancillary services or acquisition of services in adjacent specialties, where geographic synergies allow. Examples include oncology practices buying radiation treatment centers, dermatologists bringing pathology in house, dental practices adding orthodontics, combined ophthalmology and optometry services, and orthopedic surgeons buying or affiliating with ambulatory surgery centers and rehabilitation centers.



Potential areas of investor focus

Optimized businesses

Some established roll-up platforms are challenged by a lack of integration as the practices continue to operate in a decentralized manner. As a result, platform owners miss the opportunity to unlock value through scale efficiencies and risk lowering the valuation of the business. By contrast, investors should focus on those platforms that are open to integration for efficiency and scale across back office billing, EHRs, credentialing, and coding. Successful platforms also have differentiated physician recruitment and compensation strategies that help manage provider turnover.

Organizations making progress toward value-based care

Since the systemwide *move to value* is likely to continue, although arguably not at the pace industry leaders had anticipated, it is critical for investors to evaluate where potential targets stand relative to this continuing evolution. In fact, CMS is launching a number of new APM concepts (many with a specialist focus) that encourage physicians practices to assume greater downside risk. These include the Direct Contracting Model and Primary Care First Model (both set to launch in 2021), Bundled Payments for Care Improvements (BPCI) Advanced, ESRD Treatment Choices, and Radiation Oncology.^{81,82}

For detailed survey results, see pages 36-37.

The consolidators

Home health and hospice



Current state

Historically, the home health subsector has struggled with fragmentation of services. Today, providers are looking to add adjacencies to complete the continuum of care. Attractive targets are often those that provide a spectrum of services across nonmedical home care related to

activities of daily living (ADLs); basic home healthcare for the transitional period after a hospital or rehab stay; high-acuity home health treatments for the chronically ill; and hospice in the home.



Emerging trends

Two new reimbursement policies

The new Medicare Patient-Driven Groupings Model (PDGM), part of Medicare Part A that goes into effect on January 1, 2020, is designed to support a continuum of home-based care.⁸³ With reimbursement based on patient

characteristics rather than volume of treatment, the new payment framework seeks to eliminate the therapy cap, provide services based on a patient's degree of illness, and create a unified post-acute payment system.⁸⁴

The regulation aligns with the industry-wide *shift to value*, a trend that 44 percent of survey respondents believe will increase investment in this subsector. As the PDGM methodology progresses, it is likely that CMS will make adjustments on a year-by-year basis. For example, the behavioral adjustment, originally proposed by CMS to be 8 percent, was lowered to 4.36 percent in the final rule, due to industry pushback.⁸⁵ It is of note that the Medicare Payment Advisory Commission (MedPAC) will likely recommend freezing base payments and reducing the aggregate payment cap for hospice care, which could certainly be a headwind when it comes to investment decisions related to the hospice subsector.⁸⁶

The effort to integrate home health and nonmedical home care will be further supported by the option for Medicare Advantage (MA) plans to provide additional supplemental benefits beginning in 2020.⁸⁷ The benefits could include services such as meal delivery, transportation for nonmedical needs, adjustments to the living environment, and more. For example, a patient with asthma could have their carpets cleaned, or a patient with diabetes could receive transportation to classes on healthy food choices.⁸⁸ Supplementing home health with home care that addresses SDOH creates value through a greater focus on wellness and chronic care management. Sixty-four percent of our survey respondents said that SDOH will have a positive impact on investment in the home health subsector.



Potential areas of investor focus

Organizations that span the acuity scale

As the value of an integrated acuity continuum comes into focus, investors should look at home health organizations that tap into multiple aspects of patients' health and wellness needs. On the less acute end, organizations offering home care to supplement home health services will likely be well positioned for future growth. On the more acute end of the spectrum, investors may consider home health organizations that offer higher-acuity services in the home, such as dialysis, infusion therapies, oxygen

therapy, intravenous administration of complex drugs, etc. We expect to see further growth in this subsector, and 48 percent of survey respondents believe the subsector will grow through acquisition. Finally, we continue to see the trend of hospice provided in the home, driven by a growing focus on comfort at end of life, greater awareness of hospice benefits, and a movement toward admitting patients to hospice earlier.

For detailed survey results, see pages 38-39.





The foundation

Managed care



Current state

Although our survey indicated that only 25 percent of managed care companies are investing in their own subsector, investors are interested in the subsector's move toward risk sharing and APMs. Almost all respondents (96%) in our survey said they are considering investing in risk-sharing designs, and 71 percent said the movement to APMs would increase investment in managed care.

Examples of this activity include deals between payers and a range of providers seeking to better address gaps in the care continuum and align payment incentives to optimize cost and quality.



Emerging trends

■ Bridging the care continuum gap

Payers are looking at multiple avenues for diversification, as competition for aging patients increases and the *shift to value* for all patients continues. Since traditional managed care models may not align incentives as well as new alternative payment arrangements, there is a trend toward innovative vertical deals that bridge the care continuum gap.

■ Medicare Advantage growth

As Baby Boomers continue to age into retirement, more than 10,000 Americans are entering the Medicare system every day, and are expected to continue to do so through 2030.⁸⁹ Medicare Advantage (MA) plans now cover 34 percent of Medicare enrollees—or 22 million individuals, and the plans are projected to enroll 50 percent of Medicare beneficiaries in the next several years.⁹⁰ The popularity of MA continues to grow as CMS provides plans with opportunities for flexibility in managing benefits and new services, e.g., in-home support, telemedicine, teletherapy, etc.⁹¹



Potential areas of investor focus

■ Partnerships across the post-acute care spectrum

Payers are seeking to make deeper inroads into the Medicare population by exploring strategies to better manage post-acute care.⁹² There is a particular focus on partnerships with organizations that provide home health, chronic condition management, telepsychiatry, and alternative care (physical therapy, hyperbaric chambers,

wound care, etc.). Payers are particularly drawn toward home health services as they help reduce readmissions; redirect patients from more costly options, such as long-term acute care (LTAC) and skilled nursing facilities (SNFs); and support hospice care for better management of spending in the last weeks of life.

► Payer/provider transactions

Deals between payers and providers allow both parties to gain better control of the patient care continuum and create richer data sets that can be used for predictive modeling. Humana, for example, has acquired a number of post-acute care assets and physicians groups, including Family Physicians Group in Orlando,⁹³ as well as Kindred at Home (home health) and Curo Health Services (a hospice provider). The latter two acquisitions were done in conjunction with private equity firms TPG Capital and Welsh, Carson, Anderson & Stowe, giving Humana a 40 percent stake in the resulting home health and hospice services unit.⁹⁴ With the acquisition of DaVita Medical Group (primary and urgent care), Optum⁹⁵ has been able to diversify revenue, manage care under a capitated risk model for attributable members, and streamline claims processing in the back office. Anthem recently acquired Aspire Health, a palliative care provider⁹⁶ and has a pending acquisition of Beacon Health Options, which would create the largest entity of this type in behavioral health.⁹⁷

► Provider-sponsored health plans

As part of the move toward value-based care, payers are continuing to enter into provider-sponsored health plan (PSHP) arrangements.⁹⁸ Although estimation of the number of PSHPs ranges from 72 to 244 based on varying definitions,⁹⁹ the market has increased by 13 percent since 2013, with more than 90 percent of PSHP entities involving small- and medium-sized business (SMB) payers.¹⁰⁰ Other types of partnerships include co-branded 50/50 joint ventures, patient-centered medical homes (PCMH), and bundled payment models, e.g., Aetna's collaborations with Banner Health, Inova and Texas Health Resources.¹⁰¹

► Evolving retail health options

On the retail side, investors are continuing to watch the CVS/Aetna deal to see how it unlocks value for patients. By the end of 2021, CVS plans to expand its HealthHUB stores, which provide preventive care, wellness services, and management of chronic conditions like diabetes to Aetna members.¹⁰²

For detailed survey results, see pages 40-41.

The foundation

Hospitals and health systems



Current state

How hospitals are faring in today's climate is a point of some contention. On the one hand, many are saddled with high debt, limited growth potential, and subpar utilization rates, and many rural hospitals are at risk of closing. Nearly one-third of respondents to our survey expect the hospital subsector to grow more slowly than the rest of the market. On the other hand, larger, not-for-profit hospital systems in cities and suburbs are doing well. In a recent analysis of financial statements from 31 not-for-profit systems, Axios found that the systems generated \$68.5 billion of revenue

and had an average operating margin of 5.1 percent in the first quarter of 2019, compared with 4.5 percent in the first quarter of 2018.¹⁰³ In many cases, hospitals have used consolidation to overcome financial challenges, with 90 percent of U.S. hospitals now in highly concentrated markets.¹⁰⁴ At the same time, hospitals are employing more physicians: In 2018, for the first time, the number of employed physicians (47.4%) exceeded the number who owned their practices (45.9%), according to the AMA.¹⁰⁵



Emerging trends

Pricing transparency

CMS recently finalized requirements for hospitals to make public “hospital standard charges” in a machine-readable file, as well as payer-specific negotiated charges and “minimum and maximum negotiated charges for 300 common shoppable services” in a consumer-friendly format.¹⁰⁶ These efforts satisfy an Executive Order requiring hospitals to post all negotiated third-party payer rates, which could be useful to patients when comparing procedure prices across hospitals. Although the policies are a top priority for the Trump administration, they are facing court challenges,¹⁰⁷ creating uncertainty about whether, and when, hospitals will be required to comply. If implemented, the requirements could accelerate the use of pricing as a competitive differentiator among hospitals, even if comparisons don’t reflect copay and other patient out-of-pocket costs. In keeping with the hospital subsector’s apprehension about these initiatives, 46 percent of survey respondents believe that finalization of these requirements could result in a slowdown of investment in the subsector.

Site neutrality

CMS is continuing its efforts to institute site-neutral reimbursement, in an attempt to equalize reimbursement between hospital outpatient departments (HOPDs) and physicians’ offices. MedPAC concludes that, if the site neutral policy were fully implemented, it could reduce one of the incentives for hospitals to acquire physicians practices, since they wouldn’t be able to charge higher HOPD rates.¹⁰⁸ In January 2019, a CMS policy went into effect to extend site-neutral payments to offsite, hospital-owned outpatient clinics that started billing Medicare after 2015.¹⁰⁹ However, in September a federal judge ruled that CMS had exceeded its authority and overturned the payment policy, reversing a reduction in reimbursement rates that would have totaled \$380 million in 2019 and \$760 million in 2020.¹¹⁰ CMS subsequently finalized a reintroduction of the site-neutral policy for 2020 in its outpatient prospective payment system (OPPS) final rule issued in November.¹¹¹ Hospitals have urged the courts to once again block the payment policy for 2020, although a federal judge ruled in December 2019 that hospitals could not challenge the payment reduction until it took effect in 2020.¹¹²



Potential areas of investor focus

Atypical partnerships

Hospitals’ evolving business models include a broader range of partnerships and collaborations. For example, there has been an uptick in joint operating agreements between for-profit hospitals and academic medical centers, e.g., the joint agreement between Ardent Health and the University of Texas Systems to create UT Health East Texas.¹¹³ Some hospitals are looking at international expansion—primarily in China, the Middle East and Europe. For example, Steward Healthcare is partnering with the government of Malta to operate a number of the country’s

hospitals,¹¹⁴ and the Cleveland Clinic is partnering with Luye Medical in Shanghai to create the Shanghai Luye Lilan Hospital.¹¹⁵ Finally, there is a trend toward hospitals partnering to address drug costs. Civica RX, for example, is a not-for-profit generic drug company, founded by seven health systems including Intermountain Healthcare and the Mayo Clinic, designed to ensure a more predictable supply of essential generic medicines and save patients and hospitals hundreds of millions of dollars a year.¹¹⁶

For detailed survey results, see pages 42-43.

Conclusion

We believe we are entering a very exciting time for investment in healthcare and life sciences. Despite unknowns related to the 2020 election and uncertain industry regulatory challenges, there are significant investment opportunities across the industry. Such opportunities will continue to gain momentum due to progress toward consumer-centric care delivery, potentially curative drugs and other breakthrough therapies, connected medical devices, new models of vertical integration, and consolidation for scale and efficiencies.



The innovators

The healthcare IT, pharma and biotech, and medical devices subsectors are introducing incredible innovations that will elevate both the patient experience and potential outcomes.



The consolidators

The behavioral health; physicians, dental and rehab practices; and home health and hospice subsectors are pursuing consolidation to gain competitive advantage, realize economies of scale, and better address patient needs across the continuum of care.



The foundation

Still the pillars of the healthcare industry, the hospital and managed care subsectors are pursuing atypical partnerships, as well as changes in care delivery and health plan options to serve the needs of the aging baby boomer population.

Investors should expect that the healthcare and life sciences industry will likely continue to be an attractive investment target for the foreseeable future. According to CMS, national healthcare spending is projected to grow at an average of 5.5 percent annually from 2018 to 2027, at which point it will reach \$6.0 trillion.¹¹⁷ Smart investors will differentiate between hype and realistic growth expectations by monitoring regulatory, market and demographic developments, and evaluating opportunities in the context of continuing disruption.

How KPMG can help

KPMG LLP is one of the largest providers of professional services—strategy, advisory, tax and audit—to the healthcare and life sciences industry globally with more than 3,500 industry-specific partners and professionals. Our dedicated healthcare and life sciences M&A teams have extensive experience in mergers, acquisitions, affiliations and integrations across all the major segments

and subsectors of the healthcare and life sciences industry. We understand the regulatory, commercial and accounting complexities unique to the industry and provide an integrated suite of services across the deal lifecycle to assist our clients in achieving business results. For more information about our healthcare and life sciences practice, please visit www.kpmg.com/us/healthcarelifesciences.

A close-up photograph of a person's hands interacting with a large, white medical device screen. The person is wearing a ring on their left hand. The background shows a clinical setting with various medical equipment and a blue tablecloth. The lighting is bright and clinical.

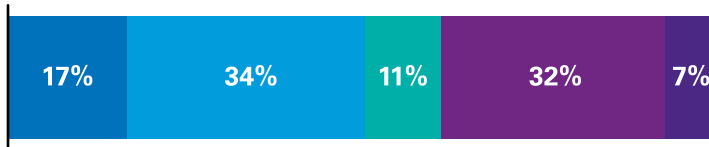
Appendix: Investment Outlook Data Breakdown

This section includes detailed survey responses from the 2020 KPMG Healthcare and Life Sciences Investment Outlook survey, including views on the overall industry and snapshots of each of the eight subsectors examined in the survey.

Current state of the healthcare and life sciences deal market

Where on the spectrum below do you think the current state of the healthcare or life sciences market lies?

2020 Healthcare



2020 Life sciences

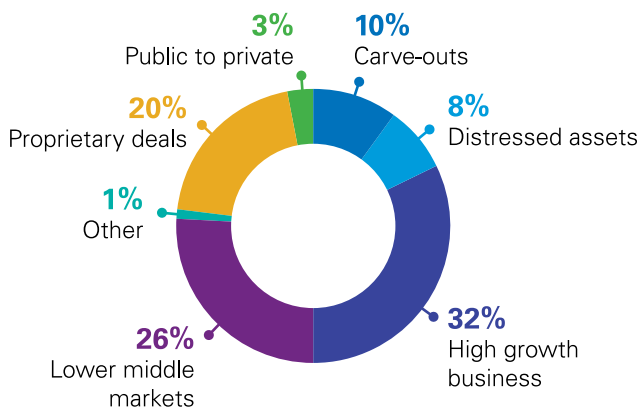


n = 333

■ Strong fundamentals ■ Moderate fundamentals ■ Neutral ■ Moderate bubble ■ Bubble likely to burst

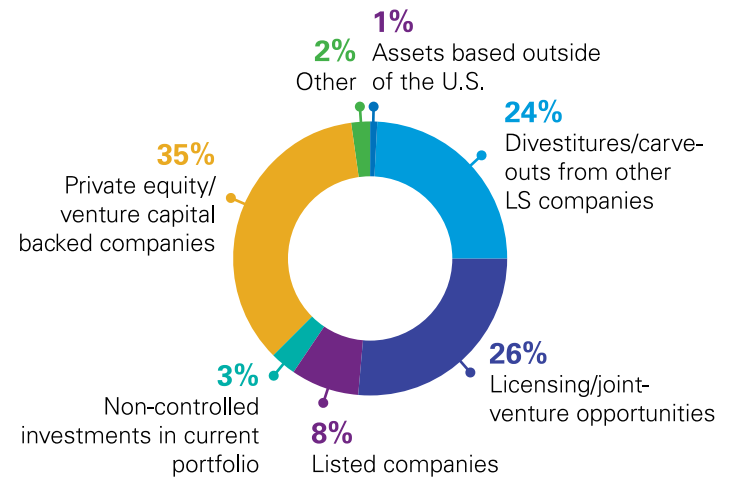
If you believe assets are backed by moderate/strong fundamentals, where do you find these assets?

Healthcare



n = 168

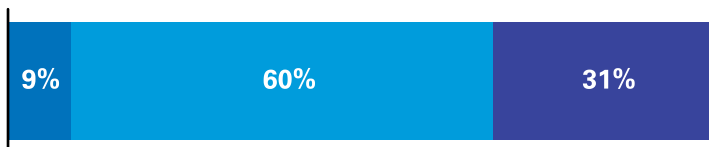
Life sciences



n = 136

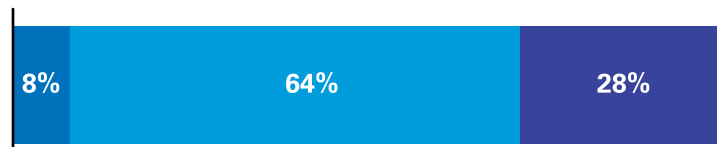
If you believe we are in a bubble, when will it burst?

Healthcare



n = 127

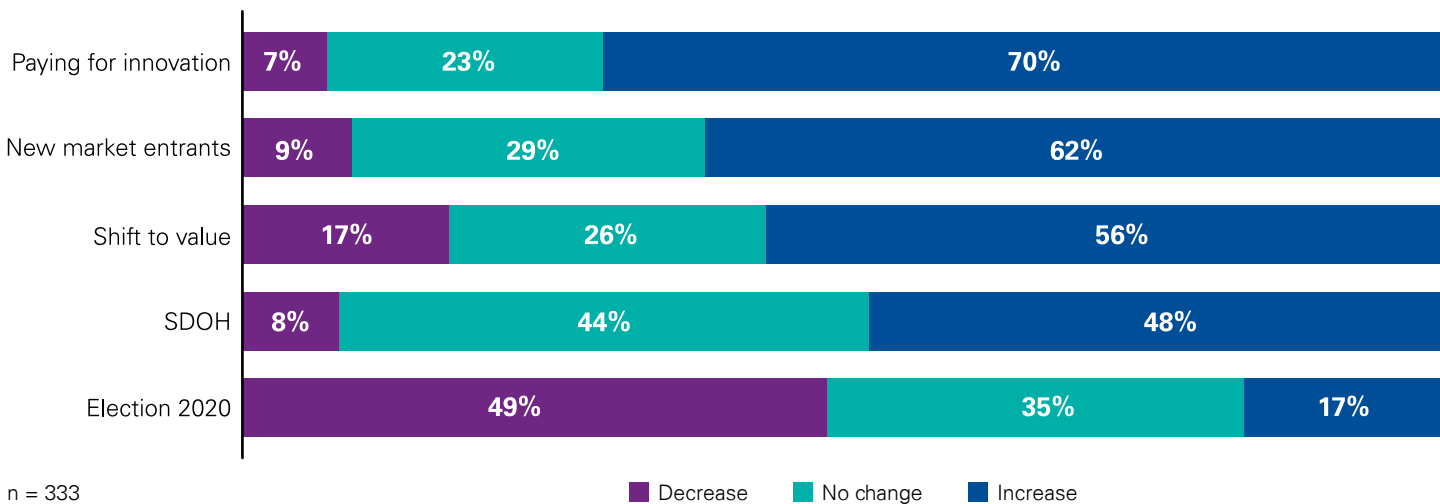
Life sciences



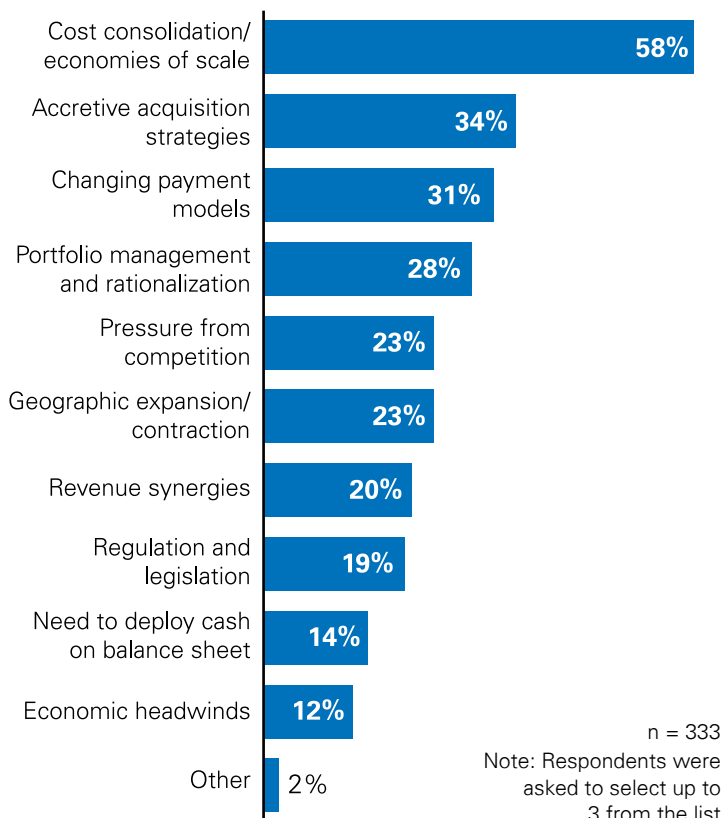
n = 75

■ Within the next 12 months ■ In 12 to 24 months ■ More than 2 years

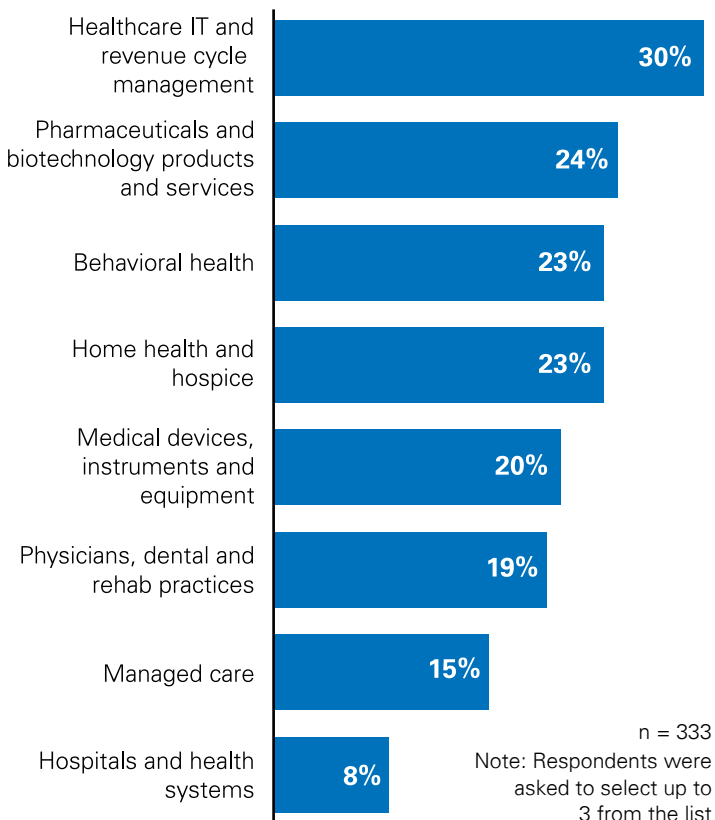
Expected impact of disruptors on investment activity



Biggest drivers of merger and acquisition (M&A) activity in the healthcare and life sciences sectors



Subsector investment interest

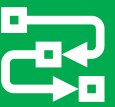


Healthcare IT and revenue cycle management

Investment considerations




Consider investment targets among HIT assets that facilitate connectivity between industry stakeholders and patients.



Look for technologies that facilitate one patient experience continuum from scheduling to treatment to billing.



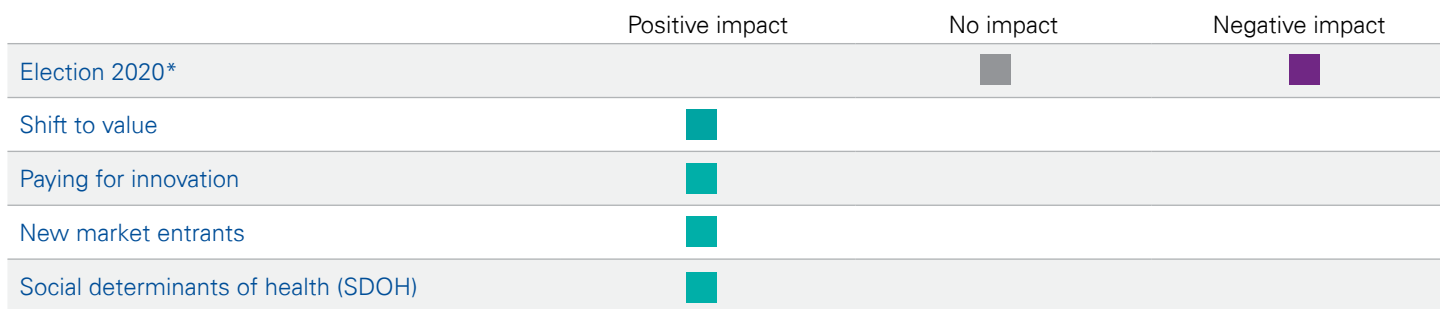
AI and RPA are increasingly critical to driving care continuum improvements.



SDOH data within EHR systems can improve health and lower costs.

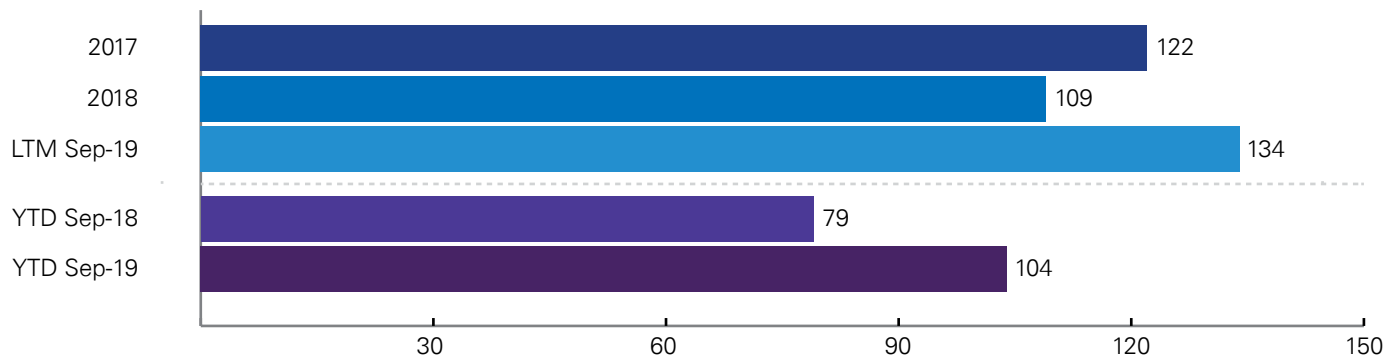
Disruptor impact

What impact on the deal-making climate do you think each of the following disruptors will have?



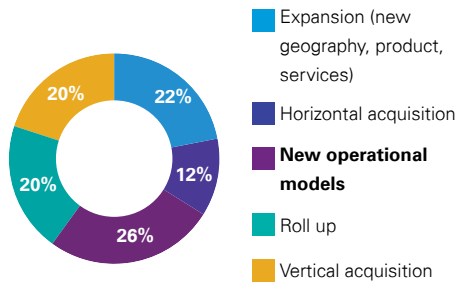
*Respondents were equally split in their view that the 2020 election would have either no impact or a negative impact.

Number of closed transactions

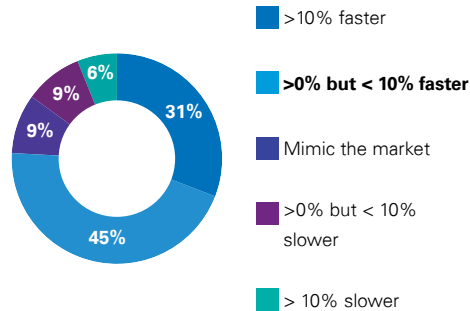


Subsector survey findings

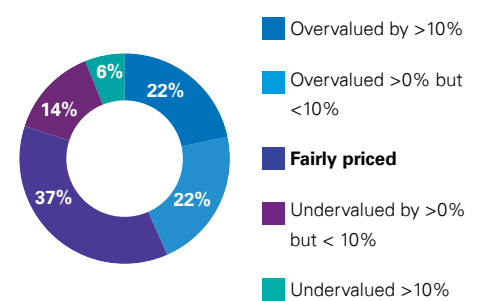
When you think about M&A in this subsector, what is the primary thesis for the transactions?



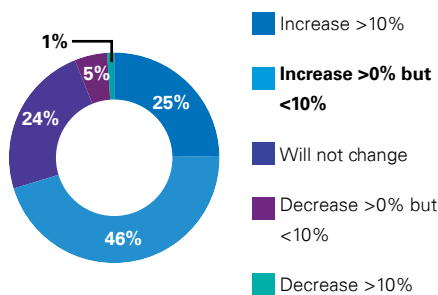
How do you think your subsector will grow relative to the overall healthcare and life sciences market?



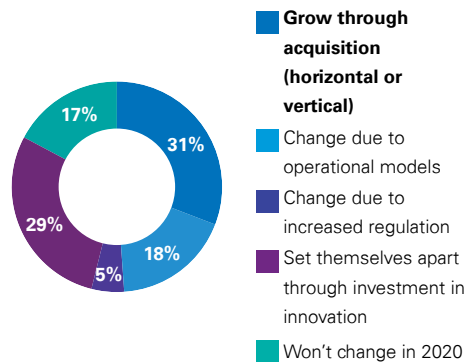
Are asset prices within the subsector... ?



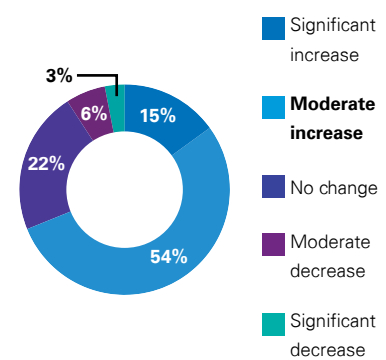
How will investment activity (in deal volume) change in the market in 2020 as compared to 2019?



How do you anticipate the competitive landscape of the subsector changing in 2020?



How will greater interoperability and the growth of APIs affect investment in healthcare IT and revenue cycle management?



The data above reflects survey results from the 2019 KPMG Healthcare and Life Sciences Investment Survey. Healthcare IT and revenue cycle management n=65. Please note that some charts might not sum to 100 percent, due to rounding.

Pharmaceuticals and biotechnology products and services

Investment considerations



Certain therapeutic areas – mainly oncology and rare disease – continue to be attractive to buyers given their superior margin profiles.



Small biotech companies manufacturing drugs involving special FDA / EMA protocols have shorter development timelines and a higher probability of success.



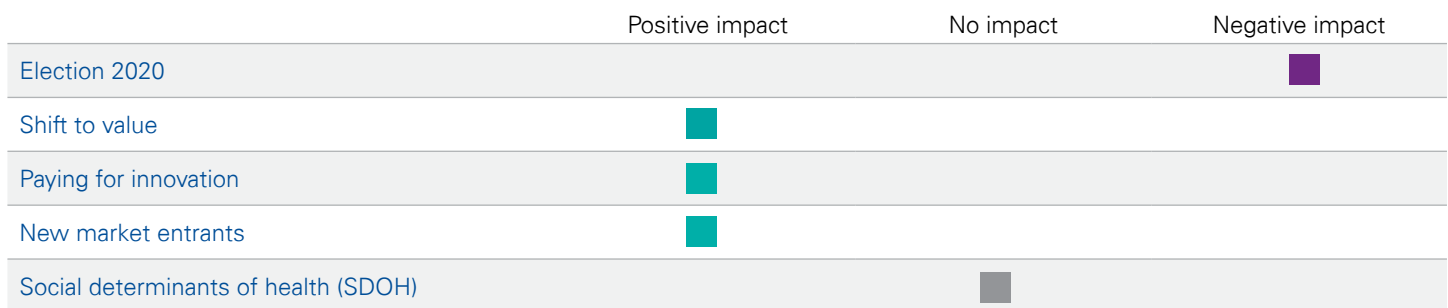
Consider manufacturers with strategic value drivers beyond pipeline assets, e.g., manufacturing scalability, diverse delivery technologies, commercial capabilities, etc.



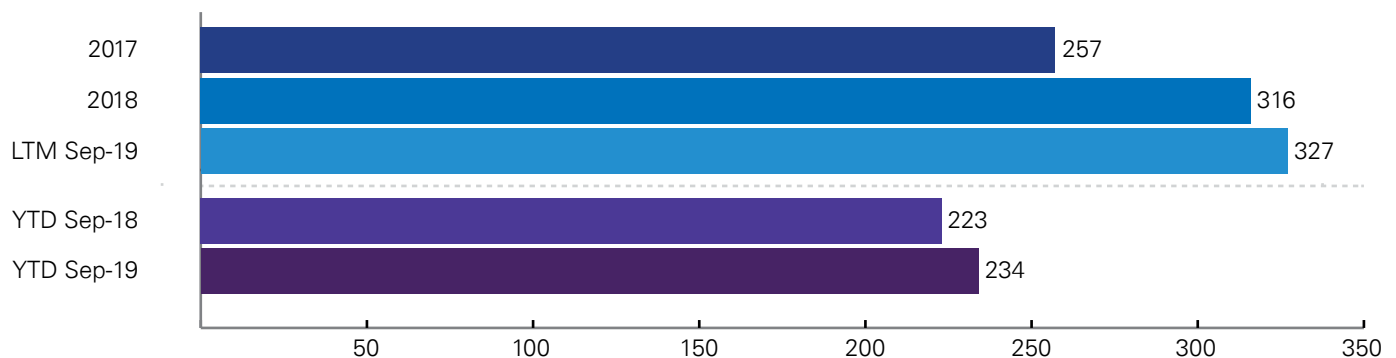
The pharmaceutical services subsector is continuing to see significant tailwinds—given the continuing outsourcing trend within big pharma and the proliferation of smaller biotech companies with limited infrastructures.

Disruptor impact

What impact on the deal-making climate do you think each of the following disruptors will have?

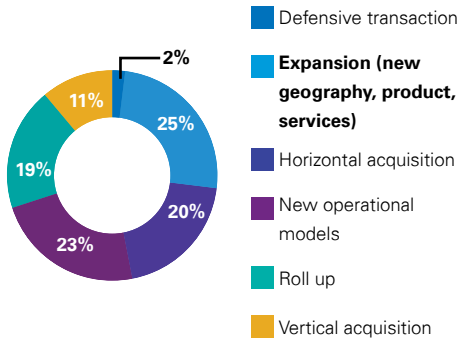


Number of closed transactions

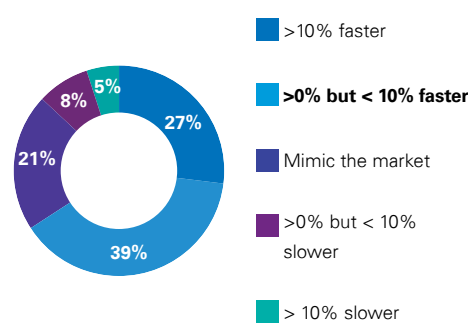


Subsector survey findings

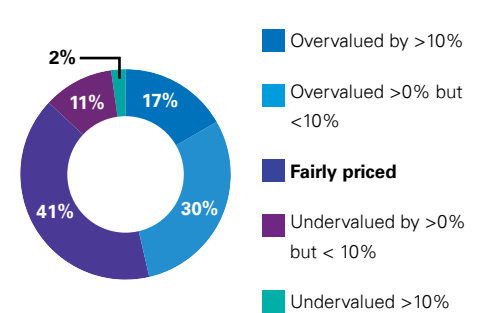
When you think about M&A in this subsector, what is the primary thesis for the transactions?



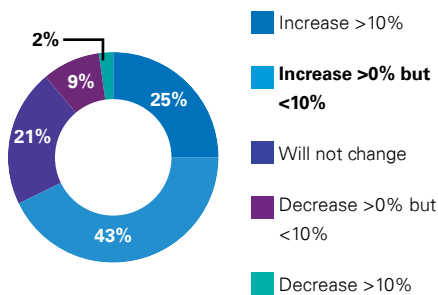
How do you think your subsector will grow relative to the overall healthcare and life sciences market?



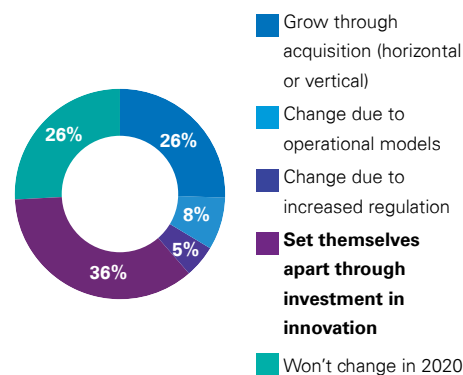
Are asset prices within the subsector... ?



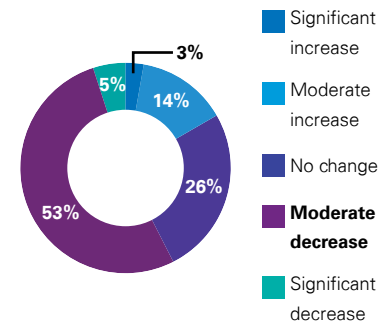
How will investment activity (in deal volume) change in the market in 2020 as compared to 2019?



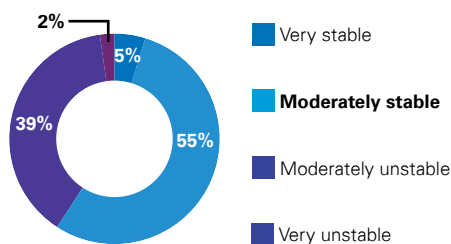
How do you anticipate the competitive landscape of the subsector changing in 2020?



How will ongoing efforts to control prescription drug prices affect investment in pharmaceutical and biotechnology products and services?




How would you classify pricing stability in the subsector?




The data above reflects survey results from the 2019 KPMG Healthcare and Life Sciences Investment Survey. Pharmaceutical and biotechnology products and services n=66. Please note that some charts might not sum to 100 percent, due to rounding.

Medical devices, instruments and equipment


Investment considerations




Precision medicine is fueling the diagnostics segment of medical devices.



Less invasive biopsies provide cost savings and more comfort for patients, without sacrificing the quality of results.



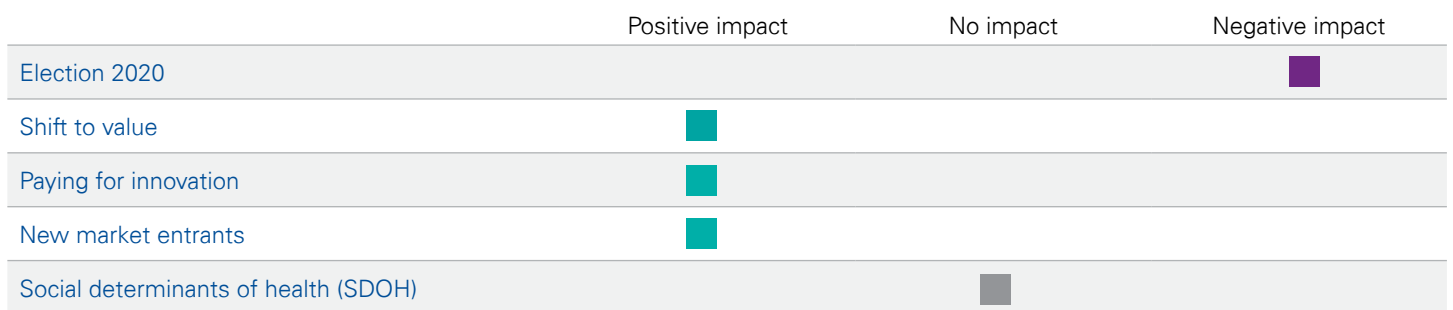
In the more classic medical device segment, the robotic surgery market will continue to attract M&A interest.



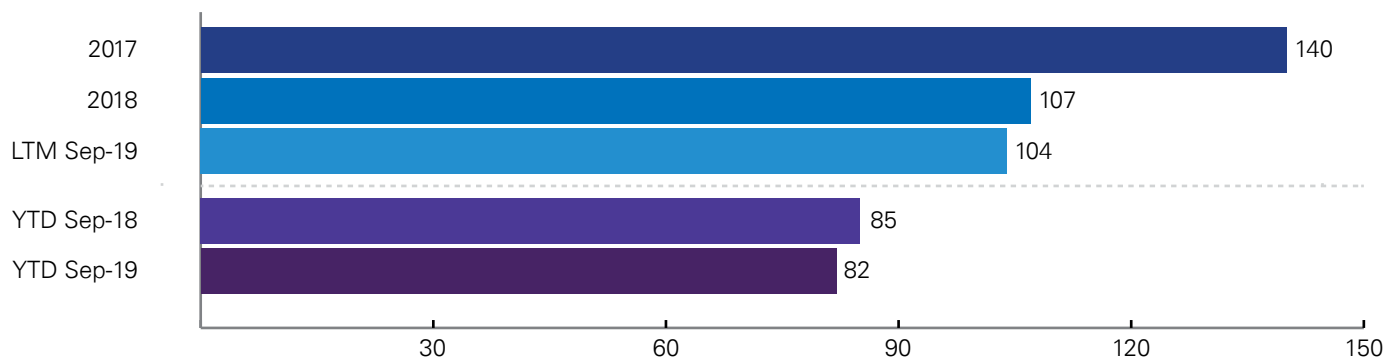
Watch and plan for the impacts of the changing regulatory landscape, including EU MDR and IVDR and changes to the U.S. FDA regulatory submission processes. (The latter includes the 510(k) and DeNovo clearance processes, which require additional investments of time and effort.)

Disruptor impact

What impact on the deal-making climate do you think each of the following disruptors will have?

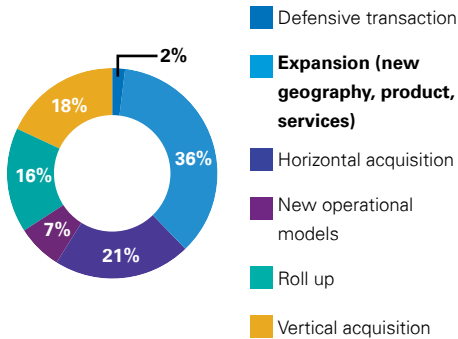


Number of closed transactions

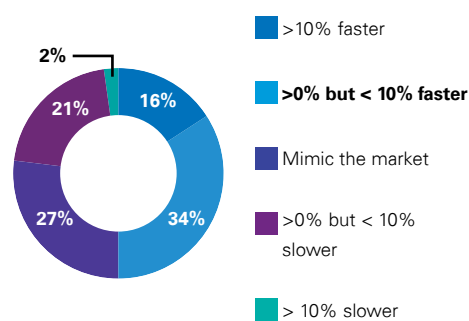


Subsector survey findings

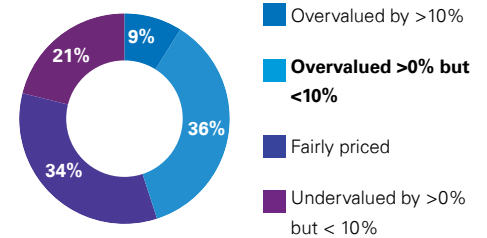
When you think about M&A in this subsector, what is the primary thesis for the transactions?



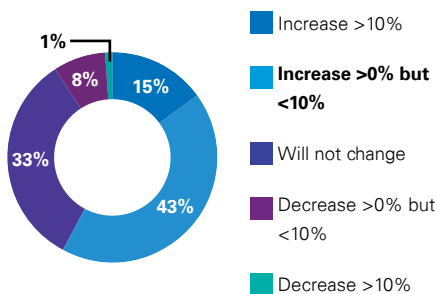
How do you think your subsector will grow relative to the overall healthcare and life sciences market?



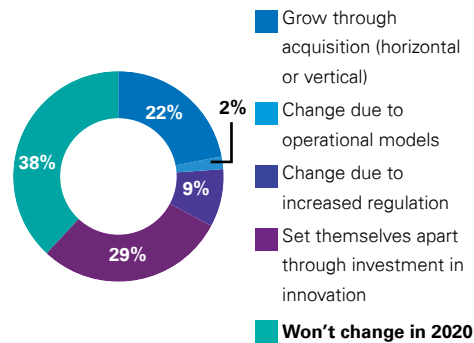
Are asset prices within the subsector... ?



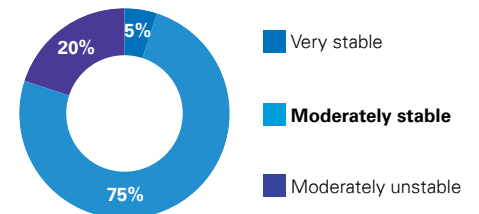
How will investment activity (in deal volume) change in the market in 2020 as compared to 2019?



How do you anticipate the competitive landscape of the subsector changing in 2020?



How would you classify pricing stability in the medical devices, instruments and equipment subsector?



The data above reflects survey results from the 2019 KPMG Healthcare and Life Sciences Investment Survey. Medical devices, instruments and equipment n=56. Please note that some charts might not sum to 100 percent, due to rounding.

Behavioral health

Investment considerations



Behavioral health assets are in the spotlight due to widespread attention on the opioid crisis.



There is a trend toward combined mental health/substance abuse treatment centers for dually diagnosed patients.



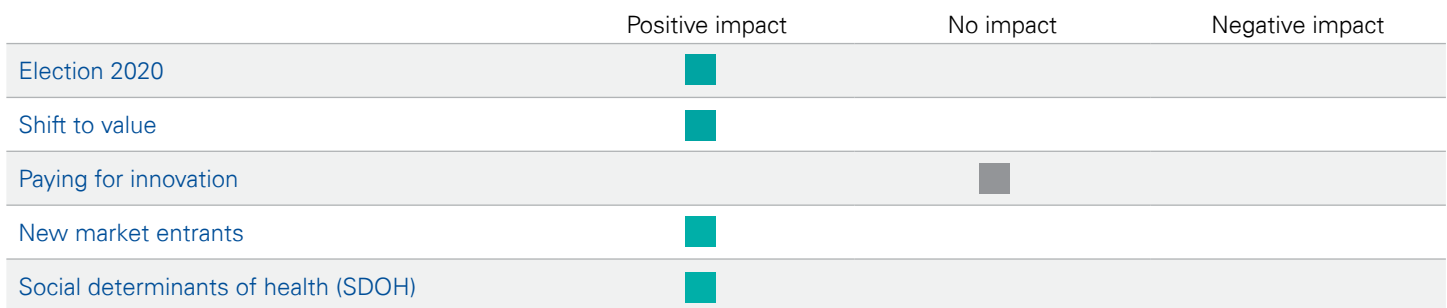
ABA effectiveness and growing patient volume highlight IDD as an attractive investment area.



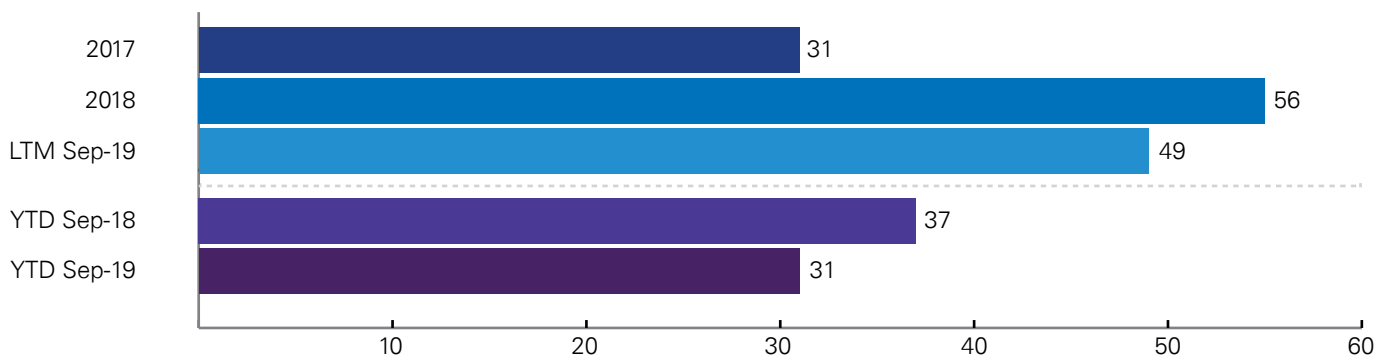
Seek out opportunities for operational improvements within established platforms.

Disruptor impact

What impact on the deal-making climate do you think each of the following disruptors will have?



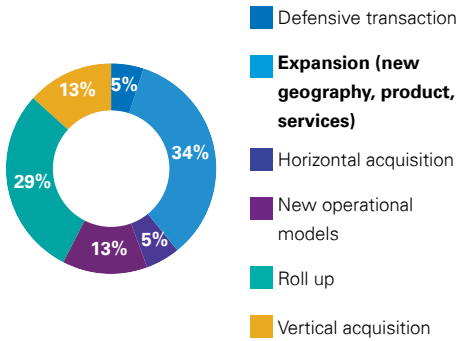
Number of closed transactions



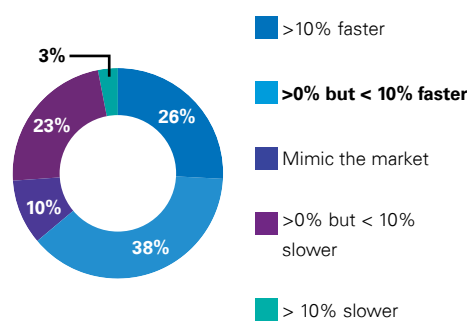


Subsector survey findings

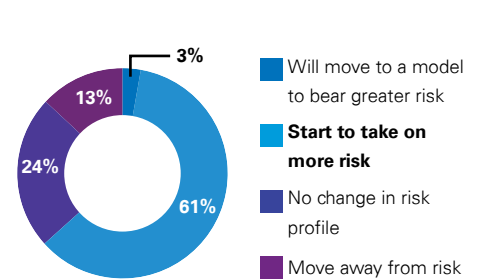
When you think about M&A in this subsector, what is the primary thesis for the transactions?



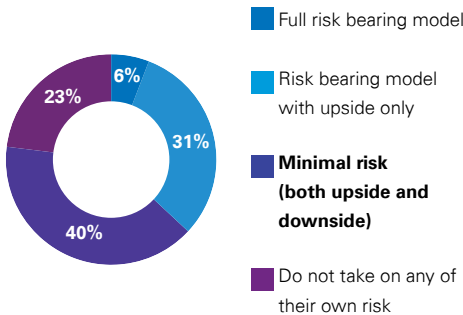
How do you think your subsector will grow relative to the overall healthcare and life sciences market?



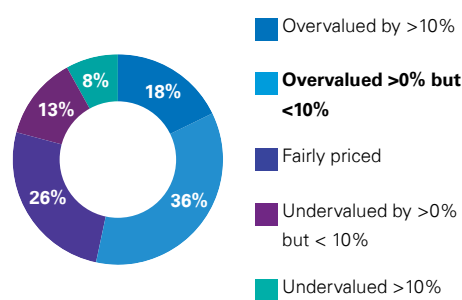
How will the risk profile for risk-bearing providers change in the next two years in this subsector?



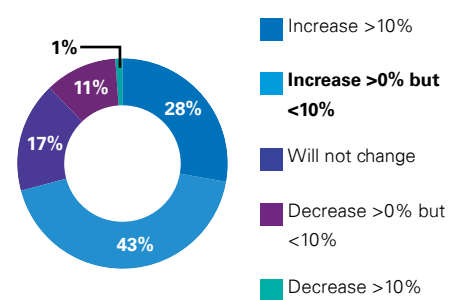
As it relates to the risk profile of your potential targets in this subsector, what characteristics are you interested in investing in?



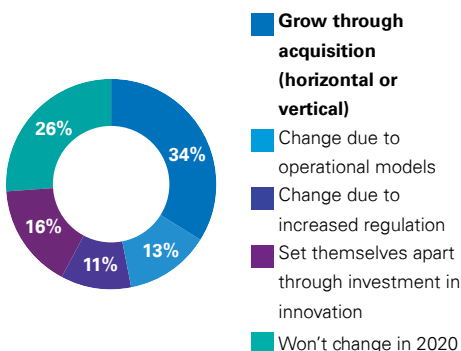
Are asset prices within the subsector... ?



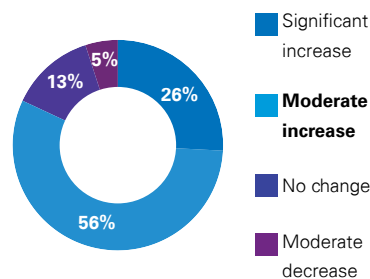
How will investment activity (in deal volume) change in the market in 2020 as compared to 2019?



How do you anticipate the competitive landscape of the subsector changing in 2020?



How will the opioid crisis and the increased focus on addressing substance abuse disorders affect investment in behavioral health?



The data above reflects survey results from the 2019 KPMG Healthcare and Life Sciences Investment Survey. Behavioral health n=39

Please note that some charts might not sum to 100 percent, due to rounding.

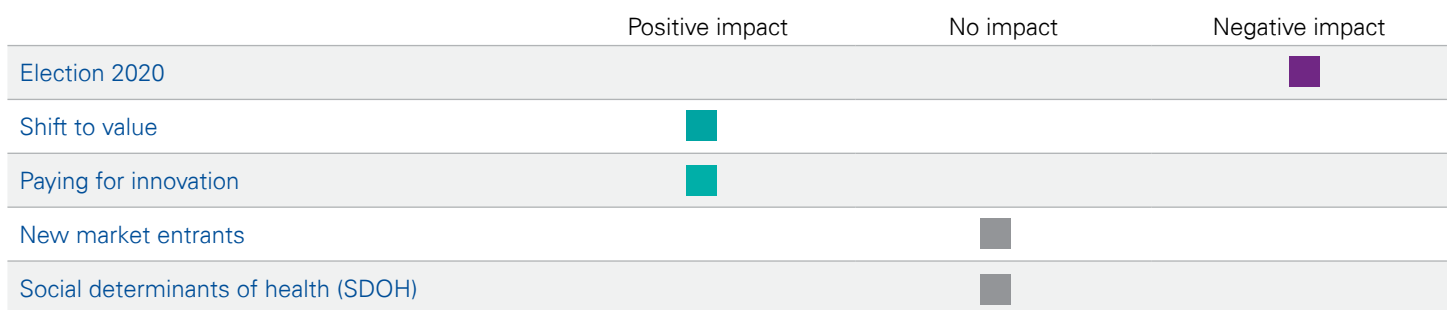
Physicians, dental and rehab practices

Investment considerations

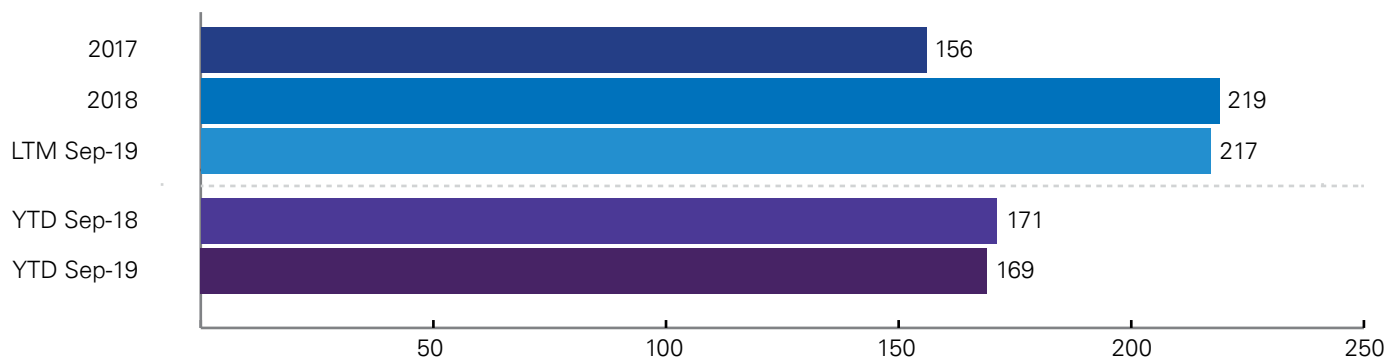
 <p>Stay abreast of developments among the newest specialties pursuing roll-ups, e.g., allergy, gastroenterology, orthopedics, podiatry, and urology.</p>	 <p>Evaluate opportunities for ancillary revenue growth and look at adjacent specialties as opportunities for investment.</p>
 <p>Continue to focus on roll-up strategies with opportunities for economies of scale and revenue/cost synergies.</p>	 <p>Consider an entity's ability to extract value, either by using partial capitated payments that reward success or by taking the global cap.</p>

Disruptor impact

What impact on the deal-making climate do you think each of the following disruptors will have?



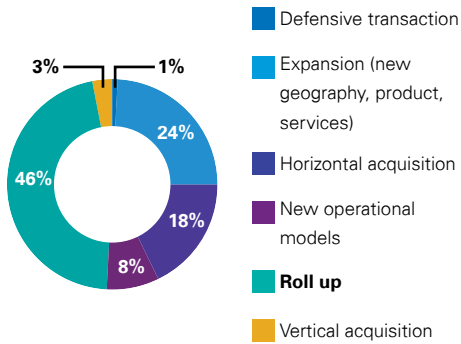
Number of closed transactions



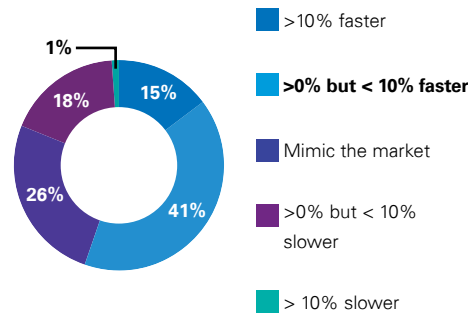


Subsector survey findings

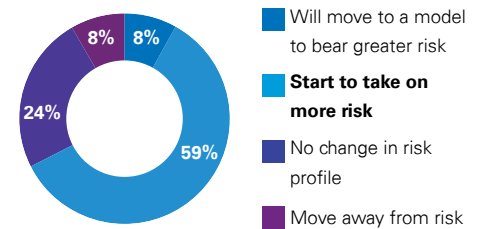
When you think about M&A in this subsector, what is the primary thesis for the transactions?



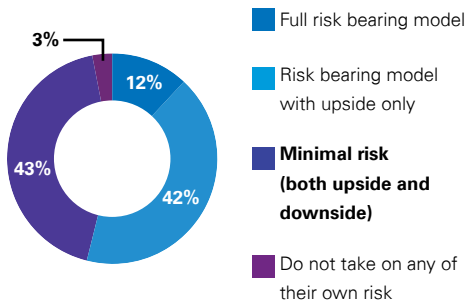
How do you think your subsector will grow relative to the overall healthcare and life sciences market?



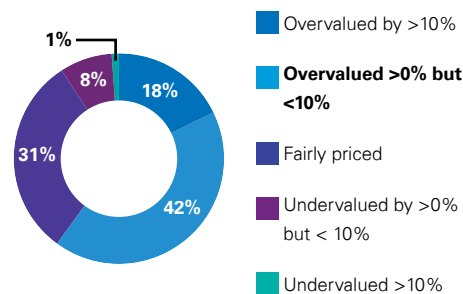
How will the risk profile for risk-bearing providers change in the next two years in this subsector?



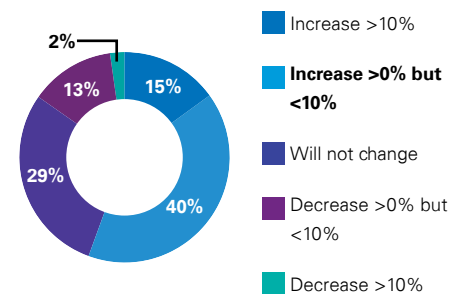
As it relates to the risk profile of your potential targets in this subsector, what characteristics are you interested in investing in?



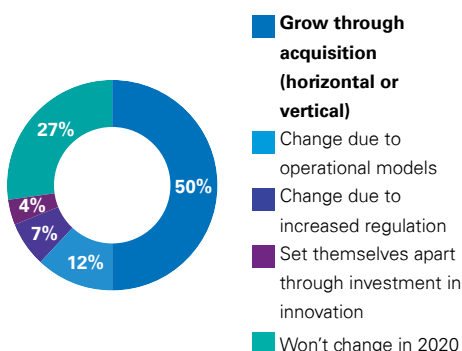
Are asset prices within the subsector... ?



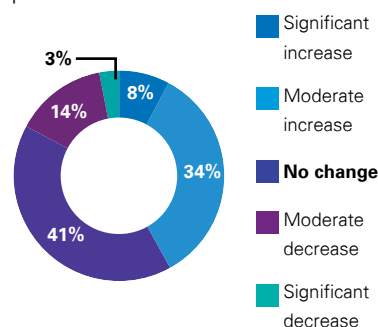
How will investment activity (in deal volume) change in the market in 2020 as compared to 2019?



How do you anticipate the competitive landscape of the subsector changing in 2020?



How will the ongoing movement to alternative payment models affect investment in physicians, dental and rehab practices?



The data above reflects survey results from the 2019 KPMG Healthcare and Life Sciences Investment Survey. Physicians, dental and rehab practices n=74

Please note that some charts might not sum to 100 percent, due to rounding.

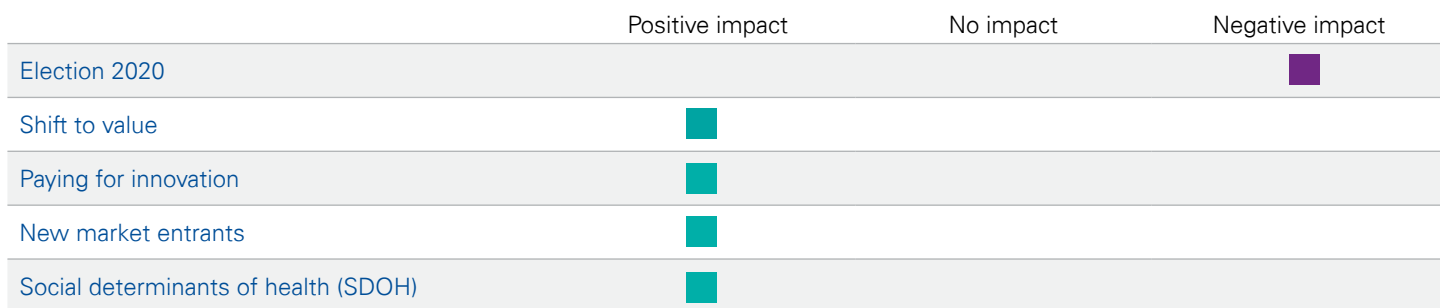
Home health and hospice

Investment considerations

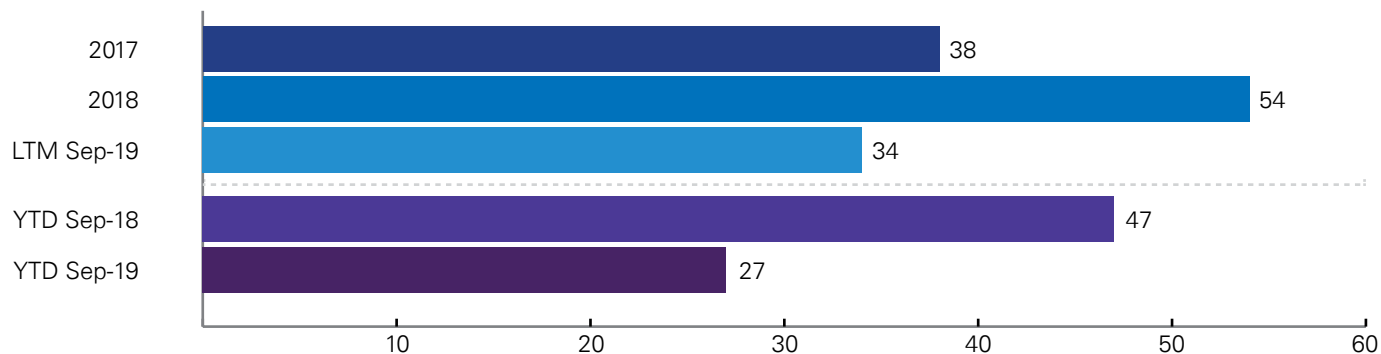
 <p>Home health organizations with strategies to leverage multiple aspects of the care continuum are attractive investment targets.</p>	 <p>Expansion of Medicare Advantage supplemental benefits could be a tailwind to coverage of non-medical home care.</p>
 <p>Growth of the home hospice subsector is being driven by an aging population and focus on end-of-life comfort.</p>	 <p>Identify home health organizations that are trending toward higher-acuity services in the home, e.g., dialysis, infusion therapies, oxygen therapy, etc.</p>

Disruptor impact

What impact on the deal-making climate do you think each of the following disruptors will have?



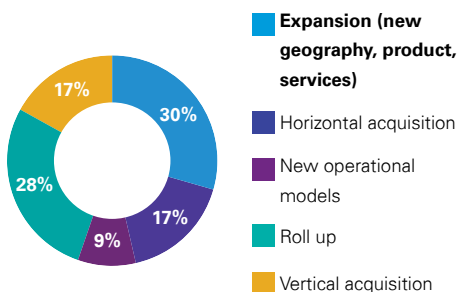
Number of closed transactions



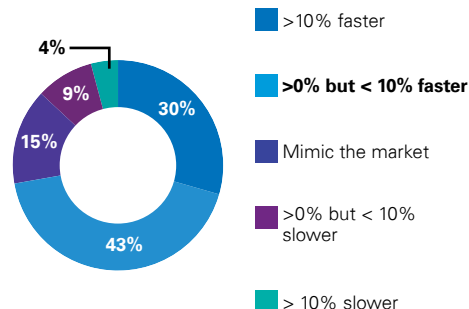


Subsector survey findings

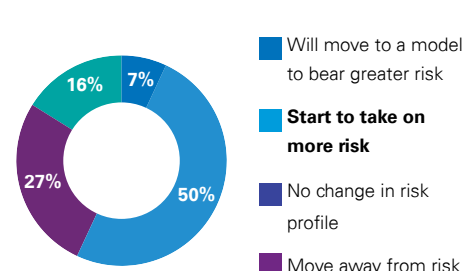
When you think about M&A in this subsector, what is the primary thesis for the transactions?



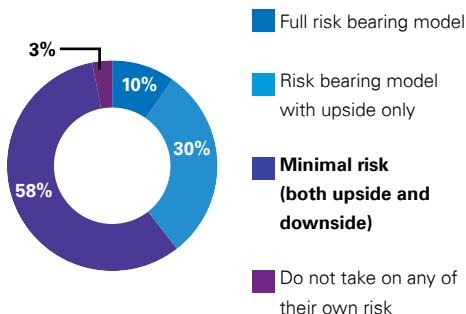
How do you think your subsector will grow relative to the overall healthcare and life sciences market?



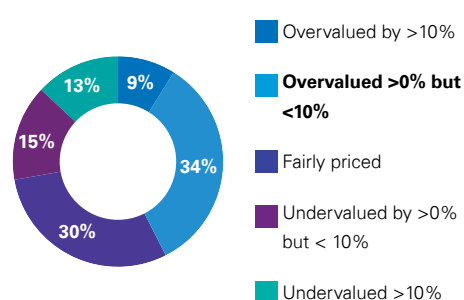
How will the risk profile for risk-bearing providers change in the next two years in this subsector?



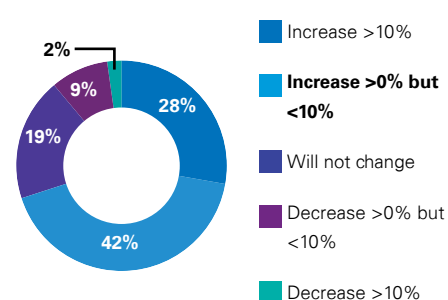
As it relates to the risk profile of your potential targets in this subsector, what characteristics are you interested in investing in?



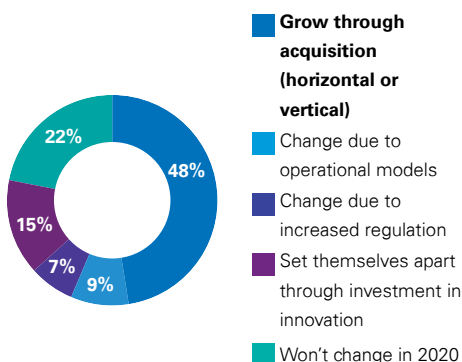
Are asset prices within the subsector... ?



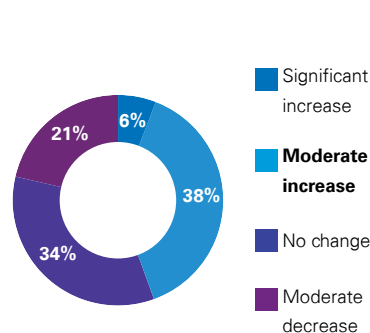
How will investment activity (in deal volume) change in the market in 2020 as compared to 2019?



How do you anticipate the competitive landscape of the subsector changing in 2020?



How will the ongoing movement to alternative payment models affect investment in home health and hospice?



The data above reflects survey results from the 2019 KPMG Healthcare and Life Sciences Investment Survey.


Home health and hospice n=47

Please note that some charts might not sum to 100 percent, due to rounding.


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Managed care


Investment considerations




Consider that managed care investing requires navigating complex risk-sharing relationships.



Assess an organization's commitment to chronic care management opportunities, e.g., expansion into Medicare Advantage and Medicaid Managed Care.



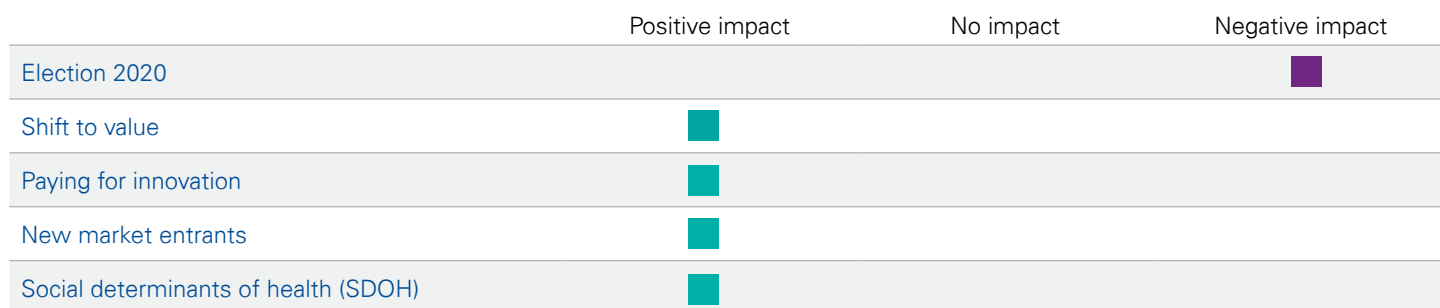
Evaluate quality of diagnoses and associated documentation for compliance purposes.



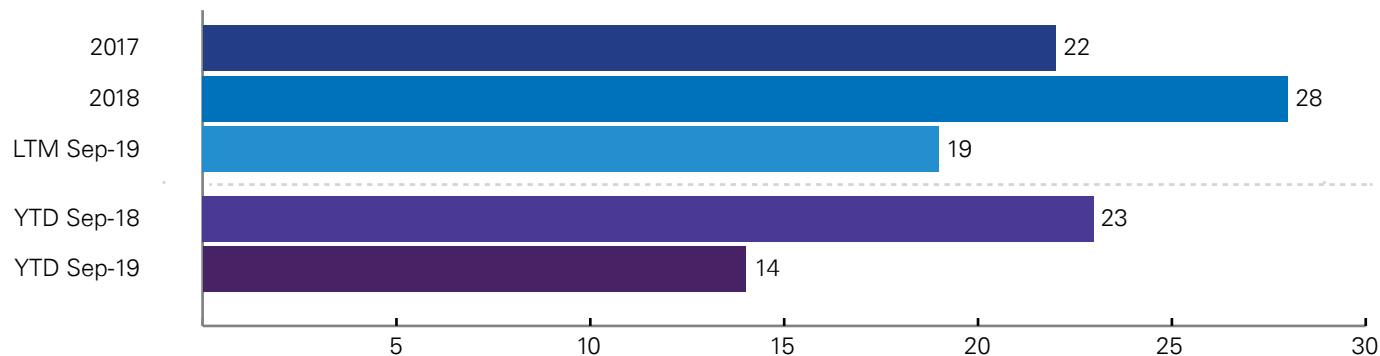
Look at lower-risk investment opportunities on the fringes of managed care, e.g., payer services, data and analytics for population health, telehealth offerings, etc.

Disruptor impact

What impact on the deal-making climate do you think each of the following disruptors will have?



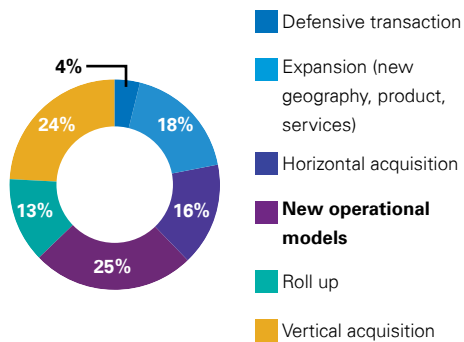
Number of closed transactions



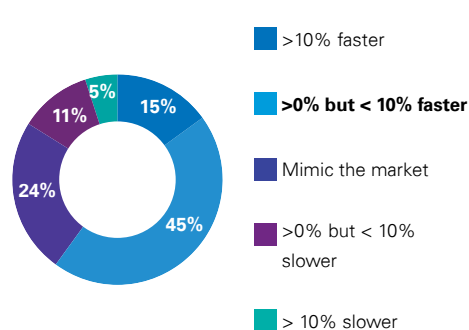


Subsector survey findings

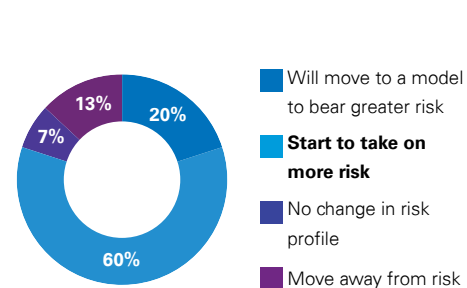
When you think about M&A in this subsector, what is the primary thesis for the transactions?



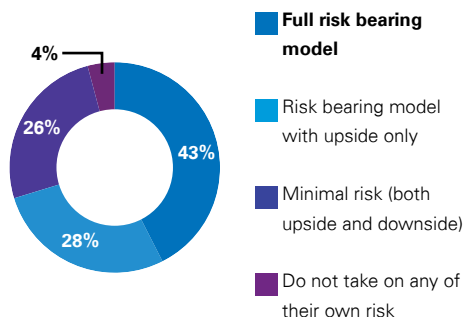
How do you think your subsector will grow relative to the overall healthcare and life sciences market?



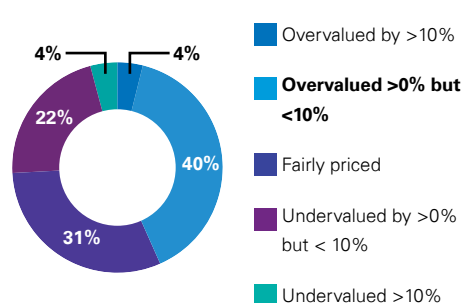
How will the risk profile for risk-bearing providers change in the next two years in this subsector?



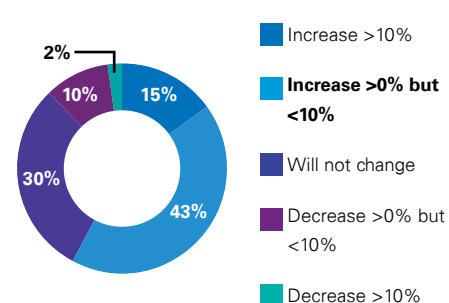
As it relates to the risk profile of your potential targets in this subsector, what characteristics are you interested in investing in?



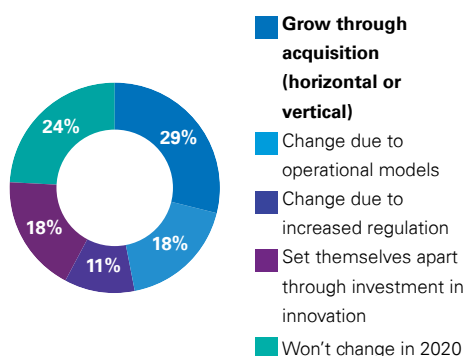
Are asset prices within the subsector... ?



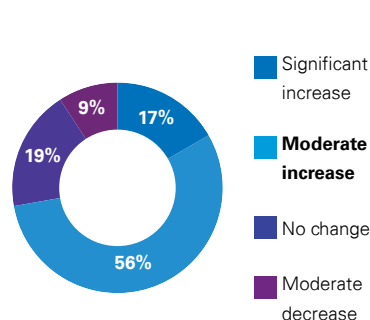
How will investment activity (in deal volume) change in the market in 2020 as compared to 2019?



How do you anticipate the competitive landscape of the subsector changing in 2020?



How will the ongoing movement to alternative payment models affect investment in managed care?



The data above reflects survey results from the 2019 KPMG Healthcare and Life Sciences Investment Survey.

Managed care n=55

Please note that some charts might not sum to 100 percent, due to rounding.

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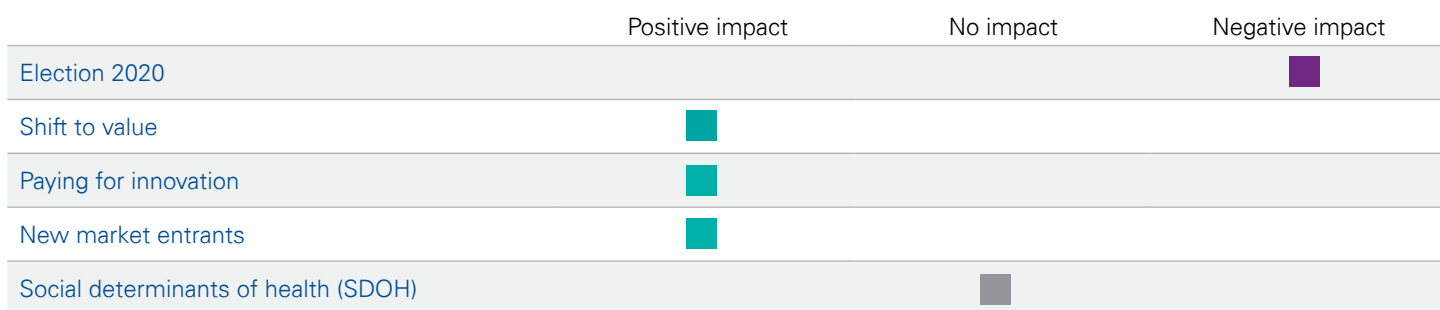
Hospitals and health systems

Investment considerations

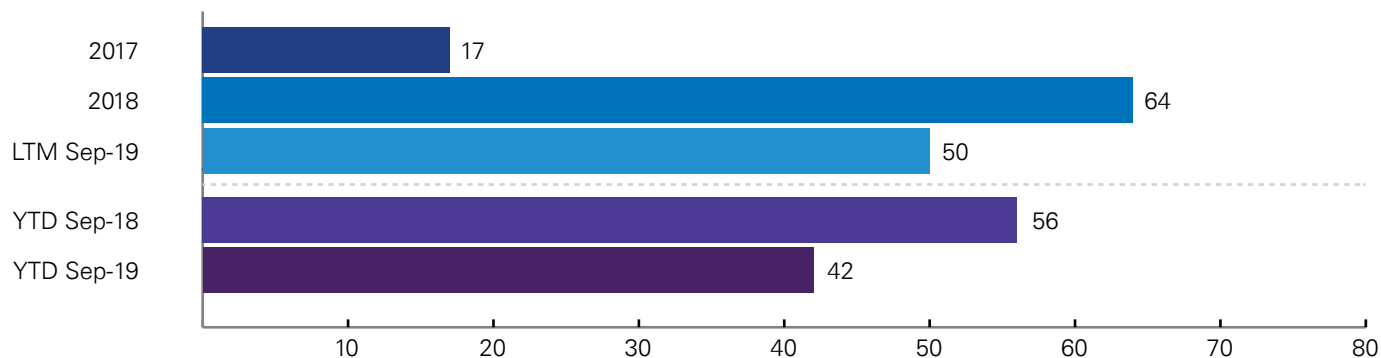
 <p>Assess partnerships or acquisitions for their ability to add capabilities across the continuum of care.</p>	 <p>Consider opportunities for atypical partnerships that generate unique avenues for leveraging the brand, offering new services and attracting patients.</p>
 <p>Identify avenues for new market growth via partnerships with international healthcare entities.</p>	 <p>Weigh potential areas for revenue diversification, e.g., innovation/venture initiatives, joint efforts to lower drug prices, carve-outs or monetizing non-core assets, etc.</p>

Disruptor impact

What impact on the deal-making climate do you think each of the following disruptors will have?



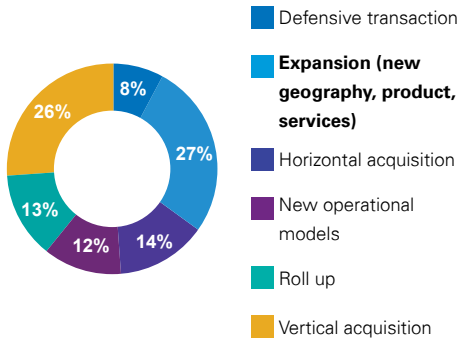
Number of closed transactions



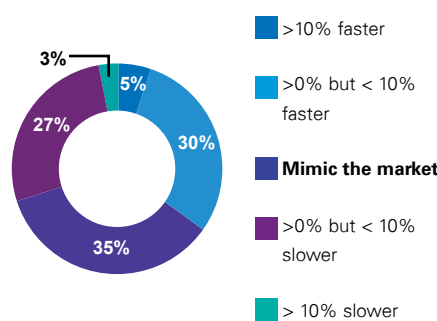


Subsector survey findings

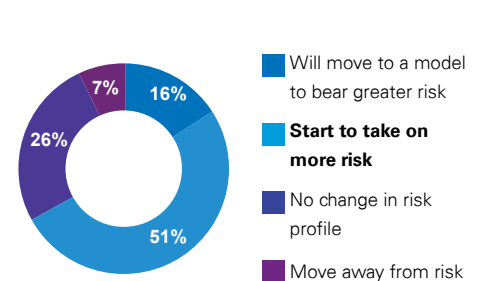
When you think about M&A in this subsector, what is the primary thesis for the transactions?



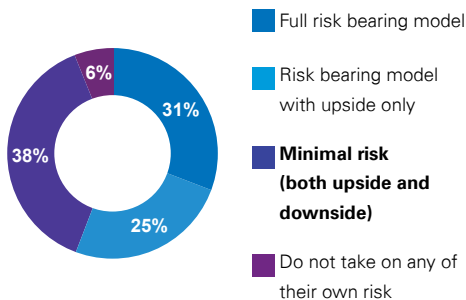
How do you think your subsector will grow relative to the overall healthcare and life sciences market?



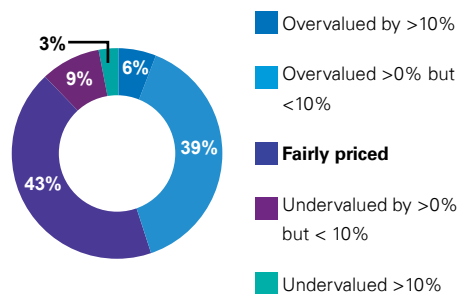
How will the risk profile for risk-bearing providers change in the next two years in this subsector?



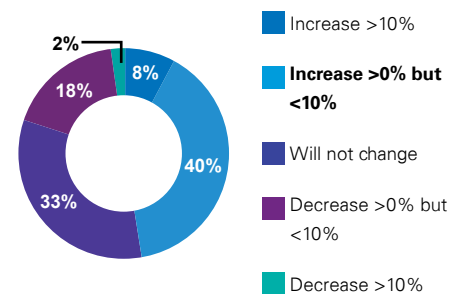
As it relates to the risk profile of your potential targets in this subsector, what characteristics are you interested in investing in?



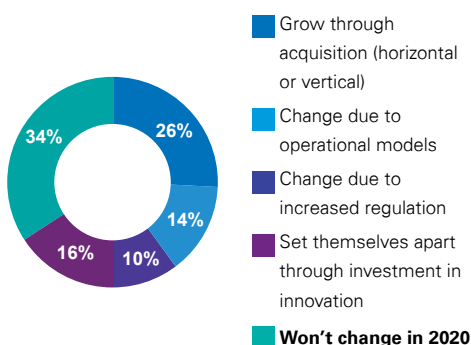
Are asset prices within the subsector... ?



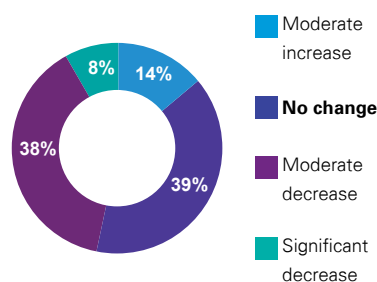
How will investment activity (in deal volume) change in the market in 2020 as compared to 2019?



How do you anticipate the competitive landscape of the subsector changing in 2020?



How will the CMS proposals to require hospitals to disclose service prices and negotiated discounts affect investment in hospitals and health systems?



The data above reflects survey results from the 2019 KPMG Healthcare and Life Sciences Investment Survey. Hospitals and health systems n=77

Please note that some charts might not sum to 100 percent, due to rounding.

Sources

- 1 [Mary Anne Pazanowski, "November Health Deals Drop Slightly, but on Track to Top 2018," *Bloomberg Law*, December 28, 2019.](#)
- 2 [Jim Parker, "Towerbrook, Ascension Health to Acquire Compassus for \\$1 Billion," *Hospice News*, October 1, 2019.](#)
- 3 ["Clayton, Dubilier & Rice Closes Investment to Accelerate Growth of naviHealth," August 1, 2018.](#)
- 4 [Angus Liu, "Alcon will Officially Leave Novartis on April 9 after an 8-Year Run. What's Next?" *FiercePharma*, March 22, 2019.](#)
- 5 [Joe Cornell, "Tenet to Spin-Off Conifer," *Forbes*, August 7, 2019.](#)
- 6 ["Cyclerion, the Planned R&D Spin-off of Ironwood Pharmaceuticals, Secures Commitments of \\$175 Million in Private Offering," February 26, 2019.](#)
- 7 ["APM Measurement Effort," Health Care Payment Learning and Action Network, 2019.](#)
- 8 [Seema Verma, "More ACOs Taking Accountability under MSSP through 'Pathways To Success'," *HealthAffairs*, July 27, 2019.](#)
- 9 ["HHS NEWS: HHS To Deliver Value-Based Transformation in Primary Care," Centers for Medicare and Medicaid Services, April 22, 2019.](#)
- 10 ["Medicare Program; Specialty Care Models to Improve Quality of Care and Reduce Expenditures," *Federal Register* July, 28, 2019.](#)
- 11 [Joseph DiMasi, Henry Grabowski, RW Hansen, "Innovation in the Pharmaceutical Industry: New Estimates of R&D Costs," *Journal of Health Economics*, May 2016.](#)
- 12 [Melanie Evans and Laura Stevens, "Big Tech Expands Footprint in Health," *Wall Street Journal*, November 27, 2018.](#)
- 13 [Steven Ross Johnson, "Healthcare Leaders Urge Full Court Press on Social Determinants of Health," *Modern Healthcare*, December 7, 2019.](#)
- 14 [Alexandra Wilson Pecci, "AHIP Tackles Social Determinants of Health," *HealthLeaders*, July 3, 2019.](#)
- 15 [Larry Kocot, "Promoting Interoperability," KPMG, 2019.](#)
- 16 [Kate Monica, "CMS Seeks to Improve Interoperability With Public Policy Changes," *EHR Intelligence*, March 6, 2019.](#)
- 17 [Jessica Kim Cohen, "Medicare Pilot Gives Physicians Access to Patients' Claims Data," *Modern Healthcare*, July 30, 2019.](#)
- 18 [Edward Melnick, Liselotte Dyrbye, et al, "The Association between Perceived Electronic Health Record Usability and Professional Burnout among U.S. Physicians," *Mayo Clinic Proceedings*, 2019.](#)
- 19 [www.cleardata.com](#)
- 20 [Jacqueline LaPointe, "Addressing Healthcare Consumerism a Top Priority for Docs in 2019," *EHR Intelligence*, January 14, 2019.](#)
- 21 [Mike Miliard, "New Tool Helps Promote ICD-10 Codes for Social Determinants of Health Data," *Healthcare IT News*, October 21, 2019.](#)
- 22 [Revel, "Revel Launches Innovative Social Determinants of Health Assessment," November 12, 2019.](#)
- 23 [Matthew Rae, Rebecca Copeland, and Cynthia Cox, "Tracking the Rise in Premium Contributions and Cost-Sharing for Families with Large Employer Coverage," *Peterson-KFF Health System Tracker*, August 14, 2019.](#)
- 24 [Ben Foster and Ayal Bitton, "Convenience: The New Consumer Healthcare Imperative," KPMG, 2019.](#)
- 25 [Zelis, "Zelis and RedCard Complete Merger to Become Next Generation Leader in Healthcare Payments Optimization," October 4, 2019.](#)
- 26 [Olive, "Olive Set to Achieve Record Growth in 2019, Digital Employee Hired at—More Than 500 Hospitals," September 26, 2019.](#)
- 27 [William Shrank, Teresa Rogstad and Natasha Parekh, "Waste in the US Health Care System: Estimated Costs and Potential for Savings," *JAMA Network*, 2019.](#)
- 28 [Henry Xie, "Robotic Process Automation in Healthcare will Lead to Better Patient Outcomes," *Information Age*, February 13, 2019.](#)
- 29 ["Astellas Enters into Definitive Agreement to Acquire Audentes Therapeutics," December 2, 2019.](#)
- 30 ["GSK Completes Acquisition of TESARO, an Oncology Focused Biopharmaceutical Company," January 22, 2019.](#)
- 31 ["Bristol-Myers Squibb to Acquire Celgene to Create a Premier Innovative Biopharma Company," January 3, 2019.](#)
- 32 ["Merck to Acquire Peloton Therapeutics, Bolstering Oncology Pipeline," January 21, 2019.](#)
- 33 ["Gilead and Galapagos Enter into Transformative Research and Development Collaboration," July 14, 2019.](#)
- 34 ["Sanofi: Sanofi to Acquire Synthorx to Bolster its Immuno-Oncology Pipeline for \\$2.5 Billion," December 9, 2019.](#)
- 35 ["Merck to Acquire ArQule, Advancing Leadership in Oncology," December 9, 2019.](#)
- 36 [Joseph DiMasi, Henry Grabowski, RW Hansen, "Innovation in the Pharmaceutical Industry: New Estimates of R&D Costs," *Journal of Health Economics*, May 2016.](#)
- 37 [Orphan Drug Report 2019, Evaluate Pharma, April 2019.](#)
- 38 [Carly Helfand, "Novartis Slaps \\$2M-Plus Price Tag on Newly Approved Gene Therapy Zolgensma—and Cost Watchdogs Approve," *FiercePharma*, May 24, 2019.](#)
- 39 [Katie Thomas and Reed Abelson, "The \\$6 Million Drug Claim," *New York Times*, August 25, 2019.](#)
- 40 [Chris Lewis, "71% of Surveyed MCOs have Outcomes-Based Contracts with Pharma or Plan to by the end of 2019," Decision Resources Group, January 17, 2019.](#)
- 41 [Keiko Yamakawa, Yuko Nakano-Narusawa, \[...\], and Yoko Matsuda, "Development and Clinical Trials of Nucleic Acid Medicines for Pancreatic Cancer Treatment," *International Journal of Molecular Sciences*.](#)
- 42 [Rashme Sapre, "The Future of the Viral Vector Manufacturing Market," *Pharma's Almanac*, September 26, 2018.](#)
- 43 ["Advancing Health Through Innovation: 2018 New Drug Therapy Approvals," FDA, Center for Drug Evaluation and Research, January 2019.](#)
- 44 [Informa](#)
- 45 [Informa](#)
- 46 [Kristin Pothier, *Personalizing Precision Medicine*, p. 237, Wiley: 2017.](#)
- 47 [https://www.hcp.vitrakvi-us.com/?utm_source=google&utm_medium=cpc&utm_campaign=Vitrakvi_Branded_HCP_%3BS%3BPH%3BBR%3BONC%3BHCP%3BBR&utm_content=General+-+Phrase&utmterm=vitrakvi&matchtype=p&device=c&adposition=1t1&loc=9003593&gclid=EAlaQobChMI0b_vwlmq5gl](#)
- 48 [Stacy Lawrence, "Pfizer Doubles Down on Gene Therapy, Pays up to \\$700M for Bamboo," *FierceBiotech*, August 1, 2016.](#)
- 49 [David Hukin and Thomas Underwood, "2019 Trends & Predictions," *Contract Pharma*, March 6, 2019.](#)
- 50 [Vivek Sharma, "CDMO Market Trends," *Contract Pharma*, February 12, 2019.](#)
- 51 [Ibid](#)
- 52 [Marga Vines, "Customer Engagement and Information Sharing are Essential for Success in Orphan Drug Outsourcing," *Pharma's Almanac*, October 29, 2019](#)
- 53 ["Stryker Announces Definitive Agreement to Acquire Wright Medical," Stryker, November 4, 2019.](#)
- 54 ["Exact Sciences And Genomic Health to Combine, Creating Leading Global Cancer Diagnostics Company," Exact Sciences, July 29, 2019.](#)
- 55 [Roger van den Heuvel, Chris Sterling, Anuj Kapadia, and Jia Zhou, "Medical Devices 2030," KPMG, 2018.](#)
- 56 [Rob Copeland, "Google's 'Project Nightingale' Gathers Personal Health Data on Millions of Americans," *Wall Street Journal*, November 11, 2019.](#)
- 57 [Nick Paul Taylor, "Illumina, Loxo Strike Pan-Cancer NGS Companion Diagnostic Deal," *FierceBiotech*, April 10, 2018.](#)
- 58 [Amirah Al Idrus, "Exosome Diagnostics, CareFirst Partner to Speed Up Coverage for Diagnostic Tests," *FierceBiotech*, August 25, 2017.](#)
- 59 ["Medtronic Completes Acquisition of Mazor Robotics," Medtronic, December 19, 2018.](#)
- 60 [Cynthia Koons, "J&J Acquires Robotic-Surgery Firm Auris for \\$3.4 Billion," *Bloomberg*, February 13, 2019.](#)
- 61 [Krsitin Pothier, *Personalizing Precision Medicine*, p. 237, Wiley: 2017.](#)
- 62 [Jennifer Bresnick, "FDA Outlines Plans for Medical Devices with Artificial Intelligence," *Health IT Analytics*, April 3, 2019.](#)
- 63 [Jeanne Whalen and Laura Cooper, "Private-Equity Pours Cash into Opioid-Treatment Sector," *Wall Street Journal*, September 2, 2017.](#)
- 64 ["Key Substance Use and Mental Health Indicators in the United States: Results from the 2018 National Survey on Drug Use and Health," SAMHSA, August 2019.](#)
- 65 [Garen Staglin, "Promoting A Better System Of Care For Mental Health," *Forbes*, April 18, 2019.](#)
- 66 [Petra Esseling, "Improving Behavioral Health Access in a Time of Severe Provider Shortage," *Managed Care*, November 24, 2018.](#)

- ⁶⁷ “Dual Diagnosis,” National Alliance on Mental Illness, <https://www.nami.org/learn-more/mental-health-conditions/related-conditions/dual-diagnosis>.
- ⁶⁸ Marta Torrens, Gail Gilchrist, Antonia Domingo-Salvany, “Psychiatric Comorbidity in Illicit Drug Users: Substance-Induced versus Independent Disorders,” *Drug and Alcohol Dependence*, January 2011.
- ⁶⁹ “Co-Occurring Disorders,” Hazelden Betty Ford Foundation, <https://www.hazeldenbettyford.org/articles/co-occurring-disorders>.
- ⁷⁰ “The Connection between Addiction and Mental Health Grows,” Spectrum Health Systems, <https://www.spectrumhealthsystems.org/resources/blog/entry/mental-health-month-the-connection-between-addiction-and-mental-health-grows>.
- ⁷¹ Marta Torrens, Paola C. Rossi, Roser Martinez-Riera, Diana Martinez-Sanvisens and Antoni Bulbena, “Psychiatric Co-Morbidity and Substance Use Disorders: Treatment in Parallel Systems or in One Integrated System?” *Substance Use & Misuse*, June 7, 2012.
- ⁷² “Common Comorbidities with Substance Use Disorders,” National Institute on Drug Abuse, <https://www.drugabuse.gov/publications/research-reports/common-comorbidities-substance-use-disorders/part-1-connection-between-substance-use-disorders-mental-illness>.
- ⁷³ “Availability of Co-occurring Disorders Treatment in Massachusetts: Survey Findings and Policy Recommendations,” Massachusetts Health Policy Commission, January 16, 2019.
- ⁷⁴ “The Full Cost of the Opioid Crisis: \$2.5 Trillion Over Four Years,” www.whitehouse.gov, October 28, 2019.
- ⁷⁵ “Shore Capital Partners Invests In a Comprehensive Addiction Treatment Platform,” Shore Capital Partners, November 2017.
- ⁷⁶ Laura Cooper, “Riverside Buys Lakeview Health from Trinity Hunt,” *PE News*, December 20, 2016.
- ⁷⁷ “ABA: Facts and Statistics,” ABA: Applied Behavior Analysis, <http://abaappliedbehavioranalysis.weebly.com/facts-and-statistics.html>.
- ⁷⁸ “Data & Statistics on Autism Spectrum Disorder,” Centers for Disease Control and Prevention, <https://www.cdc.gov/ncbddd/autism/data.html>.
- ⁷⁹ “Blackstone to Acquire Center for Autism and Related Disorders (CARD),” Blackstone, April 13, 2018.
- ⁸⁰ Lisette Hilton, “Urologists Eye Private Equity Partners,” *Urology Times*, February 2019.
- ⁸¹ “HHS NEWS: HHS To Deliver Value-Based Transformation in Primary Care,” Centers for Medicare and Medicaid Services, April 22, 2019.
- ⁸² “Medicare Program: Specialty Care Models To Improve Quality of Care and Reduce Expenditures,” *Federal Register*, July 18, 2019.
- ⁸³ “CY 2020 Home Health Prospective Payment System Rate Update; Home Health Value-Based Purchasing Model; Home Health Quality Reporting Requirements; and Home Infusion Therapy Requirements,” Centers for Medicare and Medicaid Services, November 8, 2019.
- ⁸⁴ Robert Holly, “Payment Overhauls to Bring SNFs, Home Health Providers Closer Together,” *Home Health Care News*, June 9, 2019.
- ⁸⁵ Robert Holly, “Updated CMS Lowers PDGM’s Behavioral Adjustment, Finalizes RAP Elimination Plan,” *Home Health Care News*, October 31, 2019.
- ⁸⁶ Michael Brady, “MedPAC thinks hospice payments are too high,” *Modern Healthcare*, December 6, 2019.
- ⁸⁷ “CMS finalizes Medicare Advantage and Part D payment and policy updates to maximize competition and coverage,” Centers for Medicare and Medicaid Services, April 1, 2019.
- ⁸⁸ *Ibid*
- ⁸⁹ Bruce Japsen, “Baby Boomers to Push U.S. Health Spending to \$6 Trillion by 2027,” *Forbes*, February 20, 2019.
- ⁹⁰ Gretchen Jacobson, Meredith Freed, Anthony Damico, and Tricia Neuman, “A Dozen Facts about Medicare Advantage in 2019,” KFF, June 6, 2019.
- ⁹¹ Robert King, “Medicare Advantage Plans Grow More Comfortable with Supplemental Benefits in 2020: Study,” *FierceHealthcare*, November 5, 2019.
- ⁹² Dr. Lissy Hu, “The rise of the Payvider,” *Becker’s Payer Issues*, August 12, 2019.
- ⁹³ Naseem S. Miller, “Human Acquires Family Physicians Group in Orlando,” *Orlando Sentinel*, April 10, 2018.
- ⁹⁴ John Commins, “Humana, Private Equity Consortium Finalize \$4.1B Kindred Purchase,” *HealthLeaders*, July 5, 2018.
- ⁹⁵ “Optum completes acquisition of DaVita Medical Group from DaVita,” *Optum*, June 19, 2019.
- ⁹⁶ Susan Ladika, “Insurers on a Shopping Spree for All Sorts of Providers,” *Managed Care*, November 20, 2018.
- ⁹⁷ Bruce Japsen, “In Mental Health Play, Anthem To Buy Beacon Health Options,” *Forbes*, June 6, 2019.
- ⁹⁸ “Payer-Provider Convergence: What IT Considerations to Make as ‘Payvider’ Becomes Reality,” *Healthcare IT News*, May 3, 2018.
- ⁹⁹ “The Performance of Provider-sponsored Health Plans,” American Hospital Association, 2015.
- ¹⁰⁰ Les Masterson, “Small, Medium Payers Show Growing Interest in Provider-Sponsored Plans,” *Healthcare Dive*, August 8, 2018.
- ¹⁰¹ Harlan Stock, “Payer-Provider Partnerships and Market Trends,” *Becker’s Payer Issues*, February 4, 2019.
- ¹⁰² Rebecca Pifer, “CVS to Open 1.5K HealthHUB Stores in Next 2 Years,” *Healthcare Dive*, June 4, 2019.
- ¹⁰³ Bob Herman, “Hospitals are Swimming in Cash,” *Axios*, May 21, 2019.
- ¹⁰⁴ Brent D. Fulton, Daniel R. Arnold and Richard M. Scheffler, “Market Concentration Variation of Health Care Providers and Health Insurers in the United States,” Commonwealth Fund, July 30, 2018.
- ¹⁰⁵ Tanya Albert Henry, “Employed Physicians Now Exceed Those who Own their Practices,” American Medical Association, May 10, 2019.
- ¹⁰⁶ “Trump Administration Announces Historic Price Transparency Requirements to Increase Competition and Lower Healthcare Costs for All Americans,” [hhs.gov](https://www.hhs.gov/about/news/2019/11/15/trump-administration-announces-historic-price-transparency-and-lower-healthcare-costs-for-all-americans.html), November 15, 2019. <https://www.hhs.gov/about/news/2019/11/15/trump-administration-announces-historic-price-transparency-and-lower-healthcare-costs-for-all-americans.html>
- ¹⁰⁷ “Hospital and Health System Groups on Public Disclosure of Privately Negotiated Rates Final Rule,” American Hospital Association, November 15, 2019.
- ¹⁰⁸ Stephanie Cameron, Dan Zabinski and Jeff Stensland, “Congressional Request on Health Care Provider Consolidation,” MedPAC, November 7, 2019.
- ¹⁰⁹ Jacqueline LaPointe, “Site-Neutral Payments for Hospital Clinic Visits Starting in 2019,” *RevCycle Intelligence*, November 2, 2018.
- ¹¹⁰ Jacqueline LaPointe, “Federal Judge Overturns Medicare’s Site-Neutral Payment Policy,” *RevCycle Intelligence*, September 18, 2019.
- ¹¹¹ “CY 2020 Medicare Hospital Outpatient Prospective Payment System and Ambulatory Surgical Center Payment System Final Rule (CMS-1717-FC),” Centers for Medicare and Medicaid Services, November 1, 2019. <https://www.cms.gov/newsroom/fact-sheets/cy-2020-medicare-hospital-outpatient-prospective-payment-system-and-ambulatory-surgical-center-0>
- ¹¹² Mandy Roth, “John Halamka, MD, Launches Mayo Clinic’s ‘Digital Data Business,’” *HealthLeaders*, January 7, 2020.
- ¹¹³ “Ardent Health Services and the University of Texas System Announce New Name for 10-Hospital System,” Ardent Health Services, February 16, 2018.
- ¹¹⁴ Paige Minemyer, “Steward Health Care Goes International, Partners with Malta’s Government to Operate Hospitals,” *FierceHealthcare*, February 21, 2018.
- ¹¹⁵ “Combining Nature and Technology, Luye Medical and Cleveland Clinic Join to Build a Future Hospital in Shanghai,” Cleveland Clinic, September 20, 2019.
- ¹¹⁶ “Not-for-profit Generic Drug Company Officially Established, Attracts Interest of More Than 120 Health Organizations,” Intermountain Healthcare, September 6, 2019.
- ¹¹⁷ “National Health Expenditure Projections 2018-2027,” Centers for Medicare and Medicaid Services, 2019. <https://www.cms.gov/Research-Statistics-Data-and-Systems/Statistics-Trends-and-Reports/NationalHealthExpendData/Downloads/ForecastSummary.pdf>

2020 KPMG Healthcare and Life Sciences Investment Outlook Survey Methodology

KPMG conducted an online survey of healthcare and life sciences investment professionals from September 11, 2019 to October 7, 2019. A total of 333 respondents completed the survey. Survey invitations were sent to business contacts selected by KPMG Deal Advisory Practice partners and principals, as well as appropriate business professionals identified by Gerson Lehrman Group (GLG), the survey administrator. Respondents were asked to select up to two subsectors in which they have particular expertise. They were then asked a series of detailed questions about the selected subsectors. As such, each subsector-specific question has a different sample size, varying from 39 to 80. The margin of error varies for each question, ranging from 9.4 percent to 10.1 percent at a 95 percent confidence level. The data is not weighted.

Authors/Contacts



Carole Streicher

National Partner in Charge, Healthcare & Life Sciences Deal Advisory

312-665-2138
cstreicher@kpmg.com



Kristin Pothier

Principal, Global and National Healthcare & Life Sciences Strategy Leader

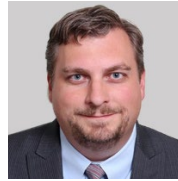
617-549-2779
kpothier@kpmg.com



S. Lawrence Kocot

Principal and National Leader, Center for Healthcare Regulatory Insight

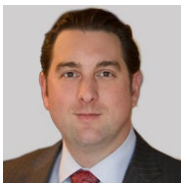
202-533-3674
lkocot@kpmg.com



Ross Nelson, M.D.

Principal, National Healthcare Strategy Leader

312-665-1456
rossnelson@kpmg.com



Jeffrey Stoll, Ph.D.

Principal, National Life Sciences Strategy Leader

857-334-8768
jeffreystoll@kpmg.com



Andrew Stephenson

Partner, Healthcare & Life Sciences Deal Advisory

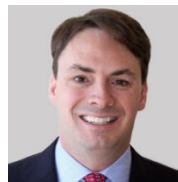
212-872-6031
astephen@kpmg.com



Brett Glover

Partner, Healthcare & Life Sciences Deal Advisory

214-840-8579
bglover@kpmg.com



Jason Moran

Managing Director, Life Sciences Corporate Finance

415-963-7353
jasonmoran@kpmg.com

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