



GLOBAL HEALTHCARE PRIVATE EQUITY AND
CORPORATE M&A REPORT 2018

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About Bain & Company's Private Equity business

Bain & Company is the leading consulting partner to the private equity (PE) industry and its stakeholders. PE consulting at Bain has grown sevenfold over the past 15 years and now represents about one-quarter of the firm's global business. We maintain a global network of more than 1,000 experienced professionals serving PE clients. Our practice is more than triple the size of the next largest consulting company serving PE firms.

Bain's work with PE firms spans fund types, including buyout, infrastructure, real estate and debt. We also work with hedge funds, as well as many of the most prominent institutional investors, including sovereign wealth funds, pension funds, endowments and family investment offices. We support our clients across a broad range of objectives:

Deal generation. We help develop differentiated investment theses and enhance deal flow by profiling industries, screening companies and devising a plan to approach targets.

Due diligence. We help support better deal decisions by performing commercial due diligence, using operational due diligence to assess performance improvement opportunities and providing a post-acquisition agenda.

Immediate post-acquisition. We support the pursuit of rapid returns by developing a strategic value-creation plan for the acquired company, leading workshops that align management with strategic priorities and directing focused initiatives.

Ongoing value addition. We help increase company value by supporting revenue enhancement and cost reduction and by refreshing strategy.

Exit. We help ensure that funds maximize returns by identifying the optimal exit strategy, preparing the selling documents and prequalifying buyers.

Firm strategy and operations. We help PE firms develop distinctive ways to achieve continued excellence by devising differentiated strategies, maximizing investment capabilities, developing sector specialization and intelligence, enhancing fund-raising, improving organizational design and decision making, and enlisting top talent.

Institutional investor strategy. We help institutional investors develop best-in-class investment programs across asset classes, including private equity, infrastructure and real estate. Topics we address cover asset class allocation, portfolio construction and manager selection, governance and risk management, and organizational design and decision making. We also help institutional investors expand their participation in private equity, including through coinvestment and direct investing opportunities.

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Welcome letter

Dear colleagues,

In 2017, underlying trends once again triumphed over uncertainty. In the US, investors contended with the possibility that Congress would repeal the Affordable Care Act. That didn't happen. Nor, despite the unusual longevity of the global recovery, did major economies slip back into recession. As the year progressed, PE funds latched onto the fundamental forces that have long made healthcare such a compelling investment: an aging population, the rising prevalence of chronic disease, the continuous development of innovative drugs and devices, and a still fragmented and largely inefficient delivery system that is ripe for innovation, disruption and consolidation.

With these currents propelling the industry, healthcare private equity had another banner year. Total disclosed deal value reached \$42.6 billion, the highest level since 2007, and deal count rose to 265 from 206 in 2016. Funds continued to make large investments in areas that have historically produced rich returns, including retail health, healthcare IT (HCIT), and contract services for pharma and medtech.

The biggest challenge PE investors encountered was competition. Funds vying for desirable targets often faced a slew of rivals—both corporate buyers and other funds—chasing the same prize. Overall, corporate M&A in healthcare rose to \$332 billion in 2017, following a dip in 2016. Many funds ended the year frustrated that they couldn't get more deals done.

Valuations continued to climb as funds looked to deploy dry powder against a limited set of opportunities. Funds that completed deals at high purchase price multiples were increasingly aware that they needed to focus on operational improvements, rather than multiple expansion, to fuel returns.

The funds that completed the biggest deals often did so by getting creative. They pursued carve-outs and add-ons, they joined forces with other funds and sometimes with corporate buyers, and they turned to the public markets to take companies private. With a dearth of targets available on the healthcare-light end of the spectrum, funds were willing to take on reimbursement risks to win category-leading assets in less saturated healthcare-heavy segments, such as post-acute care, medical groups, medtech and branded pharmaceuticals. Funds also began to think about how to cope with—and profit from—the tectonic trends disrupting healthcare, including digitalization, consumerism and the entry into the industry of Amazon and other nontraditional players.

In this ever-evolving environment, healthcare PE investors are mindful of a few key principles:

- **Disruption creates opportunity and risk.** Rather than shy away from the uncertainty that healthcare disrupters foment, investors should look for ways to capitalize on companies that can benefit from new and increasingly digital approaches to healthcare. Investors should also tailor their investment strategies to mitigate the risks that disrupters can bring.
- **Category leadership remains a winning strategy.** Across healthcare sectors and geographies, category leaders consistently deliver higher profitability and are better able to withstand economic turmoil. As funds look to expand their deal strategies, they should focus on acquiring or building category-leading assets as the path toward generating sizable returns.

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- **Commercial excellence and operational improvement drive returns.** In a world of limited targets and high valuations, even the best deal strategy cannot drive returns without improvements to an asset's top and bottom lines. Funds must develop and execute a clear go-to-market approach and a strong plan to expand margins in order to capture the full potential of each asset they acquire.

Uncertainty ebbs and flows, and economies move in cycles. But the long-term trends favoring healthcare PE investments remain vibrant. The funds best positioned to capitalize on these trends are those that embrace disruption, recognize the importance of developing a plan for operational excellence, and buy or build category leaders.

We hope you enjoy Bain's latest *Global Healthcare Private Equity and Corporate M&A Report*, and we look forward to continuing our dialogue with you in the year ahead.



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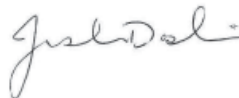
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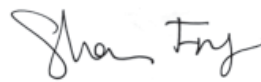
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Executive Summary

- ▶ Healthcare private equity had another banner year. Total disclosed deal value reached \$42.6 billion, the highest level since 2007, and deal count rose to 265 from 206 in 2016.
- ▶ The most active region was North America, and provider was the most active sector.
- ▶ PE funds latched onto trends that make healthcare a compelling investment: aging populations, the development of innovative drugs and devices, and a still fragmented and inefficient delivery system that is ripe for consolidation.
- ▶ Investors looked for ways to take advantage of forces disrupting healthcare, including digital technology, the rise of consumerism and the entry of outsiders such as Amazon and Alibaba.

1. Healthcare private equity market 2017: The year in review

In a year during which global economic growth accelerated and public markets soared, overall private equity surged, with disclosed deal value rising 16%, to \$334 billion, excluding add-ons (*see Figure 1*). Funds raised ample amounts of money, a sign that investors remained confident that private equity would continue to deliver out-sized long-term returns relative to other asset classes. Funds were able to tap abundant equity and inexpensive debt to get deals done.

Powered by these overall macro trends as well as by the inexorably rising demand worldwide for medical services, healthcare PE activity soared in 2017. Total disclosed healthcare deal value surged to \$42.6 billion, up 17% from 2016. The top 10 deals, with values ranging from \$1.3 billion to \$5.0 billion, accounted for more than half of the total (*see Figure 2*). Deal count also increased dramatically, rising to 265 from 206 the year before.

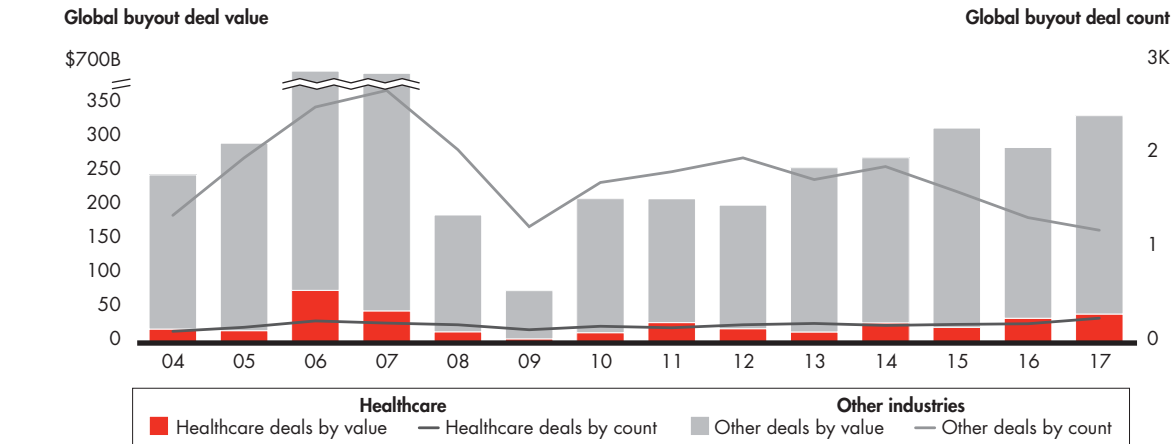
Even amid all this activity, healthcare PE investors faced intense competition from generalist funds, tech-focused funds, institutional investors and corporate acquirers. With valuations rising, funds got creative with their deal making. They took public companies private, and they bought businesses from companies ready to divest units that no longer fit with their strategies. The four largest deals of 2017, collectively valued at more than \$15 billion, involved public-to-private transactions, and PE funds were buyers in two corporate carve-outs in the \$500 million to \$5 billion sweet spot for large PE funds.

Healthcare PE funds increasingly collaborated with other funds and with corporate acquirers. Of the top 10 deals, five involved more than one investor, including the \$4.1 billion acquisition of long-term care provider Kindred Healthcare, in which TPG Capital and Welsh, Carson, Anderson & Stowe partnered with US insurer Humana. In addition, funds showed a willingness to acquire category-leading assets at the healthcare-heavy end of the spectrum, where revenues are directly tied to payer reimbursement decisions. In one of 2017's top 10 deals, Ares Management invested \$1.5 billion in DuPage Medical Group, a leading physician group based in Illinois.

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Figure 1

Both healthcare and overall private equity deal values surged to the highest levels since 2007



	Healthcare					Other industries								
Healthcare: deals by value:	\$21B	\$18B	\$77B	\$47B	\$17B	\$6B	\$15B	\$30B	\$21B	\$16B	\$30B	\$23B	\$36B	\$43B
share by value:	8%	6%	11%	7%	9%	8%	7%	14%	10%	6%	11%	7%	13%	13%
share by count:	8%	8%	9%	7%	9%	10%	9%	8%	9%	11%	9%	11%	13%	18%

Notes: Excludes add-ons, loan-to-own transactions and acquisitions of bankrupt assets; based on announcement date; includes announced deals that are completed or pending, with data subject to change; deal value does not account for deals with undisclosed values; totals in healthcare deal by value row in the data table have been rounded to the nearest integer; value and count totals for earlier years have been retroactively adjusted per updates from Dealogic
Sources: Dealogic; AVCJ; Bain analysis

Figure 2

The year's 10 largest healthcare buyouts accounted for nearly 60% of total disclosed deal value

Target	Target region	Acquirer(s)	Acquirer region(s)	Sector	Approximate deal value (\$B)
Parexel	North America	Pamplona Capital Management	North America	Biopharma and related services	5.0
Kindred Healthcare	North America	Humana; Welsh, Carson, Anderson & Stowe; TPG Global	North America	Provider and related services	4.1
Stada	Europe	Bain Capital; Cinven	Europe	Biopharma and related services	4.0
Air Methods	North America	American Securities	North America	Provider and related services	2.5
Cerba HealthCare	Europe	Partners Group; Public Sector Pension Investment Board	Europe; North America	Provider and related services	1.9
Albany Molecular Research	North America	The Carlyle Group; GTCR	North America	Biopharma and related services	1.6
DuPage Medical Group	North America	Ares Management	North America	Provider and related services	1.5
PharMerica	North America	KKR; Walgreens Boots Alliance	North America	Provider and related services	1.4
Alloheim Senioren-Residenzen	Europe	Nordic Capital Svenska	Europe	Provider and related services	1.3
ConvaTec	Europe	Novo Holdings	Europe	Medtech and related services	1.3
					24.5

Notes: Sum may not equal the total due to rounding; includes announced deals that are completed or pending, with data subject to change; deal values are approximate and based on information from press releases, news articles, Dealogic or AVCJ; list excludes deals with undisclosed values
Sources: Dealogic; AVCJ; Bain analysis

Healthcare investors also looked for innovative ways to expand along the value chain, blurring the lines between payers and providers—as evidenced by both the announced Kindred–Humana deal and the planned merger between insurer Aetna and pharmacy operator and benefits manager CVS Health. At the same time, the industry is being disrupted by the entry of new nonhealthcare players, including technology giants such as Apple, Amazon, Samsung and Tencent.

Disruption brings risk, as does the kind of volatility that convulsed global markets in early February 2018. But smart PE investors know that turmoil creates opportunity, and funds began 2018 as they had ended 2017—hunting for deals in the ever-changing but consistently rewarding world of healthcare.

Spotlight: The five forces disrupting healthcare

Healthcare delivery is reaching an inflection point. Five disruptive trends, several of which have already transformed other major industries, are triggering changes that will profoundly affect healthcare for years to come. When and how these disrupters will strike will vary across the healthcare ecosystem. Forward-looking funds are reviewing their investment strategies now to determine how to best capitalize on the opportunities and mitigate the risks that disruption will bring (*see figure*).

The five disrupters



Source: Bain & Company

The Amazon effect

After quietly signaling its interest in healthcare by acquiring pharmaceutical distribution licenses in several US states, Amazon roiled healthcare markets in January 2018 when it announced a partnership with JPMorgan Chase and Berkshire Hathaway to form a company to deliver healthcare to their employees. Amazon is also reportedly planning to grow its medical supplies business to become a major vendor to US healthcare providers.

While Amazon's recent developments indicate only an intention to disrupt healthcare, not yet a proven capability to do so, other major technology companies around the world have already begun a push into the healthcare space. In China, both Alibaba and Tencent have invested in tools that use artificial intelligence to aid in diagnostics. Apple announced in early 2018 the integration of electronic health records into its Health app, beginning with a pilot involving 12 medical institutions across the US. And Samsung BioLogics has developed pharmaceutical contract manufacturing capabilities.

Funds evaluating current and potential healthcare investments should consider these players' ability to use scale and technological expertise to challenge entrenched healthcare competitors in areas as diverse as pharma distribution, retail clinics and insurance, while keeping in mind that this disruption will occur over the long term. Funds can also look for opportunities to sell assets to nonhealthcare companies looking to develop their offerings in the industry.

While digital can bring huge benefits in terms of efficiency, funds need to be hypervigilant that the companies in which they invest have rigorous safeguards to protect confidential patient data. A breach can destroy customer trust and cloud perception of an asset's value.

The digital revolution

Compared to other industries, healthcare has been slow to embrace digitalization. But that is changing as participants recognize the enormous potential of techniques and tools such as advanced analytics, machine learning, smart devices and autonomous robotics. The larger companies within a healthcare segment are best positioned to take advantage of digital advances, while smaller firms that can't afford these improvements risk falling behind. Small companies anxious to avoid missing out on digitalization can make attractive acquisition targets for funds pursuing a buy-and-build strategy that merges small assets with large, digitally enabled platforms. Funds can also find choice assets among the medtech and healthcare IT (HCIT) companies that supply the devices and systems that make digitalized care possible.

While digital can bring huge benefits in terms of efficiency, funds need to be hypervigilant that the companies in which they invest have rigorous safeguards to protect confidential patient data. A breach can destroy customer trust and cloud perception of an asset's value.

Regulatory change

Over the past several years, regulatory changes have swept across major geographies. In addition to the upcoming Brexit, the EU is facing a new medical device regime. In China, authorities have begun restructuring the drug and medical device distribution system. In the US, changes in the FDA approval processes are bringing more competition to the generic drug market, corporations are receiving a sizable tax break and the Affordable Care Act is changing due to repeal of the insurance coverage mandate. More regulatory disruption is possible, particularly in the US, where rising drug prices and changes to Medicare and Medicaid are likely to be on the legislative agenda in the near term.

While US healthcare companies should benefit from lower corporate tax rates, other legislative and regulatory changes may not be so salutary. Funds can minimize legislative risk by investing in businesses that don't have direct regulatory or reimbursement exposure, such as contract services organizations.

While US healthcare companies should benefit from lower corporate tax rates, other legislative and regulatory changes may not be so salutary. Funds can minimize legislative risk by investing in businesses that don't have direct regulatory or reimbursement exposure, such as contract services organizations. To better understand the effects of potential regulatory changes, funds can run a robust commercial due diligence process that allows them to quantify the impact of different scenarios. Funds can also more broadly examine regulatory developments to find companies that will benefit. They may also find opportunities hiding among those companies that will be negatively affected by regulatory change but that are actually more resilient and valuable than the market believes.

Consumerism

Healthcare consumers now have choices. After years of contending with limited options regarding where, when, how and from whom they got their care, consumers can now pick among a variety of delivery models, such as telemedicine, home health, concierge care and online self-help. These healthcare channels offer consumers some of the qualities they have come to expect when they buy other products, including convenience, attentiveness, timeliness, value and price transparency.

Funds can take advantage of consumerism by investing in HCIT and medtech assets that enable remote care and home care delivery. Funds are also changing the way they value healthcare-heavy assets such as hospitals. Investors recognize that hospitals will need to revamp their delivery models to meet the evolving demands of the consumer while trimming their costs to sustain profitability in the face of new competition.

Personalized medicine

Personalized medicine integrates a patient's health history, genetic information and individual needs and preferences to develop customized treatments. Healthcare investors are looking into the biopharma and medtech companies that are developing these personalized treatments. Also of interest are contract research organizations that can test patients for biomarkers and HCIT companies that can integrate and analyze patient data from disparate sources. At the same time, funds are reevaluating pharma companies with undifferentiated drug portfolios that can't offer customization.

Providers and payers can benefit from personalized medicine as well. By delivering effective care and reducing unnecessary treatments, personalized medicine can save money. However, funds need to be careful not to get too far ahead of the adoption curve. As with other emerging technologies, funds that are thorough in their research should be able to find and profit from leading-edge innovations that providers are ready to try, patients are prepared to embrace and insurers are willing to pay for.

2. Geography trends

Overview

Global healthcare private equity reached record levels in 2017, with 265 announced deals valued at \$42.6 billion, compared with 206 announced deals valued at \$36.4 billion in 2016. Activity increased across all regions (see Figure 3). The provider sector, which was the most active sector in North America and Europe, accounted for around half of overall deal count and deal value. The biopharma sector was the most active sector in Asia-Pacific and comprised 40% of deal value globally (see Figure 4).

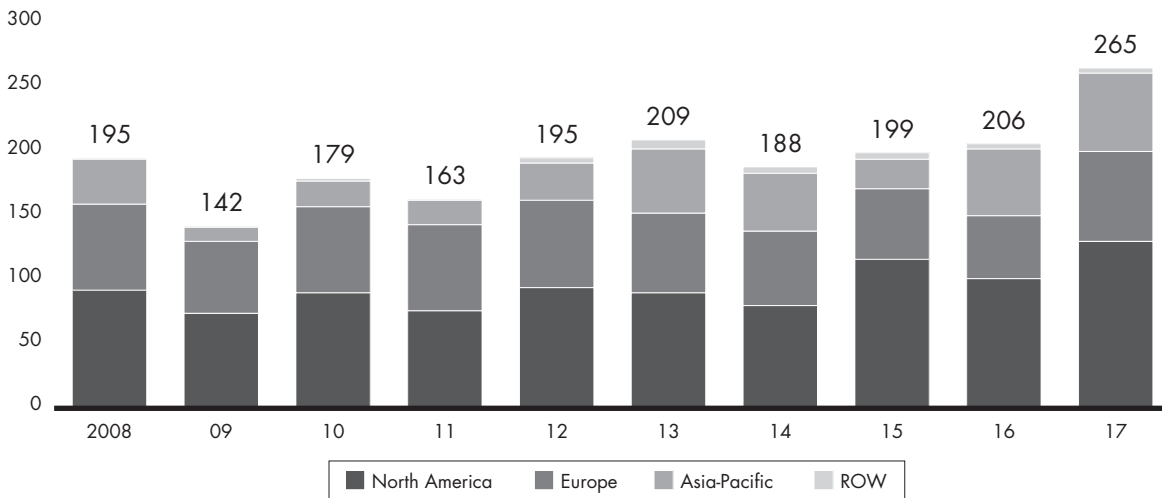
PE investors were undeterred by regulatory and political uncertainty in the US, the world’s largest healthcare market. They once again made North America the region with the most deals, 130, and the highest total value, \$22.1 billion. Continuing a strong multiyear trend, funds also showed considerable interest in Europe, with 70 deals valued at \$12.8 billion. Four of the top 10 global healthcare buyouts involved European targets in the biopharma, provider and medtech sectors. Deal value in Asia-Pacific surged to \$7.2 billion in 2017 from \$3.2 billion in 2016, while deal count rose to 61 from 52. Biopharma deals accounted for more than half of the region’s total value.

As in prior years, there were only a handful of noteworthy healthcare deals outside of the three major regions. Among them were a series of divestitures by Teva Pharmaceuticals, the Israeli manufacturer of generic and

Figure 3

Healthcare private equity had strong activity in 2017, with deal count increasing across all regions

Global healthcare buyout deal count



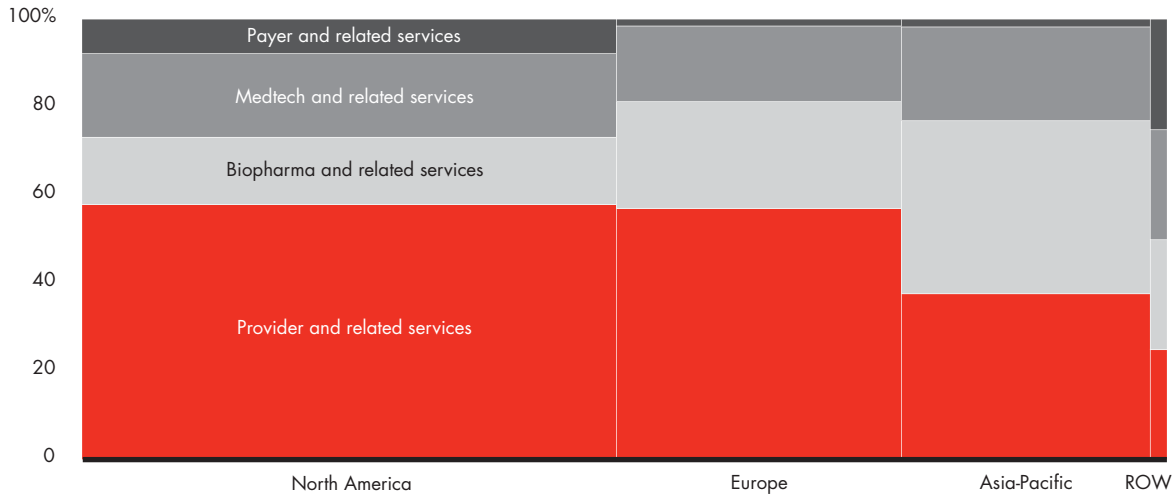
Notes: Excludes spin-offs, add-ons, loan-to-own transactions and acquisitions of bankrupt assets; based on announcement date; includes announced deals that are completed or pending, with data subject to change; deal value does not account for deals with undisclosed values; geography based on the location of targets; ROW stands for rest of world and includes Central and South America, Africa, and the Middle East

Sources: Dealogic; AVCI; Bain analysis

Figure 4

Provider was the most active sector in North America and Europe, while biopharma was the most active sector in Asia-Pacific

Global healthcare buyout deal count Total = 265 deals



Notes: Excludes spin-offs, add-ons, loan-to-own transactions and acquisitions of bankrupt assets; based on announcement date; includes announced deals that are completed or pending, with data subject to change; deal value does not account for deals with undisclosed values; geography based on the location of targets; ROW stands for rest of world and includes Central and South America, Africa, and the Middle East
Sources: Dealogic; AVCJ; Bain analysis

specialty drugs. Teva sold its women’s health business (including fertility treatment Ovaleap, oral contraceptives Zoely and Seasonique, and osteoporosis drug Actonel) to European fund CVC Capital Partners for \$703 million. It also made two sales to corporate buyers, selling its intrauterine device Paragard to Cooper Companies and its Plan B One-Step businesses to Foundation Consumer Healthcare. The Teva deals are indicative of trends we are seeing across the globe—high levels of activity outside the US; a large number of corporate carve-outs; keen interest in pharma, medtech and other product assets; and intense competition from corporate acquirers.

North America

Section highlights

- PE deal count in the region hit 130, the highest since 2010, while total disclosed deal value fell 22%, to \$22.1 billion from \$28.4 billion in 2016
- Despite regulatory uncertainty, the provider sector accounted for more than half of the total deals, including five deals worth more than \$1 billion
- The largest North American deal was in the biopharma sector

Undeterred by legislative uncertainty, stiff competition and high valuations, PE funds found myriad opportunities in North America in 2017. Even with the ongoing debate about the future of the Affordable Care Act in the US, investors from around the globe remained confident that healthcare investments in the world's largest economy would continue to produce strong, recession-resistant returns. They completed 130 deals in 2017, the most since 2010. Total disclosed deal value was \$22.1 billion, 22% lower than the \$28.4 billion reached in 2016 due to a lack of megadeals.

As in prior years, the biggest number of deals took place in the provider sector, in which investors bet on local or regional consolidation of medical practices and the shift toward lower-cost, nonhospital-based care. Deal count for that sector rose to 75 in 2017 from 57 in 2016, while total disclosed deal value increased slightly to \$12 billion from \$11.8 billion in 2016. Investors also showed interest in healthcare-light areas such as retail health and physician practice management (PPM). However, the largest North American provider deal announced in 2017 was the \$4.1 billion healthcare-heavy acquisition of Kindred Healthcare, with a plan to split the company into two separate entities: one that focuses on home health and hospice care (owned by TPG, Welsh Carson and Humana) and another that focuses on long-term acute care and rehabilitation (owned by TPG and Welsh Carson).

In the largest deal of the year globally, Pamplona Capital Management took private Parexel International, a US-based contract research organization (CRO) serving the biopharma sector, in a deal valued at \$5 billion. Altogether, pharma targets accounted for 38% of the disclosed deal value in North America in 2017.

In medtech, funds invested in both core assets and derivative services. Many international investors are investing in US-based medtech assets to drive growth in developing markets. For example, EQT acquired US-based Clinical Innovations, a leading obstetrics medical device company, and plans to continue its expansion into China and other Asian markets. Altogether, funds did 25 medtech deals in 2017, compared with 18 in 2016. Total medtech deal value increased to \$1.8 billion from \$1.2 billion.

Across healthcare sectors in North America, funds faced intense competition from corporate buyers. PE investors took hard runs at numerous assets, but were ultimately beat out by corporate investors. Examples include Advisory Board, whose healthcare consulting business was bought by the Optum unit of UnitedHealthcare, one of the largest managed healthcare systems in the US; Chiltern, a CRO bought by LabCorp; and eviCore, a medical benefits management company bought by pharmacy benefit management company Express Scripts. (In March 2018, Express Scripts itself agreed to be acquired by Cigna for about \$67 billion.)

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Cross-border activity declined overall, with just four deals by European and Asian investors involving North American targets in 2017, compared with at least 10 in 2016. In a major transnational PE deal, European-Asian PE firm AGIC Capital joined with Chinese pharma company Humanwell Healthcare to acquire Ritedose, a US-based contract manufacturing organization (CMO) for pharmaceutical companies. While funds may not have reached across borders as much in 2017, they did increasingly link arms with other PE investors. The number of consortium deals rose to 27 from 16 the previous year.

Investors took advantage of strong multiples to sell off major North American holdings. Seven of the 10 top exits globally involved North America assets—including JLL Partners' \$7.2 billion sale of Patheon, a pharma contract development and manufacturing organization, to Thermo Fisher Scientific; and TPG's sale of Surgical Care Affiliates, which provides outpatient surgical services, to UnitedHealthcare's Optum unit for \$2.3 billion.

Given the challenges of getting deals done in an intensely competitive North American market, PE firms are increasingly pursuing creative angles and focusing on assets with growth potential. Funds are pursuing buy-and-build deals in areas such as retail health, PPM, pharma IT and behavioral health. CCMP Capital acquired Eating Recovery Center, a leader in the eating disorders treatment area, as a potential platform for future buy-and-build activity. PE investors are also teaming up with corporate buyers, as is the case with the Kindred acquisition and KKR's partnership with Walgreens Boots Alliance to acquire pharmacy manager PharMerica.

PE funds are also ready to step in when public companies seek new owners in response to pressure from activist shareholders. Activist investors target public companies after a slowdown in earnings and ask for a review of strategic options, which can result in a sale, often to private equity. Activist investor Starboard Value played a pivotal role in triggering Pamplona's acquisition of publicly traded Parexel. In early 2018, Starboard and hedge fund Corvex Management were pressing health services provider Envision Healthcare to consider buyout options.

Looking ahead, we expect investors to continue to find high-quality assets with attractive growth opportunities and risk-return profiles in the North American healthcare market in 2018. While there may be some regulatory changes and broader disruptive trends, funds will remain interested in putting their money to work in the largest healthcare market in the world. Healthcare investments in North America have shown themselves to be resilient, recession resistant and noncyclical, and investors will likely find new opportunities for consolidation in the large and fragmented industry.

Europe

Section highlights

- Total disclosed PE deal value in Europe reached \$12.8 billion in 2017, continuing a strong multiyear trend
- Deal count rose to 70 in 2017 from 49 in 2016
- Funds were active in pharmaceuticals, senior care, outsourced services and retail health

Total disclosed healthcare PE deal value in Europe grew to \$12.8 billion in 2017 from \$4.6 billion in 2016. Although the rise in value looks extreme, the 2016 numbers don't include several major deals announced that year whose values weren't disclosed, nor do they reflect several large deals announced in late 2015 or early 2017. Deal count rose to 70 in 2017 from 49 in 2016. Overall, the trend in Europe over the past few years has been positive as investors with ready access to cheap debt have looked to increase their holdings in a growing, recession-resistant industry. Healthcare private equity's share of total European PE buyout value rose from 4% in 2016 to 11% in 2017.

Funds eager to find broader ways to deploy capital showed interest in healthcare assets with greater exposure to reimbursement risk. Following a handful of successful PE investments in biopharma earlier in the decade, funds began exploring how to underwrite higher-risk investments. In 2017, funds took new positions in branded and generic pharmaceuticals, and they set up vehicles to fund pharma research and development (R&D), an area historically untouched by buyout funds in the region.

Mindful of demographic trends throughout Europe, PE investors stepped up their activities in the long-term care segment. With longer life expectancies and lower birth rates, Europe's population is aging. The median age in Germany, Europe's largest economy, is 45.8, the highest in the EU, and 21% of its population is 65 or older. Given these trends and the fact that Germany has mandatory long-term care insurance with public and private financing, investors are confident that demand for nursing home services in Germany will continue to rise.

In the largest long-term care deal in 2017, Nordic Capital Svenska acquired German nursing home operator Alloheim Senioren-Residenzen for \$1.3 billion. In addition, US-based Oaktree Capital Management acquired a sizable stake in Vitanas and Pflegen & Wohnen Hamburg, two German long-term care providers, and France-based Chequers Capital acquired Emvia Living, an operator of 46 nursing homes that was carved out of MK-Kliniken, a German operator of assisted living facilities for seniors.

Governments, which pay for most healthcare in Europe, face ongoing taxpayer pressure to provide services more efficiently. In response, payers and providers have increasingly turned to outsourced services, attracting the attention of PE investors looking for a high-growth healthcare segment sheltered from direct reimbursement risk. In 2017, funds were active in acquiring medical testing labs, continuing a trend that has picked up speed over

the past decade. In 1 of the 10 largest healthcare deals of 2017, Switzerland-based Partners Group and Canada-based Public Sector Pension Investment Board acquired Cerba Healthcare, a French laboratory services company, for \$1.9 billion.

Throughout Europe, consolidation played out in retail health, with the level of activity varying by country and therapeutic area. In the UK and the Nordic countries, where consolidation is already advanced in multiple specialties, funds pursued buy-and-build strategies in dental care and veterinary health. The pace of consolidation is picking up in Germany and the Netherlands, where funds have been building and expanding retail platforms by purchasing domestic and foreign assets. In 2017, EQT acquired Dutch company Curaeos, a dental provider with offices in the Netherlands, Germany and other European markets, with the intention of broadening the company's buy-and-build strategy.

While retail health consolidation still faces regulatory obstacles in France and other countries, demographic forces are pressing the issue across the region. Many physicians are ready to retire and sell their practices, while others are eager to gain the flexibility that working for a large firm can bring. Specialties such as radiology and ophthalmology remain largely unconsolidated, making them ripe for activity in the coming years.

Given the lofty valuations of privately held healthcare assets in Europe, funds have followed a trend set in the US and looked to public markets. In a major public-to-private transaction, Bain Capital and Cinven paid approximately \$4 billion for a majority stake in Stada, a publicly traded German pharmaceutical company. Funds also took advantage of the relatively high private market valuations to sell assets to corporations, a less risky exit strategy than undertaking an initial public offering (IPO).

While investors were initially skittish about Britain's impending departure from the EU, they eventually gained enough clarity about the move's potential impact on healthcare to begin seeing opportunities. If the British pound continues to decline against the euro, it may adversely affect pharmaceutical and medtech companies that purchase materials overseas. Brexit means the UK will no longer host the European Medicines Agency, and it may no longer receive EU funding for medical research, which could cause a scientific brain drain and create risk around investment in British pharma companies. Brexit has already exacerbated the staffing crisis in the National Health Service by making it harder to recruit foreign doctors and nurses, thus fueling demand for staffing agencies and employee management software.

Other regulatory changes will have an impact throughout Europe, notably stricter rules concerning the manufacturing and testing of medical devices. While the new requirements, which began to take effect in 2017, will mean higher costs for medtech companies, they will also bring increased transparency around device effectiveness, giving performance leaders a competitive edge and patients improved protection. Additionally, small medtech companies, which have been historically resistant to buyouts, may be ready to sell some of their business units to avoid incurring additional compliance costs.

Looking at 2018 and beyond, funds are likely to find the healthcare industry in Europe attractive despite intense competition from corporate buyers. We expect to see further consolidation in retail health, more public-to-private transactions and greater interest in higher-risk segments such as branded pharmaceuticals. Funds will need to be cognizant of the potential for further monetary tightening by the European Central Bank and intensifying public pressure to contain drug prices, but investors can remain confident that demand for healthcare services will continue to rise throughout the region—regardless of which way the macroeconomic and regulatory winds blow.

Asia-Pacific

Section highlights

- Disclosed deal value in Asia-Pacific surged to \$7.2 billion, with 61 deals, the highest level since at least 2001
- Activity was fueled by strong demographic and regulatory trends, with increasing numbers of people gaining access to affordable care
- Cross-border activity flourished as Chinese investors expanded their outbound M&A focus from Australia to also include the US and Europe
- As competition intensifies and deal sizes rise, Asia-Pacific funds are forming more partnerships with other financial investors and with corporates, both at home and abroad

It was a banner year for healthcare buyouts in Asia-Pacific, with total disclosed deal value surging to \$7.2 billion, more than two times the 2016 level. Deal count rose to 61 from 52 in 2016. Five of those deals were in the sweet spot for large PE funds (\$0.5 billion–\$5 billion), compared with just one such transaction in 2016. Investors, both those domiciled in the region and those based elsewhere, invested in front of demographic and macro-economic tailwinds, supported by loosening regulations in some markets.

The hottest sectors were biopharma and medtech, which together comprised 64% of deal value and 60% of deal count, with transactions in both developed markets, such as Australia and South Korea, and emerging markets, such as China and India. In a major biopharma deal, Carlyle Asia and Pacific Equity Partners acquired iNova Pharmaceuticals, an Australian company that makes both prescription and over-the-counter (OTC) products, for \$930 million. (Australia remained an active market; three of the top six Asia-Pacific deals involved an Australian acquirer or target.) In medtech, a consortium of Chinese investors acquired a stake in Shanghai United Imaging Healthcare, a leading Chinese medical equipment and IT solutions provider.

Investors were also active in the provider sector, especially in specialty care formats. Australian-based KKR acquired Laser Clinics Australia, a retail chain of more than 80 hair removal and cosmetic clinics.

Many large global investors are showing continued interest in the Asia-Pacific growth story. For example, Bain Capital invested about \$800 million to take a controlling stake in Hugel, a manufacturer of botulinum toxin. The trend continued into 2018; in January, European fund Permira bought I-Med, an Australian diagnostic imaging company, from EQT.

In China, PE investors took advantage of new regulations promoting the restructuring of the distributor system for drugs and devices. The rules, which aim to simplify the system by eliminating multiple layers of intermediaries and replacing them with just two invoices, have put many assets into play. For example, in a deal that attracted interest from both PE funds and corporate buyers, US-based Cardinal Health divested its Chinese distribution business, ultimately selling it to Shanghai Pharma, one of China's largest pharmaceutical distributors.

As the Chinese government takes measures to encourage the development of the country’s healthcare infrastructure as part of the Healthy China 2030 effort, Chinese investors are looking abroad to Australia, Europe and the US, seeking category-leading platforms that have the potential to expand in China as well as in their home markets. For example, Chinese medtech company Beijing Wandong Medical Technology and PE fund Shanghai Yunfeng Xinchuang Investment Management collaborated with other investors to acquire Italian medical imaging company Esaote to both capitalize on opportunities in Europe and bring sophisticated imaging technology to China. Investment by China-domiciled PE funds in targets outside China spiked in 2016 and 2017, according to an analysis conducted by Bain (see Figure 5).

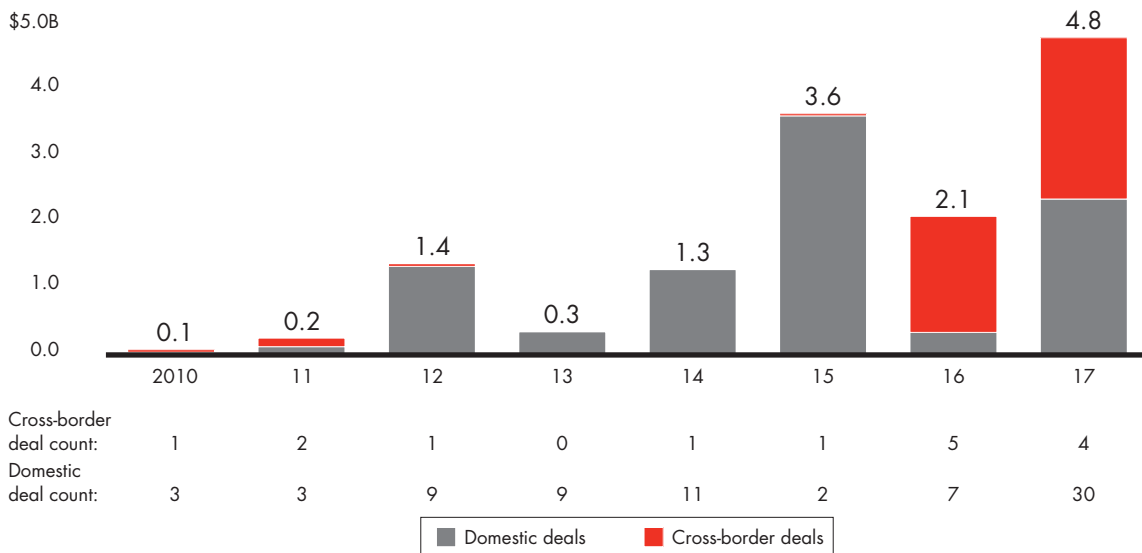
In many cross-border deals, the Chinese funds teamed up with international funds or corporate players to further augment local market expertise and access. Chinese fund Hillhouse Capital partnered with American fund Clayton, Dubilier & Rice (CD&R) in the \$800 million acquisition of US-based Carestream Health’s digital dental business. In another cross-border partnership, China’s Pagoda Investment teamed up with Goldman Sachs Principal Investment Area and the Australian state pension fund Queensland Investment Corporation (QIC) to buy Sydney-based cancer care provider Icon Group from Quadrant Private Equity for a reported \$740 million.

Across Asia-Pacific, not just in China, funds are increasingly banding together in consortiums, often across borders. Deal sizes, while still relatively small, are growing. Since 2014, the average size of healthcare PE buyouts in Asia-Pacific has increased by 50%, from nearly \$80 million to nearly \$120 million, and funds are forming transnational partnerships to bring together capital and local capabilities. Eager to be a part of these cross-border consortium deals, Asian PE investors have channeled more resources into healthcare. Among all the dollars Asian PE funds have raised for new investments, the share raised by funds with a healthcare focus has more than tripled over the past decade.

Figure 5

China-domiciled investors are increasingly involved in large cross-border deals

China-domiciled investor buyout deal value



Notes: Excludes add-ons, loan-to-own transactions and acquisitions of bankrupt assets; based on announcement date; includes announced deals that are completed or pending, with data subject to change; deal value does not account for deals with undisclosed values; analysis includes buyouts by investors based in China and Hong Kong
Sources: Dealogic; AVCJ; Bain analysis

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Deal activity in India slowed in 2017 compared with 2016 as investors sat on the sidelines amid regulatory changes. The government introduced pricing caps on certain medical devices and released a Draft Pharmaceutical Policy that proposes to make pharmaceuticals more accessible to the public through lower prices. Nonetheless, funds were active in India's provider sector. KKR bought a 49% stake in Radiant Life Care for \$200 million. True North invested \$200 million in Kerala Institute of Medical Sciences (KIMS), a hospital chain. True North also sold its stake in Manipal Hospitals to Temasek.

Throughout Asia-Pacific, exit activity in 2017 remained on par with previous years, with funds selling assets to a mix of other financial investors and corporate players across developed and developing markets. In addition, US-based funds engaging in exits found willing buyers among Asian corporates. For example, North American investor RoundTable Healthcare Partners sold Argon Medical Devices, a US-based medical device company, to Chinese medical group Shandong Weigao.

We expect investor activity in Asia-Pacific to remain robust in 2018, with funds continuing to team up with other financial investors and corporate buyers. The cross-border trend is likely to intensify as Asian investors increasingly eye targets outside the region. Along with ongoing interest in the traditionally strong pharma and provider sectors, we may see opportunistic medtech assets come onto the market. Favorable demographic and regulatory trends will continue to fuel interest in this growing, dynamic region, as the more than 50 funds active in Asia-Pacific seek out new ways to deploy the large amount of dry powder they raised in 2017.

3. Sector trends

Overview

In 2017, the provider sector once again accounted for the majority of buyout activity, with 139 of the 265 health-care PE deals announced worldwide involving provider assets. The total disclosed value of provider deals was \$18.9 billion, nearly 45% of the global sum (see Figure 6).

As in 2016, the biopharma sector comprised about 23% of deal count, with 62 of the 265 buyouts. However, biopharma deal value surged due to two transactions that were the first and third largest of 2017. Buyouts of biopharma assets amounted to \$17 billion, 40% of the total disclosed deal value, compared with 22% in 2016. The medtech sector also had a strong year, with \$6.5 billion in disclosed deal value, more than double the deal value of 2016, and 51 deals.

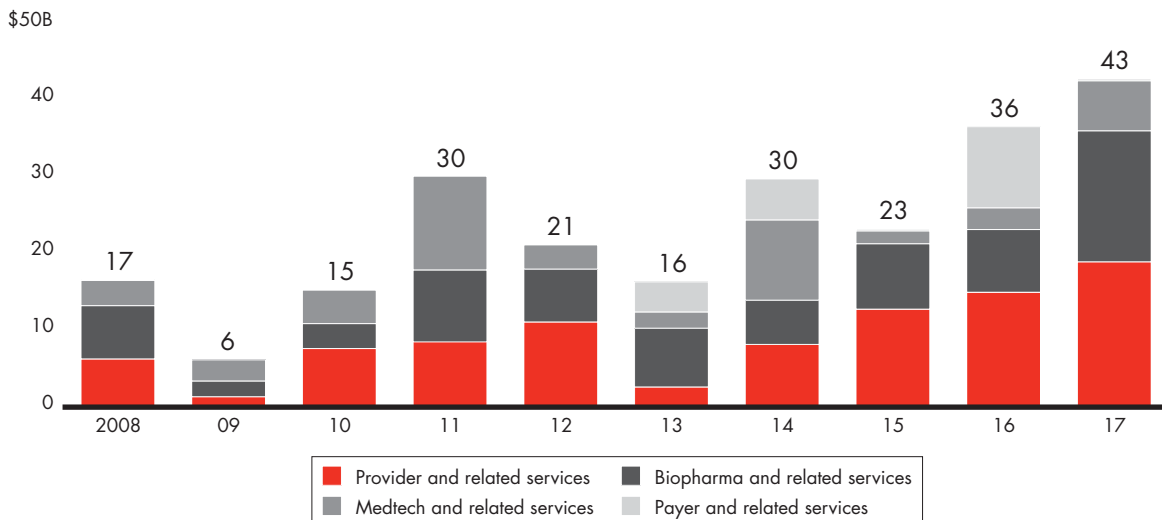
The payer sector, after an anomalous 2016 marked by two megadeals, returned to \$220 million in disclosed deal value, the same as in 2015. Payer deal count rose slightly to 13 buyouts, compared with 11 in 2016.

Across these four sectors, funds continued to show interest in HCIT assets, and deal count rose to 32 from 23 in 2016. However, due to the absence of megadeals, deal value fell to \$1.9 billion from \$15.5 billion in 2016.

Figure 6

The provider sector again contributed the greatest share of disclosed deal value, and biopharma deal value surged

Global healthcare buyout deal value



Notes: Excludes spin-offs, add-ons, loan-to-own transactions and acquisitions of bankrupt assets; based on announcement date; includes announced deals that are completed or pending, with data subject to change; deal value does not account for deals with undisclosed values
Sources: Dealogic; AVCJ; Bain analysis

Provider and related services

Section highlights

- For the third consecutive year, the provider sector had the highest disclosed deal value at \$18.9 billion, up from \$14.9 billion in 2016
- Deal value surged in Europe, fueled by two buyouts each valued at more than \$1 billion
- Deals proliferated in retail health and PPM, and investors looked for opportunities in behavioral health
- Funds are investing in lower-cost care settings and innovative delivery models

The provider sector was once again the most active in healthcare, accounting for 139 of the 265 healthcare PE deals done in 2017. Total disclosed deal value increased by 27% from 2016, reaching \$18.9 billion. Europe was responsible for much of that uptick, with deal value in the region surging to \$4.4 billion in 2017 from less than \$1 billion in 2016 on the strength of two transactions that were among the top 10 healthcare buyouts globally.

In the largest deal involving a European target, Switzerland-based Partners Group and Canada-based Public Sector Pension Investment Board acquired Cerba Healthcare, a French laboratory services company, for \$1.9 billion. Consolidation of laboratory services, which has already occurred in the US, is playing out in other geographies as funds use European and Asian lab services companies as consolidation platforms. In the other major European deal, Nordic Capital Svenska acquired German nursing home operator Alloheim Senioren-Residenzen for \$1.3 billion.

As in prior years, most targets in the provider sector were located in North America. The two largest provider deals of 2017 both involved North American assets: TPG and Welsh Carson teamed up with Humana in the announced acquisition of Kindred Healthcare, a leader in post-acute care, for \$4.1 billion, and American Securities acquired Air Methods, an air medical transport provider, for \$2.5 billion. Even with these large deals, total buy-out deal value in the region increased only slightly, rising to \$12 billion from \$11.8 billion in 2016.

Several large assets went to PE-owned portfolio companies, rather than being bought out by PE funds directly. For instance, KKR portfolio company Air Medical Group Holdings acquired American Medical Response, a leader in medical transportation, from Envision Healthcare for \$2.4 billion. Funds also faced intense competition from corporate buyers, which acquired many sought-after assets in the \$500 million to \$5 billion sweet spot for large PE funds.

Deal value in Asia-Pacific increased slightly to \$2.5 billion from \$2.4 billion in 2016, fueled by a series of small to mid-sized deals such as True North's acquisition of a \$200 million stake in KIMS, a leading Indian tertiary care hospital.

Across regions, funds continued to find opportunities in retail health. Even though there has been intense activity in retail health over the past several years, many subsegments remain fragmented, allowing funds to unlock substantial value through consolidation. Consolidating into chains allows providers to reap the benefits

of scale on both the top line (through improved volume and pricing) and bottom line (through local and corporate efficiencies). Chains can drive growth by offering services and products that appeal to customers' increasing demand for efficient and easy access to care, such as convenient locations and extended hours.

In 2017, funds were active in historically popular retail health segments, such as vision, dental and veterinary care. Centerbridge Partners acquired Davis Vision, a US-based managed vision care company, and merged it with Superior Vision, a vision care company the firm already owned. KKR did two large retail health deals, acquiring skin care and cosmetics company Laser Clinics Australia and US-based veterinary network PetVet. Ares and Leonard Green & Partners acquired additional stakes in Aspen Dental, the largest network of branded dental care practices in the US. Funds also showed continued interest in physical therapy providers, although after two large consolidators changed hands in 2016, no major deals happened in 2017. (For more insights into retail health trends, see Bain's *Global Private Equity Report 2018*.)

While overall PPM activity in 2017 dipped compared with 2016, there were several sizable deals in historically active subsegments. One of the top 10 healthcare deals of 2017 was Ares' \$1.5 billion investment in DuPage Medical Group, which includes practice management solutions

Funds continued investing in the PPM segment in the US, which has grown rapidly as doctors prioritize clinical care over administration and recognize the cost savings they can reap from being part of a larger organization. While overall PPM activity in 2017 dipped compared with 2016, there were several sizable deals in historically active subsegments. One of the top 10 healthcare deals of 2017 was Ares' \$1.5 billion investment in DuPage Medical Group, which includes practice management solutions. Berkshire Partners acquired a stake in US Anesthesia Partners, a prominent provider of outsourced anesthesia services. Two major PPMs, Envision Healthcare and Mednax, indicated that they were exploring strategic options—a sign that PPM activity will remain strong into 2018.

Activity heated up in emergent PPM subsegments, including dermatology, women's health and gastroenterology. For example, Waud Capital Partners took a stake in Adult & Pediatric Dermatology, a leading provider of dermatology services in the US. The vast majority of practices in these subsegments remain independent, meaning there is considerable scope for further consolidation.

Investors are increasingly pursuing innovative care delivery models focused on complex populations. For example, Warburg Pincus made a \$115 million investment in Alignment Healthcare. Alignment leverages its technology and integrated care coordination model to focus on the highest-cost, most complex patients in Medicare Advantage, Medicaid and commercial HMO plans.

Funds showed keen interest in companies that provide care at sites that are lower cost than a traditional hospital setting. In a reported \$740 million alternative care deal, Goldman Sachs Principal Investment Area teamed up with Pagoda Investment and QIC to acquire Australia-based Icon Group, which operates cancer care centers. Bain Capital acquired a stake in Surgery Partners, which operates surgical facilities, and partly funded Surgery Partners' acquisition of competitor National Surgical Health.

PE investors looked closely at behavioral health providers, although they had to contend with high multiples and a dearth of platforms large enough to begin carrying out meaningful consolidation. One deal that did come to fruition was CCMP Capital's acquisition of a controlling stake in Eating Recovery Center, an eating disorder treatment company that is a leader in a niche market largely untouched by private equity. The Wicks Group of Companies and The Jordan Company invested in Invo Healthcare, a provider of behavioral health services for individuals with autism spectrum disorders, in 2017, and a flurry of additional deal activity in the autism space has already been taking place in early 2018. Given the fragmentation in the behavioral health segment, we expect funds to continue hunting for opportunities across the value chain, from established areas, such as inpatient psychiatric services, to more nascent subsectors, such as autism.

As the population ages in North America and Europe, funds have seen promise in senior health assets, as evidenced by the Alloheim Senioren-Residenzen deal in Europe and the Kindred Healthcare deal in North America. KKR also joined with Walgreens Boots Alliance in a \$1.4 billion buyout of PharMerica, a US-based company that provides pharmacy management services for nursing homes. In a derivative play on the senior health segment, Silver Lake acquired A Place for Mom, a technology platform that connects families with senior living providers.

We expect 2018 to be another active year in the provider sector. Investors will continue to bet on innovative and low-cost care delivery models as well as on behavioral health, including emergent areas such as autism. Other ongoing areas of interest include PPM and retail health in both mature and emerging specialties, and we may see more large platforms combining as part of a new wave of consolidation.

In a high-valuation environment, funds pursuing consolidation will continue to wrestle with whether they want to pay a premium for an established platform, combine smaller players, or start small and build their own presence. With corporate deal activity likely to accelerate, funds will want to consider strategic options, such as leveraging existing portfolio companies or joining forces with other PE funds. They will need to develop clear points of view on less popular subsectors, such as hospitals and post-acute care. Do they want to be a buyer or seller? When they do opt to acquire, they'll want to approach targets with well-reasoned plans for organic top-line growth, margin improvement and future M&A.

Payer and related services

Section highlights

- Disclosed deal value reached \$220 million in 2017, reverting to recent norms after an anomalous \$10.5 billion deal value in 2016 (a year that was dominated by two megadeals)
- Legislative and regulatory uncertainty made it difficult for funds to value payer assets, especially in the US
- Corporate buyers outbid funds for large assets, and several funds sold off payer holdings to corporate acquirers
- Activity was scattered across segments, with several deals in care management and other services

Deal value in the payer sector reverted to a recent norm of \$220 million in 2017, after spiking to an anomalous \$10.5 billion in 2016. The count increased slightly, with 13 deals in 2017, compared with 11 in 2016. As in prior years, most activity took place in North America.

Few analysts expected 2017 to equal or top 2016, a year in which two megadeals, the \$7.5 billion acquisition of MultiPlan and Leonard Green's \$2.2 billion buyout of ExamWorks, accounted for 92% of total deal value. In 2017, by contrast, few sizable targets came on the market, and those that did went to corporate acquirers willing to pay a premium for assets that fleshed out existing capabilities. PE investors were further hampered by the payer sector's relative dearth of desirable mid-sized targets. As a result, funds found themselves limited to smaller deals.

Continued regulatory uncertainty loomed over the payer sector in the US, the world's largest healthcare market, making it difficult for funds to value assets. In the first half of 2017, insurers called off two pending megamergers, Aetna's planned alliance with Humana and Anthem's proposed linkup with Cigna, following federal court rulings that blocked the deals. In December, CVS Health announced plans to acquire Aetna for \$69 billion, a deal that was still awaiting regulatory approval in early 2018. When funds are unsure how such massive horizontal and vertical deals may reshape the payer landscape, potentially causing customer bases to shift, they can find it hard to value assets of any size. Investors also confronted a lack of clarity on the fate of the Affordable Care Act, making it challenging to value assets whose profitability was tied to the individual insurance market or Medicaid.

As was the case in other areas of healthcare, PE investors in the payer sector invested in services that help companies do things more efficiently. Among the deals announced in 2017, JMI Equity acquired a stake in Healthx, a cloud-based platform that helps payers coordinate patient care among multiple providers; Apax Partners acquired Kepro, a leading Medicare- and Medicaid-focused care management organization; and New Mountain Capital invested in prospective health assessment companies CenseoHealth and Advance Health.

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Several of the remaining deals stretched across other payer services categories. Apax partnered with France-based Altamir to acquire a majority stake in Cipres, a French wholesale broker of health, disability and life insurance, and Water Street Healthcare Partners acquired a stake in Employee Benefit Management Services, which administers claims for US employers.

Several funds sold their holdings in payer companies to corporate buyers. In the largest payer exit, an investor group that included TA Associates, General Atlantic and Ridgmont Equity Partners sold specialty benefits manager eviCore to Express Scripts for \$3.6 billion. In other exits, Parthenon Capital Partners sold Eliza Corporation, which helps insurers engage with consumers, to HMS Holdings, and TA Associates sold Senior Whole Health, which offers health plans and intensive services for dual eligibles, to Magellan Health. These sales indicate that payer services companies are expanding service offerings, which presents opportunities for PE funds when they're ready to sell but also means more competition when they're trying to buy.

Looking ahead, corporate acquirers will likely be the largest barrier for PE funds looking to complete deals in the payer sector as they continue to aggressively seek out assets that enhance their current holdings.

Biopharma and related services

Section highlights

- Disclosed deal value surged to \$17 billion, the highest level since at least 2001
- Despite pressure on drug prices, investors flocked to a sector that tends to produce good returns in both up and down economic cycles
- Big deals took place in outsourced services, a reflection of continued emphasis on cost containment
- There was heightened interest in HCIT firms that can help pharma companies use Big Data and advanced analytics to develop drugs more efficiently

It was a banner year for deal making in biopharma, with total value more than doubling to \$17.0 billion in 2017, up from \$8.1 billion in 2016 and reaching the highest level since at least 2001. Powering the surge were eight deals valued at greater than \$500 million, including one valued at \$5 billion. Deal count increased to 62 from 45 in 2016.

Even amid widespread scrutiny over drug pricing, PE investors continue to be attracted to a sector that has high profit margins and consistently delivers outsized returns. Biopharma has shown itself to be recession resistant, an important consideration given the length of the current global macroeconomic recovery and the probability that the expansion will end sometime during the holding period for most new PE investments.

That said, investors need to proceed with caution in an industry that faces pressure on multiple fronts. Armed with sophisticated data that provides more transparency around the efficacy of drugs and their value to patients, payers (both government and private) have increased negotiating leverage with drugmakers in regard to pricing. The pace of disruption in the marketplace will likely increase as nonhealthcare companies such as Amazon, Berkshire Hathaway and JPMorgan Chase enter the arena, vowing to change the economics of the industry.

With less elasticity on pricing, pharma companies are working to contain costs. They're using Big Data and advanced analytics to develop drugs more efficiently along the path from discovery to clinical trials. At the same time, the industry is shifting its focus away from widely used blockbuster drugs toward specialized treatments as companies look for untapped niche markets in which they can command premium prices.

In an indication of the importance of cost control, PE investors showed strong interest in service providers that help pharma companies develop, make and market drugs more efficiently. These firms, known collectively as CXOs, provide contract research, manufacturing, packaging and sales. The largest buyout in global healthcare in 2017 involved a CRO (contract research organization). Pamplona acquired Parexel, a US-based CRO for clinical trials, for \$5 billion.

In addition, The Carlyle Group and Hellman & Friedman joined forces with two sovereign wealth funds, Abu Dhabi Investment Authority and Singapore-based GIC, to recapitalize Pharmaceutical Product Development

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(PPD), a CRO for drug discovery and clinical trials, in a transaction that valued PPD at \$9 billion. In the CMO (contract manufacturing organization) segment, Carlyle and GTCR acquired Albany Molecular Research, which provides development and manufacturing services in branded and generic pharmaceuticals, for \$1.6 billion.

Corporate buyers were also active in CROs and CMOs. American diagnostics company LabCorp acquired UK-based Chiltern and merged the CRO into its clinical trial business unit. German CRO Evotec acquired US-based Aptuit from Welsh Carson to extend its drug discovery expertise from preclinical to clinical. In addition, inVentiv Health, backed by Thomas H. Lee Partners and Advent International, merged with INC Research to create another large-scale CRO dubbed Syneos Health. Thermo Fisher Scientific bought Patheon, a leading CMO with more than 400 biopharma clients globally, and Lonza completed its acquisition of Capsugel, a manufacturer of drug capsules. Even as corporate interest in CROs and CMOs intensifies, heightening competition for deals, we expect PE investors to continue to seek out niche opportunities along the drug development value chain.

There were several major acquisitions of biopharma HCIT assets in 2017, including EQT's \$850 million purchase of Certara, a leading decision support platform that uses simulation and modeling to optimize drug development, a technology that is transforming the way the pharmaceutical industry approaches R&D.

In their pursuit of efficiency, biopharma companies are turning to HCIT firms that can help them gather and analyze drug development data more efficiently. In the US, the Food and Drug Administration has encouraged pharma to use digital tools, such as modeling and simulation software. There were several major acquisitions of biopharma HCIT assets in 2017, including EQT's \$850 million purchase of Certara, a leading decision support platform that uses simulation and modeling to optimize drug development, a technology that is transforming the way the pharmaceutical industry approaches R&D.

Among the drugmakers themselves, funds were active across the spectrum, from OTC medications to generic and branded prescription drugs. In the third-largest healthcare deal of 2017, Bain Capital and Cinven acquired a meaningful stake in Stada, a German pharmaceutical company with a dual-pillar strategy of generics and branded products, for approximately \$4 billion.

PE funds also looked to create or build out pharma platforms with targeted acquisitions. For example, PE firm GTCR's TerSera Therapeutics platform acquired the rights to Zoladex, a hormone-based therapy for prostate and breast cancers. Bain Capital raised \$720 million for a life sciences fund and invested in several pharma and biotech companies that treat rare ailments—for example, Dicerna Pharmaceuticals, which is developing gene-based therapies for liver diseases, and Solid Biosciences, which is developing treatments for Duchenne muscular dystrophy. KKR raised a \$1.5 billion growth equity fund, with biopharma as one of its key areas of focus.

Despite ongoing pressures on drug prices, we expect investors attracted by biopharma's history of strong returns to aggressively pursue opportunities in the sector. Segments such as branded pharma, generics, outsourced

services and biopharma IT will continue to command interest. However, funds will want to be mindful of a growing divergence between winners and losers. They'll need to develop a robust investment thesis built around scale, differentiation, low cost or some combination of the three. They'll want a clear line of sight into what a business can become, not just what it is today. Among generic and OTC companies, the most sought-after targets are likely to be those with sufficient scale, cost efficiency and market savvy to navigate an increasingly cost-conscious environment.

Medtech and related services

Section highlights

- Disclosed deal value more than doubled to \$6.5 billion, and deal count rose from 37 to 51
- Activity was driven by 11 buyouts valued at or greater than \$100 million, although there was only one deal valued at or greater than \$1 billion
- Intense competition from corporate buyers led to creative deal structures, including public-to-private transactions and carve-outs, along with investments in medtech services

Disclosed deal value in medtech more than doubled to \$6.5 billion in 2017 from \$2.8 billion in 2016. Deal count rose from 37 in 2016 to 51 in 2017, including six buyouts valued at \$500 million or more.

PE investors found the sector extremely competitive, with few privately held medtech assets available at desirable valuations. Corporate buyers increased their pressure, with many willing to pay a premium for assets they could integrate into their existing portfolios.

Faced with this competition for medtech assets, PE investors looked to the public market for opportunities. Even with the rise in major stock indices, funds found relatively attractive valuations in some publicly traded medtech companies. TPG, for example, announced it was taking private Exactech, an orthopedic implant company, for \$740 million. The only PE deal in medtech valued at \$1 billion or more involved the acquisition of a stake in a public company: Danish investor Novo Holdings invested \$1.3 billion in ConvaTec, a UK-based medical products company focused on therapies for chronic conditions.

Funds also took advantage of the eagerness by some large medtech companies to divest lower-growth divisions. For example, CD&R and Hillhouse Capital carved out Carestream Health's dental digital business, renamed Carestream Dental, for \$800 million. PE funds find carve-outs attractive because the businesses often have ample cash flow, and with increased focus and investment, the acquirer can ramp up both top- and bottom-line growth.

Given the competition for larger assets, funds interested in the medtech sector looked for smaller opportunities to deploy capital, including investing in niche category leaders. For example, EQT acquired US-based Clinical Innovations, a global leader in the manufacture of devices used in labor and delivery.

Funds also looked for high-growth assets that can benefit from geographical trends, particularly in developing markets. In China, the burgeoning consumer class is driving demand for healthcare, including medtech, and the central government has prioritized the medtech sector in its 13th Five-Year Plan. In the largest PE medical device investment in China to date, a consortium of funds, invested around \$500 million in Shanghai United Imaging Healthcare, which makes diagnostic and therapeutic equipment. Chinese investors also joined with international funds to acquire foreign medtech companies with the goal of expanding their footprints in China. In the Carestream Dental deal, US-based CD&R and China-based Hillhouse planned to build up Carestream's presence in China using Hillhouse's existing Chinese dental platforms.

While corporate acquirers dominate the market for mainstream medtech assets, they have less of a presence in services, which creates openings for PE funds. Medtech companies are following the lead of pharma companies in outsourcing core functions, including manufacturing and marketing, to outside contractors. Charlesbank Capital Partners, for example, acquired US-based Tecomet, a CMO that focuses on orthopedic products. The services segment in medtech is underdeveloped and fragmented, making the segment ripe for consolidation and additional deal making in the year ahead.

As we look to 2018, we expect medtech and derivative services to continue to attract keen interest from PE investors. There are many opportunities for compelling category leadership plays on the product side. Investors will continue to look for ways to carve out noncore corporate assets and build up niche platforms via M&A. We should start to see the next wave of consolidation in services and a growing separation between winners and losers.

Healthcare IT

Section highlights

- HCIT deal count rose to 32 from 23 in 2016, a sign of strong interest by funds in the adoption of healthcare technology solutions
- Disclosed deal value fell to \$1.9 billion, due to the limited availability of scale assets and the absence of megadeals such as the two—namely, MultiPlan and Press Ganey—that dominated 2016
- Areas of interest included pharma IT solutions and revenue cycle management platforms for doctors and hospitals

As the healthcare industry continues to embrace technology, funds are investing in firms that supply the software and other solutions that providers, payers, pharma and medtech companies can use to become more efficient. While total HCIT deal value fell to \$1.9 billion in 2017 from \$15.5 billion the previous year, much of the decline was due to the absence of the kind of megadeals that dominated 2016. That year, two deals collectively valued at \$9.9 billion—namely, the acquisition of MultiPlan by Hellman & Friedman, Leonard Green and GIC and the acquisition of Press Ganey by EQT—accounted for more than 60% of the total.

In 2017, by contrast, there was only one deal larger than \$800 million. Funds continued to show strong interest in HCIT assets, however, as indicated by the deal count, which rose to 32 in 2017 from 23 in 2016.

Investors find HCIT targets attractive not only because HCIT companies play a vital role in promoting technology adoption in healthcare but also because they bear less of the direct reimbursement and regulatory risks that affect other healthcare sectors. With a limited set of scale assets on the market and corporate buyers willing to pay premiums for those that do become available, valuations remained high and competition intense.

Funds focused their efforts on acquiring category leaders that have the potential to deliver high returns both through organic growth and by serving as platforms for bolt-on acquisitions. KKR, for example, took private WebMD, a leader in online healthcare information, and added it to Internet Brands, KKR's cross-industry online platform.

Funds continued to compete with corporate players for HCIT assets. PE investors, for example, expressed interest in Advisory Board's healthcare business, which includes data analytics, research and advisory services, but the unit ultimately went to UnitedHealthcare's Optum for \$1.3 billion.

In addition to being rivals for deals, however, corporations can create opportunities for PE investors as both sellers and buyers. In April 2018, for example, General Electric announced a deal to sell three of its HCIT companies to Veritas Capital for \$1.05 billion. In 2017, McKesson and Change Healthcare Holdings combined their HCIT assets into a new company called Change Healthcare, with McKesson taking a 70% stake. Two funds, Blackstone and Hellman & Friedman, gained minority interests in the new firm. McKesson acted as a buyer in another deal: It purchased CoverMyMeds, a leader in prior authorization software, from Francisco Partners.

Many of the HCIT buyouts of 2017 happened in the biopharma sector, within which companies are increasingly using IT solutions and advanced analytics to streamline the development and testing of drugs. In the largest HCIT buyout of 2017, EQT bought an \$850 million majority stake in US-based Certara, a leader in decision support technology for optimizing drug development. In another pharma-related deal, Genstar Capital acquired Bracket, which provides technology for managing clinical trials.

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In the provider sector, there was continued interest in electronic medical records (EMR) and practice management solutions. Since a handful of large vendors dominate the landscape for hospital IT, PE funds looked at opportunities to consolidate EMR firms serving small ambulatory care providers and to acquire firms that sell IT solutions to alternate-site providers in areas such as gastroenterology and dentistry. Warburg Pincus acquired a \$230 million stake in Modernizing Medicine, a provider of EMR and practice management technology for specialties such as dermatology and ophthalmology.

Funds also completed buyouts in another burgeoning area of HCIT tools that help providers, payers and patients manage the revenue cycle. PE investors completed several buyouts of companies that provide revenue cycle management (RCM) software, which hospitals and healthcare systems use to streamline billing and increase collections. In a consolidation play, Navicure, an RCM platform in which Bain Capital acquired a stake in 2016, bought competing RCM software provider ZirMed. In another RCM deal, Francisco Partners acquired a stake in Availity, which provides a collaboration platform that allows providers and payers to share real-time financial information.

A subset of RCM tools focuses on helping patients pay their bills. Healthcare consumers are contending with rising prices and less comprehensive insurance coverage, with increasing premiums, deductibles and copays. In 2017, Frontier Capital bought a majority stake in AccessOne, a medical credit card company that helps consumers finance elective care.

Looking forward, one area of HCIT that's garnering attention is clinical decision support. Although no major deals were done in 2017, regulatory changes taking effect in the US over the next two years will drive demand for decision support software. The Protecting Access to Medicare Act will require doctors to use electronic clinical decision support prior to ordering complex diagnostic imaging of Medicare patients.

Another area that continues to pique the interest of investors is population health management tools, which help providers and payers coordinate all levels of care, including prevention. We expect more venture-oriented investors to look into these areas as the winners are not yet clear and firms must bet on how the technology and landscape will develop over time.

Successful investment in HCIT requires a forward-leaning mindset, betting not only on what the company is today but also on what it can become. For example, in 2016, EQT invested in Press Ganey, already a leader in patient experience, with the goal of expanding its offering into employee engagement, clinician excellence and safety. In 2017, Press Ganey entered into a multiyear relationship with Intermountain Healthcare, through which Intermountain will use Press Ganey's transformational platform to propel patient-centered care.

Another example of thinking proactively is Warburg's investment in Modernizing Medicine, which has the potential to take its EMR and PPM platforms to new specialties. In a similar fashion, Genstar aims to do with its Bracket acquisition what it accomplished with ERT, another biopharma HCIT tool for clinical trial management that Genstar sold in 2016 for an eight-times return. As with ERT, Genstar can build Bracket into a clinical outcome assessment platform, using M&A as a key lever.

While many HCIT-focused investors found 2017 somewhat frustrating because of tough competition and high valuations, we expect funds to continue to pursue deals aggressively in this highly attractive area. The funds that succeed in 2018 and beyond will likely be those that take a rigorous approach to value creation by investing in assets that are category leaders or that they turn into category leaders with a carefully and well-executed plan for growth.

4. Corporate M&A

Section highlights

- Corporate M&A surged across healthcare sectors in 2017, reaching a total value of \$332 billion, approaching the record levels seen in 2014 and 2015
- Three megamergers, with a collective value of \$126 billion, accounted for more than one-third of the total
- Among the forces driving deals were category leadership (building scale within a customer-defined category), outsourced R&D and cost reduction through HCIT.
- Even with valuations at or near all-time highs, we expect companies to continue to rely on M&A as a key catalyst of growth in 2018.
- The continuously changing landscape presents opportunities for forward-looking companies to craft and execute deal theses that alter their growth trajectory

Global corporate M&A activity in healthcare surged in 2017, fueled by relentless pressure on companies to contain costs and boost returns. Total deal value rose 27%, to \$332 billion, while deal count increased 16%, to 3,099 (*see Figure 7*). Three megamergers (that is, deals valued at greater than \$20 billion), with a collective value of \$126 billion, accounted for more than one-third of the total (*see Figure 8*).

While total corporate deal value in healthcare hasn't quite equaled the peak of \$432 billion reached in 2015, average annual activity over the past four years has been strong, nearly twice the level of the previous four years. This level of deal making has profoundly reshaped the healthcare industry, consolidating category leaders and blurring lines between sectors.

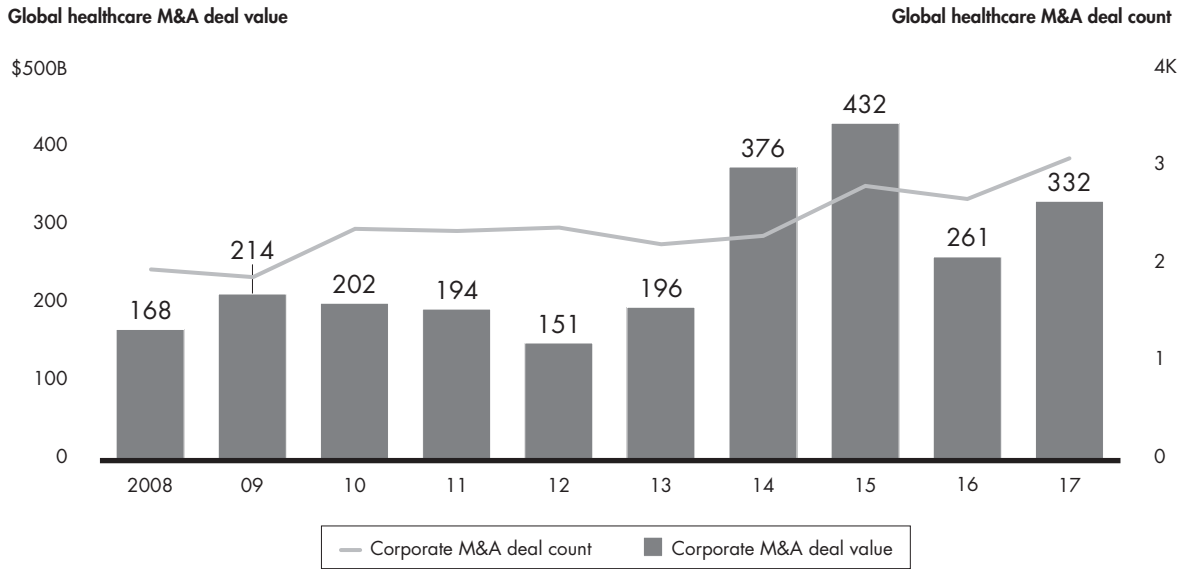
Across economies, the entities that pay for healthcare—namely, governments, insurers, employers and consumers—are pressuring providers, drugmakers and medtech companies to stem the endless rise in costs. At the same time, investors accustomed to robust returns from healthcare companies are pushing for continued top- and bottom-line growth. Against this backdrop, companies doing deals over the past few years have pursued four broad strategies in their efforts to gain a competitive edge, using M&A to:

- build or maintain leadership by increasing scale within a category, therapeutic area or call point;
- leverage an asset's R&D capabilities;
- buy HCIT assets that can help them reduce costs; and
- access new profit pools by reaching across industry sectors.

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Figure 7

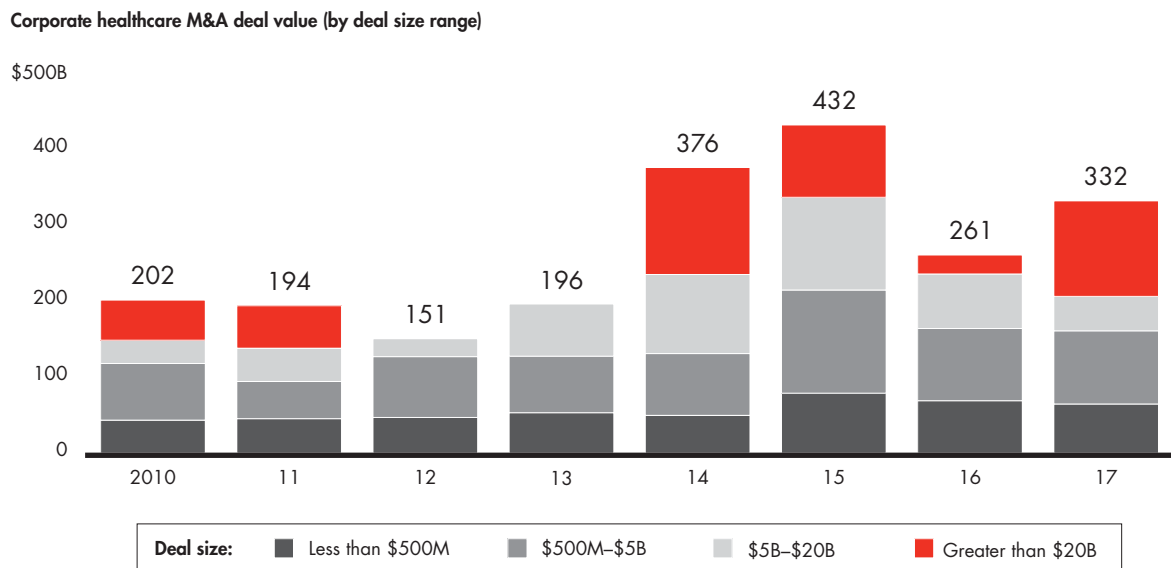
Healthcare M&A registered strong growth, nearing the blockbuster years



Notes: Excludes spin-offs, add-ons, loan-to-own transactions and acquisitions of bankrupt assets; based on announcement date; includes announced deals that are completed or pending, with data subject to change; deal value does not account for deals with undisclosed values
Sources: Dealogic; AVCJ; Bain analysis

Figure 8

Megamergers drove the uptick in deal value



Notes: Excludes spin-offs, add-ons, loan-to-own transactions and acquisitions of bankrupt assets; based on announcement date; includes announced deals that are completed or pending, with data subject to change; deal value does not account for deals with undisclosed values
Sources: Dealogic; AVCJ; Bain analysis

In the current competitive climate, category leadership continues to be a compelling investment thesis. Johnson & Johnson, for example, took several steps in 2017 to focus its leadership in certain areas. J&J acquired Actelion, a Swiss pharmaceutical company that makes drugs to treat pulmonary hypertension, and it sold hemorrhoid care brands Anusol and Rectinol to Church & Dwight. In the medtech part of its business, J&J sold Codman Neurosurgery to Integra LifeSciences for \$1 billion and acquired several smaller equipment and device companies.

In 2017, many pharma and medtech companies made acquisitions designed to leverage the target's R&D capabilities. In a fragmented and constantly evolving industry, accessing innovation through M&A can provide companies with quick access to new technologies without having to develop them de novo. In a major cross-border deal, Japanese pharma company Takeda acquired US-based Ariad Pharmaceuticals in order to obtain Ariad's oncology drug pipeline and its scientific capabilities. Medtech giant Becton, Dickinson and Company acquired another US-based medtech company, C.R. Bard, to gain access to Bard's specialized technology in oncology, vascular medicine, urology and surgery.

Companies are also finding that using M&A to acquire R&D capabilities is an effective way to build positions in emerging technologies such as gene therapy and biosimilars. US-based pharmaceutical company Gilead Sciences entered the chimeric antigen receptor (CAR) T-cell therapy business through its acquisition of Kite Pharma, and Australian biopharma company CSL Behring acquired US-based Calimmune, a company that develops clinical-stage gene therapy solutions.

Historically, healthcare companies optimized performance within their sector to combat pricing pressure, but now many companies are questioning the sector boundaries they previously took for granted and reaching across sectors to access new profit pools.

In the provider and payer sectors, companies made several acquisitions of HCIT companies that specialize in software that can improve efficiency. Change Healthcare acquired Docufill, a cloud-based technology that allows providers to use a single shared form across an organization for credentialing. Medsphere Systems, which offers subscription-based EMR software, merged with Stockell Healthcare, which makes RCM tools.

As healthcare faces disruption from new entrants and continued downward pricing pressure, established companies are themselves also breaking down barriers. Historically, healthcare companies optimized performance within their sector to combat pricing pressure, but now many companies are questioning the sector boundaries they previously took for granted and reaching across sectors to access new profit pools.

In the largest corporate deal of 2017, CVS Health, a major player in retail health, announced plans to acquire insurer Aetna for \$69 billion. The merger, which is subject to regulatory approval, would integrate management of patients' pharmaceutical use with management of their general health. In another cross-sector deal, Humana, which called off its own planned merger with Aetna in early 2017, announced its acquisition of a 40% stake in Kindred's home care network, with the remaining 60% going to TPG and Welsh Carson.

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Further blurring the lines that divide healthcare sectors, UnitedHealthcare, a leading US healthcare insurer, acquired Chilean insurer Banmedica for \$2.8 billion, and UnitedHealthcare's Optum unit paid \$4.9 billion for DaVita Medical Group, a US-based primary and specialty care provider. In the animal health arena, pet food giant Mars expanded its veterinary care business by acquiring VCA, which operates more than 750 animal hospitals, for \$9.1 billion.

Despite valuations at or near record highs, we expect a continued high level of M&A activity in 2018 as healthcare companies continue to look to M&A as a vital component of their growth strategy. We expect the four trends that drove deal activity in 2017 to continue, and we expect three other forces to impact the deal landscape in 2018.

One is evolving laws and regulations. In the US, tax reform will mean lower corporate rates, potentially making healthcare assets attractive to foreign acquirers eager to expand in the world's largest economy. In Europe, new rules affecting medical device manufacturers, particularly the Medical Device Regulation, will force companies to examine their portfolios and evaluate the significant costs of meeting these requirements. Many may choose to reduce the complexity of their holdings or put themselves up for sale rather than incur the cost of compliance.

The second trend is innovation. In the pharma sector, we expect the development of next-generation platforms such as biosimilars and gene therapy to accelerate. As these technologies are proved out, they'll disrupt the entire industry, creating buying opportunities not just in new spaces but also putting stress on the valuations of traditional companies.

According to a Bain analysis, 45% of TSR growth at publicly traded global healthcare companies over the past five years came from an expansion of price-to-earnings multiples—that is more than growth from either revenue or earnings.

Finally, the changing nature of total shareholder return (TSR) will likely impact deal activity in 2018. Rising stock markets have been very generous to the shareholders of public healthcare companies, but that's not something they can count on going forward. According to a Bain analysis, 45% of TSR growth at publicly traded global healthcare companies over the past five years came from an expansion of price-to-earnings multiples—that is more than growth from either revenue or earnings. As P/E multiples likely reach their peak, companies will face renewed pressure to build TSR through revenue growth, margin expansion or financial leverage. If they can't drive revenue growth internally, they'll likely look for it in acquisitions, adding further fuel to healthcare M&A.

In an environment this expensive and turbulent, it can be tempting to sit back and wait for prices to come down and for the industry to stabilize. However, companies that wait for valuations to fall before pursuing acquisitions risk missing out on critical growth opportunities and falling behind as their competitors bolster

their positions and reshape the healthcare value chain. In an industry rife with continued disruption, companies will need to consider M&A that goes beyond conventional rollups and build-outs and look at deals that are truly radical and transformative.

As forward-looking companies craft their strategies for growth, they'll determine what role M&A will play in realizing their objectives. Doing this requires establishing a clear point of view on the trajectory of the healthcare segments in which they compete, a candid assessment of the assets and capabilities they would need to win in those segments, and, most importantly, a detailed plan for how they could uniquely add value to any potential targets.

5. Exit activity

Section highlights

- Healthcare PE exits declined to 116 in 2017 from 126 in 2016, while total value fell to \$44.4 billion from \$64 billion
- The median holding period for assets sold in the 10 largest exits rose from 4.2 years in 2016 to 6.7 years in 2017, and 3 of the 10 largest exits of 2017 had holding periods of 10 or more years
- Corporate buyers, with ready access to capital, cash on their balance sheets and opportunities for business synergies, accounted for 42% of exits by count and 69% by value
- IPO exits rose to 14 deals in 2017 compared with 10 in 2016, while exits to other funds were stable

PE investors took advantage of favorable valuations and strong interest in healthcare assets to sell some major holdings in 2017. For example, JLL Partners sold Patheon, a contract development and marketing organization it had owned for 10 years, to laboratory supplies manufacturer Thermo Fisher Scientific for \$7.2 billion. In another exit involving lab supplies, Avista Capital and Madison Dearborn sold VWR International, a lab supplier they had jointly owned for a decade, to PE-backed Avantor for \$6.5 billion.

Despite such sizable transactions, overall healthcare PE exit activity declined to the lowest level in five years, with 116 deals in 2017 vs. 126 in 2016 (see Figure 9). Total exit value fell as well, to \$44.4 billion in 2017 from \$64 billion in 2016. Corporate buyers accounted for 40% of total exits by count and 70% by value.

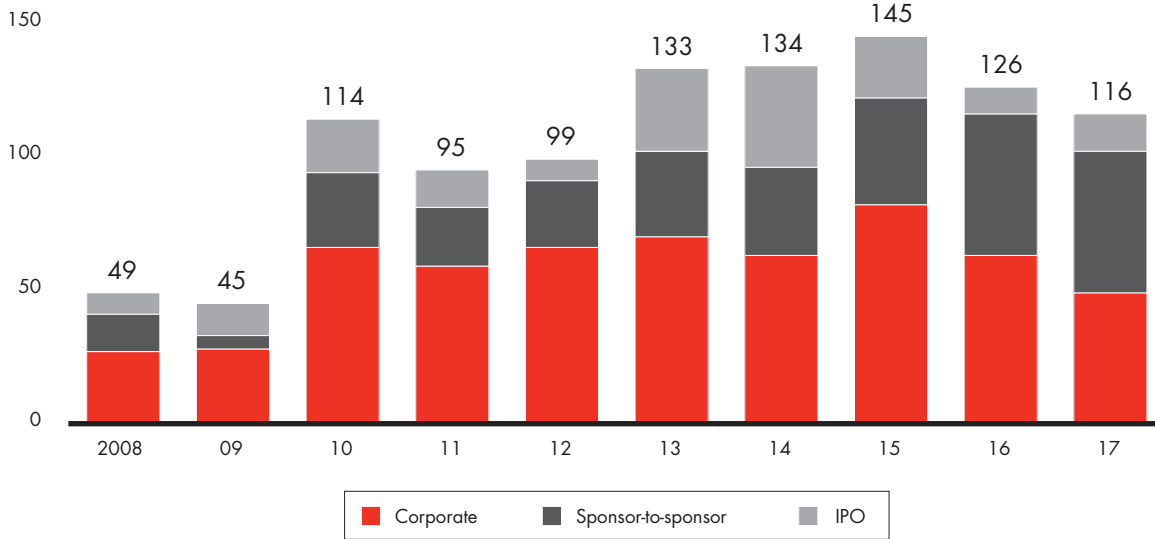
This decline in exit activity following peak levels in 2014 and 2015 is not surprising. Over the past five years, funds have sold assets they acquired before the global financial crisis, when PE buyout activity was at a record high. Now that funds have exited many of those investments made prior to the financial crisis, fewer assets remain to sell.

Additionally, there has been a limit to the number of large exit deals seen over the past several years. Since 2010, there have been on average just 10 healthcare PE exits per year valued at more than \$1 billion. While many PE funds are happy to take advantage of a strong exit environment and will lock in gains as soon as possible, some funds are weighing the potential upside of holding onto key assets for longer periods. When PE funds have to pay high prices to acquire top-tier assets, they face pressure to deliver on a strong value-creation plan before they put the asset up for sale. Taking time to fully realize the benefits of the value-creation plan helps ensure that the asset is well positioned for a successful exit. Other types of investors—including sovereign wealth funds, pension plans, family offices and so-called evergreen funds—are also deliberating opting for longer holding periods.

Figure 9

The number of exits declined to the lowest level since 2012

Global healthcare buyout-backed exits (by count)



Note: Excludes bankruptcies
Source: Dealogic

A deep dive into the top 10 exit deals shows that the median holding period was 6.7 years in 2017, compared with only 4.2 years in 2016 (see Figure 10). While the 2016 top 10 exits all involved assets that had been held for less than 10 years, the 2017 top 10 exits included three assets that had been held for a decade or longer. For example, TPG sold Surgical Care Affiliates, an outpatient surgical services provider it had acquired in 2007, to United-Healthcare’s Optum. During the 10-year holding period, Surgical Care had expanded its reach through acquisitions of multiple other providers, including Health Inventures, Surgery Center of Chevy Chase and Midwest Surgical Management Group.

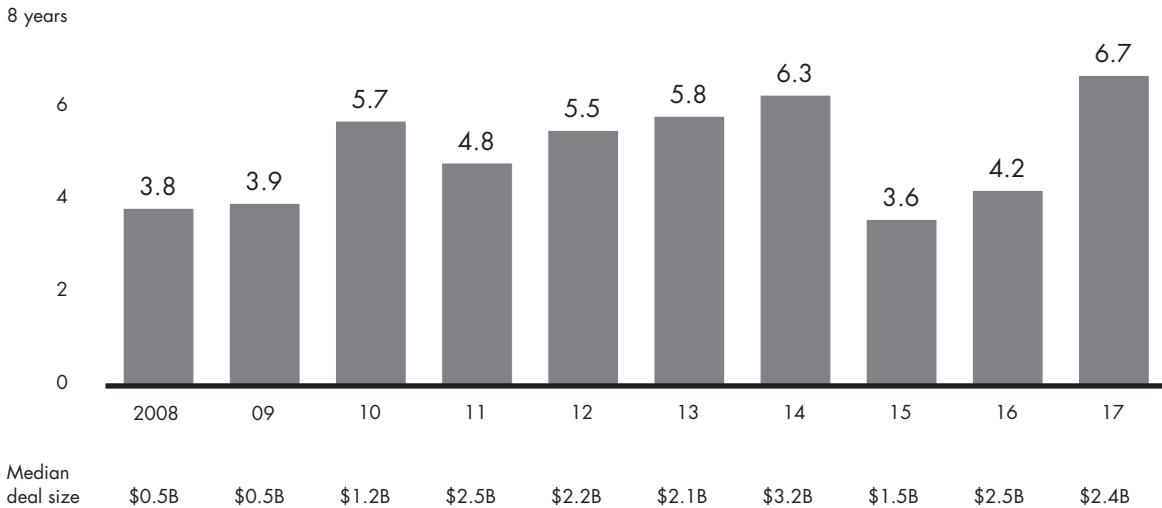
Even when they hold assets for a longer period, funds may choose to realize some of their gains by selling a portion of their stake to a new investor. Carlyle and Hellman & Friedman, for example, decided to retain a position in Pharmaceutical Product Development, a CRO serving biopharma, while bringing in Singapore’s GIC and the Abu Dhabi Investment Authority as coinvestors.

Funds looking to maximize their returns often look to corporate buyers when it’s time to sell. Corporate acquirers, with ample cash on their balance sheets and ready access to cheap capital, are often prepared to pay premium prices for assets that can bring synergies to their existing portfolios. In 2017, 60% of exits valued at greater than \$1 billion involved corporate buyers, and more than 40% of these transactions crossed borders. In one major transnational exit, US-based RoundTable Healthcare Partners sold US-based device maker Argon Medical Devices to China’s Shandong Weigao and an unnamed partner for \$850 million, part of the Chinese company’s plan to expand its footprint overseas and bring new medtech capabilities to Chinese healthcare.

Figure 10

The median holding period for assets sold in the 10 largest exits rose considerably in 2017

Median holding period for top 10 exits



Note: Excludes bankruptcies, recapitalizations, restructuring and write-offs
Sources: Prequin; Dealogic

With valuations remaining high, some funds achieved strong returns by selling assets to other funds. PAI Partners made more than twice its original investment when it sold Cerba Healthcare to Partners Group and Public Sector Pension Investment Board for \$1.9 billion. PAI originally bought Cerba from another PE owner, IK Investment Partners, for \$700 million in 2010.

Many PE funds took advantage of rising stock markets to sell shares in their holdings to the public. Advent International and EW Healthcare Partners took public Biotoscana, a Latin American specialty pharmaceutical company, by selling a portion through an IPO and retaining an equity stake. Altogether, there were 14 healthcare IPO exits in 2017 with a total value of \$4.3 billion, compared with 10 IPO exits in 2016 with a total value of \$2.9 billion.

Successful exits actually start before a fund even acquires an asset. During the diligence phase, leading funds sketch out potential exit scenarios, thinking expansively about which buyers may be the next owner of the business. Such planning includes making a realistic assessment of those healthcare areas likely to be the most attractive to corporate buyers, bearing in mind the disruption that new technologies and new players bring to particular sectors. Funds that had previously underestimated the potential for selling to corporate buyers need to be careful not to become overly sanguine in their expectations.

Looking ahead, funds are likely to find a favorable environment for exits, one that presents a series of options. A fund may choose to exit in the near future for promising returns or double down with the prospect for even better returns in the long run. Funds can also opt to realize some gains by selling shares to the public or to a

new coinvestor while retaining enough of a stake to generate substantial gains further down the road. Given the tendency some funds have toward longer holding periods and the fact that funds have now sold many of their investments made prior to the financial crisis, we may have reached a plateau in healthcare PE exits and may even see a steady decline. With these kinds of choices and these kinds of trends, smart funds will start pondering potential exits from the first moment they spot an asset they think they want to own.

Spotlight: What funds can learn from deep operational due diligence

In the current healthcare PE landscape, funds investigating potential acquisition targets are placing new emphasis on the need for deep and thorough operational due diligence. With standard commercial due diligence, funds conduct unbiased research on the target and the markets in which it competes. With operational due diligence, they develop a detailed, post-acquisition operational improvement plan for boosting margins. Funds recognize that it is earnings before interest, taxes, depreciation and amortization (EBITDA) growth, much more than multiple expansion, that drives return on investment.

Despite the importance of EBITDA growth, funds often fail to achieve their projected targets for margin expansion. More than two-thirds of PE-owned assets fall short of projected EBITDA margins during the ownership period, according to Bain analysis. There are numerous reasons why funds miss their EBITDA targets, including unforeseen nonmaterial cost inflation and changes in the volume and mix of products sold.

With operational due diligence, PE investors can develop plans for improving EBITDA even in the face of changing conditions. Funds can apply analytical rigor when quantifying the potential operational improvements that could further enhance both the top and bottom lines and devise a post-acquisition operational strategy to maximize returns.

Funds that successfully use operational due diligence take three critical steps:

- **Understand the cost base.** Funds start by probing the key forces, both internal and external, that drive the target's fixed and variable costs. They study historic cost trends and develop a point of view of future cost pressures. They examine current management's plans for cost containment and then identify new opportunities for post-acquisition savings.
- **Assess operational improvement potential.** By benchmarking the target's performance against a wide range of metrics, both internal and external, funds can spot opportunities to improve operations, cut costs and spur growth. They can discover ways to improve salesforce effectiveness, supply chain management and manufacturing productivity. Funds can buttress those insights by testing their ideas in conversations with the target's management and its external advisers and then prioritize those improvements that are likely to deliver the most impact in the shortest time.
- **Draw up a detailed roadmap.** After consulting with the target's managers and advisers, funds devise a tactical plan to capture potential savings and growth opportunities, taking into account the resources they'll need while identifying and mitigating risks.

When PE investors combine rigorous operational due diligence with commercial due diligence, it allows them to come up with a robust and differentiated investment angle, one that sets them apart from competing bidders. Funds with conviction in their post-acquisition plan and associated risks can confidently bid for a target at a price that's based on achievable margin growth that they can underwrite as part of their investment thesis.

In a high-valuation environment, PE funds can't rely on multiple expansion alone to generate returns. When funds can execute a credible plan for margin growth immediately after they acquire a target, they can create a virtuous cycle of value creation. By increasing profitability early in the holding period, owners are able to generate cash that they can then channel into other value-boosting investments. Funds are increasingly realizing that thoroughly researched operational due diligence will give them a head start in making the most out of their investments. Deep operational due diligence requires extra effort, but it can bring rich rewards.

6. 2018 and beyond

After all the regulatory and legislative tumult of 2017, this year looks relatively calm. It seems less likely that the US Congress will try again to fully repeal the Affordable Care Act anytime soon. And regardless of what happens on the legislative front, the demographic trends underpinning the demand for medical services, such as aging populations and the rising prevalence of chronic disease, will remain strong.

So, too, will the attractiveness of healthcare assets as safe-haven investments. Given the inordinate length of the current global economic expansion, funds are contemplating the possibility of a downturn during the holding period for most new PE investments. Investors will continue to recognize the healthcare industry as counter-cyclical and recession resistant. We expect PE funds to focus on areas that have historically generated strong returns, including contract services, retail health and HCIT.


Given the ongoing demand for quality healthcare assets, valuations are likely to stay high—even in the face of stock market gyrations and rising interest rates. Adding to the pressure on PE investors will be sustained competition from corporate acquirers. To complete sizable deals at acceptable prices, funds may need to expand their strategies. We expect to see more interest by funds in corporate carve-outs and more partnerships between funds and corporate buyers.

We also expect funds to continue finding good opportunities to take public assets private. Stock market volatility of the kind seen in early 2018 may accelerate this trend by prompting sellers of public assets to consider the valuation stability an offer from a PE fund can bring.

Regardless of how PE funds structure their healthcare deals, we can expect them to continue to pay premiums for category-leading assets. Category leaders stand to benefit most from the fundamentals driving the steadily increasing global demand for healthcare services.

When valuations are high, funds can't count on multiple expansion alone to generate returns. They must enter into acquisitions with a detailed plan to increase enterprise value by lifting margins, focusing on the bottom line as well as the top line. PE funds with winning strategies will therefore be those that conduct thorough operational due diligence along with commercial due diligence.

As disruptive forces roil healthcare, funds will look for new ways to gain an edge. The announcement in early 2018 by Amazon, Berkshire Hathaway and JPMorgan Chase that they would join forces to reinvent the delivery of healthcare is only the most recent and visible sign of these trends—which include digitalization and the rise of consumerism. Forward-looking funds will carefully watch these disrupters to see how they affect the valuations of both new and established players in the healthcare universe.

Funds that are thoughtful and creative with their deal strategies and diligent in their research will continue to find opportunities in a growing and evolving industry that provides products and services that everyone in the world needs. 

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Acknowledgments

This report was prepared by Bain's Healthcare Private Equity practice and a team led by Jennifer Ferrigan, a manager, and Erin Ney, a senior consultant in Bain's Healthcare practice. The authors would like to thank Allyson Covello, Onaizah Panhwar, Priscilla Schenck, Laila Kassis, Eric Berger, Jeremy Martin, Giovanni Miani, Christian Langel, James Viles, Satyam Mehra, Sunil Chandrasekhar and Brenda Rainey for their contribution; John Peverley, Rahul Singh and Sindhu Nair for their research assistance; and Ron Henkoff for his editorial support. We are grateful to Dealogic, AVCJ and Preqin for the valuable data they provided for this report.

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