



Global Healthcare Private Equity and Corporate M&A Report 2019

BAIN & COMPANY 

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Due diligence. We help support better deal decisions by performing integrated due diligence to assess the market dynamics, a target's competitive position and margin expansion opportunities, and by 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 or wholesale transformations.

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

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Welcome letter

Dear colleagues,

Healthcare private equity just finished a truly banner year. In the face of growing economic and sociopolitical instability across the globe, healthcare assets attracted investors at record levels in 2018. An especially volatile fourth quarter for both global markets and certain political landscapes produced a strong sense of unease among most investment professionals. Yet healthcare's sturdy fundamentals and track record of strong performance were a beacon for investors seeking a safe haven. When combined with a glut of dry powder, increased fund-raising and higher fund allocations, competition for healthcare assets intensified throughout the year—and shows no signs of abating.

In the face of growing economic and sociopolitical instability across the globe, healthcare assets attracted investors at record levels in 2018.

Consider the high-level tally: Disclosed deal values surged almost 50%, to \$63.1 billion, topping last year's level of \$42.6 billion, and deal count rose to 316 in 2018 from 265 in 2017. We tracked strong investment activity across all regions and in sectors such as healthcare IT (HCIT), provider and biopharma.

Investors made a mark with 18 deals greater than \$1 billion each in disclosed value, pushing larger assets to levels that are out of reach for most buyers. We witnessed some of the largest healthcare buyouts of all time as investors made big bets on category leaders across sectors.

Corporate buyers also jumped in with enthusiasm, pushing corporate M&A in healthcare to a record \$435 billion in 2018, surpassing the previous high of \$432 billion in 2015. In recent years, corporate healthcare companies have increasingly turned to and relied on M&A for revenue and shareholder growth.

In order to get deals done amid intense competition, funds took more creative approaches to transactions. For large or more complex assets, more buyers sought partners to help finance the deal or spread the risk. Some PE funds looked to public companies for carve-out or take-private opportunities, as public valuations became increasingly attractive compared with private market offerings. Funds also explored assets across a wider range of the risk spectrum, from stable core assets to higher-risk growth assets. To deal with the challenge of multiple expansion likely becoming an outdated lever for returns, investors are expanding their value-creation theses beyond the traditional category- or geographic-leadership buyout.

To adapt to all of the above, funds are building capabilities to take unique risks, doing diligence earlier and preparing more thoroughly for operating a new asset. Investors need to expand, accelerate and intensify their process for buyouts, and they should be guided by four principles.

- **Develop a clear playbook and the right capabilities for the chosen strategy.** When investors dedicate larger portions of their funds to healthcare investments while simultaneously facing increased competition, their strategy may need to change. Can they continue to double down on areas of current focus? Or should they expand the aperture for investment in terms of sectors, check size, deal theses and approach to value creation? And how far can they expand without finding themselves spread too thin? Assessing the capabilities required for success and strengthening areas demanded by the investment strategy will be critical for buyers going forward.
- **Develop the value-creation plan early.** Given current valuation levels, multiples may no longer expand the way they have in the past. Instead, investors must increasingly derive returns from commercial and operational levers. Buyers should begin developing the value-creation plan during diligence and cocreate with, and hold company management accountable for, an execution plan that shows a clear path to value creation. This requires a more proactive mindset, thinking several moves ahead to build relationships with operating advisers and management teams.
- **Execute next-generation diligence.** Given the increased competition for a limited set of assets, funds are writing larger checks and moving quickly to win deals. As such, investors will look for more ways to drive value from an acquisition and pull forward value-creation planning into diligence. Being laser focused and realistic about the commercial and operational return levers during diligence will enable funds to make wise investments. Best-in-class investors think years ahead about which spaces and assets to invest in and then position themselves to win by doing their homework early. They also realize the traditional market diligence no longer suffices. Savvy investors will use other chapters of the diligence playbook, conducting an integrated diligence to assess profit improvement and growth levers—and to identify potential disrupters that can pose both risks and opportunities.
- **Take a creative path to get deals done—if you can.** Funds no longer pursue only traditional buyouts to generate returns for investors. Partnerships, growth investing and take-privates are just a few of the creative approaches firms are taking. But not every buyer can execute these variations flawlessly, because they require internal capabilities that take time to develop. Funds that leverage existing strengths and platforms can generate meaningful value by doubling down on their portfolios as an acquisition vehicle.

Looking ahead, the likelihood of a recession will be palpable throughout 2019, and sociopolitical uncertainty may prevail. Returns in healthcare PE markets have proven resilient through such storms in the past, however, and we are confident that investor demand for these fundamentally strong, reces-

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sion-resistant assets will endure. Buyers with a robust healthcare acquisition playbook are best positioned to make smart investment decisions that will generate strong returns in the years ahead.

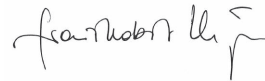
We hope you enjoy this year's *Global Healthcare Private Equity and Corporate M&A Report*, and we are excited to continue our dialogue with you over the coming months.



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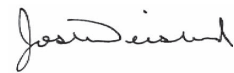
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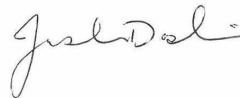
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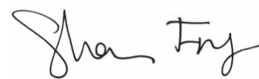
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1. Healthcare private equity market 2018: The year in review

At a Glance

- ▶ Healthcare PE activity rose to record levels yet again in 2018. Total disclosed deal value reached \$63.1 billion, the highest recorded since 2006, and deal count grew to 316 from 265 in 2017.
- ▶ North America remains the most active region, and provider and related services remains the most active sector.
- ▶ As we anticipated in last year's report, PE funds expanded their suite of deal approaches, relying more on partnerships, public markets, nontraditional buyout structures and creative value-creation strategies in order to complete deals in a historically competitive market.

Beyond healthcare, private equity overall confirmed its enduring strength as an asset class by continuing a multiyear run of growth in 2018. Disclosed deal values rose 11%, to \$447 billion, while deal activity stayed flat at 1,705 deals (excluding add-ons). Despite intense competition for assets, rising US interest rates and tighter access to credit, ample dry powder and a track record of returns for the asset class ensured a strong year for PE investing.

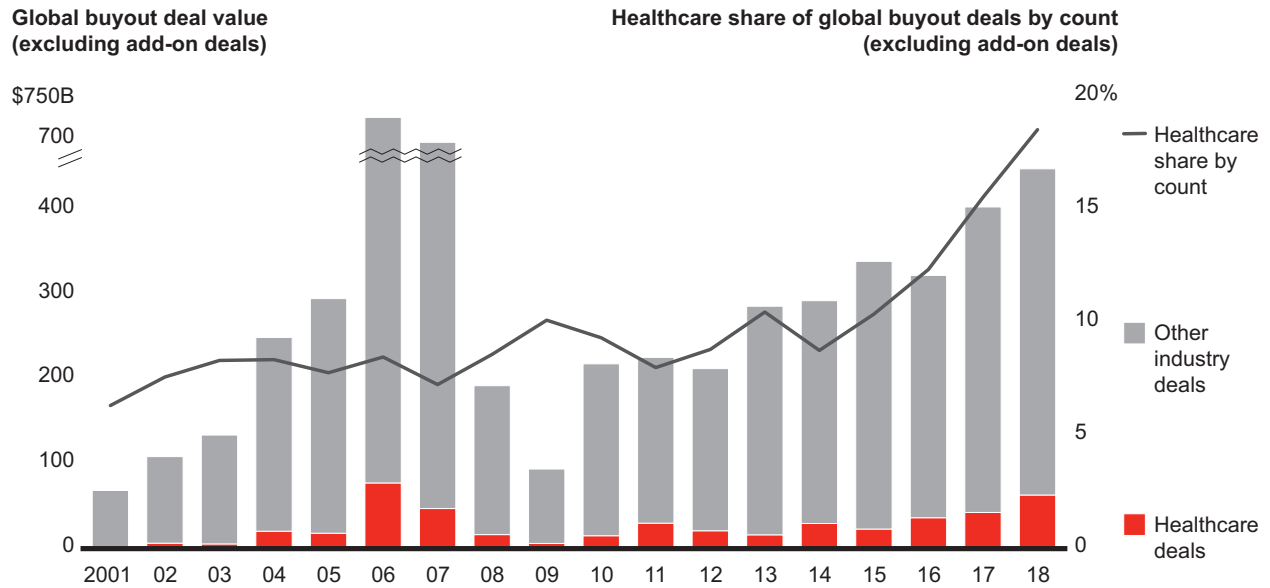
Delving into healthcare, any way you look at it, the sector had a banner year (*see Figures 1 and 2*). Excluding add-ons, deal volume increased by almost 20% year over year, to 316 transactions, and total disclosed deal value grew by almost 50%, from \$42.6 billion in 2017 to \$63.1 billion in 2018, as investors announced several megadeals. Unlike in 2017, when only one such transaction closed, 2018 saw four assets trade for more than \$4.0 billion, including the largest buyout in at least the past decade: KKR closed a \$9.9 billion acquisition of Envision Healthcare in October (*see Figure 3*).

High valuations were derived in part from intense competition from financial sponsors and corporate acquirers. Corporate M&A deal value rose by roughly 30% in 2018 as healthcare companies turned to acquisitions in order to drive revenue growth, given that multiple and margin expansion have slowed in recent years.

Deal activity and values were robust globally, setting post-recession highs across regions. While North America continued to account for the most deals and highest values, the European and Asia-Pacific regions reached historically high levels in value. In Europe, a handful of large buyouts, including two

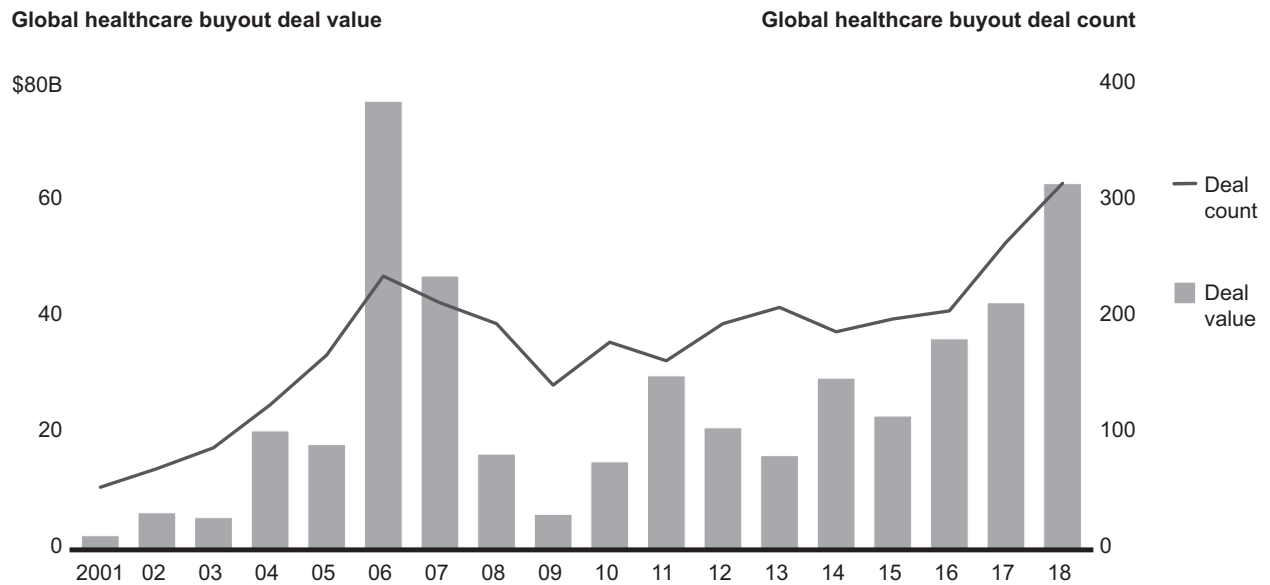
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Figure 1: As private equity deal values continue to rise, healthcare assets have become increasingly popular with investors



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; total buyout deal values updated based on Dealogic 2018 sponsor classifications
Sources: Dealogic; AVCJ; Bain analysis

Figure 2: 2018 was a banner year for deal activity in healthcare private equity as disclosed value reached the highest level since 2006



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; total buyout deal values updated based on Dealogic 2018 sponsor classifications
Sources: Dealogic; AVCJ; Bain analysis

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Figure 3: The 10 largest healthcare buyouts in 2018 accounted for approximately 60%, or \$38 billion, of total disclosed deal value

Target	Target region	Acquirer(s)	Acquirer region	Sector	Approximate deal value (\$B)
Envision Healthcare	North America	KKR	North America	Provider and related services	9.9
Recordati	Europe	CVC Capital Partners; PSP Investments; StepStone	Europe	Biopharma and related services	7.4
athenahealth	North America	Veritas Capital; Evergreen Coast Capital	North America	Provider and related services	5.7
Healthscope	Asia-Pacific	Brookfield Business Partners	Asia-Pacific	Provider and related services	4.1
Zentiva	Europe	Advent International	Europe	Biopharma and related services	2.4
Sound Inpatient Physicians	North America	Summit Partners; OptumHealth	North America	Provider and related services	2.2
Mehiläinen Oy	Europe	CVC Capital Partners	Europe	Provider and related services	2.1
LifeScan	North America	Platinum Equity	North America	Medtech and related services	2.1
Sebia International (60%)	Europe	CVC Capital Partners; Téthys Invest	Europe	Medtech and related services	1.5
Sirtex Medical	Asia-Pacific	CDH Investments; China Grand Pharmaceutical and Healthcare Holdings	Asia-Pacific	Medtech and related services	1.4
Total top 10 deal value					38.7
Total healthcare PE buyout deal value					63.1

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 inclusive of net debt and quoted at the time of announcement; deal values are approximate and based on information from press releases, news articles, Dealogic or AVCJ
Sources: Dealogic; AVCJ; Bain analysis

biopharma deals, led to a significant increase in deal values. And the Asia-Pacific region experienced a spike in activity as investors looked to tap into demand from a healthcare consumer class that has continued to grow in recent years.

Alongside deal activity, our report last year anticipated several trends that emerged in 2018.

First, as the economic expansion extended further beyond historical norms, investors flocked to recession-resistant healthcare investments ahead of an inevitable downturn. We saw significant activity across all segments of the value chain. Pharma, one of the most attractive segments, experienced strong activity, such as the Recordati and Zentiva deals. And the athenahealth and GE Healthcare buyouts, collectively valued at almost \$7 billion, speak to the lure of HCIT. Moreover, funds pushed beyond traditional retail health assets into niches such as behavioral health, where autism and other specialty segments hold the promise of sufficient returns, as evidenced by Blackstone’s acquisition of the Center for Autism and Related Disorders (CARD).

Beyond some of the more anticipated sector trends, investors continued to make bets on the consumerization of health, including the rise of concierge care, telemedicine and home health models. The Carlyle Group made a \$350 million minority investment into iLife Healthcare, the technology and management company affiliated with One Medical, an independent network of concierge primary care services.

Payer services attracted growing interest as well, evidenced by Clayton, Dubilier & Rice's (CD&R) majority stake acquisition of naviHealth and General Atlantic's investment in Landmark Health, as investors take positions on the growing trends around Medicare Advantage and complex populations.

The second major trend was that deal sizes remained high. Funds pursued larger deals with bigger checks as they were willing to lean in with the support of more robust, integrated commercial and operational due diligence as well as value-creation plans. This occurred across other industries, not just in healthcare, with the average disclosed deal value rising significantly across the board.

We also foresaw that multiples would remain elevated. This was borne out anecdotally, as stiff competition for high-quality assets supported enterprise value to earnings before interest, tax, depreciation and amortization multiples that were in line with past years. The continued rise in multiples leaves investors to ponder whether deal returns for this vintage will be as compelling as past vintages. While the bar is rising, we believe that investors pursuing sophisticated value-creation plans on well-chosen assets will still realize strong deal returns.

Perhaps the most interesting trend that we anticipated is how funds responded to intense competition for deals with an increasingly wide range of approaches. Funds partnered with multiple investors to minimize the risk on buyouts of larger assets.

Perhaps the most interesting trend that we anticipated is how funds responded to intense competition for deals with an increasingly wide range of approaches. Funds partnered with multiple investors to minimize the risk on buyouts of larger assets. For example, following TPG, Welsh, Carson, Anderson & Stowe, and Humana's acquisition of Kindred Healthcare, the consortium continued building its hospice platform by acquiring Curo Health Services. These types of add-on acquisitions increased as funds preferred to incrementally invest in their own high-quality portfolio companies and platforms rather than compete for high-priced assets in which they do not have an operational advantage. Another approach took shape in the form of larger corporate carve-outs and take-privates as investors sought more attractive valuations in public assets. These measures of flexibility, among others, have become essential for success in a market that is one of the most attractive and competitive in all of private equity.

Spotlight: In a crowded market, funds expand their deal approaches

Competition for healthcare assets has intensified in recent years among both financial sponsors and corporate acquirers, driving average deal values higher. Despite a record number of assets trading in 2018, funds still could not deploy as much capital as they would have liked. Competition is likely to intensify, as dry powder has reached historic levels and investors view healthcare as a safe haven in an economic downturn.

The crowded deal market has prompted investors to explore more creative deal approaches, such as:

- partnering;
- looking to public markets;
- moving beyond the traditional leveraged buyout; and
- expanding value-creation theses.

Let's look at each tactic.

Partnering

With strong demand for high-quality assets driving up valuations, investors have joined other financial sponsors or corporate acquirers in order to access transactions they could not execute on their own or to gain a proprietary angle. Partnerships also help funds to diversify portfolios or team up with an experienced operating partner with the requisite know-how.

Consortiums continue to represent a significant portion of megadeals. Indeed, 7 of the 18 deals with a value greater than \$1 billion were acquired by financial sponsor consortiums, representing more than 30% of total disclosed deal value. Investors were also able to acquire assets at a discount to public market valuations. In one such example, CVC Capital partnered with PSP Investments and StepStone Group to acquire Italian pharmaceutical company Recordati at a 20% discount for \$7.4 billion. This included a roughly 52% majority stake in the company and the obligation to launch a mandatory takeover offer for the remaining 48% stake, which completed in February 2019 with minimal take-up.

Funds turned to corporate partners for similar reasons. Joining corporates can give a fund credibility with the target firm and potentially unlock synergies, which could make the difference in being picked as the winning bidder or opening up a proprietary process. The 18 corporate partnership deals announced in 2018 accounted for \$7.9 billion, or 12.5% of disclosed value, as several of the largest deals of the year involved a strategic partner. In one example, a Summit Partners-led group teamed up with OptumHealth to acquire a controlling interest in Sound Inpatient Physicians for \$2.2 billion. Teaming with Optum creates expansion opportunities in services and geographies for Sound Inpatient Physicians that might not have been possible had Summit invested on its own.

In an example spanning both consortium investing and corporate partnerships, TPG and Welsh, Carson, Anderson & Stowe teamed with Humana to acquire Curo Health Services for \$1.4 billion. The consortium plans to combine Curo with the hospice business of Kindred, which the same consortium purchased in late 2017, to create the largest hospice provider in the US.

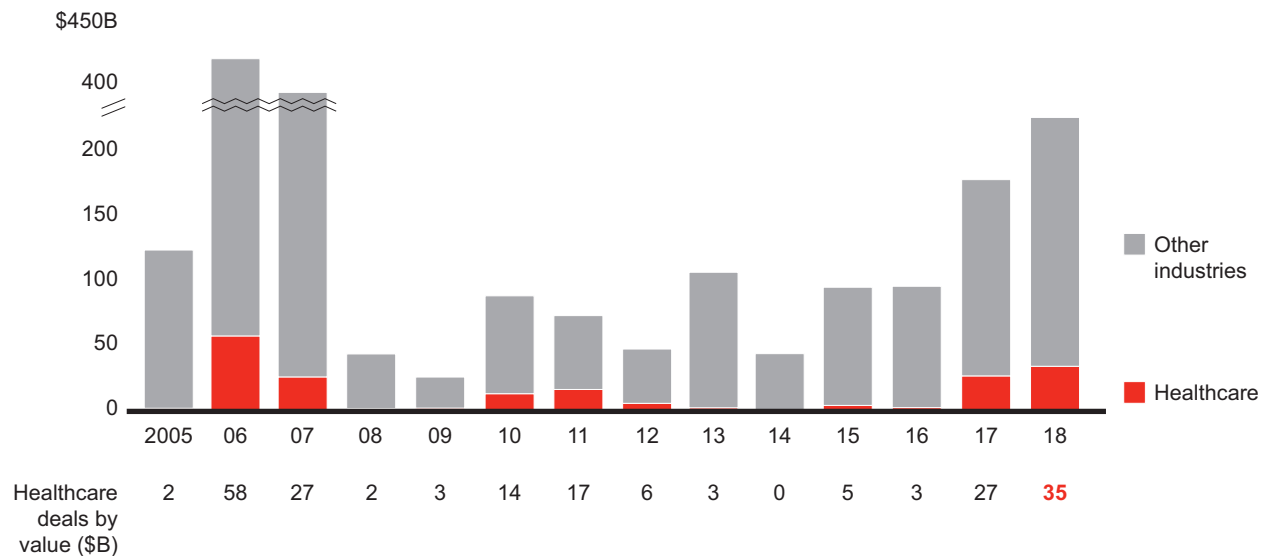
Looking to public markets

Heightened competition for private healthcare assets has also prompted investors to seek more opportunities in public markets (see Figure 4). Despite healthy public valuations prior to the fourth quarter of the year, public assets still represented an attractive alternative to the private market in many instances. The four largest deals of 2018, totaling \$27.1 billion in deal value, involved taking public companies private, including the largest deal of the year, KKR’s \$9.9 billion acquisition of Envision Healthcare, a physician practice management (PPM) group. The deal value represented a roughly 30% premium to Envision’s volume-weighted average share price prior to initial reports of negotiations. In the case of athenahealth, after activist hedge fund Elliott Management put pressure on the public board, Veritas Capital and Elliott’s Evergreen Coast Capital acquired the company for \$5.7 billion.

Other opportunities emerged in carving out noncore businesses of large healthcare companies undervalued by public markets. Some large biopharma and medtech companies, for instance, have

Figure 4: The value of public-to-private buyouts reached the highest level since 2007, while the value of healthcare take-privates rose to \$35 billion in 2018

Global public-to-private buyout deal value



Notes: Includes add-ons; based on announcement date; includes announced deals that are completed or pending, with data subject to change; geography based on target’s location
 Source: Bain global public-to-private deal database

sharpened their focus on core businesses and divested noncore assets. Three of the top 18 deals were carve-outs from larger parents, including the largest medtech buyout of the year, Platinum's \$2.1 billion carve-out of LifeScan from Johnson & Johnson.

Finally, funds have been taking minority stakes in public assets, which provides exposure without having to finance the entire company or pay a steep control premium to buy out shareholders. Buyout firms made these investments across a wide range of deal sizes. For instance, on the larger side, a Carlyle-led partnership invested to become the single-largest shareholder in Adicon Holding Limited, a network of independent clinical laboratory companies in China. And on a smaller scale, HgCapital made a \$13 million investment in Orion Health Group, an Australian population health management platform.

Moving beyond the traditional leveraged buyout

As competition has increased, funds have increasingly sought to broaden the aperture on asset classes and investment profiles, both to put more money to work in healthcare and to diversify the potential pool of assets. Firms are exploring a wide spectrum of assets from lower-risk core assets to early-stage growth assets in hopes of finding appropriate risk-adjusted returns.

As competition has increased, funds have increasingly sought to broaden the aperture on asset classes and investment profiles, both to put more money to work in healthcare and to diversify the potential pool of assets.

Investors executed long-hold investments with an eye toward maintaining ownership in high-quality core assets through an economic downturn. Several large investors, such as KKR, Carlyle and Blackstone, have launched long-hold funds in recent years to gain flexibility in holding assets longer than a traditional 10-year closed-end fund. Given the platform economics and continued buy-and-build potential, larger retail health platforms established through buy-and-build strategies can represent attractive long-term investment opportunities. In one example, KKR acquired a majority stake in Heartland Dental, a leading dental support organization serving 840 dentist offices in the US at the time of acquisition, for an undisclosed value through its core investment fund, with an expected holding period of at least 15 years. Buyout firms that historically employed a long-term strategy have also gotten active in healthcare. Cranemere, a private holding company with long-term investment horizons, acquired a majority stake in NorthStar Anesthesia, a US provider of outsourced anesthesia services.

Investors have also stepped up investments in earlier rounds and minority investments in private companies. This includes both outright acquisitions of early-stage assets and investing in seed funding rounds. For example, KKR made a \$57 million Series B investment through its Health Care Strategic Growth Fund in data analytics company Clarify Health Solutions, and Abu Dhabi Investment Authority led a \$500 million Series G round in Moderna Therapeutics. KKR established its growth equity platform in 2014 and now has 12 healthcare growth investments.

Alternative healthcare-focused vehicles are on the rise, including sector-specific funds to chase nontraditional buyout assets. Several large funds have taken on clinical-stage risk within the life sciences industry through special investment vehicles. Bain Capital raised a \$720 million life sciences fund in 2017 to make investments in medical device, specialty pharmaceutical and biotech companies, while Blackstone acquired a life sciences investment firm to act as its new Blackstone Life Sciences division. In addition to the potential returns for the new platforms, there are potential synergies with the firms' broader healthcare efforts.

Expanding value-creation theses

Creative deal strategies have proliferated as investors realize that they will not be able to rely on the same magnitude of multiple expansion for returns. More investors are starting with a thesis predicated on attaining regional or category leadership, or improving operations with a well-defined value-creation plan, and validating that thesis during due diligence vs. waiting to quantify it in post-acquisition value-creation planning.

We continue to see buy-and-build strategies employed in retail health globally, with a focus on segments such as dental and veterinary health.

We continue to see buy-and-build strategies employed in retail health globally, with a focus on segments such as dental and veterinary health. And although investors have been building such platforms in traditional retail health segments for a while, opportunities still exist to execute the strategy. For example, Nordic Capital acquired three dental groups and one large dental laboratory across Germany, Switzerland and the Netherlands.

Moreover, investors have started to roll out this strategy in other provider segments, such as behavioral health. For example, KKR developed the Blue Sprig Pediatrics platform for behavioral treatment services for children on the autism spectrum.

Funds also executed multiasset buy-and-merge strategies in order to grow scale quickly and develop a category leader with improved commercial effectiveness and general and administrative (G&A)

cost efficiencies. GI Partners simultaneously acquired Cord Blood Registry for \$530 million and California Cryobank for an undisclosed amount, combining the two companies into a leading provider of stem cell and reproductive tissue storage.

Investors have been increasingly interested in developing integrated, scaled platforms via M&A. For example, CD&R portfolio company Vets First Choice merged with Henry Schein's animal health business to develop a publicly traded, multichannel veterinary services platform. CD&R will maintain its investment in the new publicly traded entity named Covetrus. Investors have also looked to leverage these scaled platforms to complete add-on investments. For example, Bain Capital established its current revenue cycle management (RCM) platform, Waystar, through the initial acquisition of Navicure in 2016, followed by the subsequent acquisitions of Zirmed in 2017 and Connance in 2018.

Funds can improve their chances of success by ensuring that the initial platform has a stable core on which to build, putting a capable management team in place to drive growth from acquisitions, and buying add-ons that can lead to category or regional scale without losing sight of both revenue- and cost-based synergies.

These asset combination strategies, such as buy and build or multiasset buy and merge, have the potential to deliver impressive returns, but they also come with more execution risk than other buy-out strategies. Funds can improve their chances of success by ensuring that the initial platform has a stable core on which to build, putting a capable management team in place to drive growth from acquisitions, and buying add-ons that can lead to category or regional scale without losing sight of both revenue- and cost-based synergies.

Even when funds do not have the opportunity to outright acquire or build category leaders through serial acquisitions, they are increasingly investing in diligence to be able to underwrite operational improvements. Some spend more time on operational due diligence, aiming to underwrite improved commercial effectiveness and reduced costs. For sectors such as retail health, this is absolutely critical, as many platforms have struggled to strike the right balance between same-store performance and M&A growth.

What's ahead

We expect competition for high-quality healthcare assets to remain strong in 2019, which will open the door to even more creative deal structures and strategies, as well as continued forays

into public markets. Partnerships between financial sponsors and with corporates will help put capital to work and potentially create some unique angles. Investors may employ buy-and-build strategies beyond traditional retail health and look for opportunities in other physician sectors or deploy a similar approach in medtech via a series of acquisitions. And they will pursue carve-outs of noncore assets from large public companies, prospecting for niche category leadership opportunities that have been undervalued by the public markets or their corporate operators.

2. Geography trends

Overview

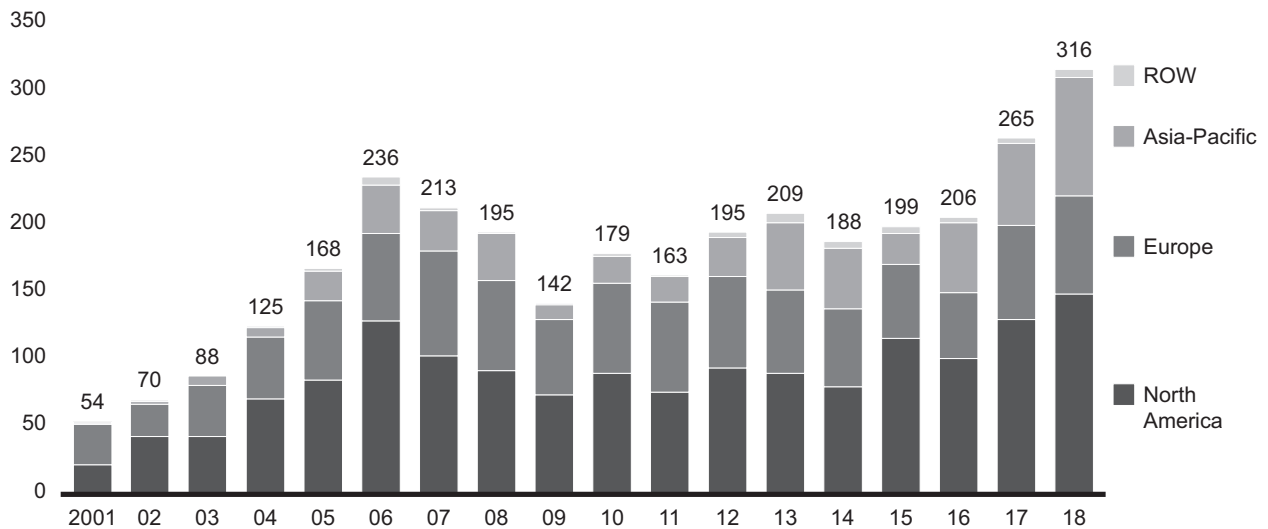
Global healthcare PE activity set another record in 2018, with 316 announced deals valued at \$63.1 billion—a marked increase over \$42.6 billion across 265 deals in 2017. Activity and disclosed value rose in every region, an increase that was especially pronounced in Asia-Pacific, where the volume of announced deals grew by 44% (see Figure 5).

The rise in values stemmed primarily from more large buyouts, as eight deals in 2018 were valued at greater than \$2 billion each vs. just four in 2017. Across regions, the provider sector again was the most active, accounting for more than half of total deal activity and disclosed value. Biopharma posted the second-largest share, accounting for roughly one-quarter of volume and value globally (see Figure 6).

The US remained the world’s largest healthcare investing market, with widespread activity across sectors. In 2018, North America once again accounted for the most deals, 149, and highest announced deal value, \$29.6 billion—both higher than 2017 levels.

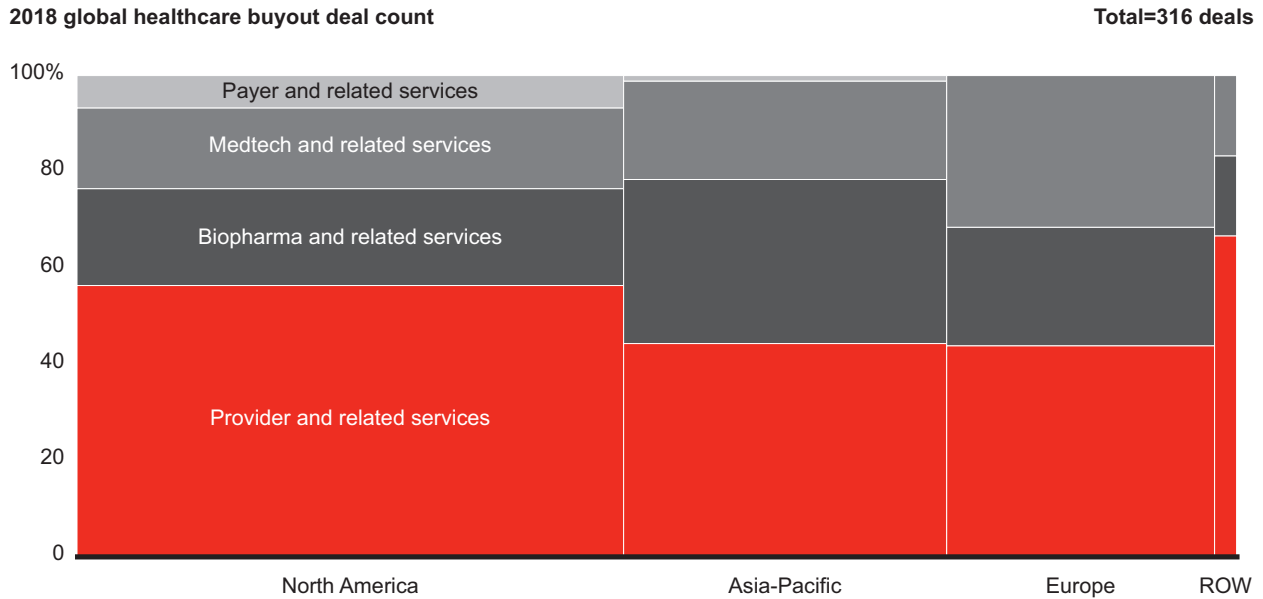
Figure 5: North America and Asia-Pacific saw increased deal activity, while Europe was relatively flat

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 stand for rest of world and includes Central and South America, Africa and the Middle East
Sources: Dealogic; AVCJ; Bain analysis

Figure 6: The provider sector was the most active across all geographies



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 stand for rest of world and includes Central and South America, Africa and the Middle East
Sources: Dealogic; AVCJ; Bain analysis

European deal activity remained robust in 2018, as deal count nudged to 73, up from 70 in 2017. Average European deal size surged in 2018, however, as disclosed value reached a record \$17.8 billion. This bump in value came mostly from two large biopharma deals, Recordati and Zentiva, cumulatively worth \$9.8 billion, which was \$3.8 billion more than the top two European deals from 2017.

In the Asia-Pacific region, deal volume surged from 61 in 2017 to 88 in 2018, while disclosed value more than doubled from \$7.2 billion to \$15.8 billion. Provider activity, which accounted for about 45% of volume in the region and about 55% of disclosed value, mainly spurred this increase as investors anticipate increased healthcare consumption across China and India. The region also saw arguably the widest spectrum of deal types from PE funds, ranging from a number of seed funding-style investments to take-privates of large public entities, such as Sirtex, which was purchased for \$1.4 billion in a partnership between China-based fund CDH Investments and China Grand Pharmaceutical and Healthcare Holdings.

Similar to prior years, the rest of the world saw minimal healthcare PE deal activity in 2018. There were six buyouts, two more than 2017, with no deal values disclosed. Of those six buyouts, four occurred in the provider sector, and three of those had Brazilian targets. This was a departure from 2016 and 2017 activity, which each saw just one deal in the provider sector and one Brazilian target.

North America: Several megadeals lead record-setting year

Section highlights

- Deals surged to a record 149 in 2018, with a total disclosed value of \$29.6 billion, led by large public-to-private transactions, more clarity on regulatory changes and continued buy-and-build activity in the provider sector.
- Provider deals continued to account for most of the volume and value, at 84 deals worth \$23.2 billion, or 37% of the global healthcare total. Behavioral health, retail health, PPM and home care drew strong interest.
- Two large deals were notable: KKR acquired Envision Healthcare for \$9.9 billion, and athenahealth went to a consortium that included Veritas Capital and Elliott Management's Evergreen Coast Capital for \$5.7 billion.

Long-term trends, such as an aging population, the rising prevalence of chronic disease, and expanding demand for quality and efficiency, have propelled North American healthcare investment activity for several years. Investors maintained strong interest in North American healthcare assets throughout 2018 for two other reasons as well: First, investors view healthcare assets as somewhat insulated from downward market trends that could be on the horizon; second, funds became more confident in underwriting deal values as they gained clarity on potential US regulatory changes, including the Affordable Care Act.

As a result, North American healthcare buyout activity set a record-level deal count of 149 on total disclosed value of \$29.6 billion in 2018, up from 130 and \$22.1 billion in 2017. Assets continue to be in high demand, with an expanding range of lower middle-market to large-cap funds chasing deals. As the disclosed value of overall North American private equity surged 35% in 2018, healthcare kept pace, comprising 14% of total North American disclosed deal value in each of the past two years.

Consistent with the prior decade, deals involving providers continued to lead the way, as more consumer-friendly, alternative care delivery models gain favor and the market shifts away from acute care settings. Investors thus have been looking for ways to build scale in fragmented categories and geographies. The most successful investment theses typically join a buy-and-build strategy with a commitment to deliver care to patients more effectively.

The provider sector accounted for 84 deals worth \$23.2 billion of disclosed value, including the region's three largest deals of the year. Investors continued their sharp focus from prior years on PPM assets. Within the PPM segment, KKR executed a \$9.9 billion take-private acquisition of Envision

Healthcare in the biggest deal of the year globally, and a Summit Partners–led group partnered with OptumHealth to acquire a controlling stake in Sound Inpatient Physicians for \$2.2 billion.

Taking on reimbursement risk did not deter many investors, as more than one-third of North American deals were for healthcare-heavy assets. Over time, investors have become more comfortable underwriting reimbursement risk as they become more experienced and the deal environment remains highly competitive. For example, firms have become more adept at understanding and underwriting out-of-network risks associated with PPMs, investing in spaces with heavier exposure to Medicare and Medicaid reimbursement, such as home health, hospice, behavioral health and durable medical equipment. Funds have also taken on capitated payment risks through acquisitions in companies such as naviHealth and Landmark Health (see “Provider and related services: Intense competition and a push into new segments”).

Within the provider segment, we saw strong interest in retail health assets, even as deal values rose after several years of consolidation, resulting in more mature platforms. In addition to nationally scaled platforms, such as Oak Hill Capital Partners’ stake investment in VetCor Professional Practices, funds pursued regional deals as well, including Lindsay Goldberg’s acquisition of PT Solutions, a physical therapy services platform with more than 140 locations mostly concentrated across the southeastern US. Funds also launched new platforms in 2018 with hopes of eventually developing the scale of these more mature platforms. Waud Capital committed \$100 million to develop an integrated veterinary services platform named Heart + Paw.

Taking on reimbursement risk did not deter many investors, as more than one-third of North American deals were for healthcare-heavy assets.

Behavioral health attracted more investor interest in 2018. Many behavioral specialties are experiencing a shortage of providers and are highly fragmented across diverse therapeutic areas and physicians, thus offering opportunities to execute buy-and-build strategies in a new segment. Investors looked in particular to autism-focused providers as a rapidly growing market with a clear clinical impact that is ripe for building platforms. For example, Blackstone acquired CARD for an undisclosed value, and KKR launched its Blue Sprig autism behavioral health platform (see “Provider and related services: Intense competition and a push into new segments”).

Home care and hospice were equally hot in 2018. These large, fragmented segments benefit from strong underlying macro trends and now have a more settled regulatory environment after the Centers for Medicare and Medicaid Services withdrew plans for reimbursement changes in mid-2017.

TPG and Welsh, Carson, Anderson & Stowe's partnership with Humana to acquire Curo Health Services for \$1.4 billion was the most prominent home health and hospice deal of the year, and it comes on the heels of the consortium's 2017 acquisition of Kindred. Kelso & Company and Blue Wolf Capital also teamed up to acquire Jordan Health Services, which they will combine with Blue Wolf's other home care portfolio companies.

Provider-focused HCIT investments continued to garner attention as well. Solutions such as electronic medical records (EMR) and RCM have matured, leading to large deals such as Veritas Capital and Evergreen Coast Capital's acquisition of athenahealth for \$5.7 billion. Similarly, Bain Capital added to its Waystar platform with the add-on acquisition of Connance. With steep prices for large, mature assets, we expect investors to focus more on niche category leaders in the near future.

Turning to biopharma, deal count rose to 30 in 2018, up from 20 in 2017, as several large funds increased their presence in this segment and even started taking on clinical risk. For example, Bain Capital purchased development-stage neuroscience assets from Pfizer for \$350 million, carving them out as a new entity renamed Cerevel. Some large funds, including Bain Capital and Blackstone, have even developed investment vehicles in recent years to pursue biopharma assets with clinical risk.

Medtech assets drew interest in fields ranging from single-use patient products to durable medical equipment. Investors could pick up some previously public assets at attractive valuations as some medtech companies have been selling noncore assets. For example, Platinum Equity acquired Johnson & Johnson's LifeScan, which develops blood glucose-monitoring systems, for \$2.1 billion. Investors also showed growing interest in consumer-focused medtech, as evidenced by a \$380 million minority investment in SmileDirectClub by a CD&R-led consortium.

We expect heightened interest in the region's healthcare market in 2019. For one thing, North American healthcare assets acquired during a recession tend to outperform investments made in most other industries.

Strong competition for quality assets led investors to employ creative deal strategies. Funds have teamed up with other financial sponsors or corporate partners in order to reach the high purchase prices; 4 of the top 10 deals in North America included financial sponsor consortiums or corporate partnering. Investors also had to look outside of traditional buyout markets, so three of the top six deals in the region were public-to-private transactions. And activist investors played a role in motivating public companies to go private or spin out noncore assets. For example, Elliott Management helped spur athenahealth's sale to Veritas Capital and Evergreen Coast Capital.

We expect heightened interest in the region's healthcare market in 2019. For one thing, North American healthcare assets acquired during a recession tend to outperform investments made in most other sectors. According to CEPRES, a digital investment platform and transactional network for the private capital markets, healthcare PE investments made from 2006 through 2008 returned nearly a full additional turn on invested capital vs. nonhealthcare PE investments during the same period (see "2019 and beyond: Uncertainty in many markets, but healthcare private equity may be an oasis of relative calm").

In this competitive environment, we expect funds to explore more opportunities in public markets and to join with corporate partners more often in a bid to diversify their portfolios and gain a strategic edge.

More capital than ever is chasing North American healthcare assets, following robust fund-raising efforts and increased interest from major buyout firms with healthcare investing track records, such as Welsh, Carson, Anderson & Stowe; Cressey & Company; and Waud Capital. Firms new to healthcare are also entering the market, such as Sun Capital, which acquired ClearChoice dental implant services in 2017.

In this competitive environment, we expect funds to explore more opportunities in public markets and to join with corporate partners more often in a bid to diversify their portfolios and gain a strategic edge. And we expect established investors to double down on their existing portfolios through thoughtful add-on acquisitions.

Europe: Robust activity despite regulatory uncertainty

Section highlights

- European total disclosed value surged about 40% in 2018, to \$17.8 billion, while deal count remained steady at 73.
- Funds were particularly active in the provider sector, despite a steep drop from 2017, and in medtech.
- Several pharmaceutical megadeals drove the increase in values.
- Regulatory and political trends, ranging from Germany's regulatory window to Brexit, could potentially generate investment opportunities.

As Europe's economy slows, the perceived safety of the healthcare industry has continued to attract investor interest. Total disclosed deal value in the region surged about 40%, to \$17.8 billion, in 2018, up from \$12.8 billion in 2017. Large deals in the biopharma and medtech sectors accounted for four of the top five European healthcare PE deals, all greater than \$1 billion.

Deal count in 2018 stayed relatively flat at 73, compared with 70 in 2017. With average deal size increasing, however, investors continue to band together through financial sponsor consortiums and corporate partnering so that they can write larger checks. Four of the top 10 deals in Europe involved consortiums or corporate partners, including the largest deal of the year for the region: CVC Capital Partners, PSP Investments and the StepStone Group's acquisition of Italian pharmaceutical manufacturer Recordati for \$7.4 billion.

Retail health played a prominent role during the year. Investors have been expanding buy-and-build strategies in retail health by moving into more countries. That tack motivated several deals in veterinary and dental services. For example, BC Partners acquired VetPartners for \$900 million in the UK, a market that has seen considerable consolidation in recent years, and Nordic Capital's acquisition of three dental groups in Germany, Switzerland and the Netherlands, along with one large dental laboratory in Germany, represents the brisk consolidation in these countries that we noted in last year's report.

There is a limit, however, to the extent of cross-border growth by retail health platforms, mainly because of reimbursement system and language constraints. These limitations apply mostly to provider and HCIT companies involved in procurement, payments or administration, because healthcare delivery and regulations differ from country to country. Moreover, healthcare companies can tap only a few types of cross-border synergies, such as efficiencies in purchasing supplies, regulatory risk diversification and

financial scale. Knowing where the geographic, systemic and scale barriers apply helps investors execute a sound expansion strategy.

Investors also continued to show a willingness to take on reimbursement risk by investing in health-care-heavy assets. Funds have stepped up investments in providers and biopharma as they develop more sophisticated ways to underwrite this risk and dial back the level of uncertainty. To be sure, part of this shift stems from necessity and the quest for strong returns in a historically competitive market, but it's also true that investors have equipped themselves to appropriately incorporate higher-risk assets into large and growing portfolios. More than one-third of European investments in 2018 had some direct reimbursement exposure, including Advent International's acquisition of Zentiva, a collection of European generics businesses from Sanofi, for \$2.4 billion.

While a majority of deals still get sponsored by European investment vehicles, Chinese investors also are looking for opportunities to gain experiences or capabilities that they can apply back in China.

Turning to biopharma, investors showed a willingness to make bigger bets. They looked for companies with regional category leadership in order to establish supply security and negotiating leverage with government payers. Although deal activity stayed flat, biopharma deals accounted for \$11.0 billion of the region's \$17.8 billion total, led by the Recordati buyout. A renewed investment cycle across prescription generics and over-the-counter (OTC) drugs has also begun. Despite political pressures on pricing, investors have a solid understanding of pricing dynamics in Europe. Opportunities abound to acquire noncore assets from large corporates looking to rationalize their portfolios in order to fund their own drug pipelines.

While a majority of deals still get sponsored by European investment vehicles, Chinese investors also are looking for opportunities to gain experiences or capabilities that they can apply back in China. Inner Mongolia Furui Medical Science partnered with Astorg Partners to acquire a minority stake in Echosens, a manufacturer of liver diagnostic equipment, for \$200 million, as one way to accelerate growth in North America and China. And European funds have shown interest in North American assets. For example, Swedish firm Investor AB acquired a majority stake in Sarnova Holdings for \$500 million through its long-hold vehicle Patricia Industries.

More broadly, other regulatory and political trends represent opportunities in the short term, even if they raise uncertainty in the longer term.

- **Pending German reforms:** Germany, the largest European healthcare market, is mulling a series of reforms, including tariffs for hospital finance and regulatory requirements for running retail health chains. Other potential reforms address providers, potentially creating clarity and a stable regulatory outlook.
- **Brexit:** While investors gained a better view of Brexit's potential impact on the EU healthcare landscape, negotiations over Great Britain's EU withdrawal continue. Brexit could lead to a shortage of healthcare workers, presenting both opportunities and risks throughout the system.
- **Medical Device Regulation (MDR) reform:** New regulations will increase the cost of medical device research and development (R&D) and manufacturing by raising the standards for clinical data and approvals; however, they also will provide investors with increased certainty through more standardized risk classifications and through improved transparency. Increased certainty should give investors better insight into the risks and opportunities related to MDR when underwriting assets in this space.
- **New general data protection regulations (GDPR):** Implemented in May 2018, GDPR will likely add costs for companies, possibly triggering a need for additional capital and deal activity.

Demand for European healthcare assets should hold steady in 2019 as investors continue to seek stability in their portfolio and adjust to the changing regulatory landscape. We expect an uptick in certain countries, such as the UK, and certain sectors, such as HCIT, as investors gain further confidence about dealing with new regulations. Pharma will also continue to attract interest as investors seek regional category leaders and actively work on their corresponding portfolio assets.

Demand for European healthcare assets should hold steady in 2019 as investors continue to seek stability in their portfolio and adjust to the changing regulatory landscape.

China and other Asia-Pacific investors likely will increase their activity in Europe to continue learning about segments, such as home care, that will likely take on more relevance and to expand market access in home markets. Finally, we expect European funds to further raise their activity in North American investments as North American healthcare assets outperform European healthcare assets through recessions, according to CEPRES analysis (see “2019 and beyond: Uncertainty in many markets, but healthcare private equity may be an oasis of relative calm”).

Asia-Pacific: Meeting surging consumer demand for healthcare

Section highlights

- 2018 was the most active year yet for the Asia-Pacific region, as deal value increased to \$15.8 billion across 88 deals, up from \$7.2 billion across 61 deals the prior year.
- China, Australia and India represented 83% of deal volume in Asia, with 44, 15 and 14 deals, respectively. Provider had the most activity, with 39 deals, of which roughly 75% came from China, Australia and India.
- Competition further intensified, and deal sizes rose, spurring more consortium and partnership strategies.
- Cross-border investment from Chinese funds continues as they look to gain access to category-leading platform assets and bring expertise from around the world home to address the huge unmet demand for healthcare in China.

Rising incomes and aging populations in Asia's largest markets, China and India, have significantly strengthened demand for access to healthcare, in turn driving demand for healthcare deals. As a result, 2018 was another banner year for healthcare buyout activity in the Asia-Pacific region. Investors made 88 deals, with a total disclosed value of \$15.8 billion, up sharply from the 61 deals worth \$7.2 billion in 2017.

The region's deal increase accounted for more than half of the total global rise in buyout volume. Heightened activity in China, which had only 8 deals in 2016, 32 in 2017 and finally 44 in 2018, accounted for most of the surge in volume. Australian activity also rose meaningfully to 15 deals in 2018 from 6 deals in 2017.

China and India's consumer demand fueled the provider sector in particular. Provider-related deals rose to 39, up from 23 deals in 2017, and accounted for 44% of regional volume and 53% of regional value in 2018. Hospital deals were the most common in this segment as China expands provider coverage. Three of the top five deals in the region were provider related, including the region's largest of the year, Brookfield Business Partners' acquisition of Australian hospital provider Healthscope for \$4.1 billion.

As China continues to address the growing healthcare needs of a large, aging population and a likely upcoming surge of chronic diseases, it will increasingly look to supplement its local innovation engine with global expertise. In recent years, China's investors have broadened their focus to global provider and medtech assets. For example, in a hotly contested deal, CDH Investments and China Grand

Pharmaceutical and Healthcare Holdings acquired Sirtex Medical, a developer of small-particle technology used in oncology treatments, for \$1.4 billion. The partners intend to support growth in Sirtex's core markets and accelerate growth in the Chinese market.

Many large, global funds have bought into the Asia-Pacific growth story through dedicated local arms. Some of the world's largest buyout firms are closing record-setting Asian funds after a dip in the early 2010s; KKR's Asia Fund III closed \$9.3 billion of funding in mid-2017, the largest fund in the region. More than one-quarter of Asia-Pacific deals during the year involved US- or Europe-domiciled acquirers that see great opportunities in a fast-growing healthcare economy. This was a key driver in London-domiciled Permira's purchase of I-Med, an Australian diagnostic imaging company, for \$1 billion, and Bain Capital's acquisition of DSM Sinochem, now known as Centrient, a manufacturer of active pharmaceutical ingredients and finished drug products, through its Asia-focused fund for \$690 million.

Stiff competition among both corporates and buyout funds has prompted many investors to consider creative or alternative deal structures and strategies for the region.

Stiff competition among both corporates and buyout funds has prompted many investors to consider creative or alternative deal structures and strategies for the region. Funds have been teaming together to acquire larger assets; three of the top five deals during the year involved a consortium or corporate partnering, including the \$1 billion acquisition of Indian health insurer Star Health and Allied Insurance by a consortium composed of WestBridge Capital and Madison Capital Partners. Investors also continued to seek public-to-private transactions, including the take-private of iKang Healthcare Group by Chinese fund Yunfeng Capital and Alibaba Group Holding Limited for \$1.2 billion. This deal represented one of the last of the US-listed major Chinese assets to be taken private, with the likely goal to list in Asia, where valuation multiples for healthcare assets continue to be higher than in the US.

Investors across the region also deployed buy-and-build platform strategies that have been common in North America and Europe for years. In Southeast Asia, TPG acquired a portfolio of 39 pathology laboratories from Healthscope for \$207 million and then announced intentions to add on Innovative Diagnostics, with further intentions to continue growing the footprint. And in India, KKR invested in Max Healthcare through its portfolio company Radiant Life Care to create one of the largest hospital networks in northern India.

Stabilizing regulatory changes in China washed through the biopharma and medtech sectors, spurring an increase in growth-stage assets. The Made in China and Healthy China 2030 initiatives, along with a restructuring of the distribution systems for drugs and devices, have encouraged more pharma

and medtech innovation in the country. Indeed, roughly one-third of the 30 Asia-Pacific biopharma deals are early-stage investments from PE funds. For example, the Ireland Strategic Investment Fund led a Series C funding round totaling \$200 million in WuXi NextCode, a genomic information company. Existing backers Temasek Holdings, Yunfeng Capital and Sequoia Capital also reinvested. Funds invested in established biopharma companies as well; a consortium composed of ChrysCapital, GIC and Canada Pension Plan Investment Board invested \$350 million for a roughly 10% stake in Mankind Pharmaceuticals, which derives a large majority of its revenue from OTC drugs as India's fifth-largest drugmaker.

Meanwhile, the first substantial wave of healthcare buyouts in Asia-Pacific are reaching the end of their holding periods, leading to several high-profile sponsor-to-sponsor exits. WestBridge Capital and Madison Capital Partners acquired Star Health and Allied Insurance from a consortium of PE investors for \$1 billion, one of the top 10 global exits by value in 2018.

In another high-profile exit, Navis Capital purchased Australia's largest independent provider of medical technology, Device Technologies, from Pemba Capital Partners for \$509 million. As more healthcare assets come of age and funds realize solid returns, we expect sponsor-to-sponsor activity in the region to stay at a high level.

As companies explore ways to increase access to healthcare, emerging trends, such as digital healthcare solutions, should gain steam in China, India and other countries.

Early in 2019, the major trends of 2018 show no signs of abating despite concerns that economic growth in China is slowing. Healthcare private equity tends to be less vulnerable to downturns than other sectors, so we expect demand for assets in Asia-Pacific to increase over the coming years. Buyout funds will invest more in growth-stage assets such as Chinese pharma. And as companies explore ways to increase access to healthcare, emerging trends, such as digital healthcare solutions, should gain steam in China, India and other countries. Those trends are fueling interest in companies such as Good Doctor, Wedoctor and Alodokter.

Investors will continue to seek deals in the provider and medtech sectors, and explore creative ways to deploy capital, such as public-to-private takeovers. Companies such as Australian primary care giant Healius, which rejected a takeover attempt from its largest shareholder, Jangho Group, in January 2019, will likely continue to attract interest from investors across the region and beyond.

3. Sector trends

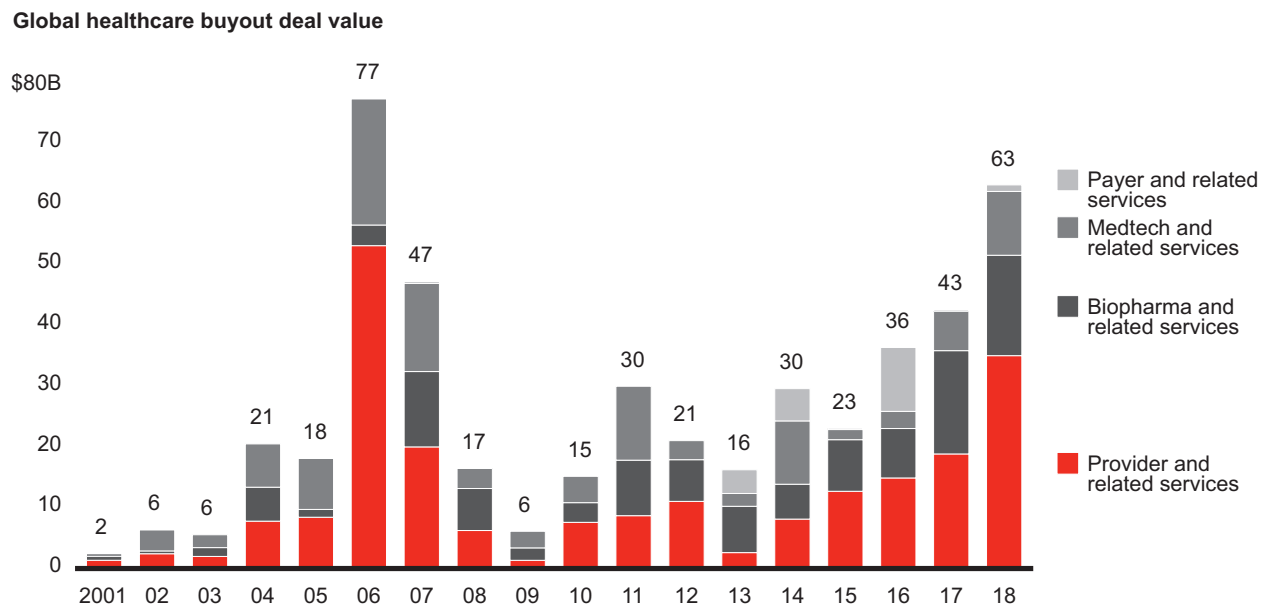
Overview

Provider and related services continued to be the hottest sector in global healthcare private equity during 2018, accounting for 159 of 316 buyouts and 55% of the total disclosed value, compared with just 44% in 2017 (see Figure 7). This relative increase in value includes three of the top five largest deals, which total \$19.7 billion. Large deals for PPM entities and HCIT assets drove a significant portion of the value.

Activity in the payer and related services sector stayed relatively flat, as deal volume fell to 11 in 2018 from 13 in 2017, while disclosed values increased to \$1.1 billion from \$220 million in 2017. Despite relatively modest activity, there was increased interest for payer services, especially at the intersection of provider as risk-bearing organizations begin to contemplate value-based care models.

Biopharma and related services came in as the second-largest sector by volume, with 79 deals accounting for one-quarter of total deal count. At \$16.5 billion, disclosed value of biopharma deals came close to the \$17.0 billion in 2017 on an absolute basis. As a share of total disclosed value, however, biopharma

Figure 7: Disclosed deal value reached the highest level since 2006 as a few large buyouts pushed provider sector deals to nearly double in size



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

dropped to about 25% from about 40% in the previous year. Increased interest in biopharma platforms spurred volume, and PE investors started taking on clinical and reimbursement risk in the sector.

Turning to the medtech and related services sector, 2018 saw solid volume at 67 deals, up from 51 in 2017. Disclosed values returned to 2014 heights, reaching \$10.5 billion on the shoulders of five deals across the world worth more than \$1 billion each. Medtech values were led by several large public carve-outs and take-private transactions as large corporates looked to trim noncore assets.

Across sectors, investor interest in HCIT strengthened, with deal volume surging to 48 deals in 2018 from 32 deals in 2017.

Across sectors, investor interest in HCIT strengthened, with deal volume surging to 48 deals in 2018 from 32 deals in 2017. HCIT saw massive growth among provider and related services, which increased to 35 deals from just 18 in 2017. Disclosed values for HCIT deals climbed back toward the 2016 peak, reaching \$8.6 billion, thanks to two provider-focused deals worth more than \$1 billion each. As in recent years, a majority of HCIT assets are designed to support providers.

Provider and related services: Intense competition and a push into new segments

Section highlights

- The provider sector continued to be the most active globally, with total disclosed deal value rising in 2018 to \$35.0 billion across 159 deals, compared with \$18.9 billion across 139 deals in 2017.
- Several megadeals accounted for a significant portion of value, including Envision Healthcare and athenahealth at \$9.9 billion and \$5.7 billion, respectively.
- Activity in the Asia-Pacific region drove the volume increase, while North American deals largely accounted for the value increase.
- PPM and HCIT targets drove a significant portion of value, while retail health and traditional provider deal value rose slightly.
- Investors are preparing for the gradual shift from fee for service to fee for value by making targeted investments aimed at bending the cost curve.

The provider sector continued to be the most active in healthcare deals. Provider deals accounted for 159 of 316 healthcare PE deals globally in 2018, up from 139 deals in 2017. An increase in Asia-Pacific volume led the way. Total disclosed deal value rose about 90% in 2018, to a record \$35.0 billion, led by 10 deals greater than \$1 billion each, compared with just 7 such deals the prior year.

Consistent with the past four years, North America was the most active region in both deal count and disclosed value. Three of the top five deals were North American, including KKR's acquisition of Envision Healthcare for \$9.9 billion, the year's largest deal globally.

In Europe, provider activity slowed after a robust 2017 because of regulatory uncertainties around cross-border limitations on the ability to scale up assets. However, these regulatory shake-ups also led to buyout opportunities. For example, in advance of a healthcare restructuring in Finland designed to increase private competition, CVC acquired a \$2.1 billion stake in Mehiläinen Oy, a Finnish health services provider.

Asia-Pacific deal volume rose significantly as investors reacted to broader access to healthcare in large and aging markets such as China and India. Investors have started making bigger bets in the region. Yunfeng Capital and Alibaba Group Holding Limited entered into a \$1.2 billion agreement to acquire iKang Healthcare Group, a Chinese-focused preventive health service company. We expect to see increased interest in digital healthcare solutions that improve access to primary care in China and India.

PPM and physician services continued to attract investor attention given the consolidation opportunities and benefits of scale. Two major deals for larger companies led the activity in this segment. KKR acquired Envision Healthcare for \$9.9 billion, and a Summit Partners–led group teamed with Optum-Health to acquire a controlling stake in Sound Inpatient Physicians for \$2.2 billion. As prices for large PPM assets reached historic highs, investors turned their attention to several emergent specialties. In oncology, Silver Oak Service Partners bought Integrated Oncology Network. And in psychiatric treatment, Windrose Health Investors acquired Traditions Behavioral Health.

Besides emergent PPM segments, disruptive primary care initiatives began to gain steam in 2018 among both corporates and buyout investors. For example, Carlyle invested \$350 million in One Medical, a technology-enabled primary care model aimed at making primary care more convenient for its members. This trend will continue to attract interest as corporates and buyout firms explore other ways to bend the cost curve.

Funds also continued to pursue HCIT assets, which often help providers deliver care more cost effectively or improve top-line performance by minimizing revenue leakage. Veritas Capital Management teamed up with Elliott Management’s Evergreen Coast Capital to take athenahealth private for \$5.7 billion in the third-largest deal of the year globally.

Investors continued a multiyear global trend of acquiring and consolidating retail health assets.

Investors continued a multiyear global trend of acquiring and consolidating retail health assets. In the US, asset sizes rose after several years of consolidation as firms can now sell more mature platforms. VetCor Professional Practices had 41 locations when Cressey & Company originally invested in 2010, and that number had grown to 137 locations across 19 states when Harvest Partners invested in 2015; when acquired by Oak Hill Capital Partners in 2018, it had grown to more than 270 locations across 28 states. Even though dental and veterinary subsegments have been consolidating for years, there is still room to run as shown by the VetCor acquisition and KKR’s majority stake acquisition of Heartland Dental. Retail health consolidations have reached maturation in select European segments as well, evidenced by BC Partners’ \$900 million acquisition of VetPartners, a UK-based platform of veterinary clinics with more than 350 locations across the country. Retail health consolidations also occurred in Germany, the Netherlands and elsewhere in Europe, but country borders can limit achievable scale for segments without higher variable cost models such as veterinary or laboratory.

As retail health markets mature, multiples for acquisitions increase and the size of the consolidation platforms increase, however, the playbook will have to change. Given the size of the base business of the retail health platforms, investors will need to create value through same-store sales growth, as

opposed to the stronger focus on consolidation over the past several years. Investors also have started to look at a range of less traditional retail health models characterized by more fragmented markets and less competition for acquisitions.

Given the demand tailwinds from increasing insurance coverage, attractive de novo economics and the fragmented market, which creates an opportunity to execute a buy-and-build strategy, behavioral health assets, particularly autism-focused providers, attracted greater interest in 2018. Blackstone acquired CARD, a leading provider for autism behavioral health services, for an undisclosed value, with the intent of continuing to expand its access and footprint. While Blackstone acquired CARD's large footprint of 192 locations, KKR announced the creation of its Blue Sprig platform and subsequently acquired additional clinics, implementing a classic buy-and-build strategy.

While the shift from fee for service to fee for value is inevitable over the long term, the shift to value-based pricing, bundled payments and capitation has slowed in recent years, as physicians don't necessarily believe those models offer better care. More than 70% of physicians prefer to use a fee-for-service model, according to Bain's *Front Line of Healthcare Report 2017: Why Involving Doctors Can Help Improve US Healthcare*. Those doctors cite concerns about the administrative burden as well as the complexity and quality of value-based payment models. While physicians don't believe their organizations are prepared for the shift to value-based care, many other executives in finance and administrative positions would prefer to move care in this direction. Bundled payments in particular are expected to continue to gain adoption, and providers have been preparing for them.

Amid the gradual shift in payment models and the disconnect between physicians and healthcare provider administrators, investors should seek assets that will perform well in a fee-for-service world yet also have the capabilities to move to a fee-for-value model.

Amid the gradual shift in payment models and the disconnect between physicians and healthcare provider administrators, investors should seek assets that will perform well in a fee-for-service world yet also have the capabilities to move to a fee-for-value model. To that end, CD&R acquired a majority ownership in naviHealth, a Nashville-based manager of post-acute benefits for risk-bearing organizations that offers solutions to payers as well as risk-bearing providers. Sound Inpatient Physicians, acquired by a Summit Partners-led group and OptumHealth, is a hospitalist group that partnered with Remedy Partners to enable providers to better organize treatment and prepare for bundled payments for care improvement (BPCI). Remedy Partners also received an additional investment from New Mountain Capital in December.

Competition for provider assets also has been stimulated by strong interest from corporates that are investing to integrate across the value chain. By controlling some parts of healthcare delivery, payers believe they can reduce costs and provide better patient outcomes. For example, Humana is partnering with Walgreens to pilot senior-focused primary care clinics in Kansas City for Medicare patients. Humana also partnered with TPG and Welsh, Carson, Anderson & Stowe to make a large investment in Kindred in 2017 and to acquire hospice provider Curo Health Services for \$1.4 billion in 2018, creating the largest hospice provider in the US.

Competition for provider assets has been stimulated by strong interest from corporates that are investing to integrate across the value chain. By controlling some parts of healthcare delivery, payers believe they can reduce costs and provide better patient outcomes.

We expect provider deal activity to remain high in 2019. Investors will focus on assets that can thrive in both a fee-for-service and fee-for-value environment, with continued interest in physician services and an uptick in innovative and disruptive primary care models. Investors have already shown interest in provider assets that assume risk. Further, retail health deal activity should remain robust as funds push the consolidation playbook into new segments.

We also expect that funds will increasingly partner with corporates as the combination of PE and long-term strategic mindsets along with the financial capital make these partnerships well positioned to win deals. Corporate payers will continue their push into the provider sector, intensifying an already competitive field.

Payer and related services: A focus on operational efficiencies

Section highlights

- The payer sector continued to have the most modest buyout activity in healthcare in 2018, accounting for \$1.1 billion in disclosed deal value, which excludes the undisclosed naviHealth buyout by CD&R, across 11 deals.
- Most deal activity focused on HCIT and other service segments that enable payers to operate more efficiently.
- Corporate buyers continue to be more active than buyout firms, as large traditional health plans vertically integrate and seek operational efficiencies.

Investors displayed increasing interest for payer and related services in 2018 as both funds and corporates made intriguing investments across the payer landscape. While the payer sector continued to experience the most modest buyout activity in healthcare, accounting for just \$1.1 billion across 11 deals in 2018, there were also several notable portfolio add-on and corporate investments made throughout the year. While deal count remained relatively consistent with 2017, deal value rose because of a single large transaction: WestBridge Capital and Madison Capital Partners acquired Star Health and Allied Insurance, a standalone Indian health insurer, for \$1 billion. The total disclosed deal value does not include notable transactions such as naviHealth or Cotiviti.

Total disclosed values vary from year to year in the payer sector because only a few large assets get acquired. For example, in 2016, two megadeals, MultiPlan and ExamWorks, closed for a combined \$9.7 billion. In 2017, the largest deal was the \$200 million acquisition of Indian health insurance company Religare Health Insurance by a consortium of buyers.

India may have had the largest deal of the year, but North America continues as the most active region in deal count. The region saw all payer activity aside from the Star Health and Allied Insurance transaction. The US historically has accounted for the most investment activity as the complicated patchwork payment environment represents opportunities for innovation and more service providers.

Given stiff competition from corporate acquirers better suited to pay a premium for payer-related assets because they can integrate them into existing operations, PE investors have had to settle for relatively few investment opportunities. Traditional health plans in the US are vertically integrating to better control costs throughout the system, from providing healthcare services to dispensing prescription drugs. For example, the second-largest corporate acquisition of 2018 occurred in the payer space, with health insurer Cigna Corporation buying pharmacy benefit manager (PBM) Express Scripts Holdings

for nearly \$70 billion. Further, corporate payers believe that disruptive primary care can reduce health-care costs and provide better patient outcomes. That's the logic behind UnitedHealth Group's intended purchase of DaVita Medical Group, which focuses on primary and urgent care services, announced in December 2017 for \$4.9 billion. Payers also are partnering with providers to deliver healthcare, such as Humana's partnership with Walgreens to pilot senior-focused primary care clinics (see "Provider and related services: Intense competition and a push into new segments").

Given stiff competition from corporate acquirers better suited to pay a premium for payer-related assets because they can integrate them into existing operations, PE investors have had to settle for relatively few investment opportunities.

The vast majority of payer investment historically has gone to services and HCIT assets that help payers operate more cost effectively. Aside from a few deals in Asia, funds find it cost prohibitive to invest directly in payers. Nine of 11 deals in 2018 involved either services for traditional payers or HCIT assets catering to payer clients. For example, Francisco Partners completed a take-private transaction of Conecture, which offers a personalized online health insurance marketplace that allows health plans, brokers and exchange operators to improve the accuracy and efficiency of their insurance distribution. And Veritas portfolio company Verscend acquired Cotiviti, which provides payment accuracy and analytics solutions for healthcare organizations, for \$4.9 billion.

Several deals sit at the intersection of the provider and payer sectors, with the intent of reducing costs across the system. This is timely as players prepare for the inevitable but gradual shift from fee-for-service to more value-based care models. For example, General Atlantic backed in-home care provider Landmark Health, which is focused on managing complex patient populations. And in another prominent example, CD&R acquired a majority ownership in naviHealth from Cardinal Health for an undisclosed value. NaviHealth provides technology-enabled data analytics and post-acute care management expertise to help providers manage the appropriate length of stay, tier of care, and network for patients in order to limit hospital readmissions and reduce costs. NaviHealth also provides technological support services to providers that participate in the BPCI program, which is a Centers for Medicare and Medicaid Services-led initiative designed to link payments and accountability for the multiple services patients receive during an episode of care. The program is now beginning its second phase following a well-received first phase, and while there continues to be excitement about its possibilities, it is too early to determine the longer-term implications for providers and other risk-bearing entities. Similarly, New Mountain Capital invested in Remedy Partners, which provides software and services that enable payers to manage bundled payment models.

Payer services assets supporting worksite healthcare have also been popular with investors as organizations continue to seek comprehensive, high-quality care for their employees while lowering costs. For example, OMERS Private Equity invested in Premise Health, a US-based provider of workplace health and wellness solutions. Additionally, Vista Equity Partners acquired Alegeus Technology, a healthcare benefits administrator with a consumer healthcare funding platform that helps support benefits management for 225,000 employer groups.

Early 2019 indications suggest that a few scale opportunities may become available for buyout funds through either direct investment or as an add-on acquisition to existing portfolio companies.

We expect payer-related buyout interest to remain high but deal activity to remain modest in 2019 because of continued competition from corporate acquirers that can justify higher premiums and investor concerns about competing in a consolidated landscape. Early 2019 indications, however, suggest that a few scale opportunities may become available for buyout funds through either direct investment or as an add-on acquisition to existing portfolio companies. Buyout activity will likely concentrate in payer services and HCIT assets that help payers operate more efficiently, help ease the shift to fee-for-value payment models and help payers connect more deeply with engaged consumers. Over the long term, investors will want to keep an eye on trends in consumer engagement and payment as well as technologies that have the potential to disrupt the payer and provider services landscape—for example, automation and machine learning tools applied to administrative functions such as billing and coding or more sophisticated applications such as network models or clinical pathways. Over the next few years, though, we expect competition for payer services assets to intensify as major health insurers continue to bring more services in house.

Biopharma and related services: Strong activity despite pricing pressures

Section highlights

- Biopharma buyouts maintained near-record levels in 2018, totaling \$16.5 billion across 79 deals, compared with \$17.0 billion across 62 deals in 2017.
- Despite political and media scrutiny of drug pricing, investor interest in biopharma remains strong globally. Larger buyout firms had ample appetites for pharma platforms. Some funds even established investment vehicles focused on life sciences, including those that can handle assets with clinical risk.
- Deal activity in outsourced pharma services continues to be strong, with a sharp focus on niche contract organizations.

Although the biopharma industry continues to navigate a tough pricing and regulatory environment, investors are still drawn to the sector's shareholder returns and high margins. These public shareholder returns historically have been driven by revenue and margin expansion rather than multiple expansion. Because of biopharma's durable generics volume and lengthy intellectual property protection for novel therapies, investors perceive it to be the segment most resistant to economic downturns.

These traits translated to strong PE activity during 2018, with a total disclosed value of \$16.5 billion across 79 deals, compared with a record \$17.0 billion across 62 deals in 2017. Deal value was boosted by several deals greater than \$500 million, including CVC, PSP Investments and StepStone Group's \$7.4 billion acquisition of Italian pharmaceutical company Recordati and Advent's \$2.4 billion acquisition of generics manufacturer Zentiva. Increased deal activity in Asia-Pacific, particularly for earlier-stage investments, helped drive the rise in global deal count.

Investors in the US continued to be more interested in novel and originator pharmaceuticals, which have historically enjoyed strong price positions and margins; however, the industry has faced some headwinds in the US recently. Political and media pressure on drug prices during the year led some major pharmaceutical companies to freezing scheduled price hikes temporarily in July. Despite this increased scrutiny, dozens of drugmakers still executed price increases exceeding inflation on hundreds of drugs in January 2019.

Payer consolidation with PBMs in the US, such as Cigna's acquisition of Express Scripts, may also result in increased pricing pressure as health insurers have announced their intention to lower prices. The cost to innovate is increasing, and innovation continues to come largely from outside Big Pharma, creating even more pressure to source the right deals earlier in development. These developments highlight

why funds will want to make thoughtful investments in category-leading drugmakers as well as in service providers or suppliers that help drugmakers bring new molecular entities to market cost effectively.

In Europe, investors continued to be more focused on manufacturers of mature branded and generic pharmaceuticals, as evidenced by the Recordati and Zentiva deals. The CVC-led consortium was able to acquire a controlling stake in Recordati at a discount to its public market valuation as part of a handover from the founding family. New ownership could lead a portfolio refresh through follow-on M&A in order to accelerate growth.

Investors have found value in these types of stable, regionally scaled assets in Europe, where parallel country-specific healthcare systems, supply reliability issues provoked by overly aggressive tendering and repeat compliance issues with non-EU supplies have moderated the continued pressure on generic prices to a manageable level. Investors also turned to the public markets to acquire drug manufacturers, as evidenced by several large deals, including EQT announcing it will take Karo Pharmaceuticals private for \$963 million (including net debt).

Despite headwinds, investors in the US continued to be more interested in novel and originator pharmaceuticals, which have historically enjoyed strong price positions and margins.

Funds showed an increased appetite for pharma platform investments during 2018. Drugmaker deal count rose from 33 in 2017 to 38 in 2018, and disclosed deal value increased from \$8.2 billion to \$14.7 billion. Two themes emerged in these acquisitions: earlier investments in clinical-stage assets; and large checks written by large-cap funds. Part of the rationale is that buyout firms can run efficient R&D programs unburdened by the established Big Pharma paradigm and can be quick to move on from underperforming programs.

One of the biggest investments last year was Bain Capital's acquisition of 10 development-stage neuroscience programs from Pfizer for \$350 million, creating a novel branded pharma company, Cerevel Therapeutics. Pfizer will continue to own 25% of the new company, with senior program management staying in place. This represents the continuation of a clinical-stage pharma platform strategy first employed in 2017, when Bain Capital Life Sciences invested in a \$103 million Series A round for SpringWorks, a collection of four clinical-stage rare disease programs spun out of Pfizer. Notably, the price for the Cerevel Therapeutics deal exceeded a typical investment by a venture capital firm or club. Through this deal, Bain Capital has elevated itself into a league of its own in terms of clinical-stage carve-outs.

As larger buyout firms become more interested in developing biopharma platforms, a few have launched their own investment vehicles focused on life sciences. Bain Capital raised a \$720 million life sciences

fund in 2017, with the intent of making investments between \$30 million and \$70 million in both private and public medical device, specialty pharmaceutical and biotech companies, including several deals in 2017. Blackstone acquired Clarus, a life sciences investment firm focused on growth-stage biopharma investments, in 2018 and renamed the new division Blackstone Life Sciences. The division will focus on providing capital to underfunded biopharma programs to develop and commercialize new drugs. TPG established TPG Biotech, a venture capital fund focused on life sciences companies, in 2002; it now has more than \$550 million in assets under management

Investors also continued to show strong interest in biopharma service providers and HCIT solutions that support drugmakers in developing, manufacturing and commercializing new therapies, as biopharma services deals held steady from 2017, accounting for 27 of the 79 deals in 2018. Investors are widening their focus beyond traditional, broad contract organizations, known collectively as CXOs, however, to target niche CXOs that operate in nascent or emerging service lines or on firms that serve specific populations.

Niche CXOs attract interest partly because of the consolidation and maturation of the CXO industry and partly due to the rise of specialty drugs that have a different set of needs. For example, Linden Capital Partners acquired Evolution Research Group, a research site service company focused on special populations for central nervous system studies. And Genstar Capital acquired CRF Health in July, combining the provider of electronic clinical outcome assessment (eCOA) and electronic consent (eConsent) solutions with its portfolio company, Bracket, a clinical trials software provider. The new entity will provide a broader suite of services to manage clinical trials effectively and improve the patient experience. While there are limitations to scaling these investments in their original niches, they can provide investors with a foothold to develop a platform of adjacent capabilities. We expect investors to continue to seek niche CXO opportunities along the drug development value chain.

There was also continued investor interest in contract development and manufacturing organizations (CDMOs), specifically, which provide manufacturing services to biopharma companies. For example, TPG acquired Indian-based SAI Life Sciences, a CDMO with expertise across the molecular life cycle, for \$135 million.

We expect biopharma deal activity to remain robust in the coming year, particularly in niche services and clinical-stage pharma assets. Continued downward pressure on pricing will amplify the need for efficient drug development and commercial effectiveness. A dip in biotech public markets and a cooled IPO environment could lead more small and mid-sized clinical-stage drugmakers to explore other financing opportunities with corporate acquirers or buyout firms. Given the steep competition for biopharma assets from both sets of acquirers, however, the average deal value for biopharma assets keeps rising. Investors need to have a clear value-creation thesis to win the asset and have an operational plan in place if they hope to realize the expected returns.

Medtech and related services: Carve-out opportunities and high profit margins

Section highlights

- Boosted by five deals greater than \$1 billion each, total disclosed deal value rose to \$10.5 billion in 2018, a greater than 50% increase from \$6.5 billion in 2017. Deal count increased to 67 in 2018 from 51 in 2017.
- While activity was steady in North America, Europe saw a sharp increase, driven in part by medical device regulations passed in 2017.
- Investors also pursued public assets in take-privates and carve-outs as some larger firms shed noncore assets.

Investors were attracted to the medtech sector's high profit margins and recession-resistant characteristics in 2018. Total disclosed deal value in medtech spiked to \$10.5 billion across a record 67 deals, compared with \$6.5 billion across 51 deals in 2017. Deal value was boosted by five deals greater than \$1 billion each, including one exceeding \$2 billion, compared with just one deal greater than \$1 billion in 2017.

A sharp increase in European deals to 23 in 2018 from 12 in 2017 drove the deal volume increase while activity in North America and Asia-Pacific accounted for a greater share of the increase in value. North American activity remained steady and continued to be the most active region for medtech deals, though Europe and Asia-Pacific experienced more growth.

The EU's MDR, which passed in 2017, requiring both new and legacy medical devices to comply with more rigorous clinical data standards by 2020, provided clarity for investors, encouraging an uptick in deal activity. Both China and India also implemented new medical device regulations in 2017, which established more structured systems that investors felt more comfortable underwriting, leading to a number of higher-growth venture deals in Asia-Pacific.

Chinese investors continued to look abroad for investments in medtech capabilities that they could bring back to the Chinese market. For example, CDH Investments Management and China Grand Pharmaceutical and Healthcare Holdings acquired Australian medical device manufacturer Sirtex for \$1.4 billion, with the intent of expanding its access to China. Sirtex manufactures implantable radioactive crystals for oncology treatments. In another such deal, the consortium of Inner Mongolia Furui Medical Science and Astorg Partners invested in Echosens, a French manufacturer of liver diagnostic equipment, for \$203 million, with the intent of introducing that technology to China.

Competition for assets from both buyout firms as well as corporate acquirers continued to push prices higher. Part of the competition comes from corporate acquirers landing large assets, such as Fortive's \$2.8 billion acquisition (including earn-outs) of the Advanced Sterilization Products division from Johnson & Johnson.

Because of this strong competition, buyout firms continued to turn to public markets in order to find high-quality assets. A carve-out and 3 public-to-private transactions comprised 4 of the top 10 deals around the world, as corporates renewed their focus on their core businesses and divested noncore assets while smaller medtech firms without a category leadership position felt pressure to sell. The largest medtech buyout of the year was Platinum's \$2.1 billion carve-out of LifeScan, which makes blood glucose-monitoring devices, from Johnson & Johnson. Additionally, Altaris Capital Partners took US-based imaging company Analogic private for \$1.1 billion, and Pacific Equity Partners acquired publicly traded Australian medical devices company LifeHealthcare.

While medtech investment success hinges on a strong underlying product or technology more so than any other factor, there are opportunities for funds to generate returns through cost transformations and commercial excellence improvement.

While medtech investment success hinges on a strong underlying product or technology more so than any other factor, there are opportunities for funds to generate returns through cost transformations and commercial excellence improvement. Sponsors can turn around a company with poor cost management or improve salesforce efficiencies, but it requires a deep bench of operators with the requisite know-how.

Profitability and returns also hinge on category leadership, regardless of scale. Investors directed investments to category leaders even in niche spaces in the fragmented medtech market. Investing in an established category leader can remove a lot of uncertainty from the underwriting, prompting investors to seek even smaller assets that are niche category leaders. For example, Centre Lane Partners acquired Alternative Biomedical Solutions, a market leader in toxicology testing. And it also results in firms adding to existing portfolios in order to build that desired category leadership, as was the case when Patricia Industries backed portfolio company Laborie Medical Technologies in acquiring Cogentix for \$239 million.

This fragmentation translates into a significant role for derivative medtech services, ranging from contract manufacturing to specialty distribution. Assets in these segments are underdeveloped and lack

scale, which makes them a good target for consolidation and deal making. A growing number of device manufacturers are reducing their manufacturing footprints and turning to contract manufacturing organizations to augment capacity, which helps spur PE firms to invest directly or build up their existing platforms. For example, in 2018, Kohlberg & Company acquired Cadence, a provider of advanced surgical components and finished devices, and GTCR-owned Regatta Medical acquired a majority stake in Resonetics, which uses its micro laser technology to provide contract manufacturing services to the medtech industry.

Further, investors looked to capitalize on the industry's need for distribution infrastructure by continuing to invest in the specialty distribution space, as evidenced by Patricia Industries' \$500 million majority stake acquisition of Sarnova Holdings, a distributor of healthcare products in the emergency medical services and acute care markets.

Lastly, consumers have come to expect more choice in healthcare, giving rise to direct-to-consumer models in the consumer-focused medtech space. Buyout firms have looked to participate in and take advantage of this growing trend in recent years. In 2018, this was particularly true in dental as a consortium comprised of CD&R, Kleiner Perkins and Spark Capital Partners invested \$380 million at a \$3.2 billion valuation in SmileDirectClub, a provider of at-home teeth aligners.

Trends such as the sector's high profit margins, recession-resistant characteristics and carve-out opportunities are likely to persist, supporting investment activity in medtech over the coming year as corporates refocus on the core.

Trends such as the sector's high profit margins, recession-resistant characteristics and carve-out opportunities are likely to persist, supporting investment activity in medtech over the coming year as corporates refocus on the core. To be sure, headwinds such as downward pricing pressure due to consolidation among providers and payers do present challenges. To date, however, that has not undercut the investment opportunities. In fact, pricing pressure has forced many medtech companies to reduce G&A spending and inventory as well as raise their level of commercial effectiveness. As medical device companies hone their product development and manufacturing, sponsors will likely seek investment opportunities in medtech service providers such as CXOs as well as in other firms that improve operations through digital and IT solutions. These trends started to take hold in early 2019 as Nordic Capital acquired Orchid Orthopedic Solutions, a major manufacturing outsourcer for orthopedic medical devices. We expect to see a continued push into services as firms look for attractive consolidation opportunities in the sector.

Healthcare IT: Harnessing data to improve patient outcomes

Section highlights

- HCIT deal activity picked up, with deal count rising to 48 in 2018 from 32 in 2017, as investors continued to show strong interest in HCIT assets.
- Buyouts of athenahealth for \$5.7 billion and GE Healthcare for \$1.1 billion drove most of the disclosed deal value, which totaled \$8.7 billion, up from \$1.9 billion in 2017.
- Most activity came in the North American provider sector, with interest in EMR and RCM.

As the healthcare industry increasingly relies on software and technology solutions, both financial sponsors and corporate acquirers flocked to HCIT assets in 2018. These solutions have started to move beyond just capturing patient data electronically and now harness that data in order to improve patient outcomes and reduce costs. Deal count rose for the third consecutive year to a record 48 deals, compared with 32 in 2017, with fully 73% of deals occurring in the provider sector. Disclosed deal value rebounded from \$1.9 billion in 2017 to \$8.6 billion in 2018, still short of the record \$15.5 billion in 2016.

Two large deals by Veritas Capital Partners accounted for much of the value during the year. Veritas Capital acquired General Electric's revenue cycle, ambulatory care and workforce management software units for \$1.1 billion. And several months later Veritas teamed with Elliott Management's Evergreen Coast Capital to acquire athenahealth, a vendor of software as a service (SaaS)-based RCM and EMR solutions to healthcare providers, for \$5.7 billion in a take-private transaction. Veritas recently combined the RCM and EMR pieces of the GE acquisition with athenahealth under the athenahealth brand, and then carved out the GE workforce management business as a standalone entity.

Competition for HCIT deals remains intense and valuations high, with roughly three times as many buyers pursuing deals as there are buyout deals available each year. Potential buyers thus have to bid aggressively and invest heavily in the deal process. HCIT also attracts significant interest from funds that have not historically invested in healthcare, such as tech-focused Vista Equity Partners, which made its fourth healthcare-focused investment in Alegeus Technologies, a healthcare benefits administrative platform. Further, corporate acquirers are chasing HCIT assets aggressively, including assets previously owned by buyout firms, accounting for some of year's largest deals. Inovalon acquired Ability Network, a cloud-based SaaS technology for managing administration and clinical tracking, from Summit Partners for \$1.2 billion.

Provider-focused HCIT investments were the most prevalent because digital technologies have progressed further among providers relative to other healthcare sectors. Investment opportunities, however, vary across the provider sector.

Acute care provider consolidation in recent years has produced large, multispecialty health systems. In parallel, RCM and EMR companies, such as Epic and Cerner, have established themselves as the leading resources for these large acute care providers. Veritas combined athenahealth with GE's RCM and EMR solutions, as previously mentioned, in an attempt to be the third-largest company in the space. Future HCIT growth in acute care, however, will more likely come from providing additional modules, greater analytics or point solutions such as governance, risk management and compliance, patient safety, and patient engagement. Companies providing bolt-on services could be attractive investment opportunities for buyout funds.

HCIT companies providing bolt-on services could be attractive investment opportunities for buyout funds.

By contrast, the ambulatory care RCM and EMR space remains more fragmented than acute care. Despite the presence of major companies such as Epic and Allscripts, buyout funds have opportunities to invest, mostly in niche category leaders focused on a narrower subset of clinics. For example, Pamlico made a stake investment in Connexin Software, a provider of EMR and PPM systems for pediatric clinics, with the intent of further growing the company's niche leadership.

As the US healthcare system gradually shifts from fee-for-service to more value-based payment models, many provider HCIT solutions overlap with payers to promote coordination between the two groups. Companies and investors alike are deploying technology to bend the cost curve for delivering care. For example, CD&R acquired a majority stake in naviHealth, and Veritas portfolio company Verscend acquired Cotiviti for \$4.9 billion. Both companies provide IT solutions designed to help risk-bearing healthcare organizations use patient data to improve patient outcomes and reduce costs in value-based care settings.

Interest has been healthy in the areas of behavioral health and home care as well. GI Partners and TA Associates acquired Allscripts Health Solutions' stake in Netsmart Technologies for \$525 million. Netsmart provides software and technology solutions designed to connect behavioral health, social services and post-acute records to improve outcomes and reduce costs. GI Partners previously partnered with Allscripts to acquire the company for \$950 million in 2016. Netsmart, with sponsor backing, also acquired Change Healthcare's home care and hospice products in April 2018 to develop a broader suite of connected health records.

Interest in biopharma-focused HCIT assets stayed steady in 2018, with a focus on helping biopharma companies more efficiently conduct clinical trials. Recruiting and tracking patients can be cost intensive

and time intensive, especially for specialty drugs with smaller patient populations. GenStar Capital acquired CRF Health, a provider of eCOA and eConsent software solutions that help contract research organizations and pharma companies improve clinical trial efficiency and better track trial data and experience. On the corporate side, pharmaceutical company Roche looked to creatively leverage a provider-focused IT asset when it acquired Flatiron Health, an oncology-focused electronic records company, for \$1.9 billion. Roche hopes to draw insights from Flatiron's data to improve clinical trial designs and results and to better inform its future research. We expect interest will grow in data analytics solutions that support biopharma across the life cycle from research to commercialization.

Moving forward, we expect to see an increased focus on HCIT assets that provide interoperability between platforms, with analytics solutions harnessing that data to make better clinical decisions and drive better patient outcomes. In one such 2018 deal, HgCapital acquired Orion Health's Rhapsody business, a healthcare data interoperability platform serving healthcare providers. Additionally, cloud-based data storage solutions are emerging as an alternative route to interoperability. Major players, such as Google, through its cloud healthcare application programming interface solution, and Amazon Web Services, continue to improve their cloud-based solutions that remove the barriers to data interoperability to further enable healthcare data analytics and machine learning.

We expect to see a greater focus on HCIT assets that provide interoperability between platforms, with analytics solutions harnessing that data to drive better patient outcomes.

Given that many of these sectors are still in early days, plenty of investing opportunities exist in next-generation payer and provider technologies. The field, however, also requires a growth-equity mindset. To that end, KKR made a \$57 million Series B investment through its Health Care Strategic Growth Fund in Clarify Health Solutions, which provides data analytics solutions to better measure performance and value for value-based payment programs. In addition to PE firm interest, venture capital funds and corporate venture capital arms have been making significant investments in the HCIT payer and provider spaces. Leading telehealth platform American Well raised \$350 million across two rounds led by Allianz and Philips, plus a third round of \$75 million in July, and personal health insurance platform Oscar received two rounds of funding totaling \$540 million led by Alphabet.

Most HCIT segments remain fragmented, with winners yet to be determined and opportunities still open for platform creation. This has led to investors executing creative deal approaches in a bid to build category leaders. Veritas Capital's strategy of combining GE's HCIT assets with athenahealth illustrates how investors are making big bets. And investors are leveraging these platforms to execute tuck-in M&A strategies. For example, Bain Capital's Waystar platform, rebranded in 2017 following the acqui-

sition of Zirmed by Navicure, acquired Connance to further expand its capabilities in acute care RCM. This trend is taking hold on a smaller scale as well. Early in 2018, Pamplona Capital Management bought out cosponsor Welsh, Carson, Anderson & Stowe's stake in GetWellNetwork, a patient engagement technology firm. In November, Pamplona executed an add-on investment with the acquisition of California-based HealthLoop, a digital health start-up focused on post-discharge patient engagement, to build a broader geographic footprint and create an end-to-end engagement platform.

HCIT activity should continue growing in 2019 as the healthcare industry further embraces digital solutions and ways to harness existing data sources.

We expect HCIT deal activity to continue growing in 2019 as the healthcare industry further embraces digital solutions and ways to harness existing data sources. Solid strategies will include targeting niche category leaders or building category-leading platforms through add-on acquisitions or well-defined value-creation plans. Many opportunities sit at the intersection of payer and provider, though we do expect life sciences companies to embrace HCIT solutions in a more meaningful way in the coming years. Given the number of entities investing in HCIT and the high level of strategic activity, leaning in to buy prize assets could pay off, as could spending time and effort to build a prize asset from multiple smaller assets.

4. Corporate M&A: Acquisitions feeding revenue growth

Section highlights

- While the deal volume of healthcare corporate M&A stayed relatively flat in 2018, disclosed value grew 31% over the 2017 level, to \$435 billion, surpassing the 2015 peak of \$432 billion.
- Megamergers accounted for about one-third of total value. Average disclosed deal size has risen in each of the past two years: \$240 million in 2018, up from \$190 million in 2017 and \$150 million in 2016.
- Revenue growth, fueled by acquisition, will likely become the most important driver of total shareholder return (TSR), as price-to-earnings (P/E) multiple expansion slows and pressure against rising prices intensifies.
- Recent regulatory developments will complicate acquirers' abilities to quickly close a transaction and realize deal value.
- To maximize the value of M&A in a high-valuation environment, companies will need to craft an airtight integration thesis.

Corporate M&A activity remained high in 2018 as total disclosed deal value reached a record \$435 billion, in part on the back of two megamergers that accounted for a little more than one-third of value (see Figures 8 and 9). Takeda acquired Shire for more than \$80 billion (including net debt), and Cigna bought Express Scripts for approximately \$67 billion (including net debt)—two of the largest health-care deals ever.

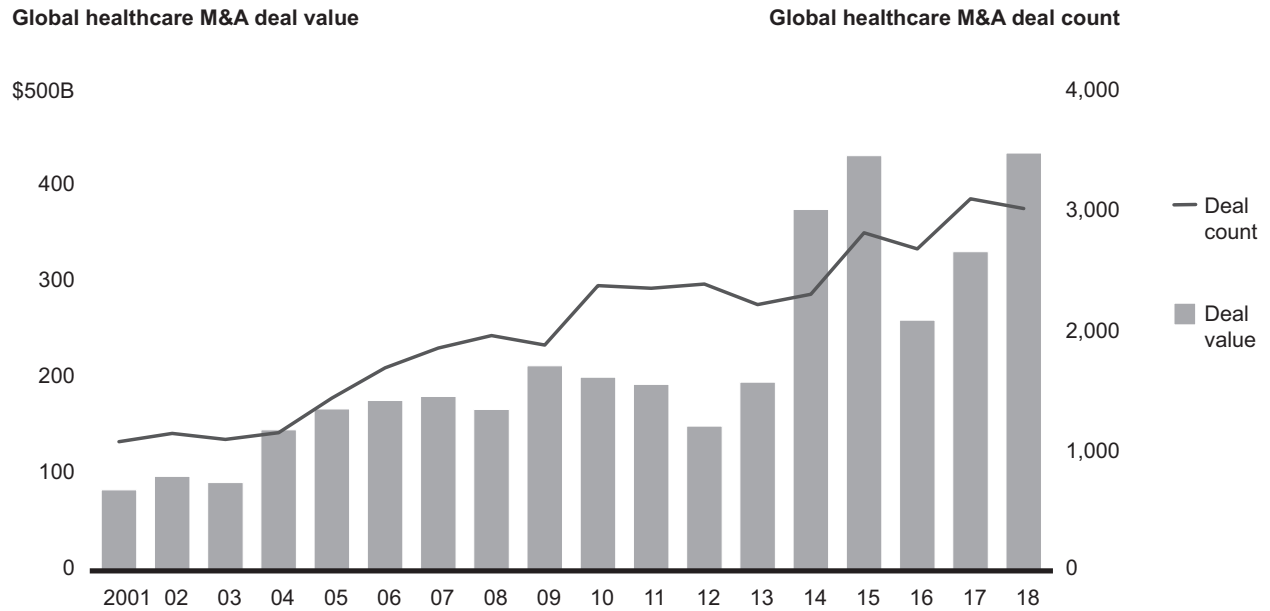
We expect deal activity to continue at this high pace in the near future as public healthcare companies use acquisitions to grow revenue. In fact, the average disclosed deal size has risen over the past two years: \$240 million in 2018, up from \$190 million in 2017 and \$150 million in 2016.

Three deal theses, each focused on revenue growth, informed most transactions in 2018.

- Category leadership continued as a significant thesis both for acquisitions and divestitures.
- R&D-centered acquisitions were a path for companies to bolster their innovation pipelines and create new growth vectors via next-generation platforms.

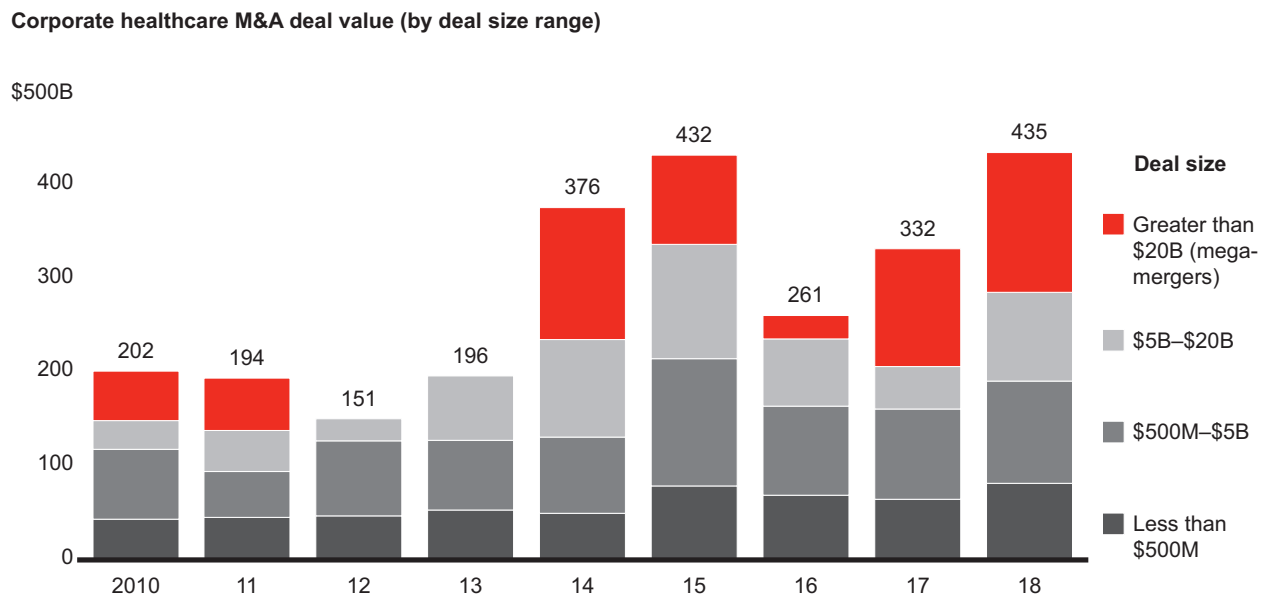
Global Healthcare Private Equity and Corporate M&A Report 2019

Figure 8: Healthcare corporate M&A disclosed value reached a historic high, while volume remained close to its 2017 peak



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 9: Megamergers continue to be a feature of corporate M&A in healthcare, but there was also a significant increase in value from smaller deals in 2018



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

- Vertical integration spurred multiple megadeals in which the potential upside is high, but the degree of difficulty is even higher than category leadership or R&D-focused deals.

Major companies have used the benefits of category leadership to inform their deal rationales for both acquisitions and divestitures. In 2018, Pfizer and GlaxoSmithKline each carved out their respective consumer healthcare divisions, which they then agreed to merge in an all-equity joint venture. Other large companies have taken a similar path. Johnson & Johnson, continuing a recent trend of divesting noncore assets (including Codman Neurosurgery to Integra Life Sciences and Ortho-Clinical Diagnostics to Carlyle), sold LifeScan, a blood glucose–monitoring device company, to Platinum Equity for \$2.1 billion, and the Advanced Sterilization Products division of Ethicon to Fortive for \$2.8 billion. Other companies divesting assets included Shire, General Electric and Novartis.

Buyout funds have shown increased interest in corporate carve-outs, which has helped push up valuations and has further prompted the divestiture of noncore assets (see “Spotlight: In a crowded market, funds expand their deal approaches”). Sanofi sold its European generics business, Zentiva, to Advent for \$2.4 billion in one of the biggest buyout deals of the year.

Buyout funds have shown increased interest in corporate carve-outs, which has helped push up valuations and has further prompted the divestiture of noncore assets

Corporate buyers also showed a penchant for teaming with PE funds to tap experienced operators and to help finance deals. There were 18 corporate–PE firm partnerships in 2018, totaling \$7.9 billion. In one such instance, OptumHealth partnered with a Summit Partners–led group to acquire a controlling interest in Sound Inpatient Physicians for \$2.2 billion. Humana also teamed with a consortium including TPG and Welsh, Carson, Anderson & Stowe to acquire Curo Health Services for \$1.4 billion, which is slated to be combined with the partnership’s 2017 acquisition of Kindred.

As the bar for innovation rises, acquirers look for targets with complementary R&D capabilities or drug assets, which allows them to avoid building these capabilities or programs in house and to gain leadership in their chosen areas of research. In one of the top 10 deals of the year, France-based Sanofi paid \$11.6 billion to acquire US-based Bioverativ, which has early-stage research programs in hemophilia and other blood disorders, in order to strengthen its rare disease pipeline. Acquirers also will pay a premium price for next-generation platform technologies, which, especially in biopharma and medtech, have the potential to disrupt entire industries. For example, Celgene bought out the remaining stake in Juno Therapeutics, one of the only US-based developers of chimeric antigen receptor T-cell (CAR-T) cancer immunotherapy treatment, for \$9.0 billion. Additionally, Medtronic announced plans to acquire

Mazor Robotics, which develops robotic technology and guidance systems to assist in spinal surgeries, for \$1.6 billion; the acquisition would add new capabilities to Medtronic's existing spine product portfolio.

Several of the largest US health insurers have vertically integrated in recent years as they seek differentiation and new models for growth. In 2018, global health insurer Cigna acquired PBM Express Scripts, resulting in the three largest PBMs (Express Scripts, CVS and OptumRx) being attached to health plans (Cigna, Aetna and UnitedHealth, respectively). As large insurers bring large PBMs in house, they have expressed an intent to lower prices and give value back to policyholders. Cigna and Express Scripts publicly have set a goal to lower medical and pharmacy prices to match the consumer price index by 2021.

This trend of payers vertically integrating could accelerate downward pricing pressure for pharma and medtech firms in the future, forcing further innovation, strategic M&A and aggressive portfolio management. As pressure on drug prices and healthcare costs intensifies, the mandate for efficient operations and increased innovation in these sectors does as well.

With the increased public pressure on pricing, we believe companies will continue to look for acquisitions to drive revenue growth and TSR.

With the increased public pressure on pricing, we believe companies will continue to look for acquisitions to drive revenue growth and TSR. Our analysis of public healthcare company TSRs uncovered several telling points. Revenue growth has been the single biggest driver of TSRs over the past five-, three- and one-year periods ending in 2018, driving 7 to 8 percentage points of annual growth in TSRs. While P/E multiple growth has made a significant contribution, its impact has declined from 8.1 points of annual growth for the five years ending in 2017 to 4.6 points of growth for the five years ending in 2018. Margin expansion, which can result from either pricing growth or cost reduction, drove less than 3 percentage points of annual growth in TSRs for the five-, three- and one-year periods ending in 2018. If P/E multiple growth continues to slow and pricing pressures continue to mute margin expansion, public healthcare companies will need to find other levers for improving TSRs.

Several recent regulatory developments further complicate acquirers' ability to quickly close a transaction and realize value. State regulators in the US have heightened their scrutiny of large, cross-state deals in the payer sector, resulting in delayed transactions and unanticipated costs in multiple high-profile health insurance deals. This happened with Cigna and Express Scripts, which was delayed in New York, New Jersey and California as the deal required additional time to receive regulatory approvals, as well as the CVS-Aetna deal, which required a \$40 million payment to the state of New York for health insurance education prior to approval.

Medtech acquirers also need to be mindful of new global regulatory developments. In the US, the Food and Drug Administration (FDA) plans to modify the medical device 510(k) clearance pathway to keep

pace with the growing complexity of medtech innovation. The FDA’s proposal, set to come out in early 2019, will likely slow some innovation and raise R&D costs. Additional scrutiny extended to Europe, where MDR, mentioned earlier in this report, will raise the cost of medical device manufacturing, potentially leading to further consolidation. The changes, published in 2017, requiring device makers to comply by 2020, will increase the breadth of regulated devices, raise the standards of clinical data and require companies to recertify many legacy devices. Acquirers will need to ensure regulatory approval files are in order as a prerequisite to any deal closing.

The confluence of these major trends—a greater need for top-line growth, the increasing cost of acquisitions and more intensive regulatory scrutiny—raises the complexity of many deals. Additionally, we see more scope acquisitions or carve-outs, which are inherently more complex than a scale acquisition or full company acquisition. Acquirers may already have experience in developing an investment thesis during due diligence (see Figure 10). It pays to take this one step further to create an integration thesis that sets direction and guardrails to inform the integration efforts as part of the due diligence or immediately following the announcement (see Figure 11).

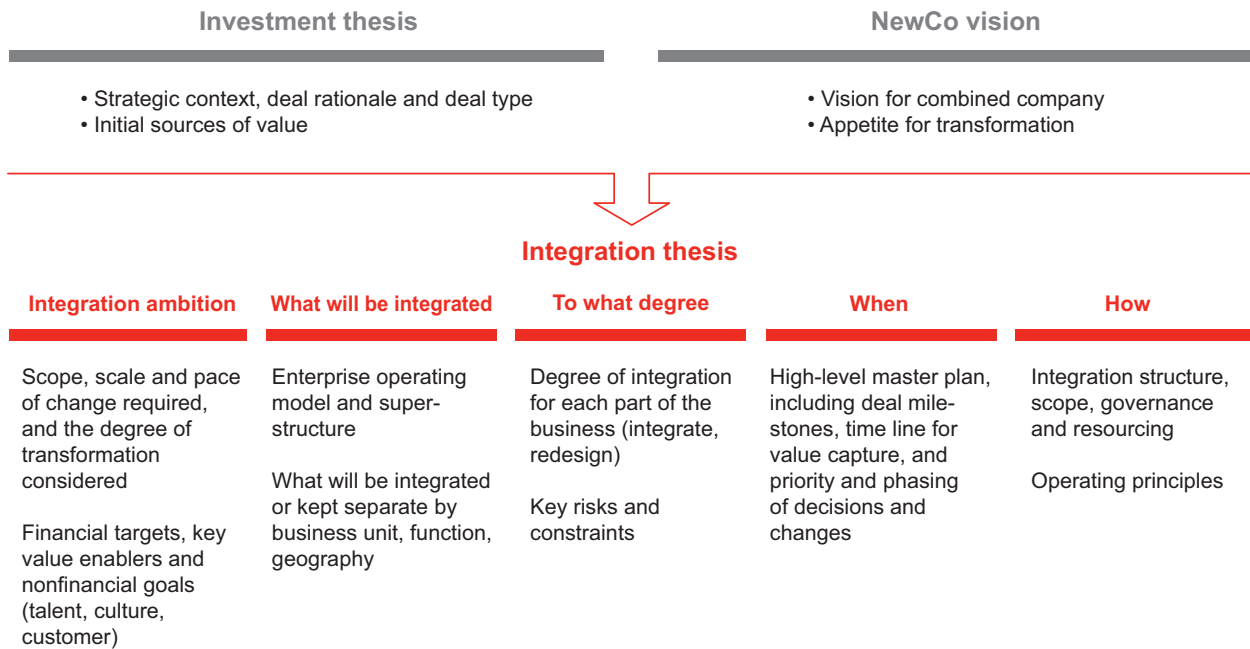
Without thoughtful investment and integration theses, integrations are prone to break down. Synergies may go unidentified and uncaptured, causing acquirers to leave value on the table. Operating model mismatches can result in underperforming teams and talent defection. And inadequate atten-

Figure 10: A strong investment thesis must explain how the deal will make the business more valuable

Investment thesis				
What is the overall investment thesis , and what are the patterns of success ? What are the key risks to consider ? What is our hypothesis for the most important sources of value ?				
Business definition	Market	Competition	Financials	Value add
What is target’s business ? What is the product and service offering ? How does the economic model work ?	How big is the market and its segments? What are the key growth catalysts ? What is the outlook for the growth catalysts, the market and its segments ?	What is the competitive landscape ? What is the target’s market share ? How strong is the target’s value proposition ? Therefore, what are the target’s prospects for share gain ?	How has the target performed historically ? What are the assumptions for management’s financial forecast ? What are the major risks and opportunities to that forecast?	What are the opportunities to enable full potential ? To what degree can value be created for each opportunity? What will it take to deliver on elements of full potential?

Source: Bain & Company

Figure 11: A strong integration thesis provides the direction and guardrails for management to merge two organizations effectively



Source: Bain & Company

tion to integration of the chassis—namely, IT systems and core processes—can erode productivity. As a result, companies risk chasing top-line growth in areas that may eventually wind up diluting their overall TSR.

We expect the recent trend of significant deal activity to continue as companies look to grow revenue through acquisition. Themes such as partnering with PE funds should also persist as corporates look for creative ways to make the most of acquisitions. As deal values increase and deal theses become more complex, companies must understand what it will take to realize the full value of their acquisitions. A well-researched investment thesis combined with a thoughtful integration thesis will raise the odds of maximizing deal value.

5. Exit activity: A return to steady state as recession-vintage assets clear

Section highlights

- Global healthcare PE exits were relatively flat at 112 deals in 2018 vs. 116 in 2017 as volume stabilized following the clearance of recession-vintage assets.
- The median holding period for 2018 exits declined to a more typical long-term level of 4.1 years, the lowest level since 2009.
- Sponsor-to-sponsor transactions made up an increasingly large portion of exits—47% in 2018 vs. 28% in 2015—reflecting ample appetite for healthcare deals.
- Total disclosed value fell again from \$44.4 billion in 2017 to \$31.6 billion in 2018, led by a \$13 billion decline in the value of exits to corporates.

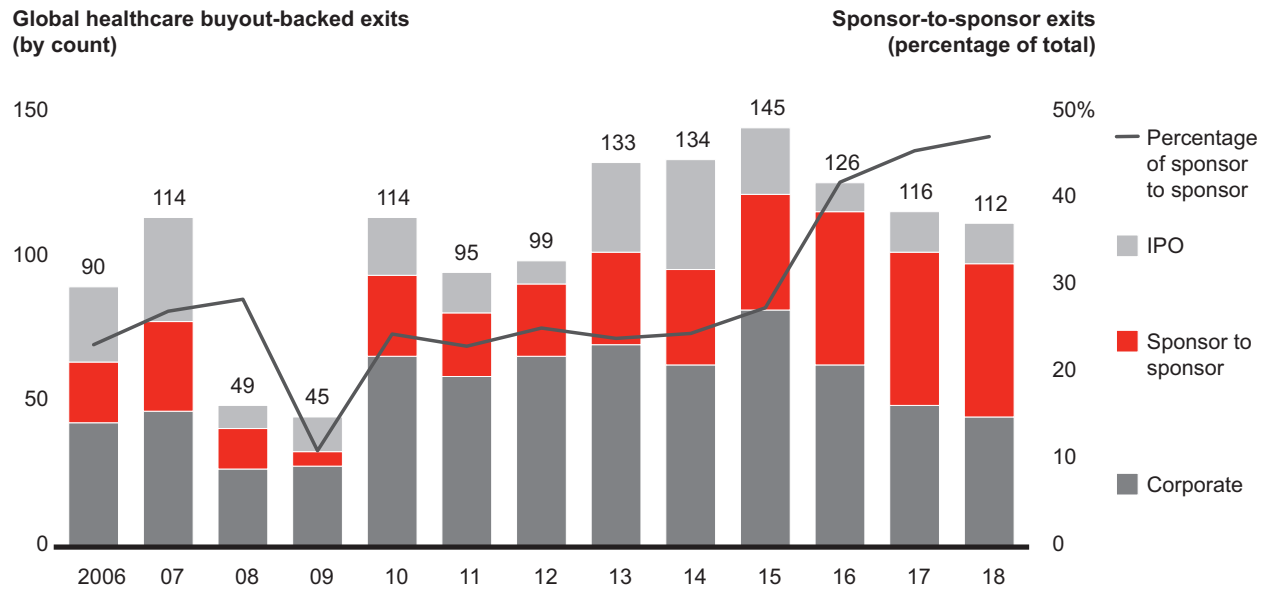
In a return to historical norms, exit volume and value both declined in 2018 from the year earlier. Volume fell to 112 in 2018 from 116 in 2017, the lowest level since 2012 (*see Figure 12*). This followed the spike in activity from 2012 to 2015, as funds now have cleared their books of the vast majority of assets acquired prior to the past recession.

Disclosed exit value fell to \$31.6 billion in 2018 from \$44.4 billion in 2017, driven by a 43% decline in the value of exits to corporates. The 2018 values came in at roughly half the 2015 and 2016 levels, mainly because of a decline in the median value of the top 10 exits. Still, those top exits accounted for about 60% of the value in 2018, and each was worth at least \$1 billion.

From a regional perspective, although North America continues to be the most active region, accounting for a little more than half of volume, exit activity declined 13%, and disclosed value was down 46% compared with 2017, driven by fewer megadeals. North America's decline was partially offset by a roughly 25% increase in European exit activity and a roughly 20% increase in the region's disclosed value.

Turning to the Asia-Pacific region, exit activity and value held steady at a little more than 10% of global volume and a little less than \$4 billion in disclosed value during both 2017 and 2018. As the market matures and the tail end of the first major Asia-Pacific healthcare investment cycle plays out, the region is beginning to see a growing number of high-profile sponsor-to-sponsor exits, such as EQT Partners' sale of its stake in I-Med Radiology Network, the largest diagnostic imaging services provider in Australia, to Permira for \$1 billion.

Figure 12: While exit activity continued to decline, the share of transactions between financial sponsors remained high



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

With IPO activity stable year over year, corporate and sponsor exits continued to account for a significant portion of value and volume. There were 14 IPOs in 2018, 8 of which were in biopharma. Despite that trend, the largest IPO of the year came in the provider sector, as Bain Capital partially exited Brazilian corporate health plan operator Grupo Notre Dame Intermedica, raising \$800 million. The largest biopharma IPO of the year, at \$373 million, was clinical-stage CAR-T treatment developer and Pfizer carve-out Allogene Therapeutics, in which TPG held a stake investment.

Relatively high private valuations continued to steer a growing share of exits to corporate acquirers or other PE funds, rather than to public markets. Exits to corporates accounted for roughly 40% of exit volume and three of the top four exits by value in 2018, including Summit Partners’ divestiture of Integrated DNA Technologies to Danaher Corporation for \$2 billion.

The share of exits to sponsors remained high at 47% of total volume, up significantly from just 28% in 2015. Provider and medtech were the most popular sectors for sponsor exits in 2018, with 75% of sponsor-to-sponsor exit activity.

The recent buildup of capital for healthcare private equity has had a number of impacts, including high-profile exits to sponsors of category-leading assets. Increasingly, other sponsors are viewed as attractive exit options, especially if the selling firm can negotiate to maintain a minority stake. For example,

KKR acquired a majority stake in Heartland Dental, the largest dental support organization in the US, from the Ontario Teachers' Pension Plan. Additionally, Oak Hill Capital Partners led a recapitalization of VetCor, one of the largest veterinary hospital operators in the US, alongside existing management and existing investors Harvest Partners and Cressey & Company. Neither of the deal values were disclosed.

As sponsor activity picks up, exit characteristics have been changing for funds of different sizes. Given the competition for top assets and the immense amount of dry powder, small funds (less than \$1 billion of funds raised over the past 10 years) find it harder to buy from other sponsors, while large funds (greater than \$5 billion of funds raised over the past 10 years) are hunting for deals owned by smaller sponsors. A Bain analysis found that the share of exits from sponsors to small-cap funds dropped from roughly 20% in 2017 to about 10% in 2018. Large funds were acquirers in 66% of all sponsor-to-sponsor exits in 2018, up from just 40% in 2017.

In tandem, midsized funds (between \$1 billion and \$5 billion of funds raised over the past 10 years) increasingly look to boost returns by building platforms through operational improvements and bolt-on M&A. These funds typically then sell to similarly sized or larger funds that are willing to pay more for a platform asset. In 2017, roughly two-thirds of sponsor-to-sponsor exits went to same-sized or larger acquirers; in 2018, the share rose to more than three-quarters. For example, Water Street Healthcare Partners divested its stake in Premise Health, a leading provider of worksite care in the US, to OMERS Private Equity. After Water Street formed the platform in 2014 by merging two onsite care assets, it helped Premise expand its geographic footprint over the next four years through several strategic acquisitions and an investment in a technology platform.

Looking ahead, funds may decide to opportunistically exit deals and take advantage of heavy sponsor demand for relatively recession-resistant assets and high valuations.

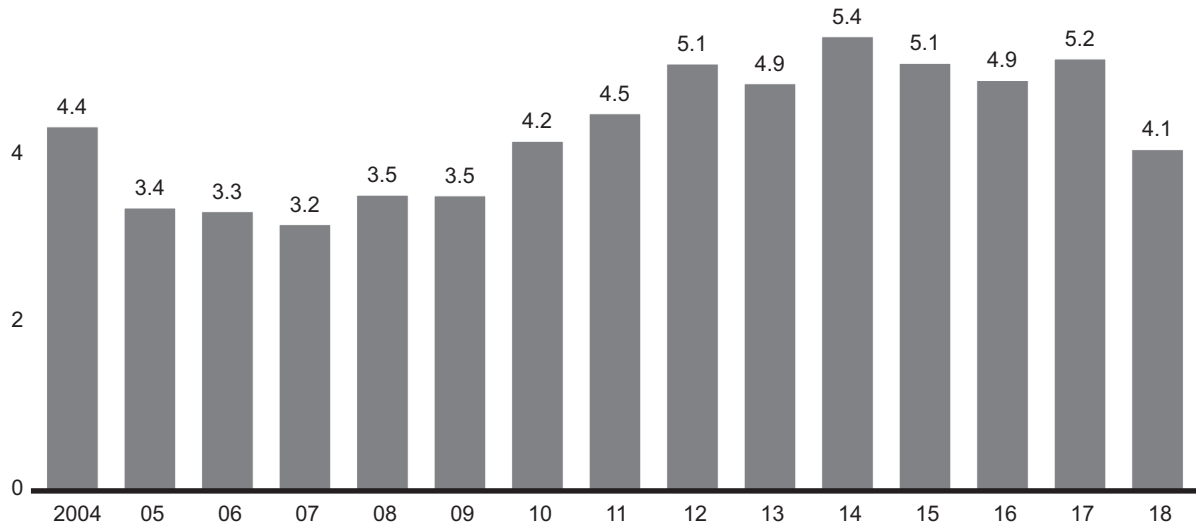
As investors finished offloading the tail of their prerecession assets and preemptively took advantage of high private market valuations, typical holding periods returned to the standard three to five years, similar to periods immediately following the recession. The median holding period across all exits fell to 4.1 years, the lowest since 2009 and a roughly 20% decline from 2017 (see Figure 13). In fact, just 34% of all 2018 exits had holding periods greater than five years, down from 52% in 2017 and the lowest level since 2010.

Looking ahead, funds may decide to opportunistically exit deals and take advantage of heavy sponsor demand for relatively recession-resistant assets and high valuations. On the other hand, funds may

Figure 13: Holding periods are returning to a steady-state level as investors offload recession-vintage assets and more quickly take advantage of high valuations

Median holding period for healthcare private equity exits

6 years



Notes: Excludes bankruptcies, recapitalizations, restructuring and write-offs; exits included are those with disclosed dates for both the purchase and sale of the asset
Source: Preqin

decide to lengthen their holding period if they possess a category-leading asset and don't have pressure to sell. In some cases, a longer-term value-creation plan to raise incremental returns may be more valuable than selling top-performing assets and hunting for ways to redeploy large sums of new capital.

We are encouraged, however, by the recent growth in deal count and value over the past few years, and we see a large accumulation of three- to five-year vintage assets that are likely to retrade soon. Smart investors will have a strong hypothesis about the best exit options for an asset at the outset of the diligence process and will continue to reevaluate their exit timing and approach over the life of the investment.

6. 2019 and beyond: Uncertainty in many markets, but healthcare private equity may be an oasis of relative calm

Toward the end of 2018, the economic and political winds swirled in new directions. Stock markets around the world retreated on indications that global growth is slowing, most markedly in China. Hawkish actions of central banks hastened the retreat, especially in the US, where the Federal Reserve continued to hike interest rates and unwind its balance sheet simultaneously. The leveraged loan market, which is critical for investors, tightened further as interest rates rose. Political fractures widened in many countries. For example, the US incurred its longest government shutdown, anti-government protests shocked the French government, and the UK's Brexit negotiations faltered. In short order, the outlook for 2019 grew less certain and investment risks more substantial than a year ago.

Fortunately, underlying healthcare fundamentals tend to be relatively immune to economic cycles, resulting in stable returns, an attractive trait to investors. This is most pronounced in North America, where, according to CEPRES, multiples on invested capital on healthcare PE investments made during recessions meaningfully outperform those in other industries; in Europe, performance is in line with the rest of the market (*see Figure 14*). As a result, robust fund-raising in 2018 and the existing dry powder provide plenty of capital for healthcare investments. As such, we expect competition for assets will not likely decline in the near future. For all of these reasons, 2019 should be another banner year for healthcare private equity.

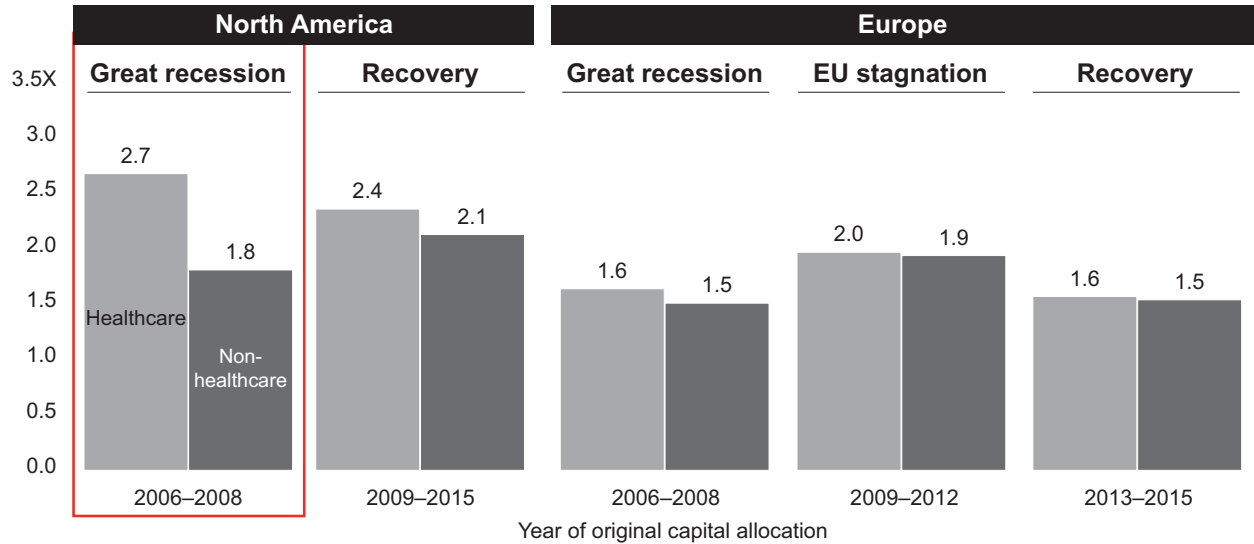
Given the strong deal competition, we expect financial sponsors to write larger checks for assets over the year. Yet the willingness to write these larger checks will come with risks, such as exposing a larger portion of a fund to a single investment or taking on more complex assets with multiple businesses. To address this challenge, we expect funds will increasingly partner with corporates and other financial sponsors.

Competitive intensity should also buoy private equity multiples at their current levels, despite an uncertain outlook in public equity markets. In fact, as public valuations erode, funds could look harder at public markets for opportunities. Public companies with noncore healthcare assets dragging on performance will find that financial sponsors are a natural fit for carve-outs. Funds will continue to contemplate take-private deals and launch more focused turnaround efforts. As in 2018, there likely will be opportunities for large transactions from the public market over the coming year.

Relative market share may matter more. As multiple expansion continues to become a smaller component of PE returns, the middle of the market becomes a more difficult place to play, though some funds still could win there. More funds may choose to focus instead on the two ends of the spectrum, where returns look more promising. At one end, investing in large-scale category leaders will give funds a sturdy platform from which to invest. At the other end, buyouts of niche, differentiated companies that can benefit from capital infusion is another attractive option.

Figure 14: North American healthcare outperformed other private equity sectors, especially during the past recession, whereas Europe was at par

Gross pooled multiple on invested capital



Notes: Deal universe includes buyout and growth deals greater than \$50 million in invested capital, with original capital allocations occurring between January 1, 2006, and December 31, 2015; returns include realized and partly realized investments only; North America includes US and Canada; multiple on invested capital is the ratio of total distributed capital and remaining unrealized value to total investment cost; entry multiple is the enterprise value to earnings before interest, tax, depreciation and amortization (EV/EBITDA) multiple; industry classifications were adjusted to be consistent with other Bain analysis
 Source: CEPRES PE Analyzer (August 2018)

Wherever they compete along this spectrum, investors will not only have to execute an airtight acquisition and integration playbook but will also need to flex new muscles and develop more creative approaches to building scale or category-leading assets. For example, TPG Capital announced in early 2019 that it has committed \$300 million to build from the ground up an autism behavioral health services platform known as Kadiant. We expect to see a greater prevalence of funds building and adding to platforms, especially in the provider and biopharma sectors, both of which benefit from scale but remain fragmented.

Larger buyout firms will continue to cultivate a budding interest in developing biopharma platforms and taking on clinical-stage risk. The formations of sector-specific vehicles over the past few years, such as Bain Capital Life Sciences and Blackstone Life Sciences, and recent deal experiences have given these large funds both the infrastructure and know-how to execute in the space. They are well positioned to acquire underfunded biopharma programs to develop and bring new drugs to market.

Beyond doing larger or more complex deals, funds likely will take on more risk in the form of health-care-heavy investments in the provider and payer sectors. The provider sector historically has been attractive for its buy-and-build opportunities, and firms will push further into niche specialties and disruptive care delivery models with nuanced reimbursement and regulatory exposures. On the payer side, firms will continue to look for ways to harness trends involving Medicare Advantage and complex

populations. On both fronts, we expect to see more competition from corporates trying to capitalize on their operating experience.

With funds doing new types of deals in a market this competitive and attractive, sponsors will want to invest more in integrated commercial and operational due diligence in order to identify all relevant risks and explore all possible levers of return. We expect funds to be more creative and proactive in their pursuit of winning investment angles. Funds also will invest more heavily in developing a value-creation plan early in the investment life cycle in order to focus the management team on the most critical activities.

While we expect 2019 to be strong for investments, the jury is out on whether this vintage of healthcare deal returns will be as good as previous vintages. As uncertainty permeates public stock and debt markets and returns from multiple expansion wane, more deals may become increasingly difficult to justify. Investors will no longer be able to rely on market-wide multiple expansion to generate returns. There could be a wider fan of outcomes in future deal returns. Disciplined, data-driven funds will find their way to top-quartile deals by backing winning companies, deploying a systematic value-creation playbook and doing their part to transform the global healthcare industry.

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