THINKING AHEAD TO STAY AHEAD:
Strategic Private Equity Investing in Healthcare

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Executive Summary

"First say to yourself what you would be; and then do what you have to do."

Epictetus, an ancient Greek philosopher

A growing trend among healthcare organizations is to evaluate and/or invest in private equity funds or directly in companies focusing on opportunities in the healthcare industry.

This trend stems from the necessity of healthcare organizations to adapt to the changes within their industry in order to maintain a strategic advantage and stay relevant. The combined impact of the Affordable Care Act, demographics of an aging population and the consumerization of healthcare are fueling new technologies, services, and synergies, while requiring providers and payers to keep abreast in order to keep up with the competition.

To this end, investments through private equity funds or directly in healthcare companies are rapidly becoming avenues for providers and payers to better identify these opportunities. While each organization may have a specific investment goal in mind, some common objectives can include: identifying cutting edge technologies to provide for improved and cost effective patient care, finding synergies with companies through partnerships with private equity firms, capitalizing on intellectual property, and enhancing returns through investments in a known industry.

To be sure, the notion of corporate strategic investment is not a new concept. Companies from Google to Siemens have embraced this approach for similar reasons. That said, the actual strategic advantage of these investments may be difficult to initially quantify, requiring a deep understanding of the private equity landscape and thoughtful and, at times, lengthy deliberations. In many respects, healthcare organizations are like snowflakes with no two being alike: some institutions emphasize research while others are focused strictly on providing clinical care, with many falling somewhere in between this spectrum. Therefore, each organization's approach, objective and expectation for success will differ when considering a strategic investment.

THE INVESTMENTS STRATEGIC ADVANTAGE MAY BE DIFFICULT TO QUANTIFY, REQUIRING EXPERT PRIVATE EQUITY KNOWLEDGE AND LENGTHY DELIBERATIONS

Since there is no one-size-fits-all approach to strategic investments, the purpose of this paper is to describe the path taken by a few healthcare organizations in order to provide food for thought for when you think about your organization's approach to strategic investing. To further aid your process, we have also included an overview of the healthcare space within the private equity landscape. In subsequent research papers, we will explore governance, implementation and the methods of evaluating success.

Disruptive Factors Affecting Healthcare

The main factors affecting the traditional healthcare delivery model are: demographics, the Affordable Care Act, and the increasing consumerization of healthcare. There are 78 million baby boomers—those born between 1946 and 1964—who require, or will soon require, additional and more costly healthcare. The aging

of this segment, representing one-third of the US population, will fuel a surge in demand for the treatment of chronic conditions, medical devices, medications, and geriatric and end-of-life care.

Currently, it is estimated nearly 90% of Americans have some form of health insurance and 20 million more people are covered by insurance today than the preceding years leading up to the passage of the Affordable Care Act (ACA). With the ACA resulting in the expansion of Medicare and Medicaid coverage, healthcare organizations are under increasing financial pressure in the face of declining reimbursement rates from these two programs which represent 58% of the total care provided by hospitals. As a result, there is a shift taking place away from the traditional fee-for-service model towards that of a fee-for-value model. Whereas historically there may have been an incentive for providers to focus on the amount of services they could provide to patients, going forward there will be a focus on eliminating services of questionable value with associated penalties for recidivism. Additionally, there will be an emphasis on proactive health and wellness with care provided in a coordinated, holistic manner rather than in a fragmented way with different providers working in isolation.

WE ESTIMATE THERE ARE AROUND 325 HEALTHCARE-ONLY PRIVATE EQUITY FIRMS

It is estimated that $1 trillion of the current $3 trillion US healthcare market will migrate away from the traditional healthcare model towards new business designs and players, according to Oliver Wyman, a consulting firm.[1] Specifically, the threat to healthcare systems is the drop in inpatient hospital utilization rates as higher cost treatments move to ambulatory settings. Additionally, most procedural services (surgeries and diagnostic procedures) will be located at outpatient centers or even in retail settings, according to Oliver Wyman.

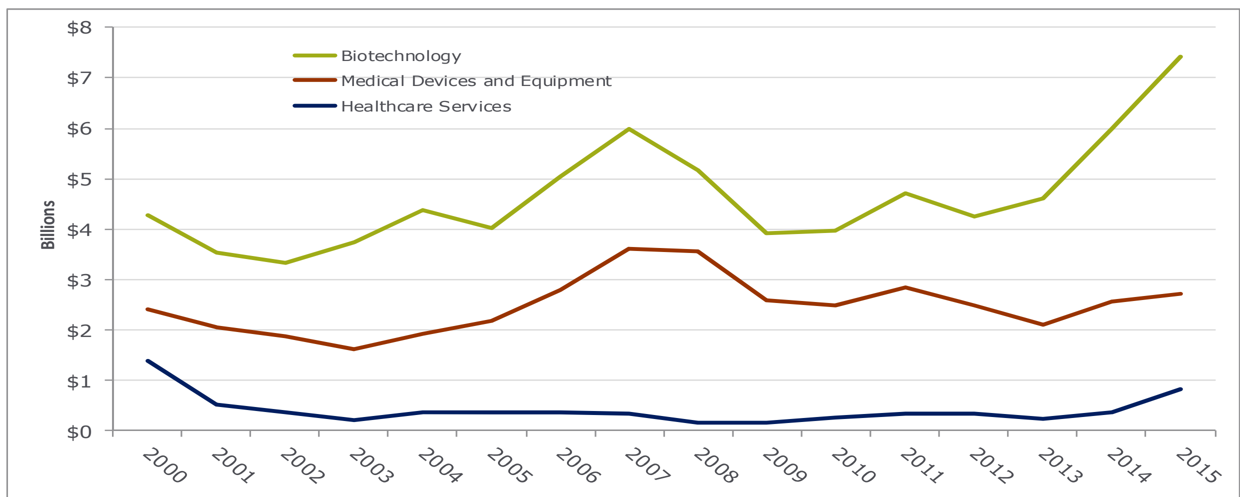
Private Equity and Healthcare

In the private equity world, nearly 2,000 firms in the United States listed healthcare as one of their targeted sectors for investment, according to a search of the Preqin database. While many of these firms may not be deemed "institutional" and/or may not be exclusively focused on healthcare, the scope of attention given to the healthcare sector should not be overlooked. When culling through the data, we estimate there are around 325 healthcare-only PE firms across the private equity spectrum, a majority of which are focused on venture capital investments and, to a lesser extent, buyout funds. When evaluating the private equity landscape, there are only a handful of dedicated growth equity funds focusing on healthcare. Towards the end of 2015, there were approximately 206 funds raising capital that identified healthcare as one of their sector focuses. Of the funds exclusively concentrating on healthcare, there are over 60 raising collective assets of $14.5 billion.

Venture Capital

Investing in healthcare through venture capital has mainly entailed investing in biotechnology, and medical devices and equipment companies, collectively known as life sciences. By any measure, the life sciences sector has been on a tear, given a robust IPO environment and with the amount of capital flowing into new deals hovering around record highs. In 2015, 50 of the 77 venture-backed initial public offerings were life sciences companies, representing 65% of all IPOs, according to Thomson Reuters and the National Venture Capital Association. In the first quarter of 2016, life sciences companies represented all six of the venture-backed IPOs. Exhibit 1 shows capital invested over time in healthcare-related deals. For the full year 2015, $11 billion was invested in 861 deals. The amount invested in life sciences was second only to software in 2015. In the second quarter of 2015, a record $2.3 billion was invested in biotechnology, the single highest quarter since PwC MoneyTree has been tracking life sciences deal flow. In total, biotech companies received $7.4 billion in funding in 2015, the highest ever in a single year. A reason for the surge in investment can be attributed to the influx of corporate venture capital from pharma companies, with Amgen, GlaxoSmithKline, Eli Lilly, Novartis and Pfizer among the corporate venture arms injecting $500 million to $1 billion into new deals annually. In addition, the recent wave of approvals from the US Federal Drug Administration (FDA) has bolstered confidence within the biotech sector; in 2015, the FDA approved 45 "new molecular entities" (NMEs), the most ever in a single year. This comes on the

Exhibit 1: Healthcare-Related Venture Capital Investments



Source: PwC MoneyTree

heels of 41 NMEs in 2014, the most the agency has approved in any year since 1996. While biotech investing is certainly not without risks, the notion that the FDA made it overly burdensome, time consuming and expensive to get a drug through clinical trials has been somewhat turned on its head. The agency has strived to provide feedback throughout the process so companies have an idea as to how to win approval, providing for a smoother process.

Meanwhile, the medical devices and equipment segment, despite a small uptick in 2015, has seen a precipitous decline in investment since peaking at $3.6 billion in 2007. By one estimate, nearly $4 billion of capital that would have historically been invested in medical devices has vanished due to firms winding down and no longer raising funds, or firms refocusing their efforts elsewhere.[2] Many of these companies required significant time and money (up to $150 million) to develop their products, with most exits in the range of $200 million to $400 million. These relatively low cash-on-cash multiples, coupled with a high mortality rate from write-offs, fueled lackluster returns. That said, with funding on the decline, some healthcare investors are actually excited by the prospect of investing in device companies that are fairly mature with largely developed products in situations where the investor syndicate has run out of money and new investors can come in and recapitalize companies at a much lower valuation.

Investment in healthcare services topped $800 million in 2015, surpassing the amount invested in 2013 and 2014 combined. While healthcare services have remained mainly flat at around $300 million for over a decade, there is renewed interest in companies that can help promote or increase efficient workflow for a physician group, insurance companies or hospitals.

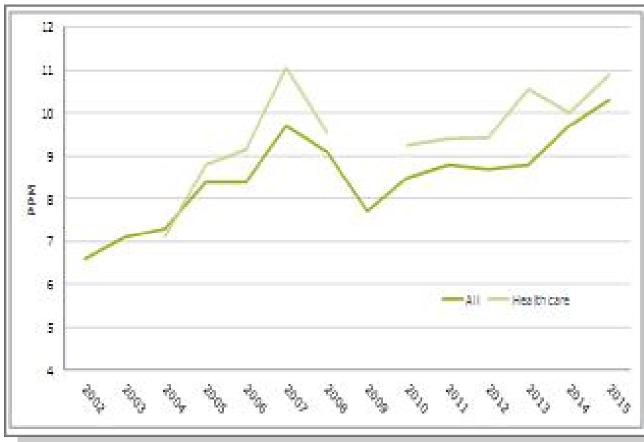
Healthcare venture capital relies upon a healthy ecosystem of entrepreneurs, scientists, medical practitioners, research institutions and investors. The San Francisco Bay and Boston areas command the lion's share of startup funds due to their extensive and vibrant academic and medical research institutions. Other areas around the country that attract significant healthcare venture capital include San Diego, New York, Chicago, Washington, Minneapolis/St. Paul and Philadelphia.

Buyout

Traditionally, the buyout community has shown significant interest in healthcare because most segments of it are immune to market cycles. As mentioned earlier, there aren't nearly as many dedicated healthcare buyout funds as venture capital funds. Our supposition is that to be an effective healthcare investor, a buyout manager needs to combine sound investment acumen with a robust knowledge of regulatory frameworks and government programs. Therefore, in the interest of diversification and since reimbursement risk is a paramount concern, many buyout firms position healthcare as one of a number of sectors in which they will invest.

Exhibit 2 represents the average purchase price multiple for healthcare buyout investments over the last 15 years. Over time healthcare companies

Exhibit 2: LBO Purchase Price Multiples



Source: S&P Capital IQ: LCD Leveraged Buyout Review; no healthcare data was provided for 2008/2009.

have commanded a premium over the general market amid competition from strategic acquirers and investors with deep pockets and a desire to take part in growth opportunities.

Strategic Corporate Investing

Strategic investments have taken varied forms, according to our discussions with healthcare organizations and Private Equity managers:

- Directly investing in private companies through the treasury/investment office
- Investing as a strategic limited partner in a private equity fund (primarily venture capital)
- Establishing a dedicated venture capital fund
- Hybrid approach of direct and fund investing

Healthcare organizations that are more clinician-focused may look externally for investment opportunities, while those that emphasize research may look to commercialize what is being developed internally and seek to attract third-party capital to help further develop a product.

Strategic Limited Partner

One way in which healthcare organizations can invest tactically is by investing in a private equity fund through a strategic limited partnership arrangement with a General Partner. Earlier, we stated there were approximately 325 healthcare-focused firms. In our analysis the number of firms that have established a strategic partnership with their healthcare limited partners is quite small, perhaps under 20.

This arrangement does not imply the investing company is seeking to receive a lower fee or carry—although anything is negotiable—but rather augment what may otherwise be a passive investment into one that may lead to driving, enabling or developing investments. A cautionary note: A strategic limited partner needs to understand that its fund investment is in effect an arm's length transaction because there are most likely other limited partners in a fund that may be interested solely in a financial return. Strategic limited partners should not impress upon a General Partner to make an investment that would only serve their organizations' best interest.

OrbiMed and Arboretum Ventures are two healthcare-focused firms that have made a concerted effort to establish a strategic relationship with their healthcare clients. There are multiple benefits to healthcare organizations, according to them, including:

1. The potential to commercialize aspects of an organization's research and development in the areas of devices and/or drugs
2. The potential to commercialize internally developed healthcare-related IT
3. Beta testing new healthcare-related IT, services and devices being developed in a portfolio company, and as an early adopter (this may help bring down an organization's costs)
4. Helping healthcare organizations to see the future of healthcare and play a collaborative role

From the private equity firm's perspective, the strategic relationship will help enhance its diligence process by expanding its network of clinicians, researchers, chief investment officers and chief financial officers. In practice, as a private equity firm assesses the merits and risks of a potential investment, it can tap into a leading clinician in a specific area who may potentially be a user of the product under consideration in order to get a feel for what the current gold standard is, and get an educated opinion as to the usefulness of the product or service being assessed.

OrbiMed and Arboretum believe that in order for the strategic relationship to be effective, a point of contact is required in the clinician or innovation area in addition to the person responsible for the investment in their fund (i.e., treasury and/or investment office).

To this end, OrbiMed recently spent a day at a leading research-focused healthcare organization and met with a number of doctors and researchers on about 15 technologies they were currently developing. Once OrbiMed identifies an opportunity or idea that it may want to pursue further, OrbiMed's client relationship person passes the information along to the resident expert inside the firm for further consideration.

Arboretum offers its "Venture 101" class and extends "Office Hours" to its strategic limited partners. These programs, which are now being offered to the University of Michigan, educate budding entrepreneurs or researchers on how a company obtains funding and the manner in which investment firms perform due diligence and evaluate transactions. Arboretum will also meet with researchers individually and offer ideas or suggestions as to how to move a company forward, or not.

One question that frequently arises within a healthcare organization is whether it should establish a technology transfer office. The venture capitalists we spoke to noted that it is difficult to extract intellectual property (IP) from organizations that don't have tech transfer capabilities, but it is by no means impossible to do so. However, if a healthcare organization is focused on patient care, then there is probably not a lot of valuable IP being developed that would be commercially viable. Rather, tech transfer seems to work best in places where novel, exciting research is taking place such as academic medical centers and research-focused health organizations. To this end, any organization that has an innovative research effort should have at least one credible person charged with tech transfer.

A common refrain among the people we spoke to who are involved in tech transfer is that any organization that decides to set up a tech transfer office for the sole objective of making money is in trouble. An organization should consider doing it for the sake of research satisfaction or in an effort to build on their reputation because it could take a decade or more to see the fruits of its labor while also requiring a good measure of luck. At best, a tech transfer office is a breakeven proposition with only a small number of licenses generating income; in fact, only 2% of patents generate more than $1 million, according to a person familiar with the matter. Specifically to healthcare organizations, novel ideas in the areas of therapeutics and medical devices have the highest probability of generating future royalty streams, and not IT.

Direct Investment - Outside-in Model with In-house Venture Capital Team

In the midst of the venture capital bubble bust in 2001, Ascension, one of the largest hospital systems in the United States, made the bold decision to start a professionally run venture capital unit called Ascension Ventures. Ascension's goals were threefold:

1. Leverage Ascension's knowledge and insights of the healthcare industry for the purpose of transforming its own system by focusing on efficiency, quality of care and lowering costs,
2. Identify other possible avenues for growth, and
3. Earn an appropriate risk-adjusted return.

To achieve these goals, Ascension recruited an individual outside its organization to start a venture capital program and created a separate governance structure that would let it operate at a speed falling somewhere between that of a traditional venture capital firm and a large health system. The individual's prior experience was in healthcare venture capital, investment banking, clinical practice, and business development. At its inception, Ascension Ventures made direct investments as well as a few fund investments, which it no longer does. The purpose of the early fund investments was to diversify the portfolio and learn how other venture capital firms were run.

Ascension Ventures has raised three funds. Fund I was a captive fund with Ascension as the sole limited partner. For its second and third funds in 2007 and 2012, respectively, seven other health systems joined as strategic limited partners, providing external capital in addition to Ascension Health. Many of the limited partners of Ascension Ventures fund their commitments with balance sheet assets. Since Ascension is mainly composed of community-based hospitals versus academic medical centers, Ascension Ventures primarily looks externally to source investments that may serve to advance the organizational goals of Ascension and its fellow six health system investors.

Ascension Ventures invests in companies in the following verticals: healthcare IT, healthcare services, medical devices and diagnostics. Recent investments are in the areas of big data (predictive and prescriptive analytics), population health management, and clinician communication technologies. Given the increasing difficulty of selling a product into a healthcare organization, portfolio companies look to Ascension Ventures for more than just capital, as their limited partner base represents literally hundreds of hospitals. While there is no guarantee that Ascension or the other health systems will buy a portfolio company's product or service, each hospital does serve as a potential sales opportunity.

THE INVESTMENT TEAM BROUGHT IN A SUBJECT MATTER EXPERT TO HELP EVALUATE AN INVESTMENT

Ascension Venture's board, which also acts as the investment committee, consists of both outsiders (entrepreneurs, investment bankers, venture capitalists, strategy consultants) and a subset of the limited partners. Depending on the size of the limited partner's organization, usually a CFO or someone from an organization's innovation group serves as the board representative. In one instance, the CEO of one of the systems serves on the board. In addition to those limited partners who serve on the board, all the limited partners are invited to attend board meetings in order to participate in the conversation and understand the companies that Ascension Ventures is investing in. Ascension Ventures is clear that its goal is to generate returns for investors commensurate to any venture capital fund with the strategic value aspect of its investment in the fund serving as a call option. To this end, Ascension Ventures keeps track of the adoption rates by its limited partners of the products being developed by its portfolio companies.

Direct Investment from Investment/ Treasury Office

Boston-based Partners HealthCare made direct investments from 2001 to 2010 through the organization's investment office within the treasury department. The primary goal for Partners was to generate returns for the health system by investing in companies that possessed some element of clinical benefit to the health system. Partners has made it clear that the success of the investments would be judged by the cash-on-cash returns.

Investment opportunities were sourced and accessed through Partners' roster of fund relationships, and through those firms that Partners may have known, but not necessarily made a fund commitment to. Most of the investments were in the Boston area and ranged from biotech to logistic technologies around safety and property management. To assist in the diligence, the investment team brought in a subject matter expert from within Partners to help evaluate a potential investment.

Partners had a well-defined deal approval process. The approval committee was a subset of Partners' investment committee and consisted of local venture capitalists with an affiliation to the health system. In addition to company and market dynamics, the approval memorandum would outline future cash needs so as to not have to get committee approval for each round of follow-on financing. On a quarterly basis, the investment team reported on the direct investment's portfolio at a high level. Annually, a more detailed update would be provided to Partners' investment committee. In all, Partners Healthcare made five to ten direct investments. In 2012, in a strategic shift of responsibilities, the handful of remaining direct investments was handed over to the newly developed dedicated in-house venture capital group, the Partners Innovation Fund.

Direct Investment – Inside-out Model with In-house Venture Capital Team

Partners Innovation Fund's goal is to advance and commercialize research being developed internally at three of its Boston-based hospitals: Brigham and Women's Hospital, Massachusetts General Hospital, and McLean Hospital. The Partners Innovation Fund's model is the opposite of that of Ascension Ventures. Where Ascension looks externally for cutting edge companies that it may want to own or from which its system could benefit, the Innovation Fund looks inwardly at the research being developed that is ripe for commercialization at the three hospitals. These hospitals collectively seeded the Innovation Fund with $35 million each. Unlike Ascension Ventures, which has raised a series of closed-end funds, the Innovation Fund is set up as an evergreen structure with proceeds from realized

investments reinvested in other companies.

Partners Healthcare felt that an element critical to the Fund's success was how it would be staffed. To this end, the Innovation Fund has a dedicated team led by three individuals with complementary skill sets, possessing prior experience in venture capital, business development, research, and executive management in venture-backed companies – all within healthcare. Since Partners develops a great deal of intellectual property, it has a large technology transfer department, which also serves as the location of the Innovation Fund. This arrangement helps streamline communication and interaction between the two groups as they seek to commercialize technologies.

As for governance, the Innovation Fund's investment committee consists of carefully selected individuals with industry experience and venture capitalists. In addition to approving the initial investment, the committee also has oversight on follow-on financing.

To date, the Innovation Fund has made around 25 investments in biotech, diagnostics, IT and medical devices. The Innovation Fund will generally take ownership positions of 5% to 10% and will have presence on the board of each company. In total, the companies have attracted over $750 million of outside investment capital. Within biotech, Partners is careful not to participate in trials of therapies being developed by its portfolio companies to avoid the conflict of interest of having a financial stake in the outcome of a trial. The Innovation Fund recognizes that success in IT is all about adoption; if a certain application fails to gain traction internally, the Innovation Fund team knows it would be a hard sell to others.

So how does Partners measure success outside of a pure, identifiable financial metric? While a financial objective is important, Partners Healthcare is willing to trade some aspects of a financial return on an investment if it can achieve its primary strategic objective of improving patient care, both internally and externally. Additionally, Partners Healthcare believes the Innovation Fund assists in fostering a culture of innovation within the organization while also appealing to world class researchers, something Partners is renowned for.

By virtue of attracting over $750 million to its companies, there is validation that important research is being done within its hospitals and academic centers that is critical to the wellbeing of patients. Partners also points to the number of active clinical trials for biotech therapies that were developed internally. Finally, Partners believes that the work the Innovation Fund is doing is a critical component of the future of healthcare as biotech and medical device companies scale back their research efforts.

Conclusion

The healthcare landscape is being redefined by the passage of the Affordable Care Act, the demographics of an aging population and the consumerization of health services. Through technology, patients will now have a variety of tools at their disposal to make more transparent, value-based decisions as to where they will receive their healthcare needs. Healthcare organizations need to know the lay of the land to figure out how to evolve, participate and remain viable. The decision to make strategic investments should be specific to an organization's DNA to help it develop new strategies providing for better, more efficient quality healthcare at a lower cost.

To this end, when thinking about making strategic investments, there are a few important considerations to keep in mind. The barrier for making strategic investments is low, and these investments should be done evolutionally and should not heedlessly be rushed into. An organization needs to clearly define what its goals and objectives are and have a game plan as to how these will be accomplished. Buy-in from all constituents, particularly at the senior management level, is vital for success. Finally, an organization should have at least one person to support the strategic investment mission and serve as a bridge between the C-suite, clinicians, researchers and the treasury office.

NEPC is an independent investment consulting firm with dedicated Healthcare and Private Equity Teams. Please look for our future strategic healthcare private equity investing research white papers.

[1] Tom Main and Adrian Slywotzky. "The Patient-to-Consumer Revolution." Oliver Wyman, 2014.
[2] Annual meeting presentation. Arboretum Ventures, 2015.

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