SPECIAL REPORT:

Private Equity and Health Care in Emerging Markets

OCTOBER 2016

EMPEA

About EMPEA

EMPEA is the global industry association for private capital in emerging markets. We are an independent non-profit organization with over 300 member firms, comprising institutional investors, fund managers and industry advisors, who together manage more than US$1 trillion of assets and have offices in more than 100 countries across the globe. Our members share EMPEA's belief that private capital is a highly suited investment strategy in emerging markets, delivering attractive long-term investment returns and promoting the sustainable growth of companies and economies. We support our members through global authoritative intelligence, conferences, networking, education and advocacy.

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Executive Summary

In many ways, health care exemplifies EMPEA's belief that emerging markets (EM) private equity provides investors the opportunity for outsized returns, as well as positive social impact. Demand for health care products and services has grown faster than overall EM economic activity, and the needs of consumers have outstripped the capacity of public sector options. Many governments, faced with budgetary pressures and preoccupied with ensuring macroeconomic stability in a volatile global landscape, have recognized the need for increased private investment in the sector. It's therefore no surprise that health care private equity investment activity in emerging markets has reached the highest levels ever recorded by EMPEA. Yet delivering on the promise of health care in emerging markets requires not just an opportunistic mindset, but patience, creativity and operational insight into what is ultimately a very complex sector.

However strong the macroeconomic drivers may be, the "micro" attributes of investments in health care are crucial to success. This report explores the health care private equity landscape in emerging markets, with a view to how fund managers are approaching investments across countries, subsectors and investment stages. Most importantly, the report examines how fund managers are driving change at the portfolio company level, creating value not only for investors, but also for the communities that health care companies ultimately serve.

Key findings include:

- **Health care opportunities across emerging markets are driven by a persistent gap at a macro level between supply in health care provision and growing demand.** The new global middle class's spending on health care is outpacing GDP growth. Additionally, with the rise of chronic diseases and, in some markets, aging populations, the composition of health care services that citizens need is evolving.

- **Overall private investment in health care reached US$2.7 billion in 2015 across 131 deals**—the largest year-end investment totals (both in terms of capital deployed and number of deals) reported for the sector since EMPEA began tracking investment figures in 2008. This year is on track to set a new high, with US$1.7 billion invested across 79 deals in the first half of 2016 alone. Health care providers—including hospitals, clinics and diagnostics labs—have attracted the largest share of health care deals and capital invested in recent years, accounting for 41% of deals and 43% of capital invested from 2011 through 1H 2016.

- **Health care-specific specialist funds are gaining traction in emerging markets**, having raised more than US$1 billion in 2015. This is largely a regional phenomenon, however, as the vast majority of health care-specific fundraising is taking place in Emerging Asia. Across emerging markets, the overwhelming majority of investments in health care are made by generalist fund managers, but this may change if other regions follow the path of Emerging Asia toward increasing specialization at the GP level.

- **Investors in private equity are keen to increase their exposure to health care in emerging markets**, ranking the sector more attractive than any other in EMPEA's 2016 *Global Limited Partners Survey*. However, LPs express concern about rising valuations (brought on, in part, by the uptick in investor interest). While LPs are committing to health care-specific funds in the deepest markets, most emphasize the need to work with sector-agnostic funds to increase exposure to health care in less mature markets for private investment in health care.

- **For investors seeking exposure to health care in emerging markets, private equity is a well-suited strategy through which to access and reap returns from the sector.** Public markets offer very few options for EM health care investment—there are just 34 health care companies in the FTSE Emerging Index and seven health care companies in the FTSE Frontier Index. By contrast, private equity has backed 424 different health care companies between 2011 and 1H 2016. Moreover, private equity fund managers can create value in companies by improving operations, consolidating fragmented industries, achieving scale and leveraging local expertise to tap market-specific opportunities. Such value addition remains out of reach when simply investing in the few health care opportunities available in public markets.

- **Emerging Asia boasts the largest and most mature health care investment landscape of the five major EM regions**, with capital invested outpacing all other regions combined since 2012. Fund managers focusing on Emerging Asia have access to a rich diversity of mature and sophisticated health care subsectors, such as biotechnology and pharmaceuticals.

- **State health care systems in CEE and CIS are working with private providers to expand access, providing opportunities for private investors in the space.** After Turkey launched public-private partnership provisions for its health care system in 2010, for example, the country attracted several investments in large-scale hospitals.

- **Brazil and Mexico have accounted for the majority of health care investments in Latin America.** Brazil, specifically, has seen an influx of capital in recent years due to regulatory changes easing restrictions on foreign ownership of health care providers.

- **Health care in MENA perhaps best demonstrates the defensive and resilient nature of the sector when facing economic uncertainty.** In recent years, private equity fund managers in MENA have dealt with volatility on several fronts—the global financial crisis in 2008 was followed by the Arab Spring in 2011, and now the low price of oil is a major challenge. Nonetheless, spending on health care in MENA has increased every year throughout these periods, even in times of negative GDP growth in the region.

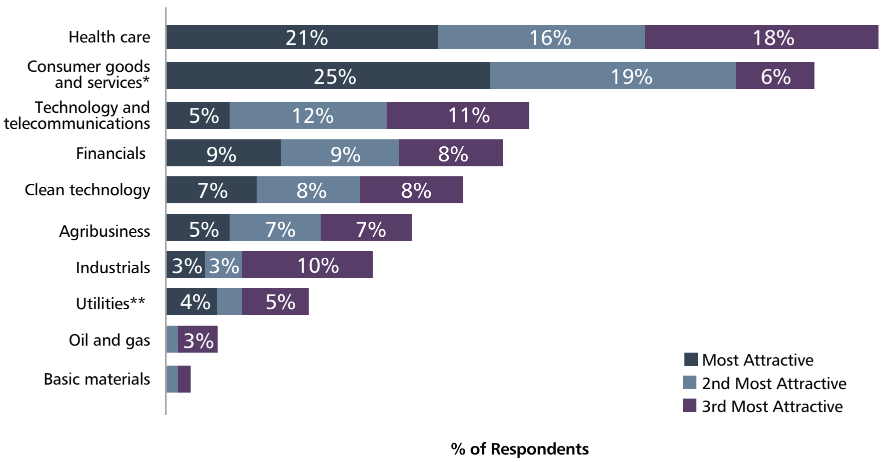
- **Sub-Saharan Africa's health care sector is underdeveloped, but primed for takeoff.** While Sub-Saharan Africa has attracted just a small fraction of the total capital invested in EM health care in recent years, the region's large gap in health care supply, growing urban populations and receptive governments are generating opportunities for early movers in the region. Indeed, some of the largest investors in emerging markets are raising capital to back companies in the space.

Note: The methodology used for this report may be found on page 37. EMPEA Members have exclusive access to the underlying exhibits and data in the report via the MS Excel icon on the right.

The Big Picture: An Introduction to Health Care and Private Equity in Emerging Markets

When **TMG Capital** invested in Brazil-based insulin producer Biomm Technology in 2013, the private equity fund manager saw an opportunity to address growing domestic demand for pharmaceutical products by creating a national leader in a niche

Exhibit 1: LP Views – Most Attractive Sectors in Which to Build Exposure via EM PE, Ranked 1-3



*Includes retail/e-commerce. **Includes water and electric power.
Source: EMPEA 2016 *Global Limited Partners Survey*.

market segment—supported by a government keen on finding a local alternative to international suppliers, one that could address the everyday needs of Brazilians. In the years since TMG's investment, Brazil has become mired in political crisis and economic recession, confronting fund managers with perhaps the most challenging investment environment in decades. Yet demand for health care in the country has remained resilient, and fund managers continue to see opportunities to address unmet demand for quality and affordable health care products and services. Eduardo Buarque de Almeida, Partner at TMG Capital, attests, "Even in 2015, which was a challenging year for the economy overall, the sector grew by 2.7%. That is why private equity firms are still investing here."

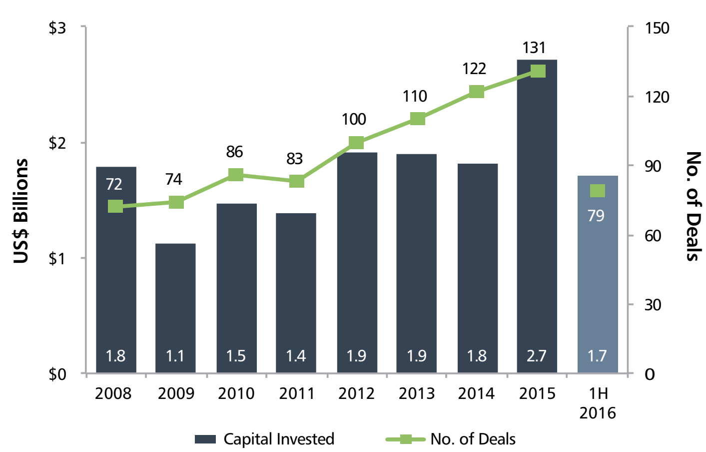
TMG's experience with Biomm encapsulates the opportunities available for private equity investors in the health care sector in emerging markets. Taking notice of the sector's resilience and the factors driving the opportunities in EM health care, investors have become increasingly attracted to the sector. In EMPEA's 2016 *Global Limited Partners Survey*, respondents ranked health care among the most attractive sectors in which to gain exposure via EM PE (see Exhibit 1). Bernard McGuire, Managing Director of EM-focused fund of funds manager **57 Stars** explains, "The level of interest in the sector stems from its strong growth, persistence and lack of volatility. Governments are increasingly aware of the need to provide better, deeper, cheaper health care solutions for a much broader part of the population. At the same time, rising middle class incomes in a lot of countries mean a greater ability to pay for things above and beyond what the government might offer, so that private insurers can prosper and private clinics can prosper."

Perhaps unsurprisingly, private fund managers' recent investment activity largely mirrors heightened LP interest. In 2015, the number of deals and disclosed capital deployed in the health care sector reached the highest levels ever recorded by EMPEA (dating back to 2008), and data from the first half of 2016 reveal no signs of deceleration (see Exhibit 2).

Once institutional investors decide to invest in EM health care, they still must consider why private equity, rather than public markets, is the right channel through which to build exposure to the sector. Here, the rationale is simple: opportunities are much deeper and broader in private markets. While there are just 34 health care companies in the FTSE's Emerging Markets Index, making up just 3% of the index's weight, more than 400 EM health care companies have received private investment between 2011-1H 2016, accounting for 7% of the total (see Exhibit 3). Publicly-listed health care companies also tend to be clustered geographically and by subsector. Such limited availability drives up entry multiples for publicly-held health care companies in emerging markets.[1]

Moreover, data from Cambridge Associates reveal that the performance of private equity (inclusive of venture capital) investments in the health care sector has beaten returns for

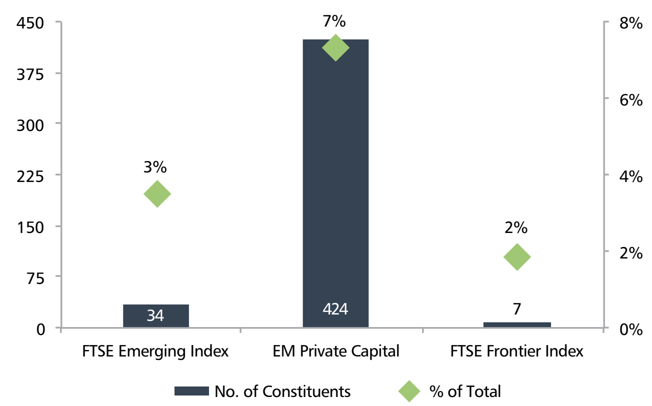
Exhibit 2: EM Private Investment in Health Care, 2008-1H 2016



Source: EMPEA. Data as of 30 June 2016.

[1] "Healthcare in the Emerging Markets: A Compelling Private Equity Opportunity." Siguler Guff & Company. October 2014. http://www.sigulerguff.com/sites/default/files/2014.11.12-Siguler-Guff-Healthcare-in-the-Emerging-Markets.pdf.

Exhibit 3: FTSE ICB Sector Comparison – Health Care Exposure, Private vs. Public Markets



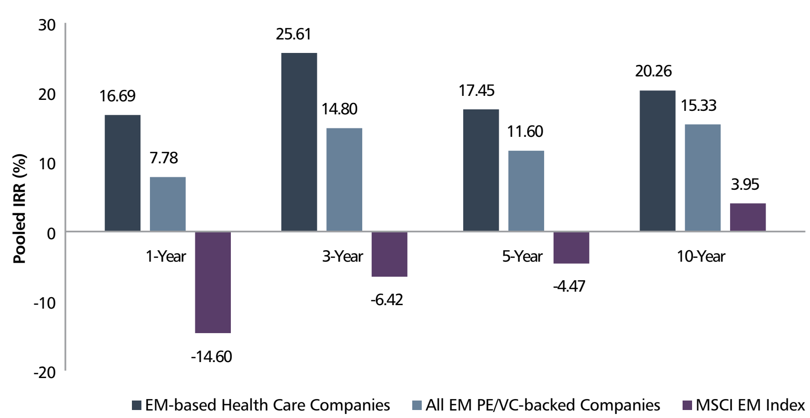
Sources: EM Private Capital – EMPEA (companies receiving investments from private funds, 2011-1H 2016); FTSE Emerging and Frontier Indices – FTSE International Limited. Data as of 31 August 2016.

> This is a very complex market, and while there's huge unmet need for health care, investors must also consider the extent to which it is economically viable to service this unmet need and earn a return on capital. Investors must weigh the structural drivers of the opportunity against the challenges of investing in the space, decide how to access the sector and find managers that can deploy capital effectively and generate value.

EM public equities, not to mention the broader pool of private equity and venture capital investments in EM companies across all sectors, over multiple time horizons (see Exhibit 4). In this sense, private investing in the EM health care sector has the potential to be a true source of alpha.

While the track record of EM health care suggests that the sector as a whole has the capacity to outperform, top-line performance figures should not overshadow the complexity of health care investing in emerging markets. Challenges at the fund and investment level persist, with the potential to negatively affect individual fund and deal returns. Hari Buggana, Founder and Managing Director of India-focused health care fund manager **InvAscent**, cautions, "This is a very complex market, and while there's huge unmet need for health care, investors must also consider the extent to which it is economically viable to service this unmet need and earn a return on capital." Such concerns can easily be applied to not only India, but all emerging markets. In effect, investors must weigh the structural drivers of the opportunity against the challenges of investing in the space, decide how to access the sector and find managers that can deploy capital effectively and generate value. The following sections of this report address these themes.

Exhibit 4: Horizon Returns for PE/VC Investments in EM-based Health Care Companies vs. All EM PE/VC-backed Companies and MSCI Emerging Markets Index



Source: Cambridge Associates. Data as of 31 December 2015.

Structural Drivers of Opportunity

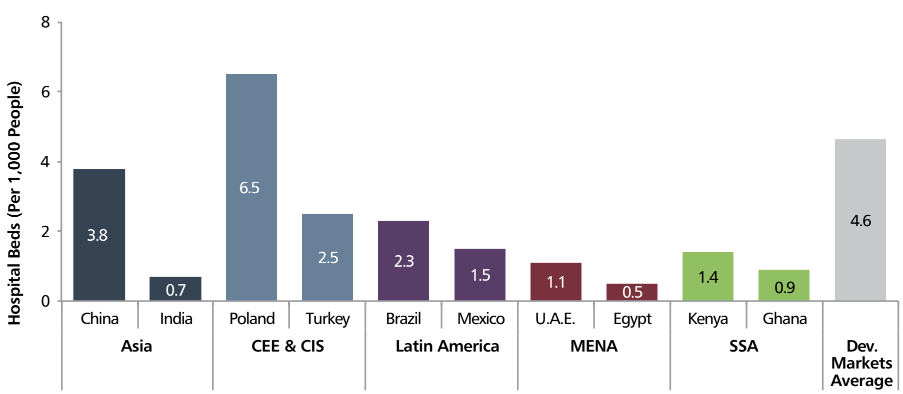
Health care expenditure around the world is growing, but the expansion is led most aggressively by emerging markets. The compound annual growth rate of EM health care spending from 2005 to 2014 was 12.5%; developed markets health care expenditures grew at just 4.4% over the same period.[2] The forces powering this growth are well known: populations in many emerging markets are becoming older, more urban and wealthier; chronic and 'lifestyle' diseases such as diabetes and hypertension are on the rise; and the public health care systems in place in many emerging markets frequently lack the capacity and quality demanded by patients, driving them to new private facilities.

Despite robust growth, EM health care spending represents just 25% of the global total[3]—even while the vast majority of the world's population resides in emerging markets—suggesting more investment is needed to address latent demand for health goods and services. Across developed markets, the number of hospital beds per 1,000 people averages 4.6, but in emerging markets, the average is just 2.8.[4] While these aggregate figures can hide variance at the country level, the pattern holds in the largest emerging economies: China has 3.8 beds per 1,000 people, India has 0.7 and Brazil, 2.3 (see Exhibit 5). Moreover, demographic changes in these countries are likely to add additional strain to such systems. The populations of India and Brazil will grow by approximately 6% and 4%, respectively, in population in the five years to 2020.[5] China's population, while not growing as quickly, is rapidly aging: the median age in the country has been increasing since 1970, and is projected to continue rising till 2075.[6] This trend will strain existing facilities and drive demand for facilities and services for the elderly, such as assisted living.

As emerging markets across the board become wealthier and large populations move into the global middle class, the incidence of communicable diseases is on the decline—the average percent cause of death by such diseases among EM countries fell from 35% to 29% between 2000 and 2012. While this represents an unequivocally positive development, the growth of the global middle class is also driving up the prevalence of non-communicable chronic or "lifestyle" diseases, such as diabetes, hypertension, heart disease and cancer in emerging markets. Such diseases grew from causing an average of 55% of total deaths in EM countries in 2000 to 61% in 2012. In the world's largest countries, the increase is even more stark. In China, the average moved from 80% to 87%; in India, from 48% to 60%.[7]

This phenomenon necessitates that health systems in emerging markets not only increase capacity, but also develop more sophisticated, holistic health care systems. The rise of chronic diseases, notes Dr. Amit Varma, Managing Partner of Asia-focused health care fund manager **Quadria Capital**, means that "from an economic standpoint, once you have any of these lifestyle diseases, you end up becoming a patient for life. You need doctors, you need diagnostics, you need infrastructure, you need beds, you need low-cost medication—and you'll need it for the rest of your life."

Exhibit 5: No. of Hospital Beds per 1,000 People in Select Markets



Source: World Health Organization. Figures represent most recent available data.

[2] World Health Organization. Accessed September 2016. Data as of 2014.
[3] *Ibid.*
[4] *Ibid.* Data as of 2012.
[5] UN Department of Economic and Social Affairs, Population Division. Accessed September 2016.
[6] *Ibid.*
[7] World Health Organization. Accessed September 2016.

While growing and changing demand for health care products and services across emerging markets does not necessarily translate to opportunity for private equity, some governments—recognizing the need to expand the capacity of their health care systems—are partnering with the private sector to make opportunities in such markets more appealing. Omar El Labban, Principal at Egypt-focused private equity firm **BPE Partners** (formerly Beltone Private Equity) notes, for example, that as pressures on public spending mount, some governments have put out the welcome mat: "The Egyptian government has been supportive of the private sector, welcoming public-private partnerships and privatizing hospitals. It even passed a new comprehensive health care insurance law that would open the door for new investments in this sector." Similarly, Edson Peli, Director at global private equity firm **The Carlyle Group**, observes the Brazilian government, recognizing a significant gap in supply capacity in health care provision, recently passed a law allowing foreign participation in Brazilian hospitals. After years of slow development in the sector, "the new legislation has created a great opportunity to put capital to work in the sector, which offers a significant consolidation opportunity."

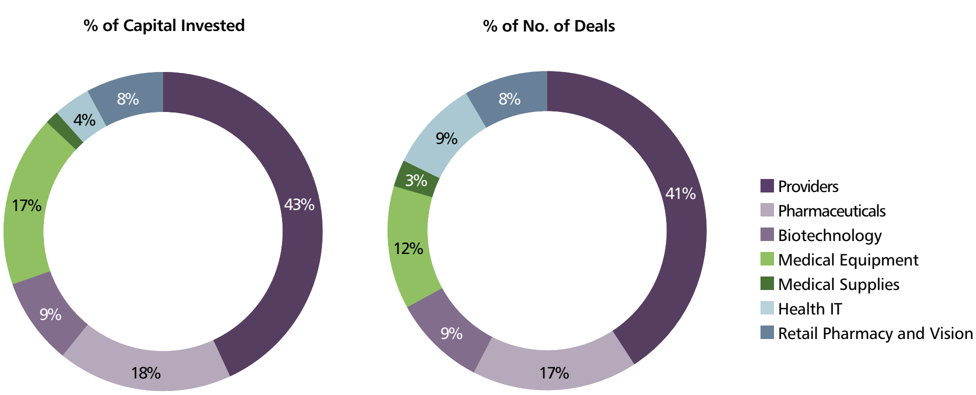
It is perhaps fitting that the governments of Egypt and Brazil—both of which are recovering from extreme political and economic volatility in recent years—are opening the doors to a sector resilient to economic tumult. Indeed, the secular growth drivers in the health care sector are particularly attractive in times of broader economic uncertainty, which many emerging markets are currently facing. The global commodity downturn has hit many emerging markets hard in recent years, and even those unaffected by the rout in commodity prices have had their currencies and national balance sheets battered by "risk-off" capital flows that often fail to differentiate among specific country-level circumstances. Even worse, some emerging markets have lost standing among investors due to revolution and conflict in neighboring countries. In this light, health care can be a relative economic safe haven. To take just one regional example, as much of the Middle East and North Africa was shaken by the Arab Spring in the years after 2011, regional spending on health care continued to grow robustly, by 11% between 2011 and 2013 (see Exhibit 31 in MENA Regional Profile).

The Current Investing Landscape: How and Where Managers Are Putting Capital to Work

Demand for health care does not always equate to private equity returns. As noted by Dan Schonfeld, Head of Finance of impact investing firm **Vital Capital Fund**, in reference to the health care market in Sub-Saharan Africa, "The question is not whether there will be demand for what you supply. There will be. The only question from a private equity perspective is can you do it in a way that is likely to generate the kind of returns that you need to deliver to your investors over the time frame you have to work with. And this is where things become tricky." Indeed, private equity fund managers must define and hone their strategies for approaching the sector, taking into account the depth and maturity of the health care markets in their targeted geographies, the competitive landscape and their own ability to generate value in various health care companies.

Large generalist investors with experience scaling companies and pursuing consolidation in other sectors may be well-suited to grow a hospital chain or adopt a buy-and-build strategy for retail pharmacies across a market, for example. On the other side of the spectrum, specialist fund managers focusing on niche areas such as biotechnology are likely better suited to source and back early-stage, high-tech ventures seeking to develop a new product. It's important to emphasize that the health care opportunity is not just full-service hospitals and specialist care centers, but also a whole range of pharmaceuticals, medical devices, equipment and information technology solutions that doctors and patients will rely on as health care systems in emerging markets mature. Though deal activity in the provider segment predominates, accounting for 43% of disclosed capital invested since 2011, private fund managers have invested across the entire value chain (see Exhibit 6).

Exhibit 6: EM Private Investment in Health Care by Subsector, 2011-1H 2016



Source: EMPEA. Data as of 30 June 2016.

Specialist health care funds have gained traction recently, with private equity fund managers having raised steadily growing amounts of capital for such funds in recent years. Capital raised totaled more than US$1 billion in 2015 for such funds—more than any other year since EMPEA began tracking fundraising data in 2006 (see Exhibit 7). Specialist fund managers, which often retain staff with high levels of industry experience, or grow directly out of the health care industry, tend to focus on subsectors outside of large-scale health care delivery—such as specialist care, pharmaceuticals, biotechnology or medical devices—or in geographies beyond the reach of large generalist funds, where the specialists' operational expertise in health care or unique knowledge of niche market segments can be put directly to use.

Such fund managers tend to pursue strategies that allow them to avoid competing with large generalist funds, direct investors or strategic investors. For some, this means narrowing down on health care subsectors in which they can generate significant value. **Lilly Asia Ventures**, a China-focused fund manager staffed largely by professionals from the biotechnology sector, pursues such a strategy. "There are so many pitfalls to avoid in health care and hence, smart capital is critical for any venture's success," notes Judith Li, Partner at Lilly Asia Ventures. Others emphasize generating proprietary deal flow in geographies in which generalist funds may not have a presence. Hari Buggana of InvAscent notes, "We don't rely on investment bank deals. We go into parts of India outside Mumbai and really work to find good companies—and work with them for two or three years to turn them into deals."

As explained by Hoda Abou-Jamra, Founding Partner of India and MENA-focused fund manager **TVM Capital Healthcare Partners**, having a long-standing presence in EM health care markets can be another benefit. "The experience and understanding that specialist funds gain about the specifics of the health care regulatory environments they operate in can lead to opportunity. Diverse regulations across geographies, especially in emerging markets, can create challenges not only to investing in health care companies, but even more with regards to operational issues. Dedicated health care investors know how to deal with this and have an operations team of health care specialists ready to support the portfolio management teams."

Limitations in the supply of deals in certain markets—as well as the availability of specialist funds in emerging markets more broadly—

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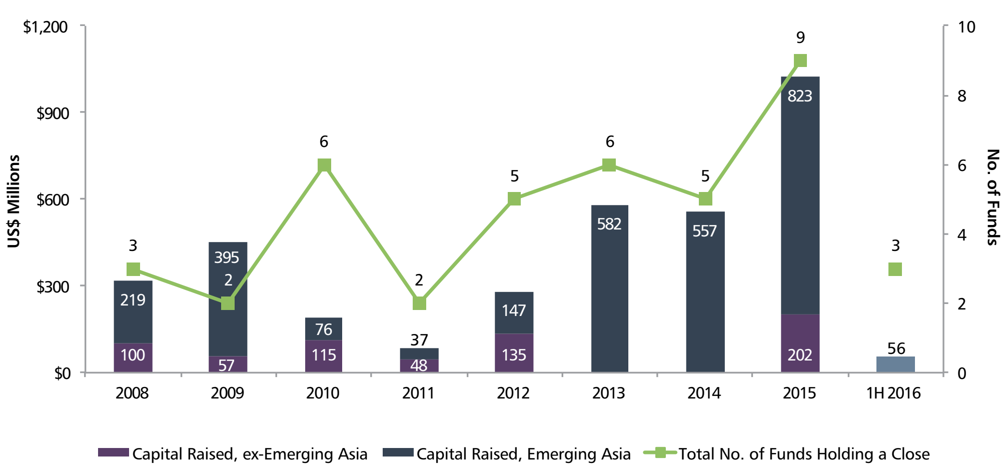
complicate the question for LPs (see Exhibit 8). As 57 Stars' Bernard McGuire notes, "like anything in life, if you could have somebody who was an expert in health care, you'd like to work with them. But how many emerging markets can truly support sector focused funds? And then, how many of those markets have multiple sector-focused funds for you to choose from and really making a discerning selection?" Indeed, as of 1H 2016, of the 579 total EM private capital funds in the market, just 14 focused solely on health care. However, in shallower health care markets with few or no choices for specialized managers, generalists can still generate value. Egypt-focused fund manager BPE Partners' Omar El Labban attests, "While large global funds might be willing to come and pay high entry multiples for assets in Egypt, you will find many doctors and hospital managers are willing to partner with local players like us to leverage local market knowledge and expertise."

Indeed, many sector- and geography-agnostic funds are building significant exposure to the EM health care space. Such funds are often able to deploy more capital and can bring expertise in growing and consolidating large-scale, market-leading health care companies. But this strategy is not without its challenges. At the largest end of the market, where large global generalist funds are wont to compete for large hospital and health care services deals, high returns may be harder to come by, as competition for such assets from global players tend to drive up entry multiples, and the assets themselves tend to be capital-intensive. This is not to say that such deals cannot generate impressive returns: where fund managers can build or roll up market-leading companies, such marquee assets may demand premium valuations at exit from strategic buyers. Global growth markets investor **The Abraaj Group** pursued this strategy in its investment in Turkey-based hospital operator Acibadem, which was later sold to Malaysia-based global health care provider IHH Healthcare.

The EM health care opportunity most commonly communicated is that of capacity expansion, and the generalist fund managers with extensive experience scaling companies both in and out of the health care sector can create extensive value with such strategies. In Sub-Saharan Africa, Vital Capital's Dan Schonfeld notes, "I would at least find it difficult to think of any country in Sub-Saharan Africa, and any sector of health care in Sub-Saharan Africa, that wouldn't be at least potentially attractive from the outset. The fundamental starting point for any discussion of this type is the gap between supply and demand—which in this case is overwhelming." Of course not every opportunity will be well-suited for private equity investment, and while the amount of white space in the Sub-Saharan Africa health care market creates interesting opportunities, the time horizons required can outlast the life of a standard PE fund.

While the supply gap is less stark in other regions and markets, its persistence still represents an opportunity for many managers. According to an internal report by The Carlyle Group, in Brazil the gap in private hospital beds alone in Q1 2016 is 19,000—a gap

Exhibit 7: Capital Raised by EM Health Care-dedicated Private Funds, 2008-1H 2016



Source: EMPEA. Data as of 30 June 2016.

that could take dozens of new hospitals to close. Overall, supply tends to be lower in emerging markets than in their developed market counterparts, suggesting that—as disease burdens are not likely much lower in emerging markets—the supply gap for health care delivery persists across such markets (see Exhibit 5).

Related to the opportunity present in capacity expansion, as the hospital business is reliant on scale, fractured health care markets present opportunity for consolidation. In Brazil, where Carlyle's Edson Peli estimates that the majority of hospitals remain sub-scale and could benefit from increased scale, Carlyle played on the fractured environment as well as the broader supply gap in its BRL1.75 billion (approximately US$580 million) primary investment in Brazil's hospital network Rede D'Or Sao Luiz—much of which was to be used for organic growth as well as acquisitions in the sector. The Abraaj Group's development of health care platform North Africa Hospital Holdings Group, which to-date owns two hospitals in Egypt and two others in Tunisia, follows a similar thesis.

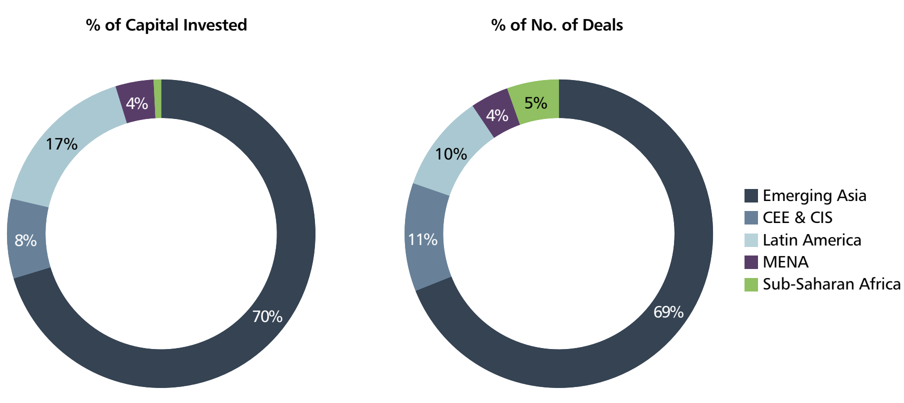
Perhaps less frequently communicated, but arguably more exciting are the opportunities for innovation in health care products and services in emerging markets. Pricing pressures and infrastructure shortcomings challenge health care provision in ways that are less salient in developed markets, and systems, structures and norms are not as fully established and internalized as in developed markets—providing incentive and opportunity for improvement.

Most unique to emerging markets is innovation in health care delivery systems that lowers prices for quality services. Hari Buggana of InvAscent, notes "there are different types of innovation, but in health care delivery we find a lot of room for business process and business model innovation." Among the most important of innovations undertaken by InvAscent's portfolio companies was building out a network of cancer clinics in a "hub and spoke" model in which sophisticated oncological services are carried out in major cities—allowing for a concentration of medical equipment and talent in such cities—with more basic care and monitoring taking place in clinics in smaller towns. The model allows patients from smaller towns to receive quality care without re-locating across the country for long periods of time, and without the cost and inefficiency of building fully integrated "hub" clinics across India's many smaller cities and towns.

> "I cannot not innovate. I don't have an option. When you're talking about a population with an almost 80% mobile phone saturation, innovation to my mind is, how do we use mobile technology to provide care? Frugal or incremental innovation in service delivery, drugs, medical devices and consumables is being pursued successfully by many local Asian health care companies, and they are delivering some very good results on increasing access and affordability.

The same pressures that make this example useful—pricing pressures and urban-rural demographic dynamics—also make telemedicine a useful tool. Quadria Capital's Dr. Amit Varma notes, "at the end of the day, it's my core objective to provide the highest quality care at the least possible price. This is the need of the day in Asia and other developing countries. I cannot not innovate. I don't have an option. When you're talking about a population with an almost 80% mobile phone saturation, innovation to my mind is, how do we use mobile technology to provide care? Frugal or incremental innovation in service delivery, drugs, medical devices and consumables is being pursued successfully by many local Asian health care companies, and they are delivering some very good results on

Exhibit 8: EM Private Investment in Health Care by Region, 2011-1H 2016



Source: EMPEA. Data as of 30 June 2016.

> "In emerging markets, you're able to pioneer certain new methodologies of treatment that you just wouldn't be able to do in a developed market. I think that is one of the most exciting aspects for me as a clinician, in that the technology just lends itself so much to health care delivery. If you get the technology right you can really influence the way clinicians learn and deliver care.

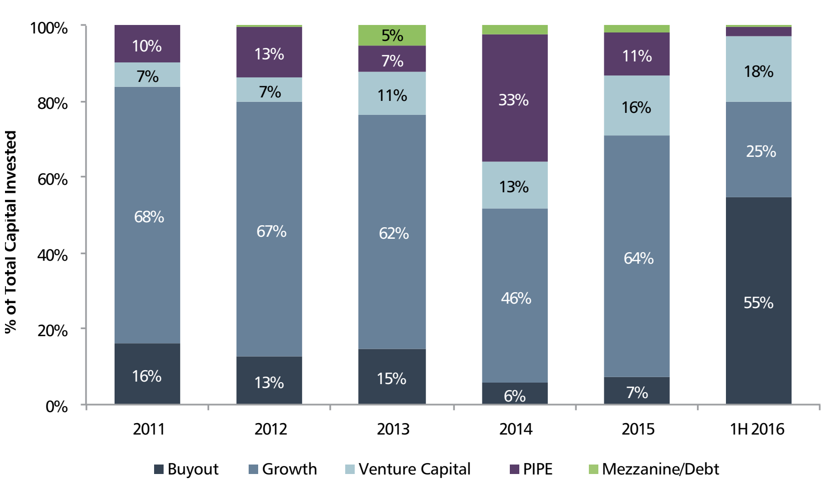
increasing access and affordability." Such technologies can take the form of physicians remotely consulting with patients, but also methods for making systems more efficient on the back-end. Dr. Felix Olale, Partner at EM financial services investor **LeapFrog Investments**, notes that scalable telemedicine technologies are beginning to take hold. Lifetrack Medical Systems, for example, has created a global tele-radiology platform that allows images from rural locations and in some cases across other countries in South Asia to maximize utilization of radiology reporting from a single location in Manila. This alleviates both the challenge of access to medicine for rural locations, but also deals with shortages of specialist consultants in these markets.

The dearth of existing infrastructure encourages the creation and adoption of such technologies in a way that developed markets-based companies are less apt to undertake. As Jonathan Louw, Managing Director of The Abraaj Group, sums up, "You're able to pioneer certain new methodologies of treatment that you just wouldn't be able to do in a developed market." Adds Bobby Prasad, Global Chief Medical Officer of The Abraaj Group, "I think that is one of the most exciting aspects for me as a clinician, in that the technology just lends itself so much to health care delivery. If you get the technology right you can really influence the way clinicians learn and deliver care."

Beyond the provider subsector, in Asia's most mature health care markets, the biotechnology and drug discovery sectors are actively developing new therapies for their own markets as well as export around the world (see Exhibit 14 in Emerging Asia Regional Profile). Specialist fund managers such as Lilly Asia Ventures and **BioVeda China Fund (BVCF)** are heavily staffed with professionals from the biotechnology sector to source such deals with the ability to understand the drugs and devices that such companies are creating.

Other innovations can target the health care ecosystem more broadly. Emerging markets vary drastically in the infrastructure available to pay for health care, as well as the structures adopted to do so. As following sections of this report demonstrate, operating a private hospital in a market such as U.A.E., with a robust private insurance system might be very different than operating similar hospitals in markets where out-of-pocket payments dominate. For example, LeapFrog Investments' strategy for its third flagship fund, which targets both financial inclusion—the payer side of health care—as well as health care providers, proposes a solution to investing in markets without the financial infrastructure to pay for health care. What is clear is that the ability to pay for services—regardless of the level of demand for health care—is crucial to whether private equity will benefit from investment in the space. In some markets, public investment in health care coverage can provide openings for private investment, as the following section on MENA demonstrates. The scaling back of public participation in the space can also provide opportunity, as the following sections on Sub-Saharan Africa and CEE and CIS demonstrate—so long as incomes are high enough to afford care.

Exhibit 9: EM Private Investment in Health Care by Deal Type, 2011-1H 2016



Source: EMPEA. Data as of 30 June 2016.

Investor Perspectives: Accessing Health Care in Emerging Markets

While institutional investors are becoming increasingly interested in gaining exposure to the EM health care sector, their approaches and strategies to fund investment in the space vary. EM-focused fund of funds manager 57 Stars has built exposure to the sector via specialist funds. As John Engel, Director at 57 Stars, notes, "Health care as an asset class generally lends itself to specialization, particularly, as you move to pharmaceuticals, biotechnology, medical devices and diagnostics. These are products or services that require a deep level of technical expertise, to really grasp the value proposition and understand the market landscape." Of course, such a strategy has its limits. While it may be ideal to work with specialist funds, outside of the most mature emerging markets, there are few specialist funds targeting EM health care—and there are few EM regions with enough health care-specific funds in the market to allow for meaningful fund selection for LPs seeking exposure to the sector.

Global fund of funds manager **Siguler Guff & Company** confronts the same issue. Managing Director Praneet Singh describes how the firm builds exposure to the space outside of just specialist funds. "We take a bifocal approach: when specialist funds come onto the scene, we will be watching closely, but as the majority of deals are now done by sector-agnostic funds, you can't ignore that." Singh does welcome the move toward greater specialization, however. "In developed markets, health care funds tend to be extremely specialized, with teams that have deep experience in a really narrow area. In emerging markets, it isn't as specialized, with fewer sub-segments to focus on. But it is important for EM GPs to narrow in on a niche."

The **European Bank for Reconstruction and Development (EBRD)**, a development finance institution with a regional remit to focus on Central and Eastern Europe, Turkey and North Africa, faces this limitation to an even more pronounced degree. "We looked to see if there was enough depth in the market to have a specialist fund purely concentrated on health care in our region, and came to the conclusion that it was probably too premature—that there wasn't enough depth in the market," notes Anne Hutton, Senior Banker at EBRD. "What we do see, however, is that within our funds portfolio, that there is quite a large proportion of fund managers who are making investments into the health care and pharmaceuticals segments."

> "The problem that we have with many EM managers, is lack of track record—either teams that have done something else that now want to shift strategy, or that have done PE elsewhere that want to move into emerging markets. The funds that we invest in in developed markets have long track records in the same strategy.

Where the depth of specialist funds exists, fund manager selection can present challenges unique to the sector, including the depth of operational experience required to evaluate deals and the generally nascent nature of EM PE specifically targeting health care. Greg Jania, Head of Fund Investing at pension fund manager **APG Asset Management** agrees with the sentiment across EM health care and emerging markets broadly: "The problem that we have with many

EM managers, is lack of track record—either teams that have done something else that now want to shift strategy, or that have done PE elsewhere that want to move into emerging markets. The funds that we invest in in developed markets have long track records in the same strategy." 57 Stars' Bernard McGuire elaborates on how he confronts this issue: "These are naturally younger funds—even the older ones are only seven or eight years old, so you don't have the depth of track record, which is generally a problem. So, we look at the background of the team, all the way to education through early work experience through what investing they've done more recently that provides a straight-line logic path that you could follow to what they're proposing to do going forward."

There are, of course, similarities in the skillsets that LPs look for when evaluating funds for health care investment. "The basics that we look for in a team remain the same," notes Siguler Guff's Singh, "strong valuation discipline and a strong and stable team, for example. Much of the value-add for health care is helping portfolio companies to build their teams, as health care talent is often hard to come by in emerging markets."

In terms of challenges LPs face, investors' own growing interest in the sector has made returns harder to generate in recent years. As Singh elaborates, "the changes that have taken place in EM health care in recent years have been on the private equity side; the fundamental drivers of the opportunity set have stayed the same, but hype from private equity has increased competition for assets and driven up valuations." This has led owners and managers of health care assets in emerging markets to ratchet up entry multiples for their assets. "We are increasingly seeing smaller health care companies benchmarking their valuations against the biggest, most expensive recent IPOs. There is a gradation in valuations between the smaller companies and the largest, but the benchmarking is pretty clear."

"Our goal is to do more sustainable investing, and we view health care in emerging markets as providing a greater good.

Taking a step back, APG's Greg Jania emphasizes APG's interest in the sector for reasons beyond its return profile: "Our goal is to do more sustainable investing, and we view health care in emerging markets as providing a greater good." EBRD takes similar factors into consideration, says EBRD's Hutton: "The funds that we've invested in focus on improving the standards and operational aspects as well as on delivering commercial returns on the investment. All our investments are expected to deliver commercial returns, are structured in accordance with best practice international standards and have to meet the Bank's transition mandate."

However, despite the desire to increase exposure to the sector, larger macroeconomic pressures challenge such propositions. "In an era of low interest rates and returns, it has been tough for pension funds to expand into emerging or unproven strategies that have a philanthropic theme," APG's Jania notes. "When rates were higher and coverage ratios were much better, there was more willingness to try new strategies. But with rates low, we don't have much room for error in return. Investors that would like to do more in the area are scaling back and becoming more conservative. It's hard to get new funds started, because few people are willing to put capital in an emerging manager without a realized track record."

Exhibit 10: Sampling of LPs with Disclosed Past Commitments to EM Health Care-dedicated Funds (by LP Type)

DFIs and Government Agencies
African Development Bank (AfDB)
Asian Development Bank (ADB)
BNDES
Corporacion Andina de Fomento (CAF)
DEG
Dutch Good Growth Fund (DGGF)
European Investment Bank (EIB)
FINEP
Inter-American Development Bank Multilateral Investment Fund (MIF)
International Finance Corporation (IFC)
Invest Rio
National Centre for Research and Development (Poland)
National Development Fund (Taiwan)
Netherlands Development Finance Company (FMO)
Nossa Caixa Desenvolvimento
Overseas Private Investment Corporation (OPIC)
Singapore Economic Development Board (EDBI)
State Assets Management Company of Tianjin Economic Development Area

Funds of Funds
57 Stars
Adveq Management
Avanz Capital
BlackRock Private Equity Partners
Magic Stone Alternative Investment
Munich Private Equity Partners
Obviam
Partners Group
Sigular Guff

Family Offices and Foundations
Bill & Melinda Gates Foundation
Starling Group
W.K. Kellogg Foundation

Insurers
Achmea
Swiss Re

Strategic Investors
GE Healthcare
Goldis
Mayo Clinic
Medtronic
Novartis
Pfizer
Religare Enterprises
Tianjin Chase Sun Pharmaceutical

Others
Bio1
China Jianyin Investment
Fundacao dos Economiarios Federais (FUNCEF)
HBM Healthcare Investments
Investor AB
Saudi Health Investment
Temasek Holdings

Source: EMPEA. Data as of 30 June 2016.

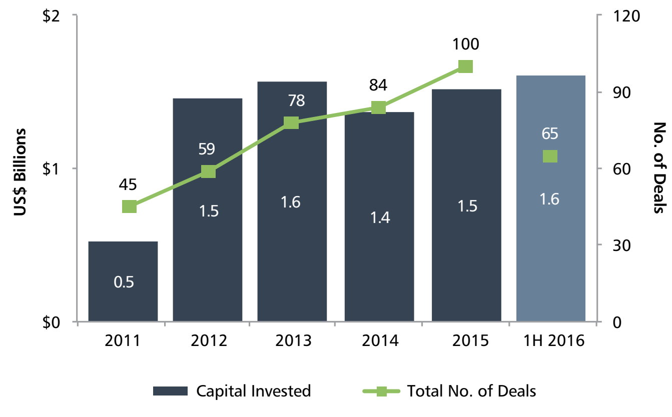
Regional Profile: Emerging Asia

Fund managers deployed US$1.6 billion into Emerging Asia's health care sector in the first half of 2016, surpassing 2015's year-end totals (see Exhibit 11). Such a large jump in investment may come as little surprise to those specializing in the region. As Dr. Amit Varma, Managing Director of Quadria Capital, explains, "Asia is double charged whenever it comes to trend changes or how countries in this region evolve. This is due to the low income levels in Asia intersecting with its hyper-dynamic growth—with the GDP of some countries increasing 5% to 8% a year. Asia is constantly leapfrogging; changes in the macro are basically reinventing these countries every five years."

In fact, health care investment totals in Emerging Asia have outpaced all other major EM regions combined since 2012. Emerging Asia is also the only region able to sustain an ecosystem of health care-specific fund managers: at least one health care-specific fund has held a close in each year since 2007, and fund managers raised US$823 million across five funds in 2015. Of course, Emerging Asia boasts the most sophisticated PE industry and the largest middle class population of all EM regions, but the specialization of GPs in markets like China may have predictive value for emerging markets outside Asia as private investing in these geographies grows more advanced.

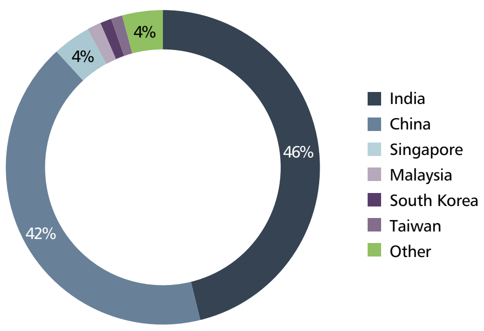
The relative maturity of the private equity industry in Emerging Asia's health care sector is demonstrated by several factors. Liquidity in the sector, for example, sets Emerging Asia apart from other regions. Exit opportunities are far more varied. Perhaps the biggest indicator of the development of private equity in the sector has been the increase in secondary sales in the last several years. In the first half of 2016, EMPEA has already recorded four secondary sales of health care assets in the region, including Advent International's sale of India-based health care provider CARE Hospital to The Abraaj Group for US$195 million, compared to five recorded in all of 2015. While the emergence of secondary sales exemplifies the region's depth of private equity in health care, the number of recent IPO success stories point to the dearth of health care exposure in the public markets. As Praneet Singh, Managing Director of Siguler Guff noted, "The high valuations of a few recent IPOs show how hungry investors in public markets are for health care, as historically there haven't been many opportunities in the listed space." Most IPOs have occurred in either China or India, though The Abraaj Group-backed IHH Healthcare successfully listed on the Bursa Malaysia and Singapore Exchange in 2012. Fund managers have also successfully listed companies in the United States, including China-based and CITIC Private Equity-backed biotechnology company BeiGene, which listed on NASDAQ in February 2016.

Exhibit 11: Emerging Asia Health Care Investment, 2011-1H 2016



Source: EMPEA. Data as of 30 June 2016.

Exhibit 12: Emerging Asia Health Care Investment by Country, 2011-1H 2016 (% of No. of Deals)



Source: EMPEA. Data as of 30 June 2016.

China

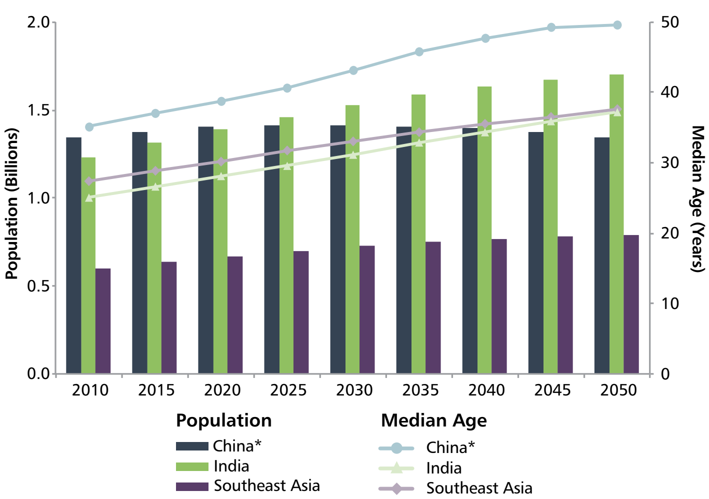
China has attracted approximately one third of all health care investments in Emerging Asia each year since 2008. Though the size of the country is certainly a contributing factor, government support has also played an enabling role in the growth of the industry. As Judith Li of Lilly Asia Ventures notes, "China is reaching critical mass. It is huge, aging and facing environmental problems that are causing a diverse multitude of health issues, so the government is strongly supportive of the industry, providing funding and operational support in ways I don't even see in the United States." Indeed, the government has increased funding dramatically within the last ten years, with public spending rising from 38% of total health expenditure in 2004 to 56% in 2014.[8] Regulators are also taking big steps toward transitioning health care to a market-driven sector. For example, in 2014 the State Council, China's administrative authority, relaxed foreign investment rules for joint venture hospitals as part of an effort to encourage private investment.[9]

Though government support is encouraging, challenges persist, particularly in the health care providers subsector. As Bin Li, Chief Investment Officer of China and U.S.-focused health care fund manager **Ally Bridge Group** remarks, "Our view on the service side of health care is that it presents the biggest growth opportunity over the next ten years. However, we think this segment is not yet ready for investment. There are a lot of policies that still need to be addressed and the government still exercises too much control." Beyond government regulation, attracting talent and navigating hospitals' reimbursement structures also pose challenges for fund managers investing in the sector.

Many fund managers forgo investment in China's health care providers completely, preferring to tap into subsectors with demonstrated track records of successful private equity involvement. Sheng Lu, Head of Investor Relations and Communication at health care-focused private equity firm BVCF, notes, "On one hand, we are still struggling to provide basic services and products to the general public. On the other hand, you see all this top-tier and high quality scientists and researchers coming back to China to create new drugs and devices." Pharmaceuticals and biotechnology have attracted a combined US$2.2 billion across 99 deals from 2008 to 1H 2016, almost half of all capital invested in China health care and about a third in terms of deal count. These industries have benefited greatly in recent years from an influx of Chinese scientists and senior professionals who are returning to China after having spent several years working in senior positions abroad. Termed "haigui" or "sea turtles," these professionals ease the challenge of attaining high-level staff and management at health care portfolio companies—a perennial challenge across emerging markets.

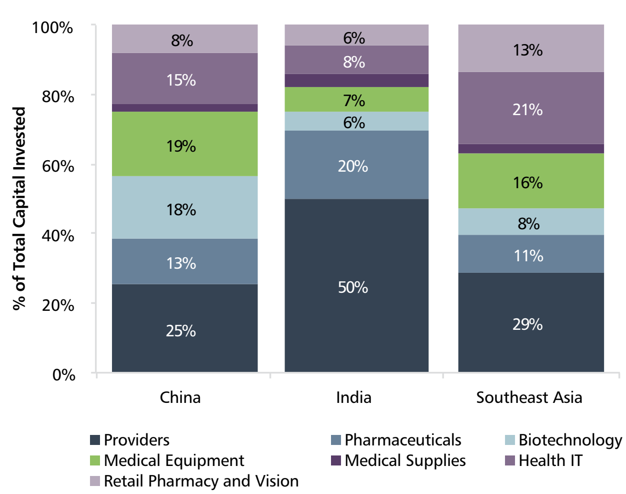
Despite the drivers of value in this space, drug discovery and innovation in China is still far behind the United States in terms of maturity and sophistication. As Judith Li, Partner at Lilly Asia Ventures, explains, however, this is part of the Chinese advantage: "Given so much 'white space' in China's health care landscape today, there is plenty of room for 'first in China' or 'best in China' products from domestic companies, i.e. making a novel version of a product that has already been introduced to the U.S. market. Traditionally, these products are very competitive on price. So when the company introduces a product, it could be third to the global market, but first to the Chinese market, because the domestic company can price optimally for China. Importantly, the product is innovative, based on completely new patents, but is simply operating in a proven area."

Exhibit 13: Expected Population and Median Age, 2010-2050



*Note: Excludes Hong Kong and Macau.
Source: UN World Population Prospects.

Exhibit 14: Emerging Asia Health Care Investment by Subsector, 2011-1H 2016



Source: EMPEA. Data as of 30 June 2016.

[8] World Bank. Accessed September 2016.
[9] "Notice on the Establishment of Wholly Foreign-owned Hospital Pilot." Chinese National Health and Family Planning Commission. http://www.moh.gov.cn/yzygj/s3577/201408/73f1ec5b56304347aa3436a08e39ddfa.shtml.

For these "first in China" companies, fund managers can provide the business expertise needed to get enterprises off the ground and into market. As Bin Li of Ally Bridge Group explains, "In the case of drugs and medical devices, companies often focus on product development and not on commercialization. So we help them create a market strategy. We also play a major role in facilitating cross-border technology transfer and licensing that will give them an edge in the market." Fund managers can also play a critical role for Chinese companies ready to compete globally. Lu explains how BVCF's connections were essential for the success of their portfolio company, "We invested in a company whose technology was not only advanced for China, but globally. However, the team consisted mainly of scientists and researchers, who were new to the approval process, new to how to expand in the marketplace and new to promoting and branding. They were very strong on the scientific front, but they needed help on the commercial front. After our investment, we took this company out of China and promoted them in the U.S. through one of our network's conferences. That was first time they got exposure on a global platform. The company immediately became a hit."

India

As the second most popular market for private health care investment in Asia, India accounted for US$719 million in capital invested across 37 deals in 2015. Topline statistics clearly convey why India is popular among managers investing in the health care sector. Though India's has one of the fastest growing populations, expected to surpass China in 2025 (see Exhibit 13), India's health care infrastructure is still fairly limited. India has only 0.7 beds per 1,000 people and only 17% of the Indian population is covered by health insurance.[10] However, investors should not overlook India's complexity. As Hari Buggana, Founder and Managing Director of InvAscent, explains, "India is a very heterogeneous country. Every state has its own language and culture. Health care policies are decided at the state level as well as at the federal level, so there is no uniformity in policies across India. Then you have economic disparity, between north and south, east and west. There is also a concentration of modern health care in the metros. Due to a lack of robust social infrastructure in the tier two cities and smaller cities, it is difficult to attract health care professionals to smaller cities and towns."

Perhaps due to of all of these complications, the Indian government's provision of health care falls short of the needs of its population. Buggana continues, "the government has more or less withdrawn from tertiary care and is just as absent in rural areas. Furthermore, most government hospitals have bare minimum infrastructure, and so people are now beginning to turn to the private sector for care." Private equity firms are financing much of the private sector's attempt to bridge the supply gap in health care provision, and providers accounted for the majority of capital invested by fund managers in the health care sector in 2015. Given India's dense urban populations and remote rural areas, many businesses are forced to adjust their operations and service procedures to overcome challenges of infrastructure and geography. One innovation that has emerged from the dearth of health care infrastructure is the "hub and spoke model" of service, which allows providers to concentrate tertiary care in major centers while smaller clinics provide basic services much closer to patients in need. As Buggana notes, "These models are suitable not only for emerging markets—even the developed economies should start borrowing some of these ideas, if you ask me. The traditional U.S. health care delivery model involves big footprint hospitals with multiple departments under the same roof. There's no logic for these departments to coexist next to each other under one roof in an extremely expensive physical infrastructure." Such innovation demonstrates that investing in EM companies not only has the potential to greatly impact local economies, but change how health care is delivered globally.

In addition to health care provision, India has developed a robust generic pharmaceuticals industry. Addressing the need for quality, low priced medicine, the market for generic pharmaceuticals has grown tremendously over the last ten years. Fund managers have deployed over US$1 billion into the subsector since 2008. While India has had fewer successes in the area of biotechnology and drug discovery, many generic drug companies have not only taken over their local market, but are serious global players, often thanks in part to the assistance of private equity fund managers. Buggana explains how InvAscent encouraged one of their portfolio companies to go global: "Initially it was a struggle to convince them that they should be a specialty generics company and that

Exhibit 15: Largest Disclosed Health Care Investments in Emerging Asia, 2008-1H 2016

Fund Manager(s)	Company Name	Country	Subsector	Investment Type	Investment Amount (US$m)	Investment Date
CITIC Private Equity Funds Management, Hony Capital	Biosensors International	Singapore	Medical Equipment	Buyout	724	Apr-16
CITIC Private Equity Funds Management	Biosensors International	Singapore	Medical Equipment	Growth	312	Nov-13
FountainVest Partners	Kehua Bio-engineering	China	Biotechnology	PIPE	264	Feb-14
PAG	Bicon Pharmaceutical	China	Pharmaceuticals	Growth	250	Feb-12
Hony Capital	Biosensors International	Singapore	Medical Equipment	PIPE	216	Oct-10
KKR	Gland Pharma	India	Pharmaceuticals	Growth	200	May-14
CITIC Private Equity Funds Management	3SBio	China	Biotechnology	Buyout	154	May-13
The Carlyle Group	Global Health	India	Providers	Growth	152	Dec-13
Bain Capital	Asia Pacific Medical Group (APMG)	China	Providers	Buyout	150	Mar-16
TPG	Manipal Health Enterprises (Manipal Hospitals)	India	Providers	Growth	145	Feb-15

Source: EMPEA. Data as of 30 June 2016.

[10] "National Health Profile 2015." Indian Ministry of Health and Family Welfare. http://cbhidghs.nic.in/writereaddata/mainlinkFile/NHP-2015.pdf.

they should stop behaving like a contract manufacturer. We spent about nine months putting in place a product pipeline, leveraging their capabilities to develop these generics, and then partnered with big generic pharmaceutical companies around the world who have the strength to sell these products in their local market."

Southeast Asia

The health care sector in Southeast Asia attracted US$1.7 billion across 51 deals since 2008. While Singapore, arguably the most developed country in the region, attracted the most investments, fund managers also completed a number of deals in Indonesia, Malaysia, Philippines, Thailand and Vietnam. About a third of all investments in the health care sector from 2008 through 1H 2016 were made in providers.

With varying health care ecosystems and separate demographic needs, investing in health care in Southeast Asia requires both local knowledge and a regional outlook. Dr. Amit Varma of Quadria Capital states, "While the language changes, the cuisine changes, the religion changes, the problems in health care are universal. It needs to be affordable and it needs to reach huge volumes of patients—whose needs are changing from acute care to chronic care. But our core belief is that health care solutions need to be local. You need to be able to do whatever you do locally and to not be dependent upon transporting patients miles and miles away. It helps if you have operating experience in these markets, as it provides you deep understanding of what works and what does not work in these markets. Entrepreneurs are turning smarter and they judge investors on their ability to add tangible value before they decide to strike a deal." While care is local, ambitions are not. Given the size of the region's economies, especially relative to China and India, regional expansion is a common goal. As Dr. Varma explains, "Our goal is to provide long term value-added growth capital to scale up and transform our investee companies. We like to invest in fundamentally strong, high-growth companies having stable cash flows and use our health care operating experience and global relationship network to transform them into regional leaders. That makes them highly attractive partners or targets for large strategics, who are looking at South and Southeast Asia for their next purchase."

Indeed, the fractured nature of markets in Southeast Asia provide opportunities for consolidation and expansion strategies for fund managers that can navigate such markets. Playing on such a strategy, South and Southeast Asia-focused fund manager Creador acquired D'Apotic Pharmacy, a retail pharmacy chain in Malaysia, which Creador rebranded RedCap Pharmacy before setting out on an aggressive expansion trajectory. Committing MYR100 million (US$25 million) to finance the company's growth in 1H 2016, Creador plans to grow the chain from a small group of stores concentrated in southern Peninsular Malaysia to 70 stores by the end of 2016 and more than 300 stores across the market by 2019.

Of course, regional expansion requires in-depth knowledge of individual regulatory regimes. As Hoda Abou-Jamra, Founding Partner of TVM Capital Healthcare Partners, explains, "Regulatory challenges will always exist. It is up to the general partner to mitigate risks and to leverage the health care industry network in the respective market." Dr. Varma echoes similar sentiments, but notes that many of the local governments have become conducive to the private sector in recent years. "There is this trend toward globalization, trying to get best of class regulation even in the smaller countries, and the regulators having been tuned into how to make things work better. All governments in the region have failed to provide adequate public health care infrastructure, but private players are leading the way by building more than two-thirds of new capacity across the region. Thankfully, most governments are supporting them via favorable policy initiatives and by fostering increased insurance penetration." Continued support and collaboration from government regulators will only hasten the growth of an already fast-moving market.

Exhibit 16: Notable Exits and IPOs in Emerging Asia Health Care, 2012-1H 2016

Country	Company Name	Fund Manager(s)	Subsector	Year(s) of Investment	Capital Invested (US$m)	Transaction Date	Exit and Return Detail
China	China Biologic Products	Warburg Pincus	Biotechnology	2010, 2011	N/A	Mar-16, Jun-16	Share sales in March and June on NASDAQ returning US$426m and US$308m, respectively
China	BeiGene	CITIC Private Equity Funds Management	Biotechnology	2014, 2015	N/A	Feb-16	IPO on NASDAQ raised US$158m; CITIC did not dispose of any shares
India	CARE Hospitals	Advent International	Providers	2012, 2015	105	Jan-16	Secondary sale of 72% stake to The Abraaj Group generated INR13B (US$195m)
Sri Lanka	Asiri Hospital Holdings	Actis	Providers	2012	32	Dec-15	Secondary sale of 28% stake to TPG for LKR7.6B (US$54m)
India	Mankind Pharma	ChrysCapital	Pharmaceuticals	2007	24	Aug-15	Secondary sale of 11% stake to Capital Group Private Markets for US$200m
China	CSPC Pharmaceutical Group	Hony Capital	Pharmaceuticals	2007, 2008	88	Apr-15	Share sale of remaining 23% stake on Hong Kong Stock Exchange returned HKD9.8B (US$1.3B); Hony had previously sold its stake in CSPC over several secondary offerings from 2013 to 2015
Thailand	Vejthani Hospital	The Abraaj Group	Providers	2009	4	Nov-12	Strategic sale to KPJ Healthcare for US$13m
Malaysia	IHH Healthcare	The Abraaj Group	Providers	2012	N/A	Jul-12	IPO on Bursa Malaysia and Singapore Stock Exchange raises US$2B; Abraaj disposed of 7.02% stake and returned US$383.5m; Abraaj originally invested in IHH through Acibadem Healthcare

Source: EMPEA. Data as of 30 June 2016.

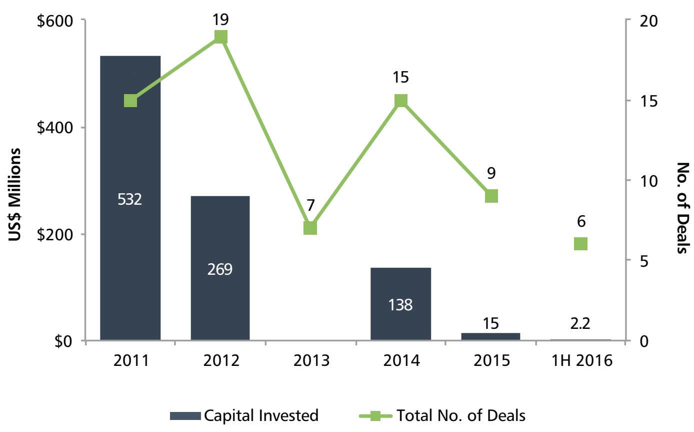
Regional Profile: CEE and CIS

In CEE and CIS, private equity fund managers are finding opportunities to fill gaps in the market for health care goods and services as demand has outstripped the capacity of existing state health care systems making the sector a relatively popular investment destination for the region's fund managers. From 2008 through 1H 2016, health care accounted for approximately 10% of all deals in CEE and CIS, with US$1.9 billion invested in the sector. Though the number of deals completed in the sector has fluctuated in recent years and disclosed capital invested has fallen off since 2013, investors active in the region suggest that the underlying opportunity is still growing. Matthias Loening, Senior Advisor, Health Sector, at EBRD describes the drivers of the opportunity: "It's crystal clear that demand for health care is growing. As a result, the private sector is complementing public offerings on both the finance side and the delivery side. Not only are some governments trying to figure out how to bring in more private funding into their systems, but also how to use the private sector in terms of delivery of publicly-funded services to get more 'bang for their buck.'"

In contrast to the deeper health care PE markets in Emerging Asia, only two CEE and CIS-focused health care-specific funds have reached closes since 2008—investment in the sector has instead largely come from generalist funds in the region. As noted by EBRD's Anne Hutton, generalist funds in EBRD's portfolio have built significant exposure to the health care sector, often pursuing the same basic theses. "The investments in health care that we have seen are typically in assets such as pharmaceuticals, hospitals or clinics that balance rising consumer finance and approach to health, as well as balancing considerations relating to the budgets of the respective public health systems. While this is a broad generalization, it is a theme that's running across the portfolio and across the region where we can invest." Indeed, since 2008, 26% of CEE and CIS-focused funds reaching a final close have also completed at least one deal in the health care sector. These funds' approach to health care plays on rising consumer spending in much the same way investments in consumer goods and services investments might. However, fund managers also appreciate the sector's resilience in times of crisis. Loening explains, "It seems like every private equity fund wants to have at least one health care project as part of their portfolio. And why is that? Because health care seems to be pretty much resilient to economic downturns, and it also caters to current demographic trends."

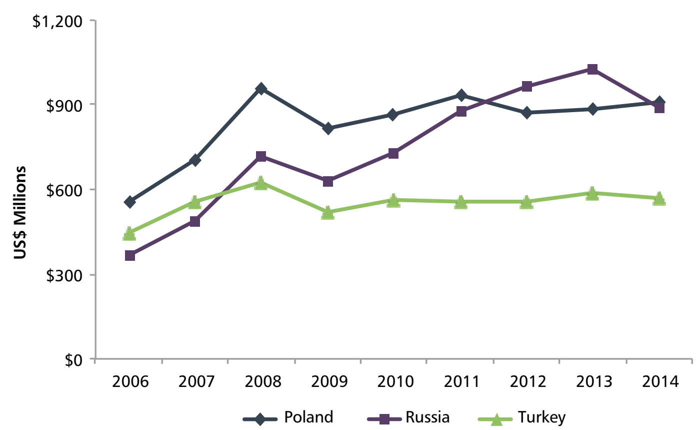
Health care PE deal activity in CEE and CIS has also exhibited geographic diversity. Sixteen different countries in the region have received private equity investments in their respective health care

Exhibit 17: CEE and CIS Health Care Investment, 2011-1H 2016



Source: EMPEA. Data as of 30 June 2016.

Exhibit 18: Health Care Spending per Capita, 2006-2014



Source: World Bank. Accessed September 2016.

sectors between 2008 and 1H 2016. Poland and Turkey have proven to be the most popular countries for health care investment in the region over this time period. Poland leads all countries in the region in terms of number of deals at 24 and also accounts for the region's largest health care deal—EQT's 2009 acquisition of medical equipment manufacturer HTL-Strefa for PLN885 million (US$322 million). However, Poland ranks second behind Turkey in total capital invested in the sector. Managers have invested nearly US$700 million in Turkey's health care industry since 2008, including three of the largest four health care deals in the region overall. Russia, the largest economy in the region, ranks a distant third in terms of both number of deals and capital invested, at 13 deals and US$199 million, respectively. As the number of deals across all sectors in Russia have dropped in recent years, deals in the health care sector have also declined. Managers have not completed a publicly-disclosed investment in the Russian health care sector since October 2014, when Baring Vostok Capital Partners acquired a 30% stake in Russian retail pharmacy chain A5 Group.

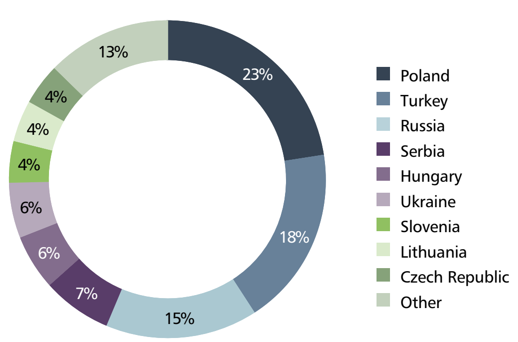
Central and Eastern Europe

The health care sectors in Poland, Romania and other countries in CEE tend to be dominated by robust public health care systems. However, these systems do not necessarily crowd out private investment. Private health care providers in markets such as Poland and Romania operate in conjunction with their public systems, receiving contracts and outsourced work from the state. This relationship between the public health care system and the private sector is attractive from an investment standpoint for many reasons. First, the public health systems in CEE are increasingly unable to grow at the pace necessary to keep up with the demand for health care services in the region. Michal Rusiecki, Managing Partner at Central and Eastern Europe-focused fund manager **Enterprise Investors**, explains, "What characterizes these markets is a general level of dissatisfaction with the public system. So quite a large supplementary or alternative health care system fills in the perceived gaps in the public system." Private health care providers are often able to provide higher quality and more modern care to their patients than the public system. Furthermore, argues Rusiecki, "there are clear gaps in capacity in certain areas, especially related to more advanced or more modern diagnostic and treatment methods" within the public system. Facing budgetary pressures and shortfalls, public health care systems in Poland and elsewhere often struggle to invest in new or advanced technologies and keep pace with the most up-to-date treatment methods. Private providers are well-suited to offer more specific and technologically advanced care than the public system is able to deliver.

Indeed, of the 80 investments in the health care sector in Central and Eastern Europe since 2008, 65% of investments, or 52 total deals, have been in health care providers, with the pharmaceuticals subsector a distant second at only nine investments in CEE over the same time period. These health care providers range from large-scale hospitals and clinic networks, such as Advent International and Mid Europa Group portfolio company Regina Maria in Romania, to specialist care networks, such as the Center for Cancer Diagnostics and Therapy in Poland, which Enterprise Investors acquired in 2012.

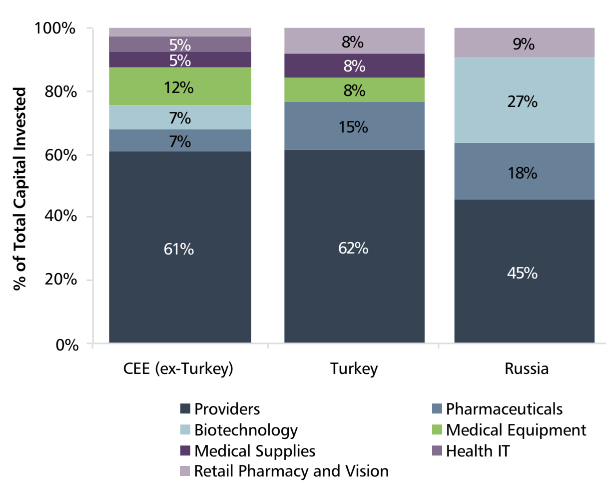
Pursuing a strategy dependent on cooperation with the government is not without risks. As Bill Watson, Managing Partner at **Value4Capital**, puts it, "It remains very country-specific regarding the opportunities for private health care. In Romania, for example, the state has underinvested for years, which creates an opening for private care. In Poland, by contrast, the national system is much better. So, you have to look at the specific country. Politics also gets into this, as in some markets there is a strong political sentiment that health care should be something provided by the state, making some private services vulnerable to changing funding priorities." Unfortunately, recent policy changes in Poland specifically have hurt the health care sector's attractiveness there, at least in the near term. Enterprise Investors' Rusiecki explains, "The challenge in Poland has unfortunately turned out to be the instability of the regulatory scheme. Over the last few years the government has been changing the way the public system contracts with private

Exhibit 19: CEE and CIS Health Care Investment by Country, 2011-1H 2016 (% of No. of Deals)



Source: EMPEA. Data as of 30 June 2016.

Exhibit 20: CEE and CIS Health Care Investment by Subsector, 2011-1H 2016



Source: EMPEA. Data as of 30 June 2016.

providers. There's probably too much regulatory turmoil to make the case for that investment model of filling in the gaps of the capacity of the public system through private investment. I think it's become too risky to be a viable option for the next few years at least in Poland." Managers investing in the region must therefore take care to understand the nuances of each country's health care market.

Turkey

Turkey has taken a more positive approach to cultivating private health care providers within its borders than many of its regional peers. In order to modernize its aging health care system and increase the country's insufficient number of hospital beds, Turkey's government has in recent years adopted measures to catalyze private investment in its health care sector. In 2010, the government launched its Health PPP Program, aimed at modernizing hospital services for those receiving health care from state insurance.[11] Furthermore, in 2013, the Turkish government passed further regulations streamlining private investment in the health care sector.[12] These regulations further built the government's hospital PPP program and also provide insurance to international project financing.

Over the last several years, fund managers have invested in several major hospital systems in the country. In 2009, The Carlyle Group invested US$110 million in Istanbul-based hospital system Medical Park, with Turkish private equity firm Turkven investing in 2011 and then acquiring a majority stake in 2014. Also in 2011, Hong Kong-based ADM Capital acquired minority stakes in two hospital groups in Turkey, Universal Hospitals Group (along with IFC) and Anadolu Hospitals Group. However, this string of investments in large hospital groups in Turkey seems to have come to a standstill, as no such deals have been completed since 2014. Furthermore, only one deal in Turkey's overall health care industry has been recorded since 2014, with the Abraaj Group investing in medical supplies manufacturer Yu-Ce Medical in August of 2015. In 2011, managers completed eight deals in Turkey's health care sector, but only five in the years since then. It remains to be seen whether any further action by Turkey's government may once again catalyze private investment into its health care industry.

Russia

Private investment in the health care sector has not proven to be quite as popular in Russia as in Central and Eastern Europe, with managers completing 13 health care deals in Russia for a total of US$199 million in disclosed capital invested since 2008. However, similar to CEE, investments in health care providers have proven to be most popular with fund managers, accounting for six of the 13 total health care deals in Russia. Pharmaceutical companies and pharmaceutical retailers account for a further four total deals in Russia, with biotechnology companies comprising the remaining three investments.

Since the Ukraine Crisis in 2014 and the resulting political and economic fallout, Russia's economy has been under fire on several fronts, including falling oil revenue, the weakening of the ruble and international sanctions from the United States and the European Union. As a result, the state health care system has faced substantial budgetary pressures. Notably, the oil and gas sector is the most significant source of funding for the Russian state health care system.[13]

Despite, or perhaps due to, these difficulties, managers continue to see Russia's health care sector as a comparatively attractive investment opportunity. As Maria Solovieva, Investment Director at **UFG Private Equity**, the buyout and growth capital arm of Russia-based alternative investment group UFG Asset Management, reports, "Sectors like health care are growing materially in the crisis, even with the currency volatility. The sector growth has been higher in most cases than the decline in the ruble, and the short-term effects of the ruble decline have been mitigated. The growth is there in sectors like health care. You won't really find double-digit growth like that in other sectors." As in other regions and countries, health care in Russia can serve as a "defensive" sector in a manager's portfolio, proving resilient amid crises that might cripple companies in other industry verticals.

Exhibit 21: Largest Disclosed Health Care Investments in CEE and CIS, 2008-1H 2016

Fund Manager(s)	Company Name	Country	Subsector	Investment Type	Investment Amount (US$m)	Investment Date
EQT	HTL-Strefa	Poland	Medical Supplies	Buyout	322	Nov-09
ADM Capital	Universal Hospitals Group	Turkey	Providers	Growth	140	May-11
Global Capital Management (GIH)	Bicakcilar	Turkey	Medical Equipment	Buyout	111	Feb-11
The Carlyle Group	Medical Park	Turkey	Providers	Growth	110	Dec-09
Montagu Private Equity	Euromedic International	Hungary	Providers	Buyout	109	Jun-08
The Rohatyn Group	Huvepharma	Bulgaria	Pharmaceuticals	Growth	105	Nov-10
Baring Vostok Capital Partners	European Medical Center (EMC)	Russia	Providers	Growth	100	Apr-12
Mid Europa Partners	Kent Hospital Group	Turkey	Providers	Growth	100	Oct-11
Advent International	American Heart of Poland	Poland	Providers	Growth	80	Oct-11
Marshall Capital Partners	OJSC Pharmacy Chain	Russia	Retail Pharmacy and Vision	Growth	60	Mar-09

Source: EMPEA. Data as of 30 June 2016.

[11] "Private Healthcare in Emerging Markets." International Finance Corporation. December 2015. http://www.ifc.org/wps/wcm/connect/429828804afc52feb3cab380f77e8c05/HealthNewsletter_issue1_FINAL.pdf?MOD=AJPERES.
[12] "Turkey Seeks to Boost Healthcare with New Investment Rules." Reuters. 22 February 2016. http://www.reuters.com/article/turkey-healthcare-idUSL6N0BM1WR20130222.
[13] "Russian Federation: Health System Review." European Observatory on Health Systems and Policies. 2011. http://www.euro.who.int/__data/assets/pdf_file/0006/157092/HiT-Russia_EN_web-with-links.pdf.

While private health care providers continue to represent a small share of the overall health care industry in Russia, managers report a growing utilization of private providers by the state, such as outsourcing of lab diagnostic services to the private sector. This more recent reliance by the state on private health care providers offers an attractive opportunity for private equity investors, as "the market in the private sector remains very unconsolidated. There is very limited foreign strategic presence in the medical services sector. That obviously leads us to believe that in the future there should be good exit opportunities because generally for strategics, it's going to be a lot easier for them to buy a well-run, transparent, healthy business as opposed to setting one up themselves," according to Robert Sasson, Senior Managing Partner of UFG Private Equity.

Russia's pharmaceuticals sector is similarly ripe for consolidation, especially amid the current political and economic situation in Russia. Within Russia, the pharmaceuticals industry continues to grow despite the current crisis, with some segments such as generics experiencing double-digit growth. UFG's Sasson explains that despite this growth, no one pharmaceuticals company holds more than 5% market share in Russia, with the largest domestic producer and UFG portfolio company OTC Pharm holding only 3%.

However, it is precisely these domestic producers that are best poised to grow and gain market share in the current climate, according to Ivan Litvintsev, Managing Director of UFG Private Equity. He explains, "we see a lot of opportunities for consolidation in the market, as well as the potential for import substitution. The share of imported products is still very high, approximately 73% last year. We see a clear trend in the growth of the share of local products. For example, the share of imported products in 2014 was 75%, when last year it was 73%. So we can see a clear dynamic growth of local products. In addition, the recent ruble devaluation helps local producers, and the Russian government has also offered its support in the form of loans from state banks as well as direct investment in pharmaceutical plants." Private equity is well-suited to grow and develop Russia's pharmaceuticals sector, creating value through the more traditional channels of corporate governance, transparency and reporting, as well as through pursuit of M&A opportunities and negotiation with third parties such as government entities, foreign suppliers and targets.

While private equity investment in Russia's health care sector seems compelling on many levels, managers haven't demonstrated the viability of investment in the sector through recent exit activity. While managers in Central and Eastern Europe have found some success in exiting their health care investments, with Enterprise Investors even listing stem cell bank PBKM on the Warsaw Stock Exchange earlier this year, EMPEA has yet to record even a single exit in Russia's health care sector. If more private equity is to be invested in Russia's health care industry, it must first be proven that this capital can be returned with attractive risk-adjusted returns at the end of a fund's life cycle.

Exhibit 22: Notable Health Care Exits and IPOs in CEE and CIS, 2008-1H 2016

Country	Company Name	Fund Manager(s)	Subsector	Year(s) of Investment	Capital Invested (US$m)	Transaction Date	Exit and Return Detail
Poland	Polski Bank Komorek Macierzystych (PBKM)	Enterprise Investors	Providers	2009	7	Apr-16	IPO on Warsaw Stock Exchange; partial exit of 17.3% stake generating EUR8.7m (US$9.9m) for reported 6.7x gross multiple return
Hungary	Diatron	The Riverside Company	Medical Equipment	2005	N/A	Mar-16	Strategic sale to STRATEC Biomedical
Romania	Centrul Medial Unirea (Regina Maria)	Advent International	Providers	2010	N/A	Oct-15	Secondary sale to Mid Europa Partners for undisclosed sum
Turkey	Dem Pharmaceuticals (Dem Ilac)	NBK Capital Partners	Pharmaceuticals	2012	N/A	Mar-15	Completed the realization of 2013 mezzanine investment, further exit details not disclosed
Bulgaria	Huvepharma	The Rohatyn Group	Pharmaceuticals	2010	105	Nov-14	Strategic sale of 36.6% stake to Advance Properties holding company controlled by Bulgarian entrepreneurs Kiril and Georgi Domuschiev
Turkey	Medical Park	The Carlyle Group	Providers	2009	110	May-14	Secondary sale of 40% stake to Turkven for US$260m
Estonia	Medicap (Quattromed)	Baltcap Management	Providers	2008	N/A	Jul-13	Strategic sale to Synlab for undisclosed return
Turkey	Dunya Goz Group	NBK Capital Partners	Providers	2010	41	May-13	Exit via management buyout to Dunya Goz founding shareholder for undisclosed sum
Poland	Lux Med	Mid Europa Partners	Providers	N/A	N/A	Apr-13	Strategic sale of 100% stake to Bupa for EUR400m (US$512m)
Czech Republic	Lexum Group	ARX Equity Partners	Providers	2009, 2010	N/A	Dec-12	Strategic sale to Moonray Healthcare for undisclosed amount
Turkey	Acibadem Healthcare	The Abraaj Group	Providers	2008	N/A	Jan-12	Strategic sale to Integrated Healthcare Holdings and Khazanah Nasional for total transaction value of US$516m
Lithuania	Sanitas Pharma	The Rohatyn Group	Pharmaceuticals	2006, 2009	40	May-11	Strategic sale to Sanitas for undisclosed amount
Turkey	DentIstanbul	Global Environment Fund (GEF)	Providers	2007	17	Nov-10	Secondary sale to RHEA Venture Capital Investment Trust
Poland	Polmed	Krokus Private Equity	Providers	2009	5	Oct-10	IPO on Warsaw Stock Exchange; Krokus did not dispose of any shares
Hungary	Euromedic International	Warburg Pincus	Providers	2005	N/A	Jun-08	Secondary sale to Merril Lynch Global Private Equity, Ares Life Sciences and Montagu Private Equity for total of EUR800m (US$1.2B)

Source: EMPEA. Data as of 30 June 2016.

Regional Profile: Latin America

Private equity investment in the health care sector in Latin America has been inconsistent in recent years, reaching highs of 16 deals in 2013 and over US$1 billion invested in 2015, while also falling to lows of 8 deals and US$47 million invested in 2014 and 2012, respectively. Through the first half of 2016, managers have completed only three deals in the health care sector across all of Latin America, on pace for the lowest total since EMPEA began recording investment statistics in 2008 (see Exhibit 23).

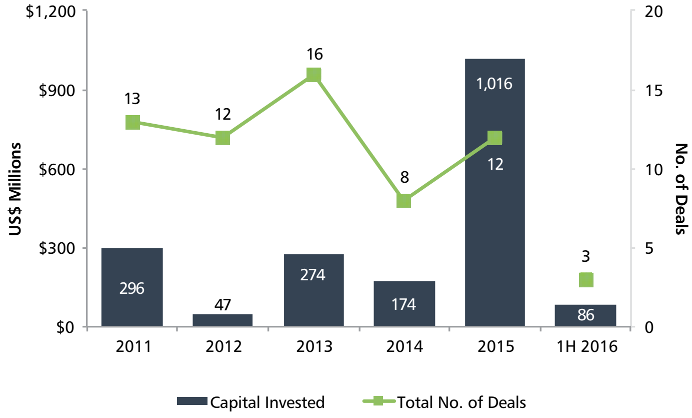
As in other EM regions, the most popular subsector for private equity investment in Latin American health care over the past five years has been the health care providers subsector, which includes both large-scale hospital networks as well as smaller clinics and diagnostic labs. In total, health care providers represent 35% of the number of deals, but 57% of capital invested (see Exhibit 26). The bulk of this capital comes from a handful of large deals in Brazilian hospital networks, most notably The Carlyle Group's 2015 investment into Rede D'Or Sao Luiz. The medical equipment and retail subsectors have also proven popular, accounting for 16 and 12 deals, respectively, since 2008. Investment in other subsectors including pharmaceuticals, biotechnology and health IT have proven to be less popular, with only one deal between the three subsectors since 2015.

Among Latin American countries, Brazil accounts for nearly half of the total number of deals in Latin America since 2011, and over three-fourths of the capital invested. An additional 25% of health care deals went to Mexico over the same time span, with seven other Latin American countries making up the remaining 28%, or 18 total deals (see Exhibit 24). This wide distribution of deals across several countries within Latin America suggests that the sector is popular among fund managers throughout the region.

Brazil

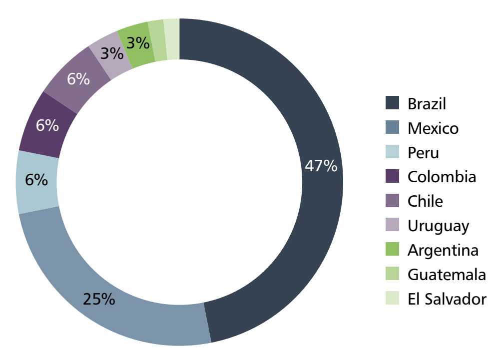
In recent years, Brazil has proven to be the most popular destination for health care investment in Latin America. In addition to making up the bulk of deals by number and capital invested in the region, Brazil attracted the seven largest health care deals in the sector in Latin America since 2008. While these statistics are not altogether surprising given Brazil's position as the largest economy in the region and most common destination for private equity in Latin America in general, these macro-level statistics alone do not fully explain the opportunity for health care investment in Brazil. In particular, recent developments in Brazil's health care industry have made it an increasingly attractive destination for health care investment going forward.

Exhibit 23: Latin America Health Care Investment, 2011-1H 2016



Source: EMPEA. Data as of 30 June 2016.

Exhibit 24: Latin America Health Care Investment by Country, 2011-1H 2016 (% of No. of Deals)



Source: EMPEA. Data as of 30 June 2016.

The opportunity for private equity investment in Brazil's hospital networks has become significantly more attractive to international private equity fund managers recently, as the Brazilian government has eased restrictions on foreign ownership of the country's health care industry. Until January 2015, Brazil did not allow foreign investors to directly own stakes in hospitals and health care services providers. The lifting of this restriction has allowed fund managers to enter the market and tap into its massive potential. As a consequence, Brazil received the largest health care investment in Latin America since EMPEA began recording investment in statistics in 2008. In May of 2015, The Carlyle Group invested BRL1.75 billion (US$580m) in Brazilian hospital operator Rede D'Or Sao Luiz, the biggest independent private hospital operator in the country. Edson Peli, Director at The Carlyle Group explains, "Before 2015, the sector had been suffering from a lack of investment for many decades, resulting in a deficit of beds and sub-scale hospitals. After the law changed, we made our investment in Rede D'Or. Currently, there's a great opportunity to put capital to work in the sector, which is poised for consolidation and scale rebalancing of the private hospitals in Brazil."

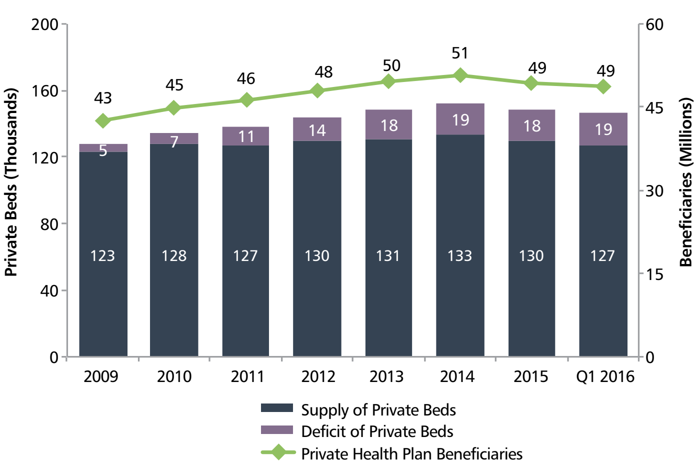
According to The Carlyle Group, there are currently about 50 million people in Brazil with private health care plans, representing a two-fold increase over the past decade and nearly a quarter of Brazil's overall population (see Exhibit 25). Under current conditions, there are not enough hospital beds within Brazil's private health care system to accommodate all 50 million citizens with private plans. As Peli notes, "The World Health Organization recommends that a country should have three to five hospital beds per 1,000 inhabitants. If we are to adhere to this guideline with a population of 50 million beneficiaries of private health plans, we should then have close to 150,000 private beds, but today we have about 125,000. We have a significant deficit of beds within the private system."

Furthermore, many of the private hospitals that do exist are too sub-scale to be financially practical. Peli further explains, "The hospital business is a business of scale, so for a hospital to be financially viable, generate cash, and offer attractive returns for its investors or shareholders, a hospital should have at least 150 beds. The average size of the Brazilian hospital is 60 beds, which is almost one third of the minimum scale that a hospital should have. This means that most of the existing hospitals in Brazil are sub-scale and are facing serious financial difficulties due to the economic crisis, resulting in the reduction of beds offered in the private system and taking the deficit of private beds to record highs." Going forward, this gap between the number of private beds demanded and the number of beds actually available is only expected to increase, as Brazil's middle class continues to grow and more and more Brazilians move from the often under-funded and overcrowded public health system to the private health system.

Often frustrated with the mismanagement and inefficiency in the public health system but unable or unwilling to afford private health insurance, many people increasingly see switching to smaller, low-cost clinics as a third option. According to Guilherme Berardo, founder and president of the Dr. Agora clinics, in countries like Brazil "an estimated 70% of services performed at emergency rooms could be performed at clinics",[14] so this development is a welcome response to the supply gap in the sector. With the pent-up demand for efficient quality care, the sector is ripe for a consolidation play by investors. Despite the relative newness of this subset of low-cost clinics, the demands of the market will likely cause it to grow in tandem pace with the overall health care sector.

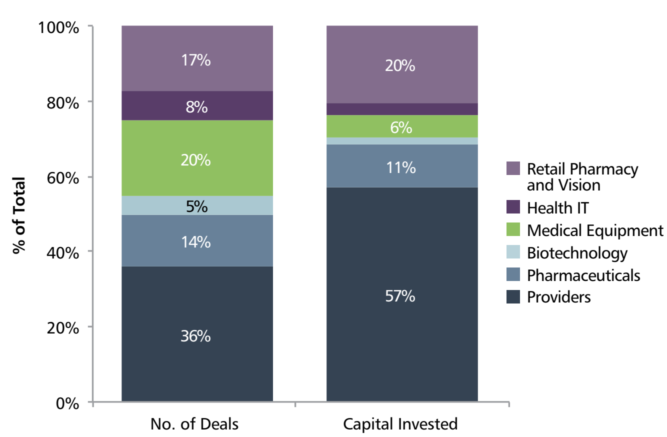
Brazil's biotechnology and pharmaceuticals subsectors have been less popular historically, with the two subsectors combining for five deals since 2008. However, these subsectors have shown promise in recent years, with managers creating value through increasing

Exhibit 25: Deficit of Private Hospital Beds in Brazil, 2009-Q1 2016



Source: ANS, DataSUS, World Health Organization. Compiled by The Carlyle Group, July 2016.

Exhibit 26: Latin America Health Care Investment by Subsector, 2011-1H 2016



Source: EMPEA. Data as of 30 June 2016.

[14] Quoted in: Koike, Beth. "Crisis in health industry drives expansion of low-cost clinics". Valor International. 10 May 2016. http://www.valor.com.br/international/news/4555121/crisis-health-industry-drives-expansion-low-cost-clinics.

efficiency of manufacturing and expanding domestic production of vital products. The importance of pharmaceutical products such as insulin is only highlighted by existing demographic trends, including the increase in prevalence of lifestyle diseases such as diabetes. Private equity investment into the local manufacture and distribution of pharmaceuticals is best suited to taking advantage of economies of scale.

Beyond Brazil

While Brazil leads the region in terms of capital invested and number of deals in the health care sector, significant health care investments have been made throughout Latin America. Besides Brazil, nine other countries have received private equity investments in their health care sectors, accounting for 49 deals and US$603 million in capital invested since 2008. Mexico alone represents about half of these totals at 22 deals and US$377 million invested. Interest in Mexico's health care sector appears to be gaining steam, as ten of these deals were completed in 2014 and 2015, compared to 12 deals completed in the six years from 2008 and 2013. Many of the more recent deals in Mexico have targeted the pharmaceuticals industry broadly, including both pharmaceutical manufacturers as well as retailers. Firms such as General Atlantic, WAMEX Private Equity and EMX Capital have acquired stakes in prominent Mexican pharmaceutical manufacturers Sanfer, MEDEX and Farmapiel, respectively, indicating interest in the sector from both international and Mexican fund managers.

Outside of Brazil and Mexico, the health care sector appears to be waning in popularity among fund managers active in Latin America. Only two deals have been completed since 2014 in countries other than Brazil or Mexico, with Axon Partners Group investing in Colombian online pharmacy ordering service Pidefarma and LAFISE Investment Management acquiring a stake in Salvadorian health care provider GIM SAL. A lack of exits, at least publicly-reported ones, may be part of the reason for the dearth of new investments in the sector. LAFISE exited Costa Rican medical equipment manufacturer Tecno Diagnostica in February of 2014, but since then all exits in the health care industry have come from either Brazil or Mexico. While earlier deal activity in the health care space indicates that good investment opportunities are available throughout Latin America, this apparent lack of liquidity may be preventing managers from executing on further opportunities in the smaller markets within the region.

Exhibit 27: Largest Disclosed Health Care Investments in Latin America, 2008-1H 2016

Fund Manager(s)	Company Name	Country	Subsector	Investment Type	Investment Amount (US$m)	Investment Date
The Carlyle Group	Rede D'Or Sao Luiz	Brazil	Providers	Growth	580	May-15
General Atlantic	Empreendimentos Pague Menos	Brazil	Retail Pharmacy and Vision	Growth	149	Dec-15
Gavea Investimentos	Hermes Pardini	Brazil	Providers	Growth	110	Nov-11
Advent International	Fleury	Brazil	Providers	PIPE	101	Oct-15
GP Investments	Imbra	Brazil	Providers	Buyout	98	Sep-08
The Carlyle Group	Tempo Participacoes	Brazil	Providers	Buyout	83	Nov-15
General Atlantic	Ouro Fino Saude Animal	Brazil	Pharmaceuticals	PIPE	81	Oct-14
Moench Cooperatief	Grupo Marzam	Mexico	Retail Pharmacy and Vision	Buyout	80	Sep-15
The Carlyle Group	Tempo Participacoes	Brazil	Providers	Buyout	65	Mar-16
3i Group	Oticas Carol	Brazil	Retail Pharmacy and Vision	Buyout	56	Mar-13
Advent International	Laboratorio LKM	Argentina	Pharmaceuticals	Buyout	50	Aug-11
Enfoca Inversiones	Grupo Salud Del Peru	Peru	Providers	Growth	47	Jul-13
CELFIN Capital	Clinicas Las Condes	Chile	Providers	Growth	37	Feb-10
Kinea Private Equity Investimentos	Clinica Delfin	Brazil	Providers	Buyout	35	Jan-13

Source: EMPEA. Data as of 30 June 2016.

Exhibit 28: Notable Health Care Exits and IPOs in Latin America, 2008-1H 2016

Country	Company Name	Fund Manager(s)	Subsector	Year(s) of Investment	Capital Invested (US$m)	Transaction Date	Exit and Return Detail
Brazil	Tempo Participacoes	GP Investments	Providers	2007	40	Mar-16, Nov-15, Dec-08	Partial exit via share sale for BRL2.9m in 2008; secondary sale to The Carlyle Group in 2015 and 2016; GP reported a gross BRL79m return, with a 2.9x multiple and an IRR of 14.3%
Brazil	Medquimica	Graycliff Partners	Pharmaceuticals	2011	14	Jun-15	Exit via strategic sale to Indian pharmaceutical company Lupin
Mexico	Amerimed	Alta Growth Capital	Providers	2009	9	Nov-14	Strategic sale of 49% stake
Peru	Corporacion Infarmasa	The Rohatyn Group	Pharmaceuticals	N/A	N/A	Jan-11	Exit via strategic sale to Teva Pharmaceutical Industries
Argentina	Northia	Southern Cross Group	Pharmaceuticals	2002	N/A	Jan-11	Exit via strategic sale of 62% stake to Chilean pharmaceutical company Corporacion Farmaceutica Recalcine (CFR) for reported US$25m
Brazil	Raia Drogasil	Gavea Investimentos	Retail Pharmacy and Vision	2008	N/A	Dec-10	Exit via IPO of Raia Drogasil on Brazilian bourse Bovespa raised BRL569m (US$331m)

Source: EMPEA. Data as of 30 June 2016.

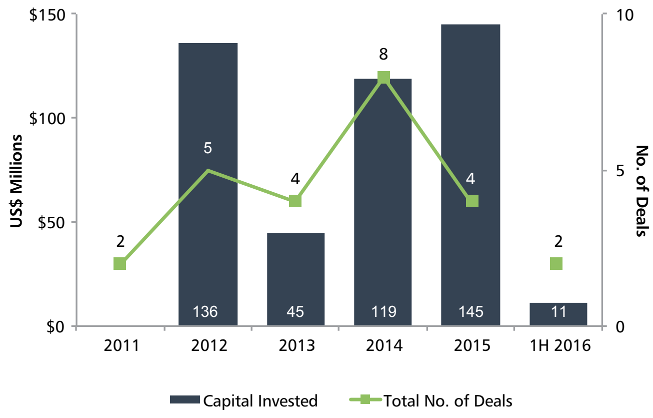
Regional Profile: MENA

As several of the countries that make up the MENA region face macroeconomic challenges related to low oil and gas prices, investors in the region are employing defensive strategies to deploy capital. Indeed, in 2014 and 2015, as oil prices sank, fund managers deployed 16% and 15%, respectively, of all disclosed capital invested in MENA in the health care sector. Both figures are higher than any other annual share of health care investment since EMPEA began tracking this activity in 2008, and both dwarf health care's share of capital invested across all EM geographies, at 4.7% and 8.6% in 2014 and 2015. Investors in MENA's health care have reason to appreciate its defensive nature. In the years following the 2008 Global Financial Crisis and the 2011 Arab Spring, the MENA region experienced painful volatility—the region's GDP shrunk in 2009 and 2013. Throughout both periods, however, health care spending continued to grow steadily in the region—by 25% between 2008 and 2010, and 11% between 2011 and 2013 (see Exhibit 31).

The defensive nature of health care is not the only factor attracting capital to the sector in MENA's varied markets. Morocco, Egypt and United Arab Emirates received both the largest number of health care deals and the most capital invested in recent years (see Exhibit 30), but the health care opportunities in such markets vary broadly. In Egypt, which has a population of more than 90 million people, demographics overwhelm the public sector's health care delivery system. The Abraaj Group has taken clear advantage of this supply gap, backing four separate health care providers in the country since 2008, in addition to its US$145 million commitment, alongside a series of development finance institutions, to North Africa Hospital Holdings Group, which operates hospitals in both Egypt and Tunisia. Egypt-focused fund manager BPE Partners, which has also built exposure to the health care space, is similarly optimistic regarding the opportunity. As Omar El Labban, Principal at BPE Partners, notes, "The health care sector is vastly underserved in Egypt. The majority of health care provision is still state-owned, and there is significant opportunity for private investment, given the country's demographics."

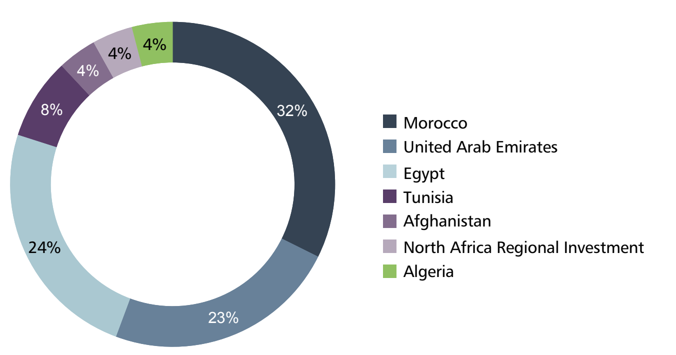
Data substantiate that Egypt has a large supply gap. The country's health care system has just 0.5 hospital beds per 1,000 people—only one third of the 1.5 beds per 1,000 average across MENA countries

Exhibit 29: MENA Health Care Investment, 2011-1H 2016



Source: EMPEA. Data as of 30 June 2016.

Exhibit 30: MENA Health Care Investment by Country, 2011-1H 2016 (% of No. of Deals)



Source: EMPEA. Data as of 30 June 2016.

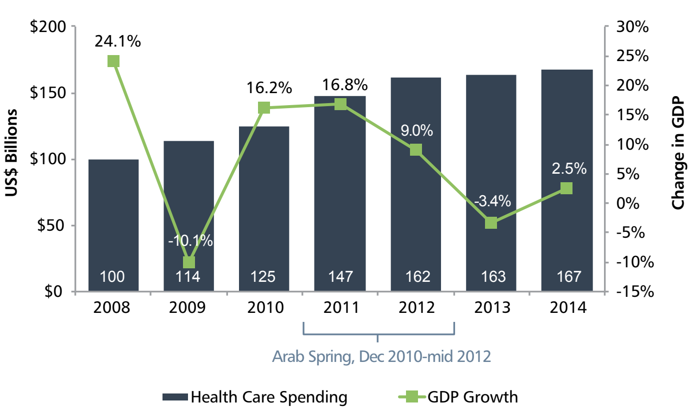
and far below the 4.6 beds per 1,000 average across EM countries. However, even in the smaller, wealthier markets of the Gulf, many services remain un- or under-supplied, and capacity for health care delivery still has ample room to grow. The U.A.E., for example, has just 1.1 hospital beds per 1,000 people—also far below emerging and developed market averages (see Exhibit 5).

Fund managers in MENA are directly addressing this broad deficit. Between 2008 and 1H 2016, 72% of all health care investment in the region has gone to health care providers—a higher percentage than any other EM region. Even when narrowed to the health care provider subsector, however, opportunities vary between markets in MENA. Open spaces in wealthy, but often nascent markets in the Gulf provide opportunities for experienced players to develop world-class facilities and services from scratch. Hoda Abou-Jamra, Founding Partner of U.A.E.-based fund manager TVM Capital Healthcare Partners, notes, "we were the first ones to develop private, post-acute long-term care facilities, including rehabilitation and therapy, to complement the acute-care hospitals run by the government in the U.A.E. In the U.S., post-acute long-term care has been around for many years and evolved through several stages. However, we have identified such specialty care as a gap in the geographies in which we operate, and we are building companies to meet demand for such services."

While there are similarities to the health care systems across MENA, and across emerging markets more broadly, there are also major differences in the size and shape each market takes—and the resulting set of opportunities available in each market. Perhaps the most notable difference within MENA is economic: For example, U.A.E. and Qatar—small Gulf states with large public sector incomes from oil and gas exports—spent US$1,611 and US$2,106 per capita, respectively, on health care in 2014. By contrast, the two most populous markets in the region, Pakistan and Egypt, spent US$178 and US$36 per capita. The spending differences within the region alone demonstrate the variance of different markets in the region. For investors, this has significant implications for how best to approach the different markets: large-scale plays on capacity expansion, such as those undertaken by Abraaj in Egypt may be best suited in such markets, where spending tends to be low but demand for basic health care is high. On the other hand, investments in high quality specialist care providers, such as those backed by TVM Capital in U.A.E., may be more appropriate for private equity in such markets.

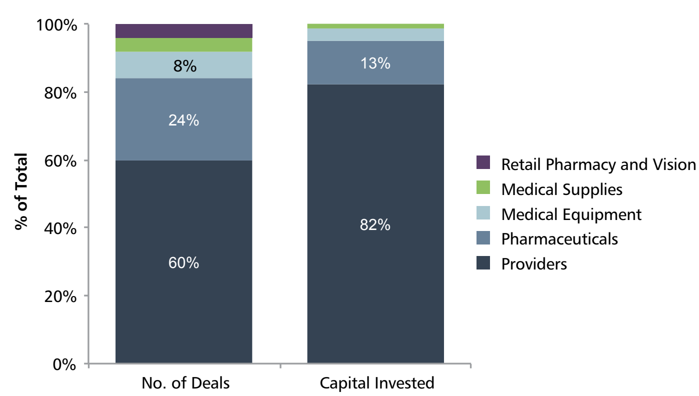
Correlated with the increased spending on health care of Gulf countries is another important factor: such markets have developed financial infrastructure for paying for health care. The broad use of formal health insurance systems to pay for private health care in the Gulf is unique within the MENA region, and even within emerging markets. In much of North Africa and the Levant, health care provision is still paid for primarily out of pocket. In the Gulf, while insurance and health care payments systems vary across countries and emirates, structures tend to be broad and well established. Health insurance is commonly compulsory, with employers required in some geographies to provide health insurance for employees;[15] many global insurers are active in the markets;[16] and insurance for coverage at private health care providers is often subsidized or covered entirely by governments. Such systems expand the market for private health care, deepening access to such services beyond those that have the ability to pay out of pocket. Moving away from the cash-based system also simplifies the opportunity for fund

Exhibit 31: MENA Health Care Spending, 2008-2014



Source: World Health Organization, World Bank. Accessed September 2016.

Exhibit 32: MENA Health Care Investment by Subsector, 2011-1H 2016



Source: EMPEA. Data as of 30 June 2016.

[15] Health insurance is compulsory in Dubai, for example, and required to be covered by employers. See: http://www.dubai.ae/en/Lists/Articles/DispForm.aspx?ID=83&event=Getting%20medical%20treatment%20in%20Dubai&category=Citizens.

[16] In Dubai, for example, global insurers AXA and Metlife compete with local and public-sector insurers.

managers. While markets without such infrastructure certainly generate opportunities and attract investment opportunities, TVM Capital's Abou-Jamra notes that, where it is in place, health care payment systems and insurances greatly improves the opportunity: "One of the issues we face is the reimbursement issue in environments where the majority of patients are required to pay for their own health care and health care insurance schemes are not very common. An investor will ideally look at opportunities in an environment where reimbursement issues are somewhat calculable."

The public markets and strategic buyers that provide the majority of liquidity to private equity investors in MENA health care assets appear to have appetite for flagship assets in both the region's large, poorly-developed markets and small, sophisticated markets. While there have not been many exits in the region (EMPEA has reported just 14 exits from ten companies in MENA's health care sector since 2008), many of the exits that have taken place have been large and high-profile. U.A.E-based Al Noor Hospitals Group, backed by Ithmar Capital, and Egypt-based diagnostics provider Al Borg, backed by Actis and The Abraaj Group, were listed on the London Stock Exchange (Al Borg also listed on the Egyptian Stock Exchange); Cleopatra Hospital, also backed by Abraaj, was listed on the Egyptian Stock Exchange; and Tunisia-based pharmaceuticals company Unimed Laboratories, another Abraaj portfolio company, was listed on the Tunis Stock Exchange. Strategic buyers have also bought assets in marquee deals: TVM Capital sold U.A.E.-based ProVita Medical Center to NMC Health as part of a US$161 million deal; and Capital Group Private Markets, Concord International Investments Group and The Rohatyn Group sold Egypt-based Amoun Pharmaceutical to Valeant Pharmaceuticals in a US$800 million deal. If exits are not frequent in the market, such deals demonstrate that opportunities for successful exits are nonetheless present.

Alas, many of the factors that drive demand for health care in the Gulf are tied to oil and gas exports. As public incomes recede, governments are rethinking the subsidies they offer their citizens and residents for health care coverage; indeed, subsidies for health care in U.A.E. were scaled back in 1H 2016. Health care may be more defensive than other sectors in times of macroeconomic downturn—the sick and injured are likely to continue using health care services—but as patient co-payments become larger or public spending is pressured downwards, the sector may not be fully immune to such downturns.

Exhibit 33: Largest Disclosed Health Care Investments in MENA, 2008-1H 2016

Fund Manager(s)	Company Name	Country	Subsector	Investment Type	Investment Amount (US$m)	Investment Date
The Abraaj Group	Integrated Diagnostics Holdings (Al Borg)	Egypt	Providers	Buyout	151	May-08
The Abraaj Group	North Africa Hospital Holdings Group (NAHHG)	North Africa Regional Investment	Providers	Growth	145	Mar-15
The Abraaj Group	Cairo Medical Tower Laboratory	Egypt	Providers	Buyout	145	Apr-08
The Abraaj Group	Saudi Tadawi Health Care Company (TADAWI)	Saudi Arabia	Retail Pharmacy and Vision	Buyout	137	Jan-08
Olympus Capital Asia	Aster DM Healthcare	United Arab Emirates	Providers	Growth	100	Jan-12
Olympus Capital Asia, India Value Fund Advisors (IVFA)	Aster DM Healthcare	United Arab Emirates	Providers	Growth	60	Apr-14
Eastgate Capital Group	Sigma Pharmaceutical Industries	Egypt	Pharmaceuticals	Growth	40	Mar-09
Gulf Capital	Amana Healthcare	United Arab Emirates	Providers	Mezzanine	25	Apr-14
The Abraaj Group	Cairo Medical Center	Egypt	Providers	PIPE	15	Jul-14
AfricInvest	Polymedic	Morocco	Pharmaceuticals	Buyout	14	Dec-12
The EuroMena Funds	Al Oyoun Al Dawli	Egypt	Providers	Buyout	11	Apr-12
Capital Invest	Best Health	Morocco	Medical Equipment	Growth	11	Jan-16
Swicorp	Orchidia Pharmaceutical Industries	Egypt	Pharmaceuticals	Growth	10	Feb-13
AfricInvest	Medis	Tunisia	Pharmaceuticals	Venture Capital	7	Mar-09
AfricInvest	THCC	Tunisia	Providers	Venture Capital	6	Jul-08
AfricInvest	Inpha-Medis	Algeria	Pharmaceuticals	Venture Capital	3	Dec-08

Source: EMPEA. Data as of 30 June 2016.

Exhibit 34: Notable Exits and IPOs in MENA, 2008-1H 2016

Country	Company Name	Fund Manager(s)	Subsector	Year(s) of Investment	Capital Invested (US$m)	Transaction Date	Exit and Return Detail
Egypt	Cleopatra Hospital	The Abraaj Group	Providers	2014	N/A	Jun-16	IPO on Egyptian Stock Exchange returned EGP360m (US$40.5m); Abraaj retained 80% of outstanding shares
Tunisia	Unimed Laboratories	The Abraaj Group	Pharmaceuticals	2011	N/A	Dec-15, May-16	December 2015 sale of partial stake to investors including SQM, Blakeney Asset Management and the Tunisian-Kuwaiti Consortium of Development; Abraaj fully exited in May 2016 IPO on Tunis Stock Exchange
Egypt	Amoun Pharmaceutical	Capital Group Private Markets, Concord International Investments Group, The Rohatyn Group	Pharmaceuticals	2006, 2007, 2009	454	Oct-15	Trade sale to Valeant Pharmaceuticals; total transaction amount was US$800m
United Arab Emirates	ProVita International Medical Center	TVM Capital Healthcare Partners	Providers	2010	N/A	Aug-15	Trade sale to NMC Health; total transaction amount was US$161m
Egypt	Integrated Diagnostics Holdings (Al Borg)	Actis, The Abraaj Group	Providers	2008, 2014	264	May-15, Nov-15	IPO on London Stock Exchange and Egyptian Stock Exchange returned US$203m for Abraaj; Actis did not dispose of shares; Abraaj sold remaining shares in November 2015
United Arab Emirates	Al Noor Hospitals Group	Ithmar Capital	Providers	2010	N/A	Jun-13, Apr-15	IPO on London Stock Exchange; Ithmar sold shares worth GBP216m (US$319m) in April 2015

Source: EMPEA. Data as of 30 June 2016.

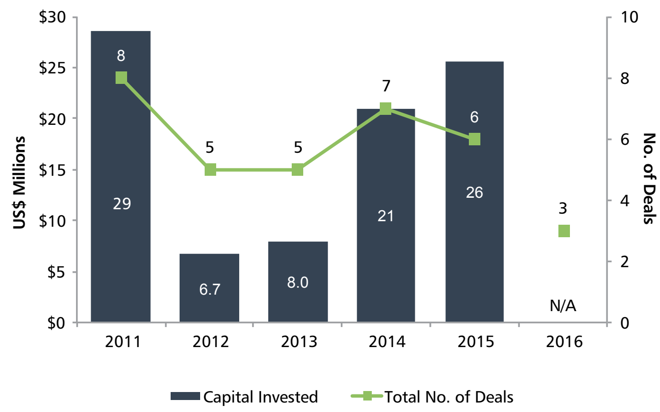
Regional Profile: Sub-Saharan Africa

The supply gap for health care provision is perhaps greater in Sub-Saharan Africa than in any other region. The countries that constitute the region simultaneously bear the heaviest portion of the global disease burden and have among the lowest capacity for health care delivery,[17] and spend less per capita on health care than any other region. When one considers such a gap amid a new generation of African consumers, health care would appear to present significant opportunity for the private sector, and private equity, to seize.

Yet the private equity industry has yet to invest deeply into the Sub-Saharan Africa health care market. The region attracted just six health care investments in 2015 and three in the first half of 2016; health care has consistently represented only approximately 5% of both the number of deals and an even smaller fraction of capital invested in Sub-Saharan Africa in recent years. From 2015 through 1H 2016, fund managers invested US$26 million in the region's health care assets—a far cry from the more than US$3 billion invested in Emerging Asia, more than US$1 billion in Latin America and more than US$150 million in MENA over the same time period. While capital invested in health care assets in emerging markets accounted for approximately 10% of the total across all sectors from 2015 through 1H 2016, it accounted for just 1.4% of capital invested in Sub-Saharan Africa over the same period.

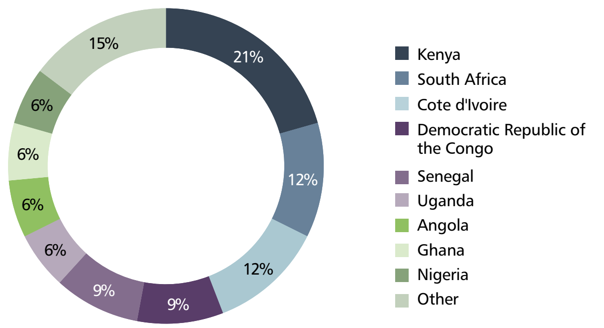
Fund managers' lack of investment activity in the sector may stem from several overlapping concerns. Worries about the size of the market, the region's generally poor payments infrastructure and potential for regulatory uncertainty seem to have deterred private equity firms from venturing further into health care. Meanwhile, the perception of a limited pool of fund managers with the expertise and track record to approach the sector deters some LPs. However, given the degree to which the sector is underinvested and underserved, early movers are finding creative ways to mitigate such challenges and are deploying capital with the belief that the sector has the potential to generate outsized returns. Moreover, in markets that have faced macroeconomic challenges arising from currency volatility and low commodity prices in recent years, exposure to defensive health care assets in Sub-Saharan Africa provides stability for fund managers invested in the sector.

Exhibit 35: Sub-Saharan Africa Health Care Investment, 2011-1H 2016



Source: EMPEA. Data as of 30 June 2016.

Exhibit 36: Sub-Saharan Africa Health Care Investment by Country, 2011-1H 2016 (% of No. of Deals)



Source: EMPEA. Data as of 30 June 2016.

[17] As measured by hospital beds per capita. Source: World Bank. Accessed September 2016.

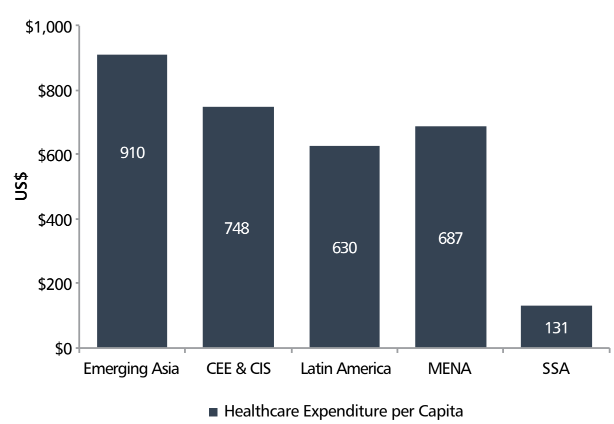
Many of the trends driving health care opportunities across emerging markets are present in Sub-Saharan Africa—albeit to varying degrees or stages. For example, while Sub-Saharan Africa has experienced a rise in non-communicable "lifestyle" diseases, such as diabetes, heart disease and hypertension that should drive demand for health care, spending has grown to a more limited extent than in other emerging markets. The continent's disease burden remains dominated by communicable diseases, maternal and perinatal conditions and nutritional deficiencies, which represent 65% of causes of death.[18] Kenya, which has received 35% of capital invested and 21% of deals in the health care sector from 2011 through 1H 2016, the highest percentages across Sub-Saharan Africa, provides a telling example. According to the WHO, HIV and AIDS cause up to 29.3% of deaths in in the country and Malaria is not only responsible for 30% of patient morbidity, but also the leading cause of death for children under five years old.[19]

While many governments in the region attempt to provide basic health care services to address the disease burden, public health care systems frequently fall short of the demand for health care provision. Private equity has begun to invest in closing this gap. From 2008 through 1H 2016, 59% of capital invested in the health care sector in Sub-Saharan Africa accrued to providers. In particular, women's and maternal health care—which is severely lacking in many markets in the region—has attracted a number of private equity backers. In 2013, for example, The Abraaj Group and development finance institution Swedfund partnered to invest US$6.5 million in Kenya's Nairobi Women's Hospital. Investisseurs & Partenaires backed Nest for All, a Senegal-based clinic that focuses its services on women and children, in 2014. Vital Capital's work with its portfolio company Luanda Medical Center in Angola has expanded its operations in women's health as well.

While non-communicable diseases account for a smaller share of causes of death, they still represent 28% of deaths in Africa. As the communicable disease burden falls, they constitute a rising share of causes of mortality. Moreover, as African economies grow, rising levels of income and urbanization bring about lifestyle diseases and a corresponding demand for quality medical care. Such diseases lend themselves to investment from the private sector, which can bring in private hospitals, clinics and pharmacies. In 2014, for example, Catalyst Principal Partners invested in Goodlife Pharmacy, to address such ailments. The company offers a range of products from heart health products and diabetes products to fitness and nutrition, as well as skin care products in Kenya. Kenya's Eagle Eye Laser Centre, backed in 2011 by Jacana Partners, provides specialty eye care and refractive surgery. Such investments tap into the increased consumption of pharmaceutical and personal products, and specialty health care in Sub-Saharan Africa, facilitated by the rising middle class.

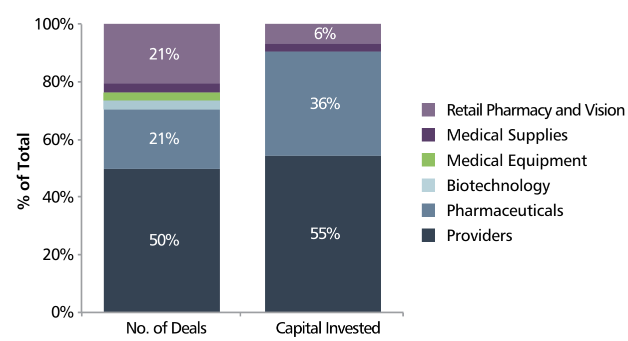
Sub-Saharan Africa's fractured markets and sub-scale health care providers offer fund managers opportunities to create economies of scale in the distribution of health care. To scale many health care companies, and reach new potential consumers, fund managers must also consider geography. This often means scaling up in major metros with concentrated health care infrastructure and a built-in consumer base. From 2008 to 1H 2016, 35% of deals were made in Nairobi, Johannesburg and Abidjan alone. However, fund managers are increasingly finding opportunity to scale in under-served second-tier cities. By expanding the geographical reach of their portfolio companies, GPs begin to correct the skewed distribution of health care delivery facilities across Sub-Saharan Africa and attract additional customers. Haltons, a retail pharmacy based in Kenya, provides an excellent example of how private equity can expand access and generate value. In September 2013, when Fanisi Capital invested US$1.5 million in the company, Haltons operated just four

Exhibit 37: Healthcare Expenditure per Capita by Region, 2014



Source: World Bank. Accessed September 2016.

Exhibit 38: Sub-Saharan Africa Health Care Investment by Subsector, 2011-1H 2016



Source: EMPEA. Data as of 30 June 2016.

[18] "The State of Healthcare in Africa." KPMG. http://www.kpmg.com/Africa/en/IssuesAndInsights/Articles-Publications/Documents/The-State-of-Healthcare-in-Africa.pdf.
[19] "Country Cooperation Strategy at a Glance: Kenya." World Health Organization. http://www.who.int/countryfocus/cooperation_strategy/ccsbrief_ken_en.pdf.

retail outlets in Nairobi. The company has since grown its network of outlets to over 50 in 2015, and plans to expand its portfolio to more than 150 outlets in key towns in Kenya including Mombasa, Nakuru, Nyeri, Eldoret and Kisumu.[20]

Fund managers are also hopeful that new technologies, from basic applications of telemedicine to drone delivery of medical supplies, will further break down geographic divides in quality and quantity of health care provision in coming years. However, while these and other quality- and efficiency-improving technologies have the potential to reshape health care in coming years, most professionals concede that such technologies are still in early stages and broad adoption will take time.

While achieving scale and consolidation within and across markets can generate significant value in many health care companies, other mechanisms for value creation, in health care in particular, require technical expertise and specialized clinical knowledge, beyond the expertise of most private equity professionals. In EM regions with the most mature health care sectors, several health care-specific funds and fund managers fill this role, but in Sub-Saharan Africa's shallower health care market, these managers are less common. From 2006 through the first half of 2016, only two GPs raised specialist funds for the region. However, generalist fund managers seeking to gain exposure to the sector have bridged the knowledge gap by following the example of specialist funds and recruiting professionals with extensive experience in the health care sector and operational understanding of underlying assets.

For example, when impact investment fund manager Vital Capital backed development of Angola's Luanda Medical Center (LMC) in 2014, they recruited Dr. Michael Averbukh, a medical professional and hospital administrator with previous experience working in the region, to lead the hospital. Dr. Averbukh has since scaled up the hospital's services, and done so in a manner consistent with global standards of quality, but catered to local needs. Women's health, gynecology and obstetrics had been severely lacking in the market, and became an early—and quickly successful—focus of LMC. "The approach differs tremendously from what I would have done had I been running the same medical center in the United States, Europe or Israel," notes Dr. Averbukh. "This makes us unique and successful—bringing highly professional services, without any compromise in evidence-based medicine, together with the needs and the will and the perception of the local population."

An intrinsic benefit of specialized knowledge is that it outlines a clear exit route for the fund manager. As GPs gear up for exits, being a market leader in a particular segment makes them attractive to large health care firms looking to extract synergies from acquisitions. While there have been few PE exits in Sub-Saharan Africa, strategic sales are most prominent. Ascendis Health, a manufacturer and distributor of health care products, went on a spree of acquisitions after its listing in 2013 and serves as a compelling example. In 2015, Capitalworks and Brimstone sold the diagnostics business of The Scientific Group, a supplier of instrumentation and consumables for pathology laboratories, to Ascendis Health for ZAR284 million

Exhibit 39: Largest Disclosed Health Care Investments in Sub-Saharan Africa, 2008-1H 2016

Fund Manager(s)	Company Name	Country	Subsector	Investment Type	Investment Amount (US$m)	Investment Date
Vital Capital Investments	Luanda Medical Center	Angola	Providers	Growth	17	Sep-14
Seven Seas Capital	Healthcare-focused PPP	Kenya	Providers	Growth	16	Aug-09
AfricInvest	Kiboko	Kenya	Pharmaceuticals	Growth	14	May-11
African Health Systems Management	AAR	East Africa Regional Investment	Providers	Growth	10	Nov-10
The Abraaj Group	Nairobi Women's Hospital	Kenya	Providers	Growth	7	Nov-13
AfricInvest, Jacana Partners	Lagray Chemicals	Ghana	Pharmaceuticals	Venture Capital	6	Feb-09
Vital Capital Investments	Luanda Medical Center	Angola	Providers	Growth	5	May-15
The Abraaj Group	Therapia Health	Nigeria	Providers	Growth	5	Apr-12
Metier	Surgical Innovations	South Africa	Medical Equipment	Growth	5	Aug-08
AfricInvest	Alminko	Senegal	Providers	Growth	5	Jan-11
The Abraaj Group	C&J Medicare	Ghana	Providers	Growth	5	Jul-11
Cauris Management	Cipharm	Cote d'Ivoire	Pharmaceuticals	Growth	4	Apr-14
Phoenix Capital Management	Ubipharm	Cote d'Ivoire	Retail Pharmacy and Vision	Growth	4	Dec-15
The Abraaj Group	Revital Healthcare	Kenya	Medical Supplies	Growth	3	Dec-11
The Abraaj Group	Nairobi Women's Hospital	Kenya	Providers	Growth	3	Jan-10
Ascent	Medpharm Holdings Africa	Ethiopia	Providers	Growth	3	Feb-15
The Abraaj Group	Avenue Group	Kenya	Providers	Growth	3	Nov-11
Cauris Management	SOCOPHARM	Togo	Retail Pharmacy and Vision	Growth	2	May-09
The Abraaj Group	Clinique Biasa	Togo	Providers	Growth	2	Jul-12
Fanisi Capital	Haltons Pharma	Kenya	Retail Pharmacy and Vision	Growth	2	Sep-13

Source: EMPEA. Data as of 30 June 2016.

[20] "Haltons Pharmacy Signs SH2bn Expansion Deal with Vivo Energy." Daily Nation. 9 October 2016. http://www.nation.co.ke/business/Haltons-Pharmacy-to-open-outlets-countrywide/996-2906302-sqiqq1/index.html.

(US$24 million). SG Diagnostics was the third medical devices business bought by Ascendis within the last 12 months, as the firm aimed to position itself as a leading provider of specialized medical products.

In addition to expertise, on the ground presence and deep knowledge of the markets they work in put fund managers in a favorable position. Such GPs can pinpoint specific needs of their consumers. "One cannot simply fly into Lagos and build a business, you need deep expertise, partnerships and experience built over many years to succeed," suggests Jonathan Louw, Managing Director of The Abraaj Group. In addition to catering to local consumers' needs, as the LMC case exemplifies, Louw suggests that permanent local presence provides fund managers a clearer perspective on the risks associated with investing in emerging and frontier markets, and allows fund managers access to a pipeline of deals that others might not have access to.

Some challenges still persist for those with specialized local knowledge. Health care spending in Sub-Saharan Africa is predominantly out of pocket, which can make treatments or procedures financially disastrous or outright inaccessible to much of the region's population. From a private equity point of view, Africa's low health insurance coverage severely limits the ability to pay for health care—and therefore stunts the overall growth of the service delivery market. Solving this problem isn't as easy as investing more in private insurance companies. You have to take care of both the insurance and provision if one is to achieve scale. As LeapFrog's Felix Olale explains, "it's a bit of a chicken and egg situation: Insurers can't find networks of hospitals or clinics that are large enough and have in place the quality systems that could allow for efficient payments and network management. The challenge for the provider is in finding insurance packages that are well designed to meet the needs of the consumer for the health services offered. The result is that today over 70% of healthcare payments are out of pocket." LeapFrog is approaching this challenge from both sides—it invests in both health insurance and health service providers, with the plan to build integrated payer-provider systems in the region.

The payments side of health care may also be improving as governments prioritize health care access—even via strategies grounded in public sector delivery. Public investment plays a central role in the sector, and according to LeapFrog's Olale, is growing in influence. "There is an encouraging trend toward universal health coverage in the region. Ghana and Rwanda, for example, have made significant progress. This additional coverage, if tailored well, feeds demand for private healthcare," notes Olale. "You have a domino effect in that first, more people can now afford access to health services. So those who can afford a bit more or are looking for additional convenience will end up opting for a private facility. This leads to an overall beneficial effect to the health system. The private sector also benefits."

Exhibit 40: Notable Exits and IPOs in Sub-Saharan Africa, 2008-1H 2016

Country	Company Name	Fund Manager(s)	Subsector	Year(s) of Investment	Capital Invested (US$m)	Transaction Date	Exit and Return Detail
Uganda	International Medical Group (IMG)	Kibo Capital Partners	Providers	2012	N/A	Jul-15	Kibo exited a 40% stake via a strategic sale to a consortium led by Ciel Group
South Africa	The Scientific Group	Capitalworks Equity Partners	Medical Equipment	2011	N/A	Jan-15	Strategic sale by Capitalworks Equity Partners and Brimstone to Ascendis Health for reported ZAR284m (US$24m)
South Africa	Surgical Innovations	Metier	Medical Equipment	2008	4.88	Jan-14	Strategic sale to Ascendis Health
South Africa	Vitalaire	Medu Capital	Medical Supplies	2004	N/A	Feb-09	Exit of unknown type

Source: EMPEA. Data as of 30 June 2016.

Appendix

Exhibit 41: Sampling of Health Care-specific Fund Managers Active in Emerging Asia

Fund Manager	Fund Name(s) (Final Close Year, Amount Raised)	Geographic Focus	Firm Type	Website
Ally Bridge Group	Ally Bridge Group Capital Partners II (2015, US$186m)	China, United States, Europe	Growth	-
Asian Healthcare Fund	Asian Healthcare Fund II (Fundraising), Asian Healthcare Fund (2013, US$40m)	India	Venture Capital	asianhealthcarefund.com
BVCF	BVCF IV (Fundraising), BVCF III (2014, US$188m), BVCF II (2008, US$90m), BVCF (2005, US$40m)	China	Venture Capital	bvcf.com
CCB International (CCBI)	CCBI Healthcare Fund (2009, US$395m)	China	Growth	ccbintl.com.hk
Decheng Capital	Decheng Capital China Life Sciences Fund II (Fundraising), Decheng Capital China Life Sciences Fund I (2013, US$125m)	China	Venture Capital	decheng.com
HighLight Capital	HighLight Capital Fund II (Fundraising), HighLight Capital Fund (2014, US$300m)	China	Growth, Venture Capital	highlightcapital.com
IDG Capital Partners (IDGVC)	IDG China Healthcare Fund (2016), IDG-Accel China Growth Fund III (2011, US$550m), IDG-Accel China Capital Fund II (2011, US$750m)	China	Growth, Venture Capital	idgvc.com
Infinity Group	Tianjin Israel Life Science Fund (2010, US$15m), Shijiazhuang Infinity (2010, US$29m)	China	Growth, Venture Capital	infinity-equity.com
InvAscent	India Life Sciences Fund II (2014, US$146m), Evolvence India Life Sciences Fund (2008, US$84m)	India	Growth	invascent.com
Kailai Investments	Clarity Partners China II (US$234m), Clarity China Partners I (2007, US$220m)	China	Growth	kailaiinvestments.com
Lightstone Ventures	Lightstone Singapore (2016, US$50m), Lightstone Ventures (2014, US$250m)	Singapore	Venture Capital	lightstonevc.com
Lilly Asia Ventures	Lilly Asia Ventures Fund III (2015, US$300m)	Asia, China	Venture Capital	lillyasiaventures.com
Lyfe Capital	Lyfe Capital (USD) (2015, US$210m), Lyfe Capital (RMB) (2015, US$87m)	China	Venture Capital	lyfecapital.com
OrbiMed Advisors	OrbiMed Asia Partners II (2014, US$325m), OrbiMed Asia Partners (2008, US$185m)	Asia, China, India	Growth, Venture Capital	orbimed.com
Qiming Venture Partners	Qiming Venture Partners V (2016, US$648m), Qiming Venture Partners IV (2014, US$500m), Qiming Venture Partners Biomedical RMB Fund (2010, US$37m), Qiming Venture Partners II (2008, US$320m)	China	Venture Capital	qimingventures.com
Quadria Capital Investment Management	HealthQuad (Fundraising), Quadria Capital Fund (2015, US$304m)	South Asia, Southeast Asia	Growth	quadriacapital.com
Sabre Partners	Sabre Partners Fund IV (Fundraising, US$29m)	India	Growth	sabre-partners.com
Somerset Indus Capital Partners	Somerset Indus Healthcare Fund II (Fundraising), Somerset Indus Healthcare Fund I (US$25m)	India	Growth	somersetinduscap.com
Tata Capital Private Equity	Tata Capital Healthcare Fund I (2014, US$74m), Tata Capital Innovations Fund (2012, US$59m), Tata Capital Growth Fund I (2011, US$240m)	India	Growth	tatacapital.com
The Abraaj Group	Abraaj Growth Markets Health Fund (Fundraising)	Pan-Emerging Markets	Buyout, Growth, Real Estate	abraaj.com
TriRiver Capital	TriRiver Biomedical Industry Angel Investment Fund (2013, US$16m)	China	Venture Capital	tririvercapital.com

Source: EMPEA. Data as of 30 June 2016.

Exhibit 42: Sampling of Fund Managers Active in the Health Care Sector in CEE and CIS

Fund Manager	Fund Name(s) (Final Close Year, Amount Raised)	Geographic Focus	Firm Type	Website
ADM Capital	ADM Capital CEECAT Recovery Fund (2010, US$371m), ADM Kazakhstan Capital Restructuring Fund (KCRF) (2010, US$100m), Kazakhstan Growth Fund (2008, US$80m)	Asia, CEE & CIS	Growth, Direct Lending, Mezzanine, Special Situations	admcap.com
Baltcap Management	BaltCap Private Equity Fund II (Fundraising), BaltCap Lithuania SME Fund (2010, US$27m), BaltCap Latvia Venture Capital Fund (2010, US$42m), BaltCap Private Equity Fund (2009, US$92m)	Central & Eastern Europe (CEE)	Growth, Venture Capital	baltcap.com
Baring Vostok Capital Partners	Baring Vostok Private Equity Fund V (2012,US$1.3B), Baring Vostok Private Equity Fund IV (2007, US$1.1B)	Commonwealth of Independent States (CIS), Russia	Buyout, Growth	baring-vostok.com
Enterprise Investors	Polish Enterprise Fund VI (2006, US$834m), Enterprise Venture Fund I (2008, US$143m), Polish Enterprise Fund VII (2013, US$415m)	Central & Eastern Europe (CEE)	Buyout, Venture Capital	ei.com.pl
Horizon Capital	Emerging Europe Growth Fund II (2008, US$370m), Emerging Europe Growth Fund (2006, US$132m)	Belarus, Moldova, Ukraine	Buyout, Growth	horizoncapital.com.ua
Innova Capital	Innova/5 (2009, US$484m), Innova/4, (2006, US$291m)	Central & Eastern Europe (CEE)	Buyout	innovacap.com
Joint Polish Investment Fund Management (JPIF)	Joint Polish Investment Fund I (Fundraising)	Poland	Venture Capital	jpifund.com
Mezzanine Capital Partners	Accession Mezzanine Capital III (2012, US$265m), Accession Mezzanine Capital II (2008, US$385m)	CEE & CIS	Growth, Mezzanine	mezzmanagement.com
Mid Europa Partners	Mid Europa Fund IV (2014, US$1.1B), Mid Europa Fund III (2007, US$2.1B)	CEE & CIS	Buyout	mideuropa.com
PineBridge Investments	PineBridge New Europe Partners III (Fundraising), PineBridge New Europe Partners II (2007, US$672m)	Global	Growth, Direct Lending, Hedge	pinebridge.com
Russia Partners	Russia Partners III (2009, US$626m)	Commonwealth of Independent States (CIS), Russia	Growth	russiapartners.com
The Abraaj Group	Abraaj Turkey Fund I (2016, US$486m), Anatolia Growth Capital Fund (AGCF) (2013, US$27m)	Pan-Emerging Markets	Buyout, Growth, Real Estate	abraaj.com
Turkven	Turkish Private Equity Fund III (2012, US$840m), Turkish Private Equity Fund II (2007, US$431m)	Turkey	Buyout, Growth	turkven.com
UFG Asset Management	UFG Private Equity Fund III (2014, US$204m), UFG Private Equity Fund II (2010, US$225m), UFG Private Equity Fund I (2006, US$280m)	Commonwealth of Independent States (CIS), Russia	Buyout, Growth, Special Situations, Hedge, Real Estate	ufgam.com
Value4Capital	V4C Poland Plus Fund (Fundraising), V4C Eastern Europe II (2007, US$198m)	Central & Eastern Europe (CEE)	Buyout, Growth	value4capital.com

Source: EMPEA. Data as of 30 June 2016.

Exhibit 43: Sampling of Fund Managers Active in the Health Care Sector in Latin America

Fund Manager	Fund Name(s) (Final Close Year, Amount Raised)	Geographic Focus	Firm Type	Website
Advent International	Latin American Private Equity Fund VI (2014, US$2.1B), Latin American Private Equity Fund V (2010, US$1.7B), Latin American Private Equity Fund IV (2007, US$1.3B), Latin American Private Equity Fund III (2005, US$375m)	Latin America	Buyout	adventinternational.com
Alta Growth Capital	Alta Growth Capital Mexico Fund II (2014, US$152m), Alta Growth Capital Mexico Fund (2009, US$75m)	Mexico	Growth	agcmexico.com
Aurus	Aurus Ventures III (Fundraising), Aurus Bios (2010, US$32m), Aurus Tecnologia (2010, US$32m)	Chile	Venture Capital	aurus.com
BTG Pactual	BTG Pactual Brazil Investment Fund II (Fundraising), BTG Pactual Brazil Investment Fund I (2011, US$1.5B)	Brazil	Buyout	btgpactual.com
EMX Capital	EMX Capital Partners I (2011, US$126m), EMX Capital Partners I (USD) (2011, US$68m), Carlyle Mexico Partners (2007, US$134m)	Mexico	Buyout	emxcapital.com
FIR Capital Partners	Fundo Sul Inovacao (Fundraising), FUNDOTEC II (2007)	Brazil	Venture Capital	fircapital.com
Gavea Investimentos	GIF V (2014, US$1.1B), GIF IV (2011, US$1.9B), GIF III (2008, US$1.2B)	Brazil	Growth	gaveainvest.com.br
GP Investments	GP Capital Partners V (2010, US$1.1B), GP Capital Partners IV (2007, US$1.3B), GP Capital Partners III (2006, US$250m),	Brazil	Buyout	gp.com.br
Linzor Capital Partners	Linzor Capital Partners III (2015, US$621m), Linzor Capital Partners II (2011, US$465m), Linzor Capital Partners I (2006, US$182m)	Latin America	Buyout	linzorcapital.com
LIV Capital	LIV Mexico Growth IV (Fundraising), LIV Mexico Growth IV CKD (2015, US$168m), LIVE Fund I (2014, US$7m), Latin Idea Mexico Venture Capital Fund III (2012, US$56m), Latin Idea Mexico Venture Capital Fund III (CKD) (2012, US$46m)	Mexico, Latin America	Growth, Venture Capital	livcapital.mx
Nexxus Capital	Nexxus Capital VI (2013, US$550m), Nexxus Capital IV & V (2011, US$315m), Nexxus Capital III (2008, US$146m)	Mexico	Growth	nexxuscapital.com
Southern Cross Group	Southern Cross Latin America Private Equity V (Fundraising), Southern Cross Latin America Private Equity IV (2010, US$1.7B), Southern Cross Latin America Private Equity III (2007, US$751m)	Latin America	Buyout	southerncrossgroup.com
The Abraaj Group	Abraaj Growth Markets Health Fund (Fundraising), Abraaj Latin America Fund II (Fundraising), Abraaj CKD (2015, US$191m), Aureos Latin America Fund (2009, US$182m), EMERGE Central America Growth Fund (2007, US$21m)	Central America, Latin America	Growth	abraaj.com
The Carlyle Group	Fundo Brasil de Internacionalizacao de Empresas II (2015, US$276m), Carlyle Peru Fund (2013, US$308m), Carlyle South America Buyout Fund (2011, US$776m), Fundo Brasil de Internacionalizacao de Empresas (2010)	Brazil, South America	Buyout	carlyle.com
TMG Capital	TMG Co-Investment Fund III (2010), TMG Private Equity Fund II (2009, US$275m)	Brazil	Growth	tmg.com.br
Victoria Capital Partners	Victoria South American Partners II (2012, US$850m), Victoria South American Partners I (2008, US$304m)	South America	Buyout	victoriacp.com

Source: EMPEA. Data as of 30 June 2016.

Exhibit 44: Sampling of Fund Managers Active in the Health Care Sector in MENA

Fund Manager	Fund Name(s) (Final Close Year, Amount Raised)	Geographic Focus	Firm Type	Website
AfricInvest	Maghreb Private Equity Fund III (2013, US$167m), PME Croissance (2012, US$50m), Maghreb Private Equity Fund II (2008, US$178m)	North Africa, Sub-Saharan Africa	Buyout, Growth, Venture Capital	africinvest.com
Attijari Invest	3P Fund (2012, US$47m)	Morocco	Growth	attijariwafabank.com
BPE Partners	BPE Egypt Mid-Market Growth Fund (Fundraising), Beltone MidCap Fund (2010, US$39m)	Egypt	Growth	beltonepe.com
Capital Invest	Capital North Africa Venture Fund II (Fundraising)	Algeria, Morocco, Tunisia	Growth	capitalinvest.co.ma
Global Capital Management (GIH)	Global Buyout Fund (2008, US$527m)	Asia, Middle East, Turkey	Buyout, Growth	globalinv.net
Gulf Capital	GC Credit Opportunities Fund II (Fundraising), GC Equity Partners Fund III (2014, US$750m), GC Credit Opportunities Fund I (2013, US$221m), GC Equity Partners Fund II (2010, US$533m)	MENA, Sub-Saharan Africa, Turkey	Buyout, Growth, Direct Lending, Mezzanine, Real Estate	gulfcapital.com
Mediterrania Capital Partners	Mediterrania Capital II (2015, US$161m), Mediterrania Capital I (2010, US$83m)	Algeria, Egypt, Morocco, North Africa, Sub-Saharan Africa, Tunisia	Growth	mcapitalp.com
NBK Capital Partners	NBK Capital Partners Mezzanine Fund II (Fundraising), NBK Capital Equity Partners Fund II (2014, US$310m), NBK Capital Mezzanine Fund I (2009, US$157m), NBK Capital Equity Partners Fund I (2007, US$250m)	MENA, Turkey	Buyout, Growth, Mezzanine	nbkcpartners.com
Swicorp	Intaj Capital II (2012, US$89m)	MENA, Sub-Saharan Africa	Growth	swicorp.com
The Abraaj Group	Abraaj North Africa Fund II (2015, US$375m)	Pan-Emerging Markets	Buyout, Growth, Real Estate	abraaj.com
The Carlyle Group	Carlyle MENA Partners (2009, US$285m)	Global	Buyout, Growth, Venture Capital, Direct Lending, Real Estate	carlyle.com
The EuroMena Funds	EuroMena III (Fundraising), EuroMena II (2009, US$90m)	MENA, Sub-Saharan Africa	Growth	capitaltrustltd.com
TVM Capital Healthcare Partners	TVM Healthcare MENA III (Fundraising), TVM Healthcare MENA II (2015, US$23m), TVM Healthcare MENA I (2012, US$50m)	India, MENA, Southeast Asia, Turkey	Buyout, Growth	tvm-capital.ae

Source: EMPEA. Data as of 30 June 2016.

Exhibit 45: Sampling of Fund Managers Active in the Health Care Sector in Sub-Saharan Africa

Fund Manager	Fund Name(s) (Final Close Year, Amount Raised)	Geographic Focus	Firm Type	Website
African Health Systems Management	Investment Fund for Health in Africa II (Fundraising), Investment Fund for Health in Africa	Sub-Saharan Africa	Growth	ifhafund.com
AfricInvest	AfricInvest Fund III (Fundraising), AfricInvest Fund II (2010, US$207m)	North Africa, Sub-Saharan Africa	Growth, Venture Capital, Buyout	africinvest.com
Amethis Finance	Amethis West Africa (Fundraising), Amethis Finance Fund (2014, US$530m)	Sub-Saharan Africa	Growth, Direct Lending	amethisfinance.com
Ascent	Ascent Rift Valley Fund (2015, US$80m)	East Africa, Ethiopia, Kenya, Uganda	Growth, Venture Capital	ascent-africa.com
Capitalworks Equity Partners	Capitalworks Private Equity Fund II (2013, US$268m), Capitalworks Private Equity Fund I (2009, US$200m)	South Africa	Growth	capitalworksip.com
Cauris Management	Fonds Cauris Croissance II (FCC II) (2012, US$82m), Fonds Cauris Croissance (FCC) (2008, US$20m)	West Africa	Growth	caurismanagement.com
Development Partners International	African Development Partners II (2015, US$725m), African Development Partners I (2009, US$416m)	North Africa, Sub-Saharan Africa	Growth	dpi-llp.com
Emerging Capital Partners (ECP)	ECP Africa Fund IV (Fundraising), Central Africa Growth (2007, US$29m)	Sub-Saharan Africa	Growth	ecpinvestments.com
Fanisi Capital	Fanisi Venture Capital Fund II (Fundraising), Fanisi Venture Capital Fund (US$40m)	East Africa	Venture Capital	fanisi.com
Investisseurs & Partenaires (I&P)	I&P Africa Infrastructure (Fundraising), I&P Afrique Entrepreneurs Fund (2013, US$68m)	Cameroon, Madagascar, Mauritius, Cote d'Ivoire, Ghana, Senegal	Growth	ietp.com
Jacana Partners	InReturn East Africa Fund I (2012, US$28m), Fidelity Equity Fund II (2007, US$23m)	Sub-Saharan Africa	Growth, Venture Capital	jacanapartners.com
Kibo Capital Partners	The Kibo Fund II (Fundraising), The Kibo Fund I (2008, US$37m)	East Africa, Southern Africa	Growth	kibo-capital.com
Leapfrog Investments	Leapfrog Emerging Consumer Fund III (Fundraising)	Sub-Saharan Africa	Growth	leapfroginvest.com
Metier	Metier Capital Growth Fund II (Fundraising), Lereko Metier Capital Growth Fund (2007, US$496m)	Sub-Saharan Africa	Growth, Infrastructure	metier.co.za
Synergy Capital Managers	Synergy Private Equity Fund (SPEF) (2015, US$100m)	Sub-Saharan Africa, West Africa, Ghana, Nigeria	Growth	synergycapitalmanagers.com
The Abraaj Group	Abraaj Growth Markets Health Fund Africa (Fundraising), Abraaj Africa Fund III (2015, US$990m), Africa Health Fund (2011, US$105m)	Pan-Emerging Markets	Growth, Buyout, Real Estate	abraaj.com
The Rohatyn Group	TRG Africa Fund (2006, US$100m)	Pan-Emerging Markets	Growth, Hedge, Buyout, Infrastructure, Real Estate, Special Situations	rohatyngroup.com
Venture Partners Botswana (VPB)	Venture Partners Botswana III Growth Fund (Fundraising), VPB Namibia Fund (2010, US$22m)	Southern Africa	Growth	venture-p.com
Vital Capital Investments	Vital Capital Fund II (Fundraising), Vital Capital Fund I (2012, US$350m)	Sub-Saharan Africa	Growth, Buyout	vital-capital.com
XSML	African Rivers Fund (Fundraising), Central Africa SME Fund (CASF) (2013, US$19m)	Central Africa, Central African Republic, Congo, Democratic Republic of the Congo, Burundi, Uganda	Growth, Mezzanine	xsmlcapital.com

Source: EMPEA. Data as of 30 June 2016.

EMPEA Methodology

This report provides an overview of trends in fundraising and investment among private equity fund managers active in the health care sector of the emerging markets of Africa, Asia, Europe, Latin America and the Middle East. The data and statistics presented here are drawn from EMPEA's database of funds and transactions, FundLink, and are based on information obtained from press releases and trade publications, as well as from communications with industry participants and regional and country-focused venture capital associations. Fundraising, investment and exit amounts in EMPEA reports have been confirmed wherever possible directly by fund managers. EMPEA updates historical data on a quarterly basis as new data from fund managers and other sources is compiled in FundLink. Any discrepancies between the aggregate statistics published by EMPEA and the constituent data on individual funds and transactions included in tables and raw data files can be attributed to confidential information that has been omitted from public reporting.

For the purposes of this report, EMPEA's industry data includes activity from long-term, fixed-life, private, direct private equity investment funds, as well as select additional debt and mezzanine investments from PE-style private credit funds. EMPEA data and statistics exclude activity from real estate funds, funds of funds, secondaries funds, traditional investment holding companies, corporate strategic investors, government-owned or managed entities and captive investment vehicles, as well as funds investing primarily in publicly-traded equity or debt securities. Reported fundraising totals reflect only official closes (interim and/or final) as reported in primary and secondary sources or directly by fund managers. Capital commitments accruing prior to or between official closes are not included in reporting.

Investment data in this report includes activity by private fund managers in the following health care subsectors: providers (including hospitals, clinics and diagnostics labs), pharmaceuticals, biotechnology, medical equipment, medical supplies, health IT and retail pharmacy and vision. Investments are also classified by deal type: buyout, growth, venture capital, PIPE, mezzanine or debt. Venture capital includes seed, early-stage and late-stage investments. When determining how an investment should be classified, EMPEA takes into account the typical investment strategy of the fund manager(s) involved, the type of security acquired, the reported round number or type of transaction, the development stage of the company at the time of investment, the company's business model and the type of product or service that the company provides.

Secondary investments (both traditional and direct) are excluded from reporting. In addition, wherever possible, bank (acquisition) financing and co-investment from excluded entities (mentioned in the first section of this note) are excluded from reported investment values, both to ensure continuity across regions and to provide a more accurate picture of the scale and pace of capital deployment by the funds that are the primary focus of EMPEA's research.

The statistics in this report are based on the "market" approach. Fundraising activity is categorized based on the countries, sub-regions or regions in which fund managers intend to invest, while investment activity is categorized based on the country headquarters of investee companies. For companies registered in offshore financial centers or developed markets, but operating exclusively or predominately in emerging markets, investment activity is categorized based on the geographic footprint of the operations of investee companies. In the case of global or multi-regional funds, only those funds investing primarily in emerging markets are included in fundraising totals (e.g., pan-Asia funds with a significant portion of capital intended for investment in China and India). Country-dedicated fundraising data and statistics reflect only those funds with a single-country strategy or mandate. Target allocations to individual markets within a broader global or regional fund are not attributed to single-country fundraising totals.

Regions in this report are defined as:

- **Emerging Asia:** Asia Pacific, excluding Japan, Australia and New Zealand.
- **Central and Eastern Europe (CEE) and Commonwealth of Independent States (CIS):** European Union accession countries (2004), Southeastern Europe (excluding Greece) and Turkey, as well as Russia and other CIS countries.
- **Latin America:** Mexico, Central and South America and the Caribbean (excluding Puerto Rico and other overseas territories and departments).
- **Middle East and North Africa (MENA):** Gulf Cooperation Council (GCC), Afghanistan, Iran, Iraq, Jordan, Lebanon, Pakistan, Palestinian Territories, Syria and Yemen, as well as North Africa (Algeria, Egypt, Libya, Morocco, Sudan and Tunisia).
- **Sub-Saharan Africa:** Africa, excluding North Africa as defined above.

Additional Notes

Abbreviations commonly used in this report:
EM – Emerging markets
PE – Private equity
VC – Venture capital
GP – General partner (fund manager)
LP – Limited partner (fund investor)

In some exhibits, percentage labels may not sum to 100% due to rounding. In all tables in which it appears, "N/A" denotes a confidential or otherwise undisclosed value.