Getting a Grip on the Booming M&A Market in China's Medtech Industry

China Medtech Industry M&A Investment Trends

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September 2016

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A record-setting wave of large-scale mergers and acquisitions (M&A) around the world in the medtech arena has seen recent deals such as the USD49.9 billion acquisition of Covidien by Medtronic in 2014, and the more recent USD25 billion cash and stock deal from Abbot Laboratories to acquire St. Jude medical. As the global medtech industry continues to consolidate and integrate, what will this mean for China's medtech industry? In what ways will it be different from the global market?

1. Overview of M&A Activities in China's Medtech Sector

In the past several years, there has been a rising tide of M&A activity within China's medtech sector[1], with a significant increase in both volume and value in 2014 and 2015 compared with the previous five years. There were over 40 total deals reached in the medtech industry in 2015[2], more than twice the total number of deals in 2011. The median value of the deals increased from around USD18 million[3] in 2013 to USD58 million in 2015. The increase in value for single deals has served to stimulate the entire M&A market, with total value of M&A transactions in China's medtech sector rising from USD1.5 billion in 2013 to USD4 billion in 2015[4].

Several factors have contributed to the uptick in activity in the medtech arena. First, the healthcare industry in China has grown rapidly, a trend that was strengthened by a series of favorable policies released by the government in recent years designed to boost health-related industries. This has painted a very positive picture for the future of the industry and has drawn additional investors to the overall healthcare sector as a result. Even though medtech is a smaller segment of the overall healthcare sector than pharmaceuticals, it is very stable and the profit margins are comfortable. Second, there are numerous smaller segmented markets in the medtech arena. Some mid-sized medtech companies first became market leaders in their own segments and then bought their way into other segments of the medtech market through mergers and acquisitions. One example of this is the M&A activities of Shanghai MicroPort Medical (Group) Co., Ltd. Third, companies in China are increasingly looking overseas for acquisition targets, and China's medtech enterprises are no exception. Mindray, MicroPort, and Sinocare, among others have been very active in overseas mergers and acquisitions.

Of course, even though there has been a steady increase in both the volume and scale of mergers and acquisitions within China's medtech sector, China still has catching up to do compared with the worldwide medtech mergers and acquisition market. According to BCG analysis, starting in 2010, M&A in the global medtech industry has maintained an annual volume of approximately 130 to 140 deals, with more than 10 percent of the deals valued at over USD500 million, a scale that far surpasses China's medtech industry. This is due both to trends in the global medtech industry and the relative maturity of financial markets.

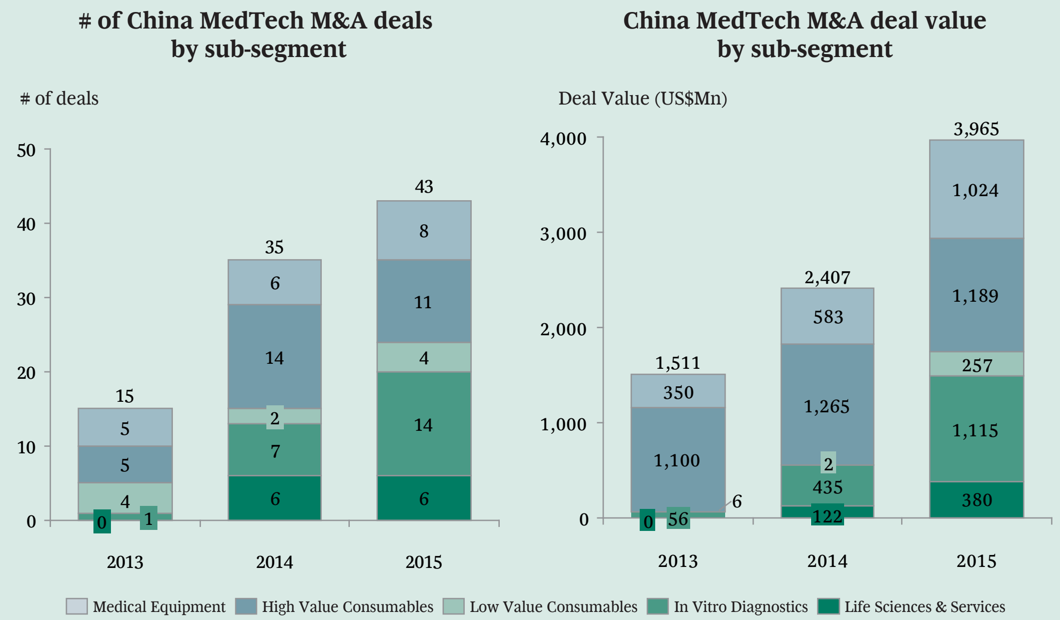
2. Characteristics of Mergers and Acquisitions Within China's Medtech Industry

Observing the merger and acquisition cases within China's medtech industry in recent years, we've discovered three particular characteristics:

I. High Value Consumables and IVD Subsectors Have Become Focal Points

In recent years M&A in China has focused on the three industry segments of high value consumables (including sub-segments such as orthopedics and cardiovascular), medical equipment, and in vitro diagnostics (IVD). (See Exhibit 1.) From 2013 to 2015, transactions in the high value consumables segment made up 30 to 40 percent of all transaction volume in the medtech sector, making it the hottest segment in the industry. The high value consumables segment is massive, fast growing, and highly profitable, making it a darling among investors. Since it is not difficult to find large domestic or foreign companies from the segment, the value of M&A transactions within the segment also tends to be high. In 2013 and 2014, the value of transactions in the high value consumables segment made up approximately 50 to 70 percent of total transaction value for the entire medtech industry. Also, according to publicly released totals, in the three years spanning 2013 to 2015, three of the five largest M&A transactions within the medtech sector have been in the high value consumables segment. The largest transaction was CITIC Private Equity Funds Management buying Biosensors International in two separate transactions totaling USD1.1 billion (Biosensors' main products are coronary stents). The second largest transaction was U.S.-based orthopedic medical devices company Stryker Corporation's acquisition of China's orthopedic medical devices manufacturer Trauson Holdings for USD764 million. The fourth largest transaction in this period was leading domestic cardiovascular medical device manufacturer Lepu Medical successfully raising a new round of funding value at USD315 million from a group of investors headed by

EXHIBIT 1. High Value Consumables and IVD Are the Most Popular



Source: Literature research; Thomson ONE M&A database; S&P Capital IQ database; Evaluate Medtech; PE daily; BCG analysis.
Note: Deals include acquisition and Minority stake purchase; deals with deal value <$0.5M not included.

Bank of China Investment Management. If we look at the transaction value totals for each industry segment, we can see that transactions in the high value consumables segment tend to be of higher value, with a median value of USD60 million, or around 1.5 times the median transaction value of all other segments excluding medical equipment.

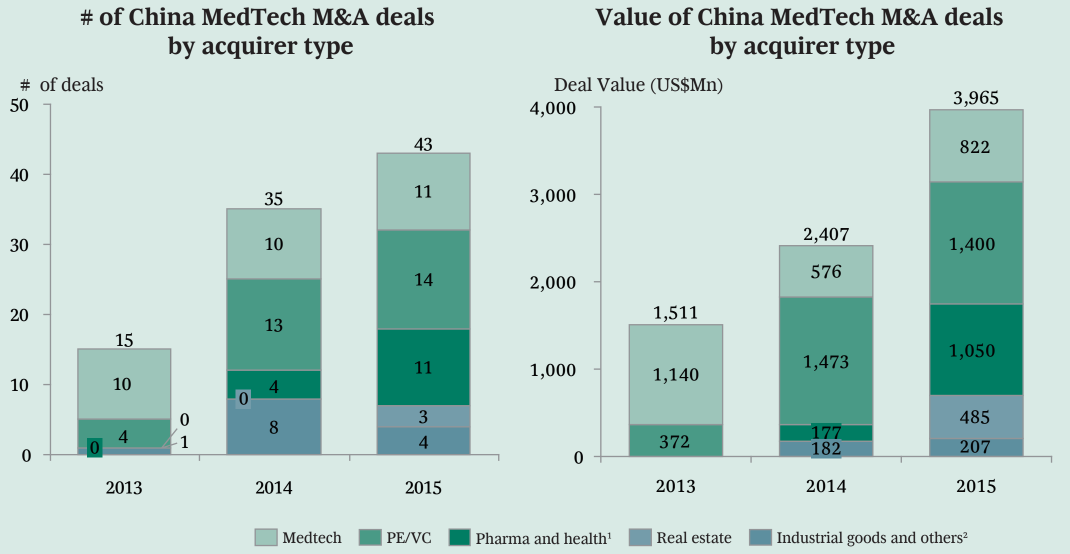
There is also rising interest in the IVD segment, which has been the second hottest market segment for M&A in the last two years. In 2015, approximately 30 percent of merger and acquisition deals stemmed from the IVD market segment. Many transactions in the segment were led by private equity investors, which were particularly focused on a few high growth IVD areas such as chemiluminescence immunoassays (CLIA) and point of care testing (POCT). For example, FountainVest Partners invested USD264 million in leading domestic IVD company Shanghai Kehua, a consortium of investors led by Actis Capital invested USD56 million in leading domestic CLIA instrument and reagent manufacturer Chemclin, and Yunfeng Capital investing in leading cardiac market POCT instrument manufacturer ReLia Diagnostic Systems. These are all signs that investors have their eyes on the IVD market segment.

Aside from high value consumables and IVD, medical equipment is also a very popular segment for investment. Because medical equipment such as ventilators, radiotherapy equipment, ultrasound, and other imaging equipment tends to have high unit price , the scale of the companies involved in the transactions tends to be larger and the value of the transactions higher. Taking 2015 as an example, M&A activity in the medical equipment segment accounted for approximately 20 percent of total volume for the industry, but it accounted for approximately 30 percent of the total value of all M&A transactions in that period. The main contributors were large transactions such as Zhongzhu Holdings acquiring Shenzhen-based ET Medical (oncology diagnostic and radiotherapy equipment segment) for nearly USD300 million and Starway Bio-technology acquiring MASEP (gamma knife radiotherapy equipment segment).

II. Investors in Medtech: More PE/VC and Cross-Industry Transactions

Aside from companies within the medtech industry, PE/VC are also important investors in the medtech industry. (See Exhibit 2.) Transactions that involve PE/VC made up approximately 30 to 40 percent of all M&A transaction volume in the medtech industry, and contributed to approximately 60 percent of the total value of transactions in 2014. In addition to the segment being high growth and highly profitable, the relatively high valuations given to Kanghui by Medtronic in 2012 and Trauson by Stryker in 2013 have encouraged further activity by PE/VC investors in the medtech industry.

EXHIBIT 2. Growing Investment from PE/VC and Cross-industry Acquisitions into MedTech Industry



Source: Literature research ; Thomson ONE M&A database; S&P Capital IQ database; Evaluate Medtech; PE daily; BCG analysis.
[1] Healthcare service provider includes hospital or clinic.
[2] Others include textile company, etc.

Rising interest by companies outside the industry is one obvious characteristic of recent acquisitions in the medtech industry. According to BCG analysis, five of the top 15 transactions, as ranked by value, in the medtech industry were originated by companies from pharmaceuticals or other industries. The goal for these transactions is always strategic—to enter into the higher growth medtech arena. For example, Zhongzhu holdings, which originally was a real estate holding company, purchased 100 percent of Shenzhen-based ET Medical for USD300 million in order to gain entry into the oncology diagnostics equipment market; XinBang Pharm acquired Chinese Peptide, whose IVD reagents business could help XinBang expand along the health care value chain; Starway Bio-technology purchased MASEP as a way of transitioning from its traditional edible mushroom business into the higher value-added medical equipment industry; Chase Sun Pharmaceutical acquired ChoiceMMed in order to venture from its home turf of modern Chinese medicine into home care electronics and digital health; and leading domestic intelligent and energy efficient building engineering solutions provider Das Intellitech acquired Jiuxin Medical in order to fast track its entry into the professional medical purification systems and digital surgery room arenas. (See Exhibit 3.)

Exhibit 3. Top 15 M&A Deals in China MedTech Industry (2013-2015)

#	Acquirer	Target	Deal Value (US$mn)	Year	M&A Type	Major Business of Acquired Company
1	CITIC and others	Biosensors.	787[1]	2015	PE/VC	Cardiovascular medical devices
2	Stryker Corp	Trauson Holdings	764	2013	Inbound	Orthopedic medical devices
3	Hony Capital and others	Neusoft Medical	442	2014	PE/VC	Imaging equipment
4	BOC Investment Management and others	Lepu Medical	315	2014	PE/VC	Cardiovascular medical devices
5	Zhong Zhu Holding	Shenzhen ET Medical Technology	298	2015	Local	Radiotherapy, imaging equipment
6	MicroPort	OrthoRecon business from Wright Medical Group	290	2014	Outbound	Orthopedic medical devices
7	XinBang Pharm	Chinese Peptide	288	2015	Local	IVD
8	Sinocare	Nipro Diagnostics	273	2015	Outbound	IVD
9	Foutainvest Capital	Shanghai Kehua Bio-Engineering	264	2014	PE/VC	IVD
10	Fosun International	Alma Lasers	240	2013	Outbound	Laser resurfacing
11	Jiangsu Yuyue	China Resources Wandong	186	2015	Local	Imaging equipment
12	Starway Bio-technology	Masep Med Science & Tech Dvlp	181	2015	Local	Radiotherapy, imaging equipment
13	Chase Sun Pharma	Beijing Choice Electn Tech	156	2015	Local	Patient monitoring
14	Shenzhen Das Intellitech	Jiuxin Medical	140	2015	Local	Medical equipment
15	Zhongyuan Union Stem Cell	Zhicheng Biological Technology	139	2014	Local	IVD
15	Sequoia	Jiangsu Yuyue	139	2014	PE/VC	Medical equipment

Source:Literature research; Thomson ONE M&A database; S&P Capital IQ database; Evaluate Medtech; PE daily; BCG analysis.
Note: Only include deals with public information; deals with deal value <$0.5M not included.
[1] Another deal by CITICPE to acquire Biosensors not included ($312 in 2013).

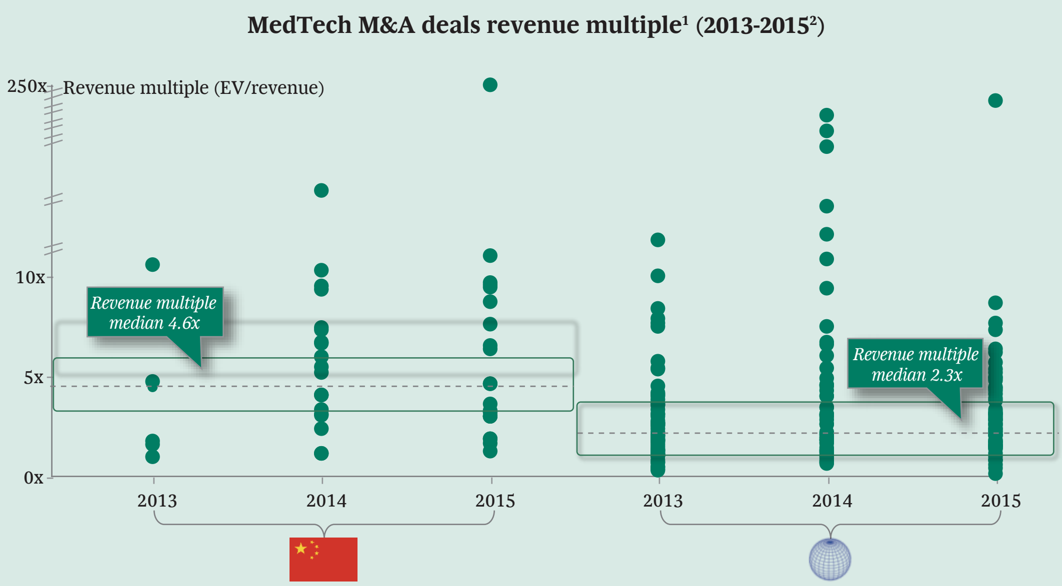
III. China's Medtech Companies Have Relatively High Valuations[5]

Even though the transaction volume and value in China's medtech industry is low compared with the global market, companies in China are valued at higher multiples than their peers in Europe and the U.S. Most of this is due to their future growth potential and good profitability.

As Exhibit 4 shows, in the past three years, the median revenue multiple for transactions in China's medtech industry was around 4.6, while the multiple was only half of that in European and U.S. markets at 2.3, with 90 percent of transactions carrying a multiple of between 2 and 4.

Also, even though different segments have attracted an uneven amount of attention in the rising tide of M&A in China's medtech industry, aside from relatively low valuations in the low value consumables segment (which had a median revenue multiple of approximately 3), there was not a lot of difference in valuations for the other market segments (with revenue multiple medians ranging from 4 to 6). There was also no major difference in

EXHIBIT 4. China MedTech M&A Deals Have Higher Revenue Multiples in Average Than Developed Markets



Source: Literature research; Thomson ONE M&A database; S&P Capital IQ database; Evaluate Medtech; PE daily; BCG analysis.
Note: China market does not include outbound deals; developed markets do not include deals of China targets.
[1] Revenue multiple is EV/revenue: deal value/acquired revenue; acquired revenue=target revenue x acquired stake %; target revenue is LTM revenue.
[2] Median calculation only includes deals with data.

valuations for different market segments in the global market.

When we analyze EBITDA multiples of M&A transactions in China's medtech industry in the past few years, we also come around to the same conclusion. From 2013 to 2015, EBITDA multiples for transactions in China's medtech industry had a median around 20, while EBITDA multiples for transactions in the European and U.S. markets in the same period had a median of only around 13.6.

There are three main reasons why M&A transactions in China's medtech market carry such high valuations. The first reason is due to a rising level of interest in the medtech market, with an increasing number of PE/VC and investors from outside the industry looking to jump in the arena. Secondly, relatively few good targets for acquisitions exist since many medtech segments in China are still dominated by multinational companies while domestic companies are relatively young and unproven. Thirdly, the medtech market for most of Europe and the U.S. is already mature and has reached its plateau, which means slower growth and lower earnings for companies within those markets.

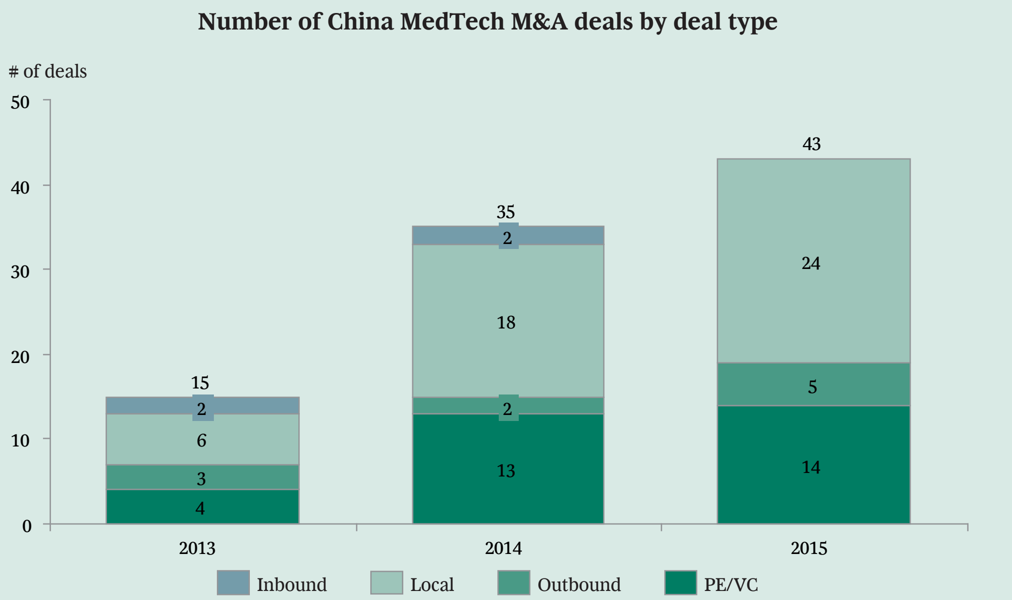
3. Key Challenges and Success Factors of Different Types of Deals

If we categorized M&A transactions in the past three years by the country of origin for the acquirer and target, aside from PE/VC investments, other transactions can be grouped into three major categories: local transactions, where a company in China acquires or invests in a company in China; outbound transactions, where a company in China acquires a foreign company; and inbound, where a foreign company acquires a company in China. Overall, we can see that there are relatively few inbound deals while the number of outbound deals is growing. Local deals are still the lion's share of the market. (See Exhibit 5.) Below we've summarized a few categories of M&A targets, their corresponding challenges, and keys to success.

3.1 Inbound M&A

The number of inbound deals (not including PE/VC deals) has been low in recent years, mainly due to the most large multinational companies have already successfully entered the China market by growing organically or through acquisitions, which has reduced their motivation to search out more targets in China. Also, most Chinese medtech companies are relatively small in size but with high valuation, which are less attractive to MNC buyers. Even though inbound cases are few and far between, there are still many foreign

EXHIBIT 5. Local Deals Most Active, Outbound Deals Warming Up



Source: Literature research; Thomson ONE M&A database; S&P Capital IQ database; Evaluate Medtech; PE daily; BCG analysis.
Note: Deals include acquisition and Minority stake purchase; For China deals, only deals considered with deal value >=$0.5M, For global deals, only deals considered with deal value >=$5M.

companies that are trying to search for an ideal target to acquire in the China market. After all, an inbound M&A transaction can be beneficial for the foreign company in many ways, including:

- **Expanding to middle and lower tier product segments:** Many multinational companies acquire or invest in companies in China in order to gain access to middle and value tier products to supplement their own upper tier products. They also gain access to the sales channels of the company in China, which they can leverage to reach a broader market. For example, Stryker's acquisition of Trauson in 2013 allowed the company to enter the middle and value tier trauma implant market.

- **Take advantage of government policies that favor local companies:** Since China's government has a number of favorable policies reserved for local companies, including foreign invested local companies, in areas such as product registration, tendering, and reimbursement, it is often more expedient to acquire a company in China than it is to build your own factory. Some foreign companies choose to acquire a local presence in order to rapidly enter the market and enjoy corresponding favorable policies. This rationale was in play for a few multinational orthopedic implant devices companies who acquired a local player in recent years.

- **Tax advantage:** The home countries for some multinational companies have relatively high corporate tax rates (for example, the U.S.). Rather than be faced with stiff tax for repatriating profits earned in international markets back home, it is better to reinvest these profits in overseas markets in order to further grow their businesses.

Multinational companies face a series of challenges in an inbound M&A transaction, including:

- **Pre-merger challenge:** Relatively opaque and inaccurate market information, lack of targets that meet both the scale and strategic needs of multinational companies.

- **Transaction and negotiation challenge:** Large multinational companies often have very high sales and marketing compliance and manufacturing quality standards. Many local companies cannot meet these standards.

- **Post-merger challenge:** The biggest challenge for foreign companies in post-transaction phase is how to integrate the company in China. Many large foreign companies bring the different functions of the company in China (such as sales, production, and R&D) completely integrated. However, this often leads to the company in China losing its advantages in production cost and sales channel, as well as a lack of flexibility in R&D.

BCG has three suggestions for multinational medtech companies facing the challenge of an inbound M&A transaction.

- **Leverage all possible information sources:** Try to collect all possible sources of information in order to reach a better understanding of your target, for example through third party reports, company interviews, market research, and more; Prioritize target screening criteria, target's growth potential and strategic fit are often times more important than target's size.

- **Effectively assess M&A risk:** Conduct comprehensive due diligence during the acquisition process. It is of the utmost importance to assess any existing operational problems of your targets and set up risk mitigation plan in advance.

- **Have patience when facing the challenges of integration:** After the acquisition, the acquirer needs to be realistic as well as patient when trying to drive through international quality standards. Often it is better for the multinational company and the acquired Chinese company to operate as separate entities rather than forced integration.

3.2 Outbound M&A

In the last ten years, there has been a continuous upswing in interest from companies in China in making outbound M&A transactions, aided by relatively relaxed policies governing outbound transactions, plentiful cash reserves, and the general overall rise of companies in China. Even though overall outbound transactions for the medtech industry are still relatively rare, but we see more and more medtech companies exploring the possibility. BCG observed several classic cases of medtech companies making outbound acquisitions and analyzed the drivers behind them:

- **Address technology know-how gaps:** Mindray acquired U.S.-based Zonare in 2013 in order to acquire the company's cutting-edge ultrasound technology to fill a technological gap in products currently sold on the market.

- **Expand into global market:** Sinocare completed its acquisition of Nipro Diagnostics at the start of 2016. With the acquisition, Sinocare gained access to Nipro's global distribution network, with particular emphasis in the U.S. This will help Sinocare build a global presence with its own products.

- **Outbound M&A targets are good value for money:** MicroPort acquired U.S.-based Wright in 2013 at the revenue multiple of 1.1, far lower than the price for orthopedic medical device companies in China. Even though Wright was not making money and faced a slowing market, compared with its domestic peers, Wright has more advanced product technology.

This is only the beginning for outbound transactions from companies in China—many hurdles still lie ahead, primarily in the three phases of setting an M&A strategy, conducting due diligence, and post-merger integration.

- **Unclear M&A strategy:** Many companies lack a clear M&A strategic map. They do not have clear M&A rationale or a full plan for synergy realization. Some companies pursue outbound transactions not out of strategic motivations, but rather due to encouragement from the government or recommendations made by bankers.

- **Lack of professional due diligence capabilities:** Many companies lack international experience; do not have a deep understanding of foreign commercial legal environment and business models; are unable to organize and coordinate internal and external resources on the business, legal, financial, and human resources side; and come up short on the ability to conduct due diligence to assess risk and make a decision.

- **Multiple hurdles to post-merger integration:** According to BCG analysis, many Chinese acquirers cannot make up their minds on whether to integrate after making the acquisition, while a significant number of companies that do implement integration often find results do not meet expectations.

BCG has three suggestions for medtech companies in China facing the challenge of making an outbound M&A transaction.

- **Develop clear M&A strategy:** Identify and prioritize the outbound transaction sector and target according to the company's vision and strategy as well as industry trends.

- **Effective execution:** Companies should effectively manage the due diligence, negotiation, and approval processes. Identify the risks of the transactions and makea decision. Plan for integration before deal closing. Effectively execute the plan after the deal is closed in order to achieve synergies and company growth.

- **Build capabilities:** If companies see M&A as an important way of growing, they need to develop outbound M&A capabilities within the company, including talent for both target screening and transaction execution. They should establish an appropriate management process and assessment mechanism to effectively manage transactions. Companies also need to attract and retain senior management talent with international background and experience, in order to fully prepare for managing the acquisition target post-transaction.

3.3 Local M&A

Local transactions are still the major force in China's medtech industry. In 2014 and 2015, approximately 50 to 60 percent of M&A transactions were local. The main drivers for local transactions are:

- **Expand product line:** Buying into new products or business sectors through acquisitions. In 2014, through acquisition of Shanghai Long Island Biotechnology, Mindray strengthened the company's R&D, manufacturing, and distribution capabilities on thrombosis hemostasis testing reagents, expanded its IVD product portfolio, and strengthened its position in the cardiovascular disease testing market.

- **Expansion along the value chain:** Expanding into upstream and downstream sectors through M&A, forming a business ecosystem. In 2014, Lepu Medical acquired

Beijing Jinweijie Technology Development. The acquisition helped Lepu establish a downstream position in digital health and brought Lepu one step closer to creating a cardiovascular business ecosystem that encompasses the four sectors of medical device, pharmaceuticals, healthcare service provider, and digital health along the healthcare value chain.

- **Realize a strategic transformation for the company:** A non-medtech company entering the sector through M&A, realizing a strategic transformation. In 2015, Chase Sun Pharmaceutical acquired 100 percent of ChoiceMMed equity for USD156 million and transformed itself from a company in the modern Chinese medicine sector into an entrant in the home care electronics arena. Currently the company's products emphasize innovative healthcare electronic products such as remote multi-parameter patient monitors, remote diagnostic ECGs, pulse oximeters, and blood pressure monitors. In the future, Chase Sun plans to venture into smart wearable devices as well as digital healthcare platform as well.

Similar to other M&A transactions, local M&A transactions also face key challenges:

- **Lack of attractive targets:** Medium to large or market leading local companies would rather go public than be acquired; small companies are not very attractive from a business prospective side or are too early in their development to accurately assess potential, resulting in a lack of M&A targets.

- **High valuations for local companies:** Since the medtech industry has attracted many investors to a limited number of targets, valuations for appropriate targets tend to be rather high. On the other hand, the products of companies in China tend to be value or middle tier, with low technological barriers, making them less cost effective when compared to outbound targets.

- **Slow to achieve potential:** Since local targets tend to be mostly small or in the early development phases, it usually takes a long time to break even and achieve their potential after the acquisition, often requiring many years of development.

BCG has three suggestions for medtech companies in China facing the challenge of completing a local M&A transaction:

- **Clarify the deal rationale:** Clarify the strategic rationale and synergy effect of the transaction, don't acquire just to acquire.

- **Consider outbound M&A:** Local companies can consider searching targets overseas, where there are more targets and lower valuation multiples. But they must be ready for the management challenge post-transaction.

- **Improve professional transaction capabilities:** Establish appropriate M&A management process— continuously search for targets, conduct professional due diligence, plan for integration in advance, effectively implement post-merger integration, aim for fast synergy realization.

3.4 PE/VC Investment

PE/VC have become important investors in the medtech industry, with approximately 30 percent of transactions completed by PE/VC investment institutions every year in the past three years. The challenges faced by this collective group are similar to those faced in the case of local M&A transactions. BCG has a few suggestions for PE/VC investors:

- **Establish healthcare related capabilities:** Establish knowledge and capabilities in the medtech space; oftentimes, the owners of a business decide whether to sell a company not only based on the valuation given by the investor, but also what the investor brings to the table. If the investor can help out on the product approval, tender, reimbursement, and post-investment management side, they are more willing to sell.

- **Target search:** Open up your requirements, consider nitch market sub-segments. Many top targets in large market segments have already been invested in, but nitch market sub-segments may still have some high-quality targets. Also, investors can consider some foreign medtech companies that have China as its primary market. These companies have relatively high quality assets but lower valuations compared to their peers in China.

- **Post-investment management:** Establish a strong post-investment management team. Most targets will be small and medium companies with limited management capabilities. Investors need to invest a large portion of their time to help target companies improve their management capabilities, and possibly even introduce professional management teams. Investors can also consider quickly rolling up multiple medtech companies or along the healthcare value chain; for example, expanding from medtech products to related healthcare services, in order to blow the company up faster and stronger and create greater value.

In summary, China medtech market, stimulated by market demand and encouraged by favorable policies, will continue to grow steadily. The tide of M&A transactions in the medtech sector will also continue to wash over the market. Companies need to design an appropriate M&A strategy in order to handle the tide and come out on top in this booming market in order to ride this wave of M&A investment and leverage it to grow their companies.

Note:

1. In this report, the medtech industry includes segments such as high value consumables (i.e., orthopedics, cardiovascular products), medical equipment (i.e., imaging equipment, ventilators, hemodialysis machines, and patient monitors), low value consumables (i.e., wound care, infusion devices), IVD (in vitro diagnostics), and life sciences and services (i.e., gene sequencing, medical IT services). It does not include sectors such as pharmaceuticals (i.e., chemical drugs, biotechnology, traditional Chinese medicine), and healthcare service provider (such as hospitals).
2. Transaction data cited in this report are drawn from databases such as Thomson One M&A, S&P Capital IQ, Evaluate Medtech, and PE Daily. For China deals, only deals with deal value >=$0.5M were considered. For global deals, only deals with deal value >=$5M were considered.
3. Transaction values were converted to USD at exchange rates on the date of the transaction.
4. Only includes M&A investment cases with public information on transaction numbers.
5. When calculating the valuation multiples, the China market does not include outbound deals; international markets do not include deals of China targets; revenue multiple and EBITDA multiple is calculated based on LTM (past 12 months) revenue and earnings.

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Acknowledgements

The authors would like to acknowledge Andre Kronimus and Xiaoyu Guan for their contributions to this paper, and Li Gu, Jeremy An, Yu Liang, Hui Zhan and Beatrice Lian for contributions to its editing, design, and production.

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