



**2016 Investment Promotion Report on the
China Life Sciences and Healthcare industry**

China Investment Promotion Agency of Ministry of Commerce, P.R.China.
Deloitte China

Content

Chapter 1: Present state and future trends of the China Life Sciences and Healthcare (LSHC) industry	1
Chapter 2: Inbound of Foreign Direct Investment (FDI)	5
Chapter 3: Outbound investment of Chinese enterprises	6
Chapter 4: Capital market to focus on Life Sciences and Healthcare industry	10
Chapter 5: Summary and prospect	13



Making another century of impact
德勤百年庆 开创新纪元

Chapter 1: Present state and future trends of the China Life Sciences and Healthcare (LSHC) industry

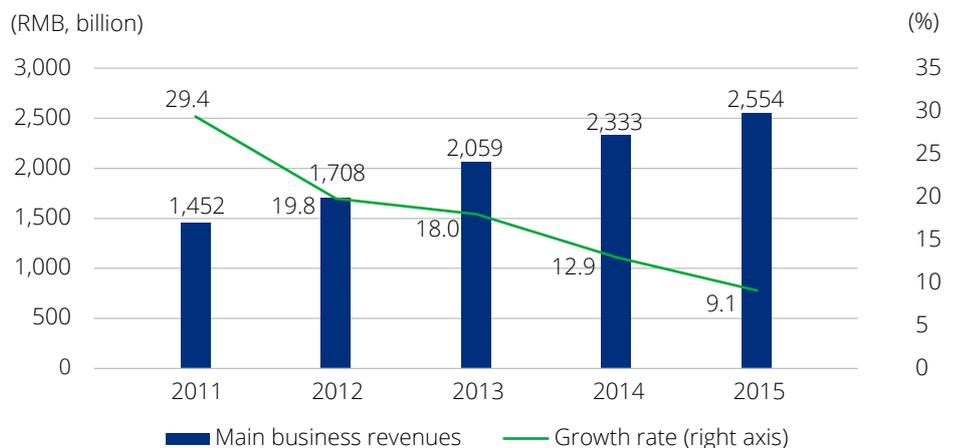
1. Industrial growth slowdown and surging demand for medical services

Against the background of the NDRC price reduction, the provincial-level centralized drug procurement policy, anti-corruption policies and health insurance cost controlling efforts, the pharmaceutical industry in China is experiencing a decline in industrial growth. In 2015, the growth rate of major business revenues declined to 9%.

In 2015, pharmaceutical distributors in China recorded annual gross sales of 1.66 trillion yuan, a year-on-year increase of 10%, while the overall growth rate since 2011 had decreased by 13%. The main reasons for this decline are policy adjustments, the emergence of e-commerce, and the slowdown in macroeconomic growth.

In 2014, the size of the terminal drug market reached 1.25 trillion yuan, a mild increase of 13% over last year. As two major leading forces, hospitals and drug retailers accounted for 77% and 23% respectively of the increase. Although in the long run there is a continual rise in demand for medical services, current health and medical policies put pressure on the terminal drug market.

Figure 1. Pharmaceutical companies main business revenues



Source: National Bureau of Statistics of China

The aging population, the progress of urbanization and the growth of income are the main drivers of the rapid expansion of medical services. Moreover, the aging population and urbanization fueled the chronic disease services market in China. In addition, the growth of personal income and the change in people's attitude towards health will promote the development of a more diversified and multi-level healthcare market.

2. Quality enhancement and cost control as top priority

At present, the major hurdles facing China's LSHC industry are the poor quality of domestic generic drugs and overwhelming healthcare costs. Therefore, the key priority is to enhance drug quality and control costs.

Improve drug quality

Recent policies focus more and more on drug quality and safety, introducing a new GMP certification system and consistency evaluation system for generic drug products and setting safety and quality requirements for the LSHC industry in China – which eventually puts outdated production facilities out of business.

New GMP certification

In March 2011, the China Food and Drug Administration (CFDA) launched a new GMP certification system, and in 2016 the power for GMP certification was delegated to provincial-level FDAs. Since then pharmaceutical companies began to face more and more stringent reviews. In 2015, a total of 140 GMP certificates had been retrieved, while in 2014 the number was merely 50.

The new GMP certification system for drugs helps to regulate the whole industry from production to operation and the long lasting cut-throat competition. Meanwhile, as a result of the policy, a new wave of mergers and acquisitions is expected to change the LSHC industry. For example, some small and medium-sized pharmaceutical companies might not be as competitive in size as they are in product lines. If these companies fail to afford the new GMP certification, they can still achieve a win-win result by merging with certified and more powerful enterprises.

Consistency evaluation for generic drug products

The consistency evaluation for generic drug products requires an equal level of quality and effectiveness between generic drugs and originator drugs. Since 2015, CFDA has stepped up to promote the consistency evaluation for generic drug products, aimed at making generic drugs a true clinical alternative for the originator drugs, cutting down medical costs. In March 2016, the General Office of the

State Council issued the *Opinions on Carrying out Quality and Efficacy Consistency Evaluation for Generic Drugs*. According to the Opinions, if drugs had been approved before the implementation of the new classification standards for chemicals and had not accepted the consistency evaluation (including domestic generic drugs, imported generic drugs and originator drugs manufactured in China), these drugs should receive consistency evaluation.

Consistency evaluation will increase costs for enterprises and exert overwhelming price pressure on multinationals with outdated patents for originator drugs. After the GMP certification system, the consistency evaluation system will again eliminate enterprises suffering from a lack of money, technology and marketing capability from the competition. However, surviving enterprises will, in return, further pursue marketability of their products. Therefore, pharmaceutical companies should better choose their most valuable products for the consistency evaluation according to their own advantages and product features, and should avoid excessive application or an inappropriately wide range of products in order to prevent disorderly competition and rapid depreciation in the future.





Reduce drug price

With the rapid growth in demand for medical and pharmaceutical services in China and the steady improvement of the basic health insurance system, China's LSHC industry is facing a rise in healthcare costs. China's policy is gradually tightening control over medical costs: The government is carrying out a two-invoice system to expedite drug distribution, reducing drug prices. Meanwhile, the government has cancelled government-set prices for most drugs and tightened its control over drug prices by centralized procurement policies and healthcare insurance cost control.

The two-invoice system

In April 2016, the State Council issued the *Key Tasks in Deepening the Medical and Health System Reform in 2016*, requiring the implementation of the two-invoice system (one from manufacturers to distributors and one from distributors to medical institutions), and actively encouraging cities for pilot comprehensive public hospital reforms to carry out system reforms to optimize drug procurement and expedite drug distribution. The two-invoice system will have little impact on pharmaceutical enterprises with a standardized operation system and self-built terminals, but for small and medium-sized pharmaceutical companies, that are weak in competitiveness and terminal

distribution channels, it will still have a considerable impact. Moreover, uncertified companies will step out of history, and small and medium-sized pharmaceutical distributors will be forced out of the market or face acquisition.

It should be noted that the two-invoice system might lead to inadequate distribution capability and professional services. At present, the provincial-level large-scale distribution enterprises mainly serve large hospitals in central cities with high demand, while in remote areas with low demand, many small and medium-sized distributors play a very important complementary role. In addition, due to the features of drugs, distributors working beyond their capacity may fail to provide professional promotion and training services and may also fail to meet the needs of scattered medical institutions. To solve these problems, when implementing the two-invoice system, companies should take a more flexible approach. Drug distributors, for example, may cancel the invoice to its subsidiaries (but issuing no more than one invoice in total in the meanwhile); at community level, distributors may issue three invoices and allow transshipment.

Centralized drug procurement

In 2015, the issuance of the *Guidance on Improving Public Hospitals Centralized Drug Procurement* and the *Circular on Public Hospital Centralized Drug Procurement* gave up the one-size-fits-all approach within the

centralized drug procurement. Since then, companies are allowed to carry out classifications of drug procurement for five categories of drugs. Companies may for example choose among the bidding procurement, negotiation procurement, hospital direct procurement, on-spot procurement, special drug procurement and other different ways, among which the drug price negotiation mechanism was specified in procurement documents for the first time.

In China, public hospitals are the main channel for drug distribution, accounting for nearly 80% of the national drug market share. After the cancellation of the government-set drug price, the direct procurement of medical institutions has played a leading role in controlling drug prices. In fact, the provincial bidding prices in recent years refer to the national lowest bid price, which deters companies from lowering their prices. Due to the unreasonably low prices, pharmaceutical companies have to give up these markets, and aim to achieve a satisfying bid price in other provinces.

Promote the tiered health care system (THCS)

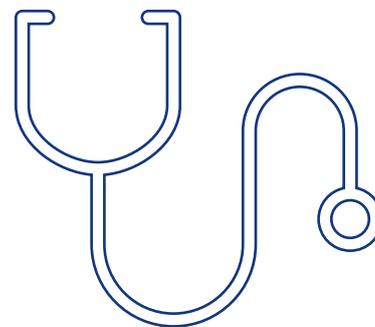
THCS is a health system based on the specific circumstances of patients and the allocation of medical resources. By implementing such a system, the

government aims at the best allocation of medical resources. At present, China is suffering from a considerable waste of medical resources. In 2015, 3A hospitals had received an overwhelming average of 63.4 million patients, five times that of 2A hospitals and 30 times that of 1A hospitals. Among the 63.4 million patients, however, two fifths went to those 3A hospitals due to chronic diseases or for further consultations. Obviously, such an unreasonable allocation of patients leads to a great waste of medical resources. To solve this chaos, the government is introducing the tiered health care system, guiding patients to receive treatment in community health care institutions. Hopefully, with a smooth development of the THCS, drug distribution, hospital construction and demand in medical equipment at community level will thrive.

Encourage commercial insurance

In May 2015, the State Council decided to provide a pre-tax deduction of up to 2,400 yuan annually on income tax for those who purchased commercial health insurance. The tax-preference health insurance covers a wide spectrum of drugs including some otherwise self-paid drugs as well as imported drugs and requires that "insurance companies shall not refuse to insure the insured because of his or her past medical history and shall guarantee the renewal of insurance policies" and that "a simple loss ratio of medical insurance shall be not less than 80%". The policy of the tax-preference health insurance will

promote the overall sales of health insurances and help reduce the costs for public health care. However, due to this policy, insurance companies will be exposed to moderate risks and thus have to take a cautious approach towards business promotion. In addition, the integration of the system remains out of sight and taxpayers claiming certain tax credits will expect a long wait for refunds.



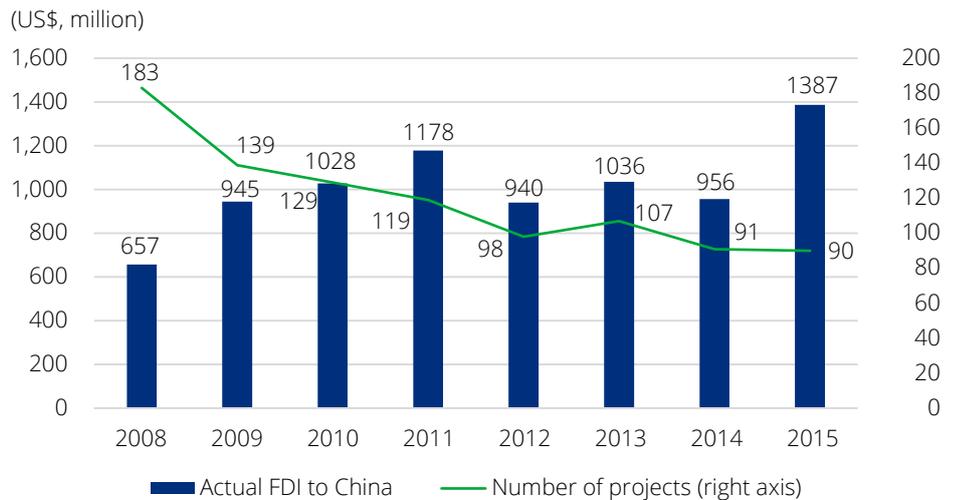
Chapter 2: Inbound of Foreign Direct Investment (FDI)

1. Growth in foreign direct investment and slowdown in investors growth

With the further development of the opening-up policy, the continuous improvement of infrastructure construction and living standards, the trend of population growth and the aging population, the market attracts more and more foreign pharmaceutical companies to invest in China. From 2008 to 2015, the industry recorded a clear growth trend of foreign direct investments by foreign pharmaceutical enterprises in China.

FDI projects that China introduced mainly come from developed countries or regions with advanced technologies, such as the United States, Japan, Switzerland, France, Britain and Germany. The greatest investments are made by the United States, followed by Switzerland and France. Foreign direct investments in China are mainly concentrated in developed coastal areas, driven by considerations of the level of higher education, human resources, logistics costs and population distribution.

Figure 2. Foreign direct investments in pharmaceutical industry in 2008-2015



Source: Ministry of Commerce

2. M&A by foreign enterprises in China: temporarily limited scale

According to Mergermarket, from 2011 to 2015, foreign pharmaceutical companies completed 33 mergers and acquisitions, most of these turnovers being made in Hong Kong, followed by the United States, Japan and other developed countries with an advanced pharmaceutical industry.

In 2012, the industry had seen a wave of Sino-foreign joint ventures, for example, by MSD and Simcere and by Pfizer and Hisun. As we can see today, few of these joint ventures survived. This shows that the cooperation model of joint ventures, after 30 years' practice, still has a long way to go.

In general, foreign enterprises prefer acquisitions to direct investments in China, due to the limited research and development capacity of domestic pharmaceutical enterprises. However, with the rapid growth of the innovation capacity of the domestic pharmaceutical industry, local pharmaceutical companies will attract more and more multinationals.

Chapter 3: Outbound investment of Chinese enterprises

1. Active and growing outbound direct investments: long way ahead Pharmaceutical industry

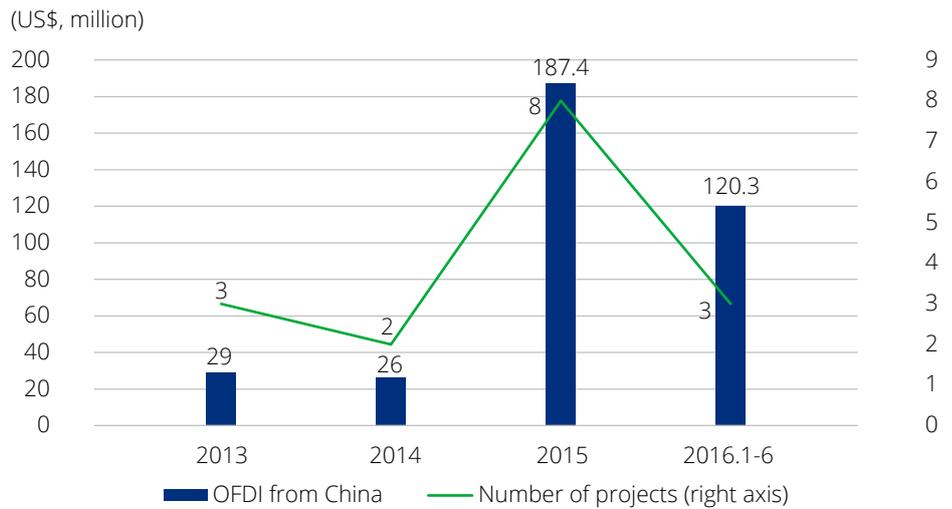
China's outbound investment in the overseas pharmaceutical industry is growing rapidly, from 29 million dollars in 2013 to 190 million dollars in 2015, totaling 363 million dollars. Moreover, the average size of projects is increasing significantly.

Following the investment flow in the past few years, three investment focuses can be noticed. The first focus for outbound investments is to set up factories and production lines in developing countries. The second focus is to set up R&D centers in developed countries. The third focus lies on marketing and sales in countries where investment flows into.

Medical services and equipment

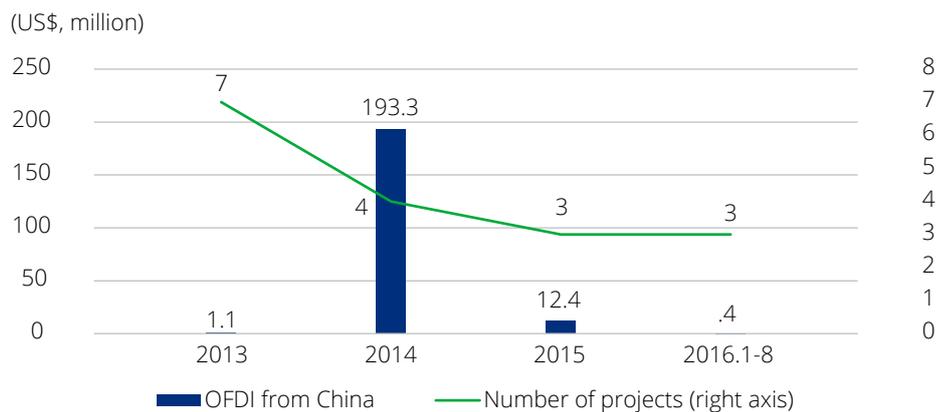
From 2013 to the end of June 2016, Chinese enterprises carried out 17 direct investment projects for foreign medical services and equipment, totaling 207 million dollars (including 193 million dollars in 2014 for MicroPort's 100-million-dollar investment in its U.S. factories).

Figure 3. Direct outbound investments in overseas pharmaceutical industry from 2013 to June 2016



Source: fDi markets

Figure 4. Direct outbound investments in medical services and equipment foreign direct investments from 2013 to August 2016



Source: fDi markets

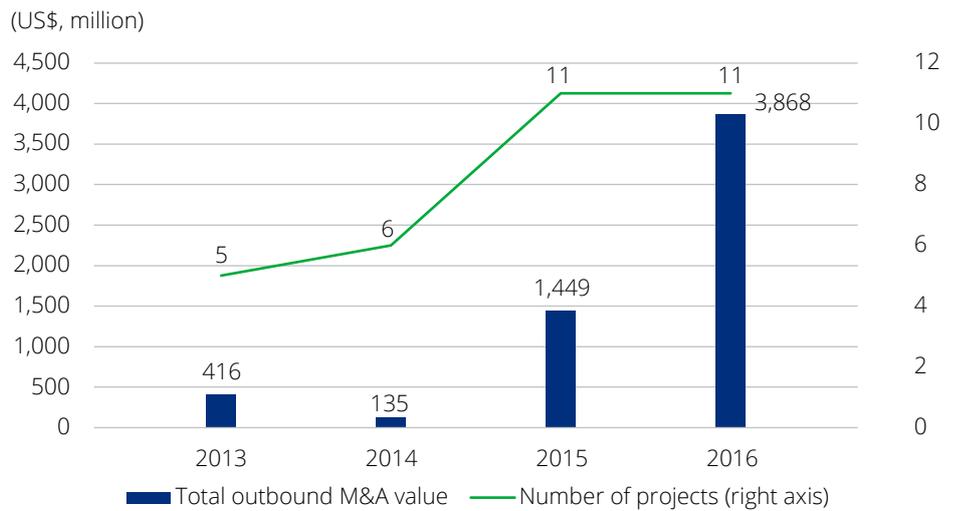
2. Chinese outbound M&A activities surge in scale

Pharmaceutical industry

China's pharmaceutical industry has recently paid more attention to outbound mergers and acquisitions than in previous years. The number of such mergers and acquisitions has risen from 5 in 2013 to 11 in 2016 (as of August 16), involving 3.87 billion dollars, an average of 351 million dollars for each case. Besides, the location of acquisitions has been scattered around the globe, while the United States have always been a hot spot.

Many factors have affected overseas M&A activities. First, domestic companies seek to learn overseas advanced technologies and then seize policy benefits. Second, in recent years, domestic surges of M&A activities led to a reduction of quality targets and an increase of costs. After the depreciation of the RMB, outbound M&A activities started to attract more and more domestic

Figure 5. Outbound mergers and acquisitions of pharmaceutical companies from 2013 to August 2016



Source: Thomson Reuters, MergerMarket

attention. In terms of operation, there are also several reasons for the rise: First, enterprises have an interest in opening up overseas markets. Second, enterprises want to have rapid access to relevant technologies

to speed up the development process. Third, after acquisitions, enterprises have horizontally rich product categories and can vertically reach different industry chains.

Table 1. Major outbound mergers and acquisitions in pharmaceutical industry

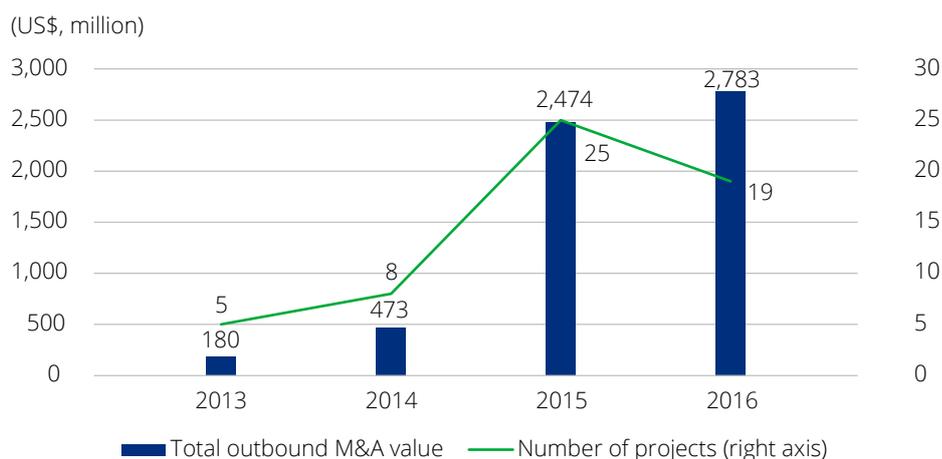
Time of announcement	The acquiree	Product	The acquirer	Deal value (million U.S. dollars)
28/07/2016	India - Gland Pharma	Generic drugs, injections	Fosun Pharma	1260
19/05/2016	UK-BPL	Plasma products	Creat Group	1197
17/09/2015	Australia-Swisse Wellness	Nutrition and health care products	Guangzhou Biostime	992
30/03/2016	US-EPIC, EPIC RE Holdco	Generic drugs	Humanwell Healthcare	550
26/12/2013	US-SPL	Bioactive materials	Shenzhen Hepalink	337.5

Source: Thomson Reuters, MergerMarket, Deloitte Research

Medical services and equipment

Mergers and acquisitions of Chinese companies for overseas medical services and equipment also continued to intensify. The number of takeovers increased from 5 in 2013 to 19 in 2016 (as of August 16), involving 3.67 billion dollars, with an average deal value of 193 million dollars, with the United States, Hong Kong and Israel being key target areas.

Figure 6. Mergers and acquisitions for overseas medical equipment and services from 2013 to August 2016



Source: Thomson Reuters, MergerMarket

Table 2. Major outbound mergers and acquisitions in medical industry

Time of announcement	The acquiree	Product	The acquirer	Deal value (million U.S. dollars)
17/07/2016	Australia-Genesis Care	Cancer and cardiovascular services	China Resources Group	1300
05/12/2015	Australia-Health Care	Orthopedics, cardiovascular, mental nerves, cancer and other services	Luye Pharma	686
29/03/2016	United States-Alliance HealthCare	Outsourcing Radiation Clinic, Cancer Treatment and Intervention Services Clinic	Thaihot Investment	642
04/11/2015	Singapore-Biosensors International	Heart stent manufacturing	CITIC Industrial Fund	459
17/02/2014	US-Chindex Medical	Comprehensive medical services	TPG Capital, Fosun	341

Source: Thomson Reuters, MergerMarket, Deloitte Research

3. Risks of outbound strategies

When Chinese enterprises implement their outbound strategies, they face certain risks at every stage, i.e. before the M&A, during the M&A and after the M&A.

- Before the M&A: valuation risk, legal risk
- During the M&A: political risk, financial risk
- After the M&A: integration risk, talent risk

We can try to solve the abovementioned risks by taking the following measures:

- Sound decision-making to avoid blind acquisitions and expansions
- Carefully study and follow local laws and regulations
- Active communication, timely planning and arrangements for integration



Chapter 4: Capital Market to focus on Life Sciences and Healthcare industry

1. Investment boom continues unabated

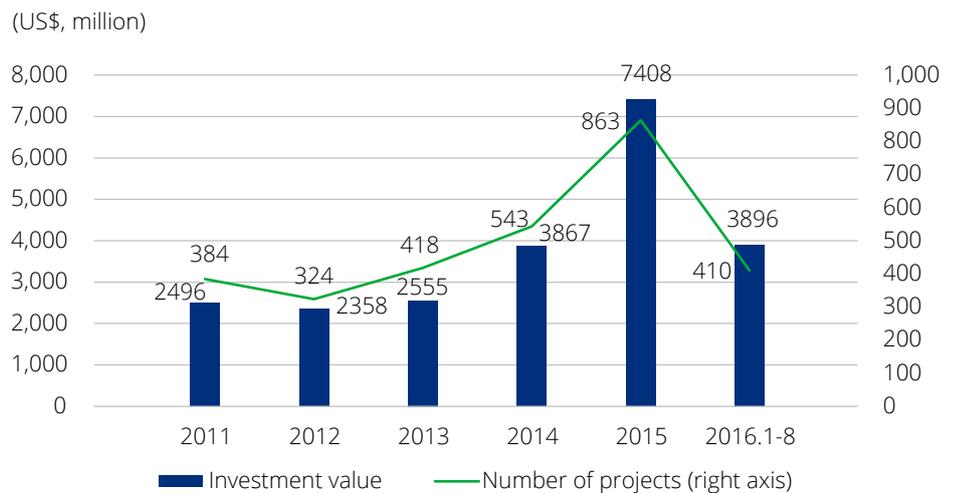
Investment institutions also have a strong interest in start-ups of Life Sciences and Healthcare industry. The total amount of venture capital rose from 2.5 billion dollars in 2011 to 7.4 billion dollars in 2015, and reached 3.896 billion dollars as of August 2016.

2. Surge of investment in biological sector development due to new technologies and rapid expansion of healthcare sector

Since 2011, the biological sector has experienced a continuous surge of investment in biological medicine development. The emergence of innovative technologies has contributed to the continued attention of investors. On the other hand, the development of chemical medicine has long suffered from its insufficient capacity for innovation, which eventually resulted in a decline in investment activities in this area.

Before 2015, medical equipment sector was also a hot spot for investment. However, with the 2014 policy to promote large-scale mergers and acquisitions of medical equipment companies, many small medical equipment enterprises had been directly merged with larger and more mature enterprises. Eventually the two subsequent years showed a sharp decline in both M&A and investment cases.

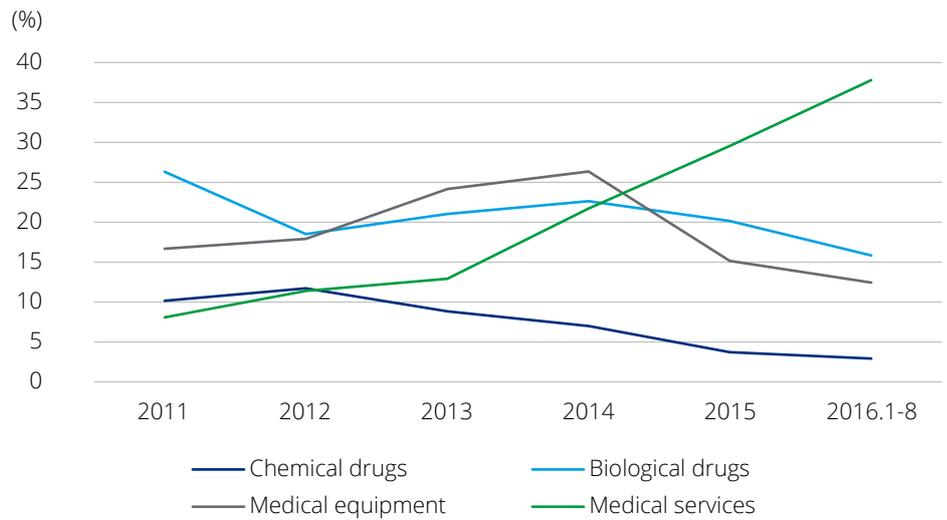
Figure 7. Venture capital investment in LSHC start-ups from VC/PE (left, million dollars), and the number of projects (right)



Source: Pedata, Deloitte study

The continuous support for healthcare sector by institutions in recent years is mainly driven by two aspects. On the one hand, since the implementation of healthcare reforms, hospitals and hospital management enterprises attract attention from the market. On the other hand, the integration of the Internet into the LSHC industry has caused more institutional attention. As of August 2016, up to 37.8% of investment cases in the LSHC industry focused on healthcare sector.

Figure 8. The share of each categories for the investment projects of the overall LSHC industry



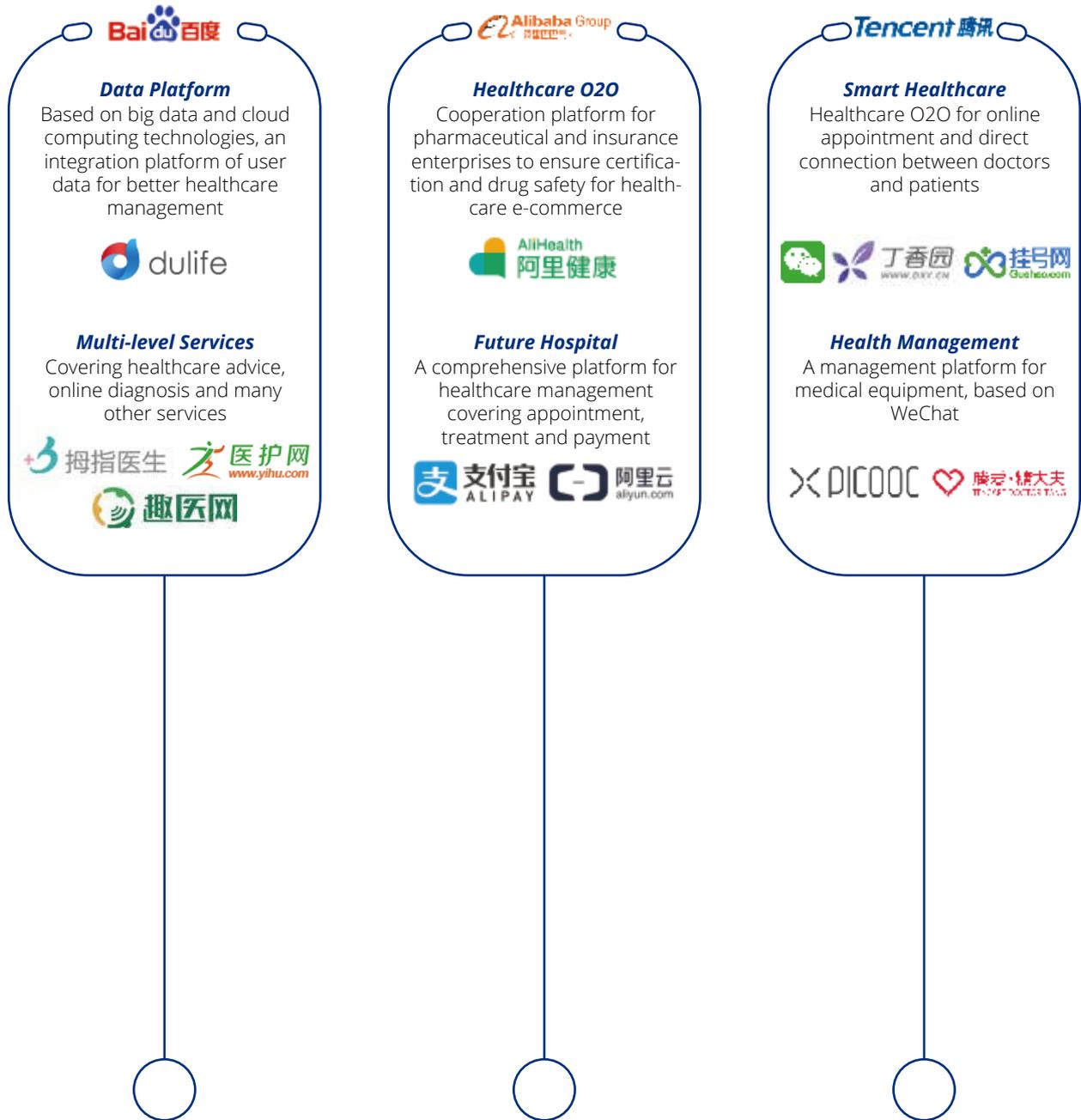
Source: Pedata, Deloitte study

3. Rhetoric progress by BAT reshapes the market

With the broad market of e-health, BAT make great efforts to establish e-health strategies. With Alipay as the cornerstone, Alibaba launched "Future Hospital" to promote the O2O Healthcare based on Ali Health, taking advantage of Ali Cloud to shape the big health industry on the cloud; Tencent focused on WeChat to establish the platform of Weixin Yiliao by working with www.dxy.com for medical resources and www.guahao.com for patient resources; working with hardware manufacturers, Tencent, based on WeChat, develops

and provides a smart management platform for medical equipment; Baidu, on the other hand, making the most of its technological edges in Chinese language search engine and data mining and analysis, explores solutions for artificial intelligence in the health care industry. With their giant sizes, deep pockets, powerful technologies and profound understanding of the Internet reform of traditional industries, their significant progress will certainly reshape the structure of the e-health industry.

Figure 9. BAT and e-health



Source: Deloitte Research

Chapter 5: Summary and prospect



The LSHC industry will be the pillar industry to stimulate economic growth in the future. It is expected that during the 13th Five-Year Plan period the industry will maintain its high-speed growth.¹

The increase in personal income, the upgrading of consumption structure, the acceleration of the aging population and urbanization, the promotion of the healthy China strategy, and further improvements of the health insurance system, will enhance demand for medical services and accelerate growth of the market.

At the same time, according to recent policies, the LSHC industry may face tighter control in the future, with cost control and industrial regulation likely to become key areas for medical reforms. Cost control is the

long-term theme of policies for the pharmaceutical industry. Subject to the government control over the total amount of health insurance, medicine proportion regulation and centralized procurement policy, pharmaceutical companies will face more pressure on profit margins in the future. In addition, the government is gradually paying more attention to improving drug quality, having issued related policies and regulatory matters. These policies, while forcing outdated operation out of competition, will certainly increase business costs and bring price pressure.

Because of unfavorable prospects for the RMB and the unreasonable evaluation of domestic enterprises, local pharmaceutical companies with an adequate cash flow chose to invest in the overseas market,

targeting enterprises with advanced technologies and mature business models in order to gain access to advanced technologies and rich product lines and to enhance their brand image.

In addition, the development potential of the LSHC industry in China not only attracts attention from the capital market, but also shapes the strategies of some Internet giants. With the gradual integration of the Internet, the LSHC industry is expected to produce a new business model in the future to seize its transformation opportunities.

1. 2 Ministry of Industry and Information, *Pharmaceutical Industry Development Plan Guidance*, 2016

About Deloitte Global

Deloitte refers to one or more of Deloitte Touche Tohmatsu Limited, a UK private company limited by guarantee ("DTTL"), its network of member firms, and their related entities. DTTL and each of its member firms are legally separate and independent entities. DTTL (also referred to as "Deloitte Global") does not provide services to clients. Please see www.deloitte.com/about for a more detailed description of DTTL and its member firms.

Deloitte provides audit & assurance, consulting, financial advisory, risk advisory, tax and related services to public and private clients spanning multiple industries. Deloitte serves four out of five Fortune Global 500® companies through a globally connected network of member firms in more than 150 countries bringing world-class capabilities, insights, and high-quality service to address clients' most complex business challenges. To learn more about how Deloitte's approximately 245,000 professionals make an impact that matters, please connect with us on Facebook, LinkedIn, or Twitter.

About Deloitte China

The Deloitte brand first came to China in 1917 when a Deloitte office was opened in Shanghai. Now the Deloitte China network of firms, backed by the global Deloitte network, deliver a full range of audit & assurance, consulting, financial advisory, risk advisory and tax services to local, multinational and growth enterprise clients in China. We have considerable experience in China and have been a significant contributor to the development of China's accounting standards, taxation system and local professional accountants. To learn more about how Deloitte makes an impact that matters in the China marketplace, please connect with our Deloitte China social media platforms via www2.deloitte.com/cn/en/social-media.

This communication contains general information only, and none of Deloitte Touche Tohmatsu Limited, its member firms, or their related entities (collectively the "Deloitte Network") is by means of this communication, rendering professional advice or services. None of the Deloitte Network shall be responsible for any loss whatsoever sustained by any person who relies on this communication.



Making another century of impact

德勤百年庆 开创新纪元

©2017. For information, contact Deloitte China.
CQ-043EN-17



This is printed on environmentally friendly paper