

**Development Stage Model for
Healthcare Markets and Business
Opportunities for Japanese
Companies in Emerging Economies**

— Case Study Examining the Chinese Market —

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Healthcare markets in emerging economies tend to be regarded as being somewhat less attractive than are those in developed countries. Therefore, companies are generally slow in making decisions to invest their resources in developing these emerging markets. Nevertheless, if a decision to enter the market is made when the market has already reached the stage of rapid growth, it is very likely that any latecomer will face an already highly competitive environment and will find it very difficult to attain any growth. As such, it is very important for companies to identify the trends in changes in the business environment. Based on the identified trends, companies must consider a strategy and invest their resources with focus placed on environmental changes that are likely to occur in the near future.

The healthcare markets in these countries are generally developed in four major stages, during which supply-side healthcare facilities are developed by the government as part of its policy and patient needs are satisfied on a step-by-step basis. Discontinuous market growth will be observed during the third of these four stages (Stage 3) when the market expands in Tier 2 cities.

The Chinese healthcare market entered Stage 3 sometime after 2000, and the market is already showing signs of discontinuous growth. However, many Japanese healthcare companies have not yet been able to take full advantage of such rapid growth. As the market progresses towards Stage 4, the markets of major inland cities and those of primary care medical institutions are expected to grow along with the enhancement of standard clinical practice guidelines. Japanese healthcare companies need to take notice of these changes in the environment and must make full use of the business opportunities presented by these changes.

If a company is to fully leverage the growth potential of these emerging markets, investment must be made to establish its presence when the target country is in Stage 2. Currently, ASEAN (Association of Southeast Asian Nations) member countries and India are in either Stage 1 or Stage 2. The time is fast approaching for Japanese healthcare companies to decide on how best to make investment to enter these markets and pursue growth.

Given that the healthcare markets have been sluggish in the developed countries including Japan, the United States and Europe, how best to leverage the growth potential of the BRICs (Brazil, Russia, India and China) and other emerging economies has become a major management issue for many industries.

Compared to other industries such as electronics, automobiles and infrastructure, the growth of healthcare industries such as pharmaceuticals, medical devices and equipment in emerging economies is relatively modest as is the scale of the market. For this reason, these markets in emerging economies tend to be regarded as being less attractive than are those in developed countries, with the head offices of Japanese companies being slow in making decisions to invest their resources to enter emerging markets as well as those needed for growth.

However, suppose that a company considers a strategy for market entry and business growth after these markets reach the stage where they are experiencing rapid growth and constitute a significant market scale. At such time, major medical institutions and opinion leaders in large cities will have already established the relationships with the companies that are early entrants, which will make the markets highly competitive for any subsequent entrants. Latecomers will find it very difficult to attain any growth. As such, in tapping emerging markets, it is very important for companies to identify the trends in changes in the business environment. Based on the identified trends, companies must consider a strategy and invest their resources with focus placed on environmental changes that are likely to occur in the near future.

This paper describes how to identify the trends in changes in the business environment related to healthcare markets in emerging economies. By way of a case study, the trends in changes in the business environment as well as business opportunities in the Chinese markets are discussed.

I Features of Healthcare Markets and Issues Related to Business Strategy in Emerging Economies

1 Features of healthcare markets in emerging economies

Whenever an attempt is made to determine the status of the business environment in the healthcare markets in emerging economies, careful attention must be paid to the three features discussed below.

The first feature is that the current emerging market consists of “a mixture of the global state-of-the-art market and a market that is similar to Japan’s market of 40 to 50 years ago.”

Even in those countries with relatively little economic power, where the per capita GDP (gross domestic product) is low and the state of medical care is on a par with that in Japan 40 to 50 years ago, there are usually a few world-class medical institutions that are aimed at the privileged classes, where leading-edge medical devices and medicines are used.

For example, according to the World Health Organization (WHO), as of 2010, India had an infant mortality rate of 52 per every 1,000 births (in Japan, the figure is 3). While this level is the same as that in Japan 40 years ago, there are private hospital groups such as Apollo Hospitals and Fortis Hospitals, which offer an extremely high level of medical technology that enables them to even provide medical tourism service for visitors from surrounding countries as well as from Europe and the U.S.

The second feature is that “at some point, the market will start to grow rapidly.”

In the past, in the markets of Japan, the U.S. and Europe, the appearance of new technologies gave rise to new markets, and as the technology became more commonplace, the market gradually grew. Today, however, in the emerging markets, it is possible to find technology that is already commonplace in developed countries. As a result, potential markets that hide in the lower middle income bracket can be created using everyday technology. Therefore, in emerging markets, there is a point at which the market will start growing rapidly when a country’s economy grows to a certain level (Figure 1).

The third feature is that “there are some shrewd stakeholders.”

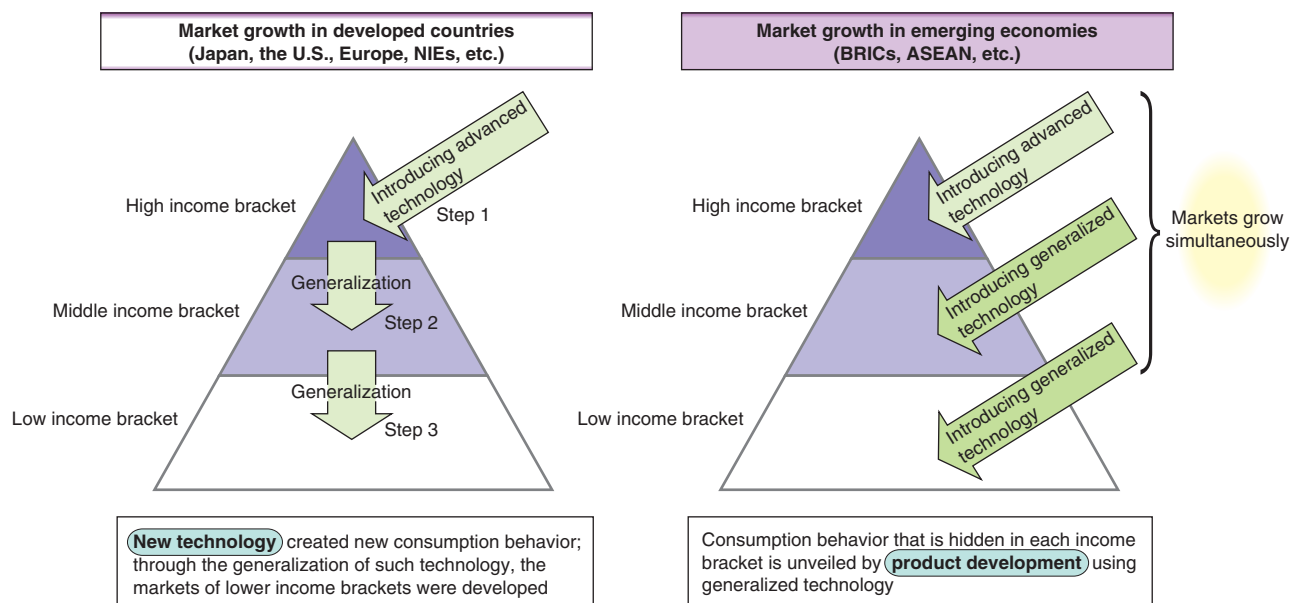
The governments of emerging economies have paid careful attention to the problems associated with healthcare expenditure that are now plaguing developed countries. To avoid such problems, these governments are striving to establish healthcare systems at the lowest possible cost. Therefore, in some cases, the governments negotiate conditions with companies from developed countries in return for giving them access to the potential markets in their countries. Similarly, local companies use world-class technologies to manufacture cheap products, with the intention of not only selling them in the local market, but also exporting them back to developed countries.

2 Issues related to decision making in emerging economies

The three features listed above could lead a decision maker astray in considering and developing a business strategy.

The first feature, whereby the market is “a mixture of the global state-of-the-art market and a market that is similar to Japan’s market of 40 to 50 years ago,” is recognized as a gap of perception between people/companies in emerging markets and those in the home country (developed country). While local branches stress the

Figure 1. Difference in growth processes of healthcare markets between developed and emerging countries



Notes: ASEAN = Association of Southeast Asian Nations, BRICs = Brazil, Russia, India and China, NIEs = Newly Industrializing Economies.

attractiveness of business targeting a small number of promising customers, headquarters take note of the small size of the market and macroeconomic indicators that are much like those in Japan 40 to 50 years ago. Therefore, it is difficult to correctly identify the timing for decision making at which a “balance point” is achieved.

Regarding the second feature, whereby “at some point, the market will start to grow rapidly,” acquiring and maintaining a presence in a growing market will require investment for expanding a sales network and enhancing a product line to appeal to potential customers. However, because it is unrealistic to make investments to address every aspect of an emerging market whose scale is still small, it would be difficult to discern any potential market for which resources should be invested.

The third feature, which is “there are some very shrewd stakeholders,” relates to the fact that there are noticeable uncertainties that are not seen in developed countries, such as those related to local governments and/or competitors. This situation often causes the executives of a company to hesitate to make decisions for making necessary investment. However, as has been mentioned above, the timing at which a company decides to enter an emerging market is vitally important. So as not to miss an opportunity, consideration must be given as to how to create a win-win relationship with these stakeholders.

II Development Stages of Healthcare Markets in Emerging Economies

As mentioned in Chapter I, “timing” and “developing a potential market” are both important in making any

decision to enter the healthcare market in an emerging economy and to pursue its growth there. In this chapter, a method for determining the development stage is introduced as a way of examining the timing of decision making and identifying a potential market that should be targeted.

The healthcare markets in emerging economies generally go through four major development stages along with an increase in the number of medical institutions, health personnel (such as doctors) and intended end users (patients).

Stage 1:

Highly advanced medical institutions aimed at the privileged classes and institutions providing basic public health services coexist.

Stage 2:

The number of medical institutions aimed at the middle-income segment increases in a country’s representative cities (Tier 1 cities), and role sharing of medical institutions is established.

Stage 3:

The number of medical institutions aimed at the middle-income segment increases in the cities around Tier 1 cities (Tier 2 cities); the number of educational institutions supplying doctors also increases there.

Stage 4:

The number of medical institutions aimed at the middle-income segment increases in a region’s representative cities (Tier 3 cities); the number of educational institutions supplying doctors also increases there.

1 Stage 1: A highly polarized medical system exists

The first stage involves the pursuit of a national health policy that is much like a public health initiative such as control of infectious diseases and pre- and post-natal care. This national policy generally consists of measures to reduce the rate of infant mortality and improve access to medical care. On the other hand, every emerging country has a completely polarized medical system. Private medical institutions (hospital businesses) cater to the privileged sections of society, namely, public officials, the military, public enterprises (such as finance, resources and infrastructure), wealthy residents, employees of foreign businesses and so on. In addition, key national hospitals are established by using funds acquired through ODA (official development assistance) programs or a national budget that is allocated with priority given to such hospitals (Table 1).

2 Stage 2: A medical system is established in Tier 1 cities

In the second stage, the number of medical colleges in Tier 1 cities increases, with a system for educating and developing doctors put in place in large cities. At the same time, teaching (medical college) hospitals, leading private hospitals, community hospitals, clinics, pharmacies, diagnostic centers and so on all make their appearance to provide medical services. The role sharing of each entity is fairly well defined (Figure 2). In the second stage, because medical colleges are producing a significant number of highly skilled doctors, in Tier 1 cities there are enough doctors to staff community hospitals and clinics that are aimed at the middle-income segment. In addition, medical institutions in Tier 1 cities are responsible for providing high-level medical services to the residents of Tier 2 and Tier 3 cities.

The most important aspect of Stage 2 is the existence of medical colleges. For pharmaceutical, medical device and equipment businesses, it is important to have their products positioned as deeply as possible in treatment

processes. The models on which a country's medical treatment processes are based are created by medical colleges at this second stage. These treatment processes are first implemented in the hospitals and clinics of Tier 1 cities.

3 Stages 3 and 4: A medical system is established in Tier 2 and Tier 3 cities (rapid expansion of the healthcare market)

In Stages 3 and 4, the number of medical colleges also increases in Tier 2 and Tier 3 cities. These colleges supply the doctors needed to take care of everything from advanced medical care to primary care in those cities. Along with these moves, Tier 2 and Tier 3 cities go through the same environmental changes as those experienced by Tier 1 cities in Stage 2. The number of doctors working in community hospitals and clinics increases, which leads to an increase in the amount of medical services offered to the middle-income segment.

The most important aspect of Stages 3 and 4 is the fact that the increase in the amount of medical services occurs simultaneously in Tier 2 and 3 cities throughout the country and is not confined to specific cities such as Tier 1 cities, as was the case in Stage 2. From the viewpoint of pharmaceutical and medical equipment manufacturers, regional opinion leaders will appear in every region, and many doctors and medical institutions will adopt the medical technology selected by those opinion leaders. As a result, the market enters a period of discontinuous growth.

For pharmaceutical and medical equipment manufacturers, the most important point is whether they can maximize the market share of their products in Stages 3 and 4 when the market grows rapidly. However, the basic framework of a country's medical system will have already been determined in Stage 2, and nationwide opinion leaders will have already emerged in each field. Therefore, maximizing a company's influence in Stage 2 will have a significant impact on its competitiveness in Stages 3 and 4.

Table 1. Advanced medical institutions in emerging economies

Fortis Escorts Heart Institute (India)	<ul style="list-style-type: none"> Established in 1988 as India's leading private hospital specializing in the cardiovascular field; later acquired by Fortis Healthcare Targets only limited segments such as wealthy residents, public officials, employees of contracted companies and foreign patients Owns the latest medical devices and equipment such as for CT, MRI and PET
Bach Mai Hospital (Vietnam)	<ul style="list-style-type: none"> Public medical institution established in 1911 Since 1985, its level of medical treatment has improved significantly through Japan's ODA program consisting of grant aid and technology transfer projects; it has grown to be the leading medical institution in north Vietnam (it is positioned higher than medical colleges as a venue for training medical students) Owns the latest medical devices and equipment such as for CT, MRI and PET

Notes: CT = computed tomography, MRI = magnetic resonance imaging, ODA = official development assistance, and PET = positron emission tomography.

4 Analytic frame for market development stages

As described above, healthcare markets in emerging economies evolve in stages, and the growth domain of the market changes according to the stage. The analytic frame for examining the trends and growth opportunities for a company is described below.

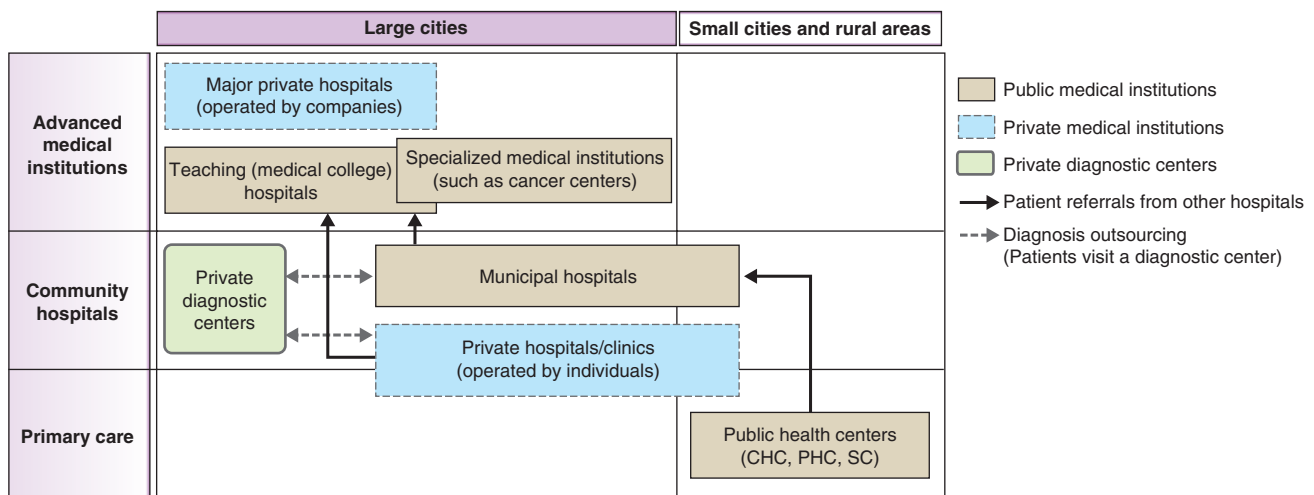
In emerging economies, the government develops the supply-side resources of medical services such as medical institutions. As a result, patient satisfaction gradually improves and the healthcare market will develop. In order to examine the development stages, it is necessary to analyze the trends in each of the entities and elements constituting a country's medical system, namely, (1) government

policy; (2) medical institutions and (3) healthcare personnel on the supply side; and (4) patients and (5) healthcare expenditure on the demand side (Figure 3).

The main point regarding “(1) government policy” is to identify the medical system that the government intends to achieve in the future. Specifically, it is necessary to analyze on a time-series basis supply-side policies such as the construction of new medical institutions and the improvement of those that are already in place, and demand-side policies such as health insurance and medical expense subsidies.

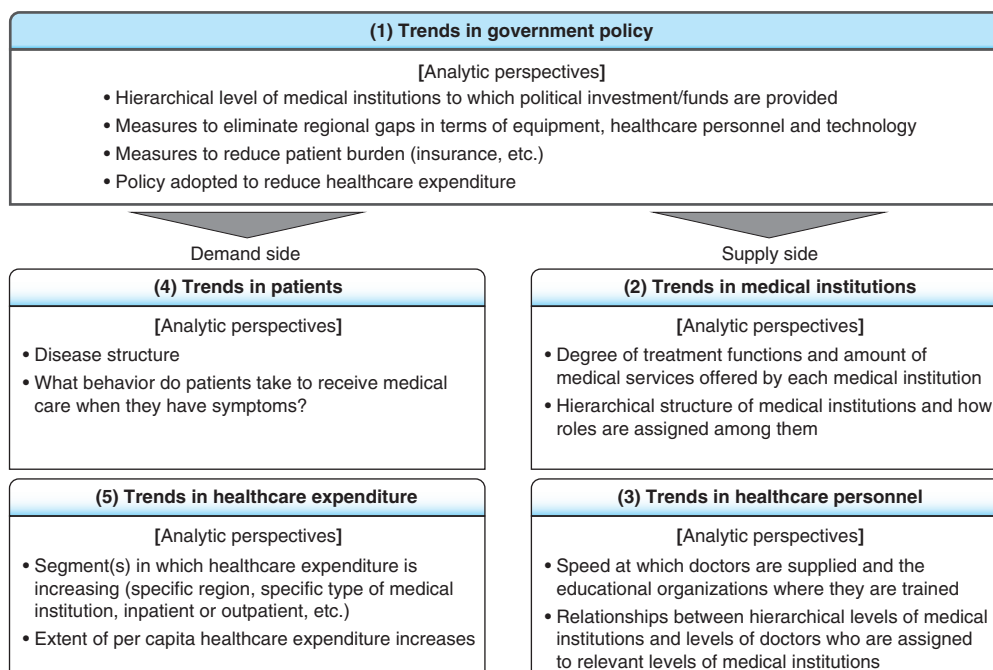
As for “(2) medical institutions” and “(3) healthcare personnel” on the supply side, an important point to ascertain is the quantitative difference in medical services provided to the population in each country and region.

Figure 2. Role sharing among medical institutions in India



Notes: CHC = community health center, PHC = primary health center, SC = sub center.

Figure 3. Analytic frame for healthcare market development stages in emerging economies



However, because medical institutions have different roles that are reflected by the number of departments and the number of beds, it is necessary to analyze the hierarchical structure of medical institutions and how roles are assigned among them.

On the demand side, the main points are the disease structure of “(4) patients” and the structural change in “(5) healthcare expenditure.” Regarding the disease structure of patients, the predominant diseases shift from infectious ones to lifestyle-related ones and cancer, as the level of medical services in a country or region improves. Based on this information, it is possible to perform an analysis to determine the current stage of the target market. In addition, as the quality of medical services improves, the cost of such services increases. Therefore, an analysis must be performed for particular regions, particular medical institutions and particular diseases where and for which healthcare expenditure is increasing.

In the next chapter, this analytic frame is used to determine the development stage of the fast-growing Chinese healthcare market. Upon such analysis, consideration is given to future business opportunities in China.

III Case Study: Development Stage of Chinese Healthcare Market and Related Business Opportunities

1 Trends in health policy

Since the 1970s, there have been three major turning points in China’s health policy.

The first turning point was the reform that led to the opening up of the healthcare business, which started in the mid-1980s. Up until that point, medical services had been positioned as part of the country’s welfare policy, with large amounts of government spending reducing the financial burden on patients. However, from the mid-1980s, medical institutions were shifted to financially independent service entities to enable them to pursue the improvement of their management. As a result, medical institutions in major cities adopted advanced medical technologies, which gave them a means of offering improved services along with achieving better profitability. The improved profitability then led to improved management and higher medical standards. However, the financial burden on the patients increased, and a disparity arose between the quality of urban and rural healthcare because these advanced technologies did not make their way into rural areas.

The second turning point came in the early 1990s when a medical insurance system was introduced and a

policy aimed at reducing medical expenses was adopted. In order to alleviate the financial burden being borne by patients, a medical insurance system was introduced for public servants and urban workers. At the same time, dispensing and prescribing functions were separated and group purchasing of pharmaceuticals was introduced to suppress drug costs, which constituted a major part of healthcare expenditure. Furthermore, to encourage patients to visit primary care medical facilities involving low operation costs, the government took measures such as classifying and clarifying the roles of medical institutions, grading remuneration for medical treatment, and designating specific medical facilities for patient care depending on patient conditions.

The third turning point came just after 2000 with a move to improve the level of medical care in rural and provincial areas. Besides introducing a health insurance system for rural residents, the government also increased its investment in medical facilities in rural and provincial areas. In addition, with the aim of raising the level of medical care, the government took the lead in creating clinical practice guidelines that consist of a set of standard diagnosis and treatment procedures and in promoting the use of such guidelines at medical facilities.

2 Trends on the demand side (patients)

From the perspective of patients’ disease structure and healthcare expenditure, two major changes have been seen.

The first change involves the transition of principal diseases from infectious and communicable diseases to lifestyle-related diseases such as diabetes, hypertension and heart disease. In particular, between 2003 and 2008, the prevalence of diabetes, hypertension and heart disease has been on the increase, especially in urban areas. In urban areas, these lifestyle-related diseases have been affecting a wide range of the population including middle-income residents (Table 2).

Another change that has come about is the rapid increase in healthcare expenditure in major coastal provinces. An analysis of the income from healthcare services in medical institutions, which was used as an alternative indicator of healthcare expenditure, indicates that medical expenses charged by Chinese medical facilities have kept on increasing. In particular, since 2006, there have been discontinuous increases in healthcare expenditure with such cost in 2010 more than double that in 2006. When the increases over these four years are seen by region, there have been significant increases in major coastal provinces such as Jiangsu, Zhejiang, Shandong and Guangdong, eclipsing the increases seen in Beijing and Shanghai. Furthermore, the increases seen in major inland provinces such as Hebei, Liaoning, Henan, Hubei, Hunan and Sichuan are comparable to those in Beijing and Shanghai (Figure 4).

Table 2. Trends in disease type prevalence in China

(Unit: %)

		1993	1998	2003	2008
Infectious and communicable diseases	Infectious diseases	5.4	3.5	2.5	2.1
	Average annual rate of increase	—	– 8.3%	– 6.5%	– 3.4%
	Urban areas	4.6	3.2	1.8	1.7
	Rural areas	5.7	3.7	2.7	2.2
	Respiratory infection	56.1	61.8	44.1	38.0
	Average annual rate of increase	—	2.0%	– 6.5%	– 2.9%
	Urban areas	62.3	65.4	34.1	30.8
	Rural areas	54.0	60.7	47.5	40.6
Lifestyle-related diseases	Heart diseases	4.7	6.3	7.2	10.7
	Average annual rate of increase	—	6.0%	2.7%	8.2%
	Urban areas	11.5	14.1	14.6	20.4
	Rural areas	2.4	3.7	4.6	7.2
	Hypertension	3.9	6.6	11.9	31.4
	Average annual rate of increase	—	11.1%	12.5%	21.4%
	Urban areas	9.5	15.6	21.9	60.8
	Rural areas	2.0	3.6	8.4	20.9
	Diabetes	0.8	1.3	2.2	6.0
	Average annual rate of increase	—	10.2%	11.1%	22.2%
	Urban areas	2.5	3.9	6.3	15.5
	Rural areas	0.2	0.4	0.8	2.6
Cancers, tumors	Malignant tumors	0.5	0.6	0.9	1.4
	Average annual rate of increase	—	3.7%	8.4%	9.2%
	Urban areas	1.1	1.0	1.3	2.2
	Rural areas	0.4	0.4	0.8	1.1
	Benign tumors	0.4	0.4	0.4	0.8
	Average annual rate of increase	—	0.0%	0.0%	14.9%
	Urban areas	0.8	0.6	0.4	1.0
	Rural areas	0.3	0.3	0.4	0.7

Source: “China Health Statistics Yearbooks” compiled by the Ministry of Health of the People’s Republic of China and published by Peking Union Medical College Press.

3 Trends on the supply side (medical institutions and healthcare personnel)

China’s medical institutions are made up of “hospitals” that mainly provide inpatient care, “outpatient departments,” “health centers,” which are found mostly in rural areas, and “community health service centers,” which are found mostly in urban areas.

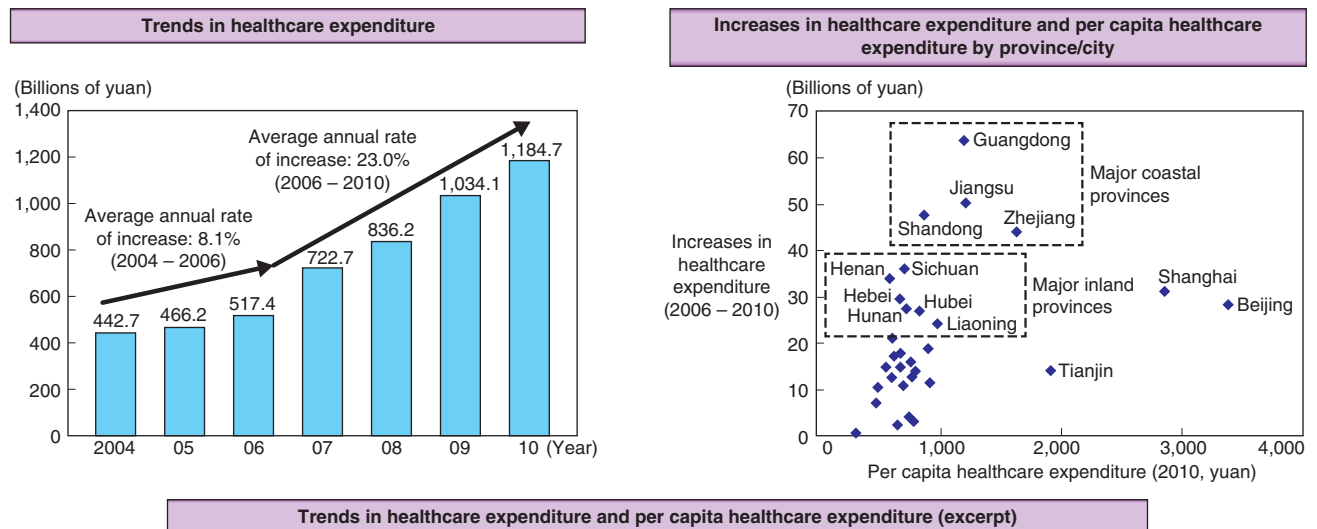
From the standpoint of hierarchical level and roles, the responsibility of the tertiary care institutions that provide advanced medical treatment such as for cancer, brain and heart diseases is held by Class III hospitals, which own the most advanced equipment and possess the latest technologies. Primary care institutions, which consist of outpatient departments, health centers and community health service centers, are responsible for initial diagnosis and the treatment of outpatients. Any hospitalization, operations or complex outpatient procedures that cannot be handled by the primary care institutions are assigned to secondary care institutions, which consist of unclassified, Class I and Class II hospitals (Table 3).

As far as the number of medical institutions and health-care personnel is concerned, there were turning points at both the beginning of the 1990s and the 2000s. From the 1970s to the beginning of the 1990s, the number of secondary care and tertiary care institutions as well as the number of beds increased rapidly. Subsequently, there was a period of stability. However, from the beginning of the 2000s, there was another period of rapid growth, particularly in major coastal and inland provinces. The number of healthcare personnel followed the same trend as that of the number of medical institutions such that the figure started to increase in the middle of the 2000s. In 2000, medical student admission capacity in medical colleges also began to increase rapidly (Table 4).

4 Development stage of China’s healthcare market

When China’s healthcare policy and the trends in supply- and demand-side activities are comprehensively considered, the development of the Chinese market is assumed to be currently in Stage 3.

Figure 4. Trends in healthcare expenditure ^{Note} in China



Trends in healthcare expenditure and per capita healthcare expenditure (excerpt)

		Trends in medical institutions' income by region (billions of yuan)					Trends in medical institutions' per capita income by region (yuan)				
		2006	2007	2008	2009	2010	2006	2007	2008	2009	2010
Country's core cities	Beijing	37.8	40.0	48.1	56.3	66.3	2,390	2,451	2,839	3,205	3,381
	Shanghai	34.6	40.0	48.5	57.4	65.8	1,906	2,154	2,568	2,990	2,858
Major coastal provinces	Zhejiang	44.7	55.4	69.6	77.5	88.7	897	1,095	1,360	1,497	1,629
	Jiangsu	43.9	54.8	65.4	80.9	94.2	581	718	851	1,047	1,197
	Guangdong	60.0	72.1	87.2	104.5	123.8	645	763	914	1,084	1,187
	Shandong	33.6	45.6	56.1	68.8	81.3	361	487	596	726	849
Major inland provinces	Liaoning	17.7	29.2	29.0	37.2	41.8	414	679	672	861	956
	Hubei	19.7	26.1	39.9	40.3	46.7	347	457	699	705	816
	Hunan	19.0	35.5	31.9	39.1	46.4	299	559	500	610	706
	Sichuan	20.2	31.1	34.9	46.4	56.4	248	382	429	567	701
	Hebei	17.6	27.6	31.3	45.3	46.9	256	398	447	643	653
	Henan	20.4	26.7	35.3	45.5	54.3	217	286	374	480	577

Figures for major inland provinces in 2010 are comparable to those for major coastal provinces in 2006

Note: In this figure, the term "healthcare expenditure" represents "income of medical institutions derived from healthcare services."
Source: "China Health Statistics Yearbooks" compiled by the Ministry of Health of the People's Republic of China and published by Peking Union Medical College Press.

Table 3. Hierarchical structure of medical institutions in China

Classification of medical institutions and number of facilities as of 2010		Characteristics and roles
Tertiary care institutions	Class III hospitals (1,284 facilities)	<ul style="list-style-type: none"> Average of about 800 beds per facility Include teaching hospitals and national specialized medical centers; function as referral (key) hospitals that are located in large cities Provide medical treatment that requires advanced technology such as for cancer and organ transplants; conduct research on medical technology
Secondary care institutions	Unclassified, Class I and Class II hospitals { <ul style="list-style-type: none"> Class II: 6,472 facilities Class I: 5,271 facilities Unclassified: 7,891 facilities } Total: 19,634 facilities	<ul style="list-style-type: none"> Average number of beds per facility is about 250 for Class II, and about 50 for Class I and unclassified Have multiple medical departments; provide specialized treatment for outpatients that cannot be handled by primary care institutions and offer basic inpatient care Many facilities do not own substantial medical equipment such as CT machines; patients requiring diagnosis and treatment using such equipment are referred to tertiary care institutions
Primary care institutions	<ul style="list-style-type: none"> Outpatient departments: 181,781 facilities Health centers: 37,836 facilities Community health service centers: 32,739 facilities Total: 252,356 facilities	<ul style="list-style-type: none"> Generally accept outpatients, and provide medical services for basic ailments to community residents Patients requiring more complex diagnosis and those who must be hospitalized are referred to secondary care institutions

Source: "China Health Statistics Yearbooks" compiled by the Ministry of Health of the People's Republic of China and published by Peking Union Medical College Press.

Table 4. Trends in number of medical institutions, beds and healthcare personnel in China

	1970	1975	1980	1985	1990	1995	2000	2001	2003	2005	2007	2009	2010
Number of secondary and tertiary care institutions (1,000 institutions)	6.0	7.7	9.9	12.0	14.4	15.6	16.3	16.2	17.8	18.7	19.9	20.3	20.9
Average annual rate of increase	—	5.1%	5.3%	3.8%	3.8%	1.6%	0.9%			2.8%			2.3%
Class III	N. A.	N. A.	N. A.	N. A.	N. A.	N. A.	N. A.	N. A.	1.0	0.9	1.2	1.2	1.3
Unclassified, Class I and Class II	N. A.	N. A.	N. A.	N. A.	N. A.	N. A.	N. A.	N. A.	16.8	17.8	18.7	19.1	19.6
Number of primary care institutions (1,000 institutions)	136.2	134.8	157.9	174.0	177.1	156.2	290.2	296.2	258.8	265.5	264.0	248.2	252.4
Average annual rate of increase	—	-0.2%	3.2%	2.0%	0.4%	-2.5%	13.2%			-1.8%			-1.0%
Outpatient departments	79.6	80.7	102.5	126.6	129.3	104.4	240.9	248.1	204.5	207.5	197.1	182.4	181.8
Health centers	56.6	54.0	55.4	47.4	47.7	51.8	49.2	48.1	44.3	40.9	39.9	38.5	37.8
Community health service centers	0	0	0	0	0	0	0	0	10.1	17.1	27.1	27.3	32.7
Number of beds (1,000 beds)	1,073	1,561	1,971	2,229	2,592	2,796	2,902	2,896	2,954	3,148	3,499	4,186	4,551
Average annual rate of increase	—	7.8%	4.8%	2.5%	3.1%	1.5%	0.7%			1.6%			7.6%
Hospitals	705	940	1,196	1,509	1,869	2,063	2,167	2,156	2,270	2,445	2,675	3,121	3,387
Health centers	368	620	775	721	723	733	735	740	673	678	747	933	994
Community health service centers	0	0	0	0	0	0	0	0	12	25	77	131	169
Number of healthcare personnel (1,000 persons)	1,453	2,057	2,798	3,411	3,898	4,257	4,491	4,508	4,381	4,564	4,913	5,535	5,876
Average annual rate of increase	—	7.2%	6.3%	4.0%	2.7%	1.8%	1.1%			0.3%			5.2%
Doctors (including assistant doctors)	702	878	1,153	1,413	1,763	1,918	2,076	2,100	1,942	2,042	2,123	2,329	2,413
Nurses	295	380	466	637	975	1,126	1,267	1,287	1,266	1,350	1,559	1,855	2,048
Pharmacists	N. A.	220	308	365	406	419	414	404	357	350	325	342	354
Laboratory technicians	N. A.	78	114	145	170	189	201	203	210	211	206	221	231
Medical student admission capacity (doctors, nurses, laboratory technicians, pharmacists, etc.) (1,000 persons)	17	101	97	131	140	199	329	389	644	856	888	1,128	1,116
Average annual rate of increase	—	43.2%	-0.7%	6.2%	1.4%	7.3%	10.6%			21.1%			5.5%

Note: N. A. = not available.

Source: "China Health Statistics Yearbooks" compiled by the Ministry of Health of the People's Republic of China and published by Peking Union Medical College Press.

In Stage 1, which the market is assumed to have gone through from 1970 to the early 1990s, the number of medical institutions was increased in order to establish a minimum level of healthcare for the entire country. On the other hand, medical institutions with advanced technology were only found in urban areas. As such, the country had a polarized healthcare market in Stage 1.

Stage 2 ran from the early 1990s until the early 2000s. In this stage, while quantitative supply-side expansion was suppressed, the foundation of the current healthcare system was laid down. Specifically, the hierarchical structure and the roles of medical institutions were defined, a health insurance system was introduced and the management of patient behavior to seek healthcare consultation was put in place.

Stage 3 began in the early 2000s. The number of supply-side facilities and healthcare personnel such as medical institutions, beds and doctors increased rapidly, especially in major coastal cities. At the same time, medical technology spread to every part of the country in the form of standard clinical practice guidelines. As a result, the growth segment that had previously been limited to large cities such as Beijing and Shanghai spread

to major coastal cities, and the market entered a period of discontinuous growth.

5 Possibility of future changes in the business environment of China's healthcare market

As mentioned above, the Chinese healthcare market is currently in Stage 3. Companies that were early entrants and managed to leverage the rapid growth of healthcare in the major coastal provinces have seen their sales soar. However, in the case of Japanese healthcare companies, not all have been able to enjoy this rapid growth. These companies must review their strategy to catch up with successful early entrants in preparation for a period when the market shifts from Stage 3 to Stage 4, where discontinuous growth will again occur.

In the future Chinese market, two major changes are likely to occur, to which Japanese healthcare companies should pay careful attention in order to enhance their presence.

The first change would involve the expansion of the markets of major inland cities and those of primary care

institutions. The markets of major inland provinces have already grown to a scale that is comparable to those of Beijing and Shanghai. In addition, per capita spending on medical expenses also reached the same level as that in the major coastal provinces in 2006. Therefore, over the next few years, the major inland provinces are expected to constitute the growth domain of the market. Since the 1990s, China has been consistently pursuing reductions in healthcare expenditure and the elimination of disparity in medical technology as part of its government policy. The key measures to achieve these goals are encouraging patients to seek treatment in primary care medical institutions and improving the quality of the medical technology of these institutions. Because these two political issues are similar to those faced in developed countries including Japan, the U.S. and Europe, such measures are expected to continue over the long term in China. Consequently, the number of patients being handled by primary care institutions and the unit cost of treatment in these institutions would both increase.

The second change would relate to the enhancement of clinical practice guidelines that are used to disseminate standard medical technology and the appearance of many academic cliques. Since the beginning of the 2000s, the number of medical students has increased rapidly. In parallel with the increase, standard medical technology based on clinical practice guidelines began to spread. As a result, China now has medical colleges set up throughout the country with systems in place to provide education in standard medical technology based on clinical practice guidelines and to supply medical doctors. However, unlike in developed countries, China's clinical practice guidelines do not yet provide separate treatment protocols based on patient conditions such as a patient's medical history and complications, nor do they adopt a step-based approach according to the phase of treatment. As such, there still remains room to improve clinical practice guidelines. Therefore, the improvement of clinical practice guidelines to appropriately reflect patient conditions will be promoted throughout the country. Because these improvements will be led by medical colleges in each area, it is fair to assume that many academic cliques that advocate specific medical technology will appear in the entire country.

6 Business opportunities for Japanese healthcare companies in China

In anticipation of the changes in the Chinese business environment as described above, two major business opportunities can be assumed for Japanese healthcare companies.

The first opportunity relates to gaining presence in the markets that are growing from the mid-term perspective such as inland areas and primary care institutions. While

Japanese healthcare companies should continue their strategy to compete in the markets of tertiary care institutions and major coastal cities that are targeted by major multinational healthcare companies, most of which are either U.S. or European companies, they should, at the same time, move ahead and tap the markets of inland areas and primary care institutions. Such innovative efforts could provide Japanese companies with a differentiated set of target customers from those of the U.S.- and Europe-based multinational companies.

The second opportunity involves the establishment of a company's unique position in enhancing clinical practice guidelines. Generally, Japanese healthcare companies have established their position in Japan by creating ways of using their products that offer the maximum value, based either on a patient's condition or according to varying usage environments. Using such experience in Japan as their strengths, Japanese healthcare companies will be able to acquire a position by similarly creating ways of using their products corresponding to progress in the enhancement of China's clinical practice guidelines.

IV Business Opportunities in Healthcare Markets in Emerging Economies

In considering strategy for the healthcare markets in emerging economies, changes in the business environment should be identified according to the development stage in which the target country finds itself. Doing so will enable the companies to draw up their entry and growth strategies that are appropriate for the relevant stage. However, a strategy must inevitably emphasize "catching up" if that strategy is to be formulated at the time the target country has reached Stage 3, as China has now done, and when macroeconomic indicators also point to the attractiveness of the market.

If Japanese healthcare companies draw on their historical experience in Japan, it is thought that they should be able to catch up with and outstrip competitors even in the Chinese market, which is in Stage 3. Nevertheless, the best way for a company to take full advantage of the growth potential of emerging markets would be to start making investment as early as Stage 2 in order to firmly establish its presence.

The current market stage of countries such as ASEAN (Association of Southeast Asian Nations) member countries and India is either Stage 1 or Stage 2. These markets will present increasingly greater business opportunities in the future. The time is fast approaching for Japanese healthcare companies to identify the development stage of each of these target markets and to consider how best to make investment to enter these markets and pursue growth.

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