China’s Pharmaceutical Distribution: Poised for Change

Drug distribution remains complex and often limits growth in China’s pharmaceutical industry. Emerging trends and China’s most recent Five-Year Plan will accelerate change and introduce new opportunities.
An aging population, increasing disposable income, and growing awareness of health needs helped propel China’s pharmaceutical industry to 20 percent yearly growth in the past five years and $110 billion in revenues in 2011. This strong growth is expected to continue, as China’s $220 per capita healthcare spending remains low compared to other countries—Brazil, for example, spends more than $800 per capita, and Japan more than $2,800. Medical reforms, such as wider insurance coverage for China’s huge rural population and the construction of thousands of healthcare centers in the next three years, will drive growth. By 2013, China could overtake Japan to become the world’s second largest pharmaceutical industry, behind the United States.

However, the distribution of drugs remains a challenge, with a landscape of multiple channels, decision makers, and regulations adding significant complexity to the market. How can pharmaceutical firms overcome these challenges to generate immediate results and a long-term advantage?

The Distribution Challenge

Hospitals in China today remain the dominant sales channel for pharmaceutical drugs, accounting for 70 percent of all drugs sold and distributed. Retail pharmacies comprise the remainder. However, the volume split varies significantly depending on the drugs and types of hospitals. For example, prescription drugs on the essential drug list (EDL), which has price controls that allow hospitals and pharmacies to add only a pharmacy fee, are mainly distributed to lower-grade hospitals, retail pharmacies, and community and rural healthcare clinics. On the other hand, prescription drugs on neither the EDL nor the reimbursement drug list are distributed primarily by Grade III (top-tier) hospitals (see figure 1).

Two main challenges are affecting drug distribution in China.

Figure 1: China prescription drug sales channels

<table>
<thead>
<tr>
<th>Drug distribution channel volume</th>
<th>Grade III hospitals</th>
<th>Other hospitals</th>
<th>Retail pharmacies</th>
<th>Community healthcare centers and rural clinics</th>
</tr>
</thead>
<tbody>
<tr>
<td>Essential drug list (EDL)</td>
<td>Low</td>
<td>High</td>
<td>High</td>
<td>Medium</td>
</tr>
<tr>
<td>Reimbursement drug list (RDL)</td>
<td>Medium</td>
<td>High</td>
<td>Medium</td>
<td>Low</td>
</tr>
<tr>
<td>Expensive drugs not included in above lists</td>
<td>High</td>
<td>Low</td>
<td>Low</td>
<td>Low</td>
</tr>
</tbody>
</table>

Note: Grade III hospitals are the top tier. Source: A.T. Kearney analysis

1 Figures are according to the Chinese Ministry of Commerce.

2 All monetary figures are in U.S. dollars unless otherwise noted.
**Fragmented market.** China’s pharmaceutical distribution base is extremely fragmented. There are more than 13,000 distributors, most providing access to only a local market or even just one or two hospitals. The three largest distributors—Sinopharm, Shanghai Pharmaceuticals, and China Resources—claim about 20 percent of the market. Compare this with the United States, where the top three players (McKesson, Cardinal Health, and AmerisourceBergen) own more than 95 percent of a market almost triple the size of China’s in 2010 (see figure 2). Sinopharm, the largest Chinese distributor by far and almost double the size of Shanghai Pharmaceuticals, is only about one-tenth the size of global leader McKesson.

**The distribution of drugs remains a challenge,** with a landscape of multiple channels, decision makers, and regulations **adding significant complexity to the market.**

Because of this fragmentation, drugs typically flow through several layers of distributors, with multiple handoffs before they reach hospitals or pharmacies. China’s prescription (Rx) and over-the-counter (OTC) drugs, 95 percent of which flow through distributors, typically pass

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**Figure 2**

**Comparing the Chinese and U.S. pharma distribution markets**

**Revenue of top three pharmaceutical distributors**

($ billion)

**United States**  
(market size: $310 billion)

- AmerisourceBergen: $80 (26%)
- McKesson: $112 (36%)
- Cardinal Health: $103 (33%)
- Others: $15 (5%)

**China**  
(market size: $110 billion)

- Sinopharm: $10 (9%)
- Shanghai Pharmaceuticals: $6 (5%)
- China Resources: $5 (4%)
- Others: $90 (82%)

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Notes: McKesson, Cardinal Health, and AmerisourceBergen revenue data is for fiscal year 2011. Sinopharm, Shanghai Pharma, and China Resources revenue data is for fiscal year 2010. Average 2010 exchange rate: 1 dollar = 6.77 yuan

Sources: Corporate annual reports, China Ministry of Commerce, China Pharmaceutical Commercial Association, International Monetary Fund, A.T. Kearney analysis
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From a national distributor to multiple distributors in each province, city, and town before reaching hospitals or pharmacies (see figure 3). For vaccines, two models exist. Type I vaccines, mandatory and offered free to the public, are sold and distributed directly to provincial centers for disease control (CDCs), which then distribute to municipal- and county-level CDCs. Type II vaccines, offered at market prices and paid by consumers, are sold directly to all layers of CDCs (provincial, municipal, and county) and follow a layered distribution similar to Rx and OTC drugs.

This complex setup means high distribution costs for China. Distributors in China often require markups as high as 8 percent from pharmaceutical companies, but margins hover between 1 and 2 percent. Financing is a major component of those costs because as many as 12 months of working capital are often necessary to finance the inventory and accounts receivable (see figure 4 on page 5).

**Supply chain visibility.** Creating end-to-end inventory visibility across the pharmaceutical supply chain is a major challenge for pharmaceutical companies because that visibility often ends once they hand off to their immediate distributors. The fragmentation and layers of distributors make it difficult to build that visibility. Although most distributors profess to have an information technology (IT) system, many use it mainly to satisfy the Good Supply Practice (GSP) certification requirements and have yet to build an integrated system across their business functions, including sales, procurement, and logistics. Another major hurdle is that Chinese hospitals are often unwilling to open their systems to allow for information integration.

The lack of integration makes it difficult to acquire valuable information such as how much volume is in the supply chain and where it is flowing. This can create a gap between ex-factory
(from the factory to the distributor) and in-market sales, with no system in place to effectively monitor stock across channels. The ability to implement valuable promotions and manage sales planning and performance and inventory control are all impacted.

To overcome this, some pharmaceutical companies and distributors use third-party data service agencies or deploy their own internal teams to collect data manually. As cumbersome and imperfect as this is, pharmaceutical companies often pay approximately 1 percent of the drug value for this information.

Although pharmaceutical distribution in more developed markets such as the United States and Europe also often lack the needed transparency and control, new models are emerging as pharmaceutical companies strive for greater control over distribution, direct relationships at the point of sale, and greater supply chain integrity against counterfeit drugs and parallel trade. For example, in fewer than three years in the United Kingdom, more than half of the branded market (by value) has switched to new managed distribution arrangements such as fee-for-service (instead of percentage of sales) and direct-to-pharmacy or direct-to-hospital models where the title and inventory of drugs stay with the pharmaceutical companies, which then sell and invoice directly to the pharmacies and hospitals. With fee-for-service, pharmaceutical companies have more visibility about to whom and where distributors are selling. In direct models, visibility can be achieved at the point of sale.
Future Trends

Although today’s distribution market is complex and challenging, the status quo will undoubtedly not remain. We see five major trends that will shape the industry in the next five years.

**Distributors will consolidate.** The central government’s 12th Five-Year Plan (for 2011-2015) calls for the establishment of one to three national distributors with sales over 100 billion yuan ($15.6 billion) and 20 regional distributors with sales over 10 billion yuan ($1.6 billion). This consolidation has already begun, with Sinopharm making more than 30 acquisitions in 2010 and 2011 alone (see figure 5). Beyond this acquisition surge, local regulators are tightening drug distribution license issuances and renewals, forcing small and less qualified players to exit.

**Foreign firms are entering the country.** There are limited foreign distributors currently in China, but multinational corporations will increase their activity in China. U.K.-based Alliance Boots has established a joint venture with Guangzhou Pharmaceuticals, a leading state-owned distributor in Guangdong province, and a partnership with Nanjing Pharmaceutical Group, a major state-owned distributor in Jiangsu province. DKSH, a Swiss market-expansion services

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**Figure 5**

**The geographical distribution of top state-owned distributors’ acquisitions since 2010**

Source: A.T. Kearney analysis
firm, has chosen to grow organically and remains a small presence in China. U.S.-based Cardinal Health, on the other hand, now has a multi-regional network in China, thanks to its 2010 purchase of distributor Zuellig Pharma.

Many top international distributors, such as McKesson and AmerisourceBergen, have yet to enter the market—but we think it will not be long before they do. Global logistics companies such as Kerry Logistics and UPS are mainly into the transportation or warehousing of drugs today, but others are pondering a bigger move into China's pharmaceutical distribution market. The Ministry of Commerce said in the latest Five-Year Plan that it wants to attract foreign investment in drug distribution and retail and participate in the restructuring and acquisitions of drug distributors to further develop the distribution industry. We can expect steps to be taken to improve the industry’s foreign direct investment framework.

China’s pharmaceutical distribution base is extremely fragmented. **There are more than 13,000 distributors,** most providing access only to a local market or even just one or two hospitals.

**New distribution models are emerging.** Multinational drug companies operating in China long enough to understand the market are now more willing to bypass tier 1 distributors and go straight to regional distributors for better control of market access. For example, French multinational pharmaceutical company Sanofi has opted to engage directly with up to 100 distributors at the provincial level for its vaccine distribution. Others such as GlaxoSmithKline have obtained GSP licenses, enabling them to distribute imported drugs domestically through regional tier 2 and 3 distributors, negating the need for import agencies.

New distribution models will likely emerge in coming years. Although more than 90 percent of drugs today go through distributors, the direct-to-pharmacies model could become more prevalent, allowing drug companies to maintain title and inventory while distributors and logistics providers are paid on a fee-for-service arrangement rather than a percent markup. This will increase in importance as more drugs are sold through pharmacies and as the government promotes self-medication for minor ailments to keep healthcare spending down and free up capacity at hospitals as diabetes, cardiovascular diseases, and cancer become greater issues for China's aging population. Pharmaceuticals will also seek greater control as more pharmacies develop and roll out their e-commerce ambitions and plans.

**Supply chain capabilities are growing.** Distribution logistics capabilities will improve, especially among the largest players. For example, Sinopharm is building state-of-the-art warehouses across its distribution network. It has invested more than $15.8 million in its Shanghai distribution center, which includes sortation conveyor belts and automated storage and retrieval systems. It has also implemented warehouse management systems that will improve order picking, optimize operating flows, and measure performance.
Beyond productivity gains through hard-asset investments, distributors are also extending their capabilities downstream to hospitals and pharmacies. For example, China Resources built a warehouse-to-hospital-pharmacy supply chain solution and helped a hospital in Beijing redesign its pharmacy floor plan and work flow, bringing savings, improved efficiency, and medication safety. Broader improvement of capabilities across distributors is also expected as new GSP standards will impose higher requirements regarding distributors’ capabilities, logistics capacity, and IT systems, including electronic data security, and a five-year archiving of temperature and humidity records.

For potential new foreign entrants, now is the time to enter before the market consolidates to a smaller set of stronger competitors.

Rural healthcare is poised to expand. The Chinese government has pushed for better medical services in less developed areas as part of its medical reforms. In 2010, $3.5 billion was invested in rural clinics and community healthcare centers. This rural investment will remain a priority in the latest Five-Year Plan, which calls for urbanizing and upgrading rural infrastructure, including healthcare facilities. As the country’s infrastructure improves, multinational and domestic drug companies will seek growth in these less-accessed markets. Distributors need to follow suit and penetrate these rural areas. The opportunities are tremendous. For example, despite being China’s largest distributor, Sinopharm serves only about 6 percent of the country’s hospitals, clinics, centers for disease control, and pharmacies; it has made increasing its penetration rate one of its key priorities.

The Chinese Opportunity

Change is coming quickly to pharmaceutical distribution in China, especially given the strong government support. Distributors and pharmaceutical companies will face different opportunities and choices.

Stronger players and consolidation will bring greater competition for distributors. Existing distributors will survive and thrive by carefully considering what emerging capabilities are needed and what investments are required to compete effectively. Determining the scale and networks will also be critical as the layers of distributors are compressed and pharmaceutical companies engage directly with regional distributors close to hospitals and pharmacies.

For potential new foreign entrants, now is the time to enter before the market consolidates to a smaller set of stronger competitors. Acquisitions or partnerships are the quickest way in, as new drug-distribution licenses will be difficult to acquire. Yet within this, multiple options exist. Acquisition (Cardinal Health’s route) or joint venture (Alliance Boots’ path)? Build an immediate national network (Cardinal Health) or focus on a regional or provincial market (Alliance Boots)? The right answers depend on the availability and capabilities of acquisition or partner targets.
Pharmaceutical companies will have to re-evaluate their strategies as distribution evolves and consolidates. Rather than the traditional distributor models, more options will arise. For example, there may be opportunities to cut through the layers of distributors to get closer to hospitals and pharmacies, including alternate models such as direct-to-pharmacy. It’s important to consider several questions: What opportunities are there for alternate distribution models? Where would they work, and what are the risks of taking on inventory and collections? What kind of new distribution and commercial arrangements are possible beyond the traditional margin markup?

For pharmaceutical companies and distributors alike, success will depend on knowledge of the market and finding the right balance of expanding market access, improving control, and increasing margins and transparency. The right strategy will deliver immediate returns and long-term advantage.

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