

A. Pharmaceutical industry drivers and trends

The global pharmaceutical industry generated revenues of US\$1.3 trillion in 2016, compared to US\$895 billion in 2011, generating a growth rate of 7.8% per year. We examine the drivers of this growth in the following paragraphs.

1. Government policies

Governmental policies have a profound impact on the pharmaceutical industry. A government's attitude toward intellectual property is one of the most important.

Intellectual property

The major pharmaceutical manufacturers are highly dependent on developing new drugs to maintain success. The business value of a new drug is primarily captured with intellectual property. A patent system that truly protects this intellectual property is a crucial component of a successful drug development program and a successful drug development company.

Why are patents so important? First, the cost to develop drugs is very high. Currently, some estimates are US\$1.4 billion of out-of-pocket costs to develop a single drug. To be clear, this cost estimate includes the cost to develop one successful drug, and it includes the cost for testing all of the drugs that failed during the development process. In order to develop one successful drug, it is normal to do some level of assessment on 5,000 drug candidates.

Second, once the formula for a successful drug is known, it is often relatively easy for someone other than the drug developer to analyze the drug and to figure out how to manufacture it. Other companies could manufacture and sell the drug at lower prices than the drug developer, because they would not have incurred the US\$1.4 billion drug development cost. The patent(s) obtained by the drug developer prevent this from happening. Without patents, the original drug

Suppliers

A number of companies worldwide produce mini-jars that are used for pharmaceutical packaging. Table 7 lists the producers profiled in this study, ranked by revenue for mini-jars.

Table 7
Global Mini-jar Suppliers
(US\$million)

COMPANY	REVENUE
Gerresheimer Group	83
Berry Plastics Corp.	16
Bormioli Rocco S.p.A.	6
Other	26
Total	131

Source: Allied Development Corp.

J. Labeling

Labeling is particularly important in the current pharmaceutical packaging industry. As stated previously, there isn't room for all the information that is required on labels, due to the introduction of more extensive labeling regulations. This seemingly simple problem is a significant challenge, and the industry is struggling to find a "good" solution to its labeling requirements. All of the package types are challenged by labeling requirements.

Labels in pamphlet form have emerged as one response to the labeling challenge. Such labels include multiple pages that the consumer can open like a booklet, or pamphlet. Figure 39 pictures a bottle with a pamphlet label.



The flat shape of blister packs can be made into an advantage from a labeling standpoint. It's difficult to print directly on blister packs, but they