

PROFILE OF THE PRESCRIPTION DRUG WHOLESALING INDUSTRY

EXAMINATION OF ENTITIES DEFINING SUPPLY AND DEMAND IN DRUG DISTRIBUTION

FINAL REPORT

1.4 Statistical Profile of Wholesalers

Government data sources address the drug wholesaling industry, but do little to differentiate drug distributors from other medical and consumer product distributors. According to the U.S. Standard Industrial Classification (SIC) system, businesses primarily engaged in the wholesale distribution of drugs and druggists' sundries, including over-the-counter (OTC) drugs, health and beauty products, vitamins, and in-vitro and in-vivo diagnostics, are classified in SIC 5122, Drugs, Drug Proprietaries, and Druggists' Sundries (NAICS 42221, Drugs and Druggists' Sundries, Wholesalers). Based on 1997 data from the Small Business Administration (SBA) (see Table 1-6), there are a total of 6,500 wholesalers in SIC 5122, of which 83 percent are small (with less than 20 employees), 11 percent are medium-sized (with 20 to 99 employees), and the remaining 6 percent are large (with more than 100 employees). The average estimated revenues per firm ranges from \$2.2 million for small to over \$0.9 billion for very large wholesalers.

Firm Employment Size	Firms	Establishments	Employment	Annual Payroll (\$1,000)	Estimated Receipts (\$1,000)	Estimated Receipts Per Employee (\$)
0 to 9 Employees	4,737	4,747	12,595	\$500,975	\$8,011,427	\$636,080
10 to 19 Employees	670	689	8,798	\$307,819	\$3,898,071	\$443,063
20 to 99 Employees	738	820	27,086	\$957,207	\$12,851,836	\$464,514
100 to 499 Employees	201	354	26,981	\$1,000,117	\$15,208,338	\$563,668
500 or More Employees	171	1,725	122,254	\$6,047,119	\$157,600,505	\$1,289,124
[a] Small Entities - 0 to 100 Employees [a]	6,145	6,256	48,479	\$1,766,001	\$24,491,334	\$505,195
Total	6,517	8,335	197,714	\$8,813,237	\$197,300,177	\$997,907
Source: SBA, 2000						
[a] According to the SBA size standards, firms employing 100 or fewer employees are small.						

ERG judged that the estimate of 6,500 wholesalers is, at best, a rough approximation of the actual number of U.S. drug wholesalers because SIC 5122 (1) does not include firms that distribute drugs but generate the majority of their revenues from other activities, such as the distribution of groceries, distribution of medical and surgical equipment, and the operation of retail pharmacies, and (2) includes firms that may not distribute prescription drugs (i.e., firms that distribute druggists' sundries such as health and beauty products).

According to the Robert Morris Associates (RMA) Annual Statement Studies,⁽³⁾ the operating profits of wholesalers classified in SIC 5122 range from 3.4 percent to 4.9 percent of annual sales in 1999 (RMA, 2000).

1.5 Models of Prescription Drug Distribution

ERG identified four broadly defined models of drug distribution although numerous additional variations can be defined. The models are delineated according to the number of times the drug product is resold. Table 1-7 outlines

the 1998 sales of prescription drugs by some of the distribution channels identified and by type of dispenser.

ERG did not consider mail-order distribution to be a separate and unique distribution model, but rather a separate dispensing model. Mail-order companies buy their drugs directly from manufacturers or, more commonly, from wholesalers. In either case, distribution occurs through a channel that is equivalent to Models 1 and 2 described below.

	Channel of Distribution							
	Total Sales		Manufacturer Direct		Chain Store Warehouse/ Mail Order		Wholesaler	
	\$ Million	Percent	\$ Million	Percent	\$ Million	Percent	\$ Million	Percent
Type of Dispenser								
Health Care Institutions	\$24,959	24.5%	\$6,270	25.1%	\$22.4	0.1%	\$18,669	74.8%
Hospitals	\$12,980	12.8%	\$2,622	20.2%	\$0.0	0.0%	\$10,358	79.8%
Clinics	\$6,251	6.1%	\$2,494	39.9%	\$12.5	0.2%	\$3,744	59.9%
Long Term Care/ Home Health	\$4,219	4.1%	\$447	10.6%	\$8.4	0.2%	\$3,763	89.2%
Health Care Plans	\$1,509	1.5%	\$706	46.8%	\$1.5	0.1%	\$803	53.2%
Independent Drug Stores	\$19,291	19.0%	\$714	3.7%	\$57.9	0.3%	\$18,519	96.0%
Retail Chains	\$46,171	45.4%	\$1,031	2.2%	\$29,245.7	63.3%	\$15,924	34.5%
Chain Drug Stores	\$30,288	29.8%	\$1,000	3.3%	\$22,292.0	73.6%	\$7,027	23.2%
Mass Merchandisers	\$7,573	7.4%	\$15	0.2%	\$4,543.8	60.0%	\$3,014	39.8%
Food Stores	\$8,310	8.2%	\$17	0.2%	\$2,409.9	29.0%	\$5,883	70.8%
Mail-order Pharmacies	\$10,972	10.8%	\$417	3.8%	\$7,153.7	65.2%	\$3,401	31.0%
Others	\$278	0.3%	\$225	81.0%	\$0.6	0.2%	\$52	18.7%
Total	\$101,671	100.0%	\$8,657	8.5%	\$36,480.3	35.9%	\$56,566	55.6%
Source: NWDA, 1999								

1.5.1 Model 1--Distribution Directly from Manufacturer to Dispensing Organization

Manufacturers sell a portion of their output directly to dispensing organizations, such as large retail pharmacy chains or healthcare organizations. Table 1-8 provides a breakdown of the drug purchases prescription drug sales of innovator drug companies (i.e., excluding generic drug manufacturers) by class of customer. According to a compilation by PhRMA, 20 percent of all pharmaceutical drug sales went directly to dispensing organizations. Specifically, 12.4 percent of manufacturer sales went to retailers, 2.1 percent to private hospitals, and 1.4 to healthcare practitioners. The data include sales of both branded and generic drugs, as sold by PhRMA members.

In the past decade, institutional consumers of pharmaceutical drugs, such as hospitals and retail pharmacy chains, as well as independent retail pharmacies, have significantly decreased the percentage of pharmaceuticals purchased directly from the manufacturer. For these institutions, the value-added services of the distributor are more valuable than the price savings from dealing directly with the manufacturer. Conversely, mail order pharmacies have increased the volume of pharmaceuticals they purchase directly from manufacturers. Mail order dispensing of pharmaceuticals is the fastest growing segment of the industry. From 1990 to 1997, the sale of pharmaceuticals by mail order increased from 5.1% to 9.7% of the total sales (U.S. District Court for the District of Columbia, 1998). Mail-order is often used to dispense "maintenance" drugs regularly used by patients over an extended period of time. There are approximately 63 mail-order pharmacies and 32 retail companies with mail-order pharmacy operations in the U.S. (NWDA, 1999).

Some large dispensing companies, especially chain drug stores, perform "self-warehousing" wherein they assume

the task of distribution itself. Instead of relying upon an outside distributor, these retailers buy directly from the manufacturer; store the drugs in one or more of their own warehouses; and deliver the drugs to their retail stores as needed. Retail chains with four or more stores (including chain drug stores, mass merchandisers, and food stores) have increased the percentage of drugs they now self-warehouse to 66.1 percent of their total drug purchases (U.S. District Court for the District of Columbia, 1998).(4) Thus, retail chains self-warehouse a majority of purchases made either directly from manufacturers or through wholesalers.

Class of Customer	Sales (\$ million)	Market Share
Wholesalers	\$64,015.1	80.0%
Retailers	\$9,922.3	12.4%
Private Hospitals	\$1,680.3	2.1%
Practitioners	\$1,120.2	1.4%
Manufacturers, Repackagers	\$1,200.2	1.5%
Federal Hospitals	\$640.1	0.8%
Other Federal Government	\$880.2	1.1%
State and Local Government Hospitals	\$560.1	0.7%
Total	\$80,018.9	100.0%

Source; PhRMA, 2000
Note: Sales are reported net of rebates and discounts. Numbers and percents may not add to totals because of rounding.

1.5.2 Model 2--Distribution Through Major Wholesalers

The second model of drug distribution characterizes the movement of the large bulk of pharmaceutical products. Most drug shipments move from the drug manufacturer to several large wholesalers (i.e., the Big Five and regional wholesalers) and then on to dispensers (i.e., health care organizations, retail pharmacy chains, etc.). For these drugs, the number of transactions and the times that the drug product is handled and physically moved is the minimum necessary to reach an eventual consumer. Specifically, perhaps 2 transactions (manufacturer to wholesale distributor to pharmacy chain or other dispenser) are made before the product is consumed.

1.5.3 Model 3--Distribution from Large to Small Wholesalers to Dispensers

Additional tiers of distribution exist for drugs that are shipped to some of the smaller drug dispensers. As has been noted, the Big Five and even regional wholesalers often have volume requirements that exclude some small dispensers from using their services. In the case of physicians' offices or small healthcare facilities, their demand for drugs is also somewhat limited and/or specialized so that they do not require the services of a full-line distributor. Thus, a hypothetical small wholesaler might report that his customer base consists of several hundred physicians' offices, selected Federal health facilities, selected health care clinics, and miscellaneous other dispensers.

For this case, the number of drug transactions made from manufacturer to dispenser might be three or four (full-line to regional to small sub-regional to perhaps smaller wholesaler).

1.5.4 Model 4--Distribution of Discounted Drugs, Via Secondary Wholesalers

Discounted drugs are sometimes sold in substantial volumes and, in order to absorb the supply, dispersed widely throughout the distribution network. In these cases, the number of transactions made before the drug product reaches a dispenser can be quite large.

Discounted products are often sold to secondary wholesalers, although the Big Five or regional wholesalers also participate in such sales. The secondary wholesalers are notable, however, for their willingness to absorb the risk of

large purchases of discounted products.

Representatives of secondary wholesalers described a considerably lengthy set of transactions for many of the drug products they handle. First, while manufacturers sell the bulk of their output to the Big Five wholesalers, they sometimes wish to sell additional products separately from these relationships. As noted earlier, manufacturers will often announce short-term sales of products for various reasons, such as to meet quarterly sales goals, or to reduce inventory before a price increase. Wholesalers might also hold drug sales to eliminate slow-moving inventory.

Such discounted drugs are then purchased by wholesalers, with many purchases by wholesalers other than the Big Five. In making these sometimes large purchases of sale merchandise, the wholesalers incur a substantial capital investment and, less significantly, also use warehouse space to hold the drugs. Furthermore, many of these wholesalers do not have a normal or routine distribution channel that can absorb the discounted product quickly. The wholesalers are interested, therefore, in turning over products quickly and can do so by passing on a portion of the original discount to other wholesalers or drug purchasers. Thus, the original purchaser makes a large capital investment and attempts to recoup it as quickly as possible by selling portions of the sale product, at a still somewhat discounted price, to other wholesalers.

The second tier of wholesalers are largely in the same position as the original purchaser, although they are handling small volumes of sale products. Nevertheless, they make relatively large capital investments and wish to turn over the discounted product as quickly as possible. In this fashion, the sale product is distributed rapidly and with broad dispersion, throughout the drug distribution industry. This second tier might include any drug wholesale organization, including the Big Five, regional, mail order, or other organizations.

The breadth of dispersion is indicated by the number of transactions that might occur before the sale product reaches the dispenser. According to one secondary wholesaler, it is not uncommon for his company to be among the third tier of distributors to purchase some of the sale product. Further, this executive judged it likely that the product would trade hands two or three more times before reaching the eventual drug dispenser. Thus, from 5 to perhaps 7 transactions involving the sale product are commonplace.

1.6 Topics Related to the Functioning of the Distribution Models

1.6.1 Distribution of Branded vs. Generic Pharmaceuticals and Other Variations

Industry contacts indicated that the distribution patterns for drugs of almost all types are unaffected by the nature of the drug. Thus, the distribution models described are applicable to virtually any form of pharmaceutical. There are two areas, however, where there is some variation away from the distribution patterns described above.

First, generic drugs are less often offered in promotional sales at discounted terms. Generic drugs are substantially less expensive than brand name drugs and, thus, already represent a substantial discount from competing products. In any case, distributors mentioned that generic drugs are handled less frequently through secondary wholesalers. ERG did not identify quantitative data on this point.

Second, some products, such as many parenteral products, must be consumed within a relatively short period after manufacturing. Many parenteral products, due to their water content, are relatively bulky to handle and costly to distribute. As a result, these products are poor candidates for repeated reselling through the wholesaling industry. Most of these products are sold using routine distribution channels and generally would not be handled by secondary wholesalers.

1.6.2 Handling of Recalls

Drug distributors must participate with manufacturers and retailers in efforts to retrieve recalled drugs. ERG contacted several distributors about their approach to accomplishing recalls.

An estimated 10 percent of distributors can track products by lot number (Casteuble, 2000b). The large majority of distributors must rely on date of shipment information received from the manufacturer to determine when and whether they received the recalled materials. Using this information, wholesalers indicated that they can generally

determine whether they still have the material and/or who among their customers might have received the product. Wholesalers store incoming products in their warehouses on shelves but, in most cases, do not track the flow of products through the warehouse on a lot-by-lot basis. Wholesalers also do periodic (e.g., monthly) inventories of the products on their shelves.

Some large wholesalers contacted for this study stated that their firms would use the lot and date information from manufacturer invoices to determine if and when they received the recalled product. One wholesaler also stated that the firms' employees perform a monthly inventory of the cases on their shelf. Thus, the wholesaler can determine in which month they shipped a recalled product, but cannot determine which of the customers (among those purchasing that product during the month) received the recalled lots.

Wholesalers reported that it was standard operating procedure to notify all customers of all recalls. Customers are then required to make their own checks to determine if they still have the recalled products and to notify their customers, as may be appropriate.

Some secondary wholesalers appear to have greater ability to track information by lot number than other wholesalers. For example, testimony at a recent FDA hearing indicated that secondary wholesalers are able to use lot numbers to identify the exact destination of shipments passing through their warehouses (FDA, 2000).

1.6.3 Combined Efficiency of Distribution Models

The first three models above describe fairly conventional models of distribution while the fourth model, distribution via secondary wholesalers, describes the use of unique sale-by-sale channels for distributing discounted products. This fourth channel provides an outlet for promotional or occasional inventory-reducing sales by drug manufacturers.

Many industries have both routine distribution channels which handle the bulk of product sales and "spot" markets that equilibrate supply and demand of product lots that are not distributed through contractual agreements. The spot market allows manufacturers to sell excess production, thereby avoiding inventory charges, product waste, or other costs. It also allows manufacturers to discriminate between buyers that require a guaranteed, predictable, supply of product for distribution and buyers (e.g., secondary wholesalers) that do not. This spot market, like spot markets in any industry, help equilibrate supply and demand and create a more efficient, smoothly functioning market. The spot market provides additional flexibility, through immediate price fluctuations, to both buyers and sellers of products.

(3) Data provided in Robert Morris Associates Annual Statement Studies is compiled from bank loan requests of companies and includes ratios and common size financial statement percentages segregated by sales size and quartile.

(4) Defined in terms of the total dollar volume of pharmaceuticals purchased.

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