VIEWPOINT

Financing and Distribution of Pharmaceuticals in the United States

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The pharmaceuticals market in the United States is complex. The flow of pharmaceutical products from manufacturers to distributors to retailers to patients evolved separately from the financing mechanisms for the same products.

The distribution and financing systems are illustrated in the **Figure**. On the distribution side of the Figure (left), physical drug product, such as a pill or vial of drug, leaves the manufacturer and is purchased by distributors. Distributors ship the product to retailers, where patients access their prescription medications. On the financing side of the Figure (right), pharmaceutical benefit managers (PBMs) provide services to help payers, for example, insurance companies, manage their drug benefits. Payers, the sources of financing for drug benefits, can include public sources (generally Medicare or Medicaid) or private sources (private health insurance and out-of-pocket payments). A complex set of financial relationships ties together the distribution and financing components shown in the Figure.[1]

Distribution of Pharmaceutical Products

Pharmaceuticals make their way from manufacturers to distributors to retailers to patients (shown in blue in the Figure). Distributors play an intermediary role in the supply chain between manufacturers and retailers. They purchase products from manufacturers, provide warehousing services, and ship drugs to retailers. By doing so, they reduce the number of transactions that would occur if each retail pharmacy or health care practitioner or center had to order products directly from manufacturers. Distributors handle products representing 91% of overall pharmaceutical sales revenue.

The US distributor market is highly consolidated, with 3 companies accounting for more than 85% of market share: AmerisourceBergen, Cardinal Health, and McKesson. The estimated combined revenues from drug distribution for these 3 firms in 2015 was $378 billion.[2]

In 2015, an estimated 4.4 billion drug prescriptions were dispensed in the United States,[3] and generic or branded generic prescriptions represented 89% of that volume. There are approximately 60 000 pharmacies in the United States, of which 38 000 are part of retail chains and 22 000 are independent pharmacies.[4] The retail pharmacy market can be divided into 3 major categories: chain pharmacies and mass merchants with pharmacies, independent pharmacies, and mail-order pharmacies. The 15 largest firms, including CVS, Walgreens, Express Scripts, and Walmart, generated more than $270 billion in revenue in 2015 through retail and mail-order pharmacy, representing approximately 74% of retail prescription revenues.[5] Of this amount, $167 billion represented retail revenue, and $103 billion represented mail-order revenue. Independent pharmacies generated $48 billion in revenue during the same period.

In the most recent National Health and Nutrition Examination Survey (2009-2012), 47% of noninstitutionalized US residents reported using at least 1 prescription drug in the last 30 days, and 10% reported using 5 or more prescription drugs over the same period.[6]

Financing of Pharmaceutical Products

The organizations involved in financing pharmaceuticals are shown in gray in the Figure. These organizations include PBMs and public and private health insurance plans.

PBMs developed in the 1980s as employers added outpatient prescription drug coverage to their health insurance plans. By 2015, industry consolidation had resulted in 3 PBMs—CVS Caremark, Express Scripts, and UnitedHealth's Optum—controlling a 73% share of the PBM market.

Health insurance generally includes prescription drug insurance in both public and private health insurance plans. In 2015, 42% of prescription drug spending was from private health insurance, 30% from Medicare, 10% from Medicaid, and 14% from private out-of-pocket payments.[7]

Medicare covers pharmaceutical products separately, based on whether they are administered by a physician. Physician-administered drugs are considered part of the medical benefit and are covered under Medicare Part B, whereas oral and self-administered medications are covered under the drug benefit, Medicare Part D. Medicare Part D has a unique model intended to leverage the private sector through PBMs to manage prescription drug spending. Although the Part D plans generally have "open" formularies (ie, few drugs are excluded from the plan), 98% have implemented very aggressive 5-tier benefit structures. Medicare is precluded by law from negotiating with manufacturers and from setting prices for drugs purchased through Part D.

Medicare Parts B and D are funded separately from Medicare Part A hospital insurance. Whereas Part A is supported by the Medicare payroll tax, Parts B and D are supported by general tax revenues, beneficiary premium payments, and some support from the states. Overall, Parts B and D received 76% and 80% of their funding, respectively, from federal general tax revenues in 2015.[8] As a result, Medicare required $250 billion in general tax revenues for support of these programs in 2015 and is projected to require $542 billion in annual support by 2025.[8]

Medicaid is the public health insurance plan for low-income persons and those with disabilities. It covers

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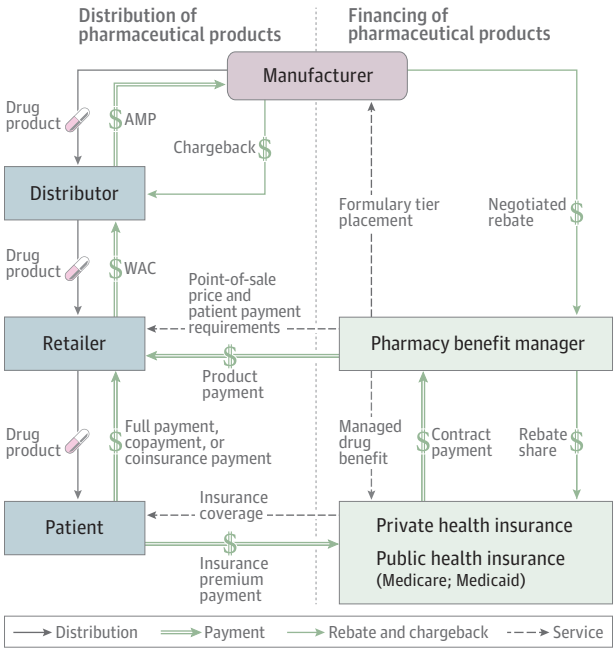
Figure. Flow of Pharmaceutical Funds, Products, and Services



Adapted from a figure by the Congressional Budget Office.[1] Services represent contractual relationships between entities. Rebates are payments from manufacturers to pharmaceutical benefit managers. Chargebacks are payments from manufacturers to distributors. Retailers include pharmacies, hospitals, group purchasing organizations, and mail-order programs. AMP indicates average manufacturer price; WAC, wholesale acquisition cost.

individuals with incomes below 138% of the federal poverty level in states that expanded Medicaid under the Affordable Care Act and those who are categorically eligible for Medicaid in states that did not participate in the expansion. Pharmaceuticals are considered an optional benefit by Medicaid, but all states currently provide outpatient drug coverage to enrollees.

Most employer-based health insurance plans include a drug benefit. Many employers and health insurers provide pharmaceutical benefits through a PBM. These plans offer a benefit structure similar to Medicare Part D prescription drug plans but are not required to offer a catastrophic drug benefit. Most employer-based insurance plans (81%) have 3 or more formulary tiers. For individuals who purchase private health insurance through an Affordable Care Act health insurance exchange, prescription drug coverage is considered an essential benefit—but again, the structure of that benefit can vary across plans. In 2015, commercial health insurance was the source of payment for 49% of all retail prescriptions (down from 56% in 2012).[3]

The average patient payment for a branded prescription drug for patients with commercial insurance increased from $36 in 2011 to $44 in 2015, whereas the average patient payment for a generic prescription drug has remained stable at $8 since 2010.[3] For commercially insured populations, health care costs increase by $250 per covered life for every 0.25% of the population that requires a specialty pharmaceutical product at a cost of $100 000.[9]

Payments

In addition to the usual product discounts and allowances for product returns, manufacturers provide a series of cash payments to health plans, PBMs, and distributors in the form of rebates and chargebacks as a result of complex pricing arrangements across the industry. The end result of these complex transactions is that in 2015, $115 billion, or 27% of total pharmaceutical sales, was paid by manufacturers to various entities throughout the drug distribution and financing systems.[2]

Conclusions

The financing and distribution of pharmaceuticals in the United States is complex, involving manufacturers, distributors, payers, pharmacy benefit managers, and, most importantly, patients. There has been substantial consolidation in many sectors of this system over the past decade.

ARTICLE INFORMATION

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