The U.S. Pharmaceutical Industry: Why Major Growth In Times Of Cost Containment?

Four factors affecting drug use have driven costs upward since 1994, but their future role is uncertain.

by Ernst R. Berndt

ABSTRACT: Growth in utilization rather than price, particularly since 1994, has been the primary driver of increased pharmaceutical spending. In this paper I focus on four factors that have increased utilization, even as cost containment efforts have flourished: (1) "the importance of being unimportant"; (2) increased third-party prescription drug coverage; (3) the introduction of successful new products; and (4) aggressive technology transfer and marketing efforts by pharmaceutical firms. I also consider the roles that these four factors are likely to play in the future.

FOR MOST MEDICAL CARE INDUSTRIES in the United States, the 1990s were turbulent, as managed care and other cost containment efforts flourished, rooting out overutilization, altering incentives, and affecting health care quality in ways not yet well understood. Yet during this same decade the U.S. pharmaceutical industry experienced relatively high rates of domestic sales growth. Why such significant growth in times of cost containment?

■ **Recent spending growth patterns.** In terms of average annual growth rates in pharmaceutical sales, while the rate of 12.8 percent for the more recent 1994–1999 time period is only slightly larger than the rate of 11.9 percent for 1987–1994, the composition of this spending growth has changed dramatically (Exhibit 1).

Using price index formulae analogous to those used by the U.S. Bureau of Labor Statistics, IMS Health regularly decomposes prescription drug expenditures into those attributable to price (the change in spending if last year's mix of drugs were purchased today), those attributable to spending on new products (defined as less than

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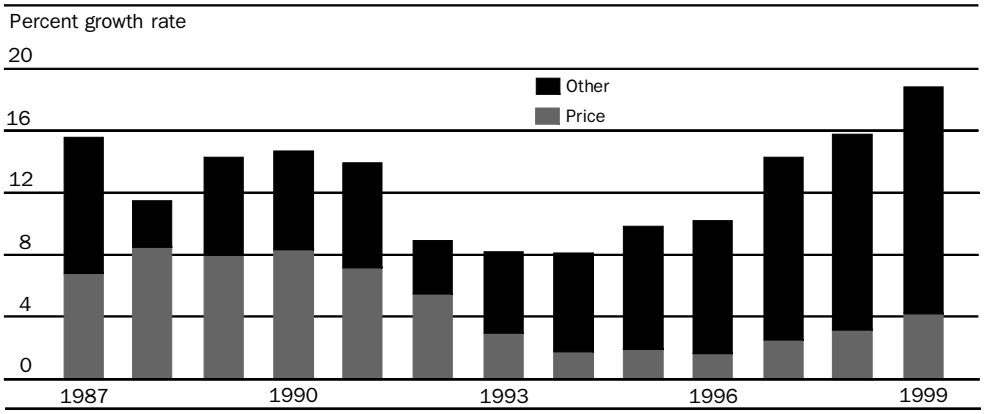
EXHIBIT 1
The U.S. Prescription Pharmaceutical Market: Total Annual Sales Growth And Its Sources, 1987–1999



SOURCE: IMS Health, "Retail Provider Perspective, 2000," reproduced in *Pharmaceutical Industry Profile 2000: Research for the Millennium* (Washington: Pharmaceutical Research and Manufacturers of America, 2000), Figure 4-11.
NOTE: Annual averages were as follows. Sales growth: 1987–99, 12.6 percent; 1987–94, 11.9 percent; 1994–99, 12.8 percent. Price growth: 1987–99, 4.8 percent; 1987–94, 6.4 percent; 1994–99, 2.5 percent. Residual growth: 1987–99, 7.8 percent; 1987–94, 5.8 percent; 1994–99, 10.3 percent.

a year old), and the residual (those attributable to volume and mix on incumbent products). Hereafter I refer to the latter two nonprice factors as "utilization" components. From 1987 through 1994, of the 11.9 percent average annual rate of spending growth, about half reflected the direct effects of increased prices, while the remaining half is attributed to utilization growth. In contrast, from 1994 through 1999 the growth rate remained in double digits, but only about one-fifth was directly attributable to price changes; nearly 80 percent of increased drug spending was related to growth in utilization.[1]

In this paper I offer four hypotheses to help explain why use of pharmaceuticals has continued to grow even as managed care and other cost containment efforts have flourished. The four factors on which I focus, not necessarily in order of importance, are (1) "the importance of being unimportant"—pharmaceuticals' modest share of total U.S. health care costs; (2) the dramatic growth of third-party prescription drug coverage; (3) the successful new product innovation emerging from the pharmaceutical industry; and (4) pharmaceutical firms' aggressive technology transfer and marketing efforts.

Factor 1: 'The Importance Of Being Unimportant'

Alfred Marshall, a famous nineteenth-century economist, reasoned that certain characteristics of goods and services made their demand more or less price-responsive, or more or less immune to cost-cutting efforts. Among the four laws of demand that Marshall enunciated, one has been dubbed "the importance of being unimportant."

To Marshall, if spending on some good or service is perceived to be only a small portion of total costs, that good or service will not be as likely to be on cost cutters' radar screens; instead, they will tend to focus more on big-ticket items. Although Marshall provided no analytic basis for this argument, it is plausible to argue that, other things being equal, it may be rational for budget managers to focus most of their attention on the largest budget items.

Hospital spending (outpatient plus inpatient) continues to be the single largest component of health care costs (Exhibit 2). Despite the shift from inpatient to outpatient settings, total hospital costs are still the largest single health care component. The second-largest spending item has consistently been physician services, whose share of total health care spending has remained relatively constant over the past four decades at about 20 percent.

In third or fourth place is spending for outpatient prescription drugs. Even at their current 8 percent share, prescription drug costs are still relatively unimportant. However, this 8 percent represents an average, and the variance across subpopulations is considerable. For example, data from the 1995 Medicare Current Beneficiary Survey (MCBS) indicate that while Medicare beneficiaries' average total spending on prescription drugs was $536, the variance was $741.[2] Also, it is likely that the prescription drug share is larger for payers that cover the nonelderly working population, a subgroup with relatively low rates of hospitalization.

Within the past decade, as the prescription drug cost share has grown, pharmacy benefit management (PBM) tools have been developed and have flourished. These tools include drug utilization review, generic substitution, prior authorization, step-care protocols, therapeutic interchange, increasingly restrictive formularies, three-tier copayment structures, academic detailing, and various physi-

EXHIBIT 2
Health Care Expenditure Cost Shares, By Category, 1960–1998

Category	1960	1970	1980	1990	1995	1996	1997	1998
Hospital care	34.6%	38.3%	41.5%	36.7%	34.9%	34.6%	34.0%	33.3%
Physician services	19.7	18.6	18.3	20.9	20.3	20.1	20.0	20.0
Prescription drugs	10.0	7.5	4.9	5.4	6.1	6.6	7.2	7.9
Nursing home care	3.0	5.7	7.1	7.3	7.6	7.7	7.8	7.6
All other	32.7	29.9	28.2	29.7	31.1	31.0	31.0	31.2
Total health care expenditures (billions)	$26.9	$73.2	$247.3	$699.4	$993.3	$1,039.4	$1,088.2	$1,149.1

SOURCES: K. Levit et al., "National Health Spending Trends in 1996," *Health Affairs* (Jan/Feb 1998): 35–51 (for 1960–1990 data); and K. Levit et al., "Health Spending in 1998: Signals of Changes," *Health Affairs* (Jan/Feb 2000): 124–132 (for 1995–1998 data).
NOTE: "All other" includes dental and other professional services, home health care, nonprescription drugs and medical durables, vision products, net cost of private health insurance, government public health activities, and research/construction.

"The information technology revolutions have contributed to the diffusion of drug coverage into benefit plans."

cian capitation schemes. While use of these PBM tools has undoubtedly constrained drug spending growth, a detailed analysis of their impacts is beyond the scope of this paper.

It is worth noting, however, that formulary compliance by physicians involves information gathering and monitoring costs. Such costs are likely to be higher the larger the number of payers with which a physician contracts. Relatively few physicians today have only one managed care contract. Based on data from the 1996–97 Community Tracking Survey of Physicians, Nancy Beaulieu reports that 61 percent of primary care physicians and 64 percent of specialists surveyed had six or more managed care contracts.[3] The ability of any one payer to greatly affect prescribing decisions is constrained when physicians simultaneously interact with so many different payers and their formularies.

Thus, until recently prescription drug costs have not on average been as important as the health care cost shares of hospital and physician services. In the context of nonpharmaceutical expenditures, there is some evidence suggesting that managed care has had a much larger impact on prices paid for health care services than on their use.[4] This may be particularly true for drugs, whose average cost share in 1998 was still relatively unimportant at 8 percent.

Factor 2: Growth In Third-Party Drug Coverage

Prescriptions dispensed at retail pharmacies have been paid for in a variety of ways. Historically, for consumers with private third-party drug coverage, the drug recipient initially made a full cash payment to the pharmacy and then was reimbursed in whole or in part by the insurer. Until the 1990s this somewhat cumbersome procedure was the norm. The transaction costs—first saving and storing prescription receipts in shoe boxes, then gathering them together, and finally filling out forms and sending them off to claims processors—were considerable, for both beneficiaries and insurers.

■ **Impact of information technology.** Recent technological progress, particularly involving information technology and telecommunications equipment, has dramatically changed the way in which third-party drug claims are processed at pharmacies, making covered insurance transactions much more convenient and less costly than they were a decade ago. Today, for example, the privately insured beneficiary usually pays a copayment or coinsurance to the

pharmacy upon receipt of the prescription. After monitoring the pharmacy claim request to ensure compliance with formulary provisions, the third-party insurer then seamlessly reimburses the pharmacy electronically for the remainder, based on their contractual arrangement. For publicly provided drug insurance such as Medicaid, even when there is a copayment, the entire transaction is typically processed instantaneously and electronically.

Technological developments involving electronic transactions have also facilitated inexpensive, instantaneous monitoring for safety and formulary compliance by PBMs. Indeed, it could well be argued that the very existence of PBM techniques owes much to the revolutions in information technology and telecommunications.[5]

But what do these technological revolutions have to do with increased drug use? Undoubtedly the tight U.S. labor market in the past decade has contributed enormously to enhanced employee compensation in the form of more generous prescription drug coverage. However, because they have reduced pharmacies' and insurers' costs; offered consumers increased convenience and less bookkeeping; and enabled PBMs to monitor transactions, enforce formulary provisions, and perform drug utilization reviews at very low cost, the information technology revolutions have contributed as well to the diffusion of drug coverage into benefit plans.

■ **Changing role of third-party insurance.** The Health Care Financing Administration (HCFA) has produced data that document the changing role of third-party coverage in paying for prescription drugs (Exhibit 3). As seen in this exhibit, in 1965 (prior to the 1967 precedent-setting agreement between Ford Motor Company and the United Auto Workers enshrining drug insurance benefits as part of employees' benefit package), private insurance

EXHIBIT 3
Share Of Prescription Drug Spending, By Source Of Payment, Selected Years 1965–1998

Year	Private insurance	Out-of-pocket	Medicaid	All other
1965	3.5%	92.6%	0.0%	3.9%
1970	8.8	82.4	7.6	1.2
1975	12.2	75.4	10.8	1.6
1980	20.1	66.0	11.7	2.2
1985	29.9	55.4	11.8	2.9
1990	34.4	48.3	13.5	3.8
1995	46.8	33.9	15.8	3.4
1996	48.8	31.6	16.1	3.5
1997	50.8	29.1	16.5	3.6
1998	52.7	26.6	17.1	3.6

SOURCES: Health Care Financing Administration (HCFA) National Health Accounts; and *Report to the President: Prescription Drug Coverage, Spending, Utilization, and Prices* (Washington: DHHS, April 2000), Table 2-30.

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