

Price and Utilization: Why We Must Target Both to Curb Health Care Costs

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The United States spends nearly \$8000 per person on health care annually. Even for a wealthy country, this amount is substantially more than would be expected and 2.5 times the average spent by other Organization for Economic Cooperation and Development (OECD) countries. The growth rate of health care spending in the United States has also far outpaced that in all other high-income OECD countries since 1970, even accounting for population growth. This increase in health spending threatens to squeeze out critical investments in education and infrastructure. To successfully develop and implement policies that effectively address both the level and growth of U.S. health care costs, it is critical to first

understand cost drivers. Many health policy and economics scholars have contributed to an ongoing debate on whether to blame high prices or high utilization of services for escalating health care spending in the United States. This paper argues that price and volume both contribute to high and increasing health care costs, along with high administrative costs, supply issues, and the fee-for-service payment system. Initial strategies to contain costs might include implementation and expansion of bundled payment systems and competitive bidding.

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In 2011, the United States spent \$2.6 trillion on health care—nearly one fifth of its economy (1). Per person, the United States spends nearly \$8000 on health care, nearly \$3000 more than the second highest-spending country (Norway) and more than twice the average for other developed countries (2). Richer countries generally spend more on health care; nevertheless, several independent estimates (3) indicate that the United States spends nearly \$600 billion more than its wealth would dictate.

Although the level of health spending is excessive, the rate of growth is of greater concern. Accounting for population growth, health spending per capita is increasing more rapidly in the United States than in all other high-income Organization for Economic Cooperation and Development (OECD) countries (1, 4). Since 1985, health spending in the United States has increased an average of 2.0 percentage points per year faster than the gross domestic product, whereas that spending in other OECD countries has grown only 0.6 percentage point faster than their gross domestic products. Efforts to reduce the level of health spending can achieve substantial savings, but that spending will remain unsustainable unless we can also moderate its growth (4).

What accounts for the excessive level of health spending and, more important, its excessive growth? Whether the answer is excessive medical prices or excessive utilization of health care services is a matter of substantial disagreement, and the answer has significant policy implications. Excessive utilization is best targeted through such reforms to the delivery system as accountable care organizations, in which groups of providers work together to coordinate all care for a specific patient population. However, if prices play an important role, other policies, such as competitive bidding for durable medical equipment, would be appropriate to curb health spending (5).

ACCOUNTING FOR THE EXCESSIVE LEVEL OF HEALTH SPENDING

The Role of Prices

International comparisons suggest that prices play a significant role in the high level of U.S. health spending. Data from the OECD (6) indicate that U.S. prices for hospital services are more than 60% higher than average prices in 12 OECD peer countries. Compared with Canada or Germany, the United States has higher prices but a lower quantity of services (7, 8). According to a recent report by the International Federation of Health Plans (9), prices for hospital and physician services, imaging, and drugs are much higher in the United States than in other wealthy European countries (Table 1). Another recent study (10) found that, compared with 6 other OECD countries, public and private payers in the United States paid slightly higher fees for primary care office visits but substantially higher fees for hip replacements.

A hospital stay in the United States may include more intensive treatments than in other countries, so higher U.S. prices might reflect higher utilization. However, Table 1 shows that prices of care for particular diseases and procedures are substantially higher in the United States (7).

What accounts for higher U.S. prices? At least 4 factors seem important: high administrative costs, high salaries, hospital consolidation, and lack of price transparency.

Although administrative costs have declined in recent years, they are still substantially higher in the United States (11). According to the McKinsey Global Institute (3), administrative costs account for 14% of excess spending compared with other OECD countries. Another study found that administrative costs are the largest factor explaining the difference in health spending between the United States and Canada, accounting for 39% of the difference. As a result of American federalism, insurers must comply with 51 regulatory frameworks, which adds to administrative costs. Similarly, the U.S. multipayer health care system

Table 1. Price Comparisons for Selected Medical Services and Procedures*

| Service/Procedure | United States | France | Germany | Switzerland |
|---------------------------------------|---------------|--------|---------|-------------|
| Magnetic resonance imaging fees | 1080 | 281 | 599 | 903 |
| Routine physician office visit | 89 | 23 | 40 | 64 |
| Cost per hospital stay | 15 734 | 3396 | 5004 | 4566 |
| Normal delivery† | 9280 | 2536 | 2157 | 8495 |
| Hip replacement surgery† | 38 017 | 11 353 | 11 418 | 17 521 |
| Coronary artery bypass graft surgery† | 67 583 | 16 140 | 16 578 | 25 486 |

* From reference 9. Values are reported in 2011 U.S. dollars.

† Procedure includes total hospital and physician costs.

requires separate rate negotiations and administrative procedures for each payer (3, 11), which also increases administrative costs. In the medical sector, the United States has 44% more administrative workers than Canada, 25% more than the United Kingdom, 165% more than the Netherlands, and 215% more than Germany (11).

A second contributor to higher prices is salaries. In the United States, generalists earn about 5 times more and specialists 10 times more than the average worker. In other OECD countries, generalists earn about 2 times more and specialists 2.7 times more than the average worker. Higher U.S. physician salaries cannot be completely explained by the mix of specialists and generalists or by the cost or length of training (3). Rather, they seem to reflect greater income inequality in the United States (3, 4). Overall, the McKinsey Global Institute estimates that higher physician salaries in the United States account for approximately \$120 billion in excess health spending (3).

A third explanation is that the market power of some hospitals increases prices for private payers. Areas with little competition among hospitals have higher prices. For example, hospital consolidation in the 1990s increased prices by 5% to 53%, depending on the region (12, 13). A 2009 Federal Trade Commission report (14) found that the merger of 2 North Carolina hospitals led to substantial increases in inpatient prices (ranging from 24% to 106%) for one half of the insurers.

Finally, the lack of transparency regarding health care prices—the true costs of care—precludes serious price competition. The U.S. health care financing system is fragmented by widespread price discrimination. Each payer pays a different price based on the relative market power of hospitals and insurers for identical services (15, 16). This leads to substantial price variation, obscures the cost of care, and adds administrative cost and complexity to the system (17). In addition, because prices for U.S. health care services reflect the costs of direct inputs, labor, administration, and the intensity of services, prices can be hard to compare across providers, which makes price competition difficult.

A U.S. Government Accountability Office assessment of the Federal Employees Health Benefits Program (12) confirms this lack of price competition. It found that prices varied enormously for both hospitals and physicians even

after accounting for differences in the input costs of doing business, such as rent and cost of living. Overall, it concluded that price differences explain about one third of geographic variation in spending.

The Role of Utilization

The current fee-for-service (FFS) payment system in the United States creates large financial incentives for providers to perform more tests and treatments, regardless of the clinical rationale for doing so. However, FFS is not the sole factor, because other countries with lower levels of health spending, including Australia, Canada, and France, also use FFS payment mechanisms (10). Instead, such payment systems seem to encourage selective overutilization focused on higher-priced and higher-margin tests and treatments.

The Center for American Progress used OECD data (18) to compare utilization across countries. It calculated medians among high-income OECD countries (as measured by the World Bank), excluding the United States, and used the most recent year for which data are available for each procedure. The data indicate that on at least some measures, utilization of services is lower in the United States (Table 2). Compared with the average of other OECD countries, the United States has 40% fewer physician office visits, 19% fewer hospital discharges, and substantially shorter hospital stays.

However, these measures do not capture the intensity of care per encounter. Compared with the OECD average, the United States performs 1.9 times more knee replacements, 2.1 times more cardiac catheterizations, 1.5 times more coronary artery bypass surgeries, 1.5 times more cardiac stents, 1.4 times more caesarian sections, and 3.0 times more cataract replacements. Additional procedures per diagnosis explain 14% of the difference in health spending between the United States and Canada (11).

Compared with other developed countries, the United States deploys more expensive diagnostic technologies and uses them more frequently. For example, the United States has the second-highest number of magnetic resonance imaging units per capita (Japan has the most), 3.4 times the OECD average, and the most computed tomography scanners per capita, 2.5 times the OECD average (18). The United States also performs 3.6 times more mag-

Table 2. Comparison of Utilization Rates for Selected Interventions in the United States and Its OECD Peers*

| Service, by Utilization in the United States | United States | Median, Non-U.S. OECD Countries | France |
|--|---------------|---------------------------------|--------|
| Higher | | | |
| CT scanners/1 million persons | 34.3 | 14 | 11.8 |
| MRI units/1 million persons | 25.9 | 7.6 | 19.4 |
| CT scans/1000 persons | 227.9 | 115.3 | 138.7 |
| MRI scans/1000 persons | 91.2 | 25 | 55.2 |
| Cardiac catheterizations/100 000 persons | 357.8 | 171.75 | NA |
| Cataract surgeries/100 000 persons | 1891.4 | 638.9 | 997.5 |
| Coronary bypass surgeries/100 000 persons | 79.5 | 54.3 | 30.2 |
| Coronary stenting/100 000 persons | 217 | 145.5 | NA |
| Caesarean sections/1000 live births | 323 | 233.9 | 200.3 |
| Hip replacements/1000 persons aged ≥65 y | 14.4 | 11.7 | 13.7 |
| Hysterectomies/100 000 women | 111.6 | 83.4 | NA |
| Knee replacements/100 000 persons | 212.5 | 113.8 | 118.8 |
| Tonsillectomies/100 000 persons | 254.4 | 136.4 | 105.1 |
| Lower | | | |
| Hospital discharges/100 000 persons | 13 086 | 16 243 | 26 251 |
| Average length of hospital stay for acute care, <i>d</i> | 5.4 | 6.1 | 5.2 |
| Average length of hospital stay for inpatient care, <i>d</i> | 6.3 | 7.8 | 12.7 |
| Physician consultations/capita | 3.9 | 6.5 | 6.9 |
| Appendectomies/100 000 persons | 92.6 | 117.4 | 142.1 |
| Cholecystectomy/100 000 persons | 161.3 | 307 | 187.4 |
| Mastectomies/100 000 women | 50 | 52.9 | 62.8 |
| Pacemaker insertions or replacements/100 000 persons | 56.3 | 61.4 | NA |
| Transurethral prostatectomy/100 000 men | 43.4 | 114.15 | 186.7 |

CT = computed tomography; MRI = magnetic resonance imaging; NA = not available; OECD = Organization for Economic Cooperation and Development.
 * Based on data from reference 18. We used the most recent year for which data are available for each procedure.

netic resonance imaging scans and 2.0 times more computed tomography scans per capita than the OECD average (18).

Higher utilization rates are not uniform. For example, the United States performs 1.2 times the OECD average of hip replacements (14.4 per 1000 elderly persons), but this number is similar to that of other wealthy countries, such as Germany (14.3 per 1000), France (13.6 per 1000), and the Netherlands (14.3 per 1000), and slightly lower than that of Switzerland (17.1 per 1000) and Norway (15.8 per 1000) (18). However, the United States performs fewer appendectomies, gallbladder surgeries, prostatectomies, and pacemaker insertions than many OECD countries (Table 2) (18).

In the United States, at least one half of the variation in Medicare spending seems to be related to differences in utilization. The U.S. Congressional Budget Office reported that after differences in demographic characteristics, health status, and prices are accounted for, 50% to 75% of geographic variation remains unexplained and is presumably due to utilization (19). This research shows that Medicare beneficiaries in high-spending areas receive about 60% more services than those in low-spending areas (20). The additional care consists of more evaluation and management services, tests, and hospital use, but not more major surgical procedures (20). This body of research also tends to show that high-spending areas have more resources and specialists (19).

ACCOUNTING FOR EXCESSIVE GROWTH IN HEALTH SPENDING

In contrast to the study of international differences in the level of health spending, much less research has concerned international differences in the growth of spending. However, in the United States, the Congressional Budget Office reviewed 3 studies and reported that price increases above inflation account for up to 20% of the growth in health spending (21).

The national health expenditure data compiled by the Centers for Medicare & Medicaid Services demonstrate that between 2000 and 2006, personal health care spending grew by 7.3% per year, with utilization and prices contributing about equally (1). In addition, the McKinsey Global Institute found that growth in labor and supply costs outstripped inflation and thus explained the growth in hospital spending (3). In the outpatient setting, this growth was explained by price increases and shifts to more expensive procedures and specialists, and more recently, by shifts from inpatient care to outpatient care.

Because Medicare and other public payers can constrain prices, causes of the growth in spending may differ among public and private payers. From 1997 to 2005, the Volume Performance Standard and the Sustainable Growth Rate formula successfully constrained Medicare price increases for physician services (21). In contrast,

prices are more important in the private sector, where hospital mergers provide hospitals with increased bargaining power to raise prices (12, 22).

Health care services are not static. The range of these services expands over time as new technologies emerge. A Congressional Budget Office analysis of several studies (19) suggests that technologic advances are the largest factor influencing growth in health costs, generating up to one half of that growth over the past several decades. According to the most recent study, new technology contributed 27% to 48% of growth in health costs (23).

THE PRICE–UTILIZATION CONNECTION

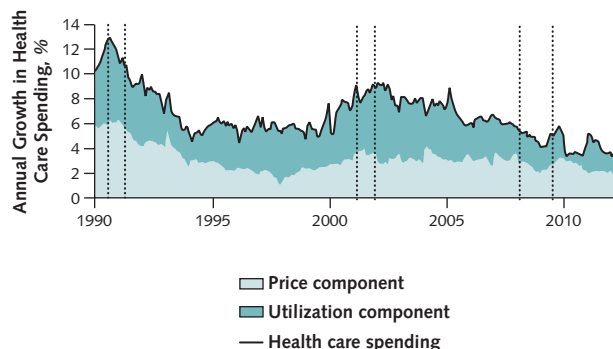
Price and utilization are not independent variables. High prices and profit margins for specific tests and treatments provide incentives for increased utilization. For example, the Medicare Payment Advisory Commission found that cardiac surgery is more profitable than the average intervention, which may explain the excessive number of and increase in cardiac procedures (24). Similarly, new, costly technologies tend to command higher prices (and thus higher profit margins), and this drives the utilization of these technologies.

High prices coupled with high profit margins may help explain the high utilization of magnetic resonance imaging, computed tomography, cardiac procedures, knee replacements, and caesarian sections in the United States. Higher margins for outpatient procedures may similarly help explain why some interventions have shifted to the outpatient setting in the United States even though they are typically performed in the hospital elsewhere. One expert summarized the link well (25): “Prices of cardiovascular procedures or diagnostic tests are certainly too high and adjusting these prices downward could have an indirect effect by discouraging excess procedures.”

POLICY STRATEGIES TO ADDRESS EXCESSIVE PRICES AND UTILIZATION

The forgoing analysis indicates that to effectively curb health spending, policy interventions must target both excessive prices and excessive utilization paid for by both public and private payers. A strategy focused on one and not the other will not succeed. Although a full set of proposals is beyond the scope of this article, one example of a policy to address excessive prices is competitive bidding for health care products, such as medical devices, in which manufacturers compete to offer the lowest prices to payers (26). These market-based prices have been proven to reduce Medicare spending substantially, but their use is currently limited. One approach to combat excessive utilization is to pay for a bundle of services or for all of the care of a patient instead of paying a fee for each service. Given the interaction between prices and utilization (Figure) (27), combining such policies would probably be effective.

Figure. Health care spending growth, by price and utilization components.



Dotted lines demarcate recession periods. (Reproduced from reference 27 with permission of the Altarum Institute.)

CONCLUSION

In general, excessive prices explain why the United States has much higher health spending than other developed countries, whereas within the United States, utilization explains why some areas spend more than others. Thus, both prices and utilization drive the level of health spending, but prices may also fuel utilization. The growth in health spending seems to be driven by the excessive supply and use of high-priced technologies. Prices may fuel this diffusion, and prices are independently an important driver of spending growth.

Harold Pollack, a health policy scholar, summed up the causes of high and growing U.S. health spending when he said, “Right now, the U.S. health care system features excessive prices and price growth as well as excessive provision of costly services. Both price and quantity are serious concerns” (28). The interdependence of price and utilization further complicates strategies to curb health spending. For policymakers, this means that a comprehensive strategy is needed to effectively curb health costs.

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