

The Cost-Shift Payment ‘Hydraulic’: Foundation, History, And Implications

Hospital cost shifting is alive and well, but its premature demise could have negative effects on all hospital patients.

by **Allen Dobson, Joan DaVanzo, and Namrata Sen**

ABSTRACT: The cost-shift payment “hydraulic” is an integral component of the fragmented U.S. health care financing system. If private payers’ acceptance of the cost-shifting burden were to erode, our system of health care financing could become unstable. This is especially true for the hospital industry. In this paper we provide a series of examples of cost shifting and a historical profile of the cost shift in the hospital industry since 1980, noting that cost-shifting pressures seem to fluctuate over time and across health care markets. Cost shifting need not be dollar per dollar, as hospitals can absorb some degree of cost-shifting pressure through increased efficiency and decreases in service provision. [*Health Affairs* 25, no. 1 (2006): 22–33]

DURING THE PAST TWENTY YEARS, documentation of hospital cost shifting has accumulated in the health services research literature; at the same time, some economists have maintained that cost shifting either does not exist or is “dead.” Several researchers have defined the cost shift and described the history of the debate in both conceptual and empirical terms.¹

Those who advocate for the existence of cost shifting point to differential hospital payment-to-cost ratios across payers and to increased premiums paid by private-sector payers at the same time public payers receive rate reductions.² In 1992 the Prospective Payment Assessment Commission (ProPAC) estimated that privately insured patients were being charged, on average, 28 percent more than costs.³ Those who argue against the existence of cost shifting cite profit maximization, selective contracting, and price competition as precluding hospitals from shifting costs, maintaining an “impossibility theorem” associated with classical economic theory.⁴ They posit that firms aim to maximize profits and that, as such, hospitals would charge private payers the highest price permitted by the market.⁵ Selective contracting by managed care plans meant that hospitals began to compete on price, which further hindered their ability to raise prices to selected pay-

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ers.⁶ Evidence from a study of California hospitals between the early 1980s and the early 1990s found that they did practice cost shifting but that the ability to shift costs decreased over time. The study's authors note that this was a time of intense competition in the local market.⁷ Finally, only hospitals with sufficient market power have the flexibility to adjust price over time (that is, to shift costs).⁸

Several researchers have recently summarized the debate and elevated it to a broader policy discussion concerning administered prices and their purpose. They ask whether the federal government should develop payment policies that are specific to Medicare or whether payment policies should address the cost pressures of the health care system as a whole.⁹

This paper explores the concept of the cost-shift payment hydraulic in the hospital industry and how this financial mechanism influences private-sector premiums. The concept of the “cost-shift payment hydraulic” is remarkably simple; as some pay less, others must pay more. No business can survive if all payers pay marginal costs or even if some important payers pay marginal costs while others pay average costs. We also note that “average” hospital costs are elusive by nature. In addition to shifting costs from one payer to another, hospitals can also become more efficient in response to cost-shifting pressures. Thus, the notion of appropriate average costs is as much a market response as a technical production issue.

We first define the cost shift: what it is and what it is not. We then provide a series of examples and a historical profile of the hospital cost shift since 1980, noting that cost-shifting pressures vary over time and across various geographic markets. We conclude with a series of observations on the implications of the cost shift, and we highlight the consequences of an untimely demise of the cost shift.

Defining The Cost Shift

We define the cost shift as systematically higher prices (above cost) paid by one payer group to offset lower prices (below cost) paid by another. In particular, the cost shift is the allocation of unpaid costs of care delivered to one patient population through above-cost payments collected from other patient populations. Cost-shifting pressures can be reduced if revenue reductions from public payers lead to increases in hospital efficiency or reductions in hospital service capacity.

In a strict sense, the cost shift is really a shifting of revenues across payers. It allows hospitals to provide “social” goods—activities associated with hospital missions, such as teaching, research, standby capacity, and charity care. Public and private payers have been willing to cover the cost of social goods. The original Medicare retrospective cost-based reimbursement system was modeled after existing insurance payment systems that allowed teaching hospitals' missions to be funded through “allowable” cost reimbursements. Similarly, private payers' payment systems explicitly pay for teaching and other social-goods costs.

Economists differentiate the cost shift from the concept of price discrimination in which variation in prices charged to different payers does not reflect variation

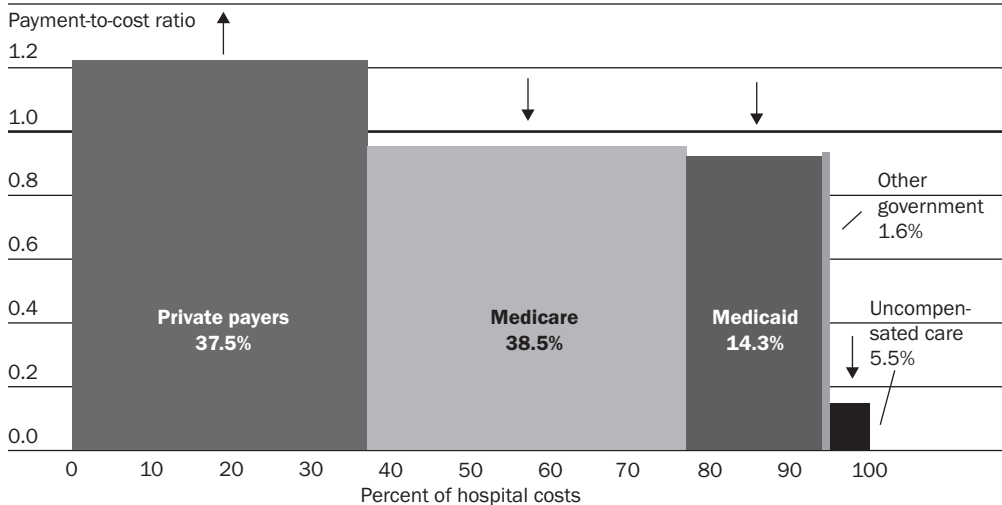
in costs. Rather, price discrimination reflects the fact that different customers are more or less willing to pay for a particular service, irrespective of underlying costs. Price discrimination is best seen in the airline industry, wherein different prices are set for different categories of customers for the same service, to maximize revenues from each set of payers. In the cost-shifting paradigm, prices faced by one group of payers are higher because another group of payers pays less. The cost shift requires that hospitals have a degree of market power; it can be thought of as “the phenomenon in which changes in administered prices of one payer lead to compensating changes in prices charged to other payers.”¹⁰

The Need To Shift Costs

As some payers react to rising health care spending, which continues to outpace economic growth, by reducing their payments relative to costs, providers attempt to avoid the resulting burden of under- and unreimbursed health care costs by raising the remaining payers’ prices. Beyond a certain point, payers’ attempts to foster greater efficiencies in hospitals by cutting payments shift their cost burden to others with less market power. Our pluralistic financing system implicitly encourages this phenomenon. In fact, the U.S. health care economy seems to depend upon the “lubricant” of various forms of cost shifting to ensure coverage for the under- and uninsured and, to a certain extent, to pay for social goods.¹¹

Nowhere does this cost shifting play out more compellingly than in the hospital sector. Public payers and the uninsured benefit from the cost shift, while private insurers pay for it. Exhibit 1 shows the cost-shift payment hydraulic for U.S. short-

EXHIBIT 1
The Cost-Shift Payment Hydraulic, As Of 2002



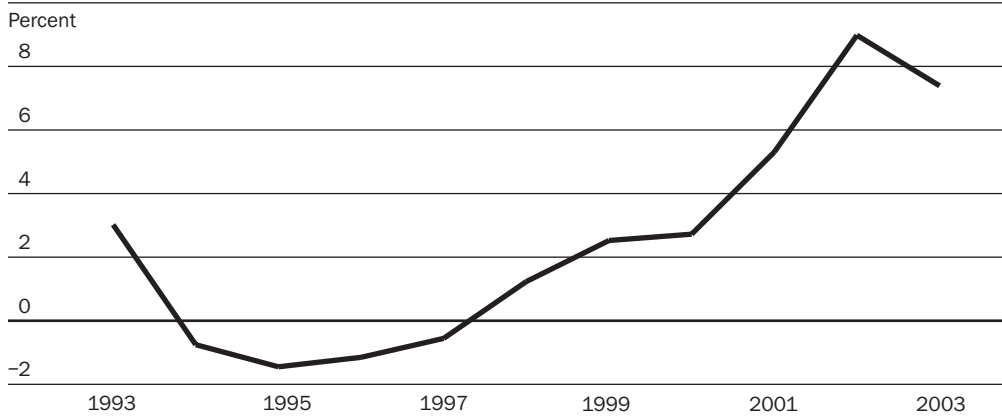
SOURCE: Lewin Group analysis of data presented in Lewin Group, *Trendwatch Chartbook 2005: Trends Affecting Hospitals and Health Systems* (Washington: American Hospital Association, May 2005).
NOTE: The bold ruling line at 1.0 represents costs and payments in balance.

term acute care hospitals. This deceptively simple chart conveys much information. The vertical axis indicates the payment-to-cost ratio. For every dollar of cost, this ratio indicates the percentage of payment made by a specified payer. For instance, the payment-to-cost ratio of 1.22 for private payers indicates that for each dollar of cost, hospitals receive \$1.22 from private payers. This excess covers shortfalls by other payers and contributes to positive hospital margins (earnings greater than costs), thereby cross-subsidizing social missions.

The horizontal axis indicates the percentage of hospital costs associated with each payer. For instance, private payers accounted for approximately 37.5 percent of costs in 2002. The intersection between the two axes provides useful information. A payer representing a large proportion of the cost base with a payment-to-cost ratio less than 1 (payments are less than costs) is highly detrimental to a hospital's finances. For example, in 2002 Medicare paid ninety-five cents on the dollar and accounted for 38.5 percent of costs. In the aggregate, Medicare thus reduced total hospital margins by 1.93 percentage points.¹² If hospitals, on average, attempted to maintain margins of 4–6 percent in 2002, as they generally have done for the past two decades, they needed to make up for this nearly two-percentage-point reduction in total margin resulting from Medicare underpayment.

This analysis illustrates the inverse relationship between payment-to-cost ratios for below-cost payers (Medicare, Medicaid, and uncompensated care) and the level of cross-subsidizing or cost shifting to above-cost payers (private payers). The differences in payment-to-cost ratios between public and private payers exert “hydraulic” pressures for cost shifting on U.S. hospitals; this has been described in the literature as a dynamic process. Cost-shifting pressure results from Medicare underpayment places pressure on other payers for increased payments. Nationwide, Medicaid payments (including disproportionate-share hospital, or DSH, payments and other supplemental payments) leave 8 percent of Medicaid hospital costs uncovered. If this differential increases, it must be compensated for. The cost-shift hydraulic, as presented, is based on hospitals' definitions of *Medicare*, *Medicaid*, and *private payers' costs* as reported through the American Hospital Association (AHA) annual survey. These costs reflect average production efficiency and may or may not reflect the minimum cost levels required to treat various payers' patients.

Payers consistently argue that their payments are adequate and that hospital costs are out of line. They maintain that costs might be “inflated” on the expectation of generating higher revenues. The Medicare hospital prospective payment system (PPS) and private payers have pushed hospitals to reduce their costs over time, and hospitals have responded. For instance, the annual rate of change of Medicare acute inpatient care costs per case decreased four percentage points between 1993 and 1997 (Exhibit 2), while both Medicare and private payer care payment-to-cost ratios declined (data not shown). Lengths-of-stay fell 18 percent, from 5.5 days in 1992 to 4.5 days in 2003; they dropped at an average annual rate of 3.3 percent from 1992 to 1997. In practice, then, the cost shift is never a one-for-one

EXHIBIT 2**Change In Medicare Acute Inpatient Costs Per Case, 1992–2003**

SOURCE: Medicare Payment Advisory Commission, *A Data Book: Healthcare Spending and the Medicare Program* (Washington: MedPAC, June 2005).

NOTE: Each data point represents change from previous year; thus, 1993 shows change since 1992.

transformation of “underpayment dollars” to “overpayment dollars,” as hospitals invariably find ways to internally absorb a portion of the pressures through increased efficiency and service reductions.

History Of Cost Shifting: The Hospital Industry

Cost shifting has its roots in community-rated insurance, which depends upon “overpayments” relative to underlying health care costs incurred by youthful and less sick populations. These payments cover “underpayments” relative to health care costs incurred by older and sicker populations. This form of cost shifting was an outgrowth of hospitals’ and physicians’ charging practices before health insurance was generally available. Most discussion of cost shifting now centers on hospitals, where, to varying degrees, public payers and self-pay patients have paid less than their costs. The financial losses incurred by hospitals in providing care to these populations have generally been cross-subsidized by revenue surpluses generated by the privately insured.

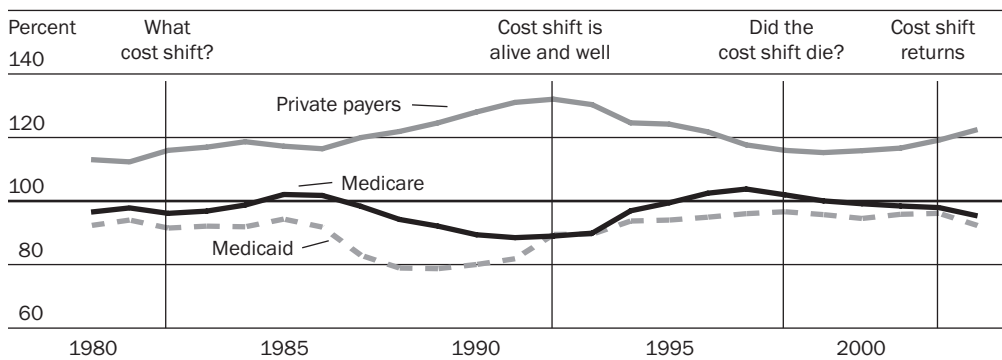
Most hospitals are nonprofit institutions that do not consider profit maximization to be their principal objective. The missions of nonprofit hospitals often seek to “meet the needs of the community,” which can and often does conflict with the objective of profit maximization. In a recent Lewin Group survey of hospitals’ charge-setting processes for the Medicare Payment Advisory Commission (MedPAC), we found that hospitals’ missions are an important consideration when staff set or adjust charges for specific services. MedPAC notes that in setting charges, hospitals “also think about other missions which may, as previously discussed, include the need to cross-subsidize some services with others.”¹³ Furthermore, hospital governance is often composed of physicians and community lead-

ers. It tends to lead hospitals in often conflicting directions that are not necessarily directed toward profit maximization.¹⁴

Exhibit 3 below shows the relationship of public and private payers' payment-to-cost ratios and the resultant cost-shifting pressure (or payment hydraulic) over time. During the early to mid-1980s, new forms of administered prices were put in place for public payers, resulting in these payers' covering their costs. Over this time period, private payers' payments were in the 1.10–1.20 range, which suggests a relatively low need to shift costs. From the late 1980s to early 1990s, cost shifting was a major factor in hospitals' pricing behavior, as payment-to-cost ratios for Medicare and Medicaid declined. Hospital profit margins remained at about 4 percent, despite a decrease in Medicare and Medicaid payments. With the observed increase in private payers' payment-to-cost ratios, it appears that hospitals maintained their margins by shifting costs to the private sector. To do this, hospitals apparently had sufficient market power to determine prices for private payers' patients that were relatively high compared to their costs.

With the growth of managed care in the mid- to late 1990s, private payers were increasingly unwilling to pay higher hospital prices as market power shifted toward managed care companies. During this era, hospitals were compelled to negotiate prices with insurers. Also during this time, public-payer payment declined with the implementation of Balanced Budget Act (BBA) of 1997. Hospitals' market power suffered a setback, and hospitals could no longer shift costs. This could have contributed to hospitals' declining profit margins after the implementation of the BBA. In 1999 the average total margin for all hospitals fell to its lowest level in ten years.¹⁵ During the early 2000s the balance of power between hospitals and private payers appears to have shifted once again, as cost shifting returned. This shift resulted from a decrease in public payers' payment-to-cost ratios coupled with a weakened managed care industry and an increasingly focused hospital sec-

EXHIBIT 3
Aggregate Hospital Payment-To-Cost Ratios, By Payer, 1980–2003



SOURCE: Lewin Group analysis of data presented in Lewin Group, *Trendwatch Chartbook 2005: Trends Affecting Hospitals and Health Systems* (Washington: American Hospital Association, May 2005).
NOTE: Medicaid includes disproportionate-share hospital (DSH) payments.

tor. Kelly Devers and colleagues note that changes in three areas—the policy and purchasing context, managed care plan market, and hospital market—appear to explain why hospitals’ leverage increased, particularly between 2000 and 2001.¹⁶ As a result, private payers’ payments relative to costs rose to 119 percent by 2005, thereby allowing hospitals to approach their historical margin levels.

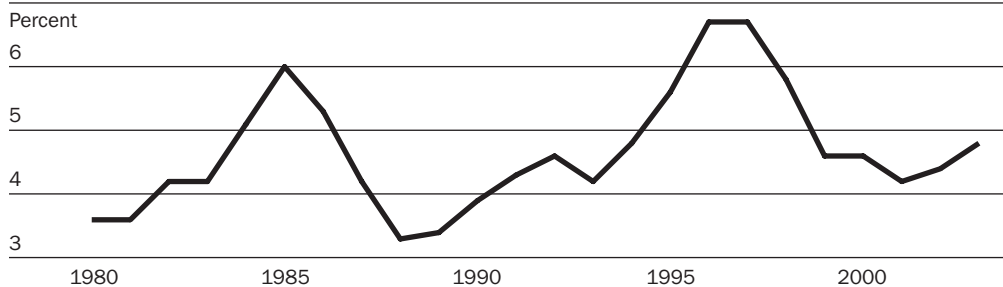
Aggregate total hospital margins between 1980 and 2003 fluctuated within a four-to-six-percentage-point range (Exhibit 4), suggesting ebbs and flows in the balance of market power over time. Despite changes in the levels of public payments relative to costs over time, hospitals have shown relatively consistent total margins over a narrow range, which has enabled hospitals to modernize, refurbish, and stay current with technological advances.

Declines in hospitals’ total margins tend to correspond with major Medicare payment policy changes. For instance, hospital margins declined from approximately 6 percent in the mid-1980s to less than 4 percent by 1988. This could have resulted from the compensating changes to the Medicare inpatient PPS. Similarly, hospital margins declined immediately after 1997. This is largely thought to have been attributable to the implementation of the BBA, which reduced hospital payments more than anticipated. However, in the early 2000s, despite a decline in public payers’ payments relative to costs, with the “return” of the cost shift to private payers, hospitals’ total margins are on an upward trend.

A Cross-Sectional Look At The Hospital Cost Shift

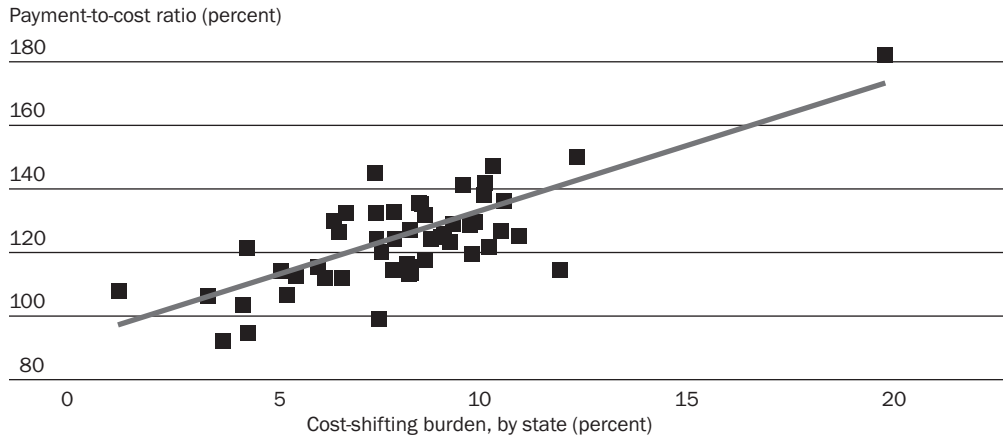
In a state-level analysis, we sought to determine whether some measure of private payers’ payment-to-cost ratios are higher among hospitals that receive lower Medicare or Medicaid patients than among those that do not. Exhibit 5 shows the correlation we found between the state-level aggregate private payer payment-to-cost ratio and the corresponding aggregate Medicare, Medicaid, and uncompensated care cost-shifting burden using AHA annual survey data for 2000, the latest

EXHIBIT 4
Aggregate Total Margins For U.S. Hospitals, 1980–2003



SOURCE: Lewin Group analysis of data presented in Lewin Group, *Trendwatch Chartbook 2005: Trends Affecting Hospitals and Health Systems* (Washington: American Hospital Association, May 2005).

NOTE: Total hospital margin is calculated as the difference between total net revenue and total expenses divided by total net revenue.

EXHIBIT 5**Correlation Between Private Payers' Payment-To-Cost Ratio And Medicare, Medicaid, And Uncompensated Care Cost-Shifting Burden**

SOURCE: A. Dobson, J. DaVanzo, and N. Sen, "Cost-Shifting: An Integral Part of the U.S. Health Care Finance" (Paper presented at AcademyHealth and sponsored by the Robert Wood Johnson Foundation, 13 November 2002).

NOTE: The correlation coefficient between private payers' payment-to-cost ratio and Medicare, Medicaid, and uncompensated care cost-shifting burden is 0.753.

year for which these data are publicly available. The Medicare, Medicaid, and uncompensated care cost-shifting burden refers to the ratio of costs that are not covered by Medicare, Medicaid, and uncompensated care relative to total hospital expenses for these patients. Our analysis indicates that for community hospitals, as the cost-shifting burden increases state by state, private payers' payment-to-cost ratio increases. The correlation coefficient (.753) between private payers' payment-to-cost ratio and the Medicare, Medicaid, and uncompensated care cost-shifting burden is statistically significant at the 95 percent confidence level.

We further estimated a regression model with private payers' payment-to-cost ratio at the state level as the dependent variable and the Medicare, Medicaid, and uncompensated care payment-to-cost ratio and health maintenance organization (HMO) penetration at the state level as explanatory variables. Our model demonstrated statistically significant inverse relationships between the dependent variable and the explanatory variables. The parameter estimates of our regression model were Medicare, Medicaid, and uncompensated care payment-to-cost ratio: -3.41 ; HMO penetration: -0.56 ; $p < .01$ for both coefficients; and $R^2 = .7333$. This finding suggests that HMOs' resistance to cost shifting can be effective.

We have also found evidence of cost shifting in several state-level analyses. First, the Pennsylvania Legislative Budget and Finance Committee commissioned the Lewin Group to conduct an economic/actuarial study of the Pennsylvania Medical Assistance (Medicaid) program, to evaluate how the state's Medicaid payments affected hospitals' financial performance, using multiple primary and secondary data sources. We found that in 1999, Medicare and private payers each

represented just over 40 percent of total hospital costs, while Medicaid represented slightly above 8.5 percent. Private payers paid 104 percent of their costs, Medicare covered its costs, and Medicaid paid approximately 80 percent of its costs. Compared with the U.S. average, Pennsylvania hospitals' payment-to-cost ratios were fourth-lowest for private payers and ninth-lowest for Medicaid.¹⁷

We found similar results in Illinois, in a study commissioned by the Illinois Hospital Association (IHA), analyzing Illinois Medicaid hospital payments. According to this analysis, Medicaid payments had been below cost and payments from private insurers, above cost, throughout the 1990s. The results for Illinois Medicaid were based on data "as reported" by each hospital in AHA annual surveys. Because payments from private insurers had been greater than their costs, hospitals collectively had been able to generate positive total margins and cover shortfalls from public payments.¹⁸

In work done by others, a report prepared by the New Hampshire Center for Public Policy Studies found that Medicare paid New Hampshire hospitals only 87 percent of their expenses, and Medicaid paid only 77 percent. This study quantified the cost shift as adding 17 percent to the charges that employers and privately insured individuals paid for hospital care in 2001.¹⁹

The Cost Shift As A Form Of Premium Taxation

The cost-shifting dynamic places hospitals in the unenviable position of playing the role of private-sector tax collectors, to maintain their financial solvency. To the extent that public programs are not adequately funded through general tax revenues and trust funds, and the uninsured get care for which they do not fully pay, hospitals must attempt to "tax" the privately insured to make up the shortfall. Some of this shortfall is absorbed by increased hospital efficiency or a decreased emphasis on hospitals' social missions, but much of the difference eventually resurfaces in the form of increased health insurance premiums.

Employers indirectly fund the cost-shifting tax through their purchase of health insurance. They bear not only the cost of health care insurance for their employees but also a portion of the under- and uncompensated care pool. This is one reason why—aside from the underwriting cycle—private-sector employers' payments rise faster than underlying health care costs.²⁰ As health care premiums increase relative to increases in purchasing power because health care costs are rising more rapidly than wages, fewer employers and employees can afford health insurance. At this point, the number of uninsured people rises, further driving up cost-shifting pressures in the hospital sector. This secular trend in combination with technology-driven health care cost increases has the potential to destabilize the U.S. health care financing system to the extent that low-wage (if not median-wage) workers will no longer be able to afford health care coverage.

The costs of the uncompensated care cost shift to the privately insured have recently been estimated. In 2005 the cost of health care provided to people without

insurance, which is not paid for out of pocket by uninsured patients themselves, will exceed \$43 billion nationally. Of this, two-thirds (\$28 billion) is shifted to the privately insured, which amounts to an extra \$922 for family health insurance and \$341 for individual insurance.²¹

The cost-shifting premium tax can be legislated, as in Minnesota. In this instance, a 2 percent tax on medical services is paid for out of pocket by patients or passed through to their health plans. The tax was originally passed by the legislature in 1992 to fund the newly created program for the uninsured—Minnesota-Care (originally called HealthRight). Although Minnesota's tax is an explicitly legislated tax, it is “hidden” because it is not itemized on medical bills or premium statements.²² Another way to deal with the need for a premium tax is to encourage all payers to cover their costs, such as in Maryland, the last of the all-payer, rate-regulated states. In this instance, there is no need to shift costs, because all payers cover their costs plus those of the uninsured.

Implications Of The Cost Shift

This paper has posited that the cost shift has been and still is an integral aspect of the U.S. health care financing system. This hypothesis appears to be supported by longitudinal and cross-sectional hospital finance data. States with low public payments relative to costs and high degrees of charity care are associated with higher private payment-to-cost ratios. Commenting on the dynamics of the cost shift, the Congressional Budget Office (CBO) noted in 1993 that “further attempts to control public-sector spending would probably produce additional cost-shifting to the private sector, although it is not known whether past rates of cost-shifting could occur.”²³

Although the cost shift is likely not a dollar-for-dollar tax on underpayments, because of hospitals' ability to absorb some underpayment pressures, its potential implications are extensive. If it did not exist, who would pay for care of the uninsured, and how would underfunded public programs be supported? The “death” of the cost shift could bring about a financial breakdown of the pluralistic U.S. health care delivery system, in that not all who need care would be able to obtain it. This demise would be hastened if health care costs continue to rise faster than wages, pricing many low-wage workers out of the market.

Private payers' willingness to accept a rising cost-shifting burden could erode. If this were to occur, hospitals in particular could be rendered much less financially viable. Hospitals as we know them, in terms of their current missions, might cease to exist. As we consider future payment levels and rules for public and private payers alike, it is important to understand how the cost shift operates and to either explicitly preserve it or replace it with another financing mechanism.

The breaking point at which private payers refuse to pay the premium tax is difficult to predict. This nexus is clouded by the fact that the cost-shifting tax burden, dollar-for-dollar, is much less transparent than that of general-revenue taxes.

Payers of the premium tax do not pay a defined tax bill; therefore, there is no direct method of determining the level of the tax at the individual payer level. That said, cost shifting leads to some portion of premium increases for the insured, who indirectly cover the cost of care for the un- and underinsured, as well as direct costs for more-intensive care, underwriting cycles, and the like.

Higher premiums, due in part to the cost shift, ultimately reflect lower wage growth than would otherwise be the case. This scenario is most likely with more-comprehensive health insurance plans, because they provide extensive coverage. This is most evident with General Motors and other legacy firms, especially in the funding of retiree health care coverage, which is proving to be problematic.

As Congress and states consider future Medicare and Medicaid funding, it is important to understand the role of the cost shift in hospital financing. Medicaid plays a critical role in the dynamic. To the extent that state Medicaid programs cut back on payments and hospitals attempt to make up some of the difference between their Medicaid costs and payments, the shortfall of explicit general tax revenues is filled with cost shift-related cost increases to private payers. The notion that cutting Medicare and Medicaid payments reduces aggregate tax burden is misguided. Although hospitals can become more efficient and absorb some of the budget cuts internally, Medicare and Medicaid hospital spending reductions mostly shift the incidence of the tax burden from explicit general revenue to a form of premium tax on those who pay for health care through insurance coverage.

Thus, discussion of the cost shift is more important than a mere theoretical dilemma or an operational solution to maintaining margins. For instance, a key policy question to consider when future Medicare budgets are legislated is whether Medicare should pay only the “approved costs in full that are incurred by efficient providers when they offer necessary and appropriate care to beneficiaries” or consider the overall financial condition of providers and public purpose.²⁴ In *Fischer v. United States*, the U.S. Supreme Court maintained that Medicare payments “are made not simply to reimburse for treatment of qualifying patients, but to assist the hospital in making available and maintaining a certain level of and quality of medical care, all in the interest of both the hospital and the greater community.”²⁵

As public payers pay less, the financial pressure on hospitals renders them less capable, not only for the uninsured and public beneficiaries, but for all those who use and expect a high level of hospital services. This, in the end, might be the most important impact of future Medicare and Medicaid spending reductions.

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