How A New ‘Public Plan’ Could Affect Hospitals’ Finances And Private Insurance Premiums

A new government-run plan could produce sharply higher private insurance premiums if hospitals proved unable to cut their costs.

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ABSTRACT: Two key health reform bills in the House of Representatives and Senate include the option of a “public plan” as an additional source of health coverage. At least initially, the plan would primarily be structured to cover many of the uninsured and those who now have individual coverage. Because it is possible, and perhaps even likely, that this new public payer would pay less than private payers for the same services, such a plan could negatively affect hospital margins. Hospitals may attempt to recoup losses by shifting costs to private payers. We outline the financial pressures that hospitals and private payers could experience under various assumptions. High uninsured enrollment in a public plan would bolster hospital margins; however, this effect is reversed if the privately insured enter a public plan in large proportions, potentially stressing the hospital industry and increasing private insurance premiums. [Health Aff (Millwood). 2009;28(6):w1013–24 (published online 15 September 2009; 10.1377/hlthaff.28.6.w1013)]

Current discussions around health reform have centered on two seemingly conflicting goals: extending insurance coverage, and reducing the amount spent on health care. Proponents argue that introducing a “public” or a “government-run plan” (we use both terms interchangeably) would simultaneously increase coverage and control expenditures. However, few systematic examinations of potential behavioral responses and resulting economic consequences have been conducted to date.

Predicting the impact of a government-run plan on future health care financing is difficult because some aspects of the plan, as well as the exact responses of patients, providers, and payers are unknown. Using a series of assumptions about enrollment, payment rates, and hospitals’ response to changes in reimbursement,
we present an analysis based on California data that explores the potential impact of a government-run plan on hospitals’ patient-revenue margins and on private health insurance premiums.

As of this writing, two proposed health reform bills—the America’s Affordable Health Choices Act of 2009, HR 3200; and a similar bill passed by the Senate Health, Education, Labor, and Pensions (HELP) Committee, the Affordable Health Choices Act—would establish the option of a government-run plan in a new national health insurance exchange. An advisory committee chaired by the U.S. surgeon general would recommend a basic benefit package, including preventive services with no cost sharing, mental health services, oral health and vision care for children, and caps on annual individual and family expenditures.

A key issue in evaluating the effects of a government-run plan is, “Who pays what?” It turns out that if some pay less, others may pay more; this phenomenon is what we refer to as the “cost-shift hydraulic.” The central behavioral change we consider is the degree to which hospitals might actually shift their costs to private payers if their overall revenues are reduced by a government-run plan seeking to pay providers less than private insurers pay. As we noted in prior work, “The cost-shift is never a one-for-one transformation of ‘underpayment dollars’ to ‘overpayment dollars,’ as hospitals invariably find ways to internally absorb a portion of the pressures,” through increased efficiencies, reduced services, and lower margins. The hospital cost-shift paradigm serves as a useful lens through which we can view the vulnerability of the U.S. health care financing system.

Although policy debates on the scope and degree of cost shifting continue, it is important to consider potential cost shifts in today’s discussions of health reform. If the public plan were to pay at Medicare rates, or at Medicare rates plus 10 percent, these payments could intensify the financial pressures exerted on hospitals from existing Medicare and Medicaid payment levels. A recent Washington Post article, quoting noted health care economists Paul Ginsburg, Harold Luft, and Kenneth Thorpe, concluded that “unless doctors and hospitals are able to respond to the government cuts by becoming more efficient, the result could be higher cost for insurers, employers, and people with private medical coverage.” Given the most recent Medicare Trustees’ report, which indicates that Medicare Part A (which covers inpatient care in hospitals, critical-access hospitals, and skilled nursing facilities) will become financially insolvent by 2017, the introduction of a government-run plan could have long-run implications for hospitals’ financial stability, particularly if the future Medicare payment rate cuts are enacted.

**Study Data And Methods**

The examination of cost shifting in this paper is based on 2007 data from the California Office of Statewide Health Planning and Development (OSHPD). These data include hospital-level financial data by payer type. Our analysis was restricted to “comparable” acute care hospitals: only hospitals with full annual
disclosure reports. This requirement excludes Kaiser Foundation Hospitals; Shriners Hospitals for Crippled Children; and state hospitals operated by the California Departments of Mental Health, Developmental Services, and Veterans Affairs. Within this selection of acute care hospitals, we further subdivided our sample into hospitals that are eligible for disproportionate-share hospital (DSH) payments. There are a total of 282 hospitals in our analysis, of which 91 are disproportionate-share hospitals.

Our model estimated how the cost shift could affect hospitals and private payers financially. We first calculated a baseline by determining the historical revenues and payment-to-cost ratios for private payers, Medicare, Medicaid, and the uninsured, and the total hospital patient-revenue margin. As the proportion of revenue received from the payer with the highest payment-to-cost ratio decreases and the proportion of revenue from payers with lower payment-to-cost ratios increases, hospitals experience increased financial stress. In response to this, hospitals’ patient-revenue margins decrease, absent any cost-reduction strategy or increases in revenue from remaining higher-paying private-payer patients.

For all sample hospitals, we allowed two variables to change: (1) the public plan payment rate; and (2) the reallocation of revenue into the public plan of both the uninsured and the privately insured. We refer to this reallocation of revenue as the “reallocation rate.”

Our model assumed that hospitals shift costs to private payers at a 50 percent rate. That is, after the change in revenue was calculated based on the government-run plan reallocation rates, our model allowed hospitals to shift 50 percent of the change in revenue to private payers. This shift is accounted for by a change in the private-payer payment-to-cost ratio. We used this change as a basis for commenting on potential changes to private insurance premiums by linking the results of our model to analyses conducted by Milliman Inc. The remaining 50 percent of the change in revenues places pressures on hospital patient-revenue margins, as shown in our model. Some hospitals may be able to lower costs through increased efficiencies over time; this latter effect is not captured in our analysis.

As hospital patient-revenue margins decrease after the public plan is introduced and private payers lose market share, hospitals are likely to try to intensify their cost shift to the remaining private-payer patients. The maximum amount of cost shift possible in a government-run plan is unknown. Any increases in the cost shift above 50 percent would slow the rate of decline of hospital patient-revenue margins but would increase private payers’ payment-to-cost ratios more rapidly.

A payment-to-cost ratio was determined for each payer group by dividing net patient revenue by operating expenses. Hospital patient-revenue margin was defined as total net patient revenue minus operating expenses, divided by net patient revenue, multiplied by 100. Net patient revenue included DSH payments received by the hospitals for Medi-Cal (California Medicaid) patients and the uninsured. All payers’ net patient revenue factors into the intergovernmental transfers paid to the
state. DSH and intergovernmental transfer payments were included in all analyses and payment-to-cost ratios. Operating expenses were the sum total of patient care costs. Our model exactly replicated the hospital patient-revenue margins calculated by the OSHPD in its data file. We modeled the cost-shift effect as follows: The government-run plan payment rate varies from a payment-to-cost ratio of 0.77 (California Medicare rates, given our cost variable) and 0.85 (California Medicare rates + 10 percent). Using our payment-to-cost ratio variables, we produced a California Medicare payment-to-cost ratio somewhat lower, and a Medicaid payment-to-cost ratio somewhat higher, than published estimates, while our private-payer payment-to-cost ratio of 1.30 is comparable. We modeled a variety of margin and payment-to-cost ratio calculations; our results, in terms of increased financial pressures, are consistent across varying alternatives.

We created five scenarios that vary the reallocation rates of the uninsured and the privately insured. Although we acknowledge that current legislative proposals would increase Medicaid eligibility, we did not model the shift in revenues across the Medicare or Medicaid populations; such modeling would not materially affect our results. The first scenario represents the baseline case, which reflects the current situation of zero enrollment in a public plan. The second scenario allows 90 percent of the currently uninsured to be paid for by the public plan. The remaining scenarios maintain the reallocation of uninsured revenues into the government-run plan at 90 percent but allow the privately insured revenues to shift to the government-run plan at 25 percent, 50 percent, and 75 percent.

Predictions about the number of privately insured people who will enroll in a public plan vary greatly. The proposed structure for a government-run plan is still in flux. Key unresolved issues include the size of employers allowed to access the national insurance exchange, the shape and scope of “play-or-pay” provisions for employers, and whether the government-run plan will pay at Medicare rates or a “negotiated rate.” In addition, in the House bill the secretary of the Department of Health and Human Services (HHS) is granted the authority by the third year to determine the size of firms whose employees will be allowed to obtain coverage through the insurance exchange. Our paper does not predict which version of a public plan will ultimately prevail, but it assumes a broad range of reallocation rates in order to model both ends of a public-plan spectrum, consistent with the range of possibilities in how the plan could be configured.

California as a bellwether state. This study was based on California OSHPD data, widely recognized as among the most complete and robust publicly available all-payer health care finance data. California contains more than 10 percent of the U.S. population, and its health care system has often indicated trends to come in the rest of the nation—from the growth in managed care in the 1980s to the rapid increase in the number of uninsured people in the 1990s.

How profit margins and payment-to-cost ratios are interpreted in this study. The hospital patient-revenue margin used in this paper explicitly matched
changes in patient revenues to patient costs. That is, we used these margins to understand the effect of cost shifting without consideration for revenues gained through other services (for example, parking lots, cafeterias, gift shops, returns on investment, hospital endowments, and so on).

Hospital patient-revenue margins are less than both operating margins and total margins. Average total hospital margins have ranged from 3 percent to 7 percent since 1981. Hospital patient-revenue margins, however, are historically negative, ranging from –1.0 percent to –4.3 percent since 1990. Although hospitals achieve negative patient-revenue margins (despite the current cost shift to private payers), other operating revenue and investments can allow hospitals to maintain positive total margins while continuing to treat patients. It is likely, however, that returns on investment will decrease in future years because of lower returns on equities, further decreasing operating revenue and, ultimately, total margins.

The absolute level of the hospital patient-revenue margins in our analyses is not as important as its change. Decreases of two to four percentage points in these margins resulting from a 50 percent cost shift would indicate a substantial change in hospitals’ financial condition.

**Study Results**

Exhibits 1–3 show the effects of different reallocation scenarios on hospital patient-revenue margins and private payers’ payment-to-cost ratios. Specifically, we explored the effects on these margins and ratios for the baseline case (zero public-plan enrollment) and different mixes of revenue reallocation from both the uninsured and the privately insured. Departures from the baseline case represent changes in financial pressures. Each exhibit also shows the effects under two public plan payment scenarios expressed as payment-to-cost ratios: payment at California Medicare rates (0.77) and California Medicare rates plus 10 percent (0.85).

A key finding is that a high level of enrollment of uninsured people in the government-run plan with no enrollment of the privately insured positively affects hospital margins. However, as the privately insured enroll in the public plan in rising proportions, this positive effect is eventually reversed, and hospital patient-revenue margins decrease. We also found that as DSH payments are reduced or eliminated, the public plan that pays at Medicare rates plus 10 percent negatively affects safety-net hospitals. In addition, reallocation of the privately insured to the public plan could lead to increases in private insurance premiums. At the extreme, these unintended effects could force some private-plan enrollees out of the insurance market.

**Impact on all acute care hospitals.** California has 282 “comparable” acute care hospitals. In the current situation (baseline), the hospital patient-revenue margin is –2.8 percent, and the private-payer payment-to-cost ratio is 1.30. The total margin for these hospitals is 6.6 percent.

The uninsured population across these hospitals represents only 1.5 percent of
EXHIBIT 1
Effect Of Government-Run Plan On Hospital Patient-RevenueMargins And Private-Payer Payment-To-Cost Ratios: All Acute Care Hospitals, With Disproportionate-Share Hospital (DSH) Payments Unchanged

SOURCE: Authors’ analysis of 2007 data from the California Office of Statewide Health Planning and Development.
NOTES: PCR is payment-to-cost ratio. This analysis is based on the assumption of a 50 percent cost shift; see text. Reallocation rate refers to the allocation of revenue into the government-run plan of both the uninsured and the privately insured. Hospital patient-revenue margins (dotted lines) relate to the left-hand y axis. Payment-to-cost ratios (solid lines) relate to the right-hand y axis. The 0%/0% points represent a baseline (as denoted by thin dotted line).

total net patient revenue. The privately insured represent 50 percent of the total net patient revenue. Reallocating 90 percent of the uninsured to the government-run plan increases hospital patient-revenue margins, improving financial stability (Exhibit 1). However, hospital patient-revenue margins fall as the privately insured enroll in the government-run plan (90 percent/25 percent, 90 percent/50 percent, and 90 percent/75 percent). As reallocation to the government-run plan expands beyond the previously uninsured, substantial financial pressures on private payers develop through increased payment-to-cost ratios. The reallocated revenue from the previously uninsured does not compensate hospitals or private payers for the proportionately large reallocation of privately insured revenue.21

As the payment rate of the public plan decreases from 0.85 to 0.77, the reallocation rate of the privately insured exerts greater financial pressures on the hospital and insurance sectors. As private-payer payment-to-cost ratios increase, private insurance premiums could become progressively more expensive. We cannot determine the exact breaking point in the private-sector insurance market, but, as Exhibit 1 shows, when the government-run plan reallocates 90 percent of the uninsured and 75 percent of the privately insured at Medicare rates plus 10 percent (0.85), the private-payer payment-to-cost ratio increases to 1.90—which suggests a tripling of cost-shift pressures on premiums. For the same scenario, the private-payer payment-to-cost ratio would increase to 2.50 if hospitals were able to shift 100 percent of the costs to private payers to maintain patient-revenue margins at
their current levels (data not shown).

Impact on disproportionate-share hospitals. California has ninety-one acute care hospitals that are eligible for DSH payments, with a baseline hospital patient-revenue margin of –14.9 percent and a private-payer payment-to-cost ratio of 1.05. The uninsured population across these hospitals represents 3 percent of total net patient revenue, while the Medi-Cal population represents 44 percent. The uninsured and Medi-Cal have payment-to-cost ratios of 0.36 and 0.97, respectively. DSH payments (net intergovernmental transfers), which are included in these payment-to-cost ratios, now represent almost 12 percent of net patient revenue for disproportionate-share hospitals.

At the current level of DSH payments (Exhibit 2), reallocating 90 percent of the uninsured and 75 percent of the privately insured to the government-run plan that pays at a payment-to-cost ratio of 0.85 would allow the hospital patient-revenue margin and private-payer payment-to-cost ratio to remain relatively unchanged from the baseline. However, when the government-run plan pays at 0.77, enrollment of the privately insured in the plan overcomes the positive effect of covering the uninsured on hospital patient-revenue margins and private insurance premiums, but only by a small amount.

Disproportionate-share hospitals might lose patients as the previously uninsured become covered by the public plan. This loss of patient revenue and a resul-
A significant decrease in the scope of operations would reduce safety-net hospitals’ ability to provide critical services such as outreach, transportation, language services, and special programs for the disadvantaged. The shift of patients out of disproportionate-share hospitals into other hospitals because of public plan coverage would likely increase those other hospitals’ revenue; to what degree is unknown. In comparison, when 90 percent of revenue from the uninsured and 75 percent of revenue from the privately insured from non-disproportionate-share hospitals is reallocated to the public plan that pays at a payment-to-cost ratio of 0.85, the private-payer payment-to-cost ratio increases to 2.19 (from 1.40), and the hospital patient-revenue margin decreases to –6.8 percent (from 1.7 percent) (data not shown).

**Impact of removing DSH payments from DSH hospitals.** Although the extent of DSH payment reductions for disproportionate-share hospitals under a public plan is unknown, we assumed that DSH payments will be reduced in exchange for increased coverage of the uninsured. Because DSH payments are provided to cover the costs of both uninsured and Medi-Cal patients, we modeled their removal at half the reallocation rate of the uninsured. That is, when 90 percent of the uninsured are enrolled, we assumed that 45 percent of DSH payments would be removed and 45 percent of intergovernmental transfer payments would be returned to hospitals. This assumption appropriately allows for hospitals to continue receiving a portion of current DSH payments, to cover underpayments from Medi-Cal.
Phasing out DSH payments at the above rate (Exhibit 3) would increase the private-payer payment-to-cost ratio from 1.05 to 1.13 and decrease the hospital patient-revenue margins from –14.9 percent to –15.6 percent—an increase in financial pressure compared to what is depicted in Exhibit 2.

The negative impact on disproportionate-share hospitals would be greatly increased if DSH payments were removed at a rate equal to the uninsured enrollment rate (that is, 90 percent reduction of DSH payments with 90 percent enrollment; data not shown).

**Health insurance premiums.** The cost-shift pressures on private payers associated with government-run plan reallocation rates could have a direct impact on the price employers and individuals pay for private insurance premiums as higher hospital payments are translated into higher premiums (Exhibit 4).23

According to Milliman Inc., the estimated proportion of insurance premiums attributed to cost shifting in California was 14 percent, or $1,690, in 2006 for a family of four in a typical commercial preferred provider organization (assuming an annual premium of $13,800).8 This figure represents the cost shift from hospitals and physician payments as a percentage of aggregate health care costs, including hospital and physician services, prescription drugs, health plan administrative costs, and other miscellaneous services. Nationally in 2006, $1,512, or 10.6 percent of a $14,212 private insurance premium for a family of four, was due to cost shifting, according to the Milliman analysis.9

Assuming that physician services and other health care services are affected in the same proportion relative to the hospital cost shift by the introduction of a public plan (as implied in the Milliman estimates),9 an increase in the private-payer payment-to-cost ratio would cause an increase in annual insurance premiums. For

### EXHIBIT 4
Projected Cost-Shift Pressures On Average Private Health Insurance Premiums: Family Of Four In A Typical Commercial Preferred Provider Organization, California And The United States, 2006

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<thead>
<tr>
<th>Premiums in California</th>
<th>Premium independent of cost shift</th>
<th>Premium attributable to cost shift</th>
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<tr>
<td>PCR = 1.30 *</td>
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<td>PCR = 1.90 (50%)</td>
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<td>PCR = 1.90 (100%)</td>
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<td>Premiums in the U.S.</td>
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<td>PCR = 1.30 *</td>
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<td>PCR = 1.90 (100%)</td>
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**SOURCE:** Premium estimates from Milliman Inc.; see Notes 8 and 9 in text.

**NOTES:** PCR is payment-to-cost ratio. 50% (100%) indicates that the premium rate due to cost shifting increases 50 percent (100 percent) in response to a doubling of the private-payer PCR.

* 2006 premium data.
purposes of illustration, we assume that a doubling of this ratio relative to changes in hospital payments would result in an increase of 50–100 percent in the portion of the premium rate attributable to cost shifting. In that case, an increase in the ratio from 1.30 to 1.90 would translate to an increase in the average proportion of annual private insurance premiums. The range of increase would be $3,380–$5,070 in California for a family of four and $3,024–$4,536 nationally (Exhibit 4).

These projections are heavily dependent on assumptions. Although we are not predicting that the implementation of a government-run plan will triple the current amount of private insurance premiums as a result of cost shifting, we are demonstrating through our model that holding all other aspects of the current health care financing system constant, the pressures put on the system could drive premiums in that direction. Market realities will inevitably dictate by how much premiums will actually rise.

**Concluding Comments**

Because public programs often pay less than costs, many hospitals are not otherwise able to cover their costs, modernize, and stay current with emerging technology. To remedy this condition, hospitals may attempt to shift costs to the privately insured to offset other payers’ payment shortfalls relative to costs.

Although hospitals might not be able to shift costs of underpayments “dollar for dollar,” some degree of cost shifting to the private sector can help pay for the uninsured and for underfunded public programs. We assumed that hospitals can shift 50 percent of the costs and are responsible for the remaining 50 percent. Our analysis assumed that hospital costs will not change at the first instance of financial pressures and that hospital patient-revenue margins will decrease to cover the underpayments. Some hospitals, however, will be able to absorb much of the public-program underfunding through lower costs, program cuts, and fewer services (such as free clinics). Alternative reactions could include delayed implementation of electronic medical records and other activities currently being advanced by public policymakers.

**Testing the financing system.** This paper supports the contention that a government-run plan that is aggressively implemented to include large proportions of the privately insured could test the U.S. health care financing system. Rising hospital private-payer payment-to-cost ratios could be followed by rising private insurance premiums. The result could be the antithesis of what advocates say is the advantage of a public plan: to curtail cost growth for the average citizen.

The tension between improving hospital efficiency through reducing public-sector payments and, alternatively, shifting costs to private payers needs to be carefully considered. The Medicare Payment Advisory Commission (MedPAC) recently acknowledged that although “the need to constrain costs can be a positive effect of financial pressure, a concern is whether hospitals can constrain costs and still deliver high-quality care.” Similarly to how the recent downfall of
Lehman Brothers endangered the U.S. financial system, we suspect that the financial operations of the U.S. health care system are not predictable beyond certain limits of financial pressure.

**Effects of DSH payment policy.** Another aspect of government-run plan implementation is DSH payment policy—where DSH payments to hospitals are partially or totally discontinued in return for government-run plan coverage of the uninsured. On the surface, this would seem like a reasonable trade-off, and if DSH reductions are constrained, it very well may be. However, at least in California and other states with large DSH programs, DSH payments are an important aspect of safety-net hospitals’ finances and cover Medicaid patients as well as the uninsured.

The congressional budget office (CBO) notes that “undoing any current shifts of spending among different payers would not change the growth rate of federal spending beyond the first few years.” The CBO considers a list of potential drivers of cost savings that might allow for reduced payments to providers to produce efficiencies in health care delivery, but in the end, the CBO concludes that “imposing slower growth in payments would create ongoing pressure on providers to identify and adopt efficiencies; it would also, however, create risks for providers and patients if the efficiency gains were not achieved” (emphasis added). Our analyses are consistent with these concerns.

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**NOTES**


6. We reviewed the data for reasonableness but did not clean the data ourselves. Any error or incompleteness in the data could render our results incomplete.

7. Sheils J. The health benefits simulation model (HBSM): methodology and assumptions. Falls Church (VA): Lewin Group; 2009 Mar 31. Sheils estimates the cost shift at 40 percent, which is roughly consistent with our assumption.


10. To calculate operating expenses by payer, we distributed operating expenses across payers relative to the distribution of gross patient revenue. This standard approach is used by the American Hospital Association to calculate individual costs using hospital financial data.

11. The OSHPD defines operating expenses as “the total direct expenses incurred by various cost center groups for providing patient care by the hospital,” which include salaries and wages, employee benefits, professional fees, supplies, purchased services, and other expenses.


15. Key methodological assumptions are contained in Appendix Exhibit 1, online at http://content.healthaffairs.org/cgi/content/full/hlthaff.28.6.w1013/DC2.


19. Appendix Exhibit 2 compares California to U.S. averages on numerous health care metrics; see Note 15.


22. In our model, DSH payments are removed from the net patient revenue of Medi-Cal and the uninsured, and intergovernmental transfers are refunded to all payers (per instruction from OSHPD technical assistance staff) based on their proportion of gross patient revenue.

23. The concepts in this section were reviewed by two external consulting actuaries.

24. This is based on a full reallocation of 90 percent/75 percent at a public plan payment of 0.85.
