

NOTE: The final meeting of the OHFB on 2/17/09 meeting was a WEBINAR presentation by Dr. John McConnell.

# Estimating the Impact of a Provider Tax on Oregon Hospital Net Income

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Oregon Health Fund Board  
Modeling by John McConnell, PhD

## **Estimating the Impact of a Proposed Provider Tax on Oregon Hospitals Executive Summary**

### **Background**

Provider taxes and the matching funds they secure from the federal government are essential to the financing of the Oregon Health Plan (OHP). Oregon's 25 largest hospitals and Medicaid managed care organizations (MMCOs) have been paying these taxes since 2004 to provide coverage for adults with incomes below 100% of the federal poverty level (\$10,400 for an individual). However, under state law, both the hospital tax and the MMCO tax expire on October 1, 2009. On that same date, the federal government will enforce new rules that will deny matching funds for certain provider taxes, such as the tax paid here exclusively by Medicaid managed care organizations. As a result, Oregon's provider taxes must be renewed and restructured to continue to secure the federal matching funds that are fundamental to providing coverage to Oregon's children and very low-income adults.

House Bill 2009 proposes to renew and increase the provider tax paid by hospitals and to restructure the provider tax paid by Medicaid MCOs to apply to all managed care organizations in the state. The hospital provider tax will be increased to an amount sufficient to fully fund an expansion of OHP Standard by about 75,000 people, to a total of 103,000 by the end of the 2009-2011 biennium. The tax on managed care organizations will be established at a rate sufficient to cover 80,000 children.

Providing this coverage depends on the state's ability to obtain federal Medicaid matching dollars: for every \$1 of provider tax revenue, the federal government matches with \$1.66. Expanding these provider taxes provides the opportunity to secure a total of more than \$1 billion dollars in federal matching funds. This additional \$1 billion dollars offers the flexibility to consider policy options unavailable to the state otherwise.

The healthcare coverage made possible by a provider tax results in economic benefits to Oregon communities in several forms, not only by shifting uncompensated care away from the hospitals and physicians, but also through the jobs realized from the stimulus effect of a billion dollars in federal matching funds. This study, conducted by Dr. John McConnell on behalf of the Oregon Health Fund Board, focuses on one part of that equation—the impact of a provider tax on net income for Oregon hospitals, including those being assessed the tax as well as the small rural hospitals that are not assessed but benefit from reduced uncompensated care and increased revenues.<sup>1</sup>

### **The Goal of the Study**

In the absence of any changes in revenues, utilization, payer mix or efficiencies, a hospital tax set at 4% would be expected to result in a 4% decrease in net income for the taxed hospitals. However, when provider taxes are used for coverage, as is the case for the proposed Oregon tax, health care dollars move away from uncompensated care and toward new revenues, providing significant offsets to the tax:

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<sup>1</sup> Dr. McConnell's study was funded through the generous support of the Robert Wood Johnson Foundation (RWJF) through its State Coverage Initiatives (SCI) program.

- 75,000 uninsured adults below 100% of the federal poverty level (FPL) will now bring a source of payment through the Oregon Health Plan
- 60,000 uninsured children below 200% FPL will bring a source of payment through their enrollment in the Oregon Health Plan
- 20,000 children between 200% and 300% FPL will have access to subsidized commercial health insurance through KidsConnect and bring commercial payment
- Provision of uncompensated care will be significantly reduced.

The goal of this study is to model the combined effect of the tax, increased revenues and reduction in uncompensated care on hospital net income. The model takes into account the potential effect of assumptions regarding how much hospitals can raise rates (the pass through) to commercial health plans in response to the new tax, about the proportion of hospital costs that are variable versus fixed, and the expected utilization hospital services among newly insured individuals.

Dr. McConnell modeled the effects of a four per cent provider tax paid by all hospitals with 50 or more beds, a continuation of the tax exemption for the 32 small, rural hospitals with fewer than 50 beds and increased payments to all hospitals that provide care to OHP patients as proposed in HB 2009.<sup>2</sup>

The overarching goal of the study is not to solve for a single “answer” but rather to assess different policy options available to the state as it designs specific aspects of the provider tax program. Specifically, three scenarios are tested:

**Scenario 1: The Cost of Doing Nothing.** Under this scenario, the current provider tax sunsets on September 30, 2009 and is not replaced with a new revenue source. OHP Standard is reduced to zero and children’s coverage is not expanded beyond those currently enrolled.

Reimbursement rates for clients under this scenario are reduced to those outlined in the Governor’s Recommended Budget (GRB). This assumes 72% of Medicare costs for the DRG component of the Medicaid Managed Care rate and anywhere from 47% to 71% of Medicare cost in fee-for-service Medicaid.

The impact on hospital net income of doing nothing is defined as the difference between net income with 2007 reimbursement levels and net income that would result from the “do nothing” scenario.

**Scenario 2: 4% Tax with GRB Reimbursement.** Under this scenario, the current provider tax is restructured as a 4% tax on DRG hospital net patient revenue. Approximately 75,000 adults are added to OHP Standard, increasing enrollment from 25,000 to 100,000. The number of uninsured children is reduced from 116,000 to 36,000 by enrolling approximately 60,000 children in the Oregon Health Plan (OHP) and another 20,000 children in commercial plans. Reimbursement rates for clients under

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<sup>2</sup> Kaiser Sunnyside Medical Center is part of an integrated delivery system and does not report financial data for hospital operations to the Office for Oregon Health Policy and Research.

this scenario, like Scenario 1, are reduced to those outlined in the Governor's Recommended Budget (GRB).

The impact on hospital net income of Scenario 1 is defined as the difference between net income under the "do nothing" reimbursement levels and net income that would result from Scenario 2.

**Scenario 3: 4% Tax with Reimbursement Increased to 88% of Medicare Cost**

Under this scenario, both provider tax structure and coverage assumptions are the same as in Scenario 2. Reimbursement is increased to approximately 88% of Medicare cost across both MCO and FFS Medicaid.

The impact on hospital net income of Scenario 3 is defined as the difference between net income under the "do nothing" reimbursement levels and net income that would result from Scenario 3.

**Findings**

Briefly, Dr. McConnell's findings are as follows:

- Hospitals in Oregon would lose an estimated \$60 million in net income if the current provider tax expires and a new revenue source is not found to fund coverage for low-income Oregonians.<sup>3</sup>
- All of the 32 small and rural hospitals would come out ahead under any provider tax scenario, with net benefits totaling almost \$9 million a year;
- Of the 25 larger hospitals that would pay the tax, eight would get back more than they pay in taxes from increased revenue from new paying patients and reduced uncompensated care;
- The majority of the remaining hospitals would recover more than 70% of the taxes they pay from increased patient revenue.

The attached matrix shows the estimated effects of such a tax on all hospitals in Oregon compared to the "do nothing" scenario in which the current tax expires on Sept. 30.

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<sup>3</sup> These data are preliminary and will be finalized when corrected data from Legacy Health System is submitted.

Estimated Impact of Provider Tax on Oregon Hospital Net Income Under Three Scenarios: Do Nothing, 4% Tax with GRB Reimbursement, and 4% Tax with Reimbursement Increase

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Hospital Name	2007		Impact on Hospital Net Income of Doing Nothing	4% Tax*	Impact on Hospital Net Income of 4% Tax with GRB Reimbursement Rates	Impact on Hospital Net Income of 4% Tax with Reimbursement at 88% of Medicare Cost
	Net Patient Revenue	Net Income				
Adventist Medical Center	\$205,089,171	(\$13,860,284)	(\$1,586,015)	\$8,051,086	(\$5,634,654)	(\$2,415,887)
Ashland Community Hospital	\$45,643,406	(\$1,725,056)	(\$31,694)	\$0	\$219,229	\$219,229
Bay Area Hospital	\$116,455,722	\$11,963,267	(\$756,744)	\$4,622,848	(\$2,684,365)	(\$1,161,437)
Blue Mountain Hospital	\$11,922,295	(\$1,528,595)	(\$13,212)	\$0	\$76,810	\$76,810
Columbia Memorial Hospital	\$39,344,190	\$1,393,535	(\$47,983)	\$0	\$292,991	\$292,991
Coquille Valley Hospital	\$11,575,679	\$175,783	(\$10,562)	\$0	\$63,376	\$63,376
Cottage Grove Community Hospital	\$15,080,012	\$4,538,298	(\$22,123)	\$0	\$134,459	\$134,459
Curry General Hospital	\$14,415,029	(\$303,463)	(\$20,496)	\$0	\$120,872	\$120,872
Good Samaritan Regional Medical Center	\$217,317,668	\$5,534,366	(\$1,214,922)	\$8,702,512	(\$5,332,362)	(\$3,003,040)
Good Shepherd Medical Center	\$49,932,961	\$5,040,457	(\$90,534)	\$0	\$543,163	\$543,163
Grande Ronde Hospital	\$35,377,541	\$1,547,962	(\$48,072)	\$0	\$292,300	\$292,300
Harney District Hospital	\$11,638,641	(\$2,030,368)	(\$17,029)	\$0	\$101,576	\$101,576
Holy Rosary Medical Center	\$47,968,136	(\$2,654,138)	(\$75,352)	\$0	\$457,433	\$457,433
Lake District Hospital	\$11,457,836	(\$1,071,393)	(\$12,162)	\$0	\$73,605	\$73,605
Legacy Emanuel Hospital & Hlth Ctr	\$449,483,261	\$41,329,991	(\$7,542,617)	\$17,604,103	(\$9,464,441)	\$4,549,162
Legacy Good Samaritan Hosp & Med Ctr	\$247,348,276	\$10,726,348	(\$1,175,671)	\$9,649,039	(\$7,612,499)	(\$4,892,245)
Legacy Meridian Park Hospital**	Insufficient Data	Insufficient Data	Insufficient Data	Insufficient Data	Insufficient Data	Insufficient Data
Legacy Mount Hood Medical Center**	Insufficient Data	Insufficient Data	Insufficient Data	Insufficient Data	Insufficient Data	Insufficient Data
Lower Umpqua Hospital	\$13,892,320	(\$3,550,909)	(\$28,170)	\$0	\$159,882	\$159,882
McKenzie-Willamette Medical Center	\$98,660,620	\$11,129,157	(\$502,285)	\$3,882,216	(\$2,560,129)	(\$1,429,907)
Mercy Medical Center	\$144,389,441	\$12,984,567	(\$373,469)	\$5,587,683	(\$4,536,348)	(\$3,258,004)
Merle West Medical Center (now Sky Lakes)	\$133,930,327	\$4,968,372	(\$2,351,799)	\$5,388,176	(\$1,302,822)	\$2,754,894
Mid-Columbia Medical Center	\$60,554,071	\$2,730,576	(\$74,841)	\$0	\$477,273	\$477,273
Mountain View Hospital	\$18,851,816	(\$2,342,706)	(\$42,339)	\$0	\$243,381	\$243,381
OHSU Hospital	\$769,422,950	(\$14,585,561)	(\$11,255,174)	\$30,593,928	(\$19,530,929)	\$485,493
Peace Harbor Hospital	\$36,932,533	\$5,024,736	(\$61,877)	\$0	\$354,928	\$354,928
Pioneer Memorial Hospital (H)	\$5,363,077	(\$470,478)	(\$6,716)	\$0	\$38,253	\$38,253
Pioneer Memorial Hospital (P)	\$20,807,005	(\$245,918)	(\$29,138)	\$0	\$179,632	\$179,632
Providence Hood River Memorial Hospital	\$49,879,000	\$5,733,000	(\$50,753)	\$0	\$331,670	\$331,670
Providence Medford Medical Center	\$124,970,000	(\$336,895)	(\$920,111)	\$4,847,650	(\$3,643,558)	(\$1,638,858)
Providence Milwaukie Hospital	\$68,817,000	\$2,227,482	(\$928,214)	\$2,701,498	(\$1,270,750)	\$472,828
Providence Newberg Hospital	\$60,975,000	\$1,723,000	(\$75,828)	\$0	\$493,608	\$493,608
Providence Portland Medical Ctr	\$469,737,000	\$6,387,270	(\$4,257,678)	\$18,584,117	(\$11,260,646)	(\$3,186,094)
Providence Seaside Hospital	\$32,867,000	(\$1,253,000)	(\$59,305)	\$0	\$346,760	\$346,760
Providence St Vincent Medical Ctr	\$620,845,000	\$46,685,084	(\$4,428,187)	\$24,735,645	(\$15,445,728)	(\$7,177,744)
Rogue Valley Medical Center	\$260,737,163	(\$2,899,280)	(\$2,530,676)	\$10,314,460	(\$6,373,590)	(\$1,558,327)
Sacred Heart Medical Center	\$474,888,582	\$60,219,451	(\$3,509,240)	\$18,774,158	(\$11,230,830)	(\$4,221,165)
Salem Hospital	\$398,429,283	\$31,571,326	(\$5,749,967)	\$15,968,627	(\$4,348,034)	\$5,745,541
Samaritan Albany General Hospital	\$76,253,093	\$5,159,250	(\$949,944)	\$3,039,690	(\$1,207,176)	\$519,088
Samaritan Lebanon Community Hospital	\$63,381,470	\$1,755,929	(\$67,806)	\$0	\$437,373	\$437,373
Samaritan North Lincoln Hospital	\$37,358,753	(\$1,208,914)	(\$60,346)	\$0	\$362,177	\$362,177
Samaritan Pacific Communities Hospital	\$47,397,040	(\$450,459)	(\$57,230)	\$0	\$354,636	\$354,636
Santiam Memorial Hospital	\$20,314,899	\$4,990,809	(\$23,801)	\$0	\$164,670	\$164,670
Silverton Hospital	\$67,657,039	(\$3,216,877)	(\$132,847)	\$0	\$797,410	\$797,410
Southern Coos Hospital & Health Center	\$14,287,047	\$14,486	(\$14,574)	\$0	\$87,863	\$87,863
St Anthony Hospital	\$38,052,109	\$2,872,352	(\$48,990)	\$0	\$307,321	\$307,321
St Charles Medical Center - Bend	\$305,683,338	\$2,799,303	(\$2,968,841)	\$12,188,259	(\$3,866,487)	\$1,683,805
St Charles Medical Center - Redmond	\$37,693,485	(\$5,134,120)	(\$70,506)	\$0	\$428,305	\$428,305
St Elizabeth Health Services	\$22,549,941	(\$1,308,608)	(\$35,317)	\$0	\$207,383	\$207,383
Three Rivers Comm Hospital	\$103,735,107	\$5,084,970	(\$1,843,655)	\$4,137,662	(\$1,200,891)	\$2,029,894
Tillamook County General Hospital	\$43,203,608	\$3,518,958	(\$77,700)	\$0	\$468,673	\$468,673
Tuality Healthcare	\$151,723,883	\$3,401,890	(\$1,567,922)	\$6,022,016	(\$3,346,164)	(\$456,971)
Wallowa Memorial Hospital	\$12,427,402	(\$1,873,771)	(\$17,014)	\$0	\$99,266	\$99,266
West Valley Hospital	\$13,925,205	(\$355,038)	(\$23,052)	\$0	\$137,541	\$137,541
Willamette Falls Hospital	\$78,176,927	(\$3,872,274)	(\$765,433)	\$3,083,048	(\$1,977,644)	(\$546,271)
Willamette Valley Med Ctr	\$75,242,627	\$10,118,675	(\$594,277)	\$2,989,369	(\$1,873,046)	(\$741,987)
Aggregate All Hospitals	\$6,604,061,985	\$247,072,543	(\$59,220,210)	\$221,467,792	(\$116,849,273)	(\$8,593,411)
Aggregate DRG Hospitals	\$5,591,336,439	\$236,736,473	(\$57,772,841)	\$221,467,792	(\$125,703,094)	(\$17,447,232)
Aggregate A & B Hospitals	\$1,012,725,546	\$10,336,070	(\$1,447,369)	\$0	\$8,853,821	\$8,853,821

These data are intended as a resource for legislative decision making and are based on statistical models developed by John McConnell, PhD, 2009.

\*Estimated tax will be different depending on scenario. This represents the estimated tax assuming a scenario where reimbursement is increased to 88% of Medicare cost.

\*\*2007 Databank for Legacy Mt. Hood and Legacy Meridian Park are being verified.

Data source: 2007 Databank. Model does not include Kaiser Sunnyside Hospital because they do not report hospital financial data to the state.

## Data, Methods and Limitations

**Data.** Primary data sources include the Databank hospital financial data and the public Oregon Hospital Discharge Data. Both data sets are submitted to the Oregon Office for Health Policy and Research (OHPR) by the Oregon Association of Hospitals and Health Systems.

This analysis focuses on 24 DRG hospitals and excludes Kaiser Sunnyside, since detailed financial information about Kaiser are not available in the Databank.

Databank files include information on charges and contractuals by payer, as well as total expenses, bad debt, and charity care. Revenues for each payer are defined as charges minus contractuals. The tax base is defined as total revenues (charges minus contractual for all payers) minus charity care and bad debt evaluated at cost.

**Scenarios. There are three scenarios considered in this analysis with the following assumptions:**

- **Scenario 1: “Do Nothing”**

Under this scenario, the current provider tax sunsets on September 30, 2009 and is not replaced with a new revenue source. OHP Standard is reduced to zero and children’s coverage is not expanded beyond the currently enrolled 200,000.

- **Scenario 2: 4% Tax with GRB Reimbursement**

Under this scenario, the current provider tax is restructured as a 4% tax on DRG hospital net patient revenue. Approximately 75,000 adults are added to OHP Standard, increasing enrollment from 25,000 to 100,000. The number of uninsured children is reduced from 116,000 to 36,000 by enrolling approximately 60,000 children in the Oregon Health Plan (OHP) and another 20,000 children in commercial plans.

Reimbursement rates for clients under this scenario are reduced to those outlined in the Governor’s Recommended Budget (GRB). This assumes 72% of Medicare costs for the DRG component of the Medicaid Managed Care rate and anywhere from 47% to 71% of Medicare cost in fee-for-service Medicaid.

- **Scenario 3: 4% Tax with Reimbursement Increased to 88% of Medicare Cost**

Under this scenario, both provider tax structure and coverage assumptions are the same as in Scenario 2. Reimbursement is increased to approximately 88% of Medicare cost across both MCO and FFS Medicaid.

**Assumptions.** Key assumptions necessary to carry out the model are outlined below:

- **Hospitals’ ability to raise reimbursement rates to commercial payers.**

Hospitals may be able to offset the some of the cost of the provider tax by renegotiating rates with commercial health plans. To model these effects, the model assumes that hospitals with greater market power have the ability to increase their rates more, while hospitals with less market power are forced to pay a greater burden of the tax. In this model, market power is determined through the estimation of Herfindahl-Hirschman Indices (HHI), computed with actual zip-code level patient-flow data to define hospital-

system markets (Dranove et al. 2008; Zwanziger, and Melnick 1988). The HHI varies between 0 and 1, with lower levels indicating greater competition. The system HHI is estimated to vary between 0.29 and 0.94 for DRG hospitals, with an average HHI of 0.59.

- **Changes in commercial patients' utilization patterns.**

If hospitals raise their rates, commercial patients may use fewer services for two reasons. First, higher rates may be reflected in higher co-payments or co-insurance for patients, and they may demand fewer services. Second, higher rates will translate into increased premiums, which may lead to individuals and employers to drop coverage. Both of these changes are modeled, including the potential for commercially insured patients to move into the uninsured pool.

- **The cost of services for adults versus services for children.**

The model assumes that the cost of services for children is approximately half of those for adults. Sensitivity analyses are also conducted.

- **The cost of care that can be considered "variable" versus "fixed."**

Suppose that the average operating expenses for a typical DRG hospital was \$250M. Those costs include fixed costs, which are unlikely to change with the volume of patients (utilities, IT, some labor and personnel) and variable costs which would change directly with the volume of patients (food, medical supplies, some labor and personnel). There is no straightforward delineation between variable and fixed costs; in the (very) long run, all fixed costs can be considered variable. In this model the assumption is that 50% of costs are variable. Under this assumption, a 10% increase in patient volume would increase costs by 5%. Sensitivity analyses are conducted to assess the importance of this assumption on the overall findings.

- **The amount of care used by uninsured individuals compared to insured individuals.**

Based on work by Hadley and Holahan (2003) the modeling assumption is that uncompensated care is approximately 30% of care provided to an insured patient. Sensitivity analyses are conducted.

- **Any additional (new) Medicaid/OHP revenues for non-DRG (A&B) hospitals are assumed to be equal to cost.**

Based on these assumptions, the overall approach of this model is to assess the changes in revenues and costs that would occur with a 4% tax, assuming that revenues and costs would change in proportion to changes in adults and children who would be uninsured and who would be enrolled in OHP.

**Limitations.** There are several limitations in this analysis. Several assumptions are necessary to model the effect of the tax. These assumptions (e.g., variable costs, utilization by the newly insured, the extent to which private rates may be raised) are not directly testable. However, sensitivity analyses have been conducted to assess the effects of these assumptions.

The data are based on Databank data, which are reported on a monthly basis to the Office for Oregon Health Policy and Research (OHPR). These data may differ somewhat from the final audited year-end financial reports. In particular, four hospitals list Medicaid Charges and

Contractuals that suggest estimated Medicaid revenues that are clear outliers. (For example, one hospital lists Medicaid Contractuals that are greater than Medicaid Charges). In this case, Medicaid appears to reimburse at a rate that is much, much lower than cost (less than 40% of total cost) and for these hospitals in particular, OHP expansions result in much lower net incomes, since increases in OHP patients result in higher costs with relatively no new revenues. It may be that these are errors in accounting practices and that the model estimates changes in net income that are more negative than would be likely if more accurate data on Medicaid reimbursements were available.

The Databank data do not have detailed information on the single Kaiser hospital within Oregon, and this hospital has been excluded from this model. Kaiser itself would be likely to be worse off with the tax, since they do not see a large number of uninsured patients and thus would not experience large cost savings from reduced uncompensated care.

The data also do not include information on Disproportionate Share Hospital (DSH) payments or other governmental subsidies. Some hospitals may be worse off than currently estimated if the provider tax led to fewer uninsured and lower DSH payments.

This study does not model crowd-out that could occur if adults who were currently covered by commercial insurance gained coverage through the expanded OHP program. In addition, the model compares a “tax with expanded coverage” scenario to a “no tax and no expanded coverage” scenario using data from 2007 and does not model changes that may occur as the state and hospitals face what is likely to be a substantial economic downturn.

## References

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Zwanziger, J. and G. A. Melnick. 1988. “The effects of hospital competition and the Medicare PPS program on hospital cost behavior in California.” *J Health Econ* 7: 301-20.