BERKELEY RESEARCH GROUP

AN ECONOMIC ASSESSMENT OF PUBLIC POLICIES TO COMPEL UNREIMBURSED SERVICES TO BE PROVIDED BY NONPROFIT HOSPITALS IN CALIFORNIA

(WITH SPECIFIC APPLICATION TO ASSEMBLY BILL 975)

Tom Campbell, Ph.D., J.D.

C. Paul Wazzan, Ph.D.

Joseph K. Tanimura, Ph.D., J.D.

Dawn Eash, M.S.

BERKELEY RESEARCH GROUP

AN ECONOMIC ASSESSMENT OF PUBLIC POLICIES TO COMPEL UNREIMBURSED SERVICES TO BE PROVIDED BY NONPROFIT HOSPITALS IN CALIFORNIA

Tom Campbell, Ph.D., J.D.
C. Paul Wazzan, Ph.D.
Joseph K. Tanimura, Ph.D., J.D.
Dawn Eash, M.S.

The Berkeley Research Group was retained by the California Hospital Association to perform an analysis of the likely economic effects of Assembly Bill (AB) 975, currently pending in the California Legislature, and similar public policy proposals. Although AB 975 has been amended several times, all versions of the legislation seek to enact new state mandates on California's nonprofit hospitals.

The analysis provides valuable information regarding the impact of mandates on the public's accessibility to health care services as well as other important consequences. It is particularly relevant due to the implementation of the Affordable Care Act in California where millions of people will have the ability to obtain health care coverage or be added to the state Medi-Cal program. There will be significant pressure on hospitals to be able to serve these new patients.

STUDY CONCLUSIONS

- **Nonprofit hospitals in California provide almost $5 billion in total societal benefit, as measured by the federal IRS data, more than three times as much as a study by the Institute for Health & Socio-Economic Policy[1] (IHSP) suggests.**

- **Laws restricting the level of revenue in excess of costs that can be earned by nonprofit hospitals, as a condition of maintaining their tax-exempt status, will result in a significant drop in the amount of hospital care the nonprofit sector will provide and a reduction in the number of good-paying health care jobs.**

- **The state will also lose millions in revenue due to the loss of income tax on employees.**

- **New mandates will significantly increase the cost of financing nonprofit hospital expansion, retrofit or repair or result in the deferral or cancellation of health care investments.**

[1] The Institute for Health & Socio-Economic Policy (IHSP) is a non-profit policy and research group and is the exclusive research arm of the California Nurses Association/National Nurses United.

KEY FINDINGS

About Nonprofit Hospitals and Community Benefits

- **Nonprofit hospitals provide a public good through their capacity and services they provide to paying and non-paying patients.**
    - Hospitals have nonprofit status, based not upon who receives the service, but based on the fact that there is no set of owners that receives a dividend or capital gain.
- **Nonprofit hospitals resemble a municipally owned utility, which provides a benefit to all customers.**
    - Their tax-exempt status is not limited to the proportion of their customers below a certain income level. In the same way, it is inaccurate to suggest that only uncompensated care constitutes a public good justifying tax-exempt status of nonprofit hospitals.
- **The IHSP study claims that nonprofit hospitals provide $1.4 billion in public benefit grossly understates the true investment. Any policy conclusion based on this assumption is flawed.**
    - According to IRS filings, California nonprofit hospitals delivered almost $5 billion in total societal benefit.
    - IHSP understates charity care alone by 57 percent and does not recognize community benefit investments, which is a $1.6 billion omission.
- **The fuller truth is that nonprofit hospitals, in providing more than 63 percent of the hospital beds (or patient days) in California, perform public benefit in all their operations, compensated or not.**

About the effect of increasing the cost to nonprofit hospitals, or decreasing their revenue, upon the supply of hospital services.

- **The impact of new mandates can be estimated in terms of a reduction in patients served. A 10% increase in hospital costs will result in a 2% decrease in medical care provided.**
    - In 2010, nonprofit hospitals served approximately 2.7 million patients in California. A 10% increase in costs would reduce the number of patients that could be served by approximately 54,000.
    - Reducing hospital capacity is especially problematic in light of the Affordable Care Act. The Act will add approximately 1.8 million more Medi-Cal enrollees

plus an estimated 1.4 million previously uninsured people who presumably would now be accessing medical services. Implementation of the Act is compromised by any public policy that would result in a lower capacity to provide care.

About the Impact on State Revenues

- **Increased regulatory costs for nonprofit hospitals will result in lost jobs and lost state tax revenues.**
    - Nonprofit hospitals employ approximately 290,000 people at an average salary of $70,465. A 10% increase in expenses will reduce hospital salaries by $413 million and state tax revenues by $25 million.

About Unintended Consequences of Increased State Mandates

- **New mandates will result in harmful unintended consequences, significantly increasing the cost of financing nonprofit hospital expansion, retrofit and repair or result in the deferral or cancellation of health care investments.**
    - Current economic conditions, combined with regulatory mandates, significantly impact a hospital's ability to plan and make needed infrastructure investments.
    - For example, in 2009, 25% of California hospitals reported the inability to access financing for construction, remodeling, equipment purchases or working capital. As a result, 41% of hospitals reported the halting of work on construction projects or equipment purchases.

For more information about the Berkeley Research Group, visit www.brg-expert.com.

I. THE BENEFITS PROVIDED BY CALIFORNIA'S NONPROFIT HOSPITALS

Nonprofit hospitals provide at least 63% of all hospital services in the State of California.[2] Various policy proposals have been advanced to compel nonprofit hospitals to increase their amount of uncompensated care. Among these have been several changing versions of AB 975.[3]

The sponsors of such public policy base their recommendations on the assumption that nonprofit hospitals do not provide sufficient public benefit to justify their non-taxed status. Chief among the advocates of this point of view is the Institute for Health and Socio-Economic Policy ("IHSP"), the policy study arm of the California Nurses Association.[4] Their study downplays the value of nonprofit hospitals, using a very narrow definition for the public benefit they provide, and arguing that the quantity of this public benefit does not justify the nonprofit hospitals' tax exempt status.

This study starts from a different premise. Nonprofit hospitals provide a public good by the capacity and services they provide, whether to paying or non-paying patients. In this respect, they resemble municipally owned utilities. Indeed, some years ago, hospital services were considered a government utility. Municipally owned utilities compete with investor owned utilities. Municipally owned utilities, however, do not pay taxes. Analogously, nonprofit hospitals do not pay taxes, but they compete with for-profit hospitals that do. The electricity, gas, water, and waste disposal services offered by a municipally owned utility benefit all citizens in a municipality, poor and wealthy. Their tax exempt status is not limited to the proportion of their customers below a certain income level. Analogously, nonprofit hospitals provide much needed services in California; services that would have to be provided by for-profit hospitals or public hospitals if the nonprofits did not provide them.

Hospitals provide a public service; that the state chooses to tax some of them but not others is <u>not</u> based on who receives the service. Rather, it is based on the fact that, for the nonprofit hospitals, there is no set of owners that receives a dividend or capital gain on ownership shares.[5] Completely analogously, investor-owned utilities pay tax because there is

---

[2] Measuring by total patient days, nonprofits provide 14.018 million out of 22.083 million, or 63.48%; measuring by total bed days, nonprofits provide 23.352 million out of 36.495 million, or 63.99%. Source: Office of Statewide Health Planning and Development, 36th Year Annual Financial Data.

[3] AB 975 was introduced on February 22, 2013. Since being introduced, AB 975 has been amended three times: March 21, 2013, April 8, 2013, and April 25, 2013. Bill texts can be found at: http://leginfo.ca.gov/cgi-bin/postquery?bill_number=ab_975&sess=1314&house=B&author=wieckowski.

[4] Institute for Health and Socio-Economic Policy, 2012, "Benefiting from Charity Care: California Not-for-Profit Hospitals, Version 1.1."

[5] There are many nonprofit businesses that make profits. Nonprofit status refers to state organizational law. A nonprofit cannot have equity owners who are entitled to receive distributions of the net revenues of a nonprofit. Nonprofits can make profits in the sense of having revenues in excess of expenses. They are just limited in what they can do with those profits. See, e.g., Gaul and Borowski (1993) who describe the profits made by many nonprofit institutions. Gilbert M. Gaul and Neill A. Borowski, 1993, *Free Ride, The Tax-Exempt Economy*, Andrews and McMeel.

such a set of owners, receiving dividends and capital gains; but municipally owned utilities do not.[6]

Contrary to the foregoing, however, were we to accept the false premise that only uncompensated care constitutes the public good justifying the tax exempt status of nonprofit hospitals in California, the critics of nonprofit hospitals, most notably the California Nurses Association's IHSP, grossly understate the public benefit performed by nonprofit hospitals.

The IRS requires nonprofit hospitals to file a Form 990, Schedule H. This schedule requires a nonprofit hospital to break down its services into two groups: charity care and community benefits. The first includes the categories "Financial Assistance (Charity Care)" at cost, "Unreimbursed Medicaid," and "Unreimbursed Costs—other means-tested government programs." The total value of these services in 2010 was 3.346 billion dollars.

At the very least, the charity care measured for nonprofit hospitals in California should include everything in this first category. The California Nurses Association's IHSP measure, however, used a formula that was flawed by excluding the provision of Medicaid services in California (Medi-Cal). The California Nurses Association estimate, using their formula, was a value of 1.428 billion dollars.[7]

Rather than extrapolating from a formula, we rely on the actual reported data, submitted for federal IRS purposes. The result is a number almost 2 billion dollars larger. Thus, the IHSP study underestimates charity care by 57%.

The second category of benefits the IRS requires a nonprofit hospital to report covers these categories: "Community health improvement services and community benefit operations," "Health professions education," "Subsidized health services," "Research," and "Cash and in-kind contributions to community groups." These are totally ignored in the California Nurses Association's IHSP measure. Yet they total over 1.618 billion dollars.

Exhibit 1 reports the 2010 figures from Schedule H for California nonprofit hospitals.[8] According to Schedule H, these hospitals provided a total societal benefit of 4.964 billion dollars. Using the California Nurses Association's IHSP measurement, however, these hospitals are credited with only 1.428 billion dollars.

---

[6] Credit unions provide another useful analogy. Credit unions do not pay federal or California state income tax, but they compete with banks and thrifts that do. Their tax exempt status is not limited to the proportion of their customers below a certain income level. They are not taxed because there is no set of investors receiving dividends or capital gains. See Internal Revenue Code §501(c)(14) and CA Revenue and Taxation Code §23701y (credit unions are exempt from all state, county, and municipal taxes and licenses including the minimum franchise tax).

[7] The IHSP measure of charity care cost is equal to gross charges for charity care multiplied by the cost-to-charge ratio. Specifically, it is calculated as the sum of OSHPD's "Charity-Other" and "County Indigent Programs" variables, multiplied by the cost-to-charge ratio. As calculated by OSHPD, a hospital's cost-to-charge ratio is defined as the difference between its Total Operating Expenses and Other Operating Revenue, divided by its Gross Patient Revenue.

[8] Only hospitals for which the IHSP study estimated charity care are included.

Any policy conclusion, therefore, based on the assumption that California's nonprofit hospitals provide only 1.428 billion dollars of benefit is flawed. The true figure is more than twice as much, even if we were to restrict the measure of benefit to uncompensated care.

The fuller truth is that nonprofit hospitals, in providing more than 63% of the hospital beds (or patient days) in California, perform public benefit in all their operations, compensated or not.

II. THE EFFECT OF INCREASING THE COST OF NONPROFIT HOSPITALS, OR DECREASING THEIR REVENUE, UPON THE SUPPLY OF HOSPITAL SERVICES.

The most common expression of the constraint that the California Nurses Association wishes to impose on nonprofit hospitals is a limit on the amount by which revenues exceed costs. AB 975 has, in some of its iterations, threatened to impose California income and other taxes on nonprofit hospitals if this number exceeds 10%. The economic effect of this kind of a restraint would be felt in one of three ways.

1. If nonprofit hospitals are already under the 10% threshold (or whatever threshold subsequent versions of the bill might provide): In this case, the bill will have no effect.
2. If nonprofit hospitals above the 10% threshold stay there and lose their tax exempt status: In this case, the net revenue received from patients will be reduced by the corporate income tax rate, of 8.84%,[9] plus other taxes from which nonprofit hospitals are currently exempt. This will reduce output, because a dollar earned will now result in only 91.16 cents retained. If a hospital was covering the cost of its last patient before the tax, it will no longer be able to cover that cost, and must reduce expenses by cutting the number of patients served.
3. If nonprofit hospitals above the 10% threshold take steps to come below the threshold: A hospital can accomplish this by decreasing revenue and/or increasing cost. If the nonprofit hospital decreases its revenue by lowering its per patient fees, the result is identical to that in scenario #2: namely a drop in output. If, alternatively, the nonprofit hospital increases the amount it spends on a patient, it will also have to reduce output, since a dollar of revenue will no longer cover the cost of its most recent patient.

Thus, if the public policy change has any effect, it will be to reduce output. We would like to estimate the amount of such a drop in patients served.

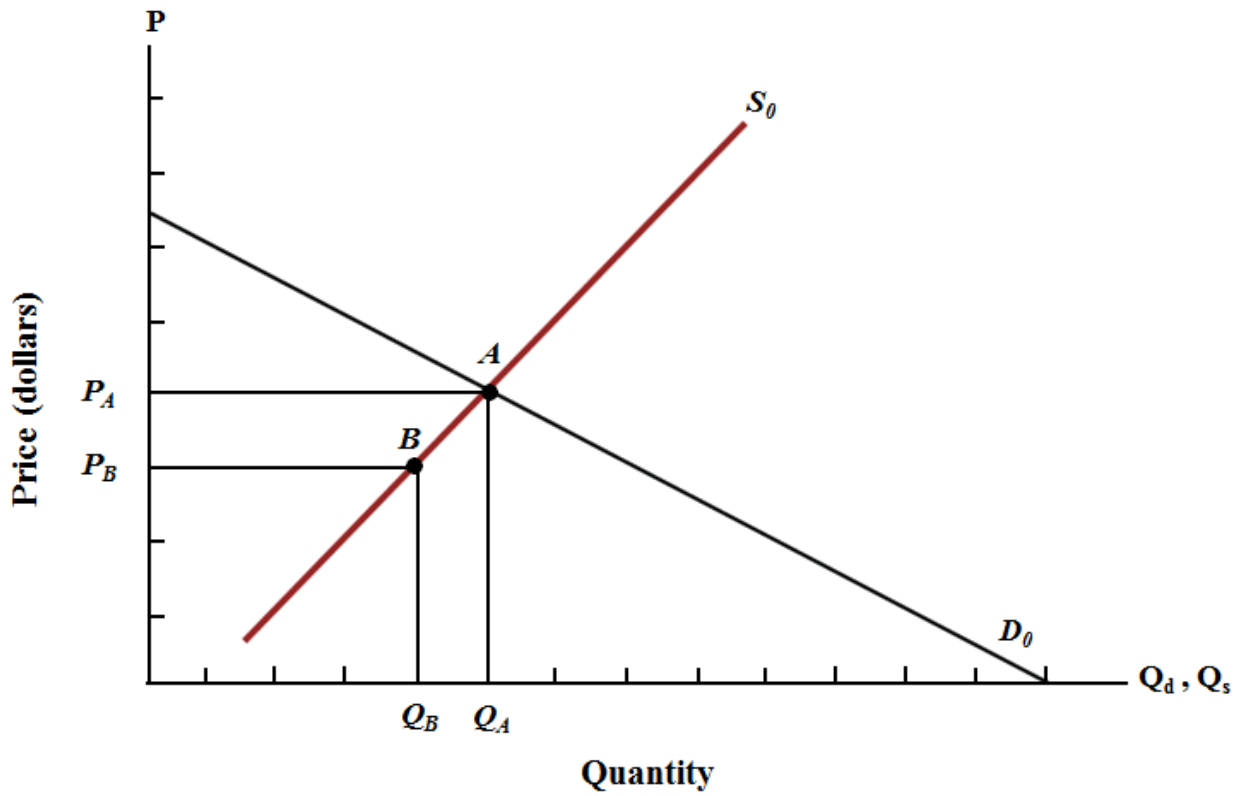
In scenario #2, the amount a hospital receives from its patients will drop by the percentage of the tax. To the hospital, its effect is analogous to a drop in consumer demand for the service. The precise amount is given by the elasticity of the demand for hospital services. The Keeler & Rolph analysis[10] of the RAND Institute study estimates this at minus twenty percent. Therefore, if we only consider the 8.84% effective income tax increase, hospital services will drop by one fifth of that (1.768%), multiplied by the percentage of total net revenues that

[9] https://www.ftb.ca.gov/businesses/faq/717.shtml.
[10] See text and footnote 11, below.

constitute newly taxable income. This is a small number, but it is negative; namely, a drop in hospital services.

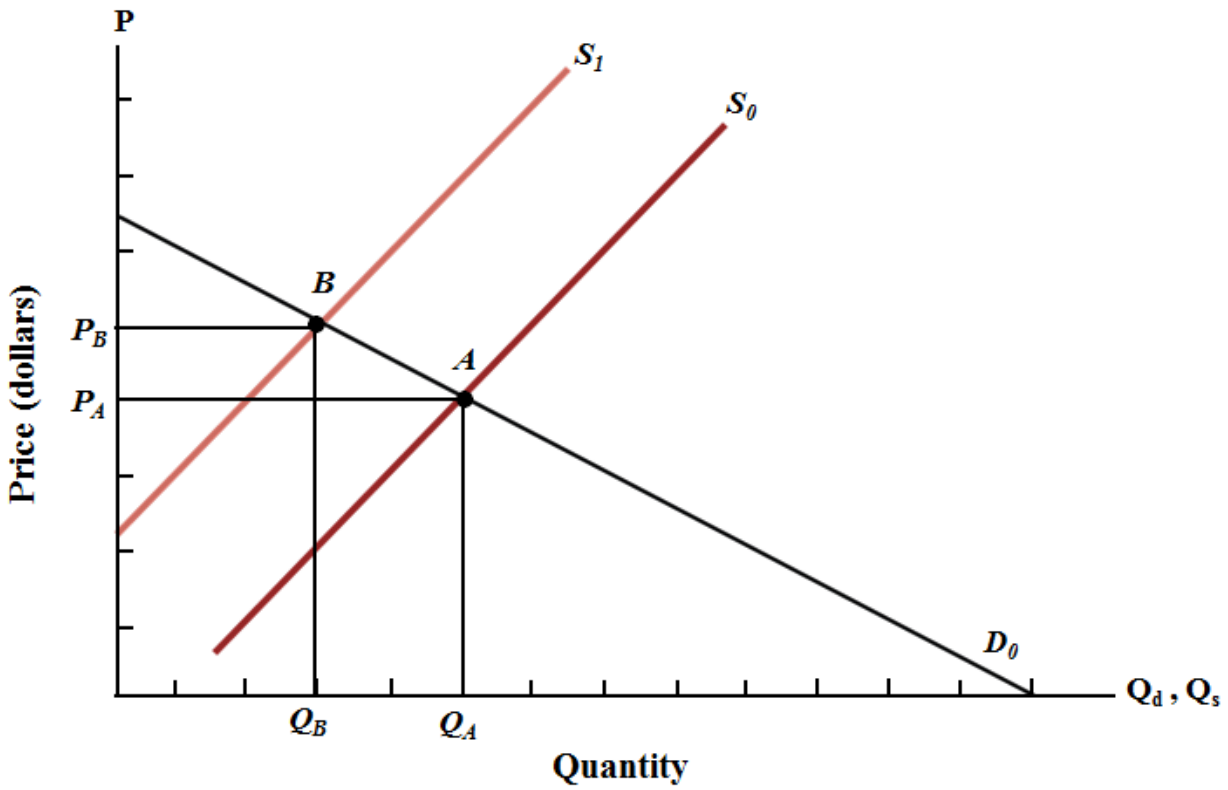
In scenario # 3, non-profit hospitals try to come under the new threshold, by increasing costs or reducing revenue per patient, rather than losing their tax exempt status. If the hospitals cut back their per patient charge, output will fall. See Figure 1 for a simple illustration of this effect using supply and demand curves. If the hospitals increase their per patient cost, instead, output will also fall.[11] The amount is once more a function of the elasticity of demand for hospital services; for example, a 10% increase in cost will decrease output by 2% (20% × 10%). See Figure 2 for a simple illustration of this effect using supply and demand curves.

Figure 1
Decrease in Per Patient Charge



[11] If the hospital increases its total costs, or decreases its total revenue, in a lump sum, rather than by increasing the amount it spends on every patient, or decreasing the amount it charges every patient, then the economic result could alternatively be simply a transfer of wealth from the hospital to the providers of its services, or to its patients, with lower retained earnings but without a necessary drop in overall output. In no case, however, would output expand. Further, this "lump sum" case can be considered extremely rare since hospitals charge and provide service on a per patient basis.

Figure 2
Increase in Per Patient Cost



Keeler and Rolph (1988) analyzed claims data from the RAND Health Insurance Experiment and concluded that when the cost of providing medical care increased by 10%, the amount of medical care provided dropped by 2%.[12] This estimate of demand elasticity has held up over the years, and been relied on in many other studies.[13]

We performed an independent study to estimate the effect of both supply and demand factors on the provision of hospital services. Using data on medical services from the Office of Statewide Health Planning and Development ("OSHPD") from 2008 to 2010, we modeled discharges, a proxy for hospital services output, based on the Average Hourly Rate while controlling for the following other variables:

- Population,
- Per Capita Income,

[12] Emmett B. Keeler and John E. Rolph, 1988, "The Demand for Episodes of Treatment in the Health Insurance Experiment," *Journal of Health Economics* 7, 337-367.

[13] For a summary of studies that use the -0.20 estimate, see Aviva Aron-Dine, Liran Einav and Amy Finkelstein, 2013, "The RAND Health Insurance Experiment, Three Decades Later," Journal of Economic Perspectives 27, 197-222.

> "More than three decades later, the RAND results are still widely held to be the "gold standard" of evidence for predicting the likely impact of health insurance reforms on medical spending, as well as for designing actual insurance policies."

- % Over 64,
- % Under 25,
- % Insured,[14]
- Hospital specific effects,
- Yearly effects,[15]
- Ownership effects (i.e., Nonprofit, Profit, Public), and
- the Case Mix Index.[16]

Based on this model, our estimate of the sensitivity of medical output to increase in cost was -0.24.[17] This estimate was statistically significant at the .07 level. The complete set of coefficients produced in this regression model is included as Exhibit 2.

Our own study was what is called "reduced form," measuring supply and demand effects simultaneously. The Keeler and Rolph study was of demand effects alone: namely, the effect of an increase in price on the quantity of medical services demanded. However, the two estimated effects were close: -0.20 and -0.24, respectively. This result is consistent with relatively minor supply effects: that is, most of the observed change in output following a change in cost is due to the pass through of those costs to consumers. (See section V.A., below.)

Since the Keeler and Rolph study has gained widespread acceptance in health care economics,[18] we rely upon it to make our estimates of the drop in hospital services following the implementation of the public policy being suggested. This is also a more conservative way to proceed, since our own estimate would result in a greater drop in output than theirs.

The various public policy proposals will increase the costs of providing hospital services by nonprofits; how much depends on the particular policy proposal, or, in the case of AB 975, which version of the bill is being considered. All we can do, therefore, is make estimates based on various assumptions of what the increase in cost will be. We do this in Exhibits 3A and 3B, using 5% and 10% cost increases as illustrations.

In 2010, California nonprofit hospitals provided 14,018,527 patient days of medical services.[19] In Exhibit 3A, based on the Keeler and Rolph (1988) elasticity estimate, a 5% increase in expenses will reduce medical services by 140,185 patient days. The effect will be strongest in acute care (-112,327) and long-term care (-16,612). Moreover, a 10% increase in expenses will reduce medical services by 280,371 patient days.

Exhibit 3B calculates the reduced hospital services in terms of patients discharged. In 2010, California nonprofit hospitals served 2,710,699 patients. Based on the Keeler and Rolph

[14] Annual data are available from the American Community Survey.
[15] Dummy variables were created for each hospital and year represented.
[16] See http://www.oshpd.ca.gov/HID/Products/PatDischargeData/CaseMixIndex/.
[17] The average hourly rate and all demand variables were lagged one period to control for endogeneity. These preliminary results are based on using only data from 2009 – 2010 since ACS began capturing insurance coverage statistics in 2008 and demand variables were lagged one year.
[18] See footnote 11, above.
[19] Source: Office of Statewide Health Planning and Development, 36th Year Annual Financial Data.

(1988) estimate, a 5% increase in expenses will reduce this number by 27,107. The effect will be strongest in acute care (-25,586) and psychiatric care (-782). Moreover, a 10% increase in expenses will reduce the number served by 54,214.

A drop in the overall amount of hospital care provided in California has special meaning in the context of the Affordable Care Act. The purpose of this new federal legislation is to increase the number of Americans with access to health care, and to reduce the number of uninsured. The Kaiser Family Foundation made estimates for each state, regarding the number of new Medicaid patients that would be covered, and the number of uninsured that would be reduced, due to the Affordable Care Act.[20] The numbers for California are quite large: an estimated 1.860 million more Medi-Cal enrollees, and an estimated 1.424 million fewer uninsured, who would, expectedly, now be using medical services. The ability of California to meet those goals is, obviously, seriously impeded by any policy that reduces the amount of overall hospital care available.

These are impacts on overall hospital care. As explained above, this is the correct measure, using the analogy of hospital care as a public utility. However, if we were to isolate just the effect of an increase in cost on charity care and community benefits, we need to take two steps. First is to calculate what happens to charity care and community benefits when hospitals' costs rise. The second is to offset that by the increase in charity care mandated in the public policy in question (like AB 975), and net out the two. (As of the most recent version of AB 975, there is actually no mandated increase in charity care.)

Since we do not know what the precise policy proposal requiring expanded charity care is, we can only perform the first part of this analysis. Frank, Salkever, and Mitchell (1990) examine the supply of charity care to the medically indigent in response to competitive pressures.[21] Their results indicate that higher costs will result in a drop in service to the medically indigent of approximately half the increase in cost.[22]

Exhibit 4 calculates the reduction in charity care and community benefits due to a public policy proposal that increases marginal costs. According to Schedule H, California nonprofit hospitals provided $3.346 billion charity care, unreimbursed Medicare, and unreimbursed costs from other means-tested government programs ("Financial Assistance and Means-Tested Government Programs")[23]. Based on the Frank, Salkever and Mitchell (1990) elasticity estimate, a 5% increase in expenses will reduce hospital services corresponding to charity care, unreimbursed Medicare, and unreimbursed costs from other means-tested government programs by 2.5%, or $83.645 million; and, a 10% increase in expenses will reduce these services by 5%, or $167.289 million. These hospitals also provided $1.618 billion in additional community

[20] The Kaiser Commission on Medicaid and the Uninsured, 2012, "The Cost and Coverage Implications of the ACA Medicaid Expansion: National and State-by-State Analysis."

[21] Richard G. Frank, David S. Salkever, and Jean Mitchell, 1990, "Market Forces and the Public Good: Competition among Hospitals and Provision of Indigent Care," *Advances in Health Economics and Health Services Research* 2, 159-183.

[22] The dependent variable is the logarithm of equivalent annual admissions accounted for bad debt and charity care and the corresponding figure for equivalent inpatient days. The -0.50 estimate corresponds to the regression coefficient on the independent wages variable, logarithm of real health services payroll per employee in the county.

[23] Only hospitals for which the IHSP study estimated charity care are included.

benefits ("Other Benefits"). A 5% and 10% increase in expenses would reduce these services by $40.448 million and $80.896 million, respectively—in addition to the $82.5 million and $165 million drop, respectively, in uncompensated care.

Hence, unless the public policy proposal in question mandates an increase in unreimbursed care of more than $83.645 million, in absolute value, it runs the risk of depressing unreimbursed care due to its depressing effect on the provision of all hospital care – if it adds to the marginal cost of hospital services by 5%.

III. EFFECT ON STATE REVENUES

In the current state budget environment, it is highly unlikely that a public policy proposal that would result in a reduction in state revenues would be recommended for the Governor's signature by the Department of Finance. Accordingly, it is relevant to estimate the drop in income taxes that will result from any contraction in hospital services if all hospitals with an excess of total revenue over total costs above the maximum allowed cap for nonprofits choose to come into compliance (the third option described above, p. 4). The way this will play out is in the reduction in numbers of hospital employees as services contract.

Exhibit 5 calculates the reduction in salaries and taxes due to an increase in cost. Hospitals employ approximately 290,000 persons at an average annual salary of $70,465. Based on the Keeler and Rolph (1988) elasticity estimate, a 5% increase in expenses will reduce hospital employee salaries by over $206 million and state tax revenues by over $12 million. Moreover, a 10% increase in expenses will reduce hospital employee salaries by over $413 million and state tax revenues by over $24 million.[24]

IV. THE LAW OF UNINTENDED CONSEQUENCES: EFFECT ON NONPROFIT HOSPITALS' EXPANSION AND INDUCEMENT TO ADD COSTS

Several versions of the public policy at issue here, including AB 975, may prevent hospitals from building up cash reserves for necessary upgrades or other capital expenditures. These could include large scale maintenance projects such as seismic reinforcement. An alternative is for hospitals to borrow the necessary funds. Some hospitals, however, may not even be able to borrow the necessary funds. In 2009, 25% of California hospitals reported the inability to access financing for construction, remodeling, equipment purchases or working capital; as a result, 41% of hospitals reported the halting of work on construction projects or equipment purchases.[25]

[24] If nonprofit hospitals do not increase costs or reduce revenue, but, rather, simply accept the loss of their tax-exempt status, then this result would not obtain.
[25] California Hospital Association, January, 2009, "A Report on California Hospitals and the Economy."

Furthermore, borrowing is not costless. The nonprofit hospital is forced to make interest payments on the borrowed funds. Consider the following example. A hospital has annual operating revenue of $100 million and operating expenses of $80 million, for an operating expense ratio of 25%. The hospital plans to build a new NICU (Neonatal Intensive Care Unit) in 5 years at a cost of $50 million. In the absence of the mandate, the hospital would be able to build up a $50 million cash reserve over a five-year period. Due to the mandate, however, the hospital must increase operating expenses by at least $10 million per year to get below the 10% threshold. As a result, the hospital is forced to borrow $50 million to fund the new NICU. Assuming an interest rate of 4.725%, the hospital would be forced to spend approximately $2.36 million per year on interest payments.[26] Over the 30-year life of the bond, total interest payments would exceed $70 million.[27]

Another unexpected result should be considered: if the measure to which the hospital must conform is a maximum of revenues above costs, as it is in some versions of AB 975, then incentives are created for hospitals to focus on (or acquire) low margin services, contrary to what would have been the hospital's practice but for the law, at potential jeopardy to most efficient medical practice.

Finally, a state mandate increasing costs can lead to economic inefficiency, as experienced in the federal Medicare system, when reimbursement was based on a percentage mark up of costs. Called cost-based reimbursement, this system created weak incentives for efficiency and cost control because the hospitals actually gained revenue when they incurred higher costs. In a major reform, the tie of revenue to costs was ended in 1983. The cost-based system was replaced with the prospective payment for an admission in a particular diagnosis, not costs. The new system was called diagnosis related group ("DRG") rates. Under the DRG system, hospitals had stronger incentives for efficiency and cost control and the result was improved efficiency and slower growth in hospital costs.[28]

V. SOME CAVEATS

A) Pass through

The results discussed above are based on our own study of OSHPD data and the RAND study of medical services. These studies attempted to measure the effect of an increase in the marginal cost of hospital services, and are based on actual historical data. We wish to draw attention to the fact that any economic study of the effect of an increase in marginal cost on

[26] Our analysis suggests that hospitals pay approximately 1.60% more than the U.S. government to borrow funds. Given the current 30-year U.S. bond rate of 3.125%, a hospital would pay approximately 4.725% to borrow for a 30-year period. See Exhibit 6.

[27] If the hospital were able to earn the same rate of interest on its retained earnings as it had to pay for borrowing costs, then, of course, the hospital would be borrowing rather than retaining earnings even without the proposed change in public policy. However, if hospitals could borrow at less than what they could earn on investments, they would be money-machines.

[28] See, e.g., Rexford E. Santerre and Stephen P. Nuen, 2000, Health *Economics: Theories, Insights and Industry Studies*, Dryden, Orlando FL, 354-358.

output has an implicit assumption of the cost being passed through, at least in part, to consumers, here patients. Academic studies that estimate pass-through rates for other markets have found pass through rates close to 100%, and, even, occasionally in excess of 100%.[29] As noted above, comparing our own study with the Keeler & Rolph study of the RAND data supports a high degree of pass through for medical care.[30]

B) Other kinds of hospitals might take up the slack

Nonprofit hospitals in California compete directly with for-profit hospitals. As such, the decrease in the supply of hospital services provided by nonprofit hospitals may be taken up by these hospitals. In 2010, the occupancy rate of for-profit hospitals was 57.4%, calculated as 3,490,416 patient days divided by 6,083,884 bed days.[31] These figures suggest that for-profit and public hospitals have the capacity eventually to pick up some of the patients who are priced out of nonprofit hospitals due to AB 975. The exact magnitude of this substitution would be a function of many factors, including relative prices and the breadth and quality of service offerings at each hospital.

However, we expect this effect to be small. The capacity of for-profit hospitals is less than 25% that of nonprofits. Given the burdens, regulatory and otherwise, for expanding hospital capacity, it is unlikely that the for-profits can take up very much of the slack, starting from such a small relative base. This is especially true if the response of non-profits to the public policy being imposed is to lower their per patient charges (scenario 3, page 4, above), which would put competitive pressure on the for-profits' margins.

It is also unlikely that public hospitals would make up the slack, restricted as they are by state and University of California budget constraints. Public hospitals have only a shade more capacity than the for-profit hospitals, in any event.

VI. CONCLUSIONS

1) Nonprofit hospitals in California provide more than three times as much greater public benefit, as measured by the federal IRS data, than the California Nurses Association study measures. (And even the IRS data understate the value of nonprofit hospitals in providing hospital capacity, whether reimbursed or not.)

---

[29] For example, Poterba (1996) finds pass through rates of 84% (men's and boys' clothing), 117% (personal care items), and 133% (women's and girls' clothing). James M. Poterba, 1996, "Retail Price Reactions to Changes in State and Local Sales Taxes," *National Tax Journal* 49, 165-176.

[30] It is axiomatic that if the marginal cost of providing a service is increased, output will drop. If, however, a public policy proposal imposes a one-time confiscation of property upon the provider of a service, unrelated to output, and thus not increasing the cost of providing services, and, furthermore, if no providers drop out because of the financial loss thereby caused, then it is theoretically possible that there is no pass through at all. No version of AB 975 with which we are familiar imposes this kind of a confiscation. Indeed, it is hard to imagine how such a plan could be implemented.

[31] Source: Office of Statewide Health Planning and Development, 36th Year Annual Financial Data.

2) A new law restricting the level of revenues in excess of costs that can be earned by hospitals in California, as a condition of their maintaining tax-exempt status, will result in a drop in the amount of hospital care services the nonprofit sector will provide. This result is proved on the basis of other health care economics studies, and our own statistical regression analysis.
3) It is unlikely that other sectors can take up that slack.
4) In addition to the simple effect of reduced hospital care at a time of growing need, this result will also constitute a loss in state revenue due to the loss of income tax on employees.
5) The effect of such a new law would also drive up the cost of financing facilities' expansion or repair of nonprofit hospitals.

VII. THE AUTHORS

The authors of this report are employees of, or consultants affiliated with, the Berkeley Research Group, "BRG," a public policy, economics, and finance consulting firm with 18 offices in the United States and four other countries. Its consultants are drawn from the most distinguished economics, accounting, and finance faculties at universities around the globe. The Berkeley Research Group was retained by the California Hospital Association to perform an analysis of the likely economic effects of AB 975, currently pending in the California Legislature, and similar public policy proposals.

Tom Campbell is Dean of the Law School and Professor of Economics at Chapman University in Orange, California. He has published in the fields of law and economics, with specialization in antitrust, regulated industries, and employment law. Dr. Campbell holds a Ph.D. in economics from the University of Chicago and a J.D. from Harvard Law School. His previous positions in academics have included Professor of Law, Stanford University, and Dean of Haas School of Business, U.C. Berkeley.

Dr. Campbell was Director of Finance for the State of California from 2004 to 2005. From 1981 until 1983, he was Director of the Bureau of Competition at the Federal Trade Commission (in charge of antitrust enforcement for the FTC). He was also a United States Congressman for five terms, serving on the Banking and Financial Institutions committee, Judiciary committee, International Relations committee, and Joint Economic committee of the U.S. House and U.S. Senate. He was a California State Senator and California Journal rated him the number-one overall state senator, most ethical state senator, and the State Senate's best problem solver.

His publications include "Labor Law and Economics" in the Stanford Law Review, "Spatial Predation in Antitrust: the Case of Nonfungible Goods" in the Columbia Law Review, "Beyond the Prima Facie Case in Employment Discrimination Law: Statistical Proof and Rebuttal" in the Harvard Law Review, and "Bilateral Monopoly" in the Antitrust Law Journal; and his book, **Separation of Powers in Practice**, published by Stanford University Press. He was also a White House fellow and a U.S. Supreme Court law clerk to Justice Byron R. White.

C. Paul Wazzan, Ph.D. heads the Firm's Century City (Los Angeles) office. Dr. Wazzan specializes in providing financial, economic and statistical expertise in the areas of complex damages, finance, (e.g., valuation, corporate finance, securities fraud/10b5, option valuation, class certification, pricing of mortgage risk and MBS/CDOs, commodities price manipulation), intellectual property (e.g., patent and trademark infringement, theft of trade secrets), labor and employment (e.g., class certification, managerial misclassification, wage & hour, discrimination), antitrust and competition policy (e.g., market definition, merger analysis, predatory pricing, price-fixing, exclusionary conduct, price discrimination, attempted monopolization) and public policy. Dr. Wazzan also specializes in large scale (i.e., millions of records) data analytics (e.g., data acquisition, database design and development and statistical/econometric analysis).

Dr. Wazzan's analyses have covered a wide range of industries, including basic manufacturing (e.g., automotive, mining, oil and gas, steel, food processing and distribution); high-tech (e.g., aircraft and avionics, semiconductors, digital signal processors, computer peripherals); real estate (e.g., appropriate interest rates in bankruptcy settings, lending discrimination); financial services (e.g., banking, metals and other commodities trading, organized financial markets) and pharmaceuticals (e.g., pricing of proteins, drugs and the modeling of expected sales).

Dr. Wazzan's research has been published in peer reviewed economics journals and law reviews and he has testified in a wide range of matters in Federal, State and Bankruptcy Courts, the International Trade Commission, domestic and international arbitration proceedings, and in front of legislative bodies.

Dr. Wazzan is president and CEO of Wazzan & Co. Investment LLC, a venture capital firm providing seed level funding to firms specializing in semiconductor, optical networking, bio-mechanical, bio-medical, and related technologies.

Dr. Wazzan has been an adjunct assistant professor of business and economics at California State University, Los Angeles and has also taught MBA classes at the University of Southern California, Marshall School of Business.

Joseph K. Tanimura, Ph.D., J.D. is a Principal with the Berkeley Research Group. Dr. Tanimura has consulted on matters involving antitrust liability and damages, commercial damages, corporate valuation, insider trading, intellectual property, public policy, and securities markets. He was formerly an Assistant Professor of Finance at San Diego State University and a Managing Economist for LECG, LLC. His consulting experience spans a number of industries, including agriculture, automobile parts, private equity, commercial real estate, and video games. His research currently focuses on corporate governance, corporate scandals, economic history, and insider trading. Dr. Tanimura holds a Ph.D. in Finance and Business Economics from the University of Washington and a J.D. from the University of Southern California.

Dawn Eash is a senior managing consultant in Berkeley Research Group's Los Angeles, Century City office where she consults on matters in the fields of labor and employment, intellectual property, commercial damages, public policy, healthcare, technology, and securities. Ms. Eash's experience includes sampling and survey design, advanced statistical and analytical methods, and the construction and validation of complex databases.

Ms. Eash has conducted analyses and studies specifically relating to matters involving wage and hour class actions; discriminatory hiring, promotion, and termination practices; class certification; lost profits; reasonable royalties; breach of contract disputes; quality control; government audits of insurance claim fraud; and securities fraud.

-END-

For more information about the Berkeley Research Group, visit www.brg-expert.com.

BERKELEY RESEARCH GROUP

Exhibit 1
Comparison of IRS Form 990, Schedule H and IHSP Study [a]

	Financial Assistance and Means-Tested Government Programs				Other Benefits								
Health System or Hospital	**Financial Assistance/ Charity Care at Cost**	**Unreimbursed Medicaid**	**Unreimbursed Costs - Other Means-tested Government Programs**	**Total**	**Community Health Improvement Services and Community Benefit Operations**	**Health Professions Education**	**Subsidized Health Services**	**Research**	**Cash and In-kind Contributions**	**Total**	**Grand Total IRS Form 990, Schedule H**	**IHSP Study Estimate of Charity Care**	**Difference Schedule H minus IHSP Estimate**
Dignity Health	$ 139,708,717	$ 423,861,784	$ 54,899,275	$ 618,469,776	$ 76,992,438	$ 75,562,810	$ 46,090,657	$ 24,158,031	$ 38,660,620	$ 261,464,556	$ 879,934,332	$ 180,876,998	$ 699,057,334
Kaiser	240,050,414	301,599,074	56,398,001	598,047,489	35,248,915	68,487,273	-	108,717,716	41,122,916	253,576,820	851,624,309	240,050,414	611,573,895
Memorialcare Health	12,416,313	-63,989,372	18,362,093	-33,210,966	3,297,948	13,678,217	18,273,692	1,549,837	1,619,530	38,419,224	5,208,258	23,631,093	-18,422,835
Mills-Peninsula Health Services	7,993,476	10,414,963	128,631	18,537,070	1,232,889	285,388	1,970,244	-	1,401,054	4,889,575	23,426,645	7,993,476	15,433,169
Providence Health	9,819,452	93,937,467	-	103,756,919	18,072,825	5,840,912	4,673,285	-	1,770,626	30,357,648	134,114,567	31,469,603	102,644,964
Scripps Health	41,216,024	16,571,842	21,617,054	79,404,920	5,268,573	17,944,102	9,118,616	16,560,059	2,014,424	50,905,774	130,310,694	86,828,696	43,481,998
Sutter Central Valley Hospitals	12,969,937	14,191,748	539,015	27,700,700	1,764,875	3,493,535	2,214,269	-	1,809,639	9,282,318	36,983,018	16,612,681	20,370,337
Sutter East Bay Hospitals	17,071,195	-6,794,132	4,856	10,281,919	4,865,985	3,670,329	5,037,742	2,198,707	5,673,534	21,446,297	31,728,216	17,007,729	14,720,487
Sutter Sacramento Sierra Region	47,145,531	10,177,838	34,365,677	91,689,046	2,630,210	4,996,006	1,545,675	-	8,104,005	17,275,896	108,964,942	82,516,701	26,448,241
Sutter West Bay Hospitals	20,427,264	31,392,839	6,479,506	58,299,609	5,747,518	37,098,907	3,477,768	22,740,306	3,187,241	72,251,740	130,551,349	51,795,089	78,756,260
Barlow Hospital	125,172	2,511,810	-	2,636,982	348,710	411,309	-	-	-	760,019	3,397,001	46,188	3,350,813
Beverly Hospital	4,076,587	12,948,250	-	17,024,837	2,637,794	-	-	-	-	2,637,794	19,662,631	3,776,826	15,885,805
Cedars-Sinai Medical Center	29,691,441	105,523,868	1,643,386	136,858,695	10,212,108	53,424,170	3,955,914	110,475,187	1,684,446	179,751,825	316,610,520	16,123,766	300,486,754
Central Valley General Hospital	3,456,504	-	966,017	4,422,521	-	244,417	2,432,422	-	53,325	2,730,164	7,152,685	6,885,819	266,866
Children's Hospital & Research Center Oakland	8,536,861	79,095,508	152,952	87,785,321	6,500,052	775,010	2,596,934	3,032,743	300	12,905,039	100,690,360	4,341,051	96,349,309
Children's Hospital at Mission	205,889	6,759,822	-	6,965,711	-	-	-	-	-	0	6,965,711	229,330	6,736,381
Children's Hospital of Central California	11,000	-43,482,839	2,760,568	-40,711,271	484,530	2,148,715	-	-	68,500	2,701,745	-38,009,526	106,109	-38,115,635
Children's Hospital of Los Angeles	2,662,000	-	-	2,662,000	5,294,000	26,152,000	5,121,000	26,762,000	466,000	63,795,000	66,457,000	731,143	65,725,857
Children's Hospital of Orange County	416,079	15,179,561	-	15,595,640	2,964,378	7,329,977	-	2,383,816	-	12,678,171	28,273,811	354,032	27,919,779
Chinese Hospital	279,529	1,462,965	-	1,742,494	222,086	121,728	1,834,788	-	142,065	2,320,667	4,063,161	428,844	3,634,317
Citrus Valley Medical Center-QV Campus, IC Campus (Combined)	4,204,000	-11,595,202	-	-7,391,202	3,990,955	100,000	24,306	-	1,545	4,116,806	-3,274,396	6,135,393	-9,409,789
City of Hope National Medical Center	6,917,000	10,164,427	-	17,081,427	367,653	793,440	-	41,197,169	2,718,972	45,077,234	62,158,661	8,884,591	53,274,070
Community Hospital of Long Beach	835,202	1,325,396	-	2,160,598	117,677	113,037	-	-	-	230,714	2,391,312	417,012	1,974,300
Community Hospital of the Monterey Peninsula	8,860,084	31,501,496	-	40,361,580	3,829,969	464,222	16,399,439	-	462,249	21,155,879	61,517,459	8,959,861	52,557,598
Community Memorial Hospital- San Buenaventura & Ojai Valley (Combined)	970,833	-6,987,259	-	-6,016,426	1,142,093	1,019,230	290,117	-	17,500	2,468,940	-3,547,486	662,372	-4,209,858
Community Reg Med Ctr-Clovis & Fresno & Fresno Heart and Surgical Hospital (Combined)	12,494,000	77,029,000	-	89,523,000	628,000	43,842,000	-	-	-	44,470,000	133,993,000	65,376,488	68,616,512
Dameron Hospital	2,406,500	11,892,636	-	14,299,136	101,354	72,679	-	-	-	174,033	14,473,169	2,318,113	12,155,056
Delano Regional Medical Center	658,477	8,517,238	-	9,175,715	39,731	-	-	-	-	39,731	9,215,446	4,999,737	4,215,709
Eden Medical Center	10,714,687	388,645	-	11,103,332	758,550	1,051,116	715,255	-	349,948	2,874,869	13,978,201	10,989,292	2,988,909
Eisenhower Medical Center	4,681,411	23,500,660	-	28,182,071	2,398,662	2,336,190	295,714	321,560	348,514	5,700,640	33,882,711	7,799,012	26,083,699
Emanuel Medical Center	6,200,550	13,741,648	-	19,942,198	27,000	-	2,006,276	-	-	2,033,276	21,975,474	2,443,908	19,531,566
Enloe Medical Center	3,996,102	-	7,286,060	11,282,162	688,409	1,539,329	-	-	105,073	2,332,811	13,614,973	15,601,462	-1,986,489
Feather River Hospital	717,952	-13,009,775	1,048,513	-11,243,310	-	663,603	38,590	-	-	702,193	-10,541,117	4,833,552	-15,374,669
Foothill Presbyterian Hospital	855,000	3,989,796	-	4,844,796	179,039	19,250	-	-	1,545	199,834	5,044,630	1,029,570	4,015,060
Frank R. Howard Memorial Hospital	377,396	-2,024,037	1,094,551	-552,090	2,427	-	-	-	41,150	43,577	-508,513	2,349,428	-2,857,941
Fremont Medical Center & Rideout Memorial Hospital (Combined)	835,777	15,780,767	4,651,740	21,268,284	27,642	-26,488	-	-	28,769	29,923	21,298,207	13,868,334	7,429,873
Gateways Hospital And Mental Health Center	38,762	-	-	38,762	-	279,772	-	-	-	279,772	318,534	4,865,936	-4,547,402
Glendale Adventist Medical Center	7,721,269	1,942,805	12,134	9,676,208	1,713,668	3,858,960	-	-	1,642,919	7,215,547	16,891,755	7,482,526	9,409,229
Goleta Valley Cottage Hospital	355,466	3,276,480	295,165	3,927,111	-	24,000	-	-	100,000	124,000	4,051,111	780,333	3,270,778
Good Samaritan Hospital	5,658,169	2,390,821	-	8,048,990	132,861	-	-	1,148,328	1,076,788	2,357,977	10,406,967	2,786,622	7,620,345
Hanford Community Medical Center	3,148,562	1,181,469	1,810,415	6,140,446	67,854	105,820	-	-	14,466	188,140	6,328,586	5,832,652	495,934
Hebrew Home for the Aged Disabled	-	5,636,869	-	5,636,869	-	-	-	461,117	-	461,117	6,097,986	132,781	5,965,205
Henry Mayo Newhall Memorial Hospital	16,542,068	12,664,900	-	29,206,968	3,499,962	-	-	-	-	3,499,962	32,706,930	2,437,438	30,269,492
Hoag Memorial Hospital Presbyterian	7,158,458	16,672,512	11,872,000	35,702,970	6,812,146	410,393	2,113,617	1,064,580	3,268,115	13,668,851	49,371,821	21,511,776	27,860,045
Huntington Memorial Hospital	9,974,500	14,327,184	-	24,301,684	5,348,995	15,394,354	5,017,405	717,363	637,710	27,115,827	51,417,511	9,974,500	41,443,011
John Muir Medical Center Concord & Walnut Creek (Combined)	11,440,497	11,132,663	-	22,573,160	7,400,159	1,693,182	797,976	759,479	3,584,895	14,235,691	36,808,851	15,054,293	21,754,558
Lodi Memorial Hospital	2,398,069	8,207,053	-	10,605,122	5,003,694	959,246	5,550,204	-	338,710	11,851,854	22,456,976	3,104,410	19,352,566

BERKELEY RESEARCH GROUP

Comparison of IRS Form 990, Schedule H and IHSP Study [a]

	Financial Assistance and Means-Tested Government Programs				Other Benefits								
Health System or Hospital	Financial Assistance/ Charity Care at Cost	Unreimbursed Medicaid	Unreimbursed Costs - Other Means-tested Government Programs	Total	Community Health Improvement Services and Community Benefit Operations	Health Professions Education	Subsidized Health Services	Research	Cash and In-kind Contributions	Total	Grand Total IRS Form 990, Schedule H	IHSP Study Estimate of Charity Care	Difference Schedule H minus IHSP Estimate
Loma Linda University Behavioral Medicine Ctr	173,820	655,831	-	829,651	86,838	1,117,629	-	-	-	1,204,467	2,034,118	679,954	1,354,164
Loma Linda University Medical Center	15,493,994	165,500,914	9,952,162	190,947,070	512,959	47,910,550	800,361	4,207,402	1,709,538	55,140,810	246,087,880	18,840,283	227,247,597
Lucile Packard Children's Health Services	427,336	101,823,194	9,718,073	111,968,603	1,747,140	12,140,289	270,000	-	2,149,699	16,307,128	128,275,731	3,809,425	124,466,306
Madera Community Hospital	1,716,607	7,694,114	10,191,705	19,602,426	208,366	211,071	1,291	-	57,388	478,116	20,080,542	4,173,254	15,907,288
Methodist Hospital of Southern California	2,090,946	15,486,708	-	17,577,654	1,313,327	303,578	3,720,985	-	11,277	5,349,167	22,926,821	2,370,716	20,556,105
Mission Community Hospital - Panorama Campus	3,152,807	3,299,484	-	6,452,291	166,962	-	-	-	-	166,962	6,619,253	309,228	6,310,025
Mission Hospital Regional Medical Center & Mission Hospital Laguna Beach (Combined)	5,786,840	20,494,733	5,255,733	31,537,306	3,410,000	110,000	1,149,491	-	2,057,259	6,726,750	38,264,056	18,683,470	19,580,586
Motion Picture & Television Hospital	48,000	11,595,000	-	11,643,000	6,764,000	-	-	-	-	6,764,000	18,407,000	1,069,626	17,337,374
North Bay Medical Center & Vaca Valley Hospital (Combined)	8,760,680	49,231,870	-	57,992,550	6,132,012	61,150	-	-	87,047	6,280,209	64,272,759	23,064,387	41,208,372
O'Connor Hospital	3,279,323	34,305,005	-	37,584,328	1,080,962	16,028	285,557	-	262,079	1,644,626	39,228,954	2,674,637	36,554,317
Oroville Hospital	1,113,661	4,939,238	155,116	6,208,015	139,996	162,839	-	-	19,747	322,582	6,530,597	6,934,768	-404,171
Parkview Community Hospital	1,728,146	2,280,659	771,671	4,780,476	109,866	-	-	-	-	109,866	4,890,342	1,188,926	3,701,416
Pomona Valley Hospital Medical Center	8,674,688	27,991,633	80,532	36,746,853	1,256,438	3,287,048	1,696,870	28,300	3,170,390	9,439,046	46,185,899	14,320,872	31,865,027
Presbyterian Intercommunity Hospital	16,189,328	15,951,741	434,021	32,575,090	4,503,313	2,703,233	7,879,769	86,332	884,538	16,057,185	48,632,275	2,104,077	46,528,198
Queen of the Valley Hospital - Napa	5,075,334	12,784,283	3,981,388	21,841,005	3,622,319	-	23,781	-	545,036	4,191,136	26,032,141	8,231,234	17,800,907
Rady Children's Hospital - San Diego	4,272,163	-11,819,315	-4,813	-7,551,965	13,503,010	7,423,640	14,291,141	3,482,673	76,000	38,776,464	31,224,499	1,882,539	29,341,960
Redlands Community Hospital	687,230	3,571,266	383,017	4,641,513	385,831	-	731,705	-	-	1,117,536	5,759,049	1,535,598	4,223,451
Redwood Memorial Hospital	919,438	853,604	1,550,466	3,323,508	278,137	285,827	855,699	-	515,560	1,935,223	5,258,731	1,576,318	3,682,413
San Antonio Community Hospital	2,516,243	6,457,002	-	8,973,245	626,233	197,720	480,925	6,634	27,813	1,339,325	10,312,570	1,522,293	8,790,277
San Joaquin Community Hospital	3,232,668	10,627,215	-	13,859,883	464,375	11,305	575,834	-	671,378	1,722,892	15,582,775	3,386,995	12,195,780
Santa Barbara Cottage Hospital	9,546,422	20,413,396	2,651,267	32,611,085	7,434,751	2,266,739	491,408	-	188,600	10,381,498	42,992,583	12,917,174	30,075,409
Santa Rosa Memorial Hospital - Montgomery, Sotoyome (Combined)	8,561,760	18,537,248	5,265,574	32,364,582	1,948,847	-	195,610	-	241,017	2,385,474	34,750,056	23,342,442	11,407,614
Santa Ynez Valley Hospital	95,479	229,323	1,331	326,133	-	-	34,794	-	-	34,794	360,927	103,858	257,069
Seton Medical Center & Seton Medical Center Coastside (Combined)	1,729,236	28,196,336	-	29,925,572	146,306	166,079	765,538	-	4,342	1,082,265	31,007,837	2,280,052	28,727,785
Sharp Chula Vista Medical Center	11,152,419	2,648,607	3,804,920	17,605,946	539,131	596,961	3,367,982	-	394,648	4,898,722	22,504,668	18,515,368	3,989,300
Sharp Coronado Hospital & Healthcare Center	1,225,624	3,775,268	617,054	5,617,946	113,422	351,032	1,247,723	-	21,257	1,733,434	7,351,380	2,555,382	4,795,998
Sharp Grossmont Hospital	27,650,285	10,807,622	11,311,731	49,769,638	778,487	626,561	19,154,522	1,883	901,234	21,462,687	71,232,325	44,578,784	26,653,541
Sharp Memorial Hospital & Sharp Mary Birch Hospital for Women, Sharp Mesa Vista, Sharp Vista Pacific (Combined)	25,544,975	-11,776,044	8,466,719	22,235,650	2,139,234	1,796,509	9,657,464	32,979	2,159,338	15,785,524	38,021,174	31,812,473	6,208,701
Simi Valley Hospital & Health Care Services	2,294,900	1,040,468	-	3,335,368	186,327	2,500	-	-	35,439	224,266	3,559,634	2,361,018	1,198,616
Sonora Regional Medical Center	817,914	-6,166,818	2,198,529	-3,150,375	165,535	-	1,484,420	-	28,674	1,678,629	-1,471,746	7,330,073	-8,801,819
St. Agnes Medical Center	6,046,223	18,909,108	-	24,955,331	1,177,206	-	-	-	361,215	1,538,421	26,493,752	6,402,584	20,091,168
St. Francis Medical Center - Lynwood	13,502,607	5,036,708	-	18,539,315	4,016,783	2,723,057	8,121,440	-	55,728	14,917,008	33,456,323	25,212,361	8,243,962
St. Helena - Clear Lake	562,584	-9,485,960	1,499,042	-7,424,334	3,983	-	-	-	2,500	6,483	-7,417,851	3,398,037	-10,815,888
St. Helena Hospital	6,572	-440,088	1,250,617	817,101	132,193	-	-545,274	-	24,989	-388,092	429,009	3,919,206	-3,490,197
[b] St. John's Health Center	-	-	-	-	-	-	-	-	-	-	-	2,906,306	-
St. Joseph Hospital - Eureka	2,697,457	3,813,257	3,000,383	9,511,097	883,153	1,343,234	1,558,873	-	876,003	4,661,263	14,172,360	6,542,785	7,629,575
St. Joseph Hospital - Orange	8,798,147	30,654,301	6,270,357	45,722,805	10,123,585	94,610	2,423,743	1,803,056	323,786	14,768,780	60,491,585	19,807,826	40,683,759
St. Jude Medical Center	7,218,902	20,026,669	6,770,647	34,016,218	7,342,080	124,079	1,571,289	-	262,863	9,300,311	43,316,529	14,721,891	28,594,638
St. Louise Medical Center	2,002,762	5,704,884	-	7,707,646	102,574	-	3,067	-	36,525	142,166	7,849,812	2,115,840	5,733,972
St. Mary's Regional Medical Center - Apple Valley	9,423,205	-5,982,177	-	3,441,028	3,679,081	16,488	-	-	1,412,460	5,108,029	8,549,057	8,119,439	429,618
St. Rose Hospital	5,608,502	1,181,363	-	6,789,865	543,160	239,500	-	-	-	782,660	7,572,525	7,654,247	-81,722
St. Vincent Medical Center	1,083,454	15,432,056	-	16,515,510	580,060	-	-	-	-	580,060	17,095,570	710,600	16,384,970
Stanford University Hospital	21,676,659	87,993,942	-	109,670,601	4,174,891	50,803,772	2,096,401	-	1,226,182	58,301,246	167,971,847	19,124,975	148,846,872
Sutter Coast	1,446,900	-5,717,612	1,080,954	-3,189,758	201,614	-	-	-	206,791	408,405	-2,781,353	3,556,741	-6,338,094
[c] Tarzana Treatment Center	-	-	-	-	-	-	-	-	-	-	-	2,329,938	-
Torrance Memorial Medical Center	4,768,075	15,326,710	-	20,094,785	596,067	19,700	881,157	309,187	1,659,622	3,465,733	23,560,518	4,932,870	18,627,648
Tri-City Regional Medical Center	4,085,576	2,017,279	-	6,102,855	408,817	252,319	2,710,400	-	5,800	3,377,336	9,480,191	3,919,580	5,560,611
Ukiah Valley Medical Center	911,461	-5,300,182	3,214,882	-1,173,839	-	-	-4,347	-	52,967	48,620	-1,125,219	5,352,034	-6,477,253

BRG BERKELEY RESEARCH GROUP

Comparison of IRS Form 990, Schedule H and IHSP Study [a]

	Financial Assistance and Means-Tested Government Programs				Other Benefits								
Health System or Hospital	**Financial Assistance/ Charity Care at Cost**	**Unreimbursed Medicaid**	**Unreimbursed Costs - Other Means-tested Government Programs**	**Total**	**Community Health Improvement Services and Community Benefit Operations**	**Health Professions Education**	**Subsidized Health Services**	**Research**	**Cash and In-kind Contributions**	**Total**	**Grand Total IRS Form 990, Schedule H**	**IHSP Study Estimate of Charity Care**	**Difference Schedule H minus IHSP Estimate**
Valley Care Medical Center & Valley Memorial Hospital (Combined)	1,025,452	24,330,955	872,607	26,229,014	1,822,388	1,322,805	912,753	-	-	4,057,946	30,286,960	1,131,468	29,155,492
Valley Presbyterian Hospital	2,020,954	15,447,473	6,328,298	23,796,725	324,131	-	-	-	-	324,131	24,120,856	2,162,271	21,958,585
Verdugo Hills Hospital	1,464,327	853,076	4,453,549	6,770,952	193,689	-	205,084	-	-	398,773	7,169,725	118,853	7,050,872
White Memorial Medical Center	14,027,511	-28,546,233	1,401,437	-13,117,285	626,454	6,282,683	1,354,567	-	317,576	8,581,280	-4,536,005	17,647,355	-22,183,360
Total	**$ 1,010,775,772**	**$ 1,995,696,302**	**$ 339,316,578**	**$ 3,345,788,652**	**$ 324,760,367**	**$ 541,348,675**	**$ 232,043,928**	**$ 374,206,444**	**$ 145,561,398**	**$ 1,617,920,812**	**$ 4,963,709,464**	**$ 1,428,379,411**	**$ 3,540,566,297**

Notes and Sources

[a] Nonprofit hospitals in California in 2010. Only hospitals for which the IHSP study calculated charity care estimates were included.
[b] IRS Form 990 for St. John's Health Center did not include Schedule H.
[c] IRS Form 990 for Tarzana Treatment Center did include Schedule H, but no figures were reported.

BERKELEY RESEARCH GROUP

Exhibit 2

Elasticity Modeling Description

Utilizing the Office of Statewide Health Planning and Development (OSHPD) data, BRG modeled discharges as a proxy for medical services demand based on the Average Hourly Rate while controlling for demand variables (i.e., Population, Per Capita Income, %Over 64, % Under 25, % Insured),[1] Hospital specific effects, Yearly effects,[2] Ownership effects (i.e., Non-profit, Profit, Public) and Case Mix Index.[3] Based on this model, the regression coefficient on the Average Hourly Rate and proxy for demand elasticity for medical services is -0.24.[4,5] The table below contains a summary of the regression results.[6]

It should be noted there were several permutations of models run including using patient days as the dependent variable which resulted in large positive coefficients on wage (e.g., 5.5) which seemed unlikely. Dummy variables for County were considered instead of Hospital however this resulted in overall R-squared values dropping to approximately 40% instead of above 90%. Additional years were included however this also resulted in unreasonable large positive demand elasticity coefficients as well. It should be noted the demand elasticity estimated is not robust to model specification.

---

[1] Annual data is available from the American Community Survey.

[2] Dummy variables were created for each hospital and year represented.

[3] See http://www.oshpd.ca.gov/HID/Products/PatDischargeData/CaseMixIndex/

[4] The average hourly rate and all demand variables were lagged one period to control for endogeneity. These preliminary results are based on using only data from 2009 – 2010 since ACS began capturing insurance coverage statistics in 2008 and demand variables were lagged one year. The R-squared was 99.5%.

[5] The data was refined to account for counties without ACS data, hospitals without salary or Case Mix Index data, and duplicate OSHPD entries within the same year, and only acute care facilities

[6] We omit the dummy variables for individual hospitals, as well as dummy variables for "Profit" and "Public" hospitals from Table 1. The full regression results are available upon request.

BERKELEY RESEARCH GROUP

Summary of Regression Results

R-Squared	Coefficient Variance	Root MSE	Dependent Variable Mean
0.995	1.429	0.124	8.690

Parameter	Coefficient Estimate	Standard Error	T-Statistic	P-Value
Average Hourly Rate	-0.239	0.131	-1.830	0.069
Population	-0.587	1.907	-0.310	0.759
Per Capita Income	0.599	0.360	1.660	0.097
% Over 64	0.013	0.595	0.020	0.983
% Under 25	-0.145	0.384	-0.380	0.707
% Insured	-0.684	0.910	-0.750	0.453
Nonprofit	0.483	0.115	4.190	<.0001
Case Mix Index	0.002	0.062	0.030	0.977
Intercept	14.102	21.079	0.670	0.504

BERKELEY RESEARCH GROUP

Exhibit 4
Reduction in Charity Care and Community Benefits due to AB 975

Hospital Service	Quantity	Increase in Expenses	Elasticity	Change in Charity Care
[a]	[b]	[c]	[d]	[e]
Financial Assistance and Means-Tested Government Programs	$3,345,788,652	5.00%	-0.50	-$83,644,716
Other Benefits	$1,617,920,812	5.00%	-0.50	-$40,448,020
Total	**$4,963,709,464**	**5.00%**	**-0.50**	**-$124,092,737**
Financial Assistance and Means-Tested Government Programs	$3,345,788,652	10.00%	-0.50	-$167,289,433
Other Benefits	$1,617,920,812	10.00%	-0.50	-$80,896,041
Total	**$4,963,709,464**	**10.00%**	**-0.50**	**-$248,185,473**

Notes and Sources

[a] Financial Assistance and Means-Tested Government Programs includes: Financial assistance/charity care at cost, Unreimbursed Medicaid, and Unreimbursed costs - other means-tested government programs. Other Benefits includes: Community health improvement services and community benefit operations, Health professions education, Subsidized health services, Research, and Cash and in-kind contributions.

[b] See Exhibit 1 for figures.

[c] Assumed increase in hospital expenses.

[c] Source: Richard G. Frank, David S. Salkever, and Jean Mitchell, 1990, "Market Forces and the Public Good: Competition Among Hospitals and Provision of Indigent Care," *Advances in Health Economics and Health Services Research* 2, 159-183.

[e] Equal to [b] * [c] * [d].

BERKELEY RESEARCH GROUP

Exhibit 5
Reduction in Salaries and Taxes due to AB 975

Nonprofit Hospital Employees	Average Annual Salary	Increase in Expenses	Elasticity	Change in Hospital Employee Salary	Tax Rate	Change in Taxes
[a]	[b]	[c]	[d]	[e]	[f]	[g]
293,184	$70,465	5.00%	-0.20	-$206,591,840	5.90%	-$12,188,919
293,184	$70,465	10.00%	-0.20	-$413,183,680	5.90%	-$24,377,837

Notes and Sources

[a] Equal to 349,540 * 83.9%. 349,540 is the number of employees corresponding to California, NAICS 6221 (General Medical and Surgical Hospitals), Private Owner, All Establishment Sizes, All Employees, 2011. 83.9% is the percent of total discharges in California accounted for by nonprofit hospitals. Sources: Bureau of Labor Statistics, Office of Statewide Health Planning and Development.

[b] Average annual pay corresponding to California, NAICS 6221 (General Medical and Surgical Hospitals), Private Owner, All Establishment Sizes, 2011. Source: Bureau of Labor Statistics.

[c] Assumed increase in hospital expenses.

[d] Source: Emmett B. Keeler and John E. Rolph, 1988, "The Demand for Episodes of Treatment in the Health Insurance Experiment," *Journal of Health Economics* 7, 337-367.

[e] Equal to [a] * [b] * [c] * [d].

[f]

Equal to $4,160 / $70,465. $4,160 is the tax payment corresponding to income of $70,465 and Single filing status. Source: California Franchise Tax Board 2012 Tax Calculator. Accessed at: https://webapp.ftb.ca.gov/taxcalc/calculator.aspx?Submit=2012+Tax+Calculator&Lang=english&redirectURL=OTC

[g] Equal to [e] * [f].

BERKELEY RESEARCH GROUP

Exhibit 6
Analysis of Hospital Borrowing Rates

Hospital Name [a]		Issuance Amount	Issuance Date	Maturity Date	Coupon Rate	US Treasury Type [b]	Treasury Rate	Spread [c]
Loma Linda University Medical Center	$	70,000,000	11/13/08	12/1/38	8.25%	29 year 6 month T-Bond	4.500%	3.750%
Cedars-Sinai Medical Center	$	541,045,288	10/21/09	8/15/10	3.00%	52 week T-Bill	0.375%	2.625%
Hoag Memorial Hospital Presbyterian	$	104,790,616	2/8/11	12/1/40	6.00%	30 year T-Bond	4.750%	1.250%
Sutter Medical Center - Sacramento	$	470,318,145	2/10/11	8/15/42	6.00%	30 year T-Bond	4.750%	1.250%
Santa Barbara Cottage Hospital	$	300,168,359	10/20/10	11/1/40	5.00%	29 year 10 month T-Bond	3.875%	1.125%
John Muir Medical Center Concord & Walnut Creek (Combined)	$	101,911,852	10/29/09	7/1/21	4.63%	9 year 10 month T-Note	3.625%	1.005%
Stanford University Hospital	$	310,291,489	6/16/10	11/15/36	5.00%	29 year 11 month T-Bond	4.375%	0.625%
							Average (All):	1.661%
							Average (T-Bond):	1.600%

Sources:
Information on hospital tax-exempt bonds taken from IRS Form 990 for each hospital.
Information on US Treasuries taken from http://www.treasurydirect.gov/RI/OFAuctions.

Notes:
[a] Hospitals taken from Appendix F of the Institute for Health and Socio-Economic Policy study, "Benefiting from Charity Care: California Not-for-Profit Hospitals." Hospitals were sorted by Total Value of Exemptions and the largest 20 were selected. Of those 20, only hospitals with IRS Form 990s and coupon bonds were included.
[b] U.S. Treasury securities were chosen to match the issuance date and time to maturity of each hospital bond.
[c] Spread equal to Coupon Rate minus Treasury Rate.