

JOURNAL OF

HEALTH CARE FINANCE

Hospital Financial Issues

VOL. 39, NO. 3 SPRING 2013
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From the Guest Editor— About This Issue

This special issue is dedicated to John R.C. (Jack) Wheeler, Professor of Health Management and Policy and Professor of Pediatrics and Communicable Diseases, The University of Michigan, on the occasion of his retirement.

For more than three decades, Professor Wheeler has taught health care finance to hundreds of students and health care professionals at the University of Michigan, the University of Colorado at Denver, and the University of Alabama at Birmingham. He has taught in executive management programs internationally under the auspices of Johnson & Johnson and Project Hope and domestically in collaboration with the US Department of Veterans' Affairs and the Michigan Public Health Training Center. He has served on numerous not-for-profit boards.

It is Professor Wheeler's role as a mentor and researcher that motivates this special issue. He has supervised dissertations for more than 30 doctoral students and has worked with numerous faculty colleagues on important issues of financial decision-making and health care payment policy. His current projects include research to support the redesign of Medicare's end-stage renal disease payment program and research on the costs of and rate of return on investment in vaccines. The results of his research have

been presented in over 100 journals, including more than a dozen in this *Journal*.

Professor Wheeler received a BS in Finance and Economics from the Wharton School at the University of Pennsylvania, an MA in Economics and a PhD in Economics and Medical Care Organization from the University of Michigan. After an initial appointment on the faculty of the Sloan Program at Cornell University's Graduate School of Business and Public Administration, he returned to the University of Michigan. During his term as chair, the department was first recognized by *US News & World Report* as the leading program in health administration education in the country.

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Examining Financial Performance Indicators for Acute Care Hospitals

Jeffrey H. Burkhardt and John R.C. Wheeler

Measuring financial performance in acute care hospitals is a challenge for those who work daily with financial information. Because of the many ways to measure financial performance, financial managers and researchers must decide which measures are most appropriate. The difficulty is compounded for the non-finance person. The purpose of this article is to clarify key financial concepts and describe the most common measures of financial performance so that researchers and managers alike may understand what is being measured by various financial ratios. Key words: *acute care, return on equity (ROE), return on assets (ROA), cash flow, profit margin.*

Measuring financial performance in acute care hospitals is a challenge for those who work with financial information daily. Because of the large number of ways to measure and interpret financial performance in health care organizations, finance experts must decide which measures are most appropriate for the context and organization in question. The difficulty is compounded for the non-finance person. With increasing numbers of analyses and research papers referencing financial performance, the need for a basic understanding of the definition of financial performance and the various financial performance measures is clear. A search of the literature reveals a variety of measures employed. Choosing a particular measure should reflect a clear understanding of the measure's meaning and how it meets the intended purpose. This article clarifies some measures of financial performance with the aim of improving understanding among non-financial managers and researchers.

Financial Profitability

Financial performance and financial profitability are frequently used as interchangeable terms. If financial information is used to gauge the performance of an organization, it is by definition a measure of financial performance. Thus, performance measures

could include information related to revenues, income, expenses, assets, liabilities, or cash flow. While these measures show a level of financial performance and are necessary in making financial decisions, they do not show the profitability or some more comprehensive indication of financial performance of the organization. This article focuses on those measures that are used to demonstrate financial profitability of an acute care hospital.

Ratio analysis is a convenient and efficient method of assessing a hospital's financial performance.¹ It highlights important relationships and reduces the mass of financial details to a concise form so that important facts and relationships can be analyzed. By examining those relationships, a firm's financial strengths and potential problems can be evaluated.² Ratio analysis combines information from the financial statements

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J Health Care Finance 2013; 39(3):1-13
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(balance sheet and income statement, and occasionally cash statement and equity statement) to create numbers that have more easily interpreted financial meanings.³ There are many ratios used in gauging financial performance of a firm in the finance literature. In this article, we describe measures of two types: (1) return on investment and (2) operating profit.

There are two commonly used measures of return on investment: return on assets (ROA) and return on equity (ROE). Likewise, there are two commonly used measures of operating profit: profit margin and cash flow. Each of these ratios will be described in this article to provide the reader with a better understanding of what the ratio is intended to show.

Measures of Return on Investment

The measures of return on investment, ROA and ROE, show the return that a hospital can earn on two important measures of invested funds: assets and equity. Understanding the interpretation of these ratios is of vital importance for researchers and practitioners.

Return on Assets

The concept of the return that a hospital can earn on its assets is perhaps the key one in assessing its financial viability. The hospital makes an investment in its assets, which it then uses for the production of patient care and other services and for the generation of financial resources for the future. Hospitals that can earn a suitable return on their assets are most likely to be financially viable. The terms return on assets (ROA), return on investment, and return on total assets (ROTA) sometimes refer to the same or a

similar measure. However, the term return on investment is increasingly being used to measure the performance of individual projects or investment within an organization as well as performance of the organization as a whole. This ratio will be referred to as ROA throughout this article to avoid confusion.

Most studies of performance in industry have used some form of ROA.⁴ This ratio is critical because a firm must generate a return from its investments that is at least equal to the cost of financing those investments. The inability to achieve a return on investment that is equal to or greater than the firm's cost of funds will eventually result in the failure of the firm.⁵ ROA reflects the ability to fund current operations as well as future increases in physical and other assets.⁶

The most frequent definition of ROA is:

$$ROA = \frac{Net\ Income}{Total\ Revenue} \text{ or } \frac{Revenue - Expenses}{Total\ Assets}$$

Occasionally, alternative definitions of ROA are used. Cleverley,⁷ in a 1990 study, used:

$$ROA = \frac{(Revenue - Expenses) + Depreciation + Interest}{Current\ (or\ Replacement)\ Cost\ of\ Assets}$$

For a 1992 paper, he used:⁸

$$ROA = \frac{Net\ Income + Interest}{Total\ Assets}$$

as did Eastaugh.⁹ Finkler¹⁰ replaced net income with operating income plus an adjustment to total assets to control for inflation. Zeller, Stanko, and Cleverley¹¹ employed the common definition in their look at hospital

financial ratios, and added an additional ratio entitled return on investment (ROI) and used Cleverley's definition of ROA from his 1990 paper cited above. Wang *et al*¹² added another variation by defining ROA as "the ratio of net income (excess of revenue over expenses) per dollar of investment in assets" giving no specific definition for assets. Finally, in a study of hospital mergers, revenue replaced net income in the numerator and ROA is defined as revenue divided by total assets.¹³

While all of these definitions are legitimate methods of measuring ROA, they demonstrate a need for a clearer understanding of what ROA is measuring. ROA is supposed to capture the return on invested funds of an organization.¹⁴ On the balance sheet, total assets (the denominator of ROA) equals total liabilities and equities, *i.e.*, the sum of debt and equity, and is equivalent to the total invested funds of the organization. Therefore, if ROA is going to measure the ROTA invested, it must include the cost of using all assets, however funded; that is, debt costs (interest expense) as well as the equity returns (net income) ought to be in the numerator. Interest expense has been removed from net income; therefore, it should be added back before calculating ROA. ROA would then become the sum of net income and interest expense over total assets. A more detailed way of expressing this relationship is that ROA equals net income plus interest expense over equity plus debt, *i.e.*:

$$ROA = \frac{\text{Net Income} + \text{Interest Expense}}{\text{Equity} + \text{Debt}}$$

Even when using this form of net income, inconsistencies will exist when comparing

net income from a tax-exempt (TE) hospital with net income from an investor-owned (IO) hospital. Because no shareholders hold claim to the residual income of the TE hospital, dividends are paid to the community by the TE hospital in the form of various social goods, *i.e.*, charity care, negative net present value projects¹⁵ whose benefits can be captured by the community,¹⁶ research or education.¹⁷ They are not monetary payments to shareholders. The value of these social "dividends" have been expensed before calculating net income, in contrast to IO firms where dividends are subtracted from net income. A TE hospital's net income will be lower than a comparable IO hospital because of this calculation of net income, and this difference must be remembered when comparing the performance of the two types of hospitals.¹⁸

A common method of computing ROA is to use the book value of assets rather than market value, replacement value, or index-adjusted cost. Finkler¹⁹ argues that this may lead to inflation distortions. He suggests using some form of current value, such as replacement cost. While current or replacement costs are potentially accessible to the hospital financial officer, they are not typically available to the researcher and may cause some distortion because they are only subjective estimates of the value of the assets. Another possible solution for the inflation problem would be to adjust the asset values by some price index. The price index used would depend on what was appropriate for the asset being adjusted. Whatever index is used will still create some distortion since the current value of each of the hospital's assets will not necessarily change by the specified index amount.

Since ROA is supposed to capture the return on invested funds, any adjustment to

the book value of the assets will alter the interpretation of the ratio, *i.e.*, the return on current value of assets, return on the inflation-adjusted value of assets, or return on the replacement cost of the assets. The adjustment would be an attempt to estimate the selling price of the asset, and the amount foregone by holding the asset instead of selling it would be the opportunity cost for holding the asset. Using ROA when the assets are not adjusted for inflation reflects a ratio which gives the return on the amount originally invested in assets.

For publicly traded IO firms, the market value of assets, or a close approximation, is available to the financial analyst. It is the sum of the market value of equity, which is the product of the stock price and the number of shares outstanding, and the market value of debt, which is often close to the book value of debt as reported on the balance sheet. For many IO firms, the market value of equity can be a multiple, sometimes a large multiple, of book value. Hence, for IO firms it may be necessary to adjust equity values to the market in order to get a true estimate of ROA.

In spite of the widespread use of ROA as a measure of business performance, there is considerable doubt as to its validity as an appropriate gauge. ROA has long been criticized as being an inadequate indicator of the economic rate of return because it does not properly relate the stream of profits to the investment that produced it.²⁰ Because there is not a one-to-one mapping of profits to the investment that produced them, Jacobson²¹ feels that ROA, at the firm level, is so seriously flawed that it bears little, if any, resemblance to the economic, or internal, rate of return. Since each project can earn a vastly different return, the firm's ROA is not necessarily an accurate reflection of the return earned by the organization.

Jacobson, however, did indicate that the firm (or corporate) ROA does yield valuable information as to the economic rates of return. The premise of his study on the validity of ROA as a measure of business performance was that the stronger the correlation of ROA with stock returns, the stronger the validity of ROA as a measure of business performance, because stock returns have been shown to be a good measure of economic returns.²² Although ROA has its limitations, it does have a statistically greater association with stock returns than other commonly used measures of profitability such as operating income growth or profit margin; and Jacobson concludes that it is a useful, and perhaps the best available, indicator of business performance.²³ This view is supported by others who suggest that ROA is widely regarded as the most useful measure and ultimate "bottom line" test of business performance. Cleverley²⁴ asserts that ROA "is the fundamental test of financial performance."

Return on Equity

A second commonly used ratio is return on equity (ROE), which is defined in IO firms as earnings per share over book equity per share. The TE organization equivalent is net income over equity or net assets.²⁵ ROE can be interpreted as the rate of growth in equity from year to year, from the hospital's earnings. ROE is a key determinant of the financial viability of TE and IO hospitals, especially the latter. Hospitals that can grow equity with earnings can finance the acquisition of future assets with equity. Further, more equity value on the balance sheet means more debt capacity; that is, hospitals with relatively high levels of equity are in a stronger position to approach the debt

markets on good terms (with a relatively high credit rating). ROE has support to be used as the primary financial performance measure because of its relationship to business unit value enhancement.²⁶ Ultimately, it is through equity growth that sustained asset growth is achieved.²⁷

ROE differs from ROA in that it focuses on equity return as the key to viability, as opposed to asset investment return. ROA reflects not only the firm's growth in total asset investment, but also its ability to pay off the liabilities associated with those investments. The ROA equation,

$$ROA = \frac{\text{Net Income} + \text{Interest Expense}}{\text{Equity} + \text{Debt}}$$

can be rewritten to reflect the relationship between ROE and ROA:

$$ROA_A = \frac{\text{Net Income}}{\text{Equity}} + \frac{\text{Interest Expense}}{\text{Debt}}$$

Although ROA_A is not mathematically equivalent to ROA, the rewritten version allows for the isolation of the growth in equity due to the operations of the firm. This new equation can be more simply stated as

$$ROA_A = ROE + ROD$$

where ROD is the repayment of debt costs.

Jacobson commented earlier that ROA was a good measure of financial performance because it was a good proxy for stock returns, while profits were not. Using Jacobson's reasoning, ROE would be a better measure than ROA because ROE is the inverse of the ratio used to measure stock returns, the price-earnings (P/E) ratio. If stock returns are defined as the total value of the shares (value of the

equity) divided by the total earnings (net income), then the TE equivalent of the P/E ratio would be equity/net income.

One caution should be noted when using reimbursement for equity to compare IO hospitals and TE hospitals. Starting in 1979, there was a series of papers in the health care financial literature about the proper return for third party payers to reimburse health care facilities for equity. Long,²⁸ Conrad,²⁹ Pauly,³⁰ Silvers and Kauer,³¹ and Smith and Wheeler³² all presented different arguments that address the issue of third-party payers giving a reimbursement for equity to hospitals. At the time this series of articles was begun, Medicare paid a reimbursement for equity to IO hospitals only. The issue of primary interest was the level of reimbursement for equity which should be paid to TE hospitals. Pauly endorsed a reimbursement for equity only for IO hospitals, while Silvers and Kauer supported a reimbursement for equity for TE and IO hospitals, but felt that it should typically be lower for TE hospitals than for IO hospitals. Long and Conrad supported an equal reimbursement for equity for both types of hospitals. Policymakers, however, disagreed with all parties, and in October 1986 began phasing out all equity reimbursement to hospitals. By October 1989, equity payments were no longer being given to any hospitals, and equity levels in IO hospitals were not being increased by Medicare reimbursement. A comparison of IO and TE hospitals before 1989 will reflect the additional payment of reimbursement for equity from Medicare for IO hospitals.

A practical problem which can affect using ROE as a measure of financial performance in research studies is the increasing number of negative values for total equity. If liabilities are greater than assets, which may happen

over the short-run while a hospital remains solvent, equity will be negative. This presents a difficulty when trying to interpret ROE. While negative ROE is easily interpretable if the negative sign is due to net income, there is no meaning to the positive ROE value if both net income and equity are negative or the negative ROE if net income is positive and equity is negative. Earning a return, either positive or negative, for a negative equity has little meaning. Some authors have eliminated ROE as a valid measure of performance because of the negative equity balances.³³

Measures of Profit

An alternative to measures of return on investment is measures of profit.³⁴ These measures, profit margin and cash flow, rather than showing the return generated at a specific point in time, demonstrate the performance of the organization over a given period of time. This provides a different perspective on the financial performance of the organization.

Profit Margin

There are two profit margin measures most commonly employed: total margin (TM) and operating margin (OM). TM is defined as:

$$TM = \frac{\text{Net Income}}{\text{Total Revenue}}$$

This measure indicates the percentage of total revenues that is converted into profit. Net income is the excess of revenues over expenses. TM considers all sources of revenue, including both operating and non-operating sources. OM is defined as:

$$OM = \frac{\text{Net Operating Income}}{\text{Operating Revenue}}$$

OM indicates the percentage of operating revenue that is converted into operating profit. Operating revenue consists principally of revenue from patient services. Other sources of operating revenue might include payments to support research or education programs, receipts for parking services, or cafeteria sales. Therefore, net operating income reflects profits earned on the business lines of the hospital. Non-operating sources of revenue are excluded from operating revenue and net operating income. These revenue sources are of two principal types: investment revenues and unrestricted donations.

While there is a clear distinction between the financial ratios of TM and OM, when used in research, that distinction is not so obvious. Part of the ambiguity derives from terminology, and part from the definition of the factors used in calculating TM and OM. In some studies, OM and TM have been used interchangeably,³⁵ profit margin and operating profits have been used synonymously,³⁶ profit margin was used without distinguishing whether it was OM or TM,³⁷ and TM and OM were both used but the difference between them is not clear.³⁸

The definition of how this ratio is calculated is not consistent either. In the IO sector of industry, OM is defined as the ratio of earnings before interest but after taxes over sales³⁹ or operating income over sales.⁴⁰ In the TE health care literature, OM is defined as net operating income divided by total operating revenue,⁴¹ net patient revenue minus expenses divided by net revenue,⁴² operating revenue minus operating costs divided by operating revenue,⁴³ operating revenues minus operating expenses divided by operating expenses,⁴⁴ net operating income divided by net operating revenue⁴⁵ and (net revenues plus other operating revenues minus total

operating expenses) divided by (net revenue plus other operating revenues.)⁴⁶

When calculating TM, definitions are more consistent. Total revenue minus total expenses divided by total revenues is the commonly accepted measure,⁴⁷ with slight variations in terminology by others: excess of revenues over expenses divided by total net revenues⁴⁸ and revenues and gains in excess of expenses and losses divided by total revenue plus net non-operating gains.⁴⁹

One of the concerns with ROA was with the effect of inflation on the ratio. Since the correct denominator for profit margin is sales or revenue, there is not the inflation problem that raised concerns with ROA because income and revenue are both from the same period.

Unlike ROA, the impact of profit margin on stock returns is essentially zero,⁵⁰ indicating that profits are not as good a measure of economic returns as ROA. In addition, profits, as a gauge of financial performance, are not as valid in TE hospitals as they are in other firms.⁵¹ Economic theory claims that high profits should signal entry into an industry and low profits should signal exit from an industry. However, many TE hospitals are established for religious or ideological reasons and continue operating with negative profits as long as they have donations, contributions, and other non-operating income to offset the losses.⁵²

Cash Flow

In 1990, the American Institute of Certified Public Accountants (AICPA) standardized the guidance on cash-flow reporting for hospitals and recommended that TE hospitals report cash flows.⁵³ In

1995, hospital cash-flow reporting was mandated by the Statement of Financial Accounting Standards (SFAS) No. 117.⁵⁴ The Statement of Cash Flows deals not only with the results of operating activities, *i.e.*, revenues and expenses during the current period, but also with the cash inflows and outflows of noncurrent assets and liabilities, such as issuing and repaying debt, transferring cash into and out of another entity, cash flows associated with the purchase and sale of property, plant and equipment, as well as stocks, bonds, or other business entities.

While balance sheets (from which many of the inputs for ratio analysis are drawn) provide a “snapshot” of the status of assets, liabilities and equities at the end of a period, cash-flow statements give a “moving picture” of the organization’s investing and financing activities, or cash inflows and outflows, over that period. This “may be a better guide to reality than the profits earned by creative accountancy”⁵⁵ because cash flows are harder to create or disguise.

The definition of cash flow reflected in the Statement of Cash Flows derives from the definition of cash in a financial accounting sense. From the basic accounting identity, we know that:

$$\text{Assets} = \text{Liabilities} + \text{Equities}$$

By rewriting assets to equal the sum of cash and all other assets, then:

$$\text{Cash} + \text{Other Assets} = \text{Liabilities} + \text{Equities}$$

$$\text{Cash} = \text{Liabilities} + \text{Equities} - \text{Other Assets}$$

Hence, sources of cash are seen as increases in liabilities and equities and

decreases in other assets; uses of cash are decreases in liabilities and equities and increases in other assets. In a typical Statement of Cash Flows, the principal sources of cash are:

Net Income (an increase in equity)

Plus

Adjustments to Reconcile Net Income to Cash Flows, mainly recognizing that depreciation expense and amortization expense are non-cash expenses.

Borrowed Funds.

Cash Proceeds from the Sale of Real and Financial Assets.

Minus

Repayment of Debt.

Purchase of Real and Financial Assets.

One of the most common approximations to cash flow for analytical purposes is:

Net Income + Depreciation Expense + Amortization Expense.

This definition focuses on the principal operating sources of cash. However, studies are divided over the proper asset flow to be used for measuring cash flow. Cash flows and its proxies are described in the literature under several different forms of "asset flows." Since so many cash-flow proxies have been proposed in the accounting literature, Lang *et al.*⁵⁶ tested whether the results of their study depended on the cash-flow measure used. They initially used the

measure proposed by Lehn and Poulsen⁵⁷ of operating income before depreciation minus interest expense, taxes, preferred dividends, and common dividends. They obtained similar results in their regressions when they tested cash-flow measures from net working capital, operating income, operating income adjusted for changes in inventory, and net income plus depreciation. Given similar results in all regressions, the choice of which measure of cash flow was used made little difference.

Other studies, however, present different results in their analysis of cash flows. Bowen, Burgstahler, and Daley⁵⁸ observed correlations between the traditional cash-flow measures of net income plus depreciation and amortization, working capital from operations, and other alternative cash-flow measures that incorporate more extensive adjustments. They noted that the correlations between the traditional measures and alternative measures of cash flow were low, while the correlations between the traditional measures of cash flow and earnings were high. Gombola and Ketz⁵⁹ found high correlations (0.959) between net income plus depreciation and working capital from operations, but only moderate correlations between net income plus depreciation and cash flow from operations (0.672). Based on the correlations and subsequent factors analyses, both research teams concluded that the traditional proxies were more similar to earnings than cash flow. However, Bowen, Burgstahler, and Daley concluded that net income plus depreciation and amortization appeared to be one of the best predictors of cash flow from operations. While the Statement of Cash Flows would undoubtedly provide a better measure of cash flow, none of the studies eliminates

net income plus depreciation as a reliable proxy for cash flow. Even with the statement of cash flows now being reported by hospitals in their Medicare Cost Reports, most studies continue to use proxies from the income statement. While net income plus depreciation expense continues to be used as a proxy for cash flow,⁶⁰ some studies add amortization expense to the numerator,⁶¹ some include interest expense instead of amortization expense,⁶² some include both interest expense and amortization expense,⁶³ and some merely define it as cash flow from operations.⁶⁴

Numerous studies suggest that cash flows should be normalized by the book value of assets to make comparisons between firms equivalent.⁶⁵ Chu *et al.*,⁶⁶ not only normalized their cash-flow measures by total assets, they also used equity, total liabilities, and patient revenues, then compared the resulting ratios through factor analysis. Most studies normalize cash flows by using net revenues,⁶⁷ total beds,⁶⁸ and total assets.⁶⁹ A 2005 study showed that cash flow margin, which normalized cash flow by net patient revenue plus other income, less contributions, investments, and appropriations, was considered by respondents to be one of the most useful indicators of financial performance.

Generally, only the income statements and balance sheets are used in health policy research; few studies use cash-flow statements. Several reasons exist for the limited use of cash-flow analysis in health care research. Kane⁷⁰ posits that cash-flow analysis at present requires more effort to interpret than ratio analysis. However, Broome suggests that the statement of cash flows should play a more crucial role in financial analyses,⁷¹ and he and Sylvestre

and Urbancic propose numerous ratios that could effectively be used.⁷²

Relating ROE, ROA, and OM

This article has covered several measures of hospital financial performance. One way to understand these measures more completely is through the device of DuPont Analysis, which breaks down ROE into its component ratios:

$$\text{ROE} = \text{Total Margin} \times \text{Total Asset Turnover} \times \text{Equity Multiplier}$$

If ROE is considered the key to financial viability, analysis using the DuPont method facilitates understanding of the particular level of performance as well as suggesting ways in which performance might be improved. The components of ROE are directly or indirectly some of the measures discussed in this article. This point can be seen by rewriting each of the components in terms of their individual parts:

$$\text{ROE} = \frac{\text{Net Income}}{\text{Total Revenue}} \times \frac{\text{Total Revenue}}{\text{Total Assets}} \times \frac{\text{Total Assets}}{\text{Total Equity}}$$

Where

$$\text{TM} = \frac{\text{Net Income}}{\text{Total Revenue}}$$

$$\text{Total asset turnover} = \frac{\text{Total Revenue}}{\text{Total Assets}}$$

$$\text{Equity multiplier} = \frac{\text{Total Assets}}{\text{Total Equity}}$$

If one combines TM with Total Asset Turnover, one gets ROA:

$$\frac{\text{Net Income}}{\text{Total Revenue}} \times \frac{\text{Total Revenue}}{\text{Total Assets}} = \frac{\text{Net Income}}{\text{Total Assets}} = \text{ROA}$$

One can then adjust ROA by the equity multiplier, which represents the proportion of total assets that are funded by equity, to arrive at ROE:

$$\frac{\text{Net Income}}{\text{Total Assets}} \times \frac{\text{Total Assets}}{\text{Equity}} = \frac{\text{Net Income}}{\text{Equity}} = \text{ROE}$$

Finally, TM can be disaggregated into two components:

OM and non-operating gain, where the non-operating gain multiplier reflects the proportion of total income that is earned from non-operating revenues, and is measured by:

$$\text{Non-Operating Gain Multiplier} = \frac{\text{Net Income}}{\text{Net Income} - \text{Non-Operating Revenue}} = \frac{\text{Net Income}}{\text{Operating Income}}$$

Hence, ROE can be written in expanded form:

$$\text{ROE} = \frac{\text{Operating Margin}}{\text{Operating Margin}} \times \frac{\text{Non-Operating Gain Multiplier}}{\text{Operating Gain Multiplier}} \times \frac{\text{Total Asset Turnover}}{\text{Equity Multiplier}}$$

ROE can now be seen as a summary of financial measures that reflects performance on most of the measures discussed in this article. Further, it is evident that positive results on ROE reflect some combination of positive results on OM, TM (including the effects of non-operating revenues), and ROA (combining TM and total asset turnover). Further, increasing ROE can be seen to follow from improvements in OM, in non-operating gains, and in ROA.

Conclusion

This article has provided definitions of four commonly employed measures of hospital financial performance. It has also described the variation in definitions of these measures seen in the literature. We have attempted to clarify the meaning and utility of each of these measures for understanding the performance of the hospital.

Three measures, cash flow, ROE, and ROA, are generally considered in the finance literature to yield reliable information. Profit margin (total or operating) is often considered misleading, but it is the most widely used measure. Based on review of the underlying theory of each of the measures of financial performance, ROE appears to be the best measure. It can be computed directly, it is comparable for both IO and TE hospitals after 1989, and there is no debate in the literature about how to compute ROE. Unfortunately, there has been an increasing number of negative equity balances in hospitals, which makes the interpretation of ROE difficult and unreliable.

Perhaps the optimal measure of financial performance is cash flow. Ideally, the Statement of Cash Flows would provide operating cash flow, but this statement is not part

of the Medicare Cost Report. The proxy for cash flow, net income plus depreciation, is widely accepted. All components are readily available and it is easily calculated.

All of the measures discussed in this article are useful in characterizing the financial

performance and financial condition of the hospital, provided that they are employed appropriately. Using them together, perhaps as components of a disaggregated ROE, enables a more fundamental understanding of the firm's financial health.

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Hospital Capital Budgeting in an Era of Transformation

Kristin L. Reiter and Paula H. Song

The Patient Protection and Affordable Care Act (PPACA), signed into law in 2010, is transforming the health care marketplace. This transformation requires health system leaders and health finance scholars to re-examine hospital capital budgeting practices in the context of new delivery models. Within the context of accountable care organizations (ACOs), this article discusses the components of the hospital capital budgeting process, identifies current practices that may require new methods or approaches, and suggests areas where existing or future research can inform capital budgeting going forward. We conclude that while much evidence is available to begin to inform hospital capital budgeting in an ACO, hospital leaders and health finance scholars will need to look to early adopters of the ACO model of care for new knowledge about the most efficient and effective methods of capital allocation. Key words: *hospitals, capital budgeting, accountable care organizations (ACOs).*

In the year 2000, Reiter, Smith, Wheeler, and Rivenson described the capital investment strategies and decision-making procedures used by leading health care systems.¹ While their findings showed relative sophistication in capital budgeting among the health systems they studied, capital investment strategies and procedures of the past may no longer be sufficient. The Patient Protection and Affordable Care Act (PPACA), signed into law in 2010, is transforming the health care marketplace. This transformation requires health system leaders and health finance scholars to re-examine hospital capital budgeting practices in the context of new delivery models. In this article, we focus on one aspect of transformation—the accountable care organization (ACO). Within the context of ACOs, we discuss the components of the hospital capital budgeting process, identify current practices that may require new methods or approaches, and suggest areas where existing or future research can inform capital budgeting going forward. We begin with a brief introduction to ACOs.

A New Model of Care: The Accountable Care Organization

ACOs are one of the key strategies being tested under health reform for their potential

to achieve the triple aim of better health, better health care, and lower cost.² Similar to the managed care organizations (MCOs) of the 1990s, ACOs create formal structures designed to integrate and coordinate care across a range of providers and settings.³ However, in contrast to MCOs, ACOs are often provider initiated, allow patients to choose providers outside of the ACO, and utilize a wider variety of payment models centered on meeting cost and quality targets.

In an ACO, participating providers—usually primary and specialty care physicians and hospitals—accept responsibility for the cost and quality of care provided to a defined patient population. Payers, in turn, partner with the providers to create incentives

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J Health Care Finance 2013; 39(3):14–22
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that encourage delivery of high-quality care at a lower cost than under traditional fee-for-service reimbursement arrangements. In contrast to the full-capitation contracts which dominated MCOs in the 1990s, current payment models take on more flexible forms such as shared savings programs, penalties, and/or partial or full capitation arrangements.⁴

ACOs are in their early stages of development and it is yet unclear which models will be most successful and/or sustainable. However, the emergence of suggested critical ACO success factors points to possible future changes in hospitals' capital budgeting strategies to maximize performance in an ACO. For example, a recent report by the Deloitte Center for Health Solutions identified the "ability to mediate stakeholder priorities," the "ability to change direction when necessary," and the "ability to access and deploy capital efficiently to implement strategy"⁵ as being important to ACO success. Given the intimate relationship of these critical success factors to the capital budgeting process, effective capital budgeting practices that are adapted to the ACO structure will likely play a key role in determining ACOs' long-term success and sustainability. In the sections that follow, we discuss the capital budgeting process and identify possible implications of participation in ACOs for hospital capital investment strategies and decision-making procedures.

The Capital Budgeting Process

Capital Budget Development

The capital budgeting process often begins with capital budget development, or the identification of potential projects that

require substantial financial investment. Although existing evidence is limited, a survey of hospital and health system leaders in Michigan showed that capital budget development typically follows a "mixed" approach. Under this approach, capital budget requests are initiated by medical staff and department or division-level managers (*i.e.*, they come from the bottom up). In virtually all surveys of health care organizations, physicians have been found to play a key role in the identification of capital projects.⁶ Initiated projects are then evaluated for financial and strategic merit and approved at higher levels of the organization, for example, by the board of trustees. Alternatively, health systems may use a similar, although nuanced, approach where delegation of authority for raising and allocating capital is dependent on the size of the investment and/or its strategic importance.⁷

While this type of "mixed" approach⁸ to capital budget development is likely to continue in the context of an ACO, the process of identifying and approving projects may need to be adapted. Successful ACOs will need to mediate stakeholder priorities⁹ in the capital budgeting process. Whereas a hospital could previously focus solely on the services it provided, new payment arrangements under ACOs will require cooperation among many disparate, possibly independent organizations.¹⁰ As a result, hospitals must re-orient themselves away from being doctors' workshops,¹¹ toward more strategic partnerships with physicians, providers, and medical staff in primary, specialty, and post-acute care.¹²

As a first step, hospitals must work toward the creation of leadership, governance, and information sharing structures—as well as organizational cultures—that not only allow

for but also embrace the “bottom up” collection of input for capital budgeting. This type of input may include both ideas and patient data from parties within and outside of the hospital organization. In addition, ideas and data will likely come not only from physicians and hospital staff, but also from mid-level providers, office nurses, care-coordinators, and other stakeholders of the new interdisciplinary accountable care team.

Hospital leaders engaging in ACOs should think carefully about the design of ACO governance, and the allocation of decision-making authority. Previous studies have shown that pressure from physicians can often drive capital investment decisions, sometimes trumping what is deemed to be best for the hospital.¹³ In the new model of care, however, physicians’ capital investment demands can no longer be treated in isolation from direct investment costs. Rather, hospitals must guide physicians to view the bigger picture and understand the budget tradeoffs and how they affect different stakeholders within the ACO.¹⁴

In developing the hospital capital budget, broad representation from the ACO stakeholders will likely be needed; however, coordination at the corporate level may be required. Recent findings suggest that the level of integration in community health system design is associated with greater capital efficiency and higher returns on invested capital.¹⁵ Such coordinated decision-making may be particularly important for smaller ACOs facing capital constraints, as internal capital markets have been shown to improve firm performance.¹⁶ While governance structure design can be guided by existing evidence,¹⁷ future research should investigate the relationships between ACO

governance structures, capital budgeting approval strategies, and the efficiency and effectiveness of hospital capital budget development.

Capital Project Classification

A second step in the capital budgeting process involves classifying projects by service line, or in relation to the strategic plan.¹⁸ Broad classifications have included operational-type projects (*i.e.*, replacement of existing equipment, maintenance of plant) and strategic projects (*i.e.*, long-term projects focused on expansion, new service lines, and growth). Some hospitals have also chosen to separately classify projects related to information systems.¹⁹ Existing evidence shows that hospital and health system leaders desire capital budget allocations more heavily weighted toward strategic investments; however, actual allocations tend to favor routine operational projects.²⁰

As hospitals and health systems engage with ACOs, both desired and actual capital allocations, as well as the definitions of operational and strategic projects may change. First, achieving success in an ACO will require substantial investments in information technology (IT). In recent years, information systems spending has comprised as much as 30 percent of capital budgets in order to meet meaningful use requirements.²¹ IT investment is often cited as the largest capital deployment outside new hospital construction for a health system, yet many health systems view IT investment as an operational project. Hospitals and health systems must shift this view of IT investment and treat it as a strategic allocation. Health systems that either do not or cannot allocate sufficient capital

to IT investment will be at a significant disadvantage in terms of ability to join and/or succeed as a member of an ACO.²² Future research is needed to track IT spending as a percentage of overall capital budgets, to understand its association with ACO participation and success, and to identify any tradeoffs in capital budgets that are required to accommodate IT spending.

A similar paradigm shift might require redefining what constitutes “strategic” spending with respect to investments aimed to improve efficiency. Achieving better outcomes at lower cost within ACOs will likely involve an increased focus on medical homes and effective primary care.²³ Research has shown that the high fixed costs associated with hospital care mean that real savings will only be achieved by avoiding inpatient expansion and slowing investments in new capital assets.²⁴ Accordingly, a shift in hospital capital budgeting strategies away from a “growth” mindset and toward a focus on efficiency, maintenance of existing capital, or even downsizing may be required in order to achieve cost control.

Currently, there is little evidence available to guide hospital leaders toward the optimal allocation of resources within an ACO. Future research should investigate hospital leaders’ evolving perceptions of operational versus strategic investments, and should seek to understand capital allocation strategies in an environment where IT is critical and volume is no longer a key driver of revenue.

Methods of Analysis, Cash Flow Estimation, and Determination of Required Rate of Return

Once capital projects are identified and classified, a key step in capital budgeting involves financially evaluating the

projects. Surveys of hospital and health system leaders have shown an evolution over time toward methods of capital project analysis that are consistent with modern finance theory. Leaders of hospitals and health systems, particularly large systems, increasingly report the use of net present value (NPV) as a method of project analysis. As in other industries, NPV is typically supplemented with other methods of analysis such as payback period, internal rate of return, or accounting rate of return.²⁵

While the preferred methods of analysis will still be relevant in an ACO, they may no longer be sufficient; moreover, inputs to these analyses have the potential to become much more complicated. For example, conducting an NPV analysis requires the estimation of the initial capital outlay. This is typically straightforward when the capital outlay is funded by a single organization. However, it is conceivable that multiple organizations participating in an ACO might choose to share the cost of a capital investment. ACOs will then need to decide whether to allocate the initial outlay and subsequent returns to multiple stakeholders within the ACO, or to analyze the project from the perspective of the ACO as a whole.

An NPV analysis also requires estimation of future project cash flows. Even in a fee-for-service environment, this task has proven challenging for hospital and health system leaders;²⁶ however, it is likely to become even more difficult over time. As ACOs move more toward risk-based models of payment, the link between investment decisions and future cash flows will weaken.²⁷ As this link is weakened or even broken, determining the financial value of a specific project to an organization becomes

complex. The challenge of cash flow estimation in a non-fee-for-service environment first arose in the 1990s with the introduction of managed care and capitation. At that time, thought leaders proposed the use of strategic options as a way to estimate project value and, at the same time, infuse flexibility into the capital budgeting process.²⁸ Existing evidence suggests that health system leaders have not embraced the use of strategic options; however, given trends toward risk-based reimbursement²⁹ and the increased need for organizations to maintain flexibility in their strategic responses,³⁰ now may be the time for hospital leaders and health finance scholars to revisit the potential of strategic options to inform capital budgeting.

Similarly, estimating and linking cash flows arising from health IT will present challenges to the hospitals participating in ACOs. Health IT will be a necessary investment to share and collect clinical and financial data across multiple entities involved in the ACO and it will most likely be the most significant capital investment made by ACOs.³¹ Yet, the existing evidence overwhelmingly finds that health IT does not result in improved efficiencies at levels that result in cost reduction.³² In large part, returns to health IT investment have not been documented due to challenges of accurately estimating cash flows of health IT that yield the greatest promise, *e.g.*, documentation costs, clinical efficiencies, greater medication adherence, medical error avoidance, etc.³³ Future research must address the challenge of cash flow estimation by developing tools to track and methodologies to estimate the costs and benefits of health IT for hospitals.

Finally, an NPV analysis requires identification of a risk-adjusted required

rate of return, or discount rate. Although sophisticated quantitative methods are available for estimating the rate of return, hospitals and health systems have largely used qualitative approaches.³⁴ The qualitative approach is a result of many factors including:

- Difficulty in identifying appropriate rates of return on equity (particularly for not-for-profit firms);
- Inability to quantitatively assess project risk; and
- Lack of confidence in quantitative measures.³⁵

Although a qualitative approach may continue to be the preferred option going forward, additional complexities may arise in an ACO structure. For example, in many current ACOs, multiple providers are consolidated into a “virtual” organization where returns accrue to the group and then are distributed to individual participants. This type of structure raises the question of which risk-adjusted required rate of return is the appropriate one to use in a capital budgeting analysis. Effects of decisions at the hospital level are no longer isolated to the hospital; thus, ACOs may have to look across organizational boundaries to determine the most appropriate cost of capital. In addition, the risk-adjusted required rate of return may differ depending on where within the ACO the cash flows are expected to accrue. Finally, inter-dependence among organizations may change the risk profiles of hospital investments, requiring greater use of the project or divisional cost of capital as opposed to the corporate cost of capital.³⁶

While modern finance theory offers some options for addressing these complexities,

little research has applied these approaches to health care. Health finance scholars should examine approaches used by investor-owned organizations with multiple subsidiaries, divisions, or operating units to identify strategies that may inform capital budgeting in an ACO.

Qualitative Considerations

For many health care organizations, a last step in the capital budgeting process is consideration of non-financial criteria, or qualitative factors.³⁷ Despite its theoretical superiority, NPV has been criticized for ignoring factors important to health care organizations, generally, and to not-for-profit health care organizations, specifically. Qualitative considerations will be particularly important for ACOs since, in addition to being held accountable for health care spending, ACOs will be held accountable for quality and patient outcomes. It is conceivable that development of ACOs and the pursuit of the triple aim could change the objective function of hospitals.

For investor-owned firms, the objective function has always been assumed to be the maximization of shareholder wealth. Although somewhat more equivocal, the objective function of not-for-profit health care organizations has generally been considered to be the maximization of quantity and/or quality of services.³⁸ In this new era of reform, however, hospital and health system leaders will need to focus on the maximization of value. No longer can the focus be limited to profit, or to the maximization of quantity and quality of just any services. There is a new imperative to define and provide those “services” that provide the most value.

Methods have been proposed for systematically incorporating qualitative

considerations into the capital budgeting process. For example, Wheeler and Clement provide a method for quantitatively incorporating social value into the NPV calculation to determine whether investments that generate financial losses are ultimately worthwhile.³⁹ Similarly, approaches for scoring or weighting qualitative criteria (*e.g.*, through group consensus or allocation of a fixed number of points to different decision criteria) have been suggested.⁴⁰ As ACOs develop, hospital leaders should consider using existing approaches to incorporate qualitative considerations into capital budgeting processes; however, both hospital leaders and health finance scholars should consider the potential need for new alternatives. For example, new models of capital budgeting based on systems science and operations research may be needed to systematically and quantitatively incorporate quality and outcomes into financial analyses.⁴¹

Conclusion

Decades of research on hospital capital budgeting has revealed a consistent evolution. Responding to environmental shifts such as prospective payment and increased competition, hospital and health system leaders have embraced increasingly sophisticated capital budgeting strategies and decision-making processes over time.⁴² This evolution is likely to continue as hospitals engage with ACOs.

Although methods exist for handling some of the capital budgeting challenges that may arise in an ACO environment,⁴³ little research has been done to assess the most effective application of these methods in hospitals. Moreover, new methods are likely

to be needed as anticipated and unanticipated challenges of ACOs emerge. Hospital and health system leaders as well as health finance scholars should embrace the opportunities inherent in this new environment, learning from the past and discovering new ways for moving forward.

Much can likely be learned from research on capital budgeting in investor-owned organizations outside of the health care industry; however, health care expertise will be required to adapt these methods and measures to handle circumstances unique to hospitals. For example, many hospitals and health system leaders have identified certificate of need, community benefit requirements, and capital constraints as current considerations in the capital budgeting process.⁴⁴ Quality and outcomes are likely to be added to this list as new payment models are implemented.

Because of these considerations, hospital leaders and health finance scholars should look to leading hospitals and health systems and early adopters of the ACO model of care for knowledge about the most

efficient and effective methods of capital allocation. Surveys and case studies of hospital leaders will be needed to monitor the ongoing evolution of capital budgeting strategies and decision-making processes, as well as to identify best-practices that can be disseminated and implemented on a broader scale.

Hospitals engaging in ACOs are likely to face significant challenges, not the least of which include the following:

- Managing the priorities of a broad range of stakeholders;
- Thriving in a payment environment driven by value rather than volume; and
- Finding sufficient capital to allocate to IT.

These challenges are likely to converge in the capital budgeting process. Previous research has paved the way for navigating this new environment. Current health care leaders and finance scholars must now capitalize on this knowledge and forge a path for moving forward.

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Finance Theory and Hospital Cash Balances

Howard L. Rivenson and Dean G. Smith

Competing financial theories have been offered to understand hospitals' cash holding with scant recent evidence. Using data from a national sample of 608 not-for-profit hospitals, we find support for the trade-off theory which posits targeted cash balances. We do not find support for the financial hierarchy theory which posits a preference for use of cash to pay for capital investments. Findings apply to holdings of cash and marketable securities, but not board-designated funds where no model provided meaningful explanatory power. Key words: *cash, finance, hospital.*

American corporations held between one and two trillion dollars in cash at the end of 2011, enough to merit the analysis and parody of CBS News' *The Fast Draw* (August 13, 2011). The suggestion is clear that corporations should either be investing cash in real assets or pay dividends to shareholders. Hospitals have come under similar analysis, though not the public parody. Managers have long been torn between investing in the charitable mission of the hospital and having enough cash for operating and stability purposes. Two decades ago, hospitals were advised to increase their cash holdings to meet building and equipment replacement needs.¹ A decade ago, hospitals were advised that improving liquidity was among the most critical elements of success.² Recently, Moody's reported improved cash holding (averaging 175 days cash on hand), yet still cautioned about week balance sheets and investment returns.³

Motives for holding cash have been described as transactional, precautionary, and speculative. Rivenson *et al.* found that hospitals targeted levels of operating cash, yet strategic cash balances were positively related to profitability and growth in assets and negatively associated with debt levels.⁴ In this article we go further to examine whether motives for cash holdings

of not-for-profit hospitals can be explained by one of two competing finance theories: trade-off and financial hierarchy. The trade-off theory posits that there is an optimal level of cash holdings; whereas, the financial hierarchy theory posits that there is a preference for using cash. If trade-off were found to be a better explanation of cash holdings than financial hierarchy, it would help to resolve the question of whether a hospital has too much or too little cash.

Background

Again, the trade-off theory posits that there is an optimal cash balance when the entity minimizes the sum of the costs of liquidity and illiquidity. It is costly for a firm to hold too much cash and lose earnings from investments. It is also costly for a firm to be illiquid and be unable to meet current financial

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J Health Care Finance 2013; 39(3):23-31
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obligations. For most investor-owned companies, the costs of holding cash are the costs associated with cash earning a modest return compared to the returns that might be available on productive assets.⁵ Not-for-profit hospitals have the opportunity to hold their excess cash in marketable securities and other investments that may produce more than modest returns.

All companies hold cash to avoid defaulting on payments. For hospitals, the uncertainties of reimbursement systems to provide consistent payments and adequate levels of revenue add to the desire to hold cash. Cash reserves are a protective measure against periods of slow or inadequate payment. Companies also hold cash to avoid having to use external capital. Using external funds may involve the cost of a hospital development campaign, interest charges, and the legal and underwriting costs of borrowing. Using internal funds from earnings provides more flexibility and avoids both the costs of borrowing and scrutiny by outsiders.

The financing hierarchy, or 'pecking order,' theory posits there is no optimal level of cash holdings. Rather, a firm might prefer to finance investments in real assets with internally generated cash rather than to use debt or equity financing. One view of financing hierarchy is as a special case of trade-off, where the costs of liquidity are very high.

Unlike investor-owned firms, not-for-profit hospitals have access to low borrowing rates through tax-exempt debt financing. There is the possibility of arbitrage whereby hospitals can borrow at a rate below what can be earned on these funds when held as financial investments. Thus, assuming a non-binding tie between debt and assets, there may be incentive

to borrow rather than to use cash. On the other hand, a higher debt level also creates a greater chance for financial distress through both direct costs associated with a bankruptcy proceeding and the indirect costs of forgoing other investment opportunities, the loss of reputation, and limitations on future borrowing capacity. Thus, hospitals may seek some balance of debt and equity financing. Hospital chief financial officers (CFOs) have indicated target debt-to-total asset ratios ranging between 25 percent and 50 percent.⁶ Their general strategy seems to be related to their preferences for cash. By increasing cash holdings, they can improve their credit rating and hold cash not needed for operating purposes in financial investments.

There have been few studies testing the evidence supporting the two finance theories in not-for-profit hospitals. Bacon found support for the financial hierarchy in not-for-profits hospitals.⁷ Gapenski surveyed hospital CFOs and found support for the trade-off theory among half of the CFOs and support for the financial hierarchy theory among one third of the CFOs.⁸ Smith *et al.* also interviewed CFOs and found that although there were mixed opinions among the CFOs, when an analysis of their data was conducted, there was evidence in support of financial hierarchy.⁹ Thus, there appears to be some doubt whether either of these financing theories applies to not-for-profit hospitals, and data beyond convenience samples from surveys are required to provide richer analysis.

Data

This analysis used data obtained from Merritt Research Services, LLC, which

abstracts data from the audited financial statements of hospitals and health care systems that have issued bonds. The key data include:

- Balance sheet entries: cash and short-term investments, board-designated funds, unrestricted noncash assets, current assets, total assets, current liabilities, and long-term debt less current maturities;
- Income statement entries: depreciation expense, bad-debt expense, and total operating expenses; and
- Statement of cash flow entries: capital expenditures and operating cash flow.

Analyses also use system status, which was confirmed using the American Hospital Association Guide. The final sample contained financial data for 608 entities covering the fiscal years 1996–99: 477 freestanding hospitals, 76 system-affiliated hospitals, and 55 hospital systems (see Figure 1).

Methods

Three analytical models were developed to examine which finance theory best explains cash holdings. The ratio of days cash on hand was used to measure cash holdings:

$$[\text{Cash} + \text{short-term investments}] / [(\text{Total operating expenses} - \text{depreciation expense}) / 365]$$

The models were constructed with and without the inclusion of board-designated funds to examine the applicability of the finance theories to cash holdings that had neither internal nor external restrictions.

Model 1

This model tested whether the change in cash holdings during a year was explained by the difference between the target level of cash holdings and the actual level at the end of the prior year. The target level of cash holdings was defined as the average cash holdings at the end of two previous years.

Figure 1. Selected Descriptive Statistics (Medians in \$000s), 1996–99

	Freestanding (n = 477)	System-Affiliated (n = 76)	Systems (n = 55)
Cash and short-term investments	5,416	8,613	21,438
Board-designated funds	12,686	17,674	82,118
Total operating expenses	78,954	159,528	362,164
Depreciation expense	4,972	9,530	22,897
Bad-debt expense	3,664	6,335	16,848
Total assets	102,732	213,009	516,611
Unrestricted noncash assets	94,182	190,627	486,453
Current liabilities	13,062	27,381	57,338
Long-term debt, less current	29,330	69,355	152,277

If the actual cash holdings at the end of the prior year were in excess of the target, and the trade-off theory applies, the model predicts a decrease in cash holdings. A second version of this model included interaction terms associated with system affiliation.

Model 2

This model is the same as Model 1 except the target level of cash holdings was defined as predicted cash holdings from a regression of cash holdings as a function of hospital size and volatility of cash profits. To begin, a model was specified for each hospital to predict cash holdings at the end of 1997 as a function of total assets at the end of 1997 and the volatility of cash earnings (EBIDA) during 1996–97. Volatility was defined as the mean of EBIDA divided by the standard deviation of EBIDA.

Volatility of EBIDA_{96,97} = mean of EBIDA_{96,97} / standard deviation of EBIDA_{96,97}. As with Model 1, a second version of this model included system affiliation as an interaction term.

Model 3

Following Opler *et al.*,¹⁰ this model tested the financing hierarchy theory by defining changes in cash holdings based on a cash flow deficit, measured as follows:

Cash flow deficit₉₈ = capital expenditures₉₈ + change in working capital (excluding cash)₉₈ – operating cash flow₉₈,

Capital expenditures₉₈ = amount spent on buildings and equipment in 1998

Change in working capital (excluding cash)₉₈ = [Current assets (excluding cash) – current liabilities]₉₉ – [Current assets (excluding cash) – current liabilities]₉₈

Operating cash flow₉₈ = as reported on the 1998 statement of cash flows.

A second version of this model included system affiliation as an interaction term.

Results

In the cash-only models, there was some support for the trade-off theory in all hospital types as indicated by the positive coefficients (*see* Figures 2 and 3). Each was predicted to reduce cash holdings when actual days cash was greater than the target amount. When considering the amount of change in cash holdings, however, there were differences among the hospital types. For example, in Model 2, if a freestanding hospital were over its target by ten days, the model predicts a reduction in days cash of one day; whereas, hospital systems were predicted to reduce their days cash by almost three days. In economic terms, the change in dollars would be even greater than three times because the median average daily cash expense in freestanding hospitals is about \$200,000; whereas, in hospital systems, the median average daily cash expense is over \$900,000. System-affiliated hospitals did not appear to adjust their days cash. When board-designated funds were included, the models did not explain the change in days cash; there was no support for the trade-off theory in any of the hospital types. In fact, when board-designated funds were included, the models were very poor predictors of cash holdings (adjusted R² less than one percent).

Concerning the financing hierarchy theory, there did not appear to be much support

Figure 2. Model 1 of Trade-Off Theory, Target Levels (p-values), N = 608

	Model 1 Cash Only	Model 1 Included Board-Designated Funds
Mean target (trade-off)	0.2084 (0.000)	0.0095 (0.821)
System-affiliated	0.7112 (0.766)	-4.8135 (0.309)
System	0.7489 (0.787)	-8.3079 (0.128)
Mean target * System-affiliated	-0.3113 (0.000)	-0.2066 (0.023)
Mean target * System	0.2678 (0.139)	-0.1143 (0.408)
Intercept	-5.1447 (0.000)	-6.8110 (0.000)
Adjusted R ²	0.066	0.009

Figure 3. Model 2 of Trade-Off Theory, Predicted Targets (p-values), N = 608

	Model 2 Cash Only	Model 2 Included Board-Designated Funds
Predicted target (trade-off)	0.1332 (0.000)	0.0113 (0.448)
System-affiliated	1.0159 (0.664)	-6.0979 (0.203)
System	1.2007 (0.656)	-11.7569 (0.043)
Predicted target * System-affiliated	-0.1299 (0.001)	0.0206 (0.636)
Predicted target * System	0.1521 (0.042)	0.0787 (0.153)
Intercept	-5.1227 (0.000)	-6.8915 (0.000)
Adjusted R ²	0.102	0.004

Figure 4. Model 3 of Financial Hierarchy Theory (p-values), N = 608

	Model 3 Cash Only	Model 3 Included Board-Designated Funds
Cash flow deficit	0.0003 (0.000)	0.0001 (0.365)
System-affiliated	0.6330 (0.797)	-4.4000 (0.358)
System	2.2095 (0.447)	-6.5394 (0.264)
Cash flow deficit * System-affiliated	-0.0003 (0.000)	-0.0002 (0.129)
Cash flow deficit * System	-0.0003 (0.000)	-0.0002 (0.226)
Intercept	-4.2714 (0.000)	-6.9824 (0.000)
Adjusted R ²	0.029	0.003

in any of the hospital types (*see* Figure 4). Although the coefficients were statistically significant and positive, indicating that hospitals would reduce their days cash, the economic significance was negligible. For example, if a freestanding hospital had a cash flow deficit of \$1 million, the models predicted a decrease of 0.3 days. If average daily cash expenses were \$200,000, this would be equivalent to \$60,000. In the system-affiliated hospitals and hospital systems, the coefficients were so small as to indicate no change in days cash. Including board-designated funds in Model 3, there was also no support for the financing hierarchy and none of the coefficients were significantly different from zero. It should also be noted that the adjusted R² values indicated neither of the financial hierarchy models explained very much of the change in days cash.

Discussion

The analyses suggest freestanding hospitals and hospital systems appeared to have a target balance for their operating funds related to predicted cash flows, more so than a target based on an average of past years' cash balances. On the other hand, system-affiliated hospital operating cash holdings did not appear to have this kind of target. This last finding may be due to affiliated hospitals being subject to cash management policies of their parent organization and its desire to have a target balance (or not) over the entire system, but not necessarily at each entity within the system. In addition, the amount of cash needed for transaction purposes at the affiliated hospital will vary based on whether cash is centrally managed or not. If the parent is responsible for paying bills,

then affiliated hospitals would not have as large a need for cash.

Finance models appear to apply to a hospital's cash associated only with transaction needs. The models reflecting combined cash and board-designated funds did not appear to trade off liquidity for illiquidity; rather there appeared to be an accumulation of funds in all hospital types. This accumulation may be designated for future capital expenditures or as cash reserves. The cash reserves may be for precautionary reasons or they may be merely to build cash balances in order to enhance the hospital's credit rating. Of course, the majority of the board-designated funds are held in financial investments and so investment income becomes another goal.

The scenario described above also supports the finding in this study that not-for-profit hospitals prefer not to use cash for major expenditures, but rather to use debt. Having cash on hand enhances access to tax-exempt debt. Not-for-profit hospitals have the opportunity to borrow at low interest rates while keeping their cash invested. The difference between investment earnings and interest expense will vary, but during 1996–99, this difference was quite large. However, even under normal circumstances, rising stock prices and falling interest rates go hand-in-hand.

The cash-only models reflect operating cash balances used by not-for-profit hospitals to pay current financial obligations and as reserves to protect against short-term cash deficits when cash inflows are insufficient. Although their goal is to achieve some balance between the costs of liquidity and illiquidity in the operating cash, it may be difficult actually to achieve this balance. As McLean¹¹ points out, it is difficult to know

the costs of illiquidity. For example, the cost of having a bad credit reputation because of a history of late payments is difficult to measure.

It is interesting to note that board-designated funds might be considered to be part of the hospital's equity in the sense that these are usually internally generated funds (similar to retained earnings in a for-profit organization) and are used to finance the organization. Viewed this way, not-for-profit hospitals may prefer debt to equity. In a for-profit firm, this preference has to do with the higher cost of equity (often thought of as issuing stock) compared to the cost of debt. However, because a not-for-profit hospital cannot issue shares, its use of equity versus debt should be a comparison of potential returns on its retained funds versus the cost of debt. In this sense, there would be a preference for debt over equity—and the financing hierarchy would be supported for board-designated funds.

The models used in this study looked at a point in time—the end of a fiscal year. Managers may set their target higher at year end to “window dress” the financial statements. They can make it appear that cash balances are high by postponing cash disbursements to the day after the year-end date. In addition, there may be a strategy to achieve a target level over several weeks or months, rather than a daily target. Daily targets would be difficult to maintain due to seasonal factors and especially due to the pattern of reimbursement payments since insurers do not usually pay on a daily basis. Because annual financial statements do not provide any information about cash management strategies, daily cash flow information would be required to study this in depth.

Conclusion

When examining the applicability of finance theory to not-for-profit hospitals, it is important to define clearly which cash balances are being analyzed. This study found support for the trade-off theory when considering only operating cash, but no support when cash and board-designated funds were combined. Hospitals that do not operate independently (*e.g.*, system-affiliated hospitals) behave differently and did not appear to have target balances for either cash alone or when combined with board-designated funds.

In this study, there was no support for the financing hierarchy theory in any of the hospital types examined, whether considering cash alone or in combination with board-designated funds. However, if board-designated funds were to be defined as part of equity, there did seem to be a preference for debt financing over equity financing because of the potential returns on board-designated funds compared to the cost of debt.

When analyzing cash holdings of not-for-profit hospitals, board-designated funds should be included because of their size

and because of the hospital's ability to use these funds for operating purposes if needed. The appropriate total size of cash holdings should reflect the need for transactions cash—perhaps no more than 30 days cash on hand. The amounts held for precautionary purposes is by nature judgmental, but given the predictive nature of insurance payments, perhaps 120 to 150 days would be sufficient. The most difficult issue is the amount of investment cash to be held because it is dependent on the needs of the hospital for equipment, information systems, and strategic plans for hospital growth. Investment cash is also a factor in the cost of borrowing since it affects bond ratings. The fact that some hospitals find it difficult to borrow because they hold insufficient cash to satisfy the rating agencies, while others hold enough cash to pay off all of their debt, but still find it beneficial to purchase bond insurance, raises questions about the efficiency of the tax-exempt bond market. In a health care environment where there is an increasing need for capital to meet the demands of the public for quality health care, this issue merits further study.

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Community Benefit in Exchange for Non-Profit Hospital Tax Exemption: Current Trends and Future Outlook

Simone Rauscher Singh

Assessing the adequacy of the community benefits that not-for-profit hospitals provide in exchange for tax exemption remains a challenge. While recent changes to Internal Revenue Service (IRS) reporting requirements have improved transparency, the lack of clearly defined charitable expectations has resulted in critical scrutiny of not-for-profit hospitals' community benefits and numerous challenges to their tax-exempt status. Using data from the revised IRS Form 990 Schedule H for 2009, this article documents the wide range of community benefit activities that not-for-profit hospitals in California engage in and compares them to a set of minimum spending thresholds. The findings show that when community benefit was defined narrowly in terms of charity care, very few hospitals would have met any of the minimum spending thresholds. When community benefit was defined as in the revised IRS Form 990 Schedule H, however, a majority of hospitals in California would have been considered charitable. Whether focusing on expenditures is the most appropriate way to assess the adequacy of a hospital's community benefits remains an open question. To that end, this article concludes by outlining a more comprehensive evaluation approach that builds on recent changes to non-profit hospital tax exemption implemented by the Affordable Care Act. Key words: *charitable activity, community benefit, non-profit.*

Since 1969, the Internal Revenue Service (IRS) has granted not-for-profit hospitals tax exemptions in exchange for providing community benefits.¹ Until 2009, however, hospitals were not required to document the community benefit activities they engaged in to maintain their federal tax-exempt status. This lack of clearly defined charitable expectations has resulted in considerable variation in hospitals' community benefit activities, causing many to question whether the benefits not-for-profit hospitals provide are adequate given the size of the tax exemptions they receive.² In 2008, the IRS responded to these concerns by revising its Form 990, a long-established reporting form that tax-exempt organizations are required to file.³ A key component of the revised Form 990 is Schedule H, which requires hospitals to provide detailed financial information on their charitable activities along a set of standardized categories of allowed community benefit activities.⁴ These activities include financial assistance (or charity care),

the unreimbursed cost of providing care to patients covered under Medicaid and similar means-tested government programs, subsidized health services, community health improvement services, health professions education, research, and cash and in-kind contributions to community groups.

While the revised Form 990 has increased public availability of information about hospitals' community benefit activities and thus improved transparency,⁵ assessing the adequacy of the community benefits that not-for-profit hospitals provide in exchange for tax exemption remains a challenge. Existing approaches often express community benefit in quantitative terms.⁶ In 2007, for instance,

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J Health Care Finance 2013; 39(3):32-41
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the minority staff of the Senate Finance Committee proposed that not-for-profit hospitals be required to provide charity care equal to at least 5 percent of operating expenses to remain tax-exempt.⁷ At the federal level, however, this and similar proposals have attracted little support.⁸ At the state and local levels, on the other hand, regulators have been taking an increasingly aggressive stance and have begun to refuse to recognize a hospital's tax-exempt status in the absence of measurable performance.⁹ To this end, a number of states (including Pennsylvania, Texas, Utah, and, most recently Illinois) have established minimum charity care requirements that not-for-profit hospitals have to meet to remain tax-exempt.¹⁰

Against the backdrop of the new IRS community benefit reporting requirement and the continued debate surrounding the adequacy of non-profit hospitals' community benefit activities, this article has two main purposes: First, this article describes the scale and scope of community benefits provided by not-for-profit hospitals in California using community benefit expenditure data from the revised IRS Form 990 Schedule H. The article then analyzes how hospitals' community benefit expenditures compare to a set of minimum spending thresholds. The article concludes by discussing the limitations of the current focus on expenditures when assessing the adequacy of hospitals' community benefits and outlines a more comprehensive evaluation approach that builds on recent changes to non-profit hospital tax exemption implemented by the Affordable Care Act. For hospital managers and health policymakers interested in assuring that non-profit hospitals provide adequate community benefit in exchange for tax exemptions, this study provides an overview of the current state of hospitals' community

benefits and a discussion of how the charitable expectations of not-for-profit hospitals may change in the future.

Study Data and Methods

Community benefit expenditure information for this study came from California hospitals' Form 990 Schedule H and was supplemented with data from hospitals' annual financial reports. Form 990 Schedule H was obtained from GuideStar, an information service specializing in US non-profit organizations. Annual financial reports were obtained from California's Office of State-wide Health Planning and Development (OSHPD). The period of study was limited to the year 2009. In April 2012 (when data for this study were obtained), GuideStar provided data from Form 990 Schedule H for 115 not-for-profit hospitals and health systems in California. Of these 115 reports, 8 were excluded because they were filed by health systems (including Kaiser Permanente and Catholic Health Care West) that reported at the system rather than the individual hospital level. An additional seven hospitals did not provide complete community benefit expenditure information and were thus also dropped from the sample. The final sample consisted of 100 not-for-profit hospitals representing 46 percent of all not-for-profit hospitals in the state of California in 2009.

When compared to all not-for-profit hospitals in California, the sample hospitals were larger (217 vs. 198 staffed beds) and more likely to be general hospitals (89.2 percent vs. 85.2 percent) rather than specialty hospitals. The study sample included fewer teaching hospitals (4.0 percent vs. 6.1 percent) but more rural hospitals (18.0 percent vs. 11.4 percent) than the population of non-profit

hospitals in the state of California. In terms of operating performance, occupancy rates did not differ for the hospitals in the study sample (62.5 percent vs. 62.3 percent). The average length of stay for sample hospitals, however, was shorter (4.7 days vs. 5.5 days). In terms of financial performance, the sample hospitals had somewhat higher operating margins (1.5 percent vs. 1.1 percent) and total margins (1.5 percent vs. 1.2 percent).

The measures used in this study were derived from IRS Form 990 Schedule H. The revised Schedule H requires hospitals to report on seven categories of allowed community benefit activities, which are defined by the IRS as shown in Figure 1. All measures are expressed in terms of the unreimbursed cost of providing the community benefit. To allow for comparisons across hospitals of different size costs were expressed

as a percentage of a hospital's total operating expenses.

The methods used in this study were purely descriptive. Following Clement, Smith, and Wheeler¹¹ and Gray and Schlesinger,¹² this study first documented the wide range of community benefit activities that California hospitals reported in their Form 990 Schedule H. The study then compared hospitals' community benefit expenditures to a set of minimum spending levels similar to the charitable thresholds proposed by the Senate Finance Committee's minority staff in 2007.¹³ Besides the 5 percent threshold proposed by the Senate Finance Committee's minority staff, the analysis also compared hospitals' community benefit expenditures to thresholds of 3 and 7 percent (following the analysis by Gray and Schlesinger).¹⁴ In addition, while the proposal by the Senate Finance Committee's minority staff focused

Figure 1. Activities Defined as Community Benefit in IRS Form 990 Schedule H

Community Benefit Activity	Definition
1. Financial assistance at cost (charity care)	Cost of care provided to charity patients
2. Unreimbursed Medicaid and other means-tested government programs	Net cost of providing care to patients covered under Medicaid and other means-tested government programs
3. Subsidized health services	Clinical inpatient and outpatient services provided by the hospital despite a financial loss, which otherwise would be undersupplied to the community
4. Community health improvement services	Activities or programs subsidized by the organization for the express purpose of community health improvement, documented by a community health needs assessment
5. Health professional education	Net cost associated with educating certified health professionals
6. Research	Cost of internally funded research as well as the cost of research funded by a tax-exempt or government entity
7. Cash and in-kind contributions	Contributions to community benefit activities made by the organization to community groups

Source: Bakken and Kindig, from "Is Hospital 'Community Benefit' Charity Care?" *Wisconsin Medical Journal*, 11(5): 215–219 (2012).

on charity care, the analysis in this paper uses various definitions of community benefit spending ranging from narrow (charity care only) to wide (all activities defined as community benefit in IRS Form 990 Schedule H).

Results

Composition of California Hospitals' Community Benefit Expenditures

California hospitals spend substantial resources on the provision of community benefits. In 2009, aggregate community benefit expenditures accounted for 11.5 percent of hospitals' total operating expenses (*see* Figure 2). Charity care expenditures averaged 1.7 percent of operating expenses, or 18.6 percent of total community benefit spending. The unreimbursed cost of providing care to patients covered under means-tested government programs amounted to 6.8 percent of operating expenses, or 53.7 percent of total community benefit spending. All other community benefits, including subsidized health services, community health improvement services, health professions education, research, and cash and in-kind contributions to community groups, consumed 2.1 percent of operating expenses, or 20 percent of California hospitals' total spending.

Compared to the results of a study conducted by Ernst & Young¹⁵ of IRS Form 990 for hospitals across the United States, hospitals in California spent substantially more resources on community benefit activities, in particular care provided to charity patients and patients covered under means-tested government programs. Mainly as a result of high levels of uninsurance and low Medi-Cal reimbursement rates, spending on

these community benefit activities consumed 9.4 percent of California hospitals' operating expenses in 2009. This far exceeded the national average of 5.7 percent that Ernst & Young calculated for their sample. While still substantial, at 2.1 percent of operating expenses, California hospitals' spending on activities that benefit the health and well-being of the community at large was substantially lower than the average of 2.7 percent calculated in the Ernst & Young study.

Variation in California Hospitals' Community Benefit Spending

Although aggregate community benefit spending reported by California hospitals exceeded 11 percent of operating expenses, the scale and scope of activities that California hospitals engaged in varied widely (*see* Figure 3). Total community benefit spending ranged from a minimum of 0.4 percent of operating expenses to over 33 percent. Hospitals in the lower quartile spent less than 7 percent of their operating expenses on community benefits while hospitals in the upper quartile spent 16 percent or more. Similar variation existed in hospitals' spending on the various types of community benefits. Charity care, for instance, ranged from zero to 6.3 percent of operating expenses; unreimbursed care provided to Medi-Cal patients ranged from zero to 27.3 percent; and subsidized health services ranged from zero to 13.9 percent.

Adequacy of California Hospitals' Community Benefit Spending

A comparison of California hospitals' community benefit expenditures to a set of minimum spending thresholds showed that the adequacy of a hospital's charitable spending depended to a large extent on what

Figure 2. Type of Community Benefit Expenditures as Percentage of Operating Expenses and Total Community Benefit Expenditures—California Hospitals, 2009

Type of Expenditure	As Percentage of Total Community Benefits	As Percentage of Operating Expenses				
		Average	Minimum	Maximum	25th Percentile	75th Percentile
<i>Charity care and means-tested government programs</i>						
Charity care	18.6%	1.7%	0.0%	6.3%	0.7%	2.4%
Unreimbursed Medicaid	53.7%	6.8%	0.0%	27.3%	3.2%	9.6%
Other means-tested government programs	7.8%	0.9%	0.0%	9.5%	0.0%	1.4%
Total charity care and means-tested government programs	80.0%	9.4%	0.2%	33.4%	5.5%	12.9%
<i>Other community benefits</i>						
Community health improvement services	6.6%	0.7%	0.0%	7.0%	0.1%	0.8%
Health professions education	5.2%	0.5%	0.0%	5.9%	0.0%	0.5%
Subsidized health services	5.2%	0.6%	0.0%	13.9%	0.0%	0.4%
Research	1.7%	0.2%	0.0%	6.4%	0.0%	0.0%
Cash and in-kind contributions to community groups	1.3%	0.1%	0.0%	0.7%	0.0%	0.1%
Total other community benefits	20.0%	2.1%	0.0%	14.1%	0.4%	2.5%
<i>Total community benefits</i>						
Total community benefits	100.0%	11.5 %	0.4%	33.6%	6.8%	15.8%

Source: Author's analysis of IRS Form 990 Schedule H.

activities were considered to be community benefits.¹⁶ When community benefit was defined narrowly in terms of charity care, only a small subset of the California hospitals in the study sample would have met charitable expectations for minimum spending thresholds set at 3, 5, and 7 percent of operating expenses. At the 5 percent threshold, for instance, only 4 percent of California hospitals would have been considered

charitable. However, when community benefits were defined as both charity care and the unreimbursed cost of treating patients covered under Medi-Cal and other means-tested government programs, the proportion of California hospitals that qualified as charitable increased substantially, to between 64 and 88 percent depending on the threshold level. Likewise, when community benefit was defined as in the revised IRS Form 990

Figure 3. Percentage of California Hospitals That Would Have Exceeded Various Community Benefit Spending Threshold Levels Using Various Measures of Charitable Activity, 2009

Measure of Charitable Activity	Threshold Level (As % of Operating Expenses)		
	3 Percent	5 Percent	7 Percent
Charity care only	14%	4%	0%
Charity care and government payer payment shortfalls	88%	78%	64%
Charity care and other community benefits (not counting/without government payer payment shortfalls)	47%	28%	14%
Total community benefits as defined in IRS Form 990 Schedule H	93%	85%	73%

Source: Author's analysis of IRS Form 990 Schedule H.

Schedule H, a large majority of California hospitals in the study sample (between 73 and 93 percent depending on the threshold level) would have been considered charitable. For California hospitals, the payment shortfalls from providing care to publicly insured patients thus made a big difference. Without counting these payment shortfalls as a community benefit activity, only 14 to 47 percent of California hospitals would have met charitable expectations, depending on the minimum threshold set.

Discussion

Not-for-profit hospitals in California spend substantial resources on community benefit programs and services. Data from the revised IRS Form 990 Schedule H for 2009 showed that, on average, California hospitals dedicated 11.5 percent of operating expenses to community benefit activities, substantially more than hospitals in many other states.¹⁷ The largest components of California hospitals' community benefit spending represented expenditures for free or reduced cost care. Mainly as a result of high uninsurance

levels and low Medi-Cal reimbursement rates, California hospitals spent substantial resources on the treatment of charity patients and patients covered under Medi-Cal and other means-tested government programs. While charity care has historically been at the core of not-for-profit hospitals' mission, there is debate in the literature over whether government payer payment shortfalls truly represent community benefit.¹⁸ In its revised Form 990, however, the IRS explicitly recognized these costs as a community benefit. For California hospitals, this decision has important ramifications: When community benefits are quantified according to the categories in Form 990 Schedule H, a large majority of California hospitals would have exceeded minimum spending thresholds defined in terms of charitable spending as a percentage of operating expenses.

Despite their substantial government payer payment shortfalls, not all California hospitals spent 3, 5, or even 7 percent of operating expenses on community benefit activities. As has been shown for hospitals in other states,¹⁹ California hospitals' community benefit spending varied widely, ranging from

less than one percent of operating expenses to over 33 percent. Similarly, there was substantial variation in California hospitals' spending on each of the community benefit categories reported in Form 990 Schedule H. Prior studies have shown that hospitals' community benefit activities are determined by a combination of hospital-level, community-level, and market-level characteristics.²⁰ Some variation in the amount of community benefit provided can thus be expected. Nonetheless, large geographic disparities have fueled debate over the adequacy of the community benefits provided by hospitals in exchange for tax exemption.

What is often missing from these discussions, however, is whether focusing on spending is the best way to assess a hospitals' charitable commitment. Undoubtedly, assessing the adequacy of hospitals' charitable activities by comparing their community benefit expenditures to minimum spending thresholds is relatively straightforward. Expenditures are generally easy to quantify and do not need to be adjusted for risk to be comparable across institutions.²¹ Moreover, expenditures can easily be audited and are thus less prone to managerial manipulation. Finally, expenditures are the focus of the revised IRS Form 990 Schedule H, which requires hospitals to list in detail the unreimbursed costs of their various community benefit activities. While the IRS does not require hospitals to meet defined minimum spending thresholds to remain tax-exempt, the revised Form 990 fosters transparency and allows regulators to evaluate and compare hospitals' community benefit expenditures. This likely will put pressure on hospitals, especially those that do not provide substantial community benefits, to increase their spending or, at the very least, improve the

documentation of their existing activities,²² thus renewing the focus on expenditures as the primary means to evaluate the adequacy of hospitals' charitable activities.

Focusing on spending alone, however, provides a limited view of hospitals' community benefit activities and may even lead to unintended consequences. Requiring hospitals to spend pre-defined minimum amounts on community benefits to remain tax-exempt can result in hospitals providing less, rather than more, charitable services. Non-profit hospitals in Texas, for instance, are required to provide charity care equal to at least 4 percent of net patient revenues to remain tax-exempt.²³ Since the Texas law took effect in 1993, hospitals with spending levels below the threshold level have been found to increase their spending; hospitals with spending levels above the threshold, on the other hand, have been found to lower their spending.²⁴ In some communities, the implementation of minimum spending requirements has thus led to the availability of fewer, rather than more, community benefit services.

In light of the unintended consequences that a rather narrow focus on expenditures can have, policymakers may want to consider a more comprehensive approach when evaluating the adequacy of hospitals' charitable activities. While a careful analysis of hospitals' community benefit expenditures would remain a crucial component, a more comprehensive approach would include a number of additional requirements that non-profit hospitals would have to fulfill to remain tax-exempt. Clearly, the tax exemptions of hospitals that engage in decidedly uncharitable behaviors, such as overcharging the uninsured and engaging in overly aggressive collection efforts, should be scrutinized. The ACA has addressed some of these issues

by expanding the duties of tax-exempt hospitals accordingly.²⁵ Under these new duties, not-for-profit hospitals are required to:

1. Establish a written financial assistance policy and a written policy related to emergency care;
2. Limit their charges for emergency or other medically necessary care for individuals eligible for financial assistance; and
3. Make reasonable efforts to determine whether individuals are eligible under their financial assistance policies before engaging in extraordinary collection efforts.²⁶

The IRS has already included these additional requirements into its Form 990 Schedule H. In Part V, hospitals are required to provide detailed information on their policies regarding financial assistance as well as billing and collections.

Ultimately, however, the charitable activities that non-profit hospitals engage in should result in improvements in the health and well-being of the communities they serve. Assessing the adequacy of a hospital's community benefits should thus take into account whether the hospital's activities have resulted in actual improvements in health outcomes. The requirement contained in the ACA that hospitals conduct a community health needs assessment (CHNA) every three years may represent a first step in this direction.²⁷ A CHNA is defined as a written document developed for a hospital including a description of the community served by the hospital, a statement of existing health care resources within the community available to meet community needs, and a list of the prioritized health needs identified

through the process. As part of their CHNA, hospitals are also required to develop an implementation strategy to meet the community health needs identified through the CHNA. Currently, the IRS asks hospitals to report basic information on the CHNAs in their Form 990 Schedule H. In the future, the performance measures that hospitals specify in their improvement plans may serve as the basis for an evaluation of the health outcomes of a hospital's community benefit activities thus allowing regulators to not only assess charitable expenditures but also the health outcomes of hospitals' community benefit activities.

While specific outcome measures to evaluate the adequacy of hospitals' community benefit activities have yet to be developed and implemented on a broad scale, an early example of how regulators use outcome measures to assess the adequacy of hospitals' community benefit activities comes from initiatives at the state level. Maryland, for instance, passed legislation in 2012 that requires hospitals to describe their efforts to track and reduce health disparities within their communities as part of their community benefit reports.²⁸ These and similar outcome measures could serve as a starting point for a more comprehensive approach to evaluating not-for-profit hospitals' community benefit activities. In order to remain tax-exempt, such an approach may require hospitals to show both an adequate level of inputs dedicated to community benefit activities (for instance, in the form of meeting minimum spending thresholds as implemented in several states) and improved health outcomes in the specific communities and health needs that the hospital targeted for its community benefit activities.

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Not-for-Profit Hospitals' Provision of Community Benefit: Is There a Trade-Off Between Charity Care and Other Benefits Provided to the Community?

Simone Rauscher Singh

Background. For decades, not-for-profit hospitals have been required to provide community benefit in exchange for tax exemption. To fulfill this requirement, hospitals engage in a variety of activities ranging from free and reduced cost care provided to individual patients to services aimed at improving the health of the community at large. Limited financial resources may restrict hospitals' ability to provide the full range of community benefits and force them to engage in trade-offs.

Objectives. We analyzed the composition of not-for-profit hospitals' community benefit expenditures and explored whether hospitals traded off between charity care and spending on other community benefit activities.

Methods. Data for this study came from Maryland hospitals' state-level community benefit reports for 2006–2010. Bivariate Spearman's rho correlation analysis was used to examine the relationships among various components of hospitals' community benefit activities.

Results. We found no evidence of trade-offs between charity care and activities targeted at the health and well-being of the community at large. Consistently, hospitals that provided more charity care did not offset these expenditures by reducing their spending on other community benefit activities, including mission-driven health services, community health services, and health professions education.

Conclusions. Hospitals' decisions about how to allocate community benefit dollars are made in the context of broader community health needs and resources. Concerns that hospitals serving a disproportionate number of charity patients might provide fewer benefits to the community at large appear to be unfounded.

Key words: *charity care, not-for-profit hospitals, community benefit activities.*

For decades, federal and state governments have granted not-for-profit hospitals tax exemptions in exchange for providing a public benefit.¹ Prior to 1969, public benefit was defined purely in terms of hospitals' provision of charity care, *i.e.*, medical care provided for free or well below cost. In the wake of the expansion of coverage brought about by Medicare and Medicaid in 1965, many of those who once received uncompensated care became insured. In response, in 1969, the Internal Revenue Service (IRS) established the community benefit standard, which broadened the notion of hospitals' charitable activities to include a diverse set of activities and services that

were intended to address the health needs of the community.² Nonetheless, as a result of the continuous decline in employer-sponsored health insurance coverage and the growth in the number of publicly insured and

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Acknowledgement: *The author would like to thank Mark Vyzas and Daniel Rubin for their excellent research assistance.*

J Health Care Finance 2013; 39(3):42–52
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uninsured Americans over the past decades,³ the provision of charity care has remained an important part of not-for-profit hospitals' community benefit activities.⁴

The availability of charity care is particularly important in communities with high levels of uninsurance. For many uninsured, a hospital's emergency room is the only place available to obtain medical care.⁵ Hospitals in these communities often provide large amounts of charity care. Many uninsured, however, are in poor health and have substantial health needs. Compared to insured populations, the uninsured are less likely to receive preventive and diagnostic health care services, are more often diagnosed at a later disease stage, and on average receive less treatment for any given condition.⁶ Hospitals in communities with high levels of uninsurance thus face considerable demand not only for charity care but also for services aimed at improving the health of the community at large. Limited financial resources may make it difficult for hospitals to provide substantial community benefits beyond charity care and force them to trade off between free and reduced cost medical care provided to individual patients and services that benefit the community at large.

Prior research has provided a partial picture of the scope and scale of not-for-profit hospitals' community benefit activities. However, the study of this area has been hampered by disagreement over what should count as a community benefit⁷ and, until the revision of IRS Form 990 Schedule H in 2008, a lack of comparable data on hospitals' community benefit activities at the national level.⁸ Evidence from states with state-level community benefit reporting requirements, such as California and Maryland, indicates that not-for-profit hospitals

engage in a wide variety of community benefit activities beyond charity care. The composition of hospitals' charitable activities, however, varies widely across states. Hospitals in Maryland, for instance, have been shown to dedicate one third of their community benefit budgets to charity care while the remaining two thirds are spent on a range of other activities, including mission-driven health services, community health services, the education of health professionals, and medical research.⁹ Hospitals in California, on the other hand, have been found to spend only 15 percent of their community benefit dollars on charity care.¹⁰ In addition, California hospitals provide care to patients covered under Medi-Cal and other means-tested government programs amounting to 65 percent of their community benefit budgets. In California, caring for the uninsured and publicly insured thus consumes approximately 80 percent of hospitals' community benefit resources while the remainder is spent on activities aimed at improving the health of the community at large.

Despite policymakers' increased scrutiny of hospitals' community benefit activities, little is currently known about the relationships among various components of community benefit. Do hospitals that provide more charity care also spend more on other community benefit activities? Or do hospitals that serve substantial numbers of uninsured patients reduce the resources spent on activities that benefit the health of the community at large? This study aims to shed light on the potential trade-offs that hospitals may engage in when making decisions about the scope and scale of their community benefit activities. In particular, this study analyzes the bivariate relationships between charity care and other community

benefit activities commonly provided by not-for-profit hospitals to provide insights into hospital managers' decisions around community benefit.

For health managers and policymakers interested in improving the health of a community, a nuanced understanding of the scope and scale of hospitals' community benefits as well as the relationships among the various components of hospitals' community benefit portfolios is crucial. Hospitals' community benefit dollars represent a substantial source of funding, not only for medical care services but also for services that benefit the health and well-being of the community at large. Hospitals' community benefits thus have the potential to complement the activities of state and local health departments and other community stakeholders and contribute to their efforts at improving population health.

Methods

Data and Sample

This study used data from Maryland hospitals' state-level community benefit reports. Since 2004, not-for-profit hospitals in the state of Maryland have been required to report annually to the state's Health Services Cost Review Commission (HSCRC) on their community benefit expenditures in a format similar to the recently revised IRS Form 990 Schedule H. The reports are public information and can be obtained from the HSCRC. For this study, we obtained community benefit expenditure information for all not-for-profit Maryland hospitals for the years 2006 to 2010, the most recent five years for which data were available at the time the study was conducted. The resulting sample consisted of 233 pooled hospital

year observations, representing 47 unique Maryland hospitals.

Measures of Community Benefit

Maryland's state-level community benefit reporting law requires that hospitals provide detailed financial information on a broad range of community benefit activities (for more information on Maryland's reporting requirement, see www.hscrc.state.md.us). Besides charity care, these include mission-driven health services, community health services, health professions education, research, financial contributions made by the hospital, and community building activities. The reports also include the operating costs of hospitals' community benefit programs as well as any community benefit activities funded by hospitals' foundations.

For the purpose of this study, we focused on charity care, mission-driven health services, community health services, and health professions education, which together accounted for almost 95 percent of Maryland hospitals' community benefit spending. Charity care represents hospital services provided to patients who are unable to pay and who qualify for free care under the hospital's charity care policy. Mission-driven health services are expenditures for services that are generally not or only inadequately reimbursed but are nonetheless offered as a result of the hospital's mission. Examples include home care services, outpatient mental health programs, hospice, and programs targeted to specific vulnerable populations such as seniors, immigrants, substance abusers, and the homeless. Community health services include the costs for community health education activities (*e.g.*, lectures and health fairs), community-based clinical services (*e.g.*, screenings and free clinics), and

health care support services (*e.g.*, nurse consultation lines and patient transportation services). Finally, health professions education represents the cost associated with graduate medical education as well as the education and training of nurses and other health professions. For the purpose of this study, all other community benefit activities, including research, financial contributions made by the hospital, community building activities, and the operating costs of hospitals' community benefit programs, were combined into a residual category called "other benefits."

Except for charity care, which was reported at full prices charged, all community benefit activities were reported in terms of the unreimbursed costs to the hospital of providing the benefit, *i.e.*, costs minus any offsetting revenues, such as fee-for-service payments and grant support. For parts of our analysis, we divided the costs reported for each category of community benefit by hospitals' total operating expenses to adjust for differences in size across hospitals.

Statistical Analysis

To analyze the relationships among the various categories of hospitals' community benefit activities and assess whether there was a trade-off between charity care and other components of community benefit spending, we employed bivariate correlation analysis using Spearman's rho correlation coefficients. We chose Spearman's rho correlation coefficients because they represent a non-parametric measure of correlation representing how well an arbitrary monotonic function describes the relationship between two variables. Compared to the more commonly used Pearson's correlation coefficients, Spearman's rho correlation coefficients do not assume a linear

relationship among our various measures of community benefit expenditures and are thus less sensitive to outliers.

We first performed our analysis using the pooled sample of hospitals for all five years from 2006 to 2010. We then conducted separate analyses along a set of hospital and community-level characteristics that have been shown, or are hypothesized, to be associated with hospitals' provision of community benefits.¹¹ Indicators included in our analysis were:

- Hospital size (defined in terms of hospitals' net patient revenues);
- Hospital teaching status (defined in terms of teaching vs. non-teaching hospital);
- Health status of the community served (defined in terms of the Maryland County Health Ranking's rank of the county the hospital is located in);¹² and
- Overall economic conditions (defined as the period of the recent economic recession, *i.e.*, the years between 2008 and 2010).

Results

Composition of Maryland Hospitals' Community Benefit Expenditures

Aggregate community benefit spending by not-for-profit hospitals in Maryland grew from \$718 million in 2006 to over \$1 billion in 2010. Hospitals' average community benefit expenditures increased from 7.10 percent of operating expenses in 2006 to 8.31 percent in 2010 (*see* Figure 1). In 2010, the most recent year for which community benefit reports were available, charity care accounted for one third of Maryland hospitals' total community benefit spending. The remaining two thirds of hospitals'

Figure 1. Composition of Maryland Hospitals' Net Community Benefit Expenditures, 2006–2010

Category	Community Benefit as % of Total Expenditures					Community Benefit as % of Operating Expenses				
	2006	2007	2008	2009	2010	2006	2007	2008	2009	2010
Charity care	31.97	33.00	33.25	32.73	33.06	2.26	2.33	2.40	2.49	2.75
Mission-driven health services	19.76	21.03	22.23	22.19	24.33	1.39	1.53	1.61	1.69	2.02
Community health service	6.98	7.26	7.26	7.12	7.21	0.49	0.53	0.52	0.54	0.60
Health professions education	35.29	33.31	30.57	32.39	30.19	2.49	2.43	2.21	2.46	2.51
Other benefits	5.30	6.40	6.68	5.57	5.21	0.37	0.47	0.48	0.42	0.43
Total community benefits	100.0	100.0	100.0	100.0	100.0	7.10	7.29	7.22	7.60	8.31

Source: Author's analysis of community benefit data from the Maryland Health Services Cost Review Commission, 2006–2010; 233 hospital year observations (47 unique hospitals).

community benefit budgets went toward programs and services that benefit the community at large, including health professions education (30 percent of total community benefit spending), mission-driven health services (24 percent), and community health services (7 percent). Other benefits combined accounted for 5 percent of total community benefit spending.

Relationships Among Maryland Hospitals' Community Benefit Activities

Our analysis provided no evidence of a trade-off between Maryland hospitals' provision of charity care and their spending on other community benefit activities (*see* Figure 2). All correlation coefficients were positive but small and generally not statistically significant:

- The correlation coefficient between charity care and mission-driven health services was 0.10;

- The correlation coefficient between charity care and community health services was 0.18; and
- The correlation coefficient between charity care and health professions education was 0.04.

Likewise, when analyzing the relationships among community benefit activities beyond charity care, we did not find evidence of hospitals engaging in any trade-offs. Again, all correlation coefficients were small and generally not statistically significant:

- The correlation coefficient between mission-driven health services and community health services was 0.11;
- The correlation coefficient between mission-driven health services and health professions education was -0.01 ; and
- The correlation coefficient between community health services and health professions education was 0.04.

Figure 2. Relationships Among Maryland Hospitals' Community Benefit Expenditures, 2006–2010 (Spearman's rho correlation coefficients with P values in parentheses)

	Charity Care	Mission-Driven Health Services	Community Health Services	Health Professions Education
Mission-driven health services	0.1028 (0.1185)			
Community health service	0.1817** (0.0055)	0.1102 (0.0942)		
Health professions education	0.0414 (0.5304)	-0.0056 (0.9330)	0.0380 (0.5646)	
Other benefits	0.3248** (<0.001)	0.0407 (0.5370)	0.4733** (<0.001)	0.1180 (0.0727)

Source: Author's analysis of community benefit data from the Maryland Health Services Cost Review Commission, 2006–2010; 233 hospital year observations (47 unique hospitals).
Note: ** denotes statistically significant at $P < 0.01$.

Hospital Characteristics and the Provision of Community Benefit

The relationship between charity care and spending on other community benefit activities differed for hospitals of different size and teaching vs. non-teaching hospitals (see Figure 3). Most importantly, larger hospitals that provided more charity care also spent more resources on educating health professionals (Spearman's rho = 0.36) while smaller hospitals tended to trade-off charity care and educational activities (Spearman's rho = -0.28). Likewise, there was a strong positive correlation between charity care and health professions education for teaching hospitals (Spearman's rho = 0.36) but not for non-teaching institutions (Spearman's rho = -0.11). Non-teaching hospitals that provided more charity care engaged in somewhat more community health services (Spearman's rho = 0.17) while we found no relationship between charity care and community health services for teaching hospitals.

Community Characteristics and the Provision of Community Benefit

Besides hospital size and teaching status, Maryland hospitals' community benefit activities differed in response to the health status of the community served (see Figure 3). For hospitals located in the healthiest communities (defined as hospitals located in counties ranked by the Maryland County Health Rankings among the top third in terms of health factors), higher charity care spending was positively correlated with community health services (Spearman's rho = 0.44) and health professions education (Spearman's rho = 0.29). The relationship between charity care and mission-driven health services for these hospitals was not statistically significant. On the other hand, for hospitals located in the least healthy communities (defined as hospitals located in counties ranked among the bottom third in terms of health factors by the Maryland County Health Rankings), more charity care was not associated with increased

Figure 3. Relationships Between Maryland Hospitals' Spending on Charity Care and Other Community Benefit Expenditures, by Select Subgroup, 2006–2010
(Spearman's rho correlation coefficients with *P* values in parentheses)

Definition of Subgroups	Hospital Size		Teaching Status		Health Status of Community Served		Overall Economic Conditions
	Below median net patient revenue	Above median net patient revenue	Teaching hospitals	Non-teaching hospitals	Hospitals located in counties ranked among top third	Hospitals located in counties ranked among bottom third	Hospital year observations for 2008 to 2010
Sample size	116	117	40	193	60	83	140
Mission-driven health services	0.0852 (0.3611)	0.1066 (0.2546)	0.1784 (0.2707)	0.0861 (0.2339)	0.1076 (0.1013)	-0.0427 (0.7012)	0.1105 (0.1937)
Community health service	0.1575 (0.0898)	0.1474 (0.1144)	0.0794 (0.6264)	0.1747* (0.0151)	0.4364** (0.0005)	0.0348 (0.7546)	0.2296** (0.0064)
Health professions education	-0.2769** (0.0025)	0.3645** (0.0001)	0.3552* (0.0245)	-0.1069 (0.1390)	0.2894* (0.0249)	-0.1266 (0.2541)	0.0520 (0.5414)
Other benefits	0.2871** (0.0017)	0.3505** (0.0001)	0.4655** (0.0025)	0.2760** (0.0001)	0.2994* (0.0201)	0.3304** (0.0023)	0.2742** (0.0010)

Source: Author's analysis of community benefit data from the Maryland Health Services Cost Review Commission, 2006–2010; 233 hospital year observations (47 unique hospitals).
Note: * denotes statistically significant at $P < 0.05$; ** denotes statistically significant at $P < 0.01$.

spending on any of the other community benefit categories.

Provision of Community Benefit During the Recent Recession

Besides hospital and community-level characteristics, overall economic conditions impacted hospitals' provision of community benefit. During the recent recession, Maryland hospitals both increased their total community benefit spending and made noticeable changes to the composition of their community benefit portfolios. The proportion of community benefit budgets spent on charity care, mission-driven health services, and community health services increased during

these years while spending on health professions education and other benefits decreased (*see* Figure 1). Despite these changes, Maryland hospitals did not engage in trade-offs among various community benefit activities (*see* Figure 3). Our analysis of the subsample of hospitals between 2008 and 2010 found small but consistently positive correlation coefficients that did not differ markedly from our findings for the total sample (*see* Figure 2).

Discussion

Maryland hospitals engage in a variety of community benefit activities beyond

charity care. Of the more than \$1 billion spent on community benefit in 2010, only approximately one third represented care provided to charity patients. The remaining two thirds of hospitals' community benefit budgets went toward a broad range of activities intended to improve the health and well-being of the community at large, including mission-driven health services, community health services, the education of health professionals, and medical research. In comparison, in 2009, the average US hospital spent more than two thirds of its community benefit resources on providing care to low-income and uninsured patients.¹³ All other community benefits accounted for less than one third of the average hospital's community benefit expenditures.

Maryland hospitals' decisions about how to allocate their community benefit dollars are made in the context of the state's all-payer hospital rate-setting system.¹⁴ Compared to other states, Maryland is unique in that the state's Health Services Cost Review Commission regulates hospital payment rates for all third-party payers, including Medicare and Medicaid. Uncompensated care expenses, such as the cost of providing charity care, are factored into each hospital's rates, so Maryland hospitals do not face a disincentive to provide charity care as hospitals in most other states do. More importantly, all-payer rate setting significantly reduces payment shortfalls for care provided to patients covered under Medicaid and other means-tested government programs. This is in sharp contrast to the majority of states where Medicaid pays hospitals substantially less than what it costs to provide care.¹⁵ Maryland's rate-setting system thus relieves hospitals of much of the financial burden of treating publicly insured

and uninsured patients so hospitals may be able to spend more resources on the health and well-being of the community.

Against the backdrop of the idiosyncrasies of Maryland's all-payer hospital rate-setting system, our analysis found no evidence of a trade-off between charity care and other community benefit activities. Across the board, Maryland hospitals did not offset higher charity care expenditures as a proportion of total operating expenses by reducing their spending on other community benefits. Likewise, we found no evidence of hospitals engaging in trade-offs among other community benefit activities. For many hospitals in Maryland, providing charity care and spending resources on other community benefits thus went hand-in-hand.

The relationship between charity care and hospitals' provision of other community benefits, however, differed markedly across a number of hospital and community characteristics. Not surprisingly, larger hospitals that provided more charity care also spent substantially more on educating health professionals, as did teaching hospitals. Many of the largest hospitals in Maryland are academic medical centers, which not only educate and train a substantial share of the state's health professionals but also provide disproportionate amounts of charity and other low cost care. Frequently, teaching hospitals provide more care to low-income and uninsured patients to offer learning experiences for the health professionals they train.¹⁶ In addition, in Maryland, most large teaching hospitals are located in the city of Baltimore, which has significant unmet health needs and thus a great need for free care.

Besides hospital characteristics, our findings provide evidence that the health of the community influences hospitals' decisions

about how to allocate their community benefit dollars. For Maryland hospitals located in some of the state's healthiest communities, spending on charity care and other community benefits went hand-in-hand. Hospitals in the healthiest counties that provided more care to charity patients did not engage in trade-offs but also spent more resources on community health services, health professions education, and other activities, including medical research and community building activities. Hospitals in healthier and wealthier communities may serve fewer uninsured patients and thus have more resources to engage in activities targeted at improving the health and well-being of the community.

For hospitals operating in the least healthy communities, on the other hand, we did not find similar positive relationships between charity care and other community benefit activities. Nonetheless, from a population health perspective, these findings are encouraging: Despite the financial challenges of operating in disadvantaged communities, hospitals did not trade off higher spending on charity care against committing additional resources to other community benefit activities. Concerns that hospitals serving large numbers of uninsured patients may spend less on activities that improve the health of the broader community thus appear to be unfounded. Rather, hospitals appear to take into account the health needs of their communities when making decisions on how to allocate their community benefit dollars.

Finally, while the composition of Maryland hospitals' community benefit activities changed markedly during the recent recession, our analysis found no evidence that Maryland hospitals started to engage

in trade-offs between charity care and other community benefit activities during these years. In financially difficult times, hospitals may have an incentive to offset increases in charity care by reducing spending on other, frequently more discretionary community benefits. Cutting down on the provision of some of these other community benefits may help hospitals to reduce costs and remain financially viable during difficult economic times. Rather than cuts, we found substantial increases in the amounts of community benefits provided by hospitals in Maryland during the recession. Higher expenditures for charity care and mission-driven health services, in particular, are likely the result of increased need for these services during times of high unemployment and loss of health insurance coverage. Similar to our earlier findings, these results provide evidence that hospitals take into account the health needs of the population they serve when making decisions about their community benefits.

Limitations

This research has two major limitations that might affect the results of this study and limit their generalizability. First of all, the study sample was limited to hospitals in Maryland, which—as discussed above—are unique in many respects. Thus, the results derived from this study may not be representative of hospitals across the United States and caution should be exercised when interpreting the findings. More importantly, however, due to sample size limitations, our analyses were purely descriptive, bivariate analyses of associations among various categories of hospitals' community benefit expenditures. Although Spearman's rho correlation coefficients do not assume a linear

relationship between variables, their limitations are otherwise similar to those of the Pearson correlation coefficient. In particular, bivariate correlation analyses limit the inferences that can be drawn about the independent relationship between variables and the causality of the relationships examined. Our analyses do not control for other factors that may play a role in hospitals' provision of community benefits, such as hospitals' operating and financial performance, market competition, and the activities of other community stakeholders including employers, local health departments, and nonprofit community organizations.¹⁷ A more detailed analysis of the factors that drive hospitals' community benefit expenditure decisions and the trade-offs they engage in when allocating community benefit dollars awaits multivariate analysis of a larger, more representative dataset.

Conclusion

Maryland hospitals spend substantial resources on a wide variety of community benefit activities beyond charity care. Hospitals' decisions about how to allocate their community benefit dollars are made in the context of the state's all-payer rate-setting system and broader community health needs and resources. Concerns that hospitals serving a disproportionate number of charity patients might provide fewer benefits to the community at large appear to be unfounded. For health managers and policymakers, these results are encouraging: The community benefit dollars spent by local hospitals are an important source of public health funding and have the potential to complement the activities of health departments and other community stakeholders to improve the health and well-being of the population.

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Hospital Philanthropy

Dean G. Smith and Jan P. Clement

It remains an open question whether hospital spending on fundraising efforts to garner philanthropy is a good use of funds. Research and industry reports provide conflicting results. We describe the accounting and data challenges in analysis of hospital philanthropy, which include measurement of donations, measurement of fundraising expenses, and finding the relationships among organizations where these cash flows occur. With these challenges, finding conflicting results is not a surprise. Key words: *fund raising, hospital, philanthropy*.

For over 40 years, it has been noted that financial and non-financial contributions to hospitals (philanthropy) have been a declining source of support for capital and operating expenses. Sloan *et al.* found that the growth of private insurance coverage, Medicare and Medicaid, and the ending of the Hill-Burton program largely explained the decline in hospital philanthropy although demographics associated with giving (aging and wealth) were thought to be favorable towards long-term efforts.¹ For the nation as a whole, during the last decade, giving appears to have hit a flat line at 1 percent of net revenues (2 percent of net revenues excluding Medicaid and Medicare) and totaled approximately \$8 billion per year in aggregate for the last decade although it increased to \$8.9 billion in 2011.²

Editorials and analyses of hospital operations both champion engagement in fundraising and caution against success.³ For some hospitals and health systems, like CHRISTUS Health and Sloan-Kettering, fundraising campaigns have been quite successful.⁴ However, for most hospitals and health systems, results have been less than dramatic. Thus, questions remain about whether hospital philanthropy can meet the challenges for private support and whether hospital spending on fundraising efforts to garner donations to support capital and operating expenses is a good use of funds.

Nearly two decades ago, Smith, Clement, and Wheeler (SCW) asked similar questions.⁵

In this article, we review the SCW findings also noting how they compare to recent data from a survey by the Association for Healthcare Philanthropy (AHP) on the relationship between fundraising and philanthropy. Next, we discuss current challenges to our ability to obtain relevant data to conduct research to address the question of appropriate fundraising efforts. Finally, we comment on what the future may hold for hospital fundraising and empirical research.

Calculating the Return on Fund Raising

In the sample of hospitals from California's Office of Statewide Health Planning and Development (OSHPD) in the 1980s used by SCW, the mean of total new donations per bed was \$1,211 (inflation adjusted 1991 dollars). At a mean level of fundraising expenses per bed of \$743.09, a simple analysis might suggest a return of \$1.63 for each

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*J Health Care Finance 2013; 39(3):53-58
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\$1 of fundraising. A recent AHP survey, with 469 of its 1,738 members responding, shows that the median amount raised per dollar expended in 2011 was \$3.24.⁶ As with the calculation from the raw data in late 1980s, the current calculation of \$3.24 attributes all of the collection of donations to hospitals' fundraising efforts.

SCW went on to estimate a more complex model involving a set of simultaneous regression equations for donations, fundraising, and community returns, which included multiple variables expected to be associated with donations. The intercept term in the estimation of donations equation was \$11.51. The intercept term in a regression equation is that value of the outcome (dependent variable) that would be predicted to be observed in the absence (value of zero) of every explanatory (independent) variable. In most analyses, the value of the intercept term has little meaning as a stand-alone value. A hospital with zero beds, zero revenues, and zero fundraising expenses will likely obtain zero donations, not some positive (or negative) amount associated with a best fit line derived from a sample of hospitals that have many beds and substantial revenues and fundraising expenses. The amount of \$11.51 is probably close enough to zero for any practical purpose.

Of course, what's more interesting is the level of donations at the mean level of all the explanatory variables except fundraising effort, which is set to zero. It is likely that some level of donations would be given to hospitals without any dedicated fundraising expenses. Indeed, in the SCW study, this was estimated to be \$969.05 (a modified intercept term). While it would be difficult to accept that this level of philanthropy could be sustained without any fundraising efforts, in any particular year it might be reasonable.

In the SCW model estimates, donations increased by \$0.33 for each dollar of fundraising expense, after controlling for the other variables. This amount was not significantly different from zero and was significantly different from one, suggesting that fundraising costs exceeded resulting donations, at least in the short-run, a result quite different than the summary from the AHP survey.

It is not surprising that the AHP's descriptive summaries differ from the results from the complex multivariate model of SCW. However, the AHP results are instructive in identifying potentially missing variables to improve multivariate empirical models. For example, additional AHP summaries show that donations are higher when hospitals have more fundraising staff members, have older fund-raising programs, and are academic institutions. It may be the case that the more detailed data on staff levels and other factors would be valued additions to a statistical model. The SCW and AHP studies help to highlight important challenges regarding data and analysis on fundraising expenses and donations.

Accounting Isn't Easy

Most researchers rely upon secondary data sources such as the OSHPD, other state agencies, and IRS Form 990 data. Despite improvement in availability of secondary data, particularly in the revised IRS Form 990, measurement continues to challenge our ability to determine the return on fundraising. Accounting and data challenges include: measurement of donations, measurement of fundraising expenses, and finding the relationships among organizations where these cash flows occur.

One important difference between the SCW results and the AHP survey concerns the measurement of donations. In the SCW study, the OSHPD data were selected due to its standardized format and availability of data for all California hospitals. Unfortunately, only cash received during the year is included in these reports. The AHP includes both cash and “pledges.” Pledges are clearly important to measure and track as a part of the fundraising process and don’t necessarily appear in most cost reports, audited financial statements, or other formal accounting documents. Empirical work on fundraising may suffer from lack of appropriate data and/or lack of a sufficient length of time-series data to track the fundraising–receipt of cash relationship.

How much might pledges contribute to total donations? For hospitals that do not depend heavily on donations, pledges are not reported. For hospitals that depend heavily on donations, pledges may receive considerable attention on financial statements. As an example, the audited financial statement of Children’s Hospital of Los Angeles, (fiscal year ending September 30, 2011) indicates revenues of unrestricted gifts and bequests of \$29 million, and an asset of pledges receivable of \$80.6 million net of allowance for uncollectible pledges (approximately one percent), with \$56 million being the long-term portion, discounted to net present value using the risk-free interest rate at the time of the pledge. Clearly, Children’s Hospital of Los Angeles is an exception in terms of the detail provided on pledges. In the aggregate, the level of pledges receivable is unknown.

The OSHPD data were also selected based on the availability of a line that included fundraising and promotional expenses. Unfortunately, at least to researchers, not

necessarily those tasked with completing the report, this measure of fundraising is no longer included. The AHD survey appears to include a much richer definition of fundraising, including staff time. For Children’s Hospital of Los Angeles, which provides exceptionally detailed information on contributions and pledges, its audited financial statements include \$15.9 million in expenses associated with hospital-sponsored fundraising events. However, fundraising events may be only a portion of total fundraising costs and do not include staff time.

Finally, the primary source of fundraising effort and receipt of donations may not be the hospital itself. Foundations associated with hospitals, which may or may not share similar names, potentially leave the analyst at a loss as to where to find information on donations intended for a hospital. These foundations are not included in the OSHPD data base and may be difficult to track in IRS 990 data bases.

The most recent OSHPD reports, with fiscal years ending in 2010, reveal that 133 hospitals received \$267 million in non-operating revenue from unrestricted contributions. A smaller number of hospitals also received donated property, plant and equipment, restricted contributions and grants, and other forms of philanthropy. Does this mean that only half of the not-for-profit hospitals in California received donations? Not necessarily, as demonstrated by Santa Ynez Valley College Hospital, a ten-bed acute care, critical access hospital that is part of Cottage Health System. Santa Ynez received \$3,345,504 in non-operating revenue from unrestricted contributions in 2010. IRS Form 990 Schedule H provides information on hospitals fundraising activities. Santa Ynez reported \$3,398,339

in contributions and grants (21 percent of the total revenue), all with zero fundraising expenses. This latter part of the sentence isn't exactly true. The Form 990 listed gross income from fundraising events of \$6,499, less direct expenses of \$13,120, for net income (loss) from fundraising events of (\$6,621). The seemingly missing component is a gift, grant, or capital contribution from Santa Ynez Valley Cottage Hospital Foundation of \$3,345,504, which matches the cost report. Not all the philanthropy that is intended for hospitals appears in hospitals' financial statements in the same year, and when the funds do appear, they may appear as a foundation gift with no associated expenses, hiding part of the equation.

The Future

As challenging as fundraising has been for hospitals and health systems and as difficult the empirical research on the topic has been for researchers, the future may be even more complicated. According to William McGinly, president of the Association for Healthcare Philanthropy, an important aspect of giving is the public's understanding of how donations to health care systems are spent.⁷ Hospitals may be at a relative competitive disadvantage compared to other charities in attracting donations now and into the future.

The lack of clarity regarding how donations to hospitals and systems are spent may become even more challenging because of the Affordable Care Act (ACA). In the past, many conceptual and practice models have assumed that donors give to promote community benefit, which has typically been defined as provision of charity care for the medically indigent as well as incurring

unreimbursed education and research costs.⁸ With the expanded health insurance coverage mandated by the ACA, donors may assume that hospitals will have no uninsured patients and, as a result, need no support to provide community benefits. Indeed, Sloan *et al.* found that expansion of insurance coverage substantially reduced private giving to hospitals.⁹

However, despite the ACA coverage mandate, a number of hospital patients will remain uninsured or underinsured after the ACA is implemented.¹⁰ In states where Medicaid eligibility is expanded, although more patients will be insured, hospitals will be paid rates that they often complain do not cover the costs of care. In Massachusetts, which enacted health care reform including mandated coverage in 2006, some hospitals sued the state due to losses experienced for patients newly insured through state health programs. In addition, the ACA will significantly reduce disproportionate share payments even in states that opt not to expand Medicaid.¹¹ Thus, hospitals may still require help—that is, community benefit support—to care for low income patients. In order to obtain donations to support care for patients in need, in the future, it will be critical for hospitals and health systems to make a clear case about community benefit support. A related question is whether it will require more fundraising effort per dollar of new donations.

Perhaps to clarify how donations are spent, instead of appealing for funds for community benefit, some hospitals appear to be pursuing more narrow fundraising strategies, focusing perhaps on a disease or a specific bricks and mortar project.¹² Hospitals are also using new approaches, such as social media, to reach potential donors.

As hospitals change their strategies, messages, and methods for garnering donations, researchers will need to change their conceptual models of donor and hospital behavior. In addition to, or instead of, the primary donor motivation being a provision of community benefit, models may need to include other motivations such as personal values or specific community disease needs.¹³ Along with new variables, such as the age of the fundraising program, researchers may need to consider including innovative approaches adopted by hospitals in their empirical models. To obtain good data and measures, qualitative research methods and primary data

collection may need to supplement the traditional use of secondary data. However, as the US focuses increasingly on transparency, researchers also have the opportunity to help improve the secondary data sources as they develop and evolve so that they include information on fundraising effort and donations. Nearly two decades after Smith, Clement, and Wheeler, there is still opportunity to contribute to the understanding of whether hospital philanthropy can meet the challenges for private support and whether hospital spending on fundraising efforts to garner donations to support capital and operating expenses is a good use of funds.

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The Role of Non-Operating Income in Community Benefit Provision by Not-for-Profit Hospitals

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Not-for-profit hospitals are under increased public scrutiny for providing what some view as insufficient levels of community benefit compared to their tax-exempt benefits. One potential driver of community benefit is financial surplus, which arises from both patient care (operating) activities and non-patient care (non-operating) activities. This study addresses the effect of hospitals' non-operating income on not-for-profit hospitals' provision of community benefit. The study sample includes 217 unique not-for-profit, non-governmental, general, acute care hospitals in California between 1997 and 2010 that filed annual reports with the California Office of Statewide Health Planning and Development (OSHPD). We model the effect of hospitals' operating and non-operating incomes on hospitals' community benefit, controlling for observable hospital characteristics such as scale and system membership, local competition, time trends, and hospital fixed effects. Our results indicate that non-operating income has no effect on levels of community benefit provided by not-for-profit hospitals. This finding suggests that not-for-profit hospitals budget for uncompensated care at levels that are prioritized over other potential investments if non-operating income falls, but remain fixed if non-operating income rises. Key words: *not-for-profit hospitals, non-operating income, community benefit.*

Not-for-profit hospitals receive an estimated \$12.6 billion in benefits each year related to their tax-exempt status.¹ In exchange for these tax-related benefits, not-for-profit hospitals must provide community benefit to meet the “community benefit standard”—criteria established by the Internal Revenue Service (IRS) in 1969 to determine on a case-by-case basis whether not-for-profit hospitals qualify for tax exemption.² The requirements for maintaining tax exemption under the community benefit standard are vague, providing no specific definition of what constitutes community benefit or expectation of amount. As a result, not-for-profit hospitals are facing increased public scrutiny for what many view as insufficient levels of community benefit. Indeed, previous research has demonstrated that not-for-profit hospitals generally fall short in providing community benefit when compared to the value of the tax benefits they receive.³

However, among not-for-profit hospitals, there is substantial variation in the level of

community benefit provided.⁴ One potential driver of community benefit levels in not-for-profit hospitals is financial surplus, defined as the excess of revenues over expenses.⁵ Financial surpluses in hospitals can arise from two sources:

1. Patient care related or “operating” activities; and

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*J Health Care Finance 2013; 39(3):59–70
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2. Non-patient care or “non-operating” activities such as investment in financial assets.

While income from operating activities has always been a critical determinant of financial strength, income from non-operating activities is an increasingly important component to the financial strategy of not-for-profit hospitals, contributing an estimated 35 to 45 percent on average to not-for-profit hospitals’ total profit margins.⁶

Despite the important contribution of non-operating income to hospitals’ profit margins, there is relatively little evidence as to whether this source of income is used to support community benefit. The few empirical studies that have investigated this relationship find inconsistent or weak effects of non-operating income on community benefit.⁷ We build upon the existing literature by focusing our analysis on the effect of the non-operating income component of financial surplus on not-for-profit hospitals’ provision of community benefit over a 14-year time period, using multiple definitions of community benefit. Knowledge of the association between non-operating income and community benefit is required to inform future tax and community benefit policies, and to help assess the adequacy of community benefit provided by not-for-profit hospitals.

Not-for-Profit Hospitals and Non-Operating Income

In contrast to for-profit hospitals, not-for-profit hospitals often hold substantial cash reserves that may be invested in financial securities (*e.g.*, stocks and bonds) to produce non-operating income. A study of California hospitals found that

not-for-profit hospitals, on average, hold 21 percent of their total assets in financial securities; this is over five times as much as for-profit hospitals.⁸ Non-operating income has been shown to add as much as 1.7 percentage points to total profit margins, with investment income accounting for 33 to 47 percent of all non-operating income.⁹

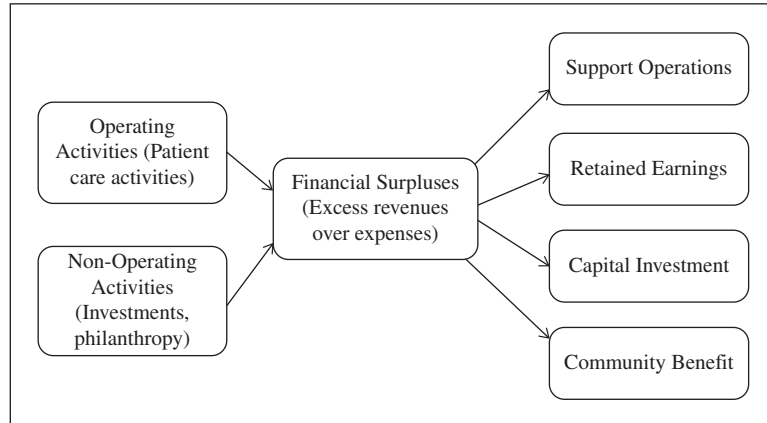
There are several explanations for the difference in financial asset holdings by not-for-profit and for-profit hospitals. For example, for-profit hospitals seek to maximize profit and shareholder value. In contrast, capital constraints often drive not-for-profit hospitals to maximize cash holdings.¹⁰ In addition, high cash and liquidity positions are strongly correlated with favorable bond ratings that translate into lower borrowing costs.¹¹

Although these reasons for holding cash are legitimate, not-for-profit hospitals have been shown to take advantage of the relatively low cost of borrowing by accessing the tax-exempt debt markets rather than internal cash reserves to finance capital projects.¹² The extent to which not-for-profit hospitals engage in this type of arbitrage at the expense of community benefit underlies many of the ongoing debates about community benefit adequacy.¹³

Financial Surpluses and Community Benefit

Hospitals can, in general, direct financial surpluses from operating or non-operating sources to four major activities (*see* Figure 1). They can be used to support clinical operations, capital investment, increases in retained earnings, or community benefit.¹⁴ The explicit use of financial surpluses to support community benefit activities is particularly salient for

Figure 1. Sources and Uses of Hospital Financial Surpluses



not-for-profit hospitals as failure to do so can result in loss of their tax exemption.

In the absence of a legal definition of community benefit activities, community benefit is most commonly measured by uncompensated care, specifically, charity care, bad debt, or the sum of the two. Other hospital activities and services, such as research, education, and community outreach, may qualify as community benefit; however, there is no consensus on what specific activities should qualify or how to quantify these activities.¹⁵

Previous studies that have investigated the relationship between hospital financial surpluses and community benefit find either weak effects or inconsistent results. In a study of New York hospitals, Thorpe and Phelps¹⁶ used changes in the state’s financing mechanism for charity care to estimate price and income effects on the supply of uncompensated care. They found that an increase in reimbursement through subsidies, *i.e.*, price, increased charity care, but that increases in non-operating income from other block grant revenues had no effect on

the level of charity care hospitals provided.¹⁷ Frank and Salkever’s¹⁸ empirical analysis of Maryland hospitals between 1980 and 1984 similarly found that increases in hospitals’ non-operating income had a weak impact on the supply of charity care.¹⁹ Building on these two prior studies, Gaskin²⁰ and Rosko²¹ also found positive, but weakly significant income effects on uncompensated care.²²

Contributions of This Study

Previous studies that have addressed the association between non-operating income and community benefit used data in a single state over a three to four year time period, during the 1980s to mid-1990s. While our study also uses a single state, we use more recent data over a 14-year period from 1997 to 2010 to test whether the effects continue in more recent times. Our study time period also captures the recession that started in 2001–2002 and the recent financial crisis that began in 2008 in the United States. The volatility of the market during this time period produces variation in the level of

non-operating income in not-for-profit hospitals during the study period.

Methods

Data and Study Sample

The data for this study come from the California Office of Statewide Health Planning and Development (OSHPD) and the American Hospital Association (AHA) from 1997 to 2010. Hospital-level financial and organizational data come from the OSHPD's Annual Hospital Disclosure Reports. These data are combined with the system affiliation data collected in the AHA Annual Hospital Survey.

The study sample includes all non-governmental, general acute care not-for-profit hospitals in California from 1997 to 2010. We excluded Kaiser Permanente-owned hospitals since California waives Kaiser hospitals from reporting detailed individual hospital-level financial data. We also excluded for-profit hospitals since they have different objective functions with respect to community benefit provision, and government-owned hospitals since they are subject to different regulations requiring financial surpluses to be returned to the government. Finally, we excluded hospital reports with reporting periods greater than 366 days and those with clearly erroneous data or those missing key variables of interest. For those hospitals submitting duplicate reports in the same reporting period, we kept the report with the greatest number of reporting days. Hospitals that merged or were acquired during the study period are represented as individual observations pre-merger activity. Post-merger, they are represented in the acquiring hospital's financial report. The final study sample

includes 2,322 pooled hospital observations representing 217 unique not-for-profit hospitals in California between 1997 and 2010.

Dependent Variables

Our models test the effect of non-operating income on community benefit using three measures of community benefit:

1. Charity care;
2. Uncompensated care; and
3. Uncompensated care net of disproportionate share (DSH) payments.

Charity care is often considered the truest form of community benefit, as hospitals determine a priori services that will be classified as charity care and these services are provided without any expectation of payment. However, variation in hospital accounting practices makes it often difficult to distinguish charity care from bad debt, the latter of which reflects services provided with the expectation of payment, but for which the hospital was ultimately unable to collect. Thus, consistent with the literature, we use the sum of charity care and bad debt, or uncompensated care, as our key measure of community benefit.²³ For further sensitivity, we adjust uncompensated care to reflect DSH payments received by the hospitals. DSH payments compensate certain hospitals for providing a disproportionate share of care to Medicaid and low income populations. Because DSH payments are made to offset charity care provided by hospitals, removing this from total uncompensated care costs may be considered a more accurate measure of uncompensated care provided by hospitals.²⁴

We calculated each hospital's cost-to-charge ratio by taking total operating expenses exclusive of bad debt divided by

the sum of gross patient revenue and other operating revenue.²⁵ We then deflated gross charges of charity care and bad debt by the hospital's cost-to-charge ratio to calculate the costs of community benefit.

Independent Variables

Our key financial variable of interest is non-operating income. Non-operating income is calculated by taking total non-operating revenues minus total non-operating expenses. Major contributors to non-operating income include:

- Gains from unrestricted investments;
- Unrestricted income from endowments; and
- Unrestricted contributions or donations.

Because non-operating income is one component of financial surplus, we also include operating income. Operating income is the sum of net patient revenue and other operating revenue less total operating expenses. Since the costs of community benefit are embedded in total operating expenses, the operating income variable used in each specification is adjusted for the cost of community benefit. For example, when community benefit is measured by charity care costs, the costs of charity care are subtracted from total operating expenses in the calculation of operating income. We lag non-operating income and operating income by one period since financial performance in the previous period may affect the decision to provide uncompensated care in the current period.²⁶ All cash-flow measures are inflated by the consumer price index to reflect 2010 dollars.

We also include other variables to capture hospital and market characteristics. We

control for hospital size as measured by the number of licensed hospital beds. We include a dummy indicator for system affiliation as reported in the AHA Annual Hospital Survey. The AHA survey did not collect system affiliation information in 1999; therefore, we imputed system affiliation status for that year based on pre- and post-1999 system affiliation status. We calculated the Herfindahl Index based on adjusted discharges at the county level to control for local market competition. Earlier research has shown that hospitals that face more competition or fiscal pressure from managed care or public programs provide less uncompensated care.²⁷ We also include an indicator for time to control for secular trends. We exclude variables measuring the demand for uncompensated care (e.g., the percentage unemployed, per capita income, managed care penetration, etc.), as these variables are primarily time invariant and would be absorbed by the fixed effects in the model.

Empirical Model

The effect of hospital income on community benefit is central to understanding the welfare consequences of many hospitals' not-for-profit status. We model the effect of hospitals' operating (Opinc) and non-operating incomes (Nonopinc) on community benefits (B) for hospital *i* in market *j* at time *t*. We control for observable hospital characteristics (H) such as scale and system membership as well as local competition (HHI). Formally, we estimate regressions based on the following specification:

$$B_{ijt} = \alpha_i + \beta_1 Opinc_{ijt-1} + \beta_2 Nonopinc_{ijt-1} + \gamma H_{ijt} + \delta HHI_{jt} + \tau(t) + \epsilon_{ijt}$$

where $\tau(t)$ is a flexible function of time, α_i is a hospital-specific fixed effect, and ϵ_{ijt} . The

parameters β_1 and β_2 capture the change in community benefit with changes in lagged income while controlling state-level time trends (τ) and fixed, but unobserved, hospital characteristics (α_i). The γ and δ parameters measure the effects of observed hospital and market characteristics respectively. In particular, hospitals' community benefits will likely depend on the scale and scope of a hospital organization as well as local market competition levels. We estimate this base model separately for a variety of community benefit (B) metrics. These measures reflect the costs of charity care, uncompensated care, and disproportionate share payments. The time function is approximated by a second-order polynomial in our base specification, but we explore alternative specifications for robustness. Errors are clustered by hospital to address correlation in errors across time within institution and robust to heteroskedasticity.²⁸

Our control variables, H and HHI , are particularly important as they may influence the relationship between income and community benefit. Hospitals may, for example, realize returns to scale. Under this scenario, income might have a larger effect on community benefit in larger hospitals. Similarly, we would expect hospitals to have lower excess revenues in highly competitive markets (*i.e.*, markets with low values of HHI). Consequently, we partition our sample into large and small hospitals to test scale effects and high- and low-competition markets to test competition effects. We then re-estimate our base equation for each subsample.

We further considered the role of asset restrictions in community benefits. Many hospital assets are restricted in their use. This may be due to financial obligations (*i.e.*, bond covenants or reserve requirements) or

from the restrictions on charitable donations. We allowed income from assets released from restrictions to have a different effect from unrestricted income.

Finally, we consider the possibility that income and community benefits may be auto-correlated. We estimate quasi-differenced models to test, and correct for, potential autocorrelation. All analyses were conducted using Stata 10.0.

Results

Over the study period, not-for-profit hospitals in our study sample spend, on average, \$2.7 million on charity care annually (*see* Figure 2). When combined with bad debt costs, these same hospitals expend \$5.8 million dollars annually in total uncompensated care. Over the study period, 492 DSH payments were received from the state to cover the burden of disproportionate charitable care provided by some hospitals. When accounting for these DSH payments, the average net cost of uncompensated care falls to approximately \$3.1 million annually.

Non-operating income averages \$3.6 million per year compared to \$7.9 million in annual operating income. When the costs of community benefit is netted from operating expenses, operating income increases proportionally. Hospitals in our study have, on average, 261 licensed beds. Two thirds of all hospitals are affiliated with a hospital system, and are located in relatively competitive markets as indicated by the Herfindahl Index. The Herfindahl Index ranges from 0 to 1, with values approaching 1 indicating that hospitals face relatively little competition.

Results from the fixed regressions are presented in Figure 3. Fixed effects regression results indicates that lagged non-operating

Figure 2. Descriptive Statistics for Not-for-Profit Hospitals in California, 1997–2010 (n = 2,322)

Variable	Mean	SE
Charity care costs	\$2,770,862	\$98,230
Uncompensated care costs	5,882,632	147,772
Uncompensated care costs net of DSH payments	3,115,620	211,762
Non-operating income	3,621,184	266,036
Net operating income	7,924,271	506,313
Operating income before charity costs	10,695,132	554,565
Operating income before uncompensated care	13,806,902	591,441
Operating income before uncompensated care and DSH	11,039,891	539,337
Hospital size (beds)	261	3.91
System affiliation	0.74	0.01
Herfindahl Index	0.25	0.01

Source: Authors' calculations using OSHPD Annual Hospital Disclosure Reports and AHA Annual Hospital Survey.
All financial measures are adjusted by the Consumer Price Index and reflect 2010 dollars.

income has no statistically significant effect on levels of community benefit, regardless of how community benefit is measured. Similarly, lagged operating income has no statistically significant effect on levels of community benefit, except in the model when DSH payments are taken into consideration. This may be due to the relatively small proportion of hospitals that received DSH payments. For approximately half of hospitals receiving DSH, the recorded payments exceed the total cost of uncompensated care.

Among control variables, larger hospitals provide more community benefit with one additional bed resulting in almost \$20,000 of additional uncompensated care. Neither system affiliation nor market competition is significantly related to community benefit provision. However, the quadratic time trend is positive and significant, indicating that

community benefit levels are increasing over time irrespective of hospital income.

Robustness Checks

We tested the sensitivity of our results to several alternative model specifications. First, we tested alternative measures of community benefit including a restrictive definition of community benefit including bad debt only and a more generous measure of community benefit which included uncompensated care costs plus hospital’s allowances for county indigent programs. Our results are robust to these alternative measures of community benefit. We also categorized our sample into small and large hospitals based on the number of licensed beds above and below the median to test scale effects. We similarly compared hospitals in high and low competition markets to

Figure 3. Fixed Effects Regression Results

	Charity Care		Uncompensated Care		Uncompensated Care Net of DSH	
	Coefficient	SE	Coefficient	SE	Coefficient	SE
Non-operating income	-0.003	0.006	-0.01	0.008	-0.003	0.012
Net operating income	0.018	0.011	0.028	0.018	0.062*	0.026
Hospital size (beds)	12,616**	3,881	19,547**	4,656	10,930	10,226
System affiliation	495,657	319,041	101,645	323,153	14,759	449,254
Time	-80,903	82,958	144,240	88,637	131,339	145,739
Time squared	23,128**	5,746	15,320*	6,008	16,727	11,328
Herfindahl Index	-1,465,920	979,429	-2,070,308	1,379,848	-6,061,691	3,652,804
Constant	-1,712,506	1,057,452	-1,220,510	1,394,635	-897,154	3,431,488
Observations	2,054		2,054		2,054	
Number of hospitals	203		203		203	
R-squared	0.29		0.35		0.13	

* Significant at 5%;
** significant at 1%.

Note: All models control for hospital fixed effects and reflect robust standard errors and clustering at the hospital level.
Non-operating and net operating income measures are lagged by one period. Net operating income is net of community benefit costs.

test competition effects. Again, our original results are unchanged in each of these alternative specifications.

Finally, we tested the effects of endowments versus cash flow (income) on community benefit by including restricted financial assets in our empirical specification. Although endowments are either permanently or temporarily restricted in terms of their use or purpose, the interest income generated from these endowments may or may not have restrictions on their use. Any unrestricted income generated from endowments would flow through the income statement as non-operating income; thus, we would not expect a relationship between endowment level and community

benefit. We did, however, find a positive and significant relationship with restricted endowments and community benefit. There are at least two plausible explanations for this result. One likely explanation is that the relationship between endowments and community benefit is endogenous, *i.e.*, donors give to hospitals that provide community benefit. Another explanation is that this result is being driven by a surprisingly small number of hospitals in the sample (about 20 percent), which reported restricted endowments in their financials. One possible reason for the small reporting percentage is that hospitals often have separate foundations where permanently restricted assets are housed, and therefore

would not appear on the hospitals' financial statements.

Finally, we used a quasi-differencing approach to test for autocorrelation. We did find evidence of first-order autocorrelation. Even after correcting for this, the results are consistent with those presented in Figure 3.

Conclusion and Discussion

We find that financial surpluses are not associated with community benefit provision in not-for-profit hospitals. Specifically, our key variable of interest, non-operating income has no effect on community benefit. Our results are robust to multiple specifications and are consistent with previous studies that find weak or insignificant income effects on community benefit.

The lack of an effect between non-operating income and community benefit suggests that, on average, not-for-profit hospitals' levels of community benefit are not sensitive to fluctuations in income. One explanation may be that not-for-profit hospitals budget for certain levels of uncompensated care that are prioritized over other potential investments if non-operating income falls, but remain fixed if non-operating income rises. Our results also suggest that unlike capital investments, a hospital's supply of community benefit is not tied to market performance of their financial asset investments.²⁹

Although non-operating income appears to have no effect on community benefit, non-operating income remains important to not-for-profit hospitals' financial strategy. A recent study shows that up to 25 percent of California hospitals rely on non-operating income to offset losses on patient care.³⁰ Low operating margins have been shown to

be associated with lower quality; however, hospitals with low operating margins may be able to mitigate cutbacks in staffing and infrastructure through non-operating revenues.³¹ Consistent with earlier studies that demonstrated providing hospitals lump-sum grants did not encourage hospitals to increase uncompensated care, hospitals' strategies to increase non-operating income will likely do little to increase their community benefit.

Our findings should be considered in the context of the study limitations. The study sample only includes California hospitals, which limits our ability to generalize our findings to all not-for-profit hospitals. Our measures of community benefit are based on charity care and bad debt costs. Currently, there is much debate about what activities should be included as community benefit and several studies have demonstrated that the definition of community benefit can lead to different conclusions about how much community benefit a hospital provides.³² Further, not-for-profit hospitals may be providing community benefit in ways that extend beyond uncompensated care measures, *e.g.*, unprofitable services, education, community programs, community orientation, etc., which would not be captured in our measures.³³ Nonetheless, the measures we use are consistent with similar analyses evaluating hospital community benefit. Although our study found no effect of being part of a hospital system, it is possible investment income and other sources of non-operating income from individual hospitals may accrue to the system level, which may mask some of the effects on uncompensated care at the hospital level. Similarly, hospital systems may direct uncompensated care to particular hospitals within a system versus

across hospitals. Finally, although other studies have shown that the local market competition can influence hospital community benefit, our results may be driven by the competitive landscape in California, which may be different than other states.

Despite these limitations, the consistency of our findings with previous studies brings renewed attention to the issue of financial surpluses and community benefit in not-for-profit hospitals. Recent IRS community benefit reporting requirements and the anticipated reduction in the demand for charity

care resulting from health care reform will place increased pressure on not-for-profit hospital to differentiate themselves with respect to community benefit in order to justify their tax-exempt status.

Further, current tax policies for tax-exempt hospitals that facilitate the accumulation of cash reserves, which in turn generate non-operating income, will likely not be immune to such scrutiny. Better understanding of the role of non-operating income in not-for-profit hospitals is needed to inform tax and community benefit policy.

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State-Level Estimates of the Economic Costs of Alcohol and Drug Abuse

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Substance abuse (SA) imposes a substantial economic burden on society. This burden arises largely from indirect costs associated with lost productivity (morbidity), premature mortality, and crime. The economic impact of SA has been estimated on a national level, but state-level estimates, needed for resource allocation and policy development, are lacking. I used standard cost-of-illness methods to quantify the economic cost of SA for Washington State for 2005. The cost of SA was estimated at \$5.21 billion, \$832 per non-institutionalized person in the state. Translated into 2012 dollars, these costs would be \$6.12 billion and \$977, respectively. Categories accounting for the greatest costs were mortality (\$2.03 billion), crime (\$1.09 billion), morbidity (\$1.03 billion), and health care (\$791 million). There were 3,224 deaths (7 percent of all deaths), 89,000 years of productive life lost, and 29,000 hospital discharges in 2005 in Washington State associated with SA. Continued attention should be directed at developing effective approaches to prevent and treat SA. If successful, these efforts should reduce the future economic burden of SA. Key words: *alcohol and drug abuse, substance abuse (SA), cost of illness (COI).*

Substance abuse (SA) is a serious public health problem that imposes substantial economic costs on society. Data gathered through the National Survey on Drug Use and Health (NSDUH) for 2005, the study year of this analysis, indicate approximately 22 million persons over age 12 were alcohol or drug dependent and in need of treatment for their dependence.¹ (The number of persons exhibiting SA would be substantially greater than the number exhibiting dependence.) SA has significant adverse behavioral and social consequences that translate into substantial economic loss, primarily through indirect costs associated with premature mortality, morbidity, and criminal activity.

One approach to understanding the impact of a disease is to estimate its economic cost through cost-of-illness (COI) studies. COI studies measure the economic burden of a disease and estimate the maximum amount that could potentially be saved or gained if the disease were eradicated.² COI studies have been used to assess the cost of a wide range of diseases,³ including SA. Rice *et al.* conducted an early (1990) national COI study on SA,⁴ which was followed in 1998

by a more comprehensive national COI study jointly sponsored by the National Institute on Drug Abuse (NIDA) and the National Institute on Alcohol Abuse and Alcoholism (NIAAA).⁵ The NIDA/NIAAA study estimated the cost of alcohol abuse at \$148 billion and drug abuse at \$98 billion for 1992. Updated analyses estimated the 1998 cost of alcohol abuse and the 2002 cost of drug abuse, respectively, at \$186 billion and \$181 billion on a national basis.⁶

Using standard COI methods, I estimate the economic costs of SA for Washington State for 2005, and compare these costs to 1996 costs. In addition, I report data on the SA-related factors underlying these cost estimates, including premature mortality,

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Acknowledgement: *This study was sponsored by the Washington State Division of Alcohol and Substance Abuse.*

J Health Care Finance 2013; 39(3):71–84
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years of productive life lost, crime measures, prevalence estimates, and hospital discharges. Although unpublished reports have documented state-level SA costs (Maine and Texas), to my knowledge there has been no report to date published in the peer-reviewed literature documenting state-level SA costs. The lack of understanding of SA costs presents problems for resource allocation and for program and policy development that occur at the state level.

Methods

This COI study uses a prevalence-based approach to estimate direct and indirect costs of SA. Direct costs are those for which payments are made (medical care or SA treatment). Indirect costs are costs involving some loss of resources (lost productivity due to morbidity or mortality). Estimating indirect costs requires valuation of life and productivity. Following other COI studies, I use the human capital approach to estimate indirect costs and apply a 3 percent discount rate to estimate the present value of future lost productivity.⁷ I adopt a societal perspective and estimate all relevant costs associated with SA in Washington State for 2005, except welfare transfer payments that do not represent an economic loss. Unless otherwise specified, all costs are reported in 2005 dollars.

Six cost categories related to SA are estimated, but my analysis focuses on the first four which account for 90 percent of total SA costs:

- Premature mortality;
- Crime costs, including police protection costs, court costs, and incarceration costs;

- Morbidity costs (decreased earnings or reduced housekeeping values);
- Health care costs;
- SA treatment costs; and
- Other related costs, including non-medical costs arising from motor vehicle accidents.

The primary data sources used for this study include:

- State prevalence data from the 2005 NSDUH⁸ and a Washington State household survey of drug use;
- State vital statistics (mortality) data;
- Washington State hospital discharge abstract data; and
- State data on arrests, convictions, inmate populations, and incarceration costs.

The values reported here, though seemingly precise, should be treated as approximations. To estimate the costs of SA, it is necessary to identify its behavioral effects and then convert these effects to economic costs. This requires the use of conversion factors that are often based upon limited data and assumptions whose validity may not be fully justified.

Drug and Alcohol Attributable Fractions and Impairment Rates

Estimating the costs of SA requires identification of the consequences of SA and valuation of these consequences in monetary terms. While some consequences, and attendant costs, can be entirely attributed to SA (hospital costs for alcoholic cirrhosis of the liver or mortality due to heroin overdose) other costs can only be partially attributed to SA (hospital admissions for cerebrovascular disease related to alcohol abuse). The percentage values used to attribute costs to drug

or alcohol abuse are generally referred to as drug attributable fractions (DAF) and alcohol attributable fractions (AAF). The DAF and AAF values used for this analysis were the same as those used for the 1998 NIDA/NIAAA national COI study.⁹

To estimate morbidity costs, it was necessary to account for the degree of impairment arising from SA. Impairment rates in effect determine the degree of lost earnings (and reduced household values) arising from SA. For example, an impairment rating of 5 percent for alcohol for males age 25 to 35 would indicate that alcohol abuse reduced expected wage earnings and household values by 5 percent. I use the impairment rates developed by Rice *et al.*,¹⁰ which have values ranging from 1 percent to 18 percent.

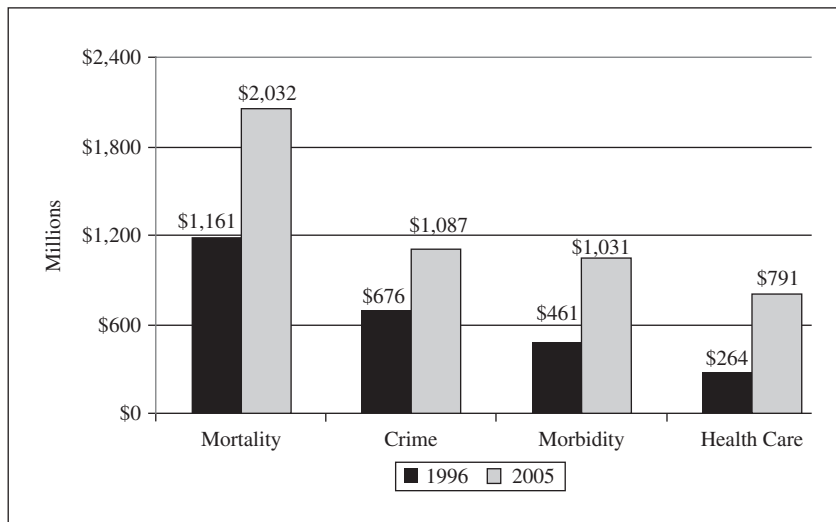
Results

The estimated economic cost of SA in Washington State for 2005 was \$5.21 billion,

or \$832 per non-institutionalized person. Translated into 2012 dollars, these costs, respectively, would be \$6.12 billion and \$977. Alcohol abuse accounted for 56 percent of the cost. Mortality accounted for 37 percent of the total 2005 cost, crime 24 percent, morbidity 19 percent, and medical care 15 percent. The other two cost categories accounted for the remaining 5 percent of costs.

In an earlier unpublished report,¹¹ using the identical methods and data sources, I estimated SA costs for 1996 for Washington State at \$2.54 billion. Approximately 24 percent of the cost increase from 1996 to 2005 was due to inflation, another 12 percent was due to population growth. The per capita 1996 cost, measured in 2005 dollars, was \$565. Thus, the inflation-adjusted, per capita economic cost of SA increased by 47 percent from 1996 to 2005. Comparison of the four major cost categories for 1996 and 2005 (measured in 2005 dollars) is shown in Figure 1. The greatest absolute growth in

Figure 1. Selected Costs of Drug and Alcohol Abuse in Washington State, 1996 vs. 2005 (2005 Dollars)



costs was for mortality, followed by crime and morbidity. The greatest relative growth in costs was for medical care.

Mortality Costs

To estimate mortality costs, I examined 36 different causes of death (ICD-10 cause of death codes), categorized as follows:

1. Direct causes (*e.g.*, alcohol cirrhosis);
2. Indirect causes (*e.g.*, liver cancer);
3. Unintentional injury (*e.g.*, accidental drowning); and
4. Intentional injury (*e.g.*, homicide).

Twenty-nine causes of death were alcohol related and seven were drug related.

In 2005, 47,231 persons died in Washington State. The 36 causes of death examined for this study accounted for 15,697 (33 percent) of these deaths. Using the DAF and AAF values described earlier, I estimated that 3,224 deaths, 7 percent of all deaths,

could reasonably be attributed to SA (*see* Figure 2). Seventy-four percent of the 3,224 deaths were alcohol-related and 26 percent were drug-related. Males accounted for 65 percent of the deaths. The five leading causes of death, accounting for 56 percent of all SA-related deaths, were:

1. Accidental poisoning by drugs (ICD-10, X40 – X44), 677 deaths;
2. Alcoholic cirrhosis, fatty liver, or liver damage (ICD-10, K70.0, K70.2-K70.9), 437 deaths;
3. Motor vehicle accidents (ICD-10, V20-V79), 256 deaths;
4. Suicide (ICD-10, X60-X84), 233 deaths; and
5. Cancer of the esophagus (ICD-10, C15), 218 deaths.

The 3,224 SA-related deaths represent an estimated 89,147 years of potential life lost (YPLL) (*see* Figure 3). Alcohol accounted

Figure 2. Alcohol- and Drug-Related Deaths by Age and Sex (n = 3,224)

Age	Alcohol-Related Deaths				Drug-Related Deaths			
	Female		Male		Female		Male	
	No.	%	No.	%	No.	%	No.	%
≤ 18	18	2.1	43	2.7	1	0.2	6	1.2
19–24	20	2.4	80	5.2	16	4.9	46	8.1
25–34	30	3.6	114	7.4	39	12.3	73	13.0
34–44	63	7.5	147	9.5	78	24.5	144	25.6
45–54	100	11.9	287	18.5	100	37.3	186	34.6
55–64	113	13.4	283	18.2	44	13.8	71	12.6
65+	496	59.1	594	38.4	22	7.0	10	1.8
Total	840	100.0	1548	100.0	300	100.0	536	100.0

Source: Washington State Department of Health Death Records, 2005.

Figure 3. Mortality Costs and Years of Potential Life Lost (YPLL)

Age	Alcohol		Drugs		Total	
	Costs (\$)	YPLL	Costs (\$)	YPLL	Costs (\$)	YPLL
(i) Male						
1-18	78,843,229	2,887	18,069,172	396	96,912,401	3,283
19-44	498,490,524	14,822	379,466,081	10,999	877,956,605	25,821
45-64	359,506,257	13,126	221,351,706	7,073	580,857,963	20,199
65+	27,036,851	7,722	610,956	130	27,647,807	7,852
Total	963,876,861	38,557	619,497,915	18,598	1,583,374,776	57,155
(ii) Female						
1-18	22,755,555	1,278	4,493,278	71	27,248,833	1,349
19-44	138,339,840	5,220	125,683,453	6,030	264,023,292	11,250
45-64	74,973,300	5,799	74,034,085	4,788	149,007,386	10,587
65+	7,804,074	8,432	673,748	374	8,477,822	8,806
Total	243,872,769	20,729	204,884,564	11,263	448,757,333	31,992
Total	\$1,207,749,630	59,286	\$824,382,479	29,861	\$2,032,132,109	89,147

for 59,286 (67 percent) YPLL. Based upon (1) the age-sex distribution of the 3,224 SU-related deaths, (2) the average life expectancy of individuals in these groups, and (3) the average wage earnings and housekeeping values of persons in the age-sex groups and their labor force participation rates, I estimated mortality costs at \$2.03 billion (*see* Figure 3). Alcohol-related deaths among males age 19 to 44 represent the largest cost category (\$498.5 million and 14,822 YPLL).

In 1996, 2,824 SA-related deaths occurred in Washington State.¹² Thus, the number of SA-related deaths increased by 400 (from 2,824 to 3,224 or 14 percent) from 1996 to 2005. On a population basis, SA-related deaths per 100,000 remained relatively constant (51 per 100,000). Of note was the increase in deaths from accidental poisoning by drugs. In 1996, 303 deaths occurred from

this cause. By 2005, the number of deaths due to accidental poisoning increased by 123 percent, from 303 to 677. Detailed data on the nature of accidental poisoning for the earlier 1996 COI study was unavailable, but much of the increase may be due to the increase in opiate-related deaths arising from the use of prescription drugs such as oxycodone.¹³

Crime Costs

Criminal activity accounted for \$1.09 billion, 21 percent of total SA costs in 2005. This figure represents a substantial increase over 1996 crime costs (*see* Figure 1). Crime costs include:

1. Law enforcement costs;
2. Judicial costs;
3. Correctional costs; and
4. Other societal costs.

Following the prior NIDA/NIAAA study,¹⁴ I estimated SA-related costs for the following Part I crimes: homicide, felonious assault, robbery, burglary, larceny, and auto theft; and the following Part II crimes, driving while intoxicated (DWI), liquor law violations, public drunkenness, stolen property, prostitution, and drug law violations. The DAF and AAF values used to estimate SA crime costs were the same as those used for the NIDA/NIAAA study.¹⁵

Estimated crime costs for different cost categories (police protection, corrections, lost productivity) are shown in Figure 4. Drug-related crime costs were almost four times greater than alcohol-related crime costs. The largest cost category was productivity losses due to incarceration, followed by police protection costs, state corrections costs, and local corrections costs. The offenses analyzed resulted in approximately 9,300 person-years served in state correctional facilities and local jails during 2005. Though not shown in Figure 4, drug law violations accounted for the greatest proportion (50 percent) of the 9,300 person-years served. Police protection costs

totaled \$192.4 million for 2005. Larceny accounted for the greatest number of SA-related offenses (63,835), followed by DWI offenses (37,406) and drug law violations (25,535). State and local corrections costs, respectively, accounted for \$189.2 million and \$122.3 million. In 2005, 7,006 inmates were housed in a Washington State correctional facility for a SA-related crime, and 9,665 persons were admitted to a local jail for a SA-related crime. Drug law violations accounted for 46 percent of state correctional costs and 61 percent of local jail costs.

Morbidity Costs

Drug and alcohol abuse interfere with work and household duties, and hence constitute an economic loss in the form of reduced productivity. The magnitude of economic loss depends upon:

1. The prevalence of abuse;
2. The degree of impairment caused by abuse;
3. Participation in the labor force; and
4. Earnings.

Figure 4. Estimated Crime Costs (\$ in Millions)

Cost Category	Total Costs		
Police protection	26.6	165.8	192.4
Drug control	0.00	78.1	78.1
Legal and adjudication	7.00	38.0	45.0
State corrections	60.3	128.8	189.1
Local corrections	17.9	104.4	122.3
Productivity losses due to incarceration	93.8	296.5	390.3
Property destruction due to crime	8.9	27.5	36.4
Productivity losses for crime victims	7.5	25.4	32.9
Total costs	222.0	864.5	1,086.5

The primary data source for the analysis of morbidity costs was the 2005 National Survey of Drug Use and Health (NSDUH).¹⁶ The NSDUH reports alcohol/drug dependence or abuse in the past year based upon DSM-IV criteria. The available state-level NSDUH data, however, did not provide a detailed age breakdown nor did it report prevalence by gender. I used a 2003 Washington State household substance abuse survey,¹⁷ combined with population data, to construct weights and derive prevalence estimates for the age-sex groups analyzed, based upon these weights and data from the NSDUH. The prevalence estimates for the

age-sex groups were then multiplied by corresponding population figures representing employed and unemployed persons to derive counts of (employed and unemployed) alcohol and drug abusers for Washington State in 2005. This information was then combined with earnings data (for employed persons) and housekeeping values (for unemployed persons) to derive cost estimates for morbidity.

Figure 5 summarizes the results of the analysis. Based upon the prevalence figures shown in Figure 5, I estimated the numbers of alcohol and drug abusers as follows: male alcohol and drug abusers, 248,682

Figure 5. Population, Drug and Alcohol Abuse Prevalence, and Morbidity Cost Estimates

Age Group	Population [1]	Alcohol Dependence or Abuse Past Year [2] %	Illicit Drug Dependence or Abuse Past Year [2] %	Alcohol Abusers [1*2]	Drug Abusers [1*2]	Alcohol Costs (Millions)	Drug Costs (Millions)	Total Costs (Millions)
Males								
18–24	322,272	23.0	8.0	74,123	25,782	22.1	5.0	27.1
25–44	904,183	12.0	3.0	108,502	27,125	193.1	54.1	247.2
45–64	799,294	7.0	2.0	55,951	15,986	182.1	49.5	231.5
65+	306,257	3.3	0.75	10,106	2,297	13.6	3.2	16.9
Subtotal	2,332,006			248,682	71,190	410.8	111.8	522.6
Females								
18–24	304,074	14.0	6.0	42,570	18,244	9.2	0.9	10.1
25–44	871,507	8.5	2.0	74,078	17,430	221.0	9.8	230.9
45–64	812,411	4.5	1.5	36,558	12,186	215.1	21.6	236.7
65+	404,244	2.0	0.6	8,085	2,425	27.3	3.2	30.5
Subtotal	2,392,236			161,292	50,286	472.6	35.5	508.1
Total	4,724,242			409,974	121,476	883.4	147.4	1,030.8

Sources:
 [1] Population: 2005 population estimates, Washington State Office of Financial Management.
 [2] Alcohol and drug prevalence: 2005 SAMHSA National Survey on Drug Use and Health (NSDUH) and Washington State 2003 Needs Assessment Household Survey, Washington State Division of Research and Data Analysis, September 2005.

and 71,190; female alcohol and drug abusers, 161,292 and 50,286. Using impairment figures from Rice *et al.*,¹⁸ I estimated (1) the loss in productivity for employed individuals, measured by median earnings, and (2) the loss in housekeeping values for unemployed persons and persons keeping house. Morbidity costs were estimated at \$1.03 billion, with alcohol abuse accounting for \$883 million (88 percent). The higher alcohol costs reflect higher prevalence of alcohol abuse compared to drug abuse and higher impairment rates for certain age-sex groups.

Health Care Costs

Health care represents a fourth category of costs estimated for this study. SA has serious adverse effects on health,¹⁹ which increase the demand for health care. I analyzed two types of conditions: 100 percent drug- or alcohol-caused conditions and drug- or alcohol-related conditions. I obtained hospital discharge abstract data for the analysis and used these data to estimate hospital inpatient costs related to SA. Cost data on outpatient care, nursing home care, prescription drugs and professional medical services were unavailable; I used the approach described by Max *et al.*²⁰ to estimate costs for these categories.

Estimation of hospital inpatient costs was based upon the following conditions/diagnoses:

1. Twelve conditions defined as 100 percent alcohol caused, including alcoholic psychoses and alcoholic cardiomyopathy;
2. Twenty-five conditions defined as alcohol related, including cancer of the stomach, cancer of the esophagus, and acute pancreatitis;
3. Ten conditions defined as 100 percent drug caused, including drug psychoses and poisoning by opiates; and
4. Three conditions defined as drug related, including injury undetermined and injury purposely inflicted.

During 2005, 29,384 hospital discharges related to SA were recorded. These discharges represent 4.8 percent of all (617,064) hospital discharges occurring in Washington State during 2005. Of the 29,384 discharges, 76 percent were for conditions related to alcohol abuse. Information regarding the number of SA-related hospital discharges and charges for the ten most common conditions is presented in Figure 6. The five most common alcohol-related conditions resulting in hospitalization were accidental falls, injuries and poisoning, alcoholic psychoses, motor vehicle accidents, and acute pancreatitis. The five most common drug-related conditions were accidental poisoning, drug psychoses, poisoning by psychotropic agents, poisoning by opiates and related narcotics, and drug dependence.

Hospital inpatient charges of almost \$600 million were incurred as a result of SA-related hospitalization (*see* Figure 6). Eighty-four percent of the charges (\$502.5 million) were for alcohol-related conditions. Hospital inpatient charges do not accurately reflect hospital costs. I adjusted the aggregate charge figures shown in Figure 6 for alcohol and drug conditions separately and then for both conditions combined using cost-to-charge ratios developed by the Centers for Medicare & Medicaid Services (CMS). The Washington State discharge abstract data did not identify individual hospitals. I therefore used national data (weighted to reflect urban and rural areas) to construct a single

Figure 6. SA-Related Hospital Discharges and Costs

Diagnosis or Condition	AAF DAF (1)	Hospital Discharges (2)		Hospital Inpatient Charges (Millions) (3)		Total (\$)
		Females	Males	Females (\$)	Males (\$)	
Five Most Common Conditions Caused or Related to Alcohol Abuse						
1. Accidental falls	.35	3,892	2,408	85.8	62.6	148.5
2. Injuries and poisoning	.10	1,298	1,266	31.3	37.3	68.5
3. Alcoholic psychoses	1	752	1,425	6.7	14.9	21.7
4. Motor vehicle accidents	.42	661		24.7	48.7	73.4
5. Acute pancreatitis	0.4	608	639	12.3	14.9	27.2
All other alcohol-related conditions	—	3,443	4,586	65.0	98.3	163.2
Total alcohol-related hospital charges		10,654	11,564	225.8	276.7	502.5
Adjusted alcohol-related charges				142.2	174.3	316.6
Five Most Common Conditions Caused or Related to Drug Abuse						
1. Accidental poisoning	1	1,055	904	17.0	14.5	31.5
2. Drug psychoses	1	865	897	7.5	7.1	14.6
3. Poisoning by psychotropic agents	1	922	599	10.7	7.9	18.6
4. Poisoning by opiates and related narcotics	1	301	288	5.0	5.5	10.5
5. Drug dependence	1	151	192	1.2	1.4	2.6
All other drug-related conditions	—	356	636	5.4	12.6	18.0
Total drug-related hospital charges		3,650	3,516	46.8	49.0	95.8
Adjusted drug-related charges				29.5	30.9	60.4
Alcohol and drug (unadjusted) charges combined		14,304	15,080	272.6	325.7	598.3
Adjusted combined charges				171.7	205.2	377.0

Notes:
 AAF and DAF refer to alcohol and drug attributable fractions, respectively.
 SA hospital discharges are the total number of discharges multiplied by the corresponding attributable fraction.
 SA hospital costs are the average cost per discharge multiplied by the corresponding number of adjusted discharges.
 Hospital (unadjusted) charges are reported for individual diagnostic categories. Adjusted aggregate costs were derived by multiplying the unadjusted charge figures by .63 (see text for explanation of calculation of adjustment figure).
 Source: Washington Comprehensive Hospital Abstract Reporting System (CHARS), 2005 data file.

cost-to-charge ratio (.63) and applied that figure to derive “adjusted charges” shown in Figure 6. This reduced the total charge figure from \$598.3 million to \$377.0 million (*see* Figure 6).

Patients hospitalized with secondary diagnoses related to SA may have longer lengths of stay, hence increased hospital costs, than patients without such diagnoses. The earlier NIDA/NIAAA cost study examined the effect of SA co-morbidities on length of stay, and found increased costs related to increased length of stay for patients with secondary diagnoses related to SA. I used the same methodology as the NIDA/NIAAA study to examine hospital costs related to SA co-morbidities. In contrast to the NIDA/NIAAA study, I found no evidence that SA co-morbidities increased length of stay. The reason for the different findings is unclear.

As part of my analysis, I estimated the cost of outpatient medical care, prescription drugs, nursing home care, and other professional care related to SA. Because there were no state-level data for these cost categories, I could not derive direct cost estimates. The previous NIDA/NIAAA study found that for every dollar spent on inpatient hospital care, 39.3 cents was spent on outpatient care, 35.6 cents on pharmaceuticals, 14 cents on nursing homes, and 21 cents on other professional services. Following the method of Max *et al.*,²¹ I applied these figures to the adjusted charge figures shown in Figure 6 to obtain cost estimates for the cost categories noted above. This procedure yielded the following cost estimates: outpatient medical services, \$148.1 million; prescription drugs, \$134.2 million; nursing home care, \$52.8 million; and other professional services, \$79.2 million. Total estimated costs for these

four cost categories were \$414.3 million. The total (adjusted) SA-related health care cost for hospital inpatient care and other medical services was \$791.3 million (\$377.0 million for inpatient care and \$414.3 million for outpatient care and related services).

The estimated health care cost for 2005 (\$791.3 million) represents an increase of almost 200 percent over the 1996 cost (\$264 million, *see* Figure 1). A major factor underlying this increase was the 81 percent increase in hospital admissions (16,000 in 1996 versus 29,000 in 2005).

Other Costs

This section briefly describes the estimates for two additional cost categories: (1) SA treatment costs and (2) additional selected costs representing social welfare administration, fire destruction, and non-medical costs arising from automobile accidents. The costs for these areas represent a small fraction (5 percent) of total SA estimated costs.

Survey data obtained from the Treatment Episode Data Set (TEDS), an annual survey of treatment admissions sponsored by Substance Abuse and Mental Health Services Administration (SAMHSA), indicate there were approximately 63,150 (public and private) clients admitted to treatment in 2005 in Washington State for an SA problem. Most of this treatment was provided on an outpatient basis. The estimated cost of treatment was \$98 million, based upon prevailing state SA treatment reimbursement rates.

State-specific data on costs for social welfare administration and fire destruction were unavailable for Washington State. Other reports published by NIAAA²² and the Office of National Drug Control Policy²³ found these costs on a national basis to be a small fraction of total SA costs. Due to lack

of data, cost estimates are not presented for these two categories.

Alcohol use and abuse are known risk factors for motor vehicle accidents. The previous estimates for mortality and health care costs capture health-related costs of motor vehicle accidents but do not include non-medical costs such as legal/court costs, insurance administration, and property damage. I estimated these costs for three types of motor vehicle accidents: fatal accidents, non-fatal injury accidents, and accidents involving property damage only. I used the following AAF values for these accidents, 39.7 percent, 20 percent, and 13.9 percent, respectively.²⁴ Data obtained from the Washington State Department of Transportation indicated there were 274 fatal accidents, 5,900 non-fatal injury accidents, and 32,086 property-damage-only accidents in Washington in 2005 (see Figure 7). Applying the AAF values would generate the following estimates of alcohol-related accidents: 109 fatal accidents, 1,180 non-fatal injury accidents, and 4,460 property-damage-only accidents (see Figure 7). Cost data on motor vehicle accidents, reported by Blincoe and Faigin,²⁵ were updated to reflect 2005 prices

and applied to the counts of alcohol-related accidents. Estimates of the non-medical costs arising from the three types of accidents analyzed were: \$15.9 million, fatal accidents; \$38.1 million, non-fatal injury accidents; and \$16.7 million, property-damage-only accidents. The total estimated cost for these accidents is \$70.7 million.

Discussion

This study estimated the economic cost of SA for Washington State for 2005 at \$5.21 billion, or \$832 per non-institutionalized person in the state. Fifty-six percent of this cost (\$2.92 billion) was related to alcohol abuse, 44 percent to drug abuse. On an inflation-adjusted per capita basis, the economic cost of SA in Washington State increased by 47 percent from 1996 to 2005. Further, 3,224 persons died in 2005 in Washington of SA-related causes, representing 7 percent of all deaths that occurred that year. These 3,224 deaths resulted in 89,000 years of potential life lost.

Because of differences in methods, definitions, and data sources, it is difficult to compare the cost estimates reported here to

Figure 7. Number of Alcohol-Related Accidents and Cost by Type of Accident, Washington, 2005

	Fatal Accidents	Non-Fatal Injury Accidents	Property Damage Only Accidents
Total accidents	274	5,900	32,086
Number of alcohol-related accidents	109	1,180	4,460
Cost per accident			
Legal/Court	\$89,454	\$9,715	\$140
Insurance administration	\$42,169	\$11,745	\$128
Vehicle damage	\$14,119	\$10,851	\$3,470

other estimates. Updated cost estimates from the two earlier national studies, National Institute on Alcohol Abuse and Alcoholism 2000²⁶ and Office of National Drug Control Policy 2004²⁷ imply that total economic costs in 2005 for SA in the United States were on the order of \$413 billion. Assuming Washington's cost reflected the national average, estimated 2005 costs for the state would be approximately \$8.7 billion instead of \$5.2 billion. Maine produced a COI study to estimate 2005 drug and alcohol costs using the same estimation procedures used for this study.²⁸ The estimated cost of SA for Maine was \$682 per capita, compared to \$832 for Washington. The Texas Commission on Alcohol and Drug Abuse commissioned a report in 2000 that updated an earlier cost study. The same general COI methodology was used for the Texas and Washington studies. The estimated 2000 per capita cost for SA in Texas was \$1,244.²⁹ Adjusting for inflation to reflect 2005 dollars would increase that estimate to approximately \$1,405, substantially higher than my Washington State estimate.

One question raised by the cost estimates presented in this report is: Are we putting enough resources into preventing and treating the problem of drug and alcohol abuse?

This analysis was not intended to address this question. I would note, however, treatment costs in Washington State for 2005 were on the order of \$98 million, a small fraction of the economic burden imposed by SA. Further, studies,³⁰ including recent studies from Washington State,³¹ have shown treatment to be associated with positive outcomes in the form of improved employment, reduced medical care utilization, reduced substance use, and reduced criminal activity. Washington State collects revenue in the form of alcohol excise taxes; it is interesting to consider the amount of revenue collected through these taxes in relation to the total economic loss resulting from alcohol abuse. In fiscal year 2005, approximately \$150 million was collected through state alcohol excise taxes levied on beer, wine, and spirits. For every \$1 the state collected in tax revenue from alcohol sales in 2005, \$20 in economic loss was incurred as a consequence of alcohol abuse.

Alcohol and drug abuse continue to be a serious public health problem affecting millions of persons and imposing significant economic costs on society. Reducing the economic burden of this public health problem will require finding new, more effective approaches to prevention and treatment.

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The Stark Truth: What Your Physician Clients Should Know About Stark Law and the Anti-Kickback Statute

Melissa Taormina

This article summarizes key features of Stark Law and the Anti-Kickback Statute, statutes used to fight health care fraud and abuse within Medicare and Medicaid, and explains how attorneys can help health care providers comply with these laws. Key words: *anti-kickback, physician, Stark Law.*

“How much is this going to cost me, Doc?” That all too familiar question is heard in medical offices and hospitals across the nation, but it often refers to a procedure your doctor is recommending. The average American patient, however, does not hear about the hidden cost of medicine. Stark Law,¹ the federal physician self-referral prohibition,² is an example of the hidden cost of medicine. At first glance, the practice of physician self-referral may be considered an inherent conflict of interest because the physician benefits from his or her own referral. Such arrangement is likely to encourage unnecessary health care, leading to overall increased costs of medical care. Additionally, the Anti-Kickback Statute³ (AKS) focuses on referrals of any items or services which are paid for, in whole or in part, by any federal health care program.⁴ At the crux of the AKS is actual knowledge;⁵ therefore, health care providers will not be able to claim that they did not know they were violating any law because they were not aware the AKS existed. Finally, it is important to note where these health care laws are heading in light of the Patient Protection and Affordable Care Act (PPACA).⁶

This article is designed to be a practical guide to key provisions in Stark Law and the AKS, which affect health care providers across the nation. Specifically, the article will

explain what these health care laws prohibit, the exceptions and penalties associated with these laws, and the relation of these laws to the PPACA. It will also offer advice to health care providers, addressing certain activities and arrangements that could potentially violate the statutes.

Stark Law

The first of three phases of the Stark statute became effective on January 1, 1992. The Centers for Medicare & Medicaid Services (CMS), which handles enforcement of the Stark Law, issued regulations interpreting the statute on January 4, 2001. The third phase became effective on December 4, 2007.

Unless an exception applies, there are three components involved in an analysis of whether Stark Law applies to a particular health care arrangement. First, the arrangement must involve a referral of a Medicare or Medicaid patient by a physician,⁷ and the referral must be for a designated health service or services (DHS).⁸ Second, there

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J Health Care Finance 2013; 39(3):85-92
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must be a financial relationship between the referring physician or his or her immediate family member and the entity to which the referral is being made.⁹

Stark Law Prohibitions

Stark laws and regulations prohibit referrals of Medicare or Medicaid patients for certain DHS to an entity in which a physician or the physician's immediate family member has a direct or indirect ownership interest or compensation arrangement.¹⁰ Stark Law also prohibits the DHS entity from submitting claims to Medicare for those services resulting from a prohibited referral.¹¹

DHS subject to Stark Law include the following: clinical laboratory services; physical therapy services; occupational therapy services; radiology services; radiation therapy services and supplies; durable medical equipment and supplies; parenteral and enteral nutrients, equipment, and supplies; prosthetics, orthotics, and prosthetic devices and supplies; home health services; outpatient prescription drugs; inpatient and outpatient hospital services; and outpatient speech-language pathology services.¹² A referral under Stark is considered a request by a physician for an item or service payable under Medicare or Medicaid, or a request by a physician for the establishment of a plan of care that includes the provision of DHS.¹³ Further, the financial relationship of a physician (or the physician's immediate family member) is defined as an ownership or investment interest in the entity [providing the DHS], or a direct or indirect compensation arrangement with an entity.¹⁴ The ownership or investment interest may be through equity, debt, or other means.¹⁵

Exceptions Applicable to Stark Law

On the other hand, if an arrangement falls within the Stark ban, an exception may apply. There are several exceptions to the Stark statute.¹⁶ Exceptions are based on the type of financial relationship the physician has with the entity to which he or she refers patients for DHS. For instance, some exceptions apply to both ownership or investment arrangements and compensation arrangements.¹⁷ The exception for in-office ancillary services and the exception for physician services are included in this category.¹⁸ Exceptions applicable only to ownership or investment arrangements include exceptions for publicly traded securities and mutual funds, services furnished by a rural provider, and ownership in a whole hospital.¹⁹ Finally, there are exceptions that apply to compensation arrangements only. They include exceptions for bona fide employment relationships,²⁰ personal services arrangements,²¹ and rental of office space and equipment.²²

To qualify for certain exceptions, a physician practice must meet all of the elements of a "group practice." By definition, a group practice must involve at least two or more physicians who are legally organized in a partnership, professional corporation, foundation, nonprofit corporation, or other similar association.²³ Each physician who is a member of the group must provide substantially his or her normal full range of DHS and other services in the group practice through the joint use of shared office space, facilities, equipment, and personnel.²⁴ Further, the amount of time physician members of the group spend in work dedicated to the group must average 75 percent.²⁵

A common exception describes referrals for in-office ancillary services.²⁶ In order for a physician to refer patients to the physician's personnel for in-office ancillary services (*i.e.*, X-rays), the physician's practice must qualify as a group practice. The ancillary services must be furnished personally by the referring physician, by a physician who is in the same group practice, or by individuals who are directly supervised by one of those physicians.²⁷ The ancillary services must also be provided in a building in which the referring physician or another member of the group practice provides services unrelated to DHS or in another building that is used by the group practice for the centralized provision of the group's DHS.²⁸ Finally, the ancillary services must be billed by the physician performing or supervising them, by a group practice of which that physician is a member under a billing number assigned to the group, or by an entity that is wholly owned by such physician or such group practice.²⁹

Another common exception applies to physician services.³⁰ These services are provided personally by, or under the personal supervision of, another physician in the same group practice as the referring physician.³¹ Supervision must comply with all other applicable Medicare payment and coverage rules for the physician services.³² Therefore, the most common exceptions to Stark Law are for in-office ancillary services and physician services. If a particular arrangement falls under the aforementioned exceptions to the Stark statute, it will be allowed under the law.

PPACA Provisions Affecting Stark Law

While the PPACA is a separate federal health care law, it is important to note that the PPACA revised the Stark Law exceptions for

ancillary services furnished in physicians' offices and physician ownership in hospitals. First, Section 6003 of the PPACA adds new disclosure requirements to the in-office ancillary services exception.³³ With respect to certain DHS, the referring physician must inform the patient in writing at the time of the referral that the patient may obtain the services from a person other than the referring physician, a physician who is a member of the same group practice as the referring physician, or an individual who is directly supervised by the physician or by another physician in the group practice.³⁴ The patient must be provided with a written list of suppliers who furnish these services in the area in which the individual resides.³⁵

Second, Section 6001 of the PPACA addresses the physician ownership in hospitals exception.³⁶ Ultimately, this exception cannot be met unless the hospital has the following:

1. Physician ownership or investment as of December 31, 2010; and
2. A Medicare provider agreement in effect on that date.³⁷

Thus, in light of the PPACA, a physician faces further requirements in order for his or her activities to fall under these exceptions to Stark Law.

Intent and Penalties Applicable to Stark Law

Ultimately, Stark Law is a strict liability statute, which means proof of specific intent to violate the law is not required. However, violating Stark Law carries severe penalties.³⁸ They include:

- Refund of payment;
- Denial of payment;

- A \$15,000 per service civil monetary penalty; and
- A \$100,000 civil monetary penalty for each arrangement considered to be a circumvention scheme³⁹ (an arrangement whereby the physician knows or should know the purpose of assuring referrals by the physician to a particular entity would constitute a violation of Stark Law).⁴⁰

For example, in December 2008, the Civil Division of the US Attorney's Office issued a press release explaining that Condell Health Network (Condell) in Libertyville, Illinois, voluntarily disclosed that it received improper Medicare and Medicaid payments.⁴¹ Condell agreed without litigation to pay the United States and the State of Illinois \$36 million as a result of filing false claims for reimbursement. According to the settlement agreement, Condell leased space in medical office buildings it owned to physicians in violation of federal laws because the rental rates were below fair market value or Condell abated or deferred collection of rental payments. Second, Condell gave improper loans to physicians. Third, the settlement agreement covers Medicare and Medicaid reimbursements that Condell paid to physicians for performing services at the hospital without required written agreements. By voluntarily disclosing this improper practice, Condell avoided a lawsuit under the federal False Claims Act⁴² and was able to negotiate the settlement at a discount.

It is important to note that there are reporting requirements under Stark Law.⁴³ In sum, all entities providing services for which payment may be made under Medicare must submit information to CMS or to the Office

of Inspector General (OIG) concerning their reportable financial relationships at the time requested by CMS or OIG.⁴⁴ By definition, a reportable financial relationship is an ownership or investment interest, or a compensation arrangement.⁴⁵ Consequently, such entity is subject to a civil monetary penalty of up to \$10,000 for each day following the deadline established by CMS or OIG until the information is submitted.⁴⁶

Recommendations

Therefore, the aforementioned aspects of Stark Law are issues that physicians treating Medicare and Medicaid patients should be aware of. Most importantly, agreements between health care providers and referral sources must be in writing. Exceptions to Stark Law requiring a written, signed agreement include those relating to office space⁴⁷ and equipment rental;⁴⁸ personal service arrangements;⁴⁹ physician recruitment arrangements;⁵⁰ group practice arrangements;⁵¹ and fair market value compensation arrangements.⁵² Legal counsel should review physician-hospital arrangements with a fine-toothed comb and should make the creation and utilization of compliance programs a priority. Within a compliance program, auditing and monitoring tools should be developed. Compliance should be somewhat straightforward, reliable, and reviewed on a regular basis.

The Anti-Kickback Statute

Where Stark Law applies, the AKS applies, too. If the Stark statute does not ban a particular physician arrangement, legal counsel should decipher whether the arrangement violates the AKS. However, if the arrangement violates Stark Law, an anti-kickback

analysis is moot—the arrangement should not be entered into in the first place. While the AKS is not the same law as Stark, it is important to note the relationship and differences between these two health care laws.

Unless an exception applies, there are three components involved in an analysis of whether the AKS applies to a particular physician arrangement. First, the issue is whether a health care provider *provides* anything of value to persons in a position to influence or generate federal health care program business.⁵³ Also of concern is whether the health care provider *receives* anything of value from persons who are able to influence or generate federal health care program business.⁵⁴ Finally, it is important to note whether the purpose of an arrangement could be to induce or reward the generation of business paid for in whole or in part by a federal health care program.

AKS Prohibitions

In 1972, Congress passed the AKS. AKS laws and regulations prohibit offering, paying, soliciting, or receiving anything of value to induce or reward referrals or generate federal health care program business.⁵⁵ The AKS also covers purchasing, ordering, leasing, or arranging for, or recommending the purchase, leasing, or ordering of services paid for by a federal health care program in exchange for any item of value.⁵⁶ By definition, a federal health care program means any plan or program that provides health benefits, which is funded directly, either in whole or in part, by the US government or any state health care program.⁵⁷

While Stark Law covers referrals from a physician for DHS, the AKS covers referrals from *any* health care provider for *any* items or services. In conducting an AKS analysis,

it is irrelevant whether remuneration encourages one in a position to refer or recommend. Rather, it is sufficient that the remuneration *may induce* one to refer or recommend.⁵⁸ Also, by way of *United States v. Greber*, it is irrelevant that there are other justifiable reasons for the remuneration. Therefore, the AKS is violated if the purpose for the remuneration is to induce referrals.⁵⁹

Exceptions Applicable to the AKS

The AKS contains certain exceptions known as “safe harbors.” These safe harbors apply to activities that are not subject to enforcement if certain conditions are met. Some of the primary safe harbors relate to investment interests; space and equipment rental; personal services and management contracts; discounts; and employees.⁶⁰

A safe harbor that is often rationalized by the OIG is that relating to services contracts.⁶¹ There are two types of services agreements: physician services contracts and non-physician services contracts. In a physician service contract, for example, a nursing facility may contract with a physician to serve as a medical director. The physician is then in a position to potentially generate business for the nursing facility, which is reimbursed by federal health care programs. Thus, with respect to this type of contract, the nursing facility should ensure that there is a legitimate need for the services it contracts with physicians to provide.⁶² The services provided should be described in the contract, and the arrangement should not be related to the volume of federal health care program business generated.⁶³

On the other hand, a non-physician services contract resembles a contract a nursing facility has with outside providers of services (*i.e.*, pharmacies, clinical laboratories,

rehabilitation companies, etc.). With respect to this type of contract, legal counsel should verify that certain elements are present. For example, the items or services being purchased should be described in the written agreement, along with a legitimate need for them.⁶⁴ Like with physician services contracts, the compensation should not be related in any manner to the volume of federal health care program business between the parties to the contract.⁶⁵ Therefore, the most common exception to the AKS is for services contracts. If a particular arrangement falls under the aforementioned exceptions to the AKS, it will be allowed under the law.

Intent and Penalties Applicable to the AKS

Ultimately, because the AKS is a criminal statute, the party or parties engaged in a particular arrangement must have intended their actions. Actions that violate the AKS carry severe penalties. They include criminal penalties of up to a five year prison term per violation or fines up to \$25,000 per violation, or both.⁶⁶ Civil penalties include liability under the federal False Claims Act,⁶⁷ monetary penalties, and federal health care program exclusion.⁶⁸

For example, as of July 8, 2010, the OIG for the Department of Health and Human Services entered into a civil monetary penalty settlement agreement with Chicago-based United Shockwave Services, United Prostate Centers, and United Urology Centers (collectively, United).⁶⁹ According to the settlement agreement, United violated federal anti-kickback laws by soliciting and receiving payments from hospitals in exchange for patient referrals. OIG alleged that United encouraged patient referrals to obtain contract business from hospitals in Illinois, Indiana, and Iowa. Additionally, OIG claimed that

United caused certain hospitals to submit claims for DHS that resulted from prohibited referrals in violation of Stark Law. In entering into this settlement agreement, United denied any liability in these matters.

To the discontented health care provider, this settlement agreement illustrates that physicians cannot use federal health care beneficiary referrals to line their pockets by securing business from hospitals or other providers. Accompanying the \$7.3 million settlement, United entered into a five-year corporate integrity agreement, whereby United is required to hire an Independent Review Organization. An independent reviewer will monitor arrangements between United and any hospital in Illinois, Indiana, and Iowa that receives referrals from United or its physician investors. Furthermore, United is required to create a comprehensive training program to educate its employees on Stark Law and AKS concerns.

PPACA Provisions Affecting the AKS

Unlike its affect on Stark Law exceptions, the PPACA affects the intent requirement of the AKS. Section 6402(f) of the PPACA revises the evidentiary standard under the AKS.⁷⁰ The PPACA indicates that a defendant provider does not have to have actual knowledge of, or specific intent to commit a violation of, the AKS.⁷¹ However, the PPACA did not omit the requirement that a defendant must still “knowingly and willfully” offer or pay remuneration to induce prohibited referrals or other business under the AKS. Therefore, the federal government may still have to prove that the defendant knew that the conduct in question was unlawful, but not that it violated the AKS per se. Ultimately, it seems that the PPACA provisions affecting the AKS may make it

easier for the government to prove an AKS violation.

Recommendations

Therefore, the aforementioned aspects of the AKS are issues that health care providers should be aware of. Because the safe harbor regulations are narrowly drafted, compliance with them is difficult. Legal counsel should evaluate inconspicuous agreements in the context of these safe harbors.

In conclusion, Stark Law and the AKS are two federal laws that every health care

provider should be aware of. Providers should understand what activities or arrangements these laws prohibit, and the exceptions and penalties that coincide with each statute. Providers should also note the relative PPACA provisions that enhance these health care laws. Ultimately, legal counsel should be able to interpret Stark Law and the AKS for his or her physician client, and ensure compliance with each law. That way, physicians and patients alike will not be kept in the dark about the actual cost of medicine nowadays.

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