Measuring community benefits provided by for-profit and nonprofit hospitals

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Measuring Community Benefits Provided By For-Profit And Nonprofit Hospitals

Nonprofits appear to be falling short of providing the expected level of community benefits, according to this new model.

by Sean Nicholson, Mark V. Pauly, Lawton R. Burns, Agnieszka Baumritter, and David A. Asch

Abstract: Nonprofit hospitals are expected to provide benefits to their community in return for being exempt from most taxes. In this paper we develop a new method of identifying activities that should qualify as community benefits and of determining a benchmark for the amount of community benefits a nonprofit hospital should be expected to provide. We then compare estimates of nonprofits’ current level of community benefits with our benchmark and show that actual provision appears to fall short. Either nonprofit hospitals as a group ought to provide more community benefits, or they are performing activities that cannot be measured. In either case, better measurement and accounting of community benefits would improve public policy.

Approximately 86 percent of U.S. community hospitals are nonprofit, and 14 percent are for-profit. Although the central purpose of both is to provide hospital services to their communities, for-profit hospitals are also supposed to provide financial returns to their owners and financial support to the community through the taxes they pay. Nonprofit hospitals do not have these obligations to owners and are, in addition, exempted from most taxes. Indeed, they are viewed primarily as charitable organizations, and in return for this designation they are expected to provide more benefits or a different kind of benefit than for-profit hospitals provide.

For-profit hospitals typically have to compete with nonprofit hospitals in the same community. For this reason, defining and valuing community benefits has become increasingly important as nonprofits struggle to defend their protections. We believe that current measures of community benefits in both research and state laws are imprecise and unsound. In this paper we develop a new method of identifying activities that qualify as...

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community benefits. We use the economic concept of a public good—something that benefits all, whether they pay or not—to identify the types of activities that might properly be classified as community benefits.

We also develop a new method for determining a benchmark for the amount of community benefits a nonprofit hospital should be expected to provide. Since nonprofit hospitals do not need to generate a profit to satisfy shareholders, they should be expected to provide community benefits that are equal to the sum of those provided by for-profit hospitals and the profit these hospitals earned. This benchmark is likely to be higher than the conventional standard: that a nonprofit hospital should provide community benefits that are at least as large as the taxes it would pay if it were for profit. We then compare estimates of the current level of provision of community benefits by U.S. nonprofit hospitals with estimates based on our benchmark.

**Defining Community Benefits**

We use the economic distinction between public and private goods as our key concept in defining a valid and useful measure of community benefits. In economic theory, private goods are defined as goods that benefit, affect, or are appreciated by the direct user only. A community is better off if its citizens can obtain more private goods, but no one would contend that the supply of private goods (such as clothing, entertainment, or food) constitutes provision of community benefit.

A public good, on the other hand, generates benefits for people other than the direct buyer and user by increasing the utility, or well-being, of nonusers. Although most medical services are private goods, some, such as those that treat or prevent contagious disease, have important public-good dimensions. The use of medical care by low-income and high-risk persons also can be a less obvious but important type of public good. Low-income persons, if left to the competitive market, may use so little medical care that altruistic community members become concerned. In this case, additional use of medical services by the poor would provide external or public goods to others. Everyone in the community, user and nonuser alike, presumably values knowing that high-risk and poor persons are being treated properly.

Public goods will be furnished in insufficient quantities by competitive markets because it is difficult to convince all of the people who benefit from the good to pay for it. Therefore, hospitals that supply public goods are providing a community benefit. The public-good concept provides a potentially verifiable measure of “community benefits”: a service consumed by an individual that others beyond the direct consumer attach positive value to and that is subsidized. Services valued by the community but sold at a profit would not qualify as community benefits. The determination of what qualifies as a public good is subjective. Sometimes the existence of external benefits depends on the nature of the illness treated, but often it depends on the patient’s characteristics (low-income or high-risk) and the community’s preferences.

We use the public-good framework to develop a set of hospital activities that we believe constitute community benefits (Exhibit 1). The first four activities—uncompensated care, the cost of other unbilled public-good services, losses on medical research, and taxes—have a strong justification for being interpreted as community benefits. The rationale for the final four activities—Medicaid and Medicare shortfalls, price discounts to privately insured patients, and losses on medical education—is more debatable.

- **Uncompensated care and other public-good services.** Uncompensated indigent care is perhaps the clearest example of a public good provided by hospitals. Hospitals that treat poor persons provide a direct benefit to the patient and an indirect benefit to altruistic members of the community, and charity care probably reduces government spending on medical care and therefore reduces taxes. Uncompensated care accounts for situations in which services are provided, a bill is generated, but at most only a fraction of the bill is actually collected. Hospitals pro-
provide other services that have external benefits that do not generate a bill. Examples include an acquired immunodeficiency syndrome (AIDS) prevention clinic, education classes for women with a high-risk pregnancy, and health screening for low-income persons. Expenses associated with these services are omitted from uncompensated care but should be included in the community-benefit measure.

Medical research and taxes. Hospitals that subsidize medical research activities provide a public good to the community because all patients benefit from the research discovery. Most for-profit hospitals pay real estate taxes, sales taxes on the supplies they purchase, and income taxes on profits. A community that taxes a for-profit hospital benefits because it will be able to tax its citizens and businesses at a lower rate than can a community that receives the same services from a nonprofit hospital that does not pay taxes.

“Other” activities. The reasons for including Medicare and Medicaid shortfalls, price discounts to private health insurance companies, and losses on medical education are more debatable. A Medicare or Medicaid shortfall occurs when government payments are lower than the hospital’s treatment costs. Proponents of treating such shortfalls as community benefits argue that a hospital relieves the government of a financial burden when it provides care to publicly insured patients. Alternatively, if one believes that Medicare and Medicaid hospital payments reflect voters’ preferences for the amount of medical resources they wish to devote to these patients, the shortfalls should not be considered a community benefit. According to this view, if society wanted hospitals to use more resources in treating Medicare and Medicaid patients, it would direct politicians to raise payment rates. The fact that Medicare and Medicaid pay less than the cost of care at some hospitals

### EXHIBIT 1
Components Of Hospital Community Benefits

<table>
<thead>
<tr>
<th>Component</th>
<th>Proposed measure</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Conservative definition of community benefits</strong></td>
<td></td>
</tr>
<tr>
<td>Uncompensated care</td>
<td>Cost of charity care and bad debt: gross charges for billed, uncollected services multiplied by the cost-to-charge ratio</td>
</tr>
<tr>
<td>Other &quot;public-good&quot; services that are not billed a</td>
<td>Expenses for selected services</td>
</tr>
<tr>
<td>Losses on medical research</td>
<td>Research expenses — research funding</td>
</tr>
<tr>
<td>Taxes (for-profit hospitals only)</td>
<td>Sales tax on supplies + property taxes + income taxes</td>
</tr>
<tr>
<td><strong>Inclusive definition of community benefits b</strong></td>
<td></td>
</tr>
<tr>
<td>Medicare shortfall</td>
<td>(Difference in profit per privately insured and Medicare patient) × (percentage difference in Medicare as proportion of total admissions between hospital and for-profit benchmark) × (number of admissions)</td>
</tr>
<tr>
<td>Medicaid shortfall</td>
<td>(Difference in profit per privately insured and Medicaid patient) × (percentage difference in Medicaid as proportion of total admissions between hospital and for-profit benchmark) × (number of admissions)</td>
</tr>
<tr>
<td>Price discounts to privately insured patients</td>
<td>(Difference between nonprofit hospital’s and for-profit benchmark hospital’s case-mix-adjusted net revenue per privately insured admission) × (number of privately insured admissions)</td>
</tr>
<tr>
<td>Losses on medical education</td>
<td>Medical education expenses — tuition revenue — government funding</td>
</tr>
</tbody>
</table>

SOURCE: Authors’ analysis.

a The cost of unbilled, public-good services will be difficult to measure because it requires distinguishing a free service that generates an external benefit from a marketing program that has a cost but also an expected revenue.

b Includes all items above.
may imply that voters do not fully value the services covered by this additional cost. States disagree about whether Medicare and Medicaid shortfalls should be considered community benefits; Utah and Missouri allow these shortfalls to be counted toward a hospital’s community benefit requirement, while Massachusetts explicitly disallows them.

Some hospitals can charge private health plans prices that exceed costs and use the resulting profits to fund public goods. If a hospital chooses to charge less than the profit-maximizing price, should the price discount be considered a community benefit? The price discount increases the insurance company’s profit and reduces the hospital’s potential profit by the same amount. Hence, “underpricing” transfers money from some members of the community to others rather than creating an incremental benefit to the entire community. Therefore, price discounts are at best community benefits whose value is equal to their cost.

Likewise, teaching hospitals that subsidize medical education transfer potentially higher incomes to medical students and residents. Losses on medical education should not be included as a community benefit if one believes that there would be a sufficient number and quality of medical students without any subsidies. However, if one believes that subsidies are required to ensure a sufficient number or quality of physicians, then losses on medical education should be interpreted as a community benefit. There are now three times as many applicants as there are medical school positions; however, it is possible that even better-qualified applicants would be attracted under more favorable financial conditions.

The public-good definition we propose does exclude some activities that others have cited as community benefits. Jan Clement and colleagues argue that the profits earned today by nonprofit hospitals are a community benefit because these profits can be used to provide community benefits in the future. We believe that this interpretation is incorrect. Suppose a nonprofit hospital earns profits in Year 1 that are then used to subsidize a free clinic for low-income persons in Year 2. The subsidy to the clinic should be counted as a community benefit in Year 2, but it would be double counting to also include the profit earned in Year 1 as a community benefit.

**The for-profit hospital is a valid benchmark for the nonprofit hospital because they are both subject to the same business conditions.**

Determining A Community Benefit Benchmark

To develop standards regarding how much hospitals should spend on community benefits, one must be able to describe a benchmark situation in which no community benefits are provided. One possible benchmark is a situation where there are no hospitals in a given community. Providing hospital care at a price that patients or their insurers are willing to pay obviously then generates benefits. Any supplier of a good that is voluntarily purchased provides this “consumers’ surplus”—the excess of value over price. However, there is nothing special about the consumers’ surplus from hospital care that would warrant special attention or subsidies, so we will not use this benchmark.

The benchmark that we elect to use is a competitive market that has at least one nonprofit and one for-profit hospital. Competing hospitals cannot set prices above cost. Hospital patients, persons who might donate to hospitals, and persons who might invest in hospital debt and equity are assumed to live in the same community. Any benefit provided to this community by any hospital will therefore have to be fully paid for by its members. Postulating a closed model highlights that hospitals provide community benefits not out of their own generosity but by extracting resources from community members. From the
perspective of the community as a whole, there is no such thing as “free care,” and hospitals do not “give” benefits.

In our benchmark market, nonprofit hospitals obtain resources from four sources: They hire labor and buy supplies, they borrow from members of the community by issuing debt, they receive donations, and they retain profit from previous years. For-profit hospitals also can obtain resources by selling stock to investors who expect future dividends and an appreciation in the stock price.

The for-profit hospital in this market charges a price that just allows it to cover its labor and supply costs, interest payment on bonds, taxes, and stockholders’ required return on their investment. The nonprofit hospital also must cover its labor, supply, and interest expenses, but it does not need to generate a profit to satisfy stockholders. Consider a case where a for-profit hospital provides no community benefit and earns a profit large enough to attract “sufficient” investment funds from stockholders. A similar-size nonprofit hospital in the same market might be expected to spend on community benefits an amount equal to the for-profit hospital’s profit. The for-profit hospital is a valid benchmark for the nonprofit hospital because they are both subject to the same business conditions. To account for the amount of assets and equity used at the two hospitals, the nonprofit hospital’s expected level of spending on community benefits should be equal to the for-profit hospital’s return on equity (ROE) or return on assets (ROA) multiplied by the nonprofit hospital’s equity or assets (ROE). If the nonprofit hospital spends less on community benefits than this benchmark amount, it either could be using its assets for other purposes that the community does not value, or it could be accumulating profit to provide community benefits in the future. One should be able to address the latter issue by examining community benefits over time, rather than year by year.

In the scenario described above, the for-profit benchmark hospital did not provide any community benefits. In actuality, for-profit hospitals pay taxes, provide other community benefits, and still generate a return for stockholders. Therefore, the benchmark level of community benefits for nonprofit hospitals should be equal to the sum of the for-profit hospital’s tax payments, cost of the community benefits, and after-tax profit, adjusted for differences in the assets or equity at each hospital. In general, one should expect nonprofit hospitals to spend more on community benefits than what they would have paid in taxes.

Comparing Actual And Expected Community Benefit Spending

Exhibit 1 proposes a practical method for measuring each of the activities that constitute community benefits. Ideally one would like to quantify the value of community benefits from the citizens’ perspective. The value could be greater or less than the cost incurred by the hospital to provide these services. Measuring value is difficult, and so many organizations responsible for defining and measuring community benefits recommend, with apologies, that cost be used instead. We also adopt this simpler and more feasible measurement approach.

Actual spending. We have argued that a nonprofit hospital’s expected spending on community benefits should be equal to the amount that an otherwise similar benchmark for-profit hospital spends on community benefit plus the for-profit hospital’s profit. Exhibit 2 shows financial data for the three largest U.S. for-profit hospital systems for 1996–1998. With currently available data, we are able to estimate only two of the four activities that have the strongest justification for being community benefits—taxes and uncompensated care. Moreover, our estimates are all based on accounting data that are unlikely to be perfectly accurate, so our results should be interpreted with caution and considered as an illustration of the method.

Collectively, Columbia/HCA, Tenet, and Universal Health Services paid an average of $810 million per year in income taxes during 1996–1998. Sales taxes on supplies and real
estate taxes are not reported directly on publicly available financial statements. We assume that the companies pay a 4 percent sales tax on their supply purchases, which results in an estimated combined annual sales tax of $165 million. Based on a 1992 Health Care Financing Administration (HCFA) analysis of real estate taxes paid by for-profit hospitals, we assume that these companies pay property taxes equal to 1.6 percent of their fixed assets. Applying this tax rate to the value of the companies’ net property, plant, and equipment implies estimated property tax payments of $263 million per year.

The Prospective Payment Assessment Commission (ProPAC) analyzed data from the 1995 American Hospital Association (AHA) annual survey of hospitals and concluded that for-profit hospitals provide uncompensated care equal to 4.1 percent of their total operating costs, on average. If Columbia/HCA, Tenet, and Universal exhibit similar behavior, they would provide $1.2 billion of uncompensated care per year.

Between 1996 and 1998, therefore, Columbia/HCA, Tenet, and Universal spent an estimated $2.4 billion per year on community benefits and earned an annual profit of close to $1 billion, on average (Exhibit 2). If the three had not provided any community benefits, their average return on equity and return on assets would have been an estimated 30.1 percent and 10.3 percent, respectively. These rates of return establish the expected community benefit spending for nonprofit hospitals.

A few caveats should be mentioned. We are not able to document from financial statements how much these companies spent on unbilled services that have a public-good characteristic, nor the losses incurred, if any, on medical research. This limitation will understate the adjusted rate of return benchmark. Moreover, we assume that providing uncompensated care reduces profit dollar for

**EXHIBIT 2**
Using For-Profit Performance Measures To Define The Expected Level Of Community Benefits At Nonprofit Hospitals

<table>
<thead>
<tr>
<th>Community benefits provided</th>
<th>Average annual performance for three for-profit hospital systems, millions of dollars, 1996-1998</th>
</tr>
</thead>
<tbody>
<tr>
<td>Income taxes</td>
<td>$810</td>
</tr>
<tr>
<td>Estimated sales tax on supplies</td>
<td>165</td>
</tr>
<tr>
<td>Estimated property tax</td>
<td>263</td>
</tr>
<tr>
<td>Estimated cost of uncompensated care</td>
<td>1,160</td>
</tr>
<tr>
<td>Total community benefits</td>
<td>2,398</td>
</tr>
</tbody>
</table>

**Profit**

| Revenues                                             | 30,077                                                                                     |
| Expenses                                             | 28,288                                                                                     |
| Income taxes                                         | 810                                                                                         |
| Net income after taxes                               | 979                                                                                         |

**Community benefit benchmark for nonprofit hospitals**

| Estimated profit if no community benefits were provided | 3,377                                                                                     |
| Book value of equity                                  | 11,228                                                                                     |
| Book value of assets                                  | 32,811                                                                                     |
| Adjusted return on equity                             | 30.1%                                                                                      |
| Adjusted return on assets                             | 10.3%                                                                                      |

**Sources:** COMPSTAT; company annual reports; Prospective Payment Assessment Commission, Medicare and the American Health System: Report to Congress (1996); and authors’ analysis.

**Note:** The three for-profit systems are Columbia/HCA, Tenet, and Universal Health Services.
dollar. If the costs of providing uncompensated care are largely fixed, we will overstate the community benefit benchmark. This is not a problem as long as the same assumption regarding the variable costs of uncompensated care is applied to nonprofit hospitals.

■ Expected spending. The benchmark rate of return on equity and assets can be applied to the equity and assets of a particular nonprofit hospital to determine its expected level of community benefit spending. This is illustrated in Exhibit 3 using 1995 data on 3,646 nonprofit, private, general acute care hospitals. The mean accounting value of equity and assets among these hospitals was $43.8 million and $88.3 million, respectively. Applying the adjusted for-profit rates of return from Exhibit 2, the average nonprofit hospital would be expected to spend $9.1–$13.2 million on community benefits, depending on whether one prefers the ROA or ROE benchmark.

With available data we can construct only a partial estimate of the community benefits actually provided by nonprofit hospitals. According to ProPAC’s analysis of 1995 AHA survey data, uncompensated care at private nonprofit hospitals represented 4.6 percent of operating costs. This translates into average uncompensated care costs of $3.3 million per hospital in our sample, or about 25–36 percent of expected community benefit spending.

■ Gap between expected and actual spending. There is a $5.8–9.9 million gap between the amount of community benefits a nonprofit hospital would be expected to provide and its actual spending on uncompensated care. Is it possible that this gap can be accounted for by other community benefit activities that we are unable to measure? It is unlikely that losses on unbilled services that have a public-good characteristic (such as AIDS clinics) explain much of this gap. Hospitals generate a bill for almost all services, especially expensive ones, in an effort to receive at least partial reimbursement for care rendered. Since losses on billed services are reflected in uncompensated care costs, losses on unbilled public-good services will probably be much smaller than the cost of uncompensated care.

U.S. medical schools received $5.2 billion for medical research in 1997 from the National Institutes of Health (NIH). Medical schools...
might use patient care profits at their teaching hospitals to subsidize medical research. However, even if teaching hospitals contributed an average of twenty-five cents of their own funds to medical research for each NIH dollar, that would amount to only $440,000 in additional community benefits, on average, per nonprofit hospital. Losses on research, therefore, do not appear to explain much of the gap described above.

Teaching hospitals received an estimated $7.4 billion from the federal government in 1997 to fund graduate medical education.\(^\text{11}\) It is unlikely that teaching hospitals subsidize medical education with patient care profits. Several studies have concluded that Medicare's indirect medical education payments exceed the indirect costs associated with training residents, and the low residents' salary implies that residents are implicitly paying the hospital for training costs.\(^\text{12}\)

Another possibility is that nonprofit hospitals treat a disproportionate share of Medicare and Medicaid patients, who crowd out the more profitable privately insured patients. If one believes that Medicare and Medicaid shortfalls are a valid community benefit, one could use the method described in Exhibit I to measure the forgone profit associated with having a relatively heavy mix of publicly insured patients.\(^\text{13}\) In 1995, however, Medicare and Medicaid admissions represented a higher percentage of total admissions at for-profit hospitals than at nonprofit hospitals: 15.9 percent versus 15.0 percent for Medicaid, and 38.5 percent versus 37.4 percent for Medicare. Although many individual nonprofit hospitals experience Medicare and Medicaid shortfalls, in the aggregate nonprofit and for-profit hospitals appear to have a similar mix of patients by type of payer.

We have left the most difficult issue, price discounts, for last. A nonprofit hospital that charges less than it “could” is forgoing profits and reducing health plan expenditures and perhaps health insurance premiums for consumers in its community. To determine whether nonprofit hospitals charge privately insured patients less than for-profit hospitals charge, one ideally wants data on the transaction prices between private insurance companies and hospitals. Although data on hospital charges are readily available, data on transaction prices are scarce. In Exhibit I we propose using a modified version of a method recommended by Clement and colleagues where the price discount, if any, is calculated relative to the price charged by the benchmark for-profit hospital.\(^\text{14}\)

A recent study estimated that for-profit hospitals in California charged 12 percent higher prices than nonprofit hospitals did, controlling for patients’ diagnoses.\(^\text{15}\) Nationally, private nonprofit hospitals admit an average of 3,600 privately insured patients per year. If these hospitals offer private health insurance companies a 12 percent discount (about $1,100 per admission) relative to for-profit hospitals, each nonprofit hospital would be returning $3.9 million to insurance companies, on average. This is a substantial amount and similar in magnitude to the average cost of uncompensated care provided by nonprofit hospitals. Nevertheless, even after including price discounts and subsidized medical research as community benefits, actual community benefit spending is still only 83 percent of the expected magnitude based on the ROA benchmark (Exhibit 3), and 58 percent of the expected magnitude based on the ROE benchmark.

Suppose the typical nonprofit hospital behaves in the same way as the aggregate, spending 36 percent of the community benefit benchmark on uncompensated care, 43 percent on price discounts, 4 percent on subsidized medical research, and 17 percent on services other than community benefit. Since this hospital has decided to return nearly half of its potential profits from the community’s assets in the form of reduced prices, it seems to be deciding that there are a limited number of programs for the community whose value exceeds the cost. This raises the question of why nonprofit hospitals use the community’s funds for activities that transfer money within the community rather than on activities that make the community as a whole better off.
There is one additional unanswered question suggesting that our results should be interpreted with considerable caution. Our results suggest that nonprofit hospitals are not using their funds to generate as large a volume of identifiable community benefits as they could. Obviously, however, we do not have data on what nonprofit hospitals actually do with these funds. It is certainly possible that the community might value these other activities. For example, nonprofit hospitals might use some of the community’s assets to provide a higher-quality (and higher-cost) product relative to what for-profit hospitals provide. This would imply that nonprofit hospitals offer even larger price discounts once one adjusts for quality differences. For this reason, our method is most useful in identifying situations in which nonprofit hospitals might be providing fewer community benefits than expected—situations in which other benefits are not measured or are not well justified. Once the unmeasured activities are identified, hospitals might then reasonably be asked to describe and justify them.

Discussion

Our approach to defining, measuring, and making decisions about hospital community benefits differs from the conventional approach to this issue in several important ways. We have defined community benefits relative to a benchmark of an otherwise identical for-profit hospital. We believe that defining benefits as the addition to or differences from what the benchmark hospital would do is fair to hospitals of all ownership types and relevant for the kinds of actions (private or public) that communities seek to take in response to this kind of information. However, using for-profit hospital behavior to define the expectations of nonprofit hospitals does not imply either approval or disapproval of the level of community benefits for-profit hospitals provide.

We also have concluded that the least equivocal and most relevant set of community benefits are those services provided at zero or reduced prices to members of the community needing help to increase their consumption (because their incomes are low or their health risks are high). The primary category of public-good benefits represents services that are (1) provided for free or at prices below cost to populations that would have demanded much smaller quantities of them if they had been sold at prices equal to cost; and (2) of concern or value to nonusers. Compared with public-good activities, all other measures of benefit are less apparently linked to the economic concept of a public good, which competing for-profit firms will undersupply. Consequently, we regard the other community benefit activities as less compelling in terms of inclusion and less crucial in terms of precision of measurement.

In addition, we have provided a method to determine whether the costs incurred in providing these benefits exceed the expected benchmark. A sample calculation using this measure indicates that nonprofit hospitals appear to fall far short of providing the expected level of community benefit that would justify current levels of investment in them. Although we are unable to identify the exact reasons for this discrepancy, one explanation seems particularly plausible. It is likely that nonprofit hospitals are delivering care that is of higher quality, but the market contains inadequate measures for either identifying higher quality or compensating hospitals that deliver higher-quality care. This possibility highlights the need for additional research in the practical and objective measurement of quality.

Regardless of the measure, it should apply to all hospitals. In our approach, higher levels
of provision of community benefits by investor-owned hospitals raise the bar associated with the benchmark nonprofit hospital. Higher levels of net earnings by for-profit hospitals also raise the bar for what the equivalent nonprofit would be expected to do. This approach allows us to steer clear of some of the murky issues of motivations and objectives and to concentrate on what actions are done, not on why people say they do them.

This research was supported by a grant from the Federation of American Health Systems. The views expressed in this paper are those of the authors and not the federation.

NOTES


2. A public good is one whose consumption is non-excludable and/or nonrival. Nonexcludability refers to a situation in which people who benefit from a good cannot, at a reasonable cost, be excluded from those benefits even when they pay nothing. For example, spraying for disease-carrying mosquitoes provides benefits for all persons who live in the area. Nonrivalry refers to the situation where adding one additional consumer who uses the average amount of the good does not displace an equivalent amount of consumption from other users. An additional person watching television, for example, does not reduce or affect the consumption of existing viewers or require any additional resources.

3. Uncompensated care is the sum of charity care and bad debt. Charity care includes services where a bill is generated but a hospital never expects to be reimbursed. Bad debt is the proportion of a bill that a hospital attempts but is unable to collect. In practice it is difficult to differentiate between these two types of care.


5. Nonprofit hospitals can retain profits but cannot distribute those profits to shareholders.

6. Return on equity is equal to a firm’s net income divided by its accounting (book) value of equity.


9. A hospital’s equity, or fund balance, is equal to the book value of its assets minus short- and long-term liabilities. Therefore, the return on equity is a broader measure of financial performance than is the return on assets because the former examines how well a firm manages its liabilities as well as its assets.


13. Our recommended approach for measuring Medicare and Medicaid shortfalls differs from most existing methods. We focus on the opportunity cost of admitting Medicare and Medicaid patients relative to privately insured patients rather than the difference between the Medicare and Medicaid price and treatment cost. We assume that if a Medicare (or Medicaid) patient were not admitted, a patient with private health insurance would take his or her place; the traditional method assumes that if a Medicare (or Medicaid) patient were not admitted, the bed would be vacant.

14. Clement et al., “What Do We Want?”