

GAO

Report to the Chairman Subcommittee
on Oversight and Investigations,
Committee on Energy and Commerce,
House of Representatives

HOSPITAL
COMPENSATION
Nationally
Representative Data on
Chief Executives'
Compensation



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The Honorable John D. Dingell
Chairman, Subcommittee on Oversight
and Investigations
Committee on Energy and Commerce
House of Representatives

Dear Mr. Chairman:

This report responds to your request for information on the compensation paid to the chief executives of our country's hospitals. In December 1993,¹ we testified on executive compensation before your Subcommittee, which has been looking into various aspects of the financial operations of the health care industry. This report presents additional information concerning compensation hospital chief executives received from 1989 through 1991. More specifically, it addresses (1) the compensation hospital chief executives received for overseeing hospital operations, (2) the factors that influenced these compensation levels, and (3) compensation paid to executives of not-for-profit hospitals by businesses related² to those hospitals.

Background

In recent years, the media have focused public attention on seemingly high salaries paid to some health care and other chief executives. In particular, examples of salaries approaching \$1 million paid to hospital chief executives have often been highlighted and sometimes cited as contributors to rising health care costs. However, little was known about how representative these salaries were of the industry as a whole or about the various factors that influenced chief executives' compensation.

Compensation for hospital executives is most often set by a hospital's governing board, which is usually composed of community volunteers. Compensation levels reflect the board's desire to attract, retain, and motivate executives who will implement board decisions regarding the hospital's organizational strategy and policy, mission, and financial soundness. Appendix III contains more information on the board's role in setting executive compensation.

¹Hospitals: Chief Executives' Compensation, 1989-1991 (GAO/T-HRD-94-70, Dec. 7, 1993).

²Related businesses are those that share a common governing board or set of officers. In other words, a related business is one the hospital directly or indirectly owns or controls or, conversely, one that directly or indirectly owns or controls the hospital.

Scope and Methodology

To obtain nationally representative data, we surveyed 429 hospitals that participated in Medicare, a federally funded health care program that accounted for 35 percent of hospital patient care revenue in fiscal year 1991. Our survey, which included for-profit, not-for-profit, and state and local government hospitals, yielded results that could be projected to the country's 5,300 Medicare-participating hospitals. We received an 86-percent response rate from our survey, which covered tax years 1989, 1990, and 1991.

We developed an econometric model to quantify the impact of various factors on the level of compensation hospitals pay their chief executives. Among the factors we included in our analysis were the annual number of inpatient days and patients discharged, the hospital's financial performance and ownership type, the number and relative size of nearby hospitals, and geographic location.

Beginning with tax year 1992, the Internal Revenue Service (IRS) required not-for-profit hospitals to report the source and amount of payments from related businesses to executives and other key personnel whose compensation exceeded \$100,000 of which \$10,000 or more came from related businesses. To determine the compensation paid to chief executives by related businesses, we asked 194 not-for-profit hospitals that responded to our survey for their reports to IRS for 1992. Of these hospitals, 137 (71 percent) responded; 112 supplied the reports and 25 stated theirs were not yet due and so, not available. Appendixes I and II contain more detail on our scope and methodology.

Results in Brief

Hospital-reported data showed that chief executives received an average of \$129,000 in compensation, including cash (salary, fees, and bonuses), benefits, and allowances, for overseeing hospital operations during 1991. Executives in 1991 administered a hospital that averaged about 180 beds, with net patient revenue of \$42.3 million and net income of \$1.8 million. Overall, one-fourth of chief executives received less than \$63,000, while an equal number received over \$176,000. Actual compensation ranged from \$31,000 to \$849,000.

Differences in compensation amounts are influenced by the hospital's patient load, the number and relative size of nearby hospitals, and the hospital's geographic location and ownership type. Except in the smallest hospitals, compensation amounts are also partly determined by the hospital's financial performance. In general, executive compensation is

higher at hospitals with greater financial success, greater numbers of patients discharged, higher numbers of similarly sized hospitals nearby, location in large cities, or for-profit operations.

Data on executive compensation from related businesses at not-for-profit hospitals showed that among the 112 hospitals we examined, relatively few executives received such payments. These payments, however, can be large. Compensation increased from 6 to 138 percent over the amounts received for hospital administration for the executives who received payments from such related businesses as hospitals and other health care facilities, as well as foundations and property management firms. Dollar amount increases ranged from \$13,000 to \$530,000.

Compensation for Overseeing Hospital Operations

In 1991, hospital executives received an average of \$129,000 (plus or minus \$9,000) in compensation³ for overseeing hospital operations. Over 93 percent of reported compensation was in the form of cash payments. The median compensation of \$112,291 was somewhat lower than the \$129,000 average, indicating that a relatively small number of executives received relatively high amounts.⁴

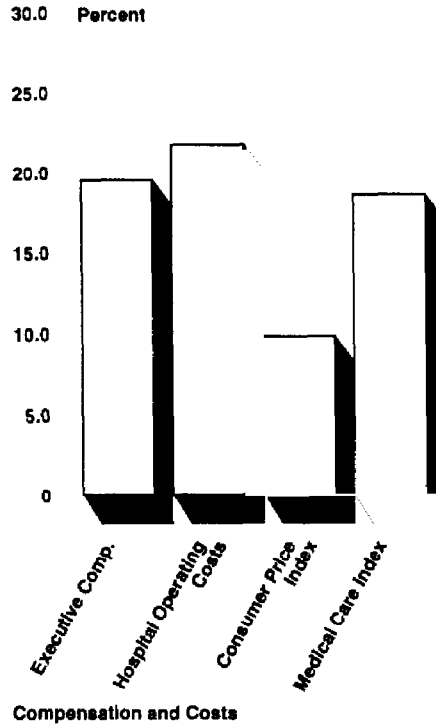
As shown in figure 1, from 1989 to 1991 the average change in executive compensation, not adjusted for inflation, increased at less than the rate for general hospital operating costs but at a greater rate than the Consumer Price Index (CPI) and the Medical Care Index.⁵

³Compensation includes three different components: cash, benefits, and allowances. Cash refers to all cash payments received by the individual for such items as salary, fees, and bonuses; severance payments; payments for accumulated, but unused, leave; payments of amounts previously deferred; and forgiven loan balances. Benefits include payments made by the employer on behalf of the individual to pension or health insurance plans. Allowances include, under certain conditions, such items as the value of housing, automobiles, or other assets provided by the hospital and the value of payments for life insurance, travel, and tuition. Allowances are income if they must be reported on one's personal tax return.

⁴Median compensation is the value that falls midway between the highest and lowest amounts, meaning that half of executives received more than \$112,291 and half received less.

⁵CPI measures the average change in prices in a market basket of goods and services, while the Medical Care Index, a component of CPI, measures the average change in prices for medical care commodities and services.

Figure 1: Percentage Change in Costs and Compensation, 1989-91



Note: Change in hospital operating costs is the average change for the period 1989-91.

Sources: Change in chief executive compensation was calculated from responses to our survey. Change in hospital operating costs was calculated by the Prospective Payment Assessment Commission. Changes in the CPI and Medical Care Index were calculated from Bureau of Labor Statistics data.

When we adjusted for inflation, we found that compensation for executives grew almost 9 percent from 1989 to 1991.⁶ Compensation for executives of urban hospitals grew slightly faster, or about 10 percent, adjusted for inflation, during the same period.

The range of actual annual compensation for hospital chief executives responding to our survey was from about \$31,000 at a 48-bed hospital in Texas to about \$849,000 at an 880-bed hospital in New York. Table 1 shows

⁶Compared with the overall average compensation increase, the median increase during the same period was slightly less for medium-size and large hospitals (8.5 percent and 8.3 percent, respectively) and much less for small hospitals (3.2 percent).

the compensation, adjusted for inflation, chief executives received for the 3 years covered by our survey.

Table 1: Chief Executive Compensation, 1989-1991

In 1991 dollars

Year	Average (mean)	Sampling error ^a	Median	25 percent received more than	25 percent received less than
1989	\$120,194	\$8,860	\$95,904	\$153,428	\$64,168
1990	126,112	12,136	101,115	156,300	62,520
1991	128,754	8,317	112,291	175,957	62,971

^aSampling errors are computed at the 95-percent confidence level.

Compensation received by chief executives in 1991 was about 1.4 times greater than amounts received by the hospitals' other top management and highly compensated employees. While the average compensation for chief executives was \$129,000, the average for top management was \$97,000, and the average for other highly compensated employees was \$86,000. Top management includes vice presidents, chief financial officers, and chief operating officers. Other highly compensated employees include medical directors, facilities and services managers, nurses, and physicians working on the hospital staff.

Most of the compensation reported—about 93.6 percent—was in the form of cash payments. Benefits constituted 4.8 percent of the total, and allowances constituted 1.6 percent. The amounts reported as benefits are understated because many hospitals did not report them.

IRS officials have expressed concerns about instances of abuse in reporting taxable income, which can be significant for involved individuals. At congressional hearings in summer 1993,⁷ IRS officials said that audits of large not-for-profit educational and health care systems and media evangelists revealed compensation, benefits, and allowances provided to executives that were not accurately reported as taxable compensation to the individuals. Examples from hospitals included \$20,000 in country club dues and catered meals as well as substantial payments for personal expenses such as liquor, china, perfume, crystal, and theater and airline tickets for a chief executive; and deferred compensation arrangements.

⁷Hearings on federal tax laws applicable to the activities of tax-exempt charitable organizations were held by the Subcommittee on Oversight of the Committee on Ways and Means, House of Representatives, on June 15 and August 2, 1993.

However, IRS officials stated that, overall, not-for-profits comply fully with reporting requirements.

We asked Medicare officials who audit annual cost reports filed by participating hospitals whether concerns related to excessive or unreasonable compensation had been raised in any review of the 429 hospitals in our sample, regardless of ownership. No such concerns were reported in audits or other reviews of these hospitals conducted since 1989.

In some instances, chief executives were not employed by the hospital at all but instead were employees of a company that provided management services by contract with the hospital. Between 6 and 15 percent of hospitals had such arrangements. In these cases the hospitals did not report specific information on compensation paid to the chief executive and so were not included in our analysis. Appendix IV provides information on management services contracts.

Compensation Varied by Hospital Characteristics, Patient Load, Financial Performance, and Location

Our analysis confirms some of what could be considered conventional wisdom. For example, chief executives employed by large or for-profit hospitals are likely to receive the highest compensation. On the other hand, chief executives employed by small or government-owned hospitals are likely to receive the lowest compensation. In addition, significant regional variation exists in the compensation hospitals pay their chief executives.

However, we also found several relationships that are less well known. For example, while executive compensation increases with the number of patients discharged, chief executives at large hospitals do not necessarily receive higher compensation than executives at medium-size hospitals. Additionally, executive compensation is affected by the hospital's financial performance in all but the smallest hospitals, is higher in areas with greater competition between hospitals, and is not significantly affected by the hospital's involvement in medical education.

Size and Patient Load

For all sizes of hospitals the compensation paid to chief executives rises with the number of patients discharged annually. For example, among urban hospitals, a 10-percent increase in the number of patients discharged annually is associated with a 2.2-percent increase in compensation. If all else is equal, an executive of an urban hospital with

12,200 patients discharged annually would be expected to receive approximately \$6,300 more than an executive of a hospital with 10,200 patients discharged.

The higher compensation associated with greater numbers of patients discharged in part reflects the concomitant increase in the responsibility and complexity of the executives' jobs. These results also suggest that hospitals reward executives for reducing the average number of days patients stay in the hospital.⁸ Because Medicare and many private insurers pay hospitals a flat fee per diagnosis, regardless of the hospitals' true cost for treating the patient, hospitals can improve their financial performance by reducing the length of patient stays.

The relationship between compensation and number of beds is less consistent. Although executives of small hospitals earn less than their counterparts at medium-size hospitals, we found no evidence that compensation at large hospitals is higher compared with compensation at medium-size hospitals, after controlling for other influencing factors.

The number of beds is an important determinant of executive compensation only for hospitals with fewer than 100 beds. Even after considering the number of patients served, executives of small hospitals earn 25 percent less than executives of hospitals with between 100 and 500 beds. Appendix V provides information on executive compensation at hospitals of varying size.

Financial Performance

For all but the very smallest hospitals (fewer than 50 beds), a hospital's financial performance—as measured by the proportion of patient revenues realized as profits—is another significant determinant of executive compensation.⁹ On average, a chief executive at a hospital rated strongly (75th percentile) on this financial performance measure would receive approximately \$4,500 (3.6 percent) more than an executive at a hospital rated less strongly (the 25th percentile). The compensation differential is even greater, or almost \$6,400 (4.5 percent), between two urban hospitals with those same relative financial performance ratings (75th versus 25th percentile).

⁸An increase in annual number of patients discharged accompanied by no change in the total number of inpatient days implies a shorter average length of stay.

⁹This proportion, called the "operating margin," is the ratio of net patient revenue less associated costs to net patient revenue. Our methodology allowed for the possibility that executive compensation could affect a hospital's operating margin, for example, if the hospital paid a premium to attract a particularly skilled executive who improved financial performance. See appendix II for more details.

Competition

Executive compensation tends to be higher at hospitals in more competitive hospital markets, as measured by the number and relative size of area hospitals.¹⁰ Higher compensation may result from a greater demand for hospital executives in those areas or from a demand for more talented and, thus, more highly paid executives to meet the market challenge.

For example, our results suggest that average compensation would be 1.6 percent higher in a county with 4 hospitals, each with 180 beds, than in a county with the same number of hospital beds divided among 3 hospitals. However, competitiveness, and thus executive compensation, depends not only on the number of hospitals in the county, but also on their relative size. Compensation is higher in counties where the hospitals are nearly equal in size than in counties with the same number of hospitals of disparate size. For example, average compensation would be 4 percent higher for the executives in a county where 3 hospitals each had 250 beds than for executives in a county with 1 hospital of 550 beds and 2 others of 100 beds each.

Ownership and Involvement in Medical Education

When size and other characteristics are equal, compensation is highest at for-profit hospitals, next highest at not-for-profit hospitals, and lowest at government hospitals. This compensation pattern may reflect factors such as scope of responsibility, job security, and nonmonetary benefits that vary by ownership type. Overall, for-profit hospitals pay their executives approximately 12 percent more (almost \$12,500) than do not-for-profit hospitals. The difference in compensation between for-profit and not-for-profit hospitals is even greater (over \$30,000) in urban areas. Government hospitals typically pay 9 percent less, in both rural and urban areas, than otherwise similar not-for-profit hospitals. Appendix VI provides information on executive compensation at hospitals with differing ownership. No significant differences exist between the compensation paid by hospitals involved in medical education and the compensation paid by hospitals that are not.

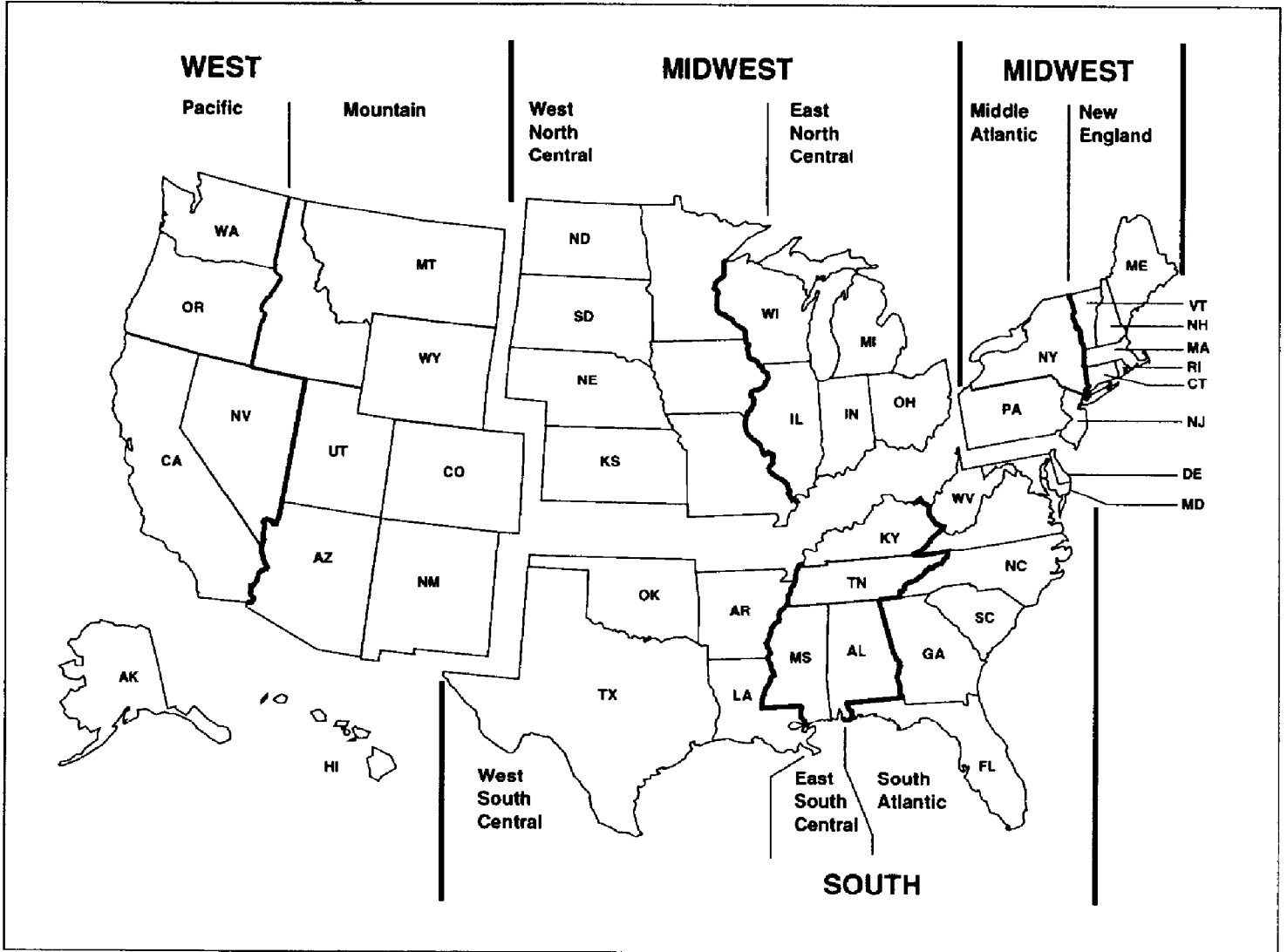
Location

We measured the regional variation in compensation between the nine regions defined by the U.S. Bureau of the Census, which are shown in

¹⁰The positive and significant coefficient on sole community hospitals noted in table II.3 does not contradict this finding. Local competitiveness is measured at the county level while "sole community" status is defined by the Health Care Financing Administration (HCFA) using its own criteria. Thus, hospitals may be defined as monopolists by the Herfindahl index without being designated as sole community hospitals by HCFA and vice versa.

figure 2 and listed in table II.3. Regional variation in executive salaries is most evident for urban hospitals. Among otherwise similar hospitals, executives at urban hospitals in the West North Central States earn about 15 percent more (\$22,700) than executives at urban hospitals in the South Atlantic States. Executives of urban hospitals in the Pacific, Mountain, East North Central, and West South Central States earn 8 to 20 percent less (approximately \$12,800 to \$30,000) than do executives of urban hospitals in the South Atlantic States.

Figure 2: Census Divisions and Regions for the United States



Source: U.S. Bureau of the Census.

When nonurban hospitals are included, regional differences are not as evident. Only hospitals in the Pacific States pay significantly less (24 percent, or approximately \$26,000) to executives than do hospitals in the South Atlantic States. Executive compensation in all other states is approximately the same as in the South Atlantic States.

Among urban hospitals, executive compensation increases with the size of the city. Our analysis indicates that an executive of a hospital in a city the size of Buffalo, New York (with an urban population of approximately 1.19 million), would, on average, earn 5.7 percent more than an executive at a similar hospital in a city the size of Binghamton, New York (with an urban population of approximately 264,000). The disparity reflects the combined impact of differences in the cost and quality of living, hospital market competitiveness, and other factors between cities of unequal size.

Related Businesses Add to Some Hospital Executives' Compensation

Executives who oversee hospital operations may also oversee the operations of businesses related to the hospital and be compensated in part by them. Related businesses include other hospitals, parent corporations, foundations, research institutes, medical equipment companies, home health agencies, pharmacies, management and consulting firms, diagnostic centers, and property management firms specializing in building rentals and parking lots. At the hospitals we examined, relatively few executives received such payments, though in some cases these payments equaled 50 percent or more of the compensation received for overseeing hospital operations.

We estimate that almost 60 percent (plus or minus 6 percent), or about 3,200, of the country's Medicare-participating hospitals, regardless of ownership type, had one or more related businesses in 1991. Among not-for-profit hospitals, half had at least one related business. Hospitals with related businesses were, on average, related to 2 other businesses, but the number ranged up to 24. Most related businesses (66 percent) were not-for-profit; the remainder were for-profit.

Of the 112 not-for-profit hospitals that supplied data, 4 of 74 medium-size and 7 of 34 large hospitals reported payments to their executives from businesses related to the hospitals. The remaining four small hospitals reported no such payments to their executives. Although payments from related businesses may involve a small number of executives, such payments can be large. For example, in the cases we examined, payments from related businesses increased executive compensation from 6 to 138 percent. Dollar increases for executives ranged from \$13,000 to \$96,000 at medium-size hospitals and from \$14,000 to \$531,000 at large hospitals.

The executives in the cases we examined received additional payments, on average, from 2 related businesses, but the actual number ranged up to 6.

The businesses making these payments were generally not-for-profit, rather than for-profit, enterprises. Payments to executives came primarily from health care organizations but also from foundations and property management firms.

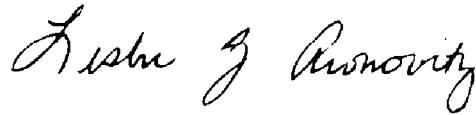
The examples below demonstrate the range, in combined compensation, of how payments from related businesses can affect chief executive compensation.

- A chief executive at a large not-for-profit hospital with 880 beds had managerial and other duties for the hospital's fund-raising body and two property management firms. Total compensation in 1992 for this executive was 79 percent above that received for managing the hospital. The chief executive received \$675,829 for administering the hospital and \$530,553 for responsibilities to three of the hospital's related businesses, bringing his total to \$1,206,382.
- At a hospital with 513 beds, the chief executive received \$127,244 in compensation for hospital-related administrative duties in tax year 1992. This executive also had administrative responsibilities for a related health care corporation from which he received \$14,162, bringing the total payment package to \$141,406, a 12-percent increase over his hospital compensation.

This work was done under the direction of Sarah F. Jaggar, Director of Health Financing and Policy Issues. Please call Cheryl A. Williams, Evaluator-in-Charge at (503) 235-8451 or James C. Cosgrove, Senior Economist at (202) 512-7029 if you have any questions. Other major contributors are listed in appendix VIII.

As arranged with your office, unless you publicly announce its contents earlier, we plan no distribution of this report until 30 days after its issue date. At that time we will send copies to the Secretary of Health and Human Services; the American Hospital Association, which took an active role in encouraging hospitals to respond; executives of participating hospitals; and other interested congressional committees. Copies will also be made available to others upon request.

Sincerely yours,

A handwritten signature in cursive script that reads "Leslie G. Aronovitz".

Leslie G. Aronovitz
Associate Director, Health
Financing Issues

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Abbreviations

AHA	American Hospital Association
ARF	area resource file
CPI	Consumer Price Index
HCFA	Health Care Financing Administration
HCRIS	Medicare Hospital Cost Report Information System
IRS	Internal Revenue Service
MSA	metropolitan statistical area
SEC	Securities and Exchange Commission

Scope and Methodology

We conducted a nationwide survey of 429 Medicare-participating for-profit, not-for-profit, and state and local government hospitals of varying sizes.¹¹ Many hospitals file annual reports with the Internal Revenue Service (IRS) or, in some cases, with the Securities and Exchange Commission (SEC). These reports contain compensation and other data related to the organizations' operations. We requested copies of these publicly available reports or, for hospitals not subject to IRS or SEC reporting, the same information on a questionnaire we developed patterned after these agencies' reporting requirements. (See app. VII for a copy of our survey instrument.) We asked hospitals to send data for the tax years 1989, 1990, and 1991.

To ensure adequate representation from hospitals of varying sizes, we selected a stratified random sample. We based our strata on bed size: small hospitals had from 1 to 100 beds; medium-size hospitals, 101 to 500 beds; and large hospitals, over 500 beds. We received complete responses from 368 hospitals, or 86 percent. Tables I.1 and I.2 show the distribution of responding hospitals by size and ownership type.

Table I.1: Survey Response Rate by Hospital Size

Hospital size	Universe	Sample size	No response	Responses	Percent response
Small	2,491	84	18	66	78.6
Medium	2,596	260	39	221	85.0
Large	241	85	4	81	95.3
Total	5,328	429	61	368	85.8

Table I.2: Survey Response Rate by Hospital Ownership Type

Numbers are aggregated across size strata					
Hospital ownership type	Surveys mailed	Responses	No response	Percent response	
Not-for-profit	285	257	28	90.1	
For-profit	54	37	17	68.5	
Government	90	74	16	82.2	
Total	429	368	61	85.8	

To obtain data on payments to executives from businesses related to the hospital, we requested 1992 IRS reports from the 194 not-for-profit hospitals that sent us 1991 IRS reports and that reported they had related businesses. The remaining 174 hospitals either did not send us IRS reports, did not have related businesses, or were for-profit.

¹¹We excluded federally operated hospitals.

Beginning with tax year 1992, the IRS required not-for-profit hospitals to report the source and amount of payments from related businesses to executives and other key personnel when compensation for these individuals exceeded \$100,000 of which \$10,000 or more came from related businesses. Of the 194 hospitals, 137 (71 percent) responded to our request, though 25 of these stated their reports were not yet due, and so, not available. As a result, we received 112 usable responses.¹² Table I.3 shows the distribution of responding hospitals by size.

Table I.3: Responses to Request for 1992 IRS Reports by Hospital Size

Hospital size	Requests mailed	No response	Reports not due	Usable responses	Executives receiving payments
Small	9	4	1	4	0
Medium	129	36	19	74	4
Large	56	17	5	34	7

While IRS reporting requirements increase public access to compensation information, data are not available in all cases. For example, three hospitals did not report executive compensation of \$100,000 or more, part or all of which was paid by related businesses. One hospital official said IRS criteria require disclosure only when the executive received payments both from the hospital and a related business, not when all payment came from the related parent corporation. In another instance, a hospital official stated that disclosure was not required when the payments were made by two members of the same holding company. Lastly, one hospital official stated that disclosure was not required of amounts paid under contract with a related management services firm. We discussed these situations with an IRS official who stated in these instances hospitals should have reported the executives' compensation.

We also obtained data on hospital characteristics such as size and financial performance supplied to the Department of Health and Human Services on Medicare hospital cost reports and to the American Hospital Association (AHA) as part of their annual survey. We did not verify the accuracy of information supplied by hospitals to the IRS, other federal agencies, or AHA.

We furnished a list of the hospitals included in our survey to officials charged with monitoring hospitals for compliance with Medicare

¹²While our sample was randomly selected, we chose not to project our results to the universe of hospitals because of a potential bias. Specifically, hospitals whose executives receive such payments may be less willing to provide copies of their IRS reports than hospitals whose executives do not.

Appendix I
Scope and Methodology

regulations, including regional administrators of the Health Care Financing Administration (HCFA), and Medicare contractors that administer the program. We asked these officials whether audits or other field reviews conducted since 1989 revealed concerns about excessive compensation for executives. All HCFA officials and all but 6 contractors (covering 18 hospitals, or 4 percent of our sample) responded to our request for a review of their records related to the 429 hospitals.

To study the effect of various factors on compensation levels, we used multiple regression analysis—a standard statistical technique that quantifies the relationship between a dependent variable and a set of independent variables. Among the factors we included in our analysis were the annual number of inpatient days and patients discharged, the hospital's financial performance and ownership type, the number and relative size of nearby hospitals, the hospital's involvement in medical education, membership in health systems or alliances, geographic location, and whether the chief executive was new to the position. Appendix II contains more detail on our regression analysis.

Our work was conducted between December 1992 and July 1994 in accordance with generally accepted government auditing standards.

Economic Analysis of Chief Executive Compensation

We developed an econometric model to quantify the impact of various factors on the level of compensation hospitals pay their chief executives. In building this model, we assumed that the basic market forces of supply and demand influence executive compensation. However, there are many reasons to believe that a simple neoclassical labor-market model is inadequate to capture the complex conditions that characterize the market for chief executives. Some of these features include the difficulty in measuring a chief executive's marginal contribution, variations in the workload and responsibility associated with the title, differences in market conditions that affect firms' demand for executive human capital, and disparities in firms' ability to pay. Therefore, our model was augmented with a number of variables intended to control for these conditions.

We estimated our model using multiple regression—a standard statistical technique that quantifies the relationship between a dependent variable and a set of independent variables. The construction of the model and the data are described below. Data sources and descriptive statistics for the analysis variables are summarized in tables II.1 and II.2. The econometric results are presented in table II.3. (These tables are at the end of this appendix).

Econometric Model

Our model not only permits a hospital's output and fiscal performance (see discussion later in this section) to influence the chief executive's compensation, it also allows for the possibility that the compensation amount may affect the hospital's output and fiscal performance. If, for example, higher compensation represented the purchase of "more" executive human capital, then output and fiscal performance would depend on the compensation paid. Although this construction seems obvious, most research on executive compensation has ignored this simultaneity.¹³ We used two-stage least squares—a statistical technique designed to account for the simultaneous nature of some of the

¹³Most empirical research in the field of executive compensation has treated firms' output and financial performance as independent, or exogenous, variables. If, as we believe, the chief executive's actions affect output, then such treatment produces biased estimates of output's influence on compensation. For example, when we intentionally misspecified the model and considered output exogenous, our results erroneously suggested that executive compensation and fiscal performance are inversely related. That is, all else equal, executive compensation would tend to be highest at hospitals that lose the most money.

relationships—to measure the effect of various factors on the compensation of chief executives.¹⁴

We considered an extensive list of factors that could affect chief executive compensation. Even so, no model could reasonably be expected to explain all of the variation in compensation. Some variation is random; if the contributions of individual chief executives are relatively difficult for hospitals to measure, there may be greater random variation in chief executives' compensation compared with that for other professional positions.¹⁵ Also, many unavailable or unquantifiable factors may influence compensation amounts: personalities, friendships, institutional rigidities, and other noneconomic factors. For example, trustees may consider factors (such as service to the community) on which we have no data when they set compensation amounts.

Description of Analysis Variables

The compensation of each hospital's chief executive was the dependent variable in our model. It was computed as the total of the executive's hospital salary, taxable benefits, and allowances.¹⁶ This amount was adjusted for inflation using the Consumer Price Index and reported in 1991 constant dollars. Following common empirical practice, we entered compensation measured in natural logarithms.¹⁷

From economic theory and empirical research on chief executive compensation, we compiled an extensive list of factors that could

¹⁴See Jan Kmenta, Elements of Econometrics, 2nd ed. (New York: Macmillan Publishing Co., 1986), for a discussion of the problem of estimating simultaneous relationships. We used a number of variables, in addition to those listed in table II.1 to estimate the first-stage regressions: Medicare and Medicaid discharges, Medicare and Medicaid inpatient days, HCFA's case mix index, whether the hospital had a contract with a health maintenance organization or a preferred provider organization, the hospital's market share in the county (in terms of the number of beds), county unemployment rate, average income per capita in the county, county population per county hospital bed, percentage of population aged 65 or older, and whether the hospital was an eye or kidney transplant center.

¹⁵While the chief executive's actions may affect operations to a degree infinitely greater than any other single employee's actions, a hospital's success is also influenced by many factors outside the chief executive's control. Consequently, hospitals may estimate the marginal contributions of their chief executives with considerable error. If those estimates are used to determine appropriate compensation amounts, then equally productive individuals may be compensated at different rates.

¹⁶Executives may receive additional compensation from related businesses. (See discussion on pp. 11 and 12.) However, because our data on this source of compensation was limited and because we had no information on the extent of any additional responsibilities, we did not include compensation from related businesses in our econometric analysis. Therefore, our results should be interpreted as measuring the impacts of factors associated with running a hospital (strictly defined) on chief executive compensation.

¹⁷To understand the theoretical origins of this practice, see Jacob Mincer, Schooling, Education, and Experience (New York: National Bureau of Economic Research, 1974). A double-log construction conveniently allows the coefficients to be interpreted as elasticities.

their net effect may vary between different types of hospitals. We did this by including a number of variables that identify hospital characteristics such as number of beds, ownership type (e.g., for-profit), involvement in medical education, status relative to other hospitals in the county, and membership in health systems or hospital alliances.

Hospital Location

Compensation amounts may vary between areas because of differences in the cost of living, amenity levels, or executive labor market conditions. We introduced a set of dummy variables that allowed average compensation to vary among the nine Census regions and between rural and urban areas. We included a hospital wage index, computed by HCFA, to control for local hospital labor costs. For the subsample of urban hospitals, we included a measure of urban population to capture the net effect of factors that vary by city size.

Other Controls

In some cases, the individual serving as chief executive changed midyear. We allowed for the possibility that—because of severance payments, moving allowances, or other one-time expenses—compensation could be abnormally high for the hospital in that particular year. We also included a variable to test whether, as some have suggested, newly hired chief executives are compensated at a higher rate than their predecessors. A third variable controlled for those cases where we annualized the part-year salary reported by the hospital. Lastly, we added a set of dummy variables to test whether real compensation—that is, adjusted for inflation—grew between 1989 and 1991.

Data Sources and Sample Description

To amass the information necessary to estimate our model, we tapped several sources. The executive compensation data we received from each hospital were matched to data in HCFA's Hospital Cost Report Information System Minimum Data Set (HCRIS) Minimum Data Set for that particular hospital in the same year.²⁰ Each record was then further augmented with information from AHA's Survey of Hospitals 1989 on selected characteristics of that hospital not contained in HCRIS, the 1992 area resource file (ARF) on county demographics, and the 1990 Census for urban population counts.

²⁰The fifth cycle of HCFA's HCRIS was used to construct some variables, including the Herfindahl index, for every hospital and year.

In total, 368 hospitals reported executive compensation data to us. Most of the respondents, but not all, provided the 3 years of data we requested. From this group we selected cases where the chief executive reported working full-time and where we could determine whether the same individual held the same position the previous year.²¹ The sample was further reduced when records could not be matched to the AHA or ARF data.²² Finally, four cases with extreme financial performance values were excluded from the analysis.²³

The full data set used in the econometric analysis contained 550 observations (i.e., it included multiple years from 247 separate hospitals). Because the mechanisms that determine the compensation for chief executives at the very smallest hospitals may not be identical to those that determine compensation at larger hospitals (our data included hospitals from 16 beds to 1,365 beds), we analyzed a subsample that included only those hospitals with at least 50 beds (498 observations). To allow for the possibility that market mechanisms in urban markets may differ from those in rural markets, we analyzed a sample that contained only urban hospitals regardless of size (402 observations).²⁴

Supporting Tables and Econometric Results

Table II.1 describes each of the variables entered in the econometric chief executive compensation equation and identifies the data sources. Table II.2 lists the mean values and standard deviations for these same variables. These statistics are presented separately for the three samples used in the econometric analysis: all hospitals, hospitals with at least 50 beds, and urban hospitals of any size.

The estimated coefficients from our two-stage least squares econometric analysis are provided in table II.3. Each coefficient estimates the effect on (the natural logarithm of) chief executive compensation resulting from a

²¹Although the literature suggested that newly hired chief executives are compensated at a much higher rate than their predecessors, our econometric results did not support this view. We also tried excluding this variable (thereby increasing the sample size) and found that the basic qualitative results remained the same. However, the estimated coefficient on the operating margin, while positive, was not statistically significant at conventional levels.

²²Approximately 15 percent of the short-term acute care hospitals included in the HCRIS database are not contained in the 1989 AHA survey. Alaskan hospitals were not included because the ARF does not provide county-level data for that state.

²³Cases with an operating margin of less than -2.0 (three cases) or greater than 0.99 (one case) were considered to be extreme outliers and were excluded to prevent them from exerting a disproportionate influence on the regression estimates.

²⁴Limited degrees of freedom precluded the separate analysis of small, medium-size, and large hospitals and also of rural hospitals.

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change in that variable, holding all other factors constant. The standard errors of these estimates are shown in parentheses.

Because inpatient days, patients discharged, and operating margin are measured in natural logarithms, each coefficient estimates the percentage change in chief executive compensation associated with a 1-percent increase in that variable's value. For example, if two hospitals were identical in all respects except that the number of patients discharged was 1-percent higher in one hospital, the estimates from the all-hospital sample suggest that compensation would be 0.236-percent higher in the hospital with the greater number of patients discharged. For continuous variables not measured in logarithms (i.e., the Herfindahl index, Herfindahl interacted with county population and wage index for all samples, and metropolitan population in the urban sample), each estimated coefficient approximates the percentage change in compensation associated with a one-unit increase in the variable.²⁵

Although the remaining variables are dichotomous (i.e., they take on the value "1" if the observation possesses the described characteristics and "0" otherwise)²⁶ the interpretation of their coefficients is quite similar to the above. These coefficients estimate the effect of that characteristic on compensation, holding all other factors constant. This effect is relative to a reference (or omitted) group.²⁷ For example, using the formula in footnote 25, the estimates from the all-hospital sample indicate that a chief executive of a government hospital would earn approximately 8.9 percent less than the chief executive of an otherwise identical not-for-profit hospital.

²⁵This approximation is closest when the estimated coefficient is near zero. The actual percentage change is calculated by the formula

$$e^b - 1$$

where b is the estimated coefficient. The untransformed coefficients, reported in Table II.3, are approximations of the characteristics' effects.

²⁶Also known as "dummy" variables.

²⁷The reference group for "small" and "large" is hospitals with between 100 and 500 beds. The reference group for "for-profit" and "government" is not-for-profit nongovernment hospitals. The reference group for the set of regional variables is hospitals located in the South Atlantic States. The reference group for the other dichotomous variables is hospitals that do not possess the indicated characteristic, e.g., hospitals that are not part of health systems is the reference group for "system member."

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Table II.1: Variable Descriptions and Data Sources

Variable	Description	Source^a
Dependent variable: chief executive compensation		
Compensation	Reported total of salary, taxable benefits, and allowances for the hospital's chief executive. Adjusted for inflation using the Consumer Price Index and reported in 1991 constant dollars. Measured in natural logarithms.	GAO survey
Hospital output and fiscal performance variables		
Inpatient days	Annual number of inpatient days. For example, a hospital that cared for 100 patients, each of whom stayed in the hospital for 5 days, would have produced 500 inpatient days.	HCRIS
Discharges	Annual number of patients discharged.	HCRIS
Operating margin	Profitability on patient care operations, measured as net patient revenues less patient care costs as a proportion of net patient revenues.	HCRIS
Local market competitiveness		
Herfindahl index	Measure of the concentration of hospitals within a county. Computed by summing the squared market shares (based on the number of beds) of each hospital within a county. Index ranges from near 0 (highly competitive hospital market—many small hospitals) to 1 (monopoly—only one hospital in the county). ^b	HCRIS PPS-V, computed
Hospital characteristics		
Hospital size	Hospitals were classified into 1 of 3 categories based on the number of hospital beds: small (1-100 beds), medium-size (101-500 beds), and large (501 or more beds). "Small" and "large" measure compensation received at those institutions relative to compensation received at a medium-size hospital.	HCRIS
For-profit	Equals 1 if operated as a for-profit hospital, 0 otherwise. Measures compensation relative to that received at an otherwise similar not-for-profit hospital.	HCRIS
Government	Equals 1 if operated as a state or local government hospital, 0 otherwise. Measures compensation relative to that received at an otherwise similar not-for-profit hospital.	HCRIS

(continued)

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Variable	Description	Source*
Medical education	Equals 1 if member of Council of Teaching Hospitals of the Association of American Medical Colleges or reports medical school affiliation to the American Medical Association, 0 otherwise.	AHA
Biggest	Equals 1 if the largest hospital in the county, 0 otherwise.	HCRIS, computed
System member	Equals 1 if member of a health care system, 0 otherwise.	AHA
Alliance	Equals 1 if member of an alliance, 0 otherwise.	AHA
Management contract	Equals 1 if the hospital is contract managed, 0 otherwise.	AHA
Holding company	Equals 1 if the hospital is a division or subsidiary of a holding company, 0 otherwise.	AHA
Subsidiaries	Equals 1 if the hospital itself operates subsidiary corporations, 0 otherwise.	AHA
Hospital location		
New England	Equals 1 if located in Connecticut, Maine, Massachusetts, New Hampshire, Rhode Island, or Vermont; 0 otherwise. Note: This and each of the other regional variables measure compensation in that region relative to compensation received at otherwise similar hospitals in the South Atlantic States, our geographic reference region.	HCRIS
Mid-Atlantic	Equals 1 if located in New Jersey, New York, or Pennsylvania; 0 otherwise.	HCRIS
South Atlantic	The geographic reference group for our analysis. It includes Delaware, Maryland, West Virginia, Virginia, North Carolina, South Carolina, Georgia, Florida, and the District of Columbia.	HCRIS
E. N. Central	Equals 1 if located in Illinois, Indiana, Michigan, Ohio, or Wisconsin; 0 otherwise.	HCRIS
E. S. Central	Equals 1 if located in Alabama, Kentucky, Tennessee, or Mississippi; 0 otherwise.	HCRIS
W. N. Central	Equals 1 if located in Iowa, Kansas, Minnesota, Missouri, Nebraska, North Dakota, or South Dakota; 0 otherwise.	HCRIS
W. S. Central	Equals 1 if located in Arkansas, Louisiana, Oklahoma, or Texas; 0 otherwise.	HCRIS
Mountain	Equals 1 if located in Arizona, Colorado, Idaho, Montana, New Mexico, Utah, or Wyoming; 0 otherwise.	HCRIS

(continued)

**Appendix II
Economic Analysis of Chief Executive
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Variable	Description	Source^a
Pacific	Equals 1 if located in Alaska, California, Hawaii, Oregon, Nevada, or Washington; 0 otherwise.	HCRIS
Urban	Equals 1 if located in a metropolitan statistical area (MSA), 0 otherwise. For the sample of urban hospitals this variable measures 1990 urban population of the MSA (or consolidated MSA if one exists) in natural logarithms.	HCRIS, Census
Wage index	Hospital labor cost index, by county.	HCFA Hospital Wage Index Survey
Other controls		
Midyear	Equals 1 if chief executive changed midyear, 0 otherwise.	GAO survey
New chief executive	Equals 1 if individual was not the chief executive in the previous year, 0 if he or she was chief executive.	GAO survey
Annualized	Equals 1 if hospital reported chief executive compensation for a period of less than 12 months (amounts were annualized in these cases), 0 otherwise.	GAO survey
Year=1990 Year=1991	Equals 1 if data were from that year (1990 or 1991), 0 otherwise. Measures change in inflation-adjusted compensation from 1989 levels.	GAO survey

^aKey to data sources: GAO survey = GAO Survey of Hospitals; AHA = American Hospital Association Survey of Hospitals, 1989; HCRIS = HCFA Medicare Hospital Cost Report Information System (PPS-V, VI, VII, and VIII)

^bCounties vary considerably in size, and their political boundaries may not always coincide with the relevant market area for some hospitals. Large counties will tend to contain many hospitals and, consequently, have a low Herfindahl index. Conversely, small counties will tend to have few hospitals and a low Herfindahl index. To partially control for this, we also interacted county population as of 1990 with the Herfindahl index.

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Table II.2: Variable Means and Standard Deviations

Variable	All hospitals		More than 50 beds		Urban hospitals	
	Mean	Standard deviation	Mean	Standard deviation	Mean	Standard deviation
Chief executive earnings	\$124,302	\$266,032	\$145,451	\$241,852	\$162,836	\$240,532
Small	0.44	1.72	0.27	1.41	0.18	1.13
Large	0.05	0.77	0.07	0.80	0.10	0.88
Inpatient days	48,058	178,978	58,581	173,775	71,123	175,366
Discharges	6,695	26,531	8,501	25,237	10,196	25,820
Operating margin	-0.06	0.67	-0.04	0.50	-0.03	0.35
Herfindahl	0.55	1.22	0.47	1.08	0.35	0.86
Herfindahl X county population	54.11	148.87	65.36	134.55	81.99	112.73
For-profit	0.12	1.11	0.15	1.15	0.16	1.09
Government	0.33	1.63	0.21	1.29	0.18	1.14
Sole community hospital	0.12	1.13	0.07	0.81	N/A	N/A
Medical education	0.20	1.39	0.26	1.39	0.34	1.42
Biggest	0.54	1.72	0.48	1.59	0.36	1.43
System member	0.26	1.52	0.31	1.47	0.35	1.42
Alliance member	0.26	1.51	0.34	1.50	0.35	1.42
Management contract	0.06	0.81	0.04	0.63	0.07	0.74
Holding company	0.24	1.48	0.30	1.45	0.32	1.39
Subsidiaries	0.16	1.25	0.20	1.28	0.23	1.26
Urban	0.54	1.72	0.66	1.50	1.00	0.00
Urban population	N/A	N/A	N/A	N/A	3,093,105	14,025,320
New chief executive	0.14	1.19	0.13	1.05	0.12	0.96
Annualized	0.01	0.36	0.01	0.29	0.01	0.29
Midyear	0.03	0.58	0.03	0.56	0.03	0.54
New England	0.05	0.75	0.07	0.78	0.06	0.72
Mid-Atlantic	0.10	1.03	0.13	1.06	0.16	1.09
E. N. Central	0.19	1.36	0.23	1.35	0.24	1.26
E. S. Central	0.05	0.77	0.06	0.77	0.04	0.61
W. N. Central	0.11	1.09	0.05	0.66	0.09	0.86
W. S. Central	0.13	1.18	0.11	1.00	0.08	0.82
Mountain	0.10	1.04	0.05	0.72	0.04	0.55
Pacific	0.08	0.95	0.11	0.99	0.11	0.93
Wage index	9.20	5.29	9.45	4.92	10.08	4.12
Year=1990	0.40	1.69	0.41	1.56	0.41	1.47
Year=1991	0.38	1.67	0.38	1.55	0.40	1.46

N/A = not applicable

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**Table II.3: Two-Stage Least Squares
Estimates of Effects of Factors on
Chief Executive Compensation**

	Dependent variable = ln (Earnings)		
	All	More than 50 beds	Urban ^a
Small (fewer than 100 beds)	-0.284 ^b (0.050)	-0.127 ^c (0.060)	-0.455 ^b (0.072)
Large (more than 500 beds)	0.055 (0.064)	-0.020 (0.069)	0.058 (0.062)
Inpatient days ^{d,e}	0.004 (0.027)	0.054 (0.044)	0.056 (0.051)
Discharges ^{d,e}	0.236 ^b (0.031)	0.279 ^b (0.049)	0.218 ^b (0.043)
Operating margin ^e	-0.051 (0.220)	0.523 ^c (0.250)	0.644 ^f (0.341)
Herfindahl	-0.199 ^b (0.074)	-0.140 ^f (0.082)	-0.160 ^f (0.094)
Herfindahl X Population	-0.001 (0.001)	-0.001 ^f (0.001)	
For-profit	0.111 ^c (0.045)	0.145 ^b (0.051)	0.193 ^b (0.058)
Government	-0.093 ^c (0.043)	-0.076 (0.047)	-0.099 ^f (0.052)
Sole community hospital	0.178 ^b (0.047)	0.131 ^c (0.063)	
Medical education	0.054 (0.037)	0.017 (0.040)	0.056 (0.038)
Biggest	0.108 ^b (0.042)	0.107 ^c (0.045)	0.014 (0.048)
System member	0.085 ^b (0.032)	0.070 ^c (0.034)	-0.001 (0.037)
Alliance	-0.018 (0.033)	-0.042 (0.035)	-0.087 ^c (0.036)
Management contract	-0.056 (0.057)	0.000 (0.077)	0.014 (0.073)
Holding company	0.037 (0.033)	0.005 (0.036)	0.029 (0.036)
Subsidiaries	0.015 (0.034)	0.008 (0.036)	0.054 (0.037)
Urban ^g	0.012 (0.043)	0.025 (0.047)	0.037 ^c (0.016)
New chief executive	-0.026 (0.042)	-0.070 (0.047)	-0.057 (0.052)
Annualized	0.112 (0.111)	0.233 (0.151)	0.207 (0.152)
Midyear	0.420 ^b (0.078)	0.509 ^b (0.094)	0.502 ^b (0.105)

(continued)

**Appendix II
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Dependent variable = ln (Earnings)

	All	More than 50 beds	Urban *
New England ^h	0.076 (0.074)	0.113 (0.081)	0.127 (0.085)
Mid-Atlantic	0.031 (0.055)	0.043 (0.059)	-0.037 (0.060)
E. N. Central	-0.036 (0.041)	-0.023 (0.046)	-0.088 ⁱ (0.051)
E. S. Central	0.028 (0.059)	0.069 (0.066)	0.032 (0.078)
W. N. Central	0.039 (0.057)	0.141 ⁱ (0.079)	0.140 ⁱ (0.080)
W. S. Central	-0.026 (0.057)	0.100 (0.067)	-0.173 ^b (0.063)
Mountain	-0.042 (0.057)	-0.086 (0.075)	-0.196 ^c (0.086)
Pacific	-0.280 ^b (0.067)	-0.364 ^b (0.075)	-0.221 ^b (0.079)
Wage Index	0.063 ^b (0.016)	0.087 ^b (0.019)	0.009 (0.022)
Year=1990	0.009 (0.031)	0.039 (0.037)	0.048 (0.039)
Year=1991	0.084 ^b (0.032)	0.114 ^b (0.038)	0.095 ^c (0.039)
Intercept	9.147 ^b (0.334)	7.976 ^b (0.427)	8.839 ^b (0.440)
Adjusted R ²	0.80	0.70	0.73
N observations	550	498	402
F-statistic	71.22	36.45	36.69

(Table notes on next page)

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Note: Standard errors are in parentheses. Although the equations contain a large number of variables, diagnostic techniques indicated that collinearity is not a serious problem. These techniques are discussed in Belsley, Kuh, and Welsh, Regression Diagnostics (New York: Wiley, 1980).

^aNo sole community hospitals are in the urban sample; hence, this variable is excluded. The county population variable interacted with the Herfindahl index is omitted because the "urban" variable measures the urban population.

^bSignificant at the 1-percent level.

^cSignificant at the 5-percent level.

^dVariable measured in natural logarithms.

^eEndogenous variable.

^fSignificant at the 10-percent level.

^gMeasures MSA population (or consolidated MSA, if appropriate) in natural logarithms for urban population. Otherwise, indicates urban/rural area.

^hReference region is South Atlantic. See table II.1 for list of states in each region.

Board Role in Executive Compensation

A hospital governing board has responsibility for the hospital's overall strategy and policies, its mission and financial performance, and its compensation strategy. In deciding compensation levels and policies for chief executives, board members may collect data on compensation levels prevalent in the area where the hospital is located and among executives at comparable hospitals.²⁸ Boards may also consider the executive's contribution to achieving the short- and long-term goals of the hospital when setting compensation levels.

Increasingly, board decisions regarding executive compensation have come under scrutiny from the public, state legislators, the IRS, and shareholders. Partly in response to the increased scrutiny, more boards link executive compensation, through incentive or merit compensation plans, to the individual's performance in helping the hospital meet its goals. Performance measures can be financial, such as revenue targets or increases in net income; service related, such as new programs or market share; or human resource related, such as productivity increases or recruitment goals.

More recently, some boards have begun to include performance measures that focus on the community's health status, such as the chief executive's efforts to address community health care needs and improve the health status of area residents. In this regard, AHA and the American College of Healthcare Executives have outlined various health care criteria that could be considered in evaluating executive performance.²⁹ These criteria

²⁸For example, compensation data can be obtained from the sources described below. The annual Hay Hospital Management/Professional Compensation Survey sponsored by the American Society for Healthcare Human Resources Administration and the Hay Group. The 1992 survey contains information from about 1,300 U.S. hospitals on compensation for executive management, nursing, and professional/technical positions. Study results show 1991-92 pay levels in hospitals increased more rapidly than in general industry; hospital executives and managers are now paid more competitively with their counterparts in other fields than previously; and hospital chief executives received average cash compensation of \$151,000.

Another source is the Report on Compensation in Hospitals, Governor's Task Force on Public Sector Compensation, April 1993. The task force requested information on salary and other forms of compensation for the 3 highest paid executives from New York's nearly 250 licensed hospitals; all but 5 responded. Cash compensation, including bonuses and payments from related businesses but not the value of benefits, ranged from \$54,000 in northern New York to \$810,000 in New York City. Additional results showed compensation was highest in New York City and lowest in the less populated upstate areas; larger hospitals and teaching hospitals paid more than smaller hospitals and nonteaching hospitals; and not-for-profit hospitals paid more than government hospitals. Regarding benefits, the study showed 6 percent of hospitals provided housing or housing allowances; most provided automobiles, life insurance, and retirement benefits; 33 percent provided severance packages and educational benefits to executives and their families; and 14 percent offered relocation benefits.

²⁹For a more detailed discussion of health status as an element in evaluating executive performance, see AHA and the American College of Healthcare Executives, Evaluating the Performance of the Hospital CEO in a Total Quality Management Environment, 1993.

Appendix III
Board Role in Executive Compensation

include how well an executive contributes to health promotion and disease prevention, implements processes to provide high-quality health care, plans for the hospital's future, ensures compliance with regulations, and prepares future leaders of health care organizations.

Management Services Contracts

Between 6 and 15 percent of hospitals paid their chief executives through management services contracts. These contracts can include items other than chief executive compensation, e.g., salaries and benefits for other top management executives, services such as data processing and collections and billings, and overhead. For instance, one not-for-profit hospital with 117 beds that reported no direct payment of compensation to its chief executive paid \$295,193 in 1991 to an unaffiliated management services firm. This contract covered not only the chief executive but also at least two other top management positions and the organization's management fee.

Hospitals with management contracts in 1991 reported that their contract amounts ranged from \$57,200 to \$10.2 million. About one-fourth of the management services contracts were with businesses directly related to the hospital. Hospital management contracts with related businesses were generally used by not-for-profit hospitals. Contracts with related businesses were generally for higher dollar amounts than management service contracts with unrelated businesses, ranging from about \$780,000 to \$10.2 million. Because hospitals were not required to itemize the content of payments for contract services, we do not know if these higher contract amounts reflect higher levels of compensation for chief executives or simply include payments for additional services.

Chief Executive Compensation by Hospital Size, 1989-91

Amounts expressed in 1991 dollars

Hospital size	Year	Mean	Sampling Error	Median	25 percent received more than	25 percent received less than
Small	1989	\$63,617	\$6,293	\$62,719	\$76,707	\$48,612
	1990	65,290	7,063	61,837	75,547	49,474
	1991	66,606	7,442	61,936	79,179	50,316
Medium	1989	159,208	10,038	142,551	184,237	108,972
	1990	169,520	17,680	150,021	190,806	115,822
	1991	171,192	8,505	157,851	207,958	128,092
Large	1989	273,846	28,673	232,095	300,301	193,400
	1990	280,855	31,595	243,486	301,013	195,244
	1991	277,352	21,182	253,517	326,335	205,314

Note: Small=1 to 100 beds, medium=101 to 500 beds, large=over 500 beds.

Chief Executive Compensation by Hospital Ownership Type and Size, 1991

Ownership	Size	Mean	Sampling Error	Median	25 percent received more than	25 percent received less than
Not-for-profit	S	\$75,743	\$14,658	\$65,828	\$94,655	\$58,190
	M	175,631	8,275	169,186	212,030	136,152
	L	288,774	24,278	264,796	332,259	214,350
For-profit	S	72,129	30,319	72,518	101,291	45,300
	M	181,541	37,133	157,851	214,993	130,090
	L	a	a	a	a	a
Government	S	55,132	5,369	57,190	64,512	47,967
	M	138,536	23,195	129,253	162,937	102,250
	L	240,050	51,116	222,551	279,450	164,248

Key: Small (S)= 1 to 100 beds, medium (M)=101 to 500 beds, large (L)=over 500 beds.

^aToo few cases reported to develop representative figures.

Note: Among hospitals that are similar in all respects except ownership, for-profit hospitals tend to pay higher compensation to chief executives than not-for-profit hospitals do. This fact is not clearly evident above because the table does not account for other important characteristics (besides size) that vary between for-profit and not-for-profit hospitals.

GAO Survey Instrument

INSTRUCTIONS:

1. If you file an IRS Form 990:

Please reproduce existing 990s. Provide a photocopy of your hospital's completed IRS Form 990 for 1989, 1990 and 1991. Please reproduce for each year, your hospital's entire filing, including the 990, Schedule A and any additional attachments, and return them in the enclosed self-addressed business reply envelope.

2. If you file with the SEC:

The Securities and Exchange Commission (SEC) requires businesses that offer securities to the public to disclose certain financial and management information. Such disclosures are made under Regulation S-K, Regulation A, and in Form S-1B. Please provide copies of any statements your hospital submitted in 1989, 1990, and 1991 to comply with any of these regulations and return them in the enclosed self-addressed business reply envelope.

3. If you do NOT file with the SEC NOR file an IRS Form 990:

Please complete this booklet using the instructions provided below. The following instructions for the attached forms are the same ones used by IRS for completing their Form 990. The instructions and definitions are the same for each year-- 1989, 1990 and 1991.

The following lists the item number contained on our Form and the corresponding IRS Form 990 reference number:

GAO Item	IRS 990 Reference
3	Part V
4	Part VI, 78c
5	Part IX
6	Part VI, 80a, 80b
7	Schedule A, Part I
8	Schedule A, Part II

GAO Item 3:

List each of the organization's officers, directors, trustees, and other persons having responsibilities or powers similar to those of

officers, directors, or trustees. List all of these persons even if they did not receive any compensation from the organization. Enter "0" in columns (C), (D), and (E) if none was paid. (For deferred compensation, see column (D) instructions.)

Show all forms of cash and noncash compensation received by each listed officer, etc., whether paid currently or deferred. In addition to completing this part, you may provide an attachment describing the entire year's compensation package of one or more officers, directors, and trustees.

Column (C)-Enter salary, fees, bonuses, and severance payments received by each person listed. Include current year payments of amounts reported or reportable as deferred compensation in any prior year.

Column (D)-Include all forms of deferred compensation (whether or not funded; whether or not vested; and whether or not the deferred compensation plan is a qualified plan under section 401(a) and payments to welfare benefit plans on behalf of the officers, etc. Reasonable estimates may be used if precise cost figures are not readily available.

Unless the amounts are reported in column (C), include salary and other compensation earned during the period covered by the return but not paid by the date the return was filed. Column (E)-Enter expense allowances or reimbursements that the recipients must report as income on their separate income tax returns. Examples include amounts for which the recipient did not account to the organization or allowances that were more than the payee spent on serving the organization. Include payments made under indemnification arrangements, the value of the personal use of housing, automobiles, or other assets owned or leased by the organization (or provided for the organization's use without charge), as well as any other taxable and nontaxable fringe benefits. Refer to IRS Publication 525 for more information.

GAO Item 4:

If you answer "Yes" to this question, complete Item 5.

GAO Item 5:

Complete this part if you answered "Yes" to Item 4.

GAO Item 6:

Answer "Yes" if most of the organization's governing body, officers, trustees, or membership are also officers, directors, trustees, or members of any other organization.

Disregard a coincidental overlap of membership with another organization (that is, when membership in one organization is not a condition of membership with another organization). For example, assume that a majority of the members of a section 501(c)(4) civic organization also belong to a local chamber

of commerce described in section 501(c)(6). The civic organization should answer "No" on this item if it does not require its member to belong to the chamber of commerce.

Also disregard affiliation with any statewide or nationwide organization. Thus, the civic organization in the above example would still answer "No" on this item even if it belonged to a state or national federation of similar organizations. A local labor union whose members are also members of a national labor organization would answer "No" on this item.

GAO Item 7:

Complete this item for the five employees with the highest annual compensation over \$30,000. Do not include employees listed in Item 3 (List of Officers, Directors, and Trustees). Also enter here the number of other employees with annual compensation over \$30,000 who are not listed individually.

In columns (C) through (E), show all cash and noncash forms of compensation received by each listed employee whether paid currently or deferred.

Column (C)-Enter salary, fees, bonuses, and severance payments received by each listed employee. Include current year payments of amounts reported or reportable as deferred compensation in any prior year.

Column (D)-Include all forms of deferred compensation (whether or not funded, whether or not vested, and whether or not the deferred compensation plan is a qualified plan under section 401(a). Include payments to welfare benefit plans on behalf of the employee. Unless the amounts are reported in column (C), include salary and other compensation earned during the period covered by the return but not paid by the date the return was filed.

Column (E)-Enter expense allowances or reimbursements that the recipients must report as income on their separate income tax returns. Examples include amounts for which the recipient did not account to the organization or allowances that were more than the payee spent on serving the organization. Include payments made under indemnification arrangements, the value of the personal use of housing, automobiles, or other assets owned or leased by the organization (or provided for the organization's use without charge), as well as any other taxable and nontaxable fringe benefits.

GAO Item 8:

Complete this item for the five highest paid independent contractors (whether individuals or firms) who performed personal service of a professional nature for the organization and, in return, received over \$30,000 for the year from the organization. Examples of such contractors include attorneys, accountants, and doctors. Also show the number of other independent contractors who received more than \$30,000 for the year for performing such services but who are not listed.

**Appendix VII
GAO Survey Instrument**

**U.S. GAO Survey of Hospitals on Compensation for
Hospital Directors, Executives and Professional Services**

For fiscal year 19

91

1. Is your hospital's 1991 fiscal year (or calendar year 1991)?

1. Yes 2. No: Enter fiscal year beginning _____, 19____, and ending _____, 19____

2. Did the person serving as your Chief Executive Officer/Administrator change from 1990 to 1991? 1. Yes 2. No

3. List the Hospital's Officers, Directors, and Trustees (list each one even if not compensated)

B. Name	C. Title	D. Avg. hours per week devoted to service	E. Compensation (if not paid, enter -)	F. Contributions to employee benefit plans	G. Expense account and other allowances

4. At any time during the year, did your hospital own a 50% or greater interest in a taxable corporation or partnership?

1. Yes (Continue to item number 5)
2. No (Skip the next item and go to question number 6)

5. Provide the information for the Taxable Subsidiaries Referenced in the Preceding Question.

B. Name of corporation or partnership	C. Employer Identification Number (EIN)	D. Percentage of ownership interest	E. Nature of business activities	F. Total income	G. End-of-year assets
		%			

6. Is your hospital related (other than by association with a statewide or nationwide organization) through common membership, governing bodies, trustees, officers, etc. to any other exempt or nonexempt organization?

1. Yes: 1. Enter the name of the organization: _____
2. Check whether this organization is exempt or nonexempt

2. No

7. Provide the Following Information for the Five Highest Paid Hospital Employees-- Other Than Officers, Directors, and Trustees-- Who Earn More than \$30,000 per Year

B. Name of employees paid more than \$30,000	C. Title	D. Avg. hours per week devoted to service	E. Compensation	F. Contributions to employee benefit plans	G. Expense account and other allowances

Enter total number of other employees
over \$30,000: _____

8. Provide the Following Information for the Five Highest Paid Persons-- Other Than Hospital Employees, Officers, Directors, and Trustees-- for Professional Services (if there are none, enter "None.")

B. Name of persons paid more than \$30,000	C. Type of service	D. Compensation

Enter total number of others receiving
over \$30,000 for professional services: _____

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**Appendix II
Economic Analysis of Chief Executive
Compensation**

influence compensation.¹⁸ Each of these factors can be grouped into one of the five categories listed below.¹⁹

**Hospital Output and Fiscal
Performance**

The level of hospital output may indicate the enormity of the chief executive's position or, alternatively, the executive's skill at running the hospital. If either is the case, then higher compensation should be associated with greater output. We included two measures of output: the annual number of inpatient days and patients discharged.

Chief executives of financially healthier hospitals may receive greater compensation—either as a reward for their role in producing fiscal health or simply because of their hospitals' greater ability to pay—than chief executives at fiscally weaker hospitals. To allow for this possibility, we included a hospital's "operating margin" (net operating profit as a percentage of net patient revenues) as a measure of fiscal performance.

**Local Market
Competitiveness**

The degree of competitiveness in the local hospital market could affect executive compensation for two reasons. First, hospitals in highly competitive markets may feel compelled to hire more experienced or skilled—and thus more expensive—individuals for the chief executive position than similar hospitals in less competitive markets. Second, highly competitive markets generally have more hospitals—and thus a greater local demand for chief executives—than less competitive markets. If the supply of executives is relatively inelastic, compensation would tend to be higher in those areas with greater demand. We measured competitiveness with the Herfindahl index calculated at the county level with market shares determined by the number of beds in each hospital relative to the county total.

Hospital Characteristics

Economic theory suggests that the working environment, scope of responsibility, and level of nontaxable (and therefore unreported) fringe benefits together will affect the level of compensation a hospital must offer to attract and retain a suitable chief executive. Although direct measures of these factors do not exist, we allowed for the possibility that

¹⁸We did not include personal characteristics of executives because these data were unavailable. (This type of information is rarely obtainable. For one study that did include this information, see Timothy Hogan and Lee McPheters, "Executive Compensation: Performance Versus Personal Characteristics," *Southern Economic Journal*, 46(4): 1060-1068.) This omission is probably not serious because a chief executive's recent performance may be a much better predictor of future performance than traditional measures of human capital, such as years of education acquired long ago.

¹⁹For a complete list of the variables included, their definitions, and data sources see table II.1.