COUNCIL ON GRADUATE MEDICAL EDUCATION

SUPPLEMENT

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The Financial Status of Teaching Hospitals

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The Underrepresentation of Minorities in Medicine

U.S. DEPARTMENT OF HEALTH AND HUMAN SERVICES
Public Health Service
Health Resources and Services Administration

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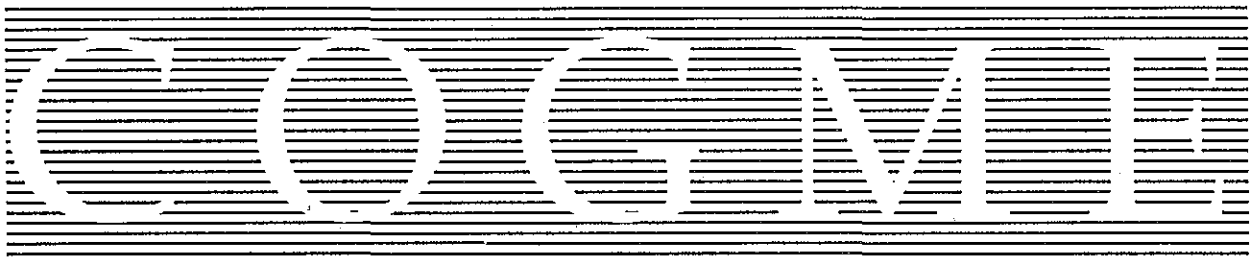

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U.S. DEPARTMENT OF HEALTH AND HUMAN SERVICES
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SUPPLEMENT
Table of Contents--Appendices

NOTE ON THE APPENDICES

The Lewin/ICF data and analyses are provided in Appendices A, B, and C. Appendix A is the final version of Lewin/ICF's draft report presented to the Council on November 2, 1989. Appendix B is a set of data from an additional analysis requested by the Council at the November 2 meeting and provided at the January 29-30, 1990, meeting. Appendix C presents a revision by Lewin/ICF of its projected Medicare margins and certain related statistics, which were presented to the Subcommittees and Council in June. The Council's final conclusions and recommendations were revised to take into account the new projections in Appendix C.

APPENDIX A

Analysis of the Financial Status of Teaching Hospitals

HRSA Contract Number 282-88-0017

Delivery Order #3

Final Report

A Discussion Paper

Prepared for:

The Council on Graduate Medical Education

March 8, 1990

Robert Derzon
Allen Dobson, Ph.D.
Robert E. Mechanic
J. Michael Watt

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Analysis of the Financial Status of Teaching Hospitals
HRSA Contract Number 282-88-0017
Delivery Order #3
Final Report

Table of Contents

Analysis of the Financial Status of Teaching Hospitals
HRSA Contract Number 282-88-0017
Delivery Order #3
Final Report

Table of Contents
(continued)

Analysis of the Financial Status of Teaching Hospitals
HRSA Contract Number 282-88-0017
Delivery Order #3
Final Report

Table of Contents
(continued)

Acknowledgements

The preparation of this study was assisted greatly by the cooperation of a number of organizations which provided us with data, analysis, and valuable insight concerning the national hospital environment. Their assistance allowed us to broaden the analysis in a manner which would not have been possible given the short time available to complete this report. Linda Fishman and Jim Bentley of the Association of American Medical Colleges (AAMC) provided tables and analysis from their survey of member hospitals, supported in part by a grant from The Commonwealth Fund. Monica Drueth, Peter Kralavec, and Robert Bergmann of the American Hospital Association (AHA) also provided tables analyzing their annual hospital survey data. Patricia Siclari of the American Osteopathic Hospital Association (AOHA) provided helpful information about Osteopathic hospitals from the AOHA's member survey. Data used to analyze Veterans' Administration hospitals was provided by the Division of Resource Management. William Boushka, Randall Haught, and Qiao Xing of Lewin/ICF provided valuable programming and data analysis support. We would like to thank all who assisted with this effort.

The views expressed in this report are solely those of the authors. Other persons providing data and assistance bear no responsibility for the views expressed herein.

CHAPTER ONE: INTRODUCTION AND KEY STUDY FINDINGS

A. PURPOSE AND OVERVIEW

The Council on Graduate Medical Education (COGME) is charged by Congress to provide recommendations concerning the adequacy of the current and future supply and distribution of physicians in the United States; issues relating to foreign medical graduates; and appropriate federal policies with respect to these matters. COGME's role includes providing the Congress with recommendations for change in the financing of medical education programs. Congress also directed COGME to recommend policies designed to influence physician supply and distribution which would be carried out by hospitals, medical schools, and accrediting bodies. A final component of COGME's function is to assess and recommend improvements in data bases to identify and monitor change in the above factors.

It has been evident from COGME's earliest sessions that physician supply and distribution issues are inseparable from issues of concern to the teaching hospitals in which the majority of training for new physicians occurs. In these hospitals, much of the education costs are financed through fees for patient care services. It is generally accepted that teaching programs increase the cost of services, which in competitive markets may put teaching hospitals at a competitive disadvantage for patients and capital. Recent testimony to COGME by a variety of groups has raised questions about the financial status of these hospitals, the effect of changes in federal and private payer reimbursement policies on them, and the resulting influence on the hospitals' willingness and ability to continue to participate in medical education. Following its June 1989 meeting, COGME commissioned Lewin/ICF to gather and analyze available information on the financial status of teaching hospitals, including those of the Veterans' Administration.

This study responds to that charge. It describes measures of the financial status of hospitals, assesses the data sources available for tracking these measures over time, and examines trends in five measures of teaching hospital financial viability computed from a variety of available data sets. The study also provides an initial assessment of the relationships

between the financial status of teaching hospitals and factors internal to hospitals or characteristic of their environments. The study presents calculations of averages, detailed information on hospitals with negative margins, and analysis of the range of winners and losers among both teaching and non-teaching hospitals.

B. KEY STUDY FINDINGS

Our analysis of teaching hospital financial status suggests that hospitals in general and teaching hospitals in particular have been affected by recent changes in the health care environment, especially new payment policies which have been adopted by third party payers. The analysis tested a series of hypotheses drawn from commonly held perceptions about hospital financial status as well as published reports by other analysts. Our findings, discussed in the context of these hypotheses, are presented below.

H.1: PPS operating margin[1] -- a measure of earnings from service to Medicare patients -- has fallen during the first four years of PPS.

Nationwide, the average Medicare PPS operating margin for all hospitals fell from 14.7 percent in PPS Year 1 to 5.1 percent in PPS Year 4.

H.2: PPS operating margins will continue to fall, given existing and proposed PPS regulations and the historical growth rate of hospital costs per case.

Lewin/ICF projections, based on current statutory payment regulations and historical rates of increase for costs, indicate that PPS operating margins will continue to decline. By federal fiscal year 1990 (roughly PPS Year 7), we project that PPS operating margins for all hospitals will be negative 6.3 percent.

H.3: Teaching hospitals' PPS operating margins have fallen further relative to those of non-teaching hospitals.

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[1] Definitions of all financial measures are discussed in Chapter Two.

Although teaching hospital PPS margins have declined substantially since the implementation of Medicare prospective payment, they have fallen less than non-teaching hospital PPS margins. In fact, teaching hospital PPS margins have been much higher than those of non-teaching hospitals in each year since the beginning of PPS. The extent of the difference is apparent from the PPS operating margins calculated for PPS Year 4: non-teaching (1.8 percent), all teaching (8.8 percent), major teaching (13.7 percent), and minor teaching (7.3 percent).

H.4: The relationship among PPS operating margin, patient margin, and total margin varies by hospital teaching status.

Importantly, while teaching hospitals generally have higher PPS margins, they also have lower total margins (which reflect the net income or loss when all revenues and expenses are included) than non-teaching hospitals. Major teaching hospitals have been particularly hard hit. In PPS Year 4 we calculate that hospitals achieved the following total margins: non-teaching (3.8 percent), all-teaching (3.2 percent), major-teaching (1.8 percent), and minor-teaching (3.8 percent).

The low total margins found in major teaching hospitals partly reflect the fact that they care for a larger proportion of "no-pay" and "low-pay" patients. This is apparent in the patient margins of major teaching hospitals which are much lower than those of non-teaching hospitals. Patient margin by teaching status in PPS Year 4 is as follows: non-teaching (-0.4 percent), all teaching (-3.8 percent), major teaching (-8.2 percent), and minor teaching (-2.2 percent). However, as discussed below, the calculation of patient margin somewhat overstates the expenses attributable to direct patient care.

H.5: Total margin has fallen over the first four years of the Medicare prospective payment system.

Hospital total margins, which reflect the overall profitability of hospitals, have fallen from 7.6 percent in PPS Year 1 to 3.5 percent in PPS Year 4. This decline is more extreme than previously reported and suggests that overall hospital financial condition is affected only in part by falling Medicare margins.

H.6: As PPS margin and total margin decline, the current ratio (CR) will fall and the fixed asset financing ratio (FAFR) will increase.

Hospital current ratios in fact have remained relatively constant between PPS Year 1 and PPS Year 4 for all hospitals. This reflects the ability of hospitals to maintain stability in this measure despite changes in short term operating conditions. The fixed asset financing ratio (FAFR) also appears relatively stable in the aggregate. However, on average the FAFR increased between PPS Year 1 and PPS Years 2 and 3 for all teaching hospitals, reflecting increased borrowing for capital projects by these institutions.

H.7: PPS margin and total margin vary by hospital group.

A number of hospital group characteristics correlate strongly with hospital financial measures. Urban hospitals have much higher PPS margins than rural hospitals, although there is little difference in urban and rural total margins. Both PPS margin and total margin vary markedly by region and hospital ownership, but they do not vary in tandem. In general, margins were higher for disproportionate share hospitals.

H.8: Hospitals experiencing the greatest positive change in occupancy will have higher PPS margins and total margins; and

H.9: Hospitals experiencing the greatest positive change in volume (discharges) will have higher PPS margins and total margins.

Large positive increases in occupancy rates and discharges were found to be positively associated with PPS margin values (e.g., higher percent changes in occupancy rates were associated with higher PPS margins).

H.10: Hospitals experiencing greater cost increases will have lower PPS margins and total margins; and

H.11: Hospitals experiencing the greatest increases in percent Medicare days and Medicaid days will have lower PPS margins and total margins.

Large percentage increases in Medicare cost-per-case between PPS Year 1 and PPS Year 4 were found to be negatively associated with PPS margin values (e.g., higher percent changes in Medicare cost-per-case were associated with lower PPS margins). Large increases in institutions' percent Medicare days was also found to be associated with lower PPS margins. However, the percentage change in Medicaid days was positively correlated with PPS margins, contrary to our original hypothesis.

H.12: High levels of bad debt and charity care are associated with lower total margins.

Teaching hospitals and state and local government hospitals had particularly high levels of bad debt and charity care (10.3 percent and 13.3 percent of gross patient revenue respectively in 1988) compared with the average level of all U.S. hospitals (6.3 percent in 1988). High proportions of bad debt and charity are associated with low total margins for all categories of hospitals. However, the relationship between bad debt and charity and total margins is not entirely predictable. For example, non-teaching and minor teaching hospitals providing median levels of bad debt and charity have higher total margins than comparable hospitals with either extremely high or extremely low levels of bad debt and charity.

H.13: Teaching hospital PPS margin will continue to fall through PPS Year-7.

Using the Lewin/ICF Payment Simulation Model (PSM), we estimate that teaching hospital PPS margins will continue to decline. By federal fiscal year 1990, roughly PPS Year 7 and the current fiscal period in which this study was conducted, we project PPS operating margin will be distributed as follows:

- Non-teaching -8.6 percent
- All teaching -3.9 percent
- Major teaching 5.5 percent
- Minor teaching -6.5 percent

Although major teaching institutions are projected to maintain positive Medicare margins, recent declines coupled with private sector initiatives to control costs could place the teaching mission at some risk.

H.14: The percentage of hospitals with negative PPS margins is increasing over time.

The percentage of hospitals with negative PPS margins rose from 17.6 percent to 44.6 percent between PPS Year 1 and PPS Year 4. A much larger percentage of non-teaching hospitals had negative margins (48.3 percent) in PPS Year 4 than major teaching hospitals (16.8 percent).

H.15: Hospitals with negative margins (PPS and total margins) will incur increasingly large losses over time.

Percentile distributions indicate that by PPS Year 4, 25 percent of all hospitals had PPS margins which fell below negative 8.9 percent. In PPS Year 7, 25 percent of hospitals are projected to have PPS margins below negative 22.8 percent. Percentile distributions clearly show that the number of hospitals incurring large losses on Medicare patients has increased greatly. The spread between winner and loser hospitals is expected to increase further in PPS Year 7. Despite the declines experienced by many hospitals, a small proportion of hospitals were able to maintain relative high PPS margins.

Although teaching hospitals are clearly experiencing growing financial pressure, they appear to be adapting more effectively than non-teaching hospitals, perhaps because teaching hospitals were better cushioned at the outset of prospective payment. Teaching hospitals have been able to control the rate of growth in cost-per-case as well or a bit better than non-teaching

hospitals, despite a greater increase in their case-mix index and the amount of resources they devote to medical education. Teaching hospitals are larger than non-teaching hospitals and have significantly higher occupancy rates. In addition, although occupancy rates have declined for the industry in general, they have increased for teaching hospitals. The fact that more patients are using teaching hospitals has both cost and quality implications, and suggests that at least in the recent past, many have competed effectively in a more market-oriented system.

In addition to examining the hypotheses described above, we conducted separate analyses of financial status in osteopathic hospitals, three individual states, and the Veterans' Administration. Our findings are briefly summarized below.

Osteopathic Hospitals. Analysis of Medicare cost report data for 77 members of the American Osteopathic Hospital Association (AOHA) indicates that the financial condition of osteopathic hospitals is generally worse than that of allopathic institutions. The majority of the AOHA hospitals (54) in our data set are classified as minor teaching institutions. Examination of AOHA minor teaching institutions in PPS Year 4 shows that: PPS margin for AOHA institutions (3.6 percent) was lower than for all minor teaching hospitals (7.3 percent); total margin for AOHA members (-0.8 percent) was below that of all minor teaching hospitals (3.8 percent); and measures of balance sheet strength were weaker for AOHA members than for all minor teaching hospitals. The AOHA analysis is presented in Appendix B.

California, New Jersey, and Massachusetts. We analyzed separate data sets from three individual states in order to: 1) gain increased clarity on the picture of hospital financial status revealed in data other than Medicare cost reports; 2) review more closely the relationships among charity care, teaching status, and financial status; and 3) examine the relationships between other state health care policies and financial status. California, New Jersey, and Massachusetts all educate a large number of residents but have taken very different approaches to health care cost containment. Although

there are differences between the MCR and state data sets with respect to hospital fiscal periods, reporting institutions and specific data elements, results from analysis of state data sets confirms the declining hospital financial condition indicated by the Medicare cost report data. This is indicated by lower total margins, lower current ratios, and higher fixed asset financing ratios for both hospitals in general and for major teaching institutions over time. Greater detail on each state is presented in Appendix B.

Veteran's Administration. Evaluation of the financial status of Veterans' Administration hospitals is complicated by the fact that traditional measures of financial performance used to analyze private sector hospitals cannot be developed for VA institutions. Financial record keeping in the VA is centered around the federal budget process and VA hospitals do not earn profits or track revenues and expenses in the same manner as non-federal hospitals. A number of alternative measures of the rate of increase in funds available to VA hospitals were developed and compared to similar measures in the private sector. Our analysis indicates that the funds available to Veterans' Administration hospitals grew more slowly than private sector hospital net revenues. However, it is difficult to fully evaluate the impact of this slower growth rate, because directly comparable measures of cost can not be calculated for VA institutions with currently available data.

Between 1985 and 1988 the annual rate of growth in inpatient per-case direct patient care and educational expenditures in VA major teaching hospitals (2.8 percent) was below the annual increase in Medicare per-case net revenues in private major teaching hospitals (5.8 percent). On this measure, the difference between VA non-teaching hospitals (0.8 percent) and private non-teaching hospitals (5.8) percent was even more pronounced. Similarly, the annual increase in total expenditures in VA major teaching hospitals (5.1 percent) was below the rate of growth in total net revenues in private major teaching hospitals (7.9 percent). The annual growth in total expenditures in VA non-teaching hospitals (4.4 percent) was less than the rate of revenue growth in private non-teaching hospitals (5.1 percent). Within the VA system,

expenditures grew more rapidly in teaching hospitals than in non-teaching hospitals.

An important limitation of this analysis is that we were unable to develop a reliable case mix measure for VA hospitals using the "weighted work unit" methodology developed by the VA. Although we know that the rate of growth in funds available to VA hospitals was less than at private hospitals, we do not know whether the underlying costs of providing patient care also grew more slowly. Without comparable cost data or a reliable case-mix index to measure relative changes in resource intensity between VA and private sector hospitals and between major teaching and non-teaching hospitals within the VA, the implications of differences in revenue growth rates on quality of care and the continued ability to offer educational opportunities cannot be fully evaluated. However, given the lower rates of growth in funds available to VA hospitals relative to private institutions, if VA hospitals cannot make up for this difference by operating more efficiently they will be forced to respond by: 1) reducing the number of patients served; 2) reducing the quality of care provided to each patient; or 3) allowing depletion of the institutions' capital stock.

C. REPORT ORGANIZATION

This document elaborates on the above findings based upon our analysis of data sources containing information on the financial status of hospitals with a particular focus on teaching hospitals. It is organized as follows:

- Methods, data, and analyses, which describes our approach to the gathering, analysis, and reporting of data on teaching hospital financial status trends from a variety of sources and details the questions and hypotheses to be examined in the study;
- Findings, which presents the results of our analyses of teaching hospital financial status, and includes projections developed with the Lewin/ICF Payment Simulation Model (PSM) which simulates the effects of current Medicare policies on teaching hospital financial status through PPS Year 7;

- Analysis of financial status of Veterans' Administration hospitals, which develops alternative financial measures to analyze VA hospital financial status and uses them to compare relative changes in VA hospitals between 1985 and 1988 with private sector institutions; and

- Observations and conclusions, which assesses the importance of our findings for issues central to COGME's mission.

CHAPTER TWO: METHODS, DATA, AND ANALYSES

A. QUESTIONS FOR STUDY AND STUDY PROTOCOL

This study examines trends in measures of hospital financial viability and relates these trends to hospital operating characteristics and aspects of hospital operating environments. We have addressed five basic questions:

- What are the various measures of hospital financial viability? What can we learn by using different financial measures and comparing their results? How do the findings from different data sets compare?
- To what extent has hospital financial condition changed since the introduction of the Medicare Prospective Payment System (PPS)?
- How does teaching hospital financial condition compare to that of non-teaching hospitals, and how has this relationship changed since PPS was implemented?
- How have local and market factors affected teaching hospital financial viability?
- How does hospital financial status vary by:

  -- Teaching status?
  -- Hospital group?
  -- Hospital operating characteristics?

The study protocol used to examine these questions involved three steps. First, a series of financial measures, hospital group characteristics, and hospital operating characteristics was selected. Hospital margin was the primary measure used to analyze hospital financial viability, although liquidity and debt capacity also were examined. Hospital group and operating characteristics selected for analysis were those that we felt might influence differences in financial status across hospitals. Secondly, a detailed set of study hypotheses was developed to guide our analysis. Finally, a series of descriptive tables was produced which link hospital financial performance measures to the study's hospital group and hospital operating characteristics.

Our findings, presented below, are in large part based on interpretation of these tables.

Exhibit 1 provides a detailed list of variables used to stratify hospitals by teaching status, hospital group, and hospital operating characteristics.

Exhibit 1

HOSPITAL STRATIFICATION VARIABLES

Teaching Status	Hospital Group	Operating Characteristics
All Hospitals	Urban/Rural	Case-mix Index
Academic Medical Center	Bed Size	Occupancy Rate
Major Teaching	Census Region	Number of Discharges
Minor Teaching[2/]	Ownership	Cost-per-case
Non-Teaching[3/]	Disproportionate Share	Percent Medicare Days
		Percent Medicaid Days
		Percent Bad Debt and Charity

2/ Major teaching institutions report an IRB ratio greater than or equal to .25. The IRB ratio is the number of full-time equivalent interns and residents assigned in a hospital, divided by operating beds.

3/ Minor teaching institutions report an IRB ratio between zero and .25.

The remainder of this section defines the study's financial and hospital characteristics variables, indicates how teaching hospitals were categorized, outlines our data sources, and presents study hypotheses.

B. MEASURES OF HOSPITAL FINANCIAL STATUS

The policy literature relating to teaching hospital financial status has focused on annual measures of hospital profitability or "margins." Financial analysts, such as those rating hospital debt, examine other measures as well, especially balance sheet ratios. In this section we discuss the range of measures of hospital financial status and important differences in the definitions of these measures as applied by various analysts.

1. Hospital Margins

Hospital margins are the primary indicators used to analyze hospital financial viability. Margins indicate the percentage of profit or loss (surplus or deficit of revenues over expenses) earned by hospitals during a particular year. Three measures of hospital margins are examined throughout this study:

- PPS Operating Margin (PPS-OM)
- Patient Margin (PM)
- Total Margin (TM)

PPS operating margin (PPS-OM)[4] measures the profit or loss resulting from provision of acute inpatient hospital care to Medicare beneficiaries under the prospective payment system (PPS). PPS margin is the measure used by the Congressional Budget Office (CBO), the Prospective Payment Assessment Commission (ProPAC), the Health Care Financing Administration (HCFA), and the Office of the Inspector General (OIG) to analyze the impact of PPS on the hospital industry. PPS margin is defined as PPS operating revenues minus PPS operating costs divided by PPS operating revenues ((R-C)/R) expressed as a percentage. PPS operating revenues are defined to include total DRG case payments, outlier payments, indirect teaching adjustments, and disproportionate share adjustments. Reimbursement and costs for capital, direct

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[4] PPS operating margin is hereafter referred to as PPS margin.

medical education, and kidney acquisition are excluded from the analysis. In addition, PPS operating costs exclude certain expenses not allowable by Medicare but incurred by virtually all hospitals in operating their programs. The exclusion of pass-throughs and certain operating costs tend to contribute to greater variation in PPS margins (either negative or positive) than other measures of hospital margins, such as total margin.

Nationwide, approximately 27 percent of all hospital revenues come from serving Medicare beneficiaries, and certain hospitals depend on Medicare for a significantly higher portion of their total revenues.[5] A strong (or weak) PPS margin will affect but may not correlate with a hospital's overall financial condition since many other financial factors affecting hospitals are not reflected in the PPS margin. Many teaching hospitals have lower than average Medicare activity and are more heavily influenced by state Medicaid policy and flows of uninsured patients. Our analysis, therefore, examines two additional measures of hospital margin.

Patient margin (PM) measures the financial gain or loss from treating all patients, not just Medicare beneficiaries. Patient margin is defined as net patient revenues minus total expenses divided by net patient revenues expressed as a percentage. Patient margin is a more aggregate measure of hospital financial condition as all payer revenue sources are reflected. For institutions with a small Medicare patient base or large surpluses or losses from other payers, this measure, by definition, more accurately reflects hospitals' overall fiscal operating condition than PPS margin. However, the method used here to calculate patient margin does to some extent overstate the expenses attributable to direct patient care.

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[5] Letsch, Levit, Waldo, "National Health Expenditure, 1987," Health Care Financing Review, Winter 1988.

Total margin (TM) is a final measure of importance. It is defined as total net revenue[6] minus total expenses, divided by total net revenue expressed as a percentage. Total margin typically is higher than patient margin because it is based on the same total operating costs but often includes additional revenues from non-operating sources (e.g., interest earnings and capital gains or losses).

Hospital margins provide insight into financial viability in a number of ways. Positive margins indicate the degree to which hospitals have been able to earn surpluses (profit) from providing care in any given period. PPS margin provides information on the extent to which the Medicare program fully covers the allowable treatment costs of Medicare beneficiaries; patient margin indicates the degree to which revenues from all payers for service to patients meet total hospital expenses; and total margin, by including other operating and non-operating revenues, provides the most complete picture of profitability. Total margin often is the benchmark factor evaluated when hospitals seek capital in the credit markets.

Single-year margins provide a snapshot of profitability while analysis of margins over time provides a consistent way to measure how internal and external events have impacted the industry and different types of hospitals. Margins also are useful for examining the range of winners and losers within the hospital industry. Although average margin estimates are good indicators of financial performance in different types of hospitals, the proportion of hospitals with negative margins or margins calculated for percentiles of hospitals provide greater insight into the impact of current trends on the hospital industry. For example, although a particular group of hospitals may have positive margins on average, the bottom quartile may be incurring large losses. Therefore, percentile distributions provide decision makers with a better understanding of past, present, or potential impacts of policy options than average margin statistics.

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[6] Total net revenue is equal to net patient revenue plus other operating and non-operating revenues.

2. Other Measures of Financial Status

Two balance sheet measures of financial status are examined in this study in addition to the three measures of hospital margins. These ratios measure short-term and long-term balance sheet strength:

- Current Ratio (CR). The current ratio is calculated as total current assets divided by total current liabilities. The current ratio is used to measure an institution's short term liquidity and solvency by indicating the amount of current assets available to meet each dollar of current liabilities. Current assets include cash, marketable securities, and net accounts receivable while current liabilities include accounts payable, wages and salaries payable, debt principal, interest, and taxes payable. A current ratio of less than one indicates that a hospital may not have sufficient resources to pay for short-term obligations. A low current ratio is often an early sign of financial distress.

- Fixed Asset Financing Ratio (FAFR). The FAFR is long-term liabilities divided by net fixed assets (gross property, plant, and equipment net of accumulated depreciation). The numerator represents future demand for cash flow to make principal payments while the denominator represents the book value of physical assets and equipment. A high or increasing FAFR indicates an increasing reliance on debt versus accumulated earnings for financing capital expenditures.

Hospital margins provide an indication of an institution's current profitability; the current ratio provides an indication of hospitals' ability to meet near-term cash flow obligations; and the FAFR measures hospitals' reliance on debt to finance fixed assets. Hospitals experiencing declining margins over time may be forced to rely on borrowing in order to maintain their fixed asset base. Alternatively, hospitals incurring sustained losses may allow their physical plant and equipment to deteriorate. In either case, the FAFR will reflect the long-term impact of declining hospital margins.

C. DATA SOURCES

Five different data sources were used to develop the financial measures for this analysis. These include:

- Medicare Cost Reports (MCRs)
- American Hospital Association (AHA) Surveys
- Association of American Medical Colleges (AAMC) Surveys
- Veterans' Administration (VA) hospital system information
- State data sources.

We conducted a separate analysis of osteopathic hospitals using the Medicare cost report data. The financial status variables available from each data set are presented below.

FINANCIAL STATUS INDICATORS AVAILABLE BY DATA SOURCE

	Financial Status Indicator				
	PPS-OM	PM	TM	CR	FAFR
Medicare Cost Reports	X	X	X	X	X
AHA Survey		X	X	X	X
AAMC Survey		X	X	X	
State Data Sets			X	X	X
Veterans Administration	n/a	n/a	n/a	n/a	n/a

Legend: PPS-OM: PPS Margin
PM: Patient Margin
TM: Total Margin
CR: Current Ratio
FAFR: Fixed Asset Financial Ratio

See text for definitions.

The principal data used to develop the study's financial measures are derived from Medicare cost reports summarized on the Hospital Cost Report Information System (HCRIS) tapes produced by HCFA. The MCR data provide detail sufficient to estimate all three types of margins and the current and fixed asset financing ratios for PPS1 through PPS4. The MCR data is also used to develop projections of PPS margin for PPS5 through PPS7. The only other

data on PPS margin comes from the AAMC surveys for 1986 through 1988. The AAMC calculated PPS margin, patient margin, and total margin, but did not provide any balance sheet indicators. The AHA prepared estimates of the financial measures between 1985 and 1988, with the exception of PPS margin which they were unable to provide. The state data sets provide a wide variety of measures. Important details concerning those data sets and their strengths and limitations for measuring hospital financial status are discussed further in section 5 below.

1. Medicare Cost Report Data: HCRIS Tapes

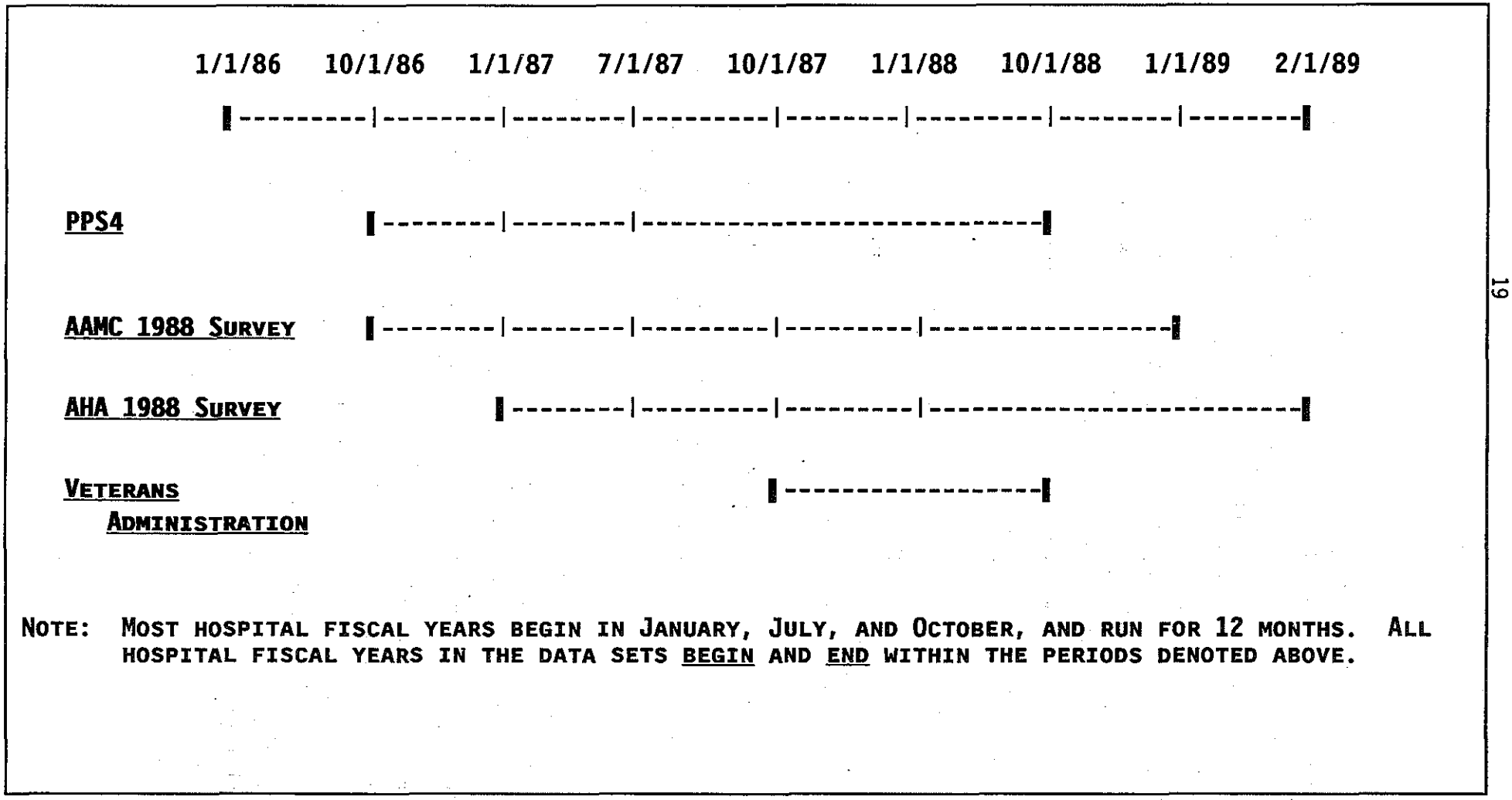
The HCRIS tapes produced by HCFA contain nearly 550 data elements extracted from the MCRs of the roughly 6,000 hospitals participating in the Medicare program. The tapes contain information by PPS Year, as follows:

PPS Year	Hospitals with Fiscal Years Beginning
1	October 1, 1983, through September 30, 1984
2	October 1, 1984, through September 30, 1985
3	October 1, 1985, through September 30, 1986
4	October 1, 1986, through September 30, 1987

Nationwide, the majority of hospitals' fiscal years start on January 1 (a calendar year), July 1, or October 1. Thus, the PPS-4 HCRIS tape contains information on hospitals whose fiscal years ended mostly on September 30, 1987, December 31, 1987, or June 30, 1988. Figure 1 presents a timeline comparing the hospital reporting periods captured by the other data sources used in this study compared with Medicare Cost Report data for PPS-4. Data from the most recent AAMC survey and the 1989 AHA survey contain data slightly more recent than PPS-4 (e.g., they contain some PPS-5 data). However, there is sufficient overlap so that analyses using these data can be compared with PPS-4 MCR information.

FIGURE 1

PERIODS OF OPERATION REPRESENTED BY KEY DATASETS



NOTE: MOST HOSPITAL FISCAL YEARS BEGIN IN JANUARY, JULY, AND OCTOBER, AND RUN FOR 12 MONTHS. ALL HOSPITAL FISCAL YEARS IN THE DATA SETS BEGIN AND END WITHIN THE PERIODS DENOTED ABOVE.

Medicare cost reports contain information on all the patients of each reporting hospital as well as the detailed information on the use of the hospital by Medicare patients necessary to compute Medicare reimbursement. Thus, the tapes contain all the elements necessary for computing the five measures of hospital financial status that are the focus of this study. However, the requirements for reporting certain information, such as total gross revenues and balance sheet information, have changed over time (to improve the detail and the consistency of the information reported). Thus our trend information may be influenced by data reporting changes as well as hospital financial condition.

In addition, the HCRIS files and the Medicare Provider-Specific file contain a range of information on hospital case mix, capital use, intensity of teaching activity, and payer mix (limited to Medicare-Medicaid-Other) useful in assessing hospital-specific factors related to hospital financial performance. Many of the cost reports contained in HCRIS are not audited. The most recent HCRIS tape began with data from 6,303 hospitals. Our basic data edits removed 767 hospitals primarily because they were specialty hospitals (e.g., psychiatric or children's) that are paid for providing care to Medicare patients outside the prospective payment system.

The MCR data used to produce descriptive statistics were edited extensively. The edit checks were based primarily on eliminating impossible values such as negative costs and outliers defined as plus or minus three standard deviations from the mean. We also edited calculated variables for extreme values using cut off points commonly employed by other researchers. As a result, the number of hospitals representing any given variable typically is less than the 5,536 hospitals in our data base under PPS. Generally speaking, most of the variables presented below are based on at least 4,800 hospitals (unless only teaching hospitals are counted). No attempt was made to fill in empty cells or to otherwise estimate data for "outlier" hospitals. Similarly, no attempt was made to create a multi-year "panel" (e.g., define a sample universe for which all data are present in all years). We chose not to

do this in order to present all of the data available for any given variable under consideration.

2. American Hospital Association (AHA)

Our goals in seeking information from the AHA were to fully understand differences between the financial status measures reported by the AHA and those reported by other sources and to expand the analysis of factors related to teaching hospital financial status to include descriptive detail not available on the Medicare cost reports. In particular, AHA data provide greater detail on bad debt and charity care levels and medical school affiliation.

Information provided by the AHA comes from the organization's nationwide annual surveys of hospitals, which request information standardized to 12-month periods ending September 30 of each year. More recent data from the AHA's monthly panel survey of approximately 1,500 U.S. hospitals was not provided because AHA felt that it would not support the level of cross-tab detail required by our analyses. The financial data requested in these surveys is held confidential by the AHA; therefore, we were provided with summary tables as opposed to individual hospital data.

Although we cannot directly examine the correlation of AHA information to HCRIS information by linking the files, we have compared mean, median, and percentile values with those developed using Medicare cost report data. We were most interested in comparing patient margin and total margin between the two sources because these measures are not typically calculated from MCR data.

3. Association of American Medical Colleges (AAMC)

Over the last several years, the AAMC has developed an increasingly more detailed and well-edited data set on roughly 100 academic medical center members of the Council of Teaching Hospitals (COTH). These medical centers

provide a highly significant plurality of the graduate medical education opportunities available in U.S. hospitals. According to the AAMC, in 1987 119 academic medical centers accounted for 2 percent of all hospitals, 8 percent of the total beds, and 45 percent of the interns and residents receiving graduate medical training. The AAMC data set also provides a depth of detail on state and other public funds received by academic medical centers that in many cases are not linked to particular patients and therefore may not be included in measures of operating margin, but which may help to keep the total margins of academic medical centers more healthy.

Like the AHA surveys, the AAMC survey data for individual hospitals are confidential. Therefore, the AAMC has provided summary tables on its most recent year of data roughly corresponding to PPS4 (with the exception of hospital data from several states which is based on fiscal years ended December 31, 1988). In addition, the AAMC has supplied Medicare provider numbers for their membership, allowing us to identify the academic medical centers in the Medicare cost report data. The characteristics and financial performance of this group of hospitals are presented in our tables under academic medical centers, which represent approximately 51 percent of the institutions classified as major teaching hospitals (IRB $\geq$ .25).

4. Veterans' Administration (VA) System Hospitals

The financial condition of VA hospitals cannot be appraised through the income statement and balance sheet measures used elsewhere in this report. Financial record keeping in the VA is centered around the federal budget process, and the lack of traditional hospital accounting data makes it difficult to link revenues to costs in a manner comparable to the civilian hospital sector. Because of the lack of traditional measures available to analyze the financial pressures on VA hospitals, we developed a variety of alternative measures using data on VA hospital expenditures and patient care activity (e.g., discharges, inpatient days, outpatient visits) provided by the VA's Division of Resource Management. These alternative measures are used to compare the rate of growth in funds available for patient care in private

hospitals to VA hospitals. Measures which are suggestive of resource needs in the VA system are also reviewed.

5. State Data Sets

California. Since the mid-1970s, California has required hospitals to report standardized financial information, including the income statement and balance sheet data of interest in this study. The state has emphasized market forces in its approach to health care cost containment. Lewin/ICF obtained the most recent data tape of this information on all California hospitals from the California Office of Statewide Health Planning and Development. The California data provide greater detail on bad debt and charity care which is examined as an influence on financial status.

New Jersey. Data on the financial condition of New Jersey hospitals could not be obtained in the form of a data tape during the time available for this study, but for the last several years New Jersey has produced tables analyzing hospital financial status from audited financial statement information submitted by New Jersey hospitals to the New Jersey Health Care Facilities Financing Authority, a state tax exempt bonding agency. The tables classify hospitals according to peer groups established by the New Jersey rate-setting system which differ from the major and minor teaching hospital groups as defined above.

Massachusetts. The Massachusetts Hospital Association (MHA) provided several tables summarizing information from its survey of member hospitals on the principal measures of interest to this study. The Massachusetts data base consists of 84 hospitals which provided consistent audited financial statement data for the period 1985-1988.

Analysis of the state data sets is presented in Appendix B.

6. Osteopathic Hospitals

The American Osteopathic Hospital Association (AOHA) conducts surveys of its members, including requests for detailed financial information from hospitals' audited financial records. The AOHA provided several runs of this detailed information with the identities of the individual hospital respondents masked. However, we encountered problems with the data which could not be resolved in the time available. Therefore, we used Medicare provider numbers supplied by the AOHA to identify a "panel" of osteopathic hospitals in our HCRIS data base and to calculate average margins and balance sheet ratios for this panel from Medicare cost report data. This information allows us to include in our final discussion separate points about the relative financial status of hospitals providing osteopathic education opportunities.

D. PROJECTING PPS MARGINS USING THE LEWIN/ICF PAYMENT SIMULATION MODEL (PSM)

Beyond using a variety of data sources to examine historical trends in hospital financial measures, this study presents projections of PPS operating margin through federal fiscal year 1990 (roughly PPS Year 7). These projections were developed using the Lewin/ICF Payment Simulation Model (PSM). PSM integrates a series of Medicare statistical files concerning Medicare patient utilization, hospital case mix and other hospital characteristics, and the rules covering reimbursement under PPS for each federal fiscal year. Results are provided by federal fiscal year (FFY) rather than PPS year. Because PPS margin is based on per-case revenues and per-case costs, the PSM projects both of these measures at the hospital level.

The methodology underlying PSM is as follows:

- PPS revenues are estimated in the PSM by incorporating the payment rules contained in the appropriate legislation for a given PPS year or the rules set forth in the Federal Register when legislation has not yet been enacted. For FFY 1990 projections we use the rules contained in the September 1, 1989, Federal Register. Our revenue per case estimate was calibrated to the simulated value of $4,767 published in the September 1, 1989, Federal

Register for FFY 1990. This value reflects a PPS revenue update factor equal to the hospital market basket (5.5 percent), HCFA's DRG weight reductions of 1.22 percent, and growth in the average hospital case mix index of approximately 2 percent.

- PPS operating costs are based on projections from PPS Year 4 baseline cost data. We assume a growth rate in per-case costs of approximately 10 percent per year. This assumption is consistent with historical experience and the most recent AHA data on hospital per-case cost increases. The PSM uses both hospital-specific cost increase and industry-wide average cost increase information.

All projections contained in the findings section are based on PSM calculations as described above.

E. TEACHING HOSPITAL STRATIFICATION SCHEME

An important aspect of this study is that it examines hospital characteristics in detail and attempts to gain insight about which of these characteristics are indicative of strong financial performance. Insight about the factors associated with strong or weak financial performance can be gained by stratifying hospitals into groups. We use three different types of strata in order to understand better the factors affecting financial performance. These are:

- Teaching status. Hospitals are divided into teaching and non-teaching. Teaching hospitals have been further divided into major teaching (IRB ratio greater than or equal to .25) and minor teaching (IRB greater than zero and less than .25). Academic medical centers (AMCs) as defined by the AAMC are examined separately.[7] AMCs make up about 51 percent of the major teaching hospitals in our MCR database.

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[7] Academic Medical Centers are defined by the AAMC as those teaching institutions with either common ownership with a medical school or institutions where the majority of medical school department chairmen serve as the hospital chiefs of service. According to MCR data, 109 academic medical centers are major teaching hospitals, seven are minor teaching hospitals, and eight do not report data on the IRB ratio.

- Hospital group. Hospitals are stratified into groups which indicate their size, location, ownership, disproportionate share status, and extent of teaching as defined by the IRB ratio.

- Hospital operating characteristics. Stratification by operating characteristics such as case mix index, occupancy rate, and cost per case allows greater insight into the interrelationships between these factors and financial status.

These stratification schema are evident in the data table designs; their implications are discussed in the following chapter.

F. DESCRIPTION OF THE STUDY HOSPITAL UNIVERSE

Table 1 provides information on the universe of hospitals studied. The PPS 4 Medicare Cost Report file contains 5,536 acute care hospitals which received PPS payments. The AHA 1989 Annual Survey data tables report on 5,533 hospitals and appear quite similar to our MCR database with respect to the characteristics of hospitals included. The MCR data indicate that 1,075 teaching hospitals were paid under PPS. Similarly the AHA data contain 1,008 teaching hospitals.

The Medicare and AHA data are separated into major teaching hospitals with intern-and-resident-to-bed ratios (IRB) greater than or equal to 0.25 and minor teaching institutions with IRB less than 0.25. MCR data include 213 major (19.8 percent) and 862 minor (80.2 percent) teaching institutions while the AHA data contain 177 major (17.6 percent) and 831 minor (82.4 percent) teaching hospitals. Given the vastly different data collection techniques employed by Medicare and the AHA, the comparability of the two data sets is very high indeed.

Another stratum of our hospital universe, which is largely a subset of major teaching hospitals, is the academic medical center hospitals. The AAMC data includes only academic medical centers, which the AAMC defines as teaching institutions with either common ownership with a medical school or where the majority of medical school department chairmen serve as the hospital chiefs of service. Academic medical centers support a large proportion of the

Table 1

Number of Short-Term Acute Care Hospitals by Teaching Status
(Based on Most Recent Year of Data)

Data Source	All Hospitals	Number of Hospitals				
		Teaching Status				
		Non-Teaching	Teaching			Academic Medical Centers[4]
			All	Major[2]	Minor[3]	
Medicare Cost Report (PPS-4) and Provider-Specific File (FY1990) [1]	5,536	4,461	1,075	213	862	116
American Hospital Association annual survey (1988 data)	5,533	4,525	1,008	177	831	--
Association of American Medical Colleges (1988 data tape)	79		79			79
Veterans' Administration[5]	166	92	74			--
AOHA Survey[6]	77		61	8	53	--

1/ Short-term acute care hospitals paid under PPS.

2/ Hospitals with intern-and-resident-to-bed ratios (IRB) greater or equal to 0.25.

3/ Hospitals with IRB less than 0.25.

4/ Defined by AAMC as those teaching institutions with either common ownership with a medical school or institutions where the majority of medical school department chairmen serve as hospital chiefs of service.

5/ VA teaching hospitals are defined here as COTH members. Although the VA has 172 medical centers, the data we used contained 166.

6/ Based on AOHA survey hospitals in the Medicare cost report data base.

nation's medical education and are affiliated with the country's major medical schools. The AAMC provided analysis of the 79 academic medical centers for which they had three complete years of data. The HCRIS tapes provided data on 116 of the 124 academic medical centers as defined by AAMC.

Table 2 provides additional detail on the number of hospitals by IRB. Very few hospitals are major teaching institutions, i.e., have more than 1 resident for every four beds (IRB $\geq$.25).

Table 2

Number of Hospitals by Intern-and-Resident-to-Bed Ratio
PPS Year 4 or Latest Year of Available Data

Data Source	All Hospitals	Number of Hospitals					
		Teaching Status					
		Non-Teaching	Teaching				
			IRB < .12	.12≤IRB< .25	.25≤IRB<.50	.50≤IRB<1.0	IRB≥1
Medicare	5536	4461	629	233	138	63	12
AHA	5533	4525	626	205	122	55	0

Note: IRB = interns-and-residents-to-bed ratio

Source: Medicare Statistical Files and AHA Annual Survey Data.

CHAPTER THREE: FINDINGS

This chapter presents study results. Much of the data is presented as summary charts and figures in the report; however, the original tabulations from all data sources are contained in the appendices. This section is based primarily upon analysis of Medicare Cost Report (MCR) information. The data tables presented below are augmented with information drawn from the appendix tables as appropriate.

This study was developed around a series of hypotheses about recent changes in hospital financial conditions. These hypotheses address recent trends in financial measures, the relative financial stability of teaching versus non-teaching hospitals, and the impact of hospital characteristics on financial status. They are as follows:

H.1: PPS margin has fallen over the last four years of PPS.

H.2: PPS margin will continue to fall, given existing and proposed PPS regulations and the historical growth rate of hospital costs per case.

H.3: Teaching hospitals' PPS margins have fallen relative to those of non-teaching hospitals.

H.4: The relationship among PPS margin, patient margin, and total margin varies by hospital teaching status.

H.5: Total margin has fallen over the first four years of Medicare's prospective payment system.

H.6: As PPS margin and total margin decline, the current ratio (CR) will fall and the fixed asset financing ratio (FAFR) will increase.

H.7: PPS margin and total margin vary by hospital group.

H.8: Hospitals experiencing the greatest positive change in occupancy will have higher PPS margins and total margins.

H.9: Hospitals experiencing the greatest positive change in volume (discharges) will have higher PPS margins and total margins.

H.10: Hospitals experiencing greater increases in cost will have lower PPS margins and total margins.

H.11: Hospitals experiencing the greatest increases in percent Medicare days and Medicaid days will have lower PPS margins and total margins.

H.12: High levels of bad debt and charity are associated with lower total margins.

H.13: Teaching hospital PPS margins will continue to fall through PPS Year 7.

H.14: The percentage of hospitals with negative PPS margins is increasing over time.

H.15: Hospitals with negative margins (PPS and total margins) will incur increasingly large losses over time.

This chapter begins with descriptive statistics about the hospitals analyzed for this study. A discussion of each of the study's key hypotheses and data to support or refute each hypothesis based on our analysis of hospital financial status is presented below.

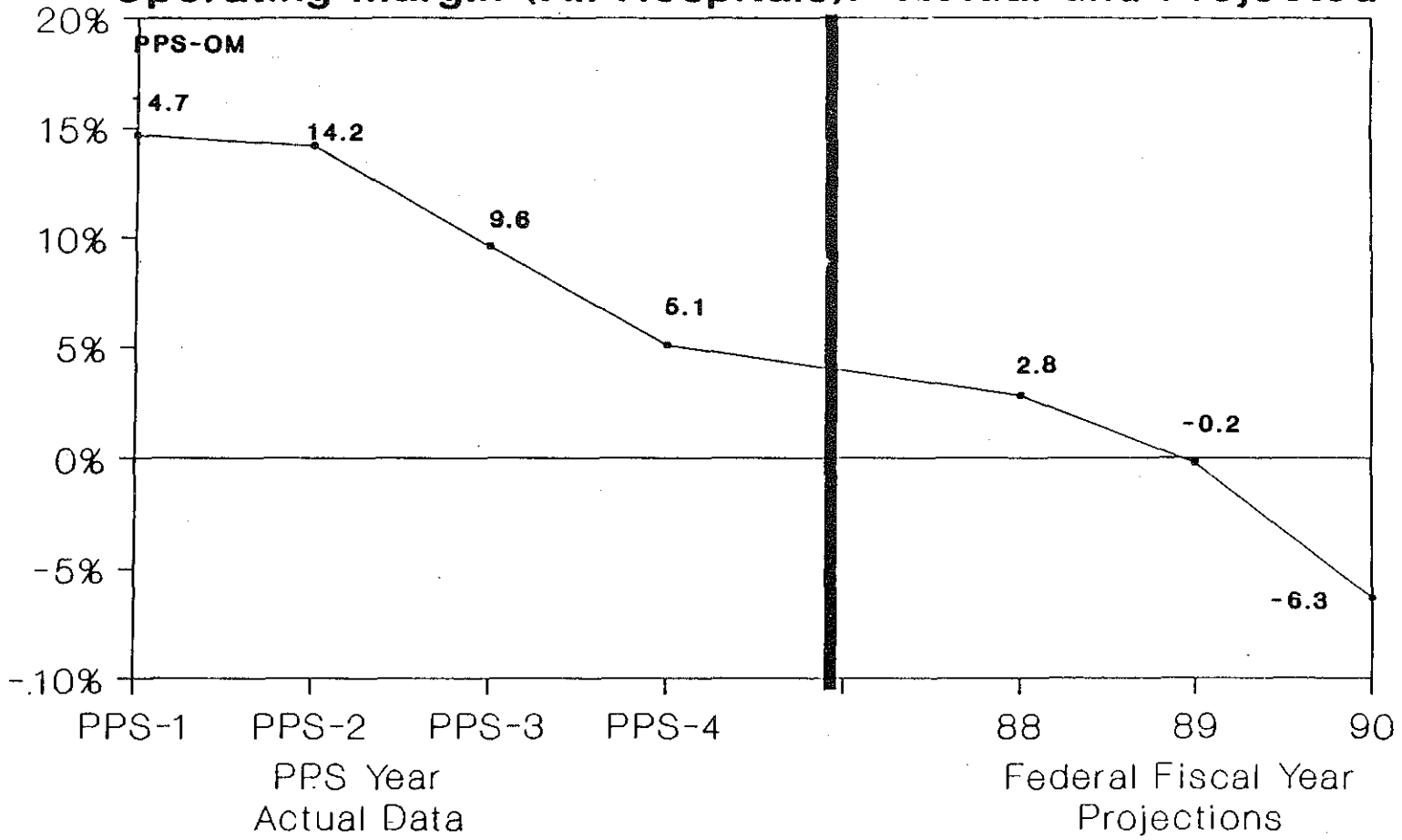
A. DISCUSSION OF STUDY HYPOTHESES RELATING TO HOSPITAL FINANCIAL MEASURES

H.1: PPS margin has fallen over the last four years of PPS.

H.2: PPS margin will continue to fall, given existing and proposed PPS regulations and the historical growth rate of hospital costs per case.

Figure 2 presents the trend in case-weighted Medicare PPS operating margins at all hospitals for PPS Year 1 through PPS Year 4, based on historical Medicare Cost Report (MCR) information. The drop from 14.7 percent in PPS Year 1 to 5.1 percent in PPS Year 4 is pronounced. The PPS margin values for FFY 1988, 1989, and 1990 are projections based upon the Lewin/ICF Payment Simulation Model. The conclusion to be drawn from Figure 2 is clear: across all PPS hospitals, on average, PPS margin has fallen sharply since the first year of PPS and is likely to continue falling in the future. By FFY 1990, PPS margin is projected to be in the negative 6 percent range.

Figure 2
Trend in Medicare PPS
Operating Margin (All Hospitals): Actual and Projected



Source: Lewin/ICF Payment Simulation Model

The remainder of this section explores the degree to which this phenomenon has affected teaching hospitals. Trends in other financial measures over time also are examined.

H.3: Teaching hospitals' PPS margins have fallen relative to those of non-teaching hospitals.

We found that average PPS margins have, in fact, fallen less in teaching hospitals than in non-teaching institutions. Table 3 presents trend data by hospital teaching status for each of the study's five financial measures between PPS Year 1 and PPS Year 4. The following conclusions can be drawn from a comparison of the absolute change in PPS margin over the four-year period by hospital teaching status group:[8]

- All categories of teaching hospitals experienced sharp declines in PPS margin.
- PPS margin declined more sharply for non-teaching than for teaching institutions.
- Academic medical center hospitals have shown a sharper decline in PPS margin than major and minor teaching hospitals. There is virtually no difference between the decline in PPS margin between academic medical centers and non-teaching hospitals at 10.6 percent and 10.4 percent, respectively.

Table 3 shows that average PPS margins fell less in absolute terms in teaching institutions than in non-teaching hospitals. Teaching hospital PPS margin has also fallen significantly less in percentage terms than PPS margin in non-teaching hospitals. This is shown by dividing the percentage point differences by the PPS Year 1 baseline PPS margin:

Non-teaching	-10.4/12.2	=	-85.2%
Teaching	-9.0/17.7	=	-50.8%

[8] The absolute change is simply the difference between the PPS-1 margin and the PPS-4 margin for a given hospital class. It indicates the number of percentage points by which the PPS margin has fallen for a particular hospital group.

Table 3

Financial Variable Trends by Teaching Status
(PPS Years 1-4)

Teaching Status	Financial Variables	Absolute PPS-1	PPS-2	PPS-3	PPS-4	Difference (PPS1-PPS4)
All Hospitals	PPS Margin	14.7%	14.2%	9.6%	5.1%	-9.6%
(N=5536)	Tot Margin	7.6%	5.8%	4.8%	3.5%	-4.1%
	Pat Margin	2.6%	0.4%	-1.0%	-2.1%	-4.7%
	Current Ratio	2.652	2.635	2.64	2.585	0.07
	FAF Ratio	.663	.704	.714	.703	0.04
Non-Teaching	PPS Margin	12.2%	11.1%	6.1%	1.8%	-10.4%
(N=4461)	Tot Margin	7.5%	6.0%	4.8%	3.8%	-3.7%
	Pat Margin	3.8%	1.7%	0.7%	-0.4%	-4.2%
	Current Ratio	2.763	2.746	2.786	2.682	-0.08
	FAF Ratio	.673	.691	.701	.702	0.03
All Teaching	PPS Margin	17.7%	17.9%	13.2%	8.8%	-9.0%
(N=1075)	Tot Margin	7.6%	5.6%	4.8%	3.2%	-4.4%
	Pat Margin	1.4%	-0.9%	-2.6%	-3.8%	-5.3%
	Current Ratio	2.497	2.485	2.465	2.456	-0.04
	FAF Ratio	.649	.721	.731	.705	0.05
▪ Academic	PPS Margin	22.1%	22.6%	17.0%	11.5%	-10.6%
(N=116)	Tot Margin	4.3%	2.9%	3.3%	2.0%	-2.3%
	Pat Margin	-6.7%	-7.8%	-7.7%	-8.8%	-2.1%
	Current Ratio	2.885	3.022	2.790	2.918	0.03
	FAF Ratio	.642	.739	.705	.576	-0.07
▪ Major	PPS Margin	21.2%	21.7%	16.3%	13.7%	-7.5%
(N=213)	Tot Margin	4.5%	3.3%	3.0%	1.8%	-2.8%
	Pat Margin	-5.6%	-6.9%	-7.1%	-8.2%	-2.6%
	Current Ratio	2.700	2.698	2.535	2.657	-0.04
	FAF Ratio	.605	.730	.720	.649	0.04
▪ Minor	PPS Margin	16.6%	16.7%	11.9%	7.3%	-9.3%
(N=862)	Tot Margin	9.0%	6.8%	5.8%	3.8%	-5.2%
	Pat Margin	4.3%	1.9%	-0.3%	-2.2%	-6.5%
	Current Ratio	2.431	2.407	2.437	2.396	-0.03
	FAF Ratio	.663	.717	.735	.721	0.06

Source: Lewin/ICF Payment Simulation Model.

H.4: The relationship between PPS margin, total margin, and patient margin varies by hospital teaching status.

Table 3 also indicates the relationship of different financial measures within and across hospital teaching status. Starting with PPS Year-4 for "all hospitals" we observe:

PPS Year 4:	All Hospitals
PPS margin	5.1
Total margin	3.5
Patient margin	-2.1

PPS margin is greater than total margin which is greater than patient margin. This is not the case, however, for non-teaching hospitals, where total margin is greater than both PPS margin and patient margin:

PPS Year 4:	Non-Teaching
PPS margin	1.8
Total margin	3.8
Patient margin	-0.4

As of PPS Year 4, teaching hospitals' PPS margin is greater than total margin:

PPS Year 4:	Teaching
PPS margin	8.8
Total margin	3.2
Patient margin	-3.8

This indicates that for teaching hospitals, providing service to Medicare patients represents a net financial benefit relative to the institutions' other business, while for non-teaching hospitals the reverse is true. The importance of the disproportionate share and indirect medical education adjustment factors are discussed further below.

H.5: Total margins have fallen over the first four years of Medicare prospective payment.

The percentage point differences shown in Table 3 also indicate that total margin has fallen for all categories of institutions as shown below:

Total margin by PPS Year by Hospital Teaching Status

	PPS-1	PPS-4	Absolute Percentage Point Change
All	7.6%	3.5%	-4.1%
Non-teaching	7.5	3.8	-3.7
All-Teaching	7.6	3.2	-4.4
Academic	4.3	2.0	-2.3
Major Teaching	4.5	1.8	-2.8
Minor Teaching	9.0	3.8	-5.2

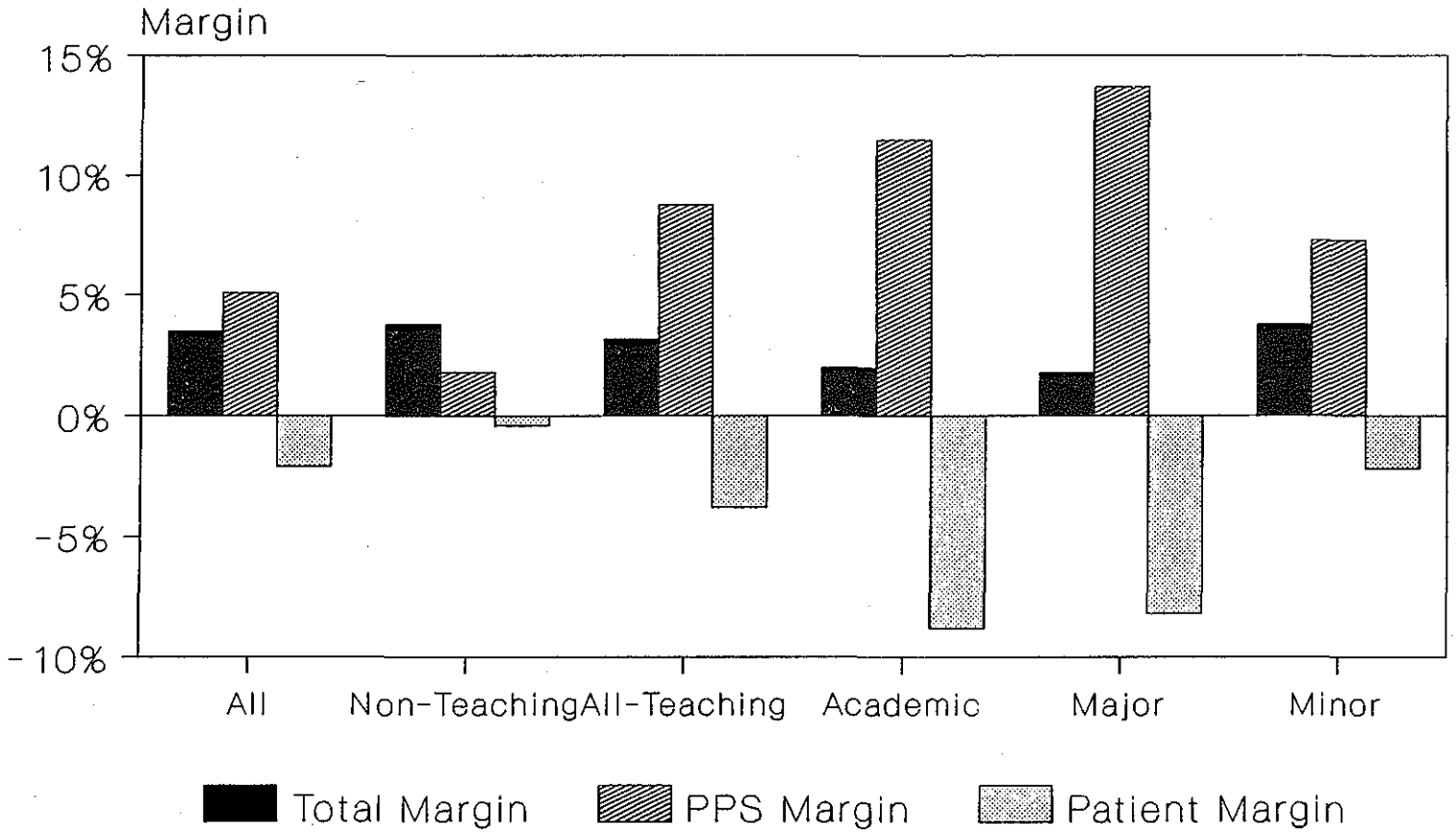
These data indicate a decline in total margin between PPS Year 1 and PPS Year 4. They also indicate that teaching hospital total margin is typically below that of non-teaching hospitals. Major teaching hospitals and academic medical centers have the lowest total margins with PPS Year 4 values of 1.8 percent and 2.0 percent, respectively.

The decline in total margin experienced by the nation's hospitals has not been widely reported in the policy literature. While there is no consensus about what the "correct" level of total margin should be, PPS 4 levels of total margin reported here are somewhat lower than we expected. If PPS margins continue to fall as our predictions suggest, eventually almost all classes of hospitals will have average PPS margins which fall below their average total margins. Declining PPS margins will pull down total margins unless hospitals aggressively raise their revenues from private payers.

Patient margins also have fallen between PPS Year 1 and PPS Year 4. As noted below, the AHA data are particularly striking in this regard.

Figure 3 presents the relationship between total margin, PPS margin, and patient margin by hospital teaching status in PPS Year 4. Hospital groups

Figure 3
Total Margin, PPS Margin and Patient Margin
(PPS Year 4)



Source: Lewin/ICF Payment Simulation Model

which have relatively high PPS margins also tend to have the lowest patient margins. For academic medical centers and major teaching hospitals, on average, gains from treating Medicare patients are balanced by lower margins or losses from treating other types of patients, resulting in the relatively low total margins observed for academic medical centers and major teaching institutions.

H.6: As PPS margin and total margin decline, the current ratio (CR) will fall and the fixed asset financing ratio (FAFR) will increase.

Shortfalls in hospital margins over an extended period of time should be reflected in the structure of assets and liabilities displayed in hospital balance sheets. Trends in two indicators of balance sheet strength, CR and FAFR, also are presented in Table 3.

The trend in average hospital current ratio (CR) does not indicate the decline in balance sheet strength that we expected. Because CR represents the accumulated impact of factors affecting hospitals' financial status over an extended period of time, it appears that the decline in PPS margin has not yet significantly worsened the underlying CR position of the average hospital. Figure 4 illustrates the stability of this balance sheet variable over the past four years. Although the levels of the CR calculated by Lewin/ICF from MCR data and the AHA (from their annual survey) are different, both estimates indicate stability over time.

The FAFR tells a more complicated story, especially for teaching hospitals. For instance, the FAFR for major teaching hospitals rises and then falls:

	PPS Year 1	PPS Year 2	PPS Year 3	PPS Year 4
FAFR	.61	.73	.72	.65

Given the definition of FAFR, this indicates that during the early years of PPS teaching institutions appear to have increased their long-term debt, but

this tendency was relatively short lived. As shown in Figure 4, the average FAFR for all hospitals remained stable during the first 4 years of PPS.

We note, finally, that averages may mask severely declining financial condition for certain hospitals. For example, for many of the nation's hospitals PPS margin and total margin are far below the mean. The same may be true for CR and FAFR.

B. COMPARISON OF HOSPITAL FINANCIAL MEASURES CALCULATED BY LEWIN/ICF WITH THOSE DEVELOPED BY OTHER INVESTIGATORS

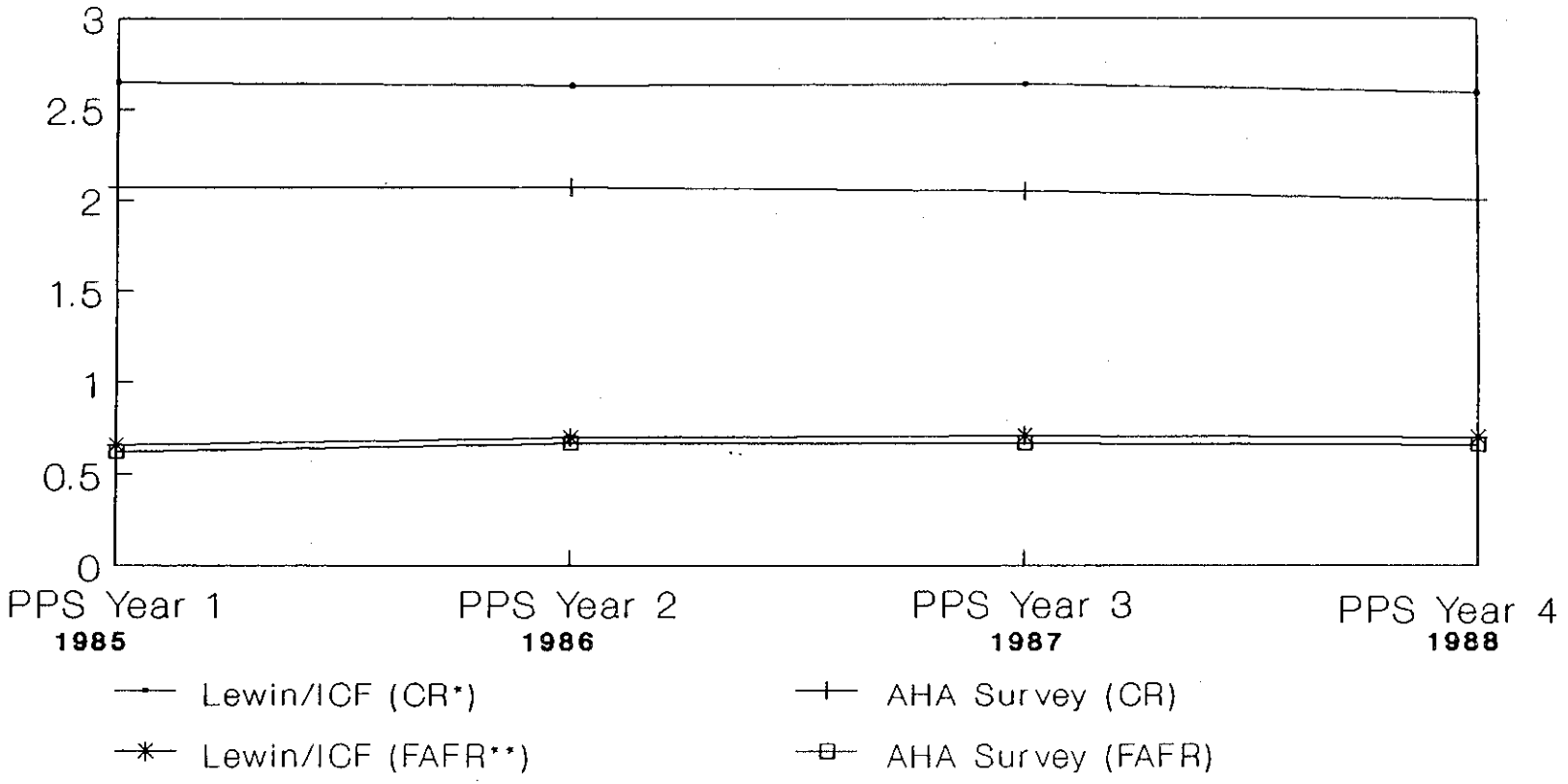
This section compares the financial indicators calculated for this study to those produced by other investigators. The data supporting this section are contained in Table 4. Our PPS margin estimates match well with those developed by the Prospective Payment Assessment Commission (ProPAC) and the Office of the Inspector General (OIG) (see Figure 5).

Total margin calculations developed for this study match surprisingly well with the total margins provided by the AHA based upon their annual survey data. This is particularly important given the finding that total margin has fallen to roughly 3.5 percent by PPS 4. Patient margins developed by the AHA are lower than those we calculated using MCR data but demonstrate the same underlying trend. The CR calculated by the AHA are lower than those calculated from MCR data; however, both series are essentially stable between PPS1 and PPS4. The FAFRs calculated by AHA tend to be a bit lower and more stable than ours.

Appendix Table A-1 contains AHA data which is roughly comparable to our Table 3. This table strengthens the notion that total margin has recently fallen. It also suggests that average CRs for all teaching hospitals are lower than those of non-teaching institutions (1.85 vs. 2.00 in 1988).

We did find significant differences in several financial variables provided by the AAMC compared with those calculated using MCR data. In

Figure 4
Average Measures of Hospital Balance Sheet Strength (All Hospitals)



Source: Lewin/ICF Payment Simulation Model

* Current Ratio
** Fixed Asset Financing Ratio

Table 4

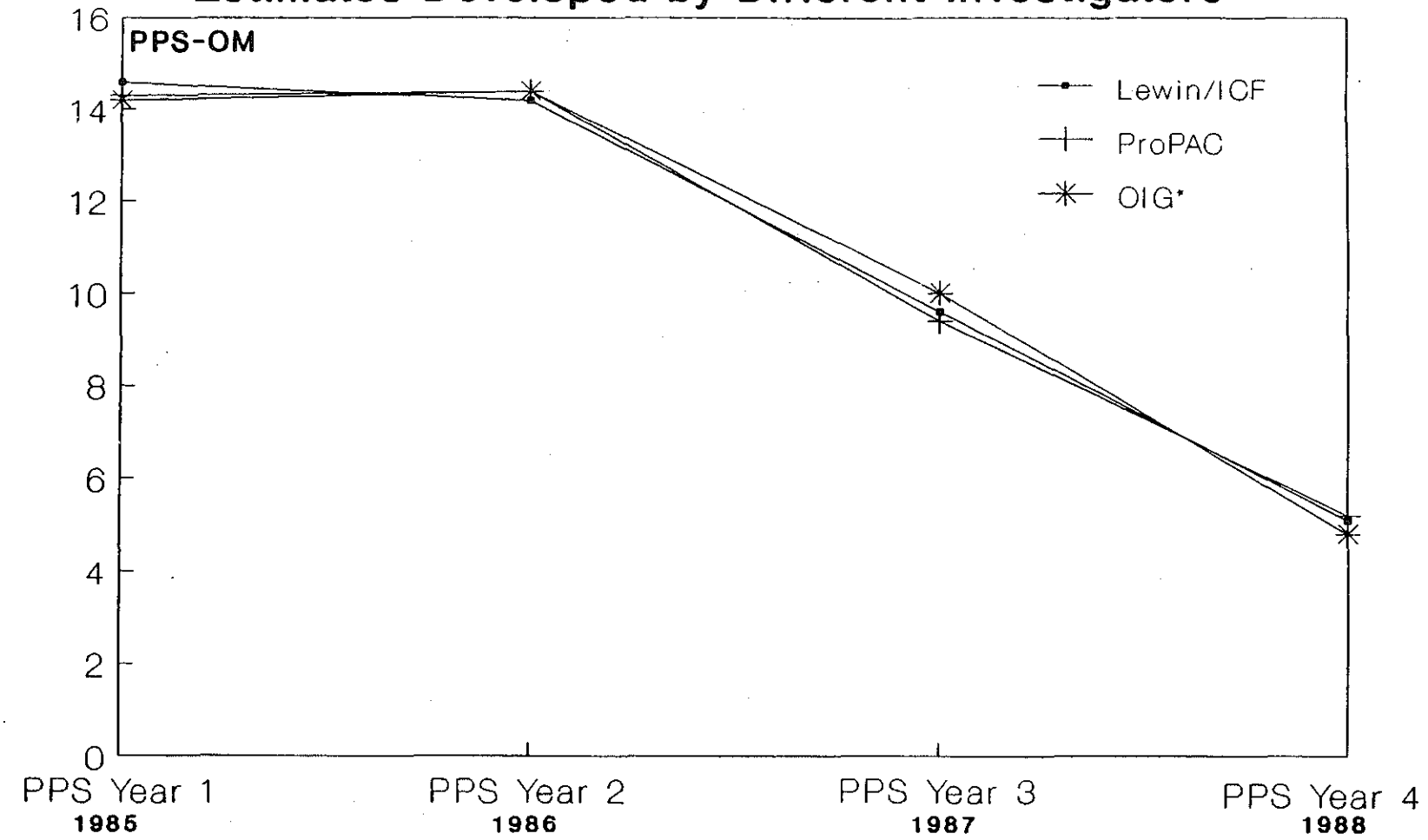
Comparison of Financial Trends Calculated by Different Investigators

	PPS Year 1 (1985)	PPS Year 2 (1986)	PPS Year 3 (1987)	PPS Year 4 (1988)
		PPS Margin		
Lewin/ICF	14.6	14.2	9.6	5.1
ProPAC	14.3	14.4	9.4	5.2
OIG Sample[a/]	14.2	14.4	10.0	4.8
		Total Margin		
Lewin/ICF	7.6	5.8	4.8	3.5
AHA Survey Data	6.0	5.3	4.2	3.3
		Patient Margin		
Lewin/ICF	1.9	1.3	-1.6	-2.7
AHA Survey Data	-0.6	-2.0	-3.6	-4.7
		Current Ratio		
Lewin/ICF	2.65	2.63	2.64	2.59
AHA Survey Data	2.07	2.07	2.05	2.00
		Fixed Asset Financing Ratio		
Lewin/ICF	0.66	0.70	0.71	0.70
AHA Survey Data	0.62	0.67	0.67	0.66

[a/] The OIG estimates are based on a sample of approximately 250 hospitals.

Note: Financial trends calculated based on all hospitals. Lewin/ICF, ProPAC, and Office of the Inspector General (OIG) calculations based on Medicare Cost Report (MCR) data. AHA estimates are based on their annual hospital survey.

Figure 5
Comparison of PPS Operating Margin
Estimates Developed by Different Investigators



Source: Lewin/ICF Payment Simulation Model, ProPAC, and OIG

* Office of the Inspector General (Sample of 270 Hospitals)

particular, the AAMC data shows PPS margin declining significantly faster between PPS1 and PPS4 than does MCR data.

		PPS margin			
	n	PPS-1 (1985)	PPS-2 (1986)	PPS-3 (1987)	PPS-4 (1988)
MCR	100	22.1	22.6	17.0	11.5
MCR	64	21.4	21.8	14.9	10.6
AAMC	79	--	16.6	10.9	3.8

There are several reasons for these discrepancies. We first calculated PPS margin for all of the academic medical centers in our data base (approximately 100 have complete data) and then attempted to match the 79 hospitals analyzed by the AAMC. However, we had complete data for only 64 of those 79 hospitals. In addition, data from 21 of the 79 hospitals in the AAMC analysis were from PPS Year 5, while the Medicare cost report data we used were from PPS Year 4. These 21 hospitals had a PPS margin of 10 percent in PPS Year 4 and 0.6 percent in PPS Year 5. This is probably sufficient to drive the PPS margin calculated by the AAMC from their 1988 survey data well below that calculated with PPS 4 MCR data.

Appendix Table A-2 presents AAMC margin data.

C. DISCUSSION OF HYPOTHESES RELATED TO THE EFFECT OF HOSPITAL GROUP AND HOSPITAL OPERATING CHARACTERISTICS ON FINANCIAL STATUS

The data presented thus far indicate that margin trends are downward for both hospitals in general and for teaching hospitals in particular. A major purpose of the paper is to explore the variation around average trends. In order to do this, institutions were stratified by hospital group and hospital operating characteristics and margins were calculated for these subgroups. We then provide a series of analyses which indicate the distribution of winner and loser hospitals around average margin values by

showing the proportion of hospitals with negative margins and by providing PPS margin and total margin percentile distributions.

Below we describe how hospitals are grouped for margin analysis and how hospital operating characteristics are interpreted and analyzed. The analysis of hospital operating characteristics is provided in order to better understand the major trend data presented above and to facilitate interpretation of the detailed margin data presented below.

Hospital groups -- Table 5 indicates how the nation's hospitals are distributed by urban and rural bed size, ownership, census division, and disproportionate share status (DSH).[9] Appendix Table A-3 contains comparable information based on the 1988 AHA Survey.

Hospital operating characteristics -- Table 6 presents average values for hospital operating characteristic variables in PPS Year 4 and the percent change in these values between PPS Year 1 and PPS Year 4. This table indicates how teaching hospitals differ from non-teaching hospitals based on variables which are thought to influence hospital financial status. For example:

- PPS per-case operating revenues vary dramatically by teaching status, ranging from $3,533 per case for non-teaching hospitals to $6,284 per case for academic medical centers.
- PPS per-case costs show considerable variation as well. Again, academic medical centers represent the high end of the continuum at $5,806 while non-teaching hospitals represent the lowest PPS per-case costs at $3,462.
- Between PPS Year 1 and PPS Year 4, average PPS revenues rose 18.7 percent while PPS costs rose 30.5 percent. This explains the downward trend in PPS margin noted in Figure 2 and elsewhere. It is interesting to note that PPS per-case costs in major teaching hospitals rose more slowly than in non-teaching hospitals. In

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[9] The DSH hospitals are defined as those hospitals receiving PPS payments under the disproportionate share provision as of PPS Year 4.

Table 5

Number of Hospitals by Teaching Status and Hospital Type
PPS Year 4

Data Source	All Hospitals	Teaching Status				Academic Medical Centers[3]
		Non-Teaching	Teaching			
			All	Major[1]	Minor[2]	
All	5536	4461	1075	213	862	116
Urban						
All	2976	1968	1008	200	808	113
<100	751	669	82	11	71	1
100-404	1873	1235	638	91	547	38
405-684	290	60	230	68	162	49
685+	62	4	58	30	28	25
Rural						
All	2560	2493	67	13	54	3
<100	2053	2029	24	6	18	
100-169	341	324	17	4	13	
170+	166	140	26	3	23	3
Ownership						
Church	716	497	219	20	199	6
Not-for-Profit	2404	1763	641	108	533	55
Proprietary	1123	1050	73	7	66	2
Government	1293	1151	142	78	64	53
Census Division						
New England	227	153	74	16	58	9
Middle Atlantic	549	316	233	53	180	20
South Atlantic	810	682	128	27	101	20
East North Central	861	634	227	32	195	19
East South Central	461	411	50	13	37	8
West North Central	769	673	96	15	81	11
West South Central	819	724	95	22	73	13
Mountain	363	319	44	7	37	3
Pacific	677	549	128	28	100	13
Disproportionate Share Hospital						
No	4880	4122	758	90	668	44
Yes	656	339	317	123	194	72

1/ Hospitals with intern-and-resident-to-bed ratios (IRB) greater or equal to 0.25.

2/ Hospitals with IRB less than 0.25.

3/ Defined by AAMC as those teaching institutions with either common ownership with a medical school or institutions where the majority of medical school department chairmen serve as hospital chiefs of service.

Source: Medicare Statistical Files.

Table 6

Mean Values for Selected Hospital Operating Characteristics in PPS Year 4 and Percentage Change from Earlier PPS Years

Variable Name	All Hospitals	Teaching Status				Academic Medical Centers
		Non-Teaching	Teaching			
			All	Major	Minor	
PPS Per-Case Revenues						
PPS-4 Year	4023.99	3532.92	4978.62	6172.22	4779.27	6284.39
% Change 1 to 4	18.66%	18.41%	19.17%	18.44%	19.28%	18.60%
PPS Per-Case Costs						
PPS-4 Year	3865.35	3461.51	4625.52	5510.10	4457.71	5806.12
% Change 1 to 4	30.52%	30.64%	30.28%	27.11%	30.80%	30.74%
Medicare Case Mix Index						
PPS-4 Year	1.13	1.10	1.27	1.33	1.25	1.42
% Change 1985 to 1987	4.04%	3.62%	5.77%	5.92%	5.74%	6.80%
Disproportionate Share Payment PPS-4[a/]	1.05%	0.55%	1.61%	3.77%	0.96%	2.99%
Indirect Medical Education Payment PPS-4[a/]	3.56%	0.00%	7.44%	16.39%	4.73%	17.61%
Occupancy Rate						
PPS-4 Year	60.15%	54.55%	69.17%	75.41%	67.05%	76.95%
% Change 2 to 4	-0.95%	-2.71%	1.9%	2.29%	1.80%	3.47%
Total Discharges						
PPS-4 Year	4925.16	3693.39	10628.08	13162.67	10144.51	16235.32
% Change 1 to 4	-11.49%	-12.71%	-5.58%	1.83%	-6.96%	9.44%
FTE Interns and Residents						
PPS-4 Year	----	----	56.25	187.20	27.74	246.91
% Change 2 to 4	----	----	-9.8%	-4.8%	-13.2%	1.8%
Direct Cost per Resident						
PPS-4 Year	----	----	58599.00	54034.00	65303.00	50230.00
% Change 2 to 4	----	----	16.2%	8.9%	25.8%	8.9%

[a/] Disproportionate share and indirect medical education payments expressed as a percentage of PPS operating revenues.

Source: Lewin/ICF Payment Simulation Model.

contrast, teaching hospital PPS per-case revenues rose more rapidly than non-teaching hospital per-case revenues.

The fact that teaching hospitals experienced favorable revenue growth and slower cost-per-case increases explains why their PPS margins fell more slowly than that of non-teaching hospitals, in both percentage and absolute terms.

The remaining hospital operating characteristics can be viewed in terms of their relationship to hospital revenues and costs. Case mix index (CMI), disproportionate share hospital PPS payments, and indirect medical education PPS payments relate to revenues. Occupancy rate, number of discharges, number of full-time equivalent interns and residents, and direct cost per-intern/resident relate to costs.

Revenues. Teaching hospitals have higher CMI values and higher rates of increase in CMI. Because PPS is a case mix payment system, this results in increased PPS revenues for teaching hospitals. The additional payments associated with disproportionate share status and indirect medical education adjustments further bolster teaching hospital revenues. Both of these flows of funds are highly significant to major teaching hospitals and academic medical centers.

Costs. The relationship of occupancy rates to hospital financial status and as a measure of a hospital's ability to utilize resources efficiently have been widely discussed. We note here that while occupancy rates generally have fallen, teaching institutions have been able to increase their occupancy rates. Major teaching hospitals and academic medical centers in particular have accomplished this by increasing their total cases relative to non-teaching hospitals.

In the tables which follow we provide data by hospital group and hospital operating characteristic. The hospital group information is primarily descriptive. However, the use of hospital operating characteristics

is more analytic in that we test numerous hypotheses about the relationship of hospital operating characteristics to hospital margins.

H.7: PPS margin and total margin vary by hospital group.

Tables 7a and 7b provide information on PPS margin by hospital group and by hospital operating characteristic.[10] Focusing on PPS Year 4, the following highlights are noted:

- Urban PPS margins (6.0 percent) are greater than rural PPS margins (-0.2 percent). This difference is roughly equivalent to the PPS Year 1 difference.
- Urban total margins (3.6 percent) are only slightly greater than rural total margins (3.1 percent).
- Larger hospitals have higher PPS margins than smaller hospitals in both urban and rural areas.
- Except for the very smallest hospitals, total margin does not vary by bed size as much as PPS margin.
- Both PPS margin and total margin vary markedly by region but they do not necessarily vary in tandem. The degree of variability in PPS margin across regions appears to have intensified over time as the PPS 1 range is from Mid-Atlantic at 16.5 percent to East-South Central at 10.6 percent while the PPS-4 range is from Mid-Atlantic at 9.8 percent to South Atlantic at 1.7 percent.
- Both PPS margin and total margin vary by hospital ownership. Proprietary hospitals have the lowest PPS margin (2.1 percent) but the highest total margin (4.8 percent). Voluntary hospitals have the highest PPS margin (5.8 percent) while government hospitals have the lowest total margin (2.1 percent).

Our hypotheses about the influence of operating characteristics are as follows:

H.8: Hospitals experiencing the greatest positive change in occupancy will have higher PPS margins and total margins.

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[10] Table 7a and 7b information by hospital teaching status is provided in Appendix Table A-4.

Table 7a

All Medicare-eligible Hospitals
Medicare PPS Margins and Total Margins by PPS Year,
By Hospital Group

Group	PPS Margin Year 1	PPS Margin Year 2	PPS Margin Year 3	PPS Margin Year 4	Total Margin Year 1	Total Margin Year 2	Total Margin Year 3	Total Margin Year 4
All Hospitals	14.7	14.2	9.6	5.1	7.6	5.8	4.8	3.5
Urban	16.1	15.4	10.5	6.0	7.9	6.0	5.1	3.6
Urban Beds < 100	17.2	15.6	11.0	2.6	4.4	3.8	3.2	0.3
B 100-404	15.0	13.9	8.8	5.1	8.1	6.1	4.7	3.2
B 405-685	16.9	18.3	13.3	8.3	9.6	7.5	7.4	4.9
Beds > 685	22.0	20.3	18.0	10.2	8.0	5.5	5.2	4.2
Rural	8.2	8.1	3.8	-0.2	5.5	4.4	2.7	3.1
B < 100	7.6	5.6	0.2	-1.7	3.8	2.8	1.0	1.4
B 100-169	8.3	9.1	7.7	-0.1	6.0	4.8	3.7	3.7
Beds > 170	9.5	12.1	6.3	2.1	8.9	7.6	5.4	5.1
Teaching - All	17.7	17.9	13.2	8.8	7.6	5.6	4.8	3.2
Teaching - Major	21.2	21.7	16.3	13.7	4.5	3.3	3.0	1.8
Teaching - Minor	16.6	16.7	11.9	7.3	9.0	6.8	5.8	3.8
Non-Teaching	12.2	11.1	6.1	1.8	7.5	6.0	4.8	3.8
Academic Med Ctr	22.1	22.6	17.0	11.5	4.3	2.9	3.3	2.0
New England	12.8	13.2	8.7	3.8	3.8	4.1	3.8	1.7
Mid-Atlantic	16.5	15.8	12.4	9.8	8.7	3.9	3.6	2.1
South Atlantic	12.9	13.0	6.1	1.7	7.7	6.0	5.3	4.3
E N Central	14.6	14.1	10.6	5.1	6.5	5.9	4.4	3.4
E S Central	10.6	12.1	5.9	3.0	9.5	7.6	7.2	4.8
W N Central	16.0	16.1	12.8	6.6	11.0	8.1	6.6	4.4
W S Central	15.5	13.5	8.4	2.9	9.1	7.4	6.1	3.9
Mountain	14.1	18.0	11.7	6.6	9.9	7.4	7.3	4.8
Pacific	15.9	14.1	8.4	5.8	7.8	6.2	4.1	3.1
Church	15.6	15.7	10.5	5.5	9.4	7.4	6.1	3.8
Voluntary	15.1	14.4	10.0	5.8	8.0	6.2	5.2	3.5
Proprietary	13.8	12.5	6.8	2.1	9.1	7.1	6.0	4.8
Government	13.7	13.4	9.4	4.4	4.8	3.5	2.7	2.1
Dispro. Share	16.3	16.3	12.7	10.3	6.0	4.4	3.6	2.1

Source: Lewin/ICF Payment Simulation Model.

Table 7b

All Medicare-eligible Hospitals
Medicare PPS Margins and Total Margins by PPS Year,
By Hospital Operating Characteristics

Group	PPS Margin Year 1	PPS Margin Year 2	PPS Margin Year 3	PPS Margin Year 4	Total Margin Year 1	Total Margin Year 2	Total Margin Year 3	Total Margin Year 4
Percent Change in Occupancy Rate								
Low	11.7	10.2	3.6	-1.0	7.3	5.1	2.2	0.6
Medium	15.1	14.6	9.3	4.9	8.4	7.0	5.7	4.3
High	14.7	15.1	10.3	6.1	7.2	5.8	5.3	3.5
Percent Change in Discharges								
Low	11.7	8.7	2.6	-0.6	5.6	3.7	0.7	1.2
Medium	14.8	14.4	9.2	4.8	8.2	6.7	5.4	3.6
High	15.4	16.0	11.3	6.0	8.5	7.0	6.5	4.7
Percent Change in Cost Per Case								
Low	9.5	12.6	10.5	9.5	5.4	3.9	3.6	2.0
Medium	14.9	14.5	9.7	5.4	8.7	6.9	5.8	4.1
High	17.4	14.4	6.9	-1.0	8.1	7.2	4.7	4.1
Percent Change Medicare Days								
Low	15.7	15.6	10.8	7.6	6.9	5.7	4.8	3.3
Medium	14.4	14.4	9.4	4.4	8.6	7.0	5.7	4.3
High	13.5	11.6	5.9	1.3	8.1	5.7	4.3	2.3
Percent Change in Medicaid Days								
Low	15.3	13.4	7.4	2.1	10.3	8.5	7.5	5.4
Medium	14.3	14.3	9.2	4.8	8.2	6.5	5.5	4.0
High	14.6	14.9	10.3	7.5	5.3	4.3	2.5	1.5
Percent Change in Case Mix Index								
Low	14.3	13.6	8.8	3.5	7.3	6.4	4.4	2.4
Medium	14.6	13.9	9.1	4.8	8.4	6.5	5.4	3.7
High	14.6	15.0	9.5	5.1	7.5	6.3	5.2	4.3
Percent Change in Direct Cost per Resident								
Low	15.8	16.0	10.8	6.5	5.8	4.4	2.8	2.4
Medium	17.7	18.6	14.0	9.5	8.1	6.7	5.9	3.7
High	18.3	18.0	11.9	6.0	9.3	6.8	5.3	3.7
Percent Change in FTE Staff per Bed								
Low	12.5	12.0	6.8	4.7	6.0	4.2	2.7	1.4
Medium	14.8	14.6	9.4	4.7	8.2	7.0	5.8	4.3
High	15.3	14.7	9.9	4.6	8.8	6.9	5.5	3.8

Source: Lewin/ICF Payment Simulation Model.

H.9: Hospitals experiencing the greatest positive change in discharges will have higher PPS margins and total margins.

H.10: Hospitals experiencing greater increases in costs will have lower PPS margins and total margins.

H.11: Hospitals experiencing the greatest increase in percent Medicare days and Medicaid days will have lower PPS margins and total margins.

The analysis of hospital operating characteristics requires some explanation. For each variable (e.g., percent change in PPS per-case costs between PPS Year 1 and PPS Year 4, hospitals were arranged from highest to lowest and then grouped according to percentiles. We created three groups. The low group contains hospitals which have experienced percentage changes in selected operating characteristics which are at or below the 25th percentile (i.e., the lowest quartile) in relation to the entire universe of hospitals studied. For example, if the study universe were 100 hospitals and the operating characteristic examined was PPS per-case cost, the low group would be defined by the 25 hospitals with the smallest percentage change in PPS per-case costs between PPS1 and PPS4 (the 25th percentile).

The medium group is represented by hospitals falling between the 26th and 74th percentile for the characteristic being examined (e.g., the middle two quartiles). The high group contains hospitals at the 75th percentile and above. After hospitals are divided into high, medium, and low groups, PPS margin and total margin are calculated within each group. By comparing margins across groups, we can develop a sense of how PPS margin and total margin are influenced by hospital operating characteristics. This information is contained in Table 7b.

An inspection of PPS Year 4 PPS margin and total margin suggests that, generally speaking, the above hypotheses hold for PPS margin. As the following data suggest, PPS margins fall or rise across the low, medium, or high groups as predicted. Percent Medicaid days, however, does not. This may be due to the influence of disproportionate share payments which roughly correlate with Medicaid days.

PPS OPERATING MARGIN AND TOTAL MARGIN BY HOSPITAL
OPERATING CHARACTERISTIC (PPS Year 4)

Percent Change (PPS1 - PPS4)	PPS Year 4 PPS margin	PPS Year 4 Total margin
Occupancy		
Low	-1.0	0.6
Medium	4.9	4.3
High	6.1	3.5
Discharges		
Low	-0.6	1.2
Medium	4.8	3.6
High	6.0	4.7
Cost per Case		
Low	9.5	2.0
Medium	5.4	4.1
High	-1.0	4.1
Case Mix Index		
Low	3.5	2.4
Medium	4.8	3.7
High	5.1	4.3
Medicare Days		
Low	7.6	3.3
Medium	4.4	4.3
High	1.3	2.3
Medicaid Days		
Low	2.1	5.4
Medium	4.8	4.0
High	7.5	1.5

The PPS Year 4 total margin data, however, display somewhat different patterns than the PPS margin data. The expected results occur for hospitals experiencing an increase in discharges (e.g., a higher rate of increase in discharges leads to higher total margins). However, we see counter-intuitive results for the percent change in costs. For hospitals with relatively large percentage changes in costs, total margin may be rising because they are able to increase charges to non-PPS payers. There was no clear correlation between total margin and any of the other operating characteristics examined except for possibly percent Medicaid days.

Tables 7a and 7b indicate enormous variability in hospital financial status for different hospital groups and operating characteristics. This variability is increasingly apparent as experience with PPS is gained and clearly poses a public policy dilemma for the ongoing refinement of PPS type payment systems.

H.12: <u>High levels of bad debt and charity are associated with lower total margins</u>.

An additional variable of interest to this study is the level of bad debt and charity care (BD&C) provided by different types of hospitals. BD&C is measured as bad debt and charity care expense as a percent of gross patient revenues. Table 8 provides statistics on BD&C by hospital group from the AHA annual survey. Data from 1988 indicate that:

- Urban hospitals (6.4 percent) carry a higher proportion of BD&C than do rural hospitals (5.6 percent).
- Larger hospitals: urban hospitals with more than 685 beds (8.8 percent) and rural hospitals with more than 170 beds (5.8 percent) carry more BD&C than do smaller hospitals.
- Major teaching hospitals (10.3 percent) have especially high BD&C loads as do state and local government hospitals (13.3 percent).
- BD&C levels vary widely across census divisions from a low of 4.2 percent in the East North Central region to a high of 10.0 percent in the West South Central region.

Table 9 presents total margin and patient margin calculated for hospitals providing different levels of BD&C. The high, medium, and low groups use the convention described above where low = 25th percentile and below, medium = 26th through 74th percentile, and high = 75th percentile and above. Examination of total margins in 1988 shows that:

- For all categories of hospitals, high proportions of BD&C are associated with lower margins.

Table 8

AHA DATA

BAD DEBT AND CHARITY CARE AS A PERCENTAGE OF GROSS PATIENT REVENUE BY TYPE OF HOSPITAL

	1985	1986	1987	1988
TOTAL U.S.	5.8%	6.5%	6.4%	6.3%
URBAN	5.9%	6.7%	6.5%	6.4%
UNDER 100 BEDS	5.2%	5.2%	4.9%	5.2%
100 TO 404	5.2%	5.5%	5.4%	5.6%
405 TO 684	6.3%	7.2%	7.0%	6.9%
685 OR MORE BEDS	7.5%	10.0%	9.8%	8.8%
RURAL	5.6%	5.7%	5.7%	5.6%
UNDER 100 BEDS	5.6%	5.9%	5.6%	5.5%
100-169 BEDS	5.6%	5.7%	5.6%	5.6%
170 OR MORE BEDS	5.6%	5.6%	5.9%	5.8%
TEACHING HOSPITALS				
MAJOR	9.3%	11.7%	11.3%	10.3%
MINOR	5.3%	5.4%	5.4%	5.4%
NON-TEACHING HOSPITALS	5.2%	5.7%	5.6%	5.7%
OWNERSHIP				
CHURCH	4.6%	4.6%	4.8%	4.8%
NOT-FOR-PROFIT	4.7%	5.0%	5.0%	5.1%
INVESTOR-OWNED	4.3%	4.8%	4.3%	4.8%
STATE & LOCAL GOVERNMENT	11.8%	14.9%	14.3%	13.3%
CENSUS REGION				
NEW ENGLAND	5.0%	5.8%	5.9%	6.0%
MIDDLE ATLANTIC	5.2%	5.5%	5.1%	4.8%
SOUTH ATLANTIC	7.9%	8.4%	8.5%	8.2%
EAST NORTH CENTRAL	4.1%	4.4%	4.4%	4.2%
EAST SOUTH CENTRAL	8.2%	8.2%	7.9%	8.8%
WEST NORTH CENTRAL	4.6%	4.8%	4.8%	4.4%
WEST SOUTH CENTRAL	7.9%	11.1%	9.9%	10.0%
MOUNTAIN	6.4%	6.7%	6.0%	6.7%
PACIFIC	5.0%	5.9%	6.1%	6.0%

Source: American Hospital Association
Annual Survey of Hospitals, 1985-1988

Table 9

AHA Annual Survey Data

Total Margin and Patient Margin by Hospital Teaching Status and Level of Bad Debt and Charity Care (BD&C) Provided

	Total Margin		Patient Margin	
	1985	1988	1985	1988
All Hospitals				
High BD&C	3.67%	2.29%	-7.27%	-10.74%
Medium BD&C	6.76	3.74	1.69	- 1.94
Low BD&C	7.10	3.73	1.58	- 4.12
Non-teaching Hospitals				
High BD&C	5.41	3.42	-1.52	- 5.07
Medium BD&C	7.43	4.29	3.29	- 0.12
Low BD&C	7.44	4.17	2.51	- 0.98
All Teaching Hospitals				
High BD&C	2.06	1.31	-13.02	-16.08
Medium BD&C	5.94	3.03	- 0.27	- 4.30
Low BD&C	6.59	3.24	0.20	- 7.90
Major Teaching Hospitals				
High BD&C	-0.19	0.43	-21.60	-27.96
Medium BD&C	3.38	1.73	- 6.98	-10.52
Low BD&C	5.15	2.69	- 1.97	-16.53
Minor Teaching Hospitals				
High BD&C	4.21	2.12	- 5.58	- 6.73
Medium BD&C	6.71	3.56	1.64	- 1.94
Low BD&C	7.06	3.41	0.89	- 5.42

Note: Hospitals are categorized as high (upper quartile), medium (2 middle quartiles) or low (lower quartile) levels of bad debt and charity care based on bad debt and charity care deductions from revenue as a percentage of gross patient revenues.

Source: American Hospital Association Annual Survey of Hospitals, 1985-1988.

- The relationship between BD&C and total margin is not always linear. For non-teaching and minor teaching hospitals, medium BD&C hospitals earn higher margins than either low or high BD&C hospitals. However, high BD&C is associated with the lowest total margin levels.

- The relationship between BD&C and total margin is strongest for major teaching hospitals where total margin varies as follows: high BD&C (.43), medium BD&C (1.73), and low BD&C (2.69).

H.13: Teaching hospital PPS margin will continue to fall through PPS Year 7.

This section presents historical (PPS Years 1 to 4) and projected (PPS Years 5 and 7) PPS margins by hospital group and hospital operating characteristic. This information is presented in Tables 10a and 10b and in Figure 6.

Focusing on PPS Year 7 we observe that hospital PPS margins are projected to fall considerably from current PPS Year 4 levels:

	PPS margin		
	PPS Year 4	PPS Year 7	Absolute Decline
All Hospitals	5.1%	-6.3%	11.4%
Non-teaching	1.8	-8.6	10.4
Teaching All	8.8	-3.9	12.7
Teaching Major	13.7	5.5	8.2
Teaching Minor	7.3	-6.5	13.8
Academic Medical Center	11.5	4.5	7.0

Our projections suggest that teaching hospital PPS margin could fall considerably between PPS Year 4 and PPS Year 7, the current year in which this study was prepared. Minor teaching hospital PPS margins are projected to reach negative 6.5 percent by PPS Year 7. Major teaching and academic medical centers will show positive PPS margins of 5.5 percent and 4.5 percent, respectively. The absolute percentage point decline is greatest for minor teaching hospitals with a percentage point reduction of 19.8. However, non-teaching hospitals decline to the lowest point (-8.6 percent) of any group in PPS Year 7.

Table 10a

Medicare-eligible Hospitals
Medicare Actual and Projected PPS Margins by PPS Year
by Hospital Group

	ACTUAL				PROJECTED		
Group	PPS Year 1 Margin	PPS Year 2 Margin	PPS Year 3 Margin	PPS Year 4 Margin	PPS Year 5 Margin	PPS Year 6 Margin	PPS Year 7 Margin
All Hospitals	14.7	14.2	9.6	5.1	2.8	-0.2	-6.3
Urban	16.1	15.4	10.5	6.0	2.9	-0.3	-6.3
Urban Beds < 100	17.2	15.6	11.0	2.6	3.4	-0.0	-7.4
Urban B 100-404	15.0	13.9	8.8	5.1	1.9	-1.6	-7.5
Urban B 405-685	16.9	18.3	13.3	8.3	5.5	2.6	-3.1
Urban Beds > 685	22.0	20.3	18.0	10.2	3.8	2.5	-3.9
Rural	8.2	8.1	3.8	-0.2	1.7	-1.2	-8.1
Rural Beds <100	7.6	5.6	0.2	-1.7	3.5	0.9	-7.0
Rural B 100-169	8.3	9.1	7.7	-0.1	-0.1	-3.3	-10.4
Rural BEDS > 170	9.5	12.1	6.3	2.1	0.1	-3.0	-8.4
Teaching - All	17.7	17.9	13.2	8.8	5.0	2.1	-3.9
Teaching - Major	21.2	21.7	16.3	13.7	11.2	10.4	5.5
Teaching - Minor	16.6	16.7	11.9	7.3	3.2	-0.2	-6.5
Non-Teaching	12.2	11.1	6.1	1.8	0.7	-2.5	-8.6
Academic Med Ctr	22.1	22.6	17.0	11.5	9.8	9.4	4.5
Cen 1 New England	12.8	13.2	8.7	3.8	-2.6	-4.7	-10.7
Cen 2 Mid-Atlantic	16.5	15.8	12.4	9.8	10.9	7.7	3.4
Cen 3 So Atlantic	12.9	13.0	6.1	1.7	-1.8	-5.0	-10.4
Cen 4 E N Central	14.6	14.1	10.6	5.1	1.0	-2.9	-10.2
Cen 5 E S Central	10.6	12.1	5.9	3.0	4.3	1.7	-4.1
Cen 6 W N Central	16.0	16.1	12.8	6.6	4.9	2.2	-4.4
Cen 7 W S Central	15.5	13.5	8.4	2.9	0.8	-1.7	-8.9
Cen 8 Mountain	14.1	18.0	11.7	6.6	5.7	2.6	-3.8
Cen 9 Pacific	15.9	14.1	8.4	5.8	2.5	-0.5	-6.5
Church	15.6	15.7	10.5	5.5	2.8	-0.5	-7.0
Voluntary	15.1	14.4	10.0	5.8	3.3	0.1	-6.0
Proprietary	13.8	12.5	6.8	2.1	0.4	-3.8	-8.6
Government	13.7	13.4	9.4	4.4	3.2	2.2	-4.2
Dispro. Share	16.3	16.3	12.7	10.3	7.5	4.7	-0.3

Source: Lewin/ICF Payment Simulation Model.

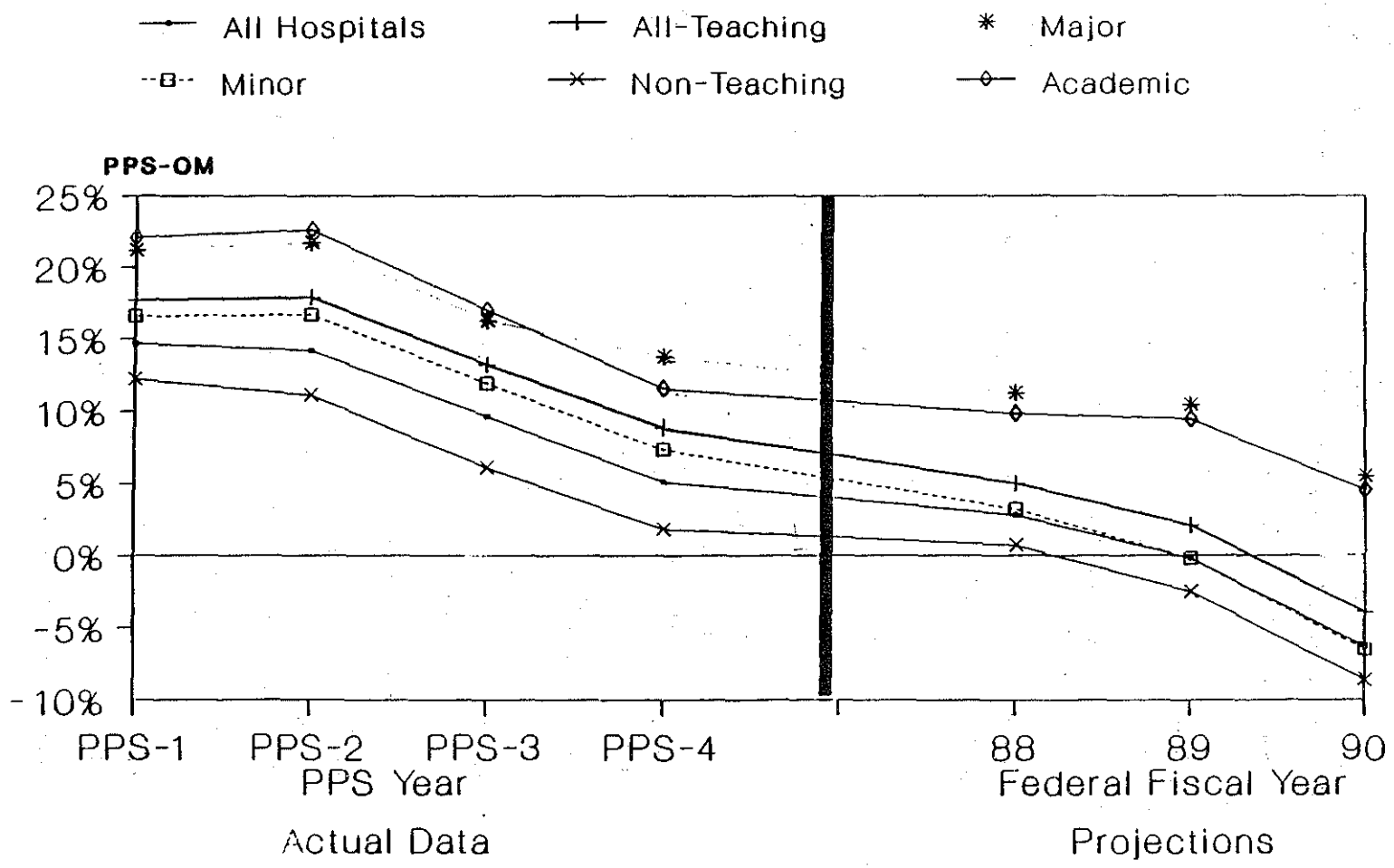
Table 10b

Medicare-eligible Hospitals
Medicare Actual and Projected PPS Margins by PPS Year
by Hospital Group

Group	ACTUAL PPS Year 1 Margin	ACTUAL PPS Year 2 Margin	ACTUAL PPS Year 3 Margin	ACTUAL PPS Year 4 Margin	PROJECTED PPS Year 5 Margin	PROJECTED PPS Year 6 Margin	PROJECTED PPS Year 7 Margin
Percent Change in Occupancy Rate							
Low	11.7	10.2	3.6	-1.0	-3.4	-6.0	-13.2
Medium	15.1	14.6	9.3	4.9	2.3	-1.1	-7.3
High	14.7	15.1	10.3	6.1	3.5	0.3	-5.8
Percent Change in Discharges							
Low	11.7	8.7	2.6	-0.6	-4.7	-8.1	-16.0
Medium	14.8	14.4	9.2	4.8	1.4	-1.7	-8.1
High	15.4	16.0	11.3	6.0	5.6	2.4	-3.2
Percent Change in Cost Per Case							
Low	9.5	12.6	10.5	9.5	12.0	9.9	5.1
Medium	14.9	14.5	9.7	5.4	2.3	-0.9	-7.3
High	17.4	14.4	6.9	-1.0	-6.8	-10.3	-17.5
Percent Change Medicare Days							
Low	15.7	15.6	10.8	7.6	4.4	2.6	-3.4
Medium	14.4	14.3	9.4	4.4	1.8	-1.8	-8.2
High	13.5	11.6	5.9	1.3	-1.0	-4.7	-11.1
Percent Change in Medicaid Days							
Low	15.1	13.4	7.4	2.0	-1.1	-4.8	-11.8
Medium	14.3	14.4	9.2	4.8	2.3	-0.8	-7.3
High	14.7	15.0	10.6	8.3	6.3	4.5	-0.8
Percent Change in Case Mix Index							
Low	14.3	13.6	8.8	3.5	1.7	-0.3	-6.0
Medium	14.6	13.9	9.1	4.8	2.6	-0.5	-6.7
High	14.6	15.0	9.5	5.1	1.3	-2.3	-9.0
Percent Change in Direct Cost per Resident							
Low	15.8	16.0	10.8	6.5	0.9	-2.0	-8.3
Medium	17.7	18.6	14.0	9.5	5.0	2.5	-3.9
High	18.3	18.0	11.9	6.0	2.7	-1.7	-7.9
Percent Change in FTE Staff per Bed							
Low	12.5	12.0	6.8	4.7	2.1	0.4	-6.0
Medium	14.8	14.6	9.4	4.7	2.2	-1.3	-7.7
High	15.3	14.7	9.9	4.6	1.3	-1.6	-7.8

Source: Lewin/ICF Payment Simulation Model.

Figure 6
PPS Operating Margins
Actual vs. Projected



Source: Lewin/ICF Payment Simulation Model

Data presented earlier indicated that teaching hospital total margin is somewhat lower than those of other hospitals in 1988. If teaching hospital PPS margin continues to fall as projected, teaching hospital overall financial viability may weaken. This may weaken their ability to maintain teaching functions at current levels.

Because PPS Year 7 already has begun, teaching and other institutions have little time to make corrective adjustments to avoid the consequences of low PPS margins. As discussed above, increased CMI values, higher occupancy rates, and successful efforts to limit cost growth will improve PPS margin levels. We suspect, however, that given the limited reaction time available, PPS margin levels for PPS Year 7 will be roughly as predicted.

Other conclusions from Table 10a are that:

- Urban and rural hospital PPS margins will converge by PPS Year 7 to negative 6.3 percent and negative 8.1 percent, respectively.
- Small hospitals will continue to underperform relative to large hospitals, but, all bed size groups will have negative PPS margins by PPS Year 7.
- PPS margin will continue to show great variability by census division. Only the Mid-Atlantic region will have positive PPS margin by PPS Year 7.
- Disproportionate share hospitals will continue to outperform other hospitals.

Table 10b indicates that the observed correlations between hospital operating characteristics and PPS margins are expected to persist through PPS Year 7 and reinforces the findings discussed earlier with respect to Table 7b.

Table 11 expands on the notion that PPS Year 7 PPS margins will exhibit wide variation. In this table, state level PPS margin estimates are provided for all teaching hospitals. While PPS margin estimates at the state level are less accurate than national statistics, especially for states only

Table 11

Teaching Hospital PPS Margins by State

(PPS-4 and PPS-7)

State	Number	Revenue Per Case		Cost Per Case		PPS Margin	
		PPS-4	PPS-7	PPS-4	PPS-7	PPS-4	PPS-7
Alabama	15	4227	4817	3794	4701	10.2	2.4
Alaska	1	4326	4289	3938	5452	9.0	-27.0
Arizona	14	5207	5714	4805	5913	7.7	-3.5
Arkansas	9	4196	4551	3647	4917	13.1	-8.0
California	99	6490	7031	5882	7283	9.4	-3.6
Colorado	14	4996	5462	4418	5624	11.6	-3.0
Connecticut	20	5444	6390	5048	7037	7.3	-10.0
Delaware	2	4062	4786	4228	5548	-4.1	-16.0
Washington, D.C.	8	6683	6942	6681	7916	0.0	-14.0
Florida	37	4863	5450	4668	5970	4.0	-9.5
Georgia	10	4983	5841	4663	5866	6.4	-0.4
Hawaii	6	6152	6971	6311	8177	-2.6	-17.0
Idaho	2	4313	5290	3063	4091	29.0	22.7
Illinois	60	5580	5717	5007	6182	10.3	-8.1
Indiana	20	4856	5330	4684	5960	3.5	-12.0
Iowa	20	5106	4987	4515	4985	11.6	0.0
Kansas	13	5078	5536	4340	5381	14.5	2.8
Kentucky	13	4825	5348	4364	5266	9.6	1.5
Louisiana	18	4282	5303	4705	6368	-9.9	-20.0
Maine	8	4803	5322	4599	5741	4.2	-7.9
Maryland[1/]	22	5227	5471	4832	5932	7.6	-8.4
Massachusetts	34	5071	5431	4666	5862	8.0	-7.9
Michigan	62	5505	5880	5167	6588	6.1	-12.0
Minnesota	11	5577	6484	5042	6421	9.6	1.0
Mississippi	3	4279	4576	3439	3945	19.6	13.8
Missouri	29	5397	5983	4968	6472	7.9	-8.2
Nebraska	8	5051	5633	4954	6382	1.9	-13.0
Nevada	2	7137	6707	6195	8211	13.2	-22.0
New Hampshire	1	6247	6984	6748	8317	-8.0	-19.0
New Jersey[1/]	31	5876	5686	4339	5599	26.2	1.5
New Mexico	3	4462	5595	4186	5239	6.2	6.4
New York[1/]	78	5475	6620	4555	5533	16.8	16.4
North Carolina	17	5563	6391	4967	6347	10.7	0.7
North Dakota	10	4573	4780	4621	5610	-1.0	-17.0
Ohio	61	5033	5344	4702	5820	6.6	-8.9
Oklahoma	18	4695	5220	4458	5742	5.0	-10.0
Oregon	10	5867	6264	4758	6041	18.9	3.6
Pennsylvania	100	5148	5381	4721	5733	8.3	-6.5
Puerto Rico	0	.	.	.	.	.	.
Rhode Island	6	5277	5924	4708	6155	10.8	-3.9
South Carolina	5	4958	5556	4643	5745	6.3	-3.4
South Dakota	3	4475	5007	3901	4900	12.8	2.1
Tennessee	22	4521	4894	4581	5420	-1.3	-11.0
Texas	51	5203	5821	4830	6222	7.2	-6.9
Utah	4	5338	6184	4315	5466	19.2	11.6
Vermont	1	5758	6649	5165	7702	10.3	-16.0
Virginia	24	4849	5001	4486	5376	7.5	-7.5
Washington	15	5603	6297	4850	6317	13.4	-0.3
West Virginia	11	4113	4736	3844	5037	6.5	-6.3
Wisconsin	35	5161	5366	4543	5569	12.0	-3.8
Wyoming	3	4257	4237	4048	4647	4.9	-9.7

[1/] Projections are more reliable for states where most hospitals have been paid under PPS since the beginning of the program. For states with rate setting during all or part of the period between PPS Year 1 and PPS Year 4, projections are more speculative.

Source: Lewin/ICF Payment Simulation Model.

recently entering PPS, Table 11 suggests that the range of teaching hospital PPS margins likely to occur at the state level during PPS Year 7 will vary greatly.

H.14: The percentage of hospitals with negative PPS margins is increasing over time.

A measure frequently used to gauge the severity of hospital financial condition is the percentage of hospitals with negative PPS margins. Table 12 presents the percentage of hospitals with negative margins by hospital group and hospital operating characteristic.

The clear conclusion from Table 12 is that the percentage of hospitals with negative PPS margins has risen markedly from PPS Year 1 to PPS Year 4. For all hospitals, the percentage of institutions with negative PPS margins rose from 17.6 percent to 44.6 percent. A larger percentage of smaller hospitals than larger hospitals have negative margins in any given PPS Year. By PPS Year 4, 43 percent of small urban and 54 percent of small rural hospitals show negative margins.

The fact that academic medical centers (14.7 percent) and major teaching institutions (16.6 percent) have relatively few institutions with negative PPS margins is indicative of their financial well-being under the Medicare program.

By PPS Year 4, 3 of the 9 census divisions show over 50 percent of hospitals with negative PPS margins and 6 out of 9 show over 40 percent of hospitals with negative PPS margins. More than 50 percent of proprietary and government hospitals have negative PPS margins, while just under 40 percent of non-profit hospitals lose money on Medicare.

Table 12 also stratifies hospitals with negative margins by selected hospital operating characteristics. They are divided into high, medium, and low percentile categories as described above. PPS Year 4 results indicate that:

Table 12

Percentage of Hospitals with Negative PPS Margin by PPS Year

Group	PPS-1	PPS-2	PPS-3	PPS-4
All Hospitals	17.61	20.65	35.22	44.55
Urban	8.81	12.18	24.39	36.38
Urban Beds < 100	16.86	21.01	35.68	43.05
Urban B 100-404	6.72	10.27	22.32	36.00
Urban B 405-685	2.73	2.33	10.00	24.19
Urban Beds > 685		3.13	6.45	13.51
Rural	26.57	29.39	47.14	53.60
Rural Beds <100	28.80	31.90	49.17	54.27
Rural B 100-169	19.68	20.72	40.41	52.72
Rural BEDS > 170	13.64	16.33	36.11	47.53
Non-Teaching	20.02	23.04	39.25	48.32
Teaching - All	6.47	9.43	17.05	28.18
- Major	6.12	5.63	10.14	16.57
- Minor	6.55	10.24	18.54	30.69
Academic Med Ctr	4.65	3.61	3.66	14.74
Cen 1 New England	12.00	9.73	30.32	50.89
Cen 2 Mid-Atlantic	5.24	6.60	20.35	31.70
Cen 3 So Atlantic	16.21	19.54	40.36	52.58
Cen 4 E N Central	11.50	16.03	29.11	38.87
Cen 5 E S Central	19.63	18.73	37.09	45.01
Cen 6 W N Central	22.04	23.67	37.96	43.42
Cen 7 W S Central	22.62	29.92	45.25	53.61
Cen 8 Mountain	28.14	29.02	35.46	45.43
Cen 9 Pacific	14.49	16.91	31.22	39.25
Church	12.01	14.29	27.27	37.87
Voluntary	13.52	16.29	28.59	39.12
Proprietary	17.91	22.44	40.27	51.41
Government	26.87	29.61	46.68	52.17
% Change in Occupancy Rate (PPS-2 to PPS-4)				
High	19.27	24.03	33.89	39.88
Medium	13.17	15.37	29.98	39.01
Low	23.89	27.50	49.02	58.12
% Change in Discharge				
High	19.14	16.28	27.69	36.70
Medium	13.05	14.44	29.33	40.27
Low	24.86	36.08	51.02	57.77
% Change in Cost Per Case				
High	23.89	29.50	49.02	58.12
Medium	13.17	15.31	27.98	39.01
Low	19.27	24.03	33.81	39.88
% Change in CMI (1985 to 1987)				
High	16.22	20.37	35.35	40.27
Medium	14.75	18.11	31.73	42.41
Low	24.13	25.59	41.54	50.26

Table 12
(continued)

Percentage of Hospitals with Negative PPS Margin by PPS Year

Group	PPS-1	PPS-2	PPS-3	PPS-4
Disproprtionate Share Hospital				
No	18.55	21.69	37.25	47.34
Yes	10.42	12.84	20.93	24.18
% Change in Medicare Days				
High	18.93	24.76	41.37	52.65
Medium	13.59	15.65	31.24	41.77
Low	24.01	25.95	36.56	42.55
% Change in Medicaid Days				
High	18.68	23.45	38.05	50.58
Medium	13.87	17.07	30.45	39.36
Low	22.80	24.49	40.59	47.89

Source: Lewin/ICF Payment Simulation Model.

- High percentage changes in occupancy rates, discharges, case mix index, and Medicare days are associated with lower proportions of negative PPS margins.

- Rapid cost growth is associated with higher proportions of hospitals with negative margins (58 percent by PPS Year 4 for hospitals in the "high" cost increase category).

These findings are generally consistent with those presented in Appendix Table A-4 which contains comparable information broken out by teaching hospital categories.

This analysis clearly indicates that by the end of PPS Year 4 a large number of the nation's hospitals were not being paid their costs as defined by Medicare for the provision of Medicare services, although teaching hospitals clearly are earning higher PPS margins than non-teaching hospitals. Appendix Table A-5 indicates that the number of hospitals with negative PPS margins has risen for all classes of institutions. If PPS margin trends continue as predicted, the number of teaching hospitals which lose money providing service to Medicare beneficiaries surely will rise.

H.15: Hospitals with negative margins (PPS and total margin) will incur increasingly large losses over time.

The average margins and distribution of margins by hospital group provided above indicate a wide range of values across hospitals. This section further examines the distribution of winner and loser hospitals through analysis of percentile distributions. These distributions indicate the extent to which the margins of winner and loser hospitals vary around the average margin values. It is essential to look at variation because average values may obscure large financial losses under PPS experienced by some hospitals.

Table 13 provides trends in PPS margin and total margin percentiles by PPS Year across hospital teaching status groups. These data indicate that PPS margin and total margin values are declining. Table 13 also indicates that by PPS Year 4, the PPS margin for the bottom 25 percent of the nation's

Table 13

Trends in PPS and Total Margin Percentiles by PPS Year

Teaching Status	MARGIN	PPS YEAR	10TH	25TH	MEDIAN	75TH	90TH
All Hospitals	PPS Margin	PPS-1	-7.8%	2.8%	11.1	17.7%	23.4%
		PPS-2	-11.6	1.4	10.4	18.0	25.1
		PPS-3	-21.0	-5.4	5.1	13.4	20.3
		PPS-4	-24.0	-8.9	2.1	10.8	18.6
	Total Margin	PPS-1	-6.1	0.5	5.4	10.0	15.7
		PPS-2	-7.5	-0.3	4.0	8.7	13.5
		PPS-3	-10.7	-2.3	3.0	7.3	11.7
		PPS-4	-11.1	-2.9	2.4	6.7	10.8
Academic	PPS Margin	PPS-1	7.8	13.6	18.6	25.1	31.1
		PPS-2	9.3	17.6	24.0	29.2	36.0
		PPS-3	2.7	8.8	17.1	22.1	26.3
		PPS-4	-3.8	5.7	13.2	18.0	25.2
	Total Margin	PPS-1	-4.9	0.2	4.1	8.6	15.4
		PPS-2	-7.5	-0.2	2.6	8.2	12.6
		PPS-3	-6.0	0.5	4.0	7.9	11.7
		PPS-4	-11.2	-1.1	2.1	4.7	8.5
Major Teach	PPS Margin	PPS-1	4.9	12.7	18.9	25.1	30.4
		PPS-2	4.4	13.3	22.0	28.0	32.8
		PPS-3	-4.7	6.3	16.1	22.6	28.2
		PPS-4	-7.7	5.7	14.7	20.7	28.3
	Total Margin	PPS-1	-3.7	0.4	4.0	8.3	14.6
		PPS-2	-6.5	-0.1	2.7	7.8	13.0
		PPS-3	-6.8	-0.2	2.8	6.6	11.3
		PPS-4	-11.7	-2.1	1.4	4.4	8.3
Minor Teach	PPS Margin	PPS-1	2.7	9.9	15.2	20.6	25.6
		PPS-2	-0.2	7.7	14.8	21.2	27.0
		PPS-3	-6.8	2.3	9.7	16.1	23.0
		PPS-4	-11.0	-2.1	6.5	12.8	20.2
	Total Margin	PPS-1	-0.4	3.3	7.1	11.3	16.8
		PPS-2	-2.7	1.6	5.0	9.3	13.5
		PPS-3	-5.9	0.8	4.4	8.1	11.7
		PPS-4	-6.4	-0.6	3.2	6.6	9.9

Source: Lewin/ICF Payment Simulation Model.

hospitals is less than negative 8.9 percent. In PPS Year 4, only major teaching hospitals and academic medical centers show positive PPS margins at the 25th percentile level.

At the other end of the spectrum, in PPS Year 4 the 90th percentile PPS margin was 18.6 percent for all hospitals and 28.3 percent for major teaching hospitals. The 90th percentile for total margin was 10.8 percent for all hospitals and 8.3 percent for major teaching hospitals. These data indicate that a small number of hospitals seem to be able to adapt to PPS and other factors affecting financial viability with remarkable success (assuming that these relatively extreme data are accurate).

Table 14 compares PPS Year 4 PPS margin percentile values to projected PPS Year 7 PPS margin values. This table suggests that unless strenuous corrective action is taken, 25 percent of academic medical centers will lose over 8.6 percent on their Medicare operations by FY 1990 (PPS Year 7). Similarly, we project that a quarter of all major teaching hospitals will have PPS margins which fall below negative 9.9 percent in PPS Year 7. For all hospitals and for minor teaching hospitals the projected 25th percentile values of negative 22.8 and negative 21.4 percent in PPS Year 7 suggest severe financial dislocation.

Table 15 extends our percentile analyses by relating PPS margin percentile values for PPS Year 4 and PPS Year 7 to percent changes in occupancy and costs between PPS Year 4 and Year 7. The results here are comparable to those presented earlier. That is, hospitals with rising occupancy rates and moderate cost growth tend to earn higher PPS margins.

The effect of occupancy rate is less strong for academic medical centers. This presumably occurs because, as a group, they generally had high occupancy rates in PPS Year 1 and therefore exhibit a smaller change in occupancy rate relative to the base year.

Table 14

Historical and Projected PPS Margin Percentile Trends in PPS Year 4 and PPS Year 7 by Teaching Status

Teaching Status	PPS YEAR	10TH	25TH	MEDIAN	75TH	90TH
All Hospitals	PPS 4	-24.0%	-8.9%	2.1%	10.8%	18.6%
	PPS 7	-41.6	-22.8	-7.0	6.2	17.9
Academic	PPS 4	-3.8	5.7	13.2	18.0	25.2
	PPS 7	-18.9	-8.6	6.2	18.8	28.7
Major Teach	PPS 4	-7.7	5.7	14.7	20.7	28.3
	PPS 7	-20.7	-9.9	4.4	21.2	30.7
Minor Teach	PPS 4	-11.0	-2.1	6.5	12.8	20.2
	PPS 7	-34.8	-21.4	-8.6	2.9	14.2

Source: Lewin/ICF Payment Simulation Model.

Table 15

PPS Margin Percentile Trends in PPS Year 4 and PPS Year 7 by Teaching Status and Hospital Operating Characteristics

Teaching Status	Variables	Percent Change Category	PPS Year	10th	25th	Median	75th	90th
All Hospitals	Occupancy	Low	PPS 4	-38.9%	-15.9%	-3.2%	6.9%	16.0%
		Medium		-16.0	-5.9	3.7	11.6	19.0
		High		-20.9	-6.2	4.3	12.7	20.3
All Hospitals	Occupancy	Low	PPS 7	-58.2	-29.3	-10.9	3.1	14.8
		Medium		-34.4	-20.1	-6.3	6.9	18.3
		High		-36.8	-18.9	-4.4	8.3	20.8
All Hospitals	Cost	Low	PPS 4	-13.5	-2.5	7.9	16.2	24.1
		Medium		-15.7	-5.8	3.2	10.5	17.6
		High		-45.7	-22.8	-7.5	2.9	11.1
All Hospitals	Cost	Low	PPS 7	-18.1	-6.9	5.9	17.9	29.1
		Medium		-32.9	-20.4	-7.5	3.3	13.2
		High		-66.7	-44.6	-23.9	-8.3	1.5
Academic	Occupancy	Low	PPS 4	-10.5	6.5	13.4	17.0	23.1
		Medium		-3.4	5.9	13.4	20.8	28.8
		High		-6.2	1.3	14.0	17.0	22.6
Academic	Occupancy	Low	PPS 7	-37.3	-8.0	9.2	22.9	33.7
		Medium		-18.6	-9.0	5.0	21.2	34.5
		High		-21.9	-11.1	5.3	15.8	21.4
Academic	Cost	Low	PPS 4	-6.5	7.3	20.1	27.1	32.9
		Medium		1.3	6.1	10.8	16.4	18.8
		High		-8.9	-1.9	12.3	15.1	21.6
Academic	Cost	Low	PPS 7	-12.5	4.9	21.2	24.8	36.5
		Medium		-19.6	-6.5	3.2	11.1	28.2
		High		-24.9	-18.3	-8.2	4.2	12.2
Major Teach	Occupancy	Low	PPS 4	-29.4	-7.9	10.3	20.1	23.3
		Medium		-1.7	7.7	16.2	22.1	31.5
		High		-3.8	7.5	15.9	19.3	28.2
Major Teach	Occupancy	Low	PPS 7	-47.1	-12.8	1.8	21.9	28.6
		Medium		-18.5	-8.0	3.2	22.3	35.8
		High		-20.7	-5.3	6.1	18.6	24.6
Major Teach	Cost	Low	PPS 4	-9.5	8.7	20.4	27.7	33.5
		Medium		-1.9	7.7	15.1	19.5	26.0
		High		-41.7	-4.0	7.4	14.5	17.3
Major Teach	Cost	Low	PPS 7	-12.6	6.7	21.3	24.4	37.0
		Medium		-21.6	-8.3	1.9	11.1	26.7
		High		-62.3	-18.9	-8.9	1.6	10.7
Minor Teach	Occupancy	Low	PPS 4	-17.3	-7.5	2.3	10.8	18.1
		Medium		-8.4	0.7	7.5	14.5	20.8
		High		-11.1	-1.9	7.0	13.0	20.3
Minor Teach	Occupancy	Low	PPS 7	-47.7	-29.2	-16.7	-2.7	8.6
		Medium		-31.7	-18.1	-7.0	5.8	16.2
		High		-30.8	-20.2	-6.8	2.5	14.8
Minor Teach	Cost	Low	PPS 4	-6.2	2.0	11.2	19.0	24.0
		Medium		-8.7	-0.8	6.1	12.1	17.6
		High		-18.4	-8.4	0.6	9.7	16.2
Minor Teach	Cost	Low	PPS 7	-20.0	-11.1	0.1	13.3	22.6
		Medium		-33.6	-21.4	-10.4	-0.9	8.4
		High		-55.9	-34.3	-20.2	-8.0	1.3

Source: Lewin/ICF Payment Simulation Model.

D. TRENDS IN HOSPITAL COSTS

This section explores trends in Medicare PPS per-case costs between PPS Year 1 and PPS Year 4. A primary objective of PPS was to control hospital costs. However, from a PPS payment policy perspective, the rate of increase in hospital costs has proven to be difficult to control. As experience with the system has been gained, it has become clear that Medicare per-case costs have been rising at approximately 10 percent per year. This is roughly twice the rate of growth in the hospital market basket which HCFA and the Congress use to estimate future per-case cost increases and to set PPS payment levels.

We have noted that PPS margins are falling because costs are rising faster than revenues. While the original philosophy underlying PPS was that if hospitals controlled costs they could do well under PPS, the interpretation of this phenomenon may be that hospital costs are driven essentially by technology and labor market factors and should be covered by PPS, otherwise the industry's long run survival is endangered.

The information provided below will by no means resolve these debates, but it may contribute to our understanding of factors associated with per-case cost increases.

Table 16 presents percentage change in PPS per-case costs between PPS Year 1 and PPS Year 4. Costs rose less at major teaching hospitals than other institutions during this period, while other teaching hospitals generally exhibited cost growth comparable to non-teaching hospitals. This has occurred despite the fact that teaching hospital case mix indices have been rising faster than those of non-teaching hospitals.

The remainder of the hospital group analysis suggests that cost increases are variable across census division and ownership category. The obvious outliers (church, proprietary/academic, and government/minor teaching) may be as much related to data problems as underlying difficulties controlling costs.

Table 16

Average Percent Change in Medicare Inpatient Operating Cost Per Case, PPS Year 1 to PPS Year 4, by Teaching Status, Hospital Group, and Operating Characteristics

		All Hosp	Non Teach	All Teach	Academic	Major Teach	Minor Teach
Total	Total	30.9%	31.0%	30.8%	30.1%	27.8%	31.4%
Urban Bed	< 100	33.5	33.5	33.2	39.5	36.8	32.4
Urban Size	100-404	31.0	32.1	29.2	23.7	23.5	30.0
Urban	405-684	32.1	32.9	31.9	32.4	30.7	32.2
Urban	> 684	35.2	35.0	35.3	29.0	28.9	39.1
Rural Bed	< 100	25.8	25.8	27.4	.	34.9	26.3
Rural Size	100-168	29.7	29.5	33.0	.	48.3	31.9
Rural	> 169	33.8	33.8	33.5	51.1	34.2	33.4
New England		28.6	28.7	28.5	29.3	31.6	27.8
Mid-Atlantic		28.6	29.0	28.2	30.9	23.7	29.0
South Atlantic		35.2	36.0	33.0	32.3	30.3	33.8
East North Central		26.9	25.7	28.2	25.1	24.5	28.8
East South Central		29.3	28.8	30.5	15.8	17.6	32.1
West North Central		29.1	26.2	33.6	41.7	36.3	32.9
West South Central		36.8	36.9	36.8	24.8	24.9	38.9
Mountain		26.1	24.8	29.2	37.6	31.0	29.0
Pacific		32.2	32.5	31.7	29.6	27.9	32.7
Church		29.9	28.5	31.5	48.8	39.3	30.8
Not-for-Profit		30.0	30.0	30.1	26.3	24.9	31.1
Proprietary		34.6	35.0	30.8	19.2	29.4	30.9
Government		31.8	31.5	32.9	30.9	29.0	37.0
Occupancy	Low	33.3	34.4	31.8	33.7	31.8	32.2
	Med	30.5	30.7	29.6	25.9	26.0	30.3
	High	30.3	29.6	31.8	36.1	27.5	32.6
Discharges	Low	44.3	45.4	40.7	40.9	44.0	39.4
	Med	30.1	29.8	30.2	27.9	27.0	30.7
	High	22.1	21.7	24.5	22.2	20.7	26.2
Case Mix Index	Low	24.6	24.0	25.7	19.9	20.1	26.7
	Med	29.6	29.4	30.3	32.1	28.7	30.6
	High	37.9	39.2	37.0	33.9	31.9	38.5
Disp Share	No	31.2	31.0	31.7	38.6	33.9	31.4
	Yes	29.3	31.2	28.1	23.9	23.0	31.2
Medicare Day	Low	27.8	27.6	28.1	21.0	18.8	30.2
	Med	30.7	30.5	31.5	28.0	27.1	31.7
	High	33.8	34.0	31.6	39.1	38.5	31.2
Medicaid Day	Low	29.6	30.2	28.8	30.5	27.9	29.4
	Med	30.9	30.9	30.8	25.3	24.3	31.8
	High	31.7	32.1	31.6	36.9	35.4	31.4

Source: Lewin/ICF Payment Simulation Model.

In order to examine the impact of hospital operating characteristics on cost growth, we linked these variables together in the same fashion as margins were linked to hospital operating characteristics earlier in the study. Interestingly, the relationship between cost increases and occupancy is not uniformly evident. For all hospitals, low changes in occupancy are associated with higher cost increases, but the rate of cost growth was about the same for medium and high occupancy rate hospitals. For teaching hospitals the relationship is even less evident. This may occur because there is less variation in occupancy rates across teaching hospitals. Therefore, it appears that, in teaching hospitals at least, increases in occupancy rates do not predict the ability to control costs. On the other hand, increase in the number of discharges appear to be highly correlated with lower cost increases. This probably means that hospitals which are losing patients have experienced cost difficulties. This applies to both teaching and non-teaching hospitals.

Disproportionate share hospitals, especially teaching hospitals, show lower cost increases than non-disproportionate share hospitals. This may partially explain why disproportionate share hospitals have higher margins.

Increases in Medicare days and Medicaid days are associated with higher cost increases. As discussed above, high Medicare hospitals have lower margins than other hospitals.

E. FINANCIAL MARKETS' REACTION TO FACTORS AFFECTING HOSPITAL FINANCIAL STATUS

Another view of the relative financial status of hospitals since the implementation of the Medicare prospective payment system is provided by examining how the financial markets have viewed hospital creditworthiness. One commonly used indicator of creditworthiness is the rating assigned to hospital bonds by the two principal rating agencies: Standard & Poor's and Moody's Investor Services. One simple way to gauge the financial markets' appraisal of the hospital industry is to examine the number of hospital bond issues which have been upgraded and downgraded over the past several years.

Bond ratings are a relatively crude measure of the market's evaluation of creditworthiness, as they do not reflect the variability of credit quality within rating categories. Nevertheless, an examination of rating changes since 1983 clearly indicates that hospital creditworthiness has declined.

Industry-wide trends. Standard & Poor's usually reviews the audited financial statements of all rated bond issues annually. Upgrades and downgrades occur when changes in a hospital's financial status are apparent from the financial statements, hospital utilization trends, and other relevant events. Between 1983 and 1987, 259 hospitals and hospital systems received rating changes from Standard & Poor's.[11] Of these, 208 hospitals (80 percent) received downgrades while only 51 hospitals (20 percent) received upgrades. This trend continued in 1988 when 78 hospitals (93 percent) received downgrades and only 6 hospitals (7 percent) received upgrades.[12] Over time, an increasing number of hospitals have received rating changes. There were 84 rating changes in 1988 compared with 33 in 1983. This indicates increased volatility in hospital credit. However, although more than 4 hospitals have been downgraded for every hospital which received an upgrade, we note that approximately 80 percent of rated hospitals have not received any rating change during the past 5 years. This implies greater financial stability than do the statistics on rating changes alone.

An analysis of the characteristics of hospitals with rating changes gives an indication of the characteristics of hospitals doing better or worse than the industry as a whole.

- Size. Small hospitals (less than 150 beds) experienced 10 downgrades for every upgrade between 1983 and 1987, while large hospitals (more than 700 beds) have only had three downgrades for each upgrade.
- Location. Figure 7 shows the number of downgrades and upgrades by region between 1983 and 1987. Although there are not large differences in the relative number of downgrades to total rating

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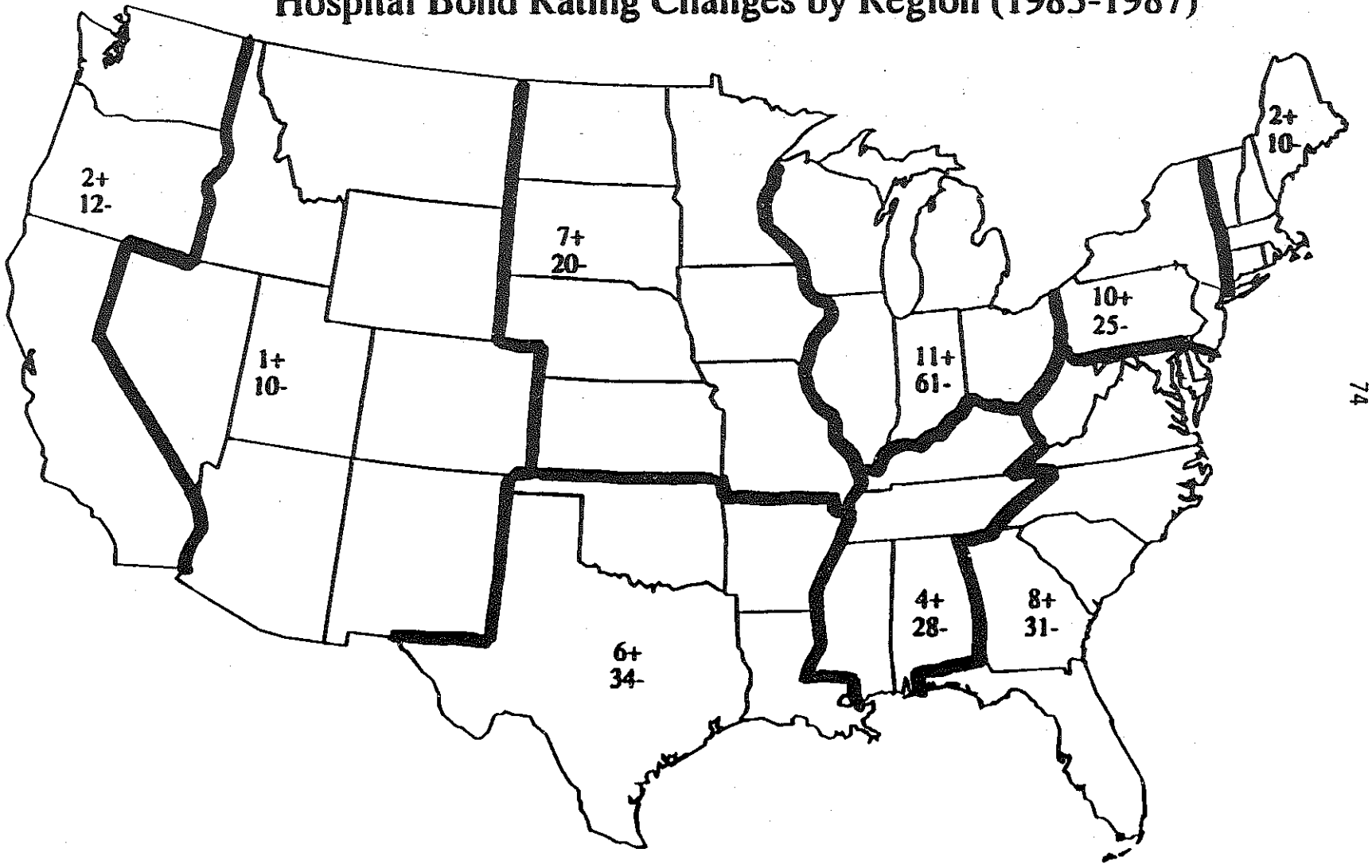
11 Standard & Poor's, Credit Week, April 18, 1988.

12 Standard & Poor's, Credit Week, February 6, 1989.

Figure 7

Hospital Bond Rating Changes by Region (1983-1987)



Source: Standard and Poors

changes across regions, the Mid-Atlantic and West-North-Central regions have had a somewhat lower proportion of downgrades than other regions.

- Teaching status. Teaching hospitals have maintained stronger credit ratings than non-teaching hospitals. As of April 1988, about 93 percent of teaching hospitals were rated A or better by Standard & Poor's, compared with about 70 percent of all hospitals. The ratio of teaching hospital downgrades to upgrades was about 3:1 between 1983 and 1987 compared with a 4:1 ratio for all hospitals.

More recent data indicate that distribution of hospital bond credit ratings has continued to worsen. Standard and Poor's latest estimates show that the percentage of hospitals rated A or above is currently about 63 percent, down from 70 percent at the beginning of 1988.

CHAPTER FOUR: ANALYSIS OF THE FINANCIAL CONDITION OF VETERANS ADMINISTRATION (VA) HOSPITALS BETWEEN 1985 AND 1988

A. INTRODUCTION

Approximately 12 percent of graduate medical education provided in the U.S. is conducted at Veterans' Administration (VA) hospitals. The VA offered 8,350 resident positions in the 1988-89 academic year. About 90 percent of these residencies were located in the 74 VA hospitals which are members of the Council of Teaching Hospitals (COTH). Many of the VA's major teaching hospitals are located close to private academic medical centers and in some cases are physically connected. These VA teaching hospitals often provide services similar to those available in private academic centers and compete with them for personnel and other resources. Because VA hospitals play an important role in graduate medical education, their financial status has important implications for the training of future physicians.

Appraisal of the financial condition of VA hospitals cannot be performed using traditional income statement or balance sheet measures such as hospital margins or current ratios. Financial record keeping in the Veterans' Administration is centered around the federal budget process, since for all practical purposes, the federal government is the VA's sole source of funds. Consequently, VA hospitals do not fill out Medicare or other types of cost reports or track revenues and expenses in the same manner as non-federal hospitals. VA hospitals do not receive extra revenue for treating more patients than were assumed in their budget allocation unless the Congress authorizes supplemental appropriations, and by law, VA hospitals cannot run deficits. Thus the concept of hospital margins has no meaning for VA hospitals which operate totally within the budget process.

The number of patients treated in VA hospitals is constrained by a given year's budget allocation and the efficiency with which the hospitals use this allocation. If service demands increase faster than budget appropriations or if inflation-adjusted budget levels decline, VA hospitals can respond

by: 1) reducing the number of patients served by reducing care to patient populations of lower priority in the VA's mandate (e.g., patients with non-service-related conditions); 2) operating more efficiently while maintaining a constant level of quality; 3) reducing the quality of care provided to each patient, or 4) allowing depletion of the institutions' capital stock.

While budget appropriations indicate the rate of growth in total VA hospital revenues, costs cannot be linked to revenues in a way directly comparable to the civilian hospital sector. Several other factors also should be considered when comparing the VA system to the private sector. The VA budget includes physician salaries while the majority of physicians working in private sector hospitals bill separately for their services. In the context of this analysis, VA expenditures purchase both physician and hospital services while revenues to private sector hospitals primarily purchase hospital care. If physician incomes had been included in our measures of private sector revenue, the observed rate of growth would probably have been higher because private sector payments for physician services have risen rapidly in recent years. For example, the compound annual growth rate for physicians' services under Medicare has been more than twice the rate growth for inpatient hospital services since the introduction of PPS.

On the other hand, most physicians in the VA system are subject to federal pay caps. The rate of increase in wages is constrained by the annual federal pay raise which has averaged 2.4 percent per year between 1985 and 1988.[13] The federal pay system also affects the wage growth of non-physician VA medical personnel. Approximately 63 percent of the VA medical care budget is used for salaries and benefits (compared with about 53 percent in private community hospitals). Because such a large portion of the VA's costs are constrained to rates of increase well below the medical care CPI, smaller funding increases may have less impact on the quality of patient care than otherwise would be the case. On the other hand, slow salary growth and

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[13] Annualized to federal fiscal years. This figure does not account for any change in the average grade of the workforce.

pay caps may create a long-term barrier to the recruitment of qualified physicians, nurses, and technical personnel.

B. METHODOLOGY

Because of the lack of traditional measures of financial pressure on VA hospitals, we constructed a variety of alternative approaches. These alternative measures compare the rate of revenue growth in private hospitals to the rate of expenditure growth in VA hospitals. We also reviewed several measures which are suggestive of resource needs in the VA system; however, no reliable case-mix measure currently exists which can accurately assess intensity of resource use in VA hospitals. This makes it more difficult to analyze whether the funds available to VA hospitals are sufficient in light of resource requirements. Because the available data does not allow costs to be linked directly to revenues in individual VA hospitals, these alternative measures of the VA's financial status should be viewed as suggestive rather than conclusive.

Because VA budget authority was not available on a hospital-specific basis, we used "case mix direct and educational" (CMDE) expenditures for inpatient and outpatient services from the VA's Resource Allocation Model (described below) as a proxy for VA hospital revenues. Because VA hospitals usually spend their full budget appropriation, expenditures closely approximate hospital revenues. CMDE expenditures include costs related to the provision of "direct" patient care such as physician and nursing salaries, laboratory tests, X-rays, and supplies. CMDE expenditures also include educational costs but do not include resident salaries or most overhead costs (e.g., administrative expenses). Although CMDE expenditures only account for about one-half of the costs incurred in VA hospitals, the rate of growth from year to year is roughly consistent with the rate of growth in budget authority.[14] VA budget authority for inpatient care grew by 1.8 percent per year while inpatient CMDE expenditures grew by 2.5 percent. VA budget authority for

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[14] CMDE expenditures were used because data on total expenditures was not available separately for inpatient and outpatient services.

outpatient care grew by 10.0 percent annually compared with 10.2 percent for outpatient CMDE expenditures.

Although CMDE expenditures provide a reasonable proxy for the rate of growth in revenue available to VA hospitals, analysis of relative financial condition is limited by the lack of cost data. We attempted to adjust proxies of revenue growth in the VA and the private sector by a hospital case mix index in order to reflect the underlying cost pressures of changes in the patient mix served. However, the patient categorization system developed for VA hospitals (discussed below) does not appear to accurately reflect changes in resource intensity.

With the above limitations in mind, the following alternative measures were developed to analyze the financial condition of VA hospitals:

- The rate of increase in inpatient CMDE expenditures per case in VA hospitals compared to the rate of per-case Medicare revenue growth in private sector hospitals.
- The rate of growth in total net revenues (net of contractual allowances) in private sector hospitals compared with the increase in total (direct and indirect) expenditures in VA hospitals.
- The hypothetical financial impact of substituting the rate of increase in total expenditures in the VA system for the actual rate of increase in private sector hospital revenues.
- The rate of growth in CMDE expenditures per unit of "patient care activities."

1. VA Inpatient CMDE Expenditures Per Discharge Versus Medicare Per-Case Revenue in Private Sector Hospitals

This analysis measures the change over time in the relative level of resources available to treat inpatient cases in VA and private sector hospitals. Medicare per-case inpatient revenues were used to analyze the private sector because Medicare Cost Reports do not contain sufficient detail to

calculate total net revenues for inpatient care only.[15] While measures of inpatient hospital revenues from all payers potentially can be developed from other data sets (e.g., the AHA annual hospital survey), this was outside the scope of the current study. Although the rate of change in Medicare revenues may differ from that of other payers, it is an important public funding program and a significant source of revenues for many private hospitals. Therefore it is probably a relevant measure for comparison with per-case changes in the VA system.

Observed differences in per-case revenue growth rates may be influenced by the different patient populations in each system.[16] Therefore, estimates of per-case revenue growth would be more informative if adjusted for changes in hospital case-mix. We attempted to develop a proxy for VA-specific case mix by dividing the VA's inpatient weighted work units (WWUs) by inpatient discharges. WWUs are a relative value unit used by the VA's Division of Resource Management to determine allocation of resources among its system hospitals. This methodology, known as the Resource Allocation Model (RAM), adjusts annual budget allocations based on hospital performance measured by the costs incurred per relative value unit (WWU) compared with a peer group of hospitals. Inpatient WWUs are based on the VA's DRG categories while outpatient WWUs are based on capitation, outlier visits, and special services provided.

Although WWUs conceptually are closely related to resource consumption, their ability to accurately measure resource intensity appears question-

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[15] Medicare Cost Report Data includes net total revenue (inpatient, outpatient, and non-operating). It also contains gross patient revenues (before contractual allowances) for inpatient and outpatient care separately. However, net inpatient revenues and net outpatient revenues cannot be developed separately from the data in its current format without (potentially grossly distorting) simplifying assumptions.

[16] In general, VA hospitals treat relatively more long-term psychiatric and substance abuse patients than private hospitals. However, the majority these of services are provided in the VA's non-teaching institutions. The patient and service mix in the VA's major teaching hospitals is much more similar to private sector major teaching hospitals than is the case for non-teaching institutions.

able. We found that the ratio of WWUs per discharge remained essentially constant between 1985 and 1988 for non-teaching hospitals and declined by 1.1 percent annually for major teaching hospitals. Such a decline in "case mix severity" is not consistent with trends in private sector hospitals; over the same period the Medicare case mix index rose by two to three percent annually. A declining trend in WWUs per discharge also is not consistent with the VA's efforts to shift workload into the outpatient setting. Such a shift should result in sicker patients remaining in the hospital setting as well as increased outpatient intensity. However, the ratios of both inpatient WWUs per discharge and outpatient WWUs per visit declined. Given these observations, we do not believe that WWUs are a reliable basis for estimating case mix changes in the VA.[17] We note that the VA currently is in the process of re-evaluating its resource allocation methodology.

Inpatient WWU per Discharge

	FFY 1985	FFY 1986	FFY 1987	FFY 1987	Annual Change
VA COTH Hospitals	80.0	83.1	78.3	77.3	-1.1%
VA Non-COTH Hospitals	60.4	67.0	65.3	60.2	-0.1

In order to reflect the impact of growth in inpatient case mix in the general population, we adjusted both VA and private sector per-case revenues by the one-half the increase in the Medicare case mix index.[18]

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[17] Downward pressure on VA case-mix measures might result from the decision to limit the treatment primarily to beneficiaries with service related disabilities. This could potentially shift the patient mix towards younger Vietnam-era veterans less likely to have complex illnesses than older veterans. However, we believe that the trends towards increasing case mix in private hospitals and the VA's efforts to shift workload into outpatient settings should have a strong positive influence on VA case-mix.

[18] According to the Prospective Payment Assessment Commission, approximately half of Medicare case-mix increase is due to coding practices rather than increases in service complexity. Half of the Medicare case mix index which rose by about 2 percent annually for non-teaching and 3 percent for major teaching institutions is roughly consistent with the Canadian case mix which has risen by about 0.5 to 1.0 percent annually and the Medicare pre-PPS case mix increase of about 0.5 per year. The Canadian and pre-PPS indexes do not

Although this does not reflect differences in the growth of case mix between the two systems, it does illustrate the degree to which some portion of revenue growth may be required to treat an increasingly complex mix of patients.

2. Total VA Hospital Expenditures Versus Total Net Revenues in Private Sector Hospitals

Another way to analyze the financial status of Veterans' Administration hospitals is to compare changes in total VA hospital expenditures to the growth in total net revenues experienced by private sector hospitals.[19] We were able to use VA total expenditures for this comparison because it did not require disaggregation into inpatient and outpatient components. Total VA expenditures includes all hospital costs except construction and is more comparable to private total net revenue than VA CMDE expenditures because it includes indirect expenses (e.g., administrative salaries and routine maintenance). Total net revenue for private sector hospitals include payments for both inpatient and outpatient services and non-operating revenues, and is equal to net patient revenue plus other operating revenue from the Medicare cost report. Only hospitals which submitted cost reports during all four years (PPS1 through PPS4) were included.[20] Total expenditures in the VA system are from FFY 1985 through FFY 1988.[21]

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reflect the PPS incentives for upcoding.

19 Total net revenues include inpatient, outpatient, and non-operating revenues net of contractual allowances.

20 There were 3,693 hospitals with revenue data for all four years including: 112 major teaching, 552 minor teaching, and 3029 non-teaching hospitals.

21 One potential problem with this comparison is that the VA data for federal fiscal years is somewhat more recent than the PPS Year data. VA medical care appropriations for FFY 1988 are based on a period beginning in October 1987 which technically falls into PPS Year 5, while private hospitals in PPS Year 4 have fiscal years beginning primarily in October 1986, January 1987, and July 1987.

3. Private Sector Margin Simulation Based on VA System Expenditure Growth

The potential financial impact of private sector revenues which increase at the same rate as VA hospital expenditures was analyzed by recalculating total margins for private hospitals by substituting the rate of growth in VA revenues for the actual rate of growth in private sector revenues. This analysis assumes that the rate of growth in private sector hospital costs reflects the underlying cost pressures in the VA system. The rate of growth in costs in the two systems may differ because of differences in: patient populations and sickness patterns, patient volumes, the mix of services provided, allowable salary levels for staff, and other competitive and budgetary pressures. However, many of the environmental and market factors influencing hospital costs (e.g., the cost of new technology) are significant for all hospitals. This is particularly true in academic institutions given their reliance on high technology care, faculty, and house staff, all of which are priced in a national academic market. Therefore, this analysis indicates what might have happened to private hospital margins had they experienced the revenue growth available to the VA system. By analyzing the change in private sector margins we can infer whether VA hospitals have been subject to increasing financial pressures over time.

4. CMDE Expenditures Per Unit of Patient Care Activity

Several measures of the rate of growth in revenue per unit of "patient care activity" also were examined to determine whether the funds available to VA hospitals rose or fell in relation to the amount of services provided. CMDE expenditures were compared to two measures of "patient care activity": 1) inpatient days and outpatient visits, and 2) weighted work units. While it is difficult to say what the rate of growth in revenue per unit of patient care activity should be, three potential comparison measures are: the medical care CPI, which grew by about 6.9 percent per year over the period analyzed; the rate of growth in federal salaries, which averaged 2.4 percent annually over the past four years; and private sector hospital per-

case Medicare revenues, which grew about 5.8 percent per year over the study period.

All measures developed in this study are analyzed separately for major teaching and non-teaching hospitals. VA major teaching hospitals are defined here as members of the Council of Teaching Hospitals (COTH).[22] The data analyzed includes 74 COTH hospitals which provide about 90 percent of the VA's residency positions. Although the "non-COTH" category includes a number of institutions with residency programs, most are relatively small. Private sector hospitals with at least one resident for every four beds are defined as major teaching institutions.

C. FINDINGS

1. VA Inpatient CMDE Expenditures Per Discharge Versus Medicare Per-Case Revenue in Private Sector Hospitals

Per-case Medicare revenues in private sector hospitals grew faster between PPS Year 1 and PPS Year 4 than CMDE per-case inpatient expenditures in VA hospitals between 1985 and 1988; about 5.8 percent annually in both major teaching and non-teaching hospitals compared with about 0.8 percent annually for non-COTH hospitals and 2.8 percent for COTH hospitals in the VA system. This data is presented in Table 17. The observed difference of nearly 3.0 percent annually in major teaching hospitals and 5.0 percent in non-teaching institutions indicates large differences in the level of financial resources flowing into private sector hospitals relative to the VA over time. While major teaching hospitals in the VA received annual increases of about 2.0 percent greater than non-teaching hospitals, this rate of increase was well below that in the private sector.

The rate of annual Medicare revenue growth in private sector hospitals was driven in large part by growth in service intensity, measured by the

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[22] This definition was suggested by the VA's Division of Academic Affairs.

Table 17

INPATIENT REVENUES PER DISCHARGE

(Private Sector Medicare Revenue versus VA CMDE Inpatient Expenditures)

	FFY 85	FFY 86	FFY 87	FFY 88	ANNUAL CHANGE
Non-teaching hospitals: VA System					
Expenditure/Case	$3,043	$2,929	$3,089	$3,117	0.8%
Case Mix Adjusted	$2,940	$2,793	$2,918	$2,921	-0.2%
Major teaching hospitals: VA System					
Expenditure/Case	$4,139	$3,915	$4,330	$4,500	
Case Mix Adjusted	$3,376	$3,129	$3,411	$3,506	1.8%

	PPS-1	PPS-2	PPS-3	PPS-4	CHANGE
Non-teaching hospitals: Private Sector					
Medicare Revenue/Case	$2,984	n/a	n/a	$3,533	5.8%
Case Mix Adjustment	$2,883	n/a	n/a	$3,311	4.7%
Major teaching hospitals: Private Sector					
Medicare Revenue/Case	$5,211	n/a	n/a	$6,172	5.8%
Case Mix Adjustment	$4,250	n/a	n/a	$4,808	4.2%

Notes:

1) Medicare inpatient operating revenues per case exclude capital and direct house staff expenditures. These data are from PPS year 1 through PPS year 4.

2) The case mix adjustment is equal to one-half the increase in the Medicare case mix index for major teaching and non-teaching hospitals.

3) CMDE inpatient expenditures is used as a proxy for revenue in VA hospitals. CMDE expenditures include all educational costs except for resident salaries and exclude indirect expenses (e.g., administrative salaries and routine maintenance) and capital.

4) Major teaching hospitals in the VA system are defined as COTH member hospitals. All others are defined as non-teaching. In the private sector, major teaching hospitals are defined as having at least one resident for every four beds. Non-teaching hospitals have no residents.

Source: Lewin/ICF estimates based on data from the Veterans' Administration, ProPAC, and Medicare Cost Reports.

change in the average Medicare case-mix index. However, because a VA-specific case-mix index could not be developed, we could not determine whether the financial impact of the slower rate of expenditure growth observed in VA hospitals was offset by a slower rate of growth in service intensity in VA institutions. The Medicare case mix index rose by about 2.1 percent annually for non-teaching hospitals and 3.1 percent per year for major teaching hospitals between PPS Year 1 and PPS Year 4.[23] As discussed previously, we used one-half this amount to adjust both the VA and private sector amounts. The net effect was case-mix adjusted Medicare revenues which rose by about 4.7 percent per year in non-teaching hospitals and about 4.2 percent annually in major teaching hospitals. After adjusting for one-half of the change in Medicare case mix, annual revenue growth in VA hospitals was negative 0.2 percent for non-COTH and positive 1.8 percent for COTH institutions.

2. Total VA Hospital Expenditures Versus Total Net Revenues in Private Sector Hospitals

Between 1985 and 1988, total net revenue in private sector hospitals rose faster than total expenditures in the VA system.[24] This was particularly true for major teaching hospitals, which experienced revenue growth of about 7.9 percent annually between PPS Year 1 and PPS Year 4, compared with VA COTH member hospitals which experienced budget growth of about 5.1 percent per year. Data is presented in Table 18. The VA experienced faster growth in total expenditures than in CMDE inpatient per-case expenditures (5.1 percent compared with 2.8 percent for VA COTH hospitals and 4.4 percent versus 0.8 percent for VA non-COTH hospitals) because the Congress increased funding for outpatient care more rapidly than for inpatient care.[25]

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[23] Case mix figures from ProPAC's June 1989 Report to Congress are for 1984 through 1987 which roughly correspond to PPS 1 through PPS 4.

[24] Total VA expenditures do not include the cost of major capital projects; non-recurring maintenance expense is included, but minor and major construction project costs are not included. The combined appropriation (budget authority) for the major and minor construction accounts fell from $768 million in 1985 to $519 million in 1988, an annual average decline of 12.2 percent.

[25] Between 1985 and 1988, budget authority for outpatient care rose by 10 percent annually compared with about 2 percent per-year for inpatient care.

Table 18

TOTAL NET REVENUES IN PRIVATE SECTOR HOSPITALS VERSUS
TOTAL EXPENDITURES IN VA INSTITUTIONS
(millions)

	FFY 85	FFY 86	FFY 87	FFY 88	ANNUAL GROWTH
Non-teaching:					
VA System	$3,090	$3,171	$3,321	$3,513	4.4%
Private	$42,240	$44,549	$47,203	$48,857	5.0%
Major teaching:					
VA System	$5,070	$5,289	$5,531	$5,883	5.1%
Private	$10,923	$11,704	$12,802	$13,720	7.9%

Notes: 1) Total net revenues in private hospitals include payments for inpatient and outpatient services (net of contractual allowances) and non-operating revenues. Total net revenues in private sector hospitals implicitly include a payment for capital expense even though non-governmental third-party payors do not provide a specific payment component for capital, since economically sound hospitals must earn sufficient revenues to fund replacement of capital in addition to operating costs. Total VA expenditures include both direct and indirect expenses for inpatient and outpatient care but do not include the cost of major capital projects; non-recurring maintenance expense is included, but minor and major construction project costs are not included.

2) Major teaching hospitals in the VA system are defined as COTH member hospitals. All others are defined as non-teaching. In the private sector, major teaching hospitals are defined as having at least one resident for every four beds. Non-teaching hospitals have no residents.

Source: Lewin/ICF estimates based on data from the VA Division of Resource Management and Medicare Cost Reports.

Over the 4-year period, total net revenues grew by about 26 percent in private major teaching hospitals compared with a 16 percent increase in total expenditures for the VA's major teaching hospitals. This differential represents a significantly lesser amount of financial resources. The differential was smaller in non-teaching hospitals where aggregate growth over the 4-year period was 15.7 percent for private hospitals and 13.7 percent for the VA.

3. Private Sector Margin Simulation Based on VA System Expenditure Growth

While total revenues clearly grew faster for private hospitals than for the VA system, it is not possible to calculate margins for VA hospitals to indicate relative changes in earned surpluses or deficits over time. However, it is possible to simulate what total margins would have been in the private sector if revenues had increased at the same rate as VA hospital revenues while cost growth remained constant. We calculated the "Private hospital VA-level growth scenario" margins shown below by increasing total revenues for private hospitals in PPS Year 1 at the annual compound rate of expenditure growth in VA hospitals: 5.1 percent for teaching hospitals and 4.4 percent for non-teaching hospitals. "Private hospital VA-level growth scenario" revenues were combined with actual total costs to produce the margin estimates displayed below.

Our estimates indicate that if private hospital revenues increased at the annual rate of VA hospital expenditures between 1985 and 1988, average total margins in PPS Year 4 would have declined to negative 5.1 percent (from positive 3.0 percent) for major teaching hospitals and negative 1.7 percent (from positive 3.8 percent) for non-teaching hospitals if all other factors were held equal. However, we note that in the face of large revenue shortfalls private sector hospitals would take a variety of actions designed to reduce costs. Therefore, this example likely overstates the final impact on private sector margins if the slower revenue growth rates of the VA had been experienced by private hospitals. On the other hand, VA hospitals have less flexibility to reduce costs in the face of funding shortfalls than

private hospitals because of Congressionally-mandated staffing levels, salary levels, and special programs. Slower revenue growth thus particularly affects VA hospitals' ability to purchase routine equipment and supplies.

The potential impact of slower revenue growth has important implications for the long term ability of hospitals to continue to attract qualified personnel and adequately replace capital. While revenue shortfalls resulting in negative margins may spur some hospitals to improve operating efficiencies, they also will result in deferred maintenance and delays in the purchase of new equipment. Over the long term this will have a detrimental effect on the quality of patient care and the ability to provide a competitive educational environment.

Table 19

AVERAGE TOTAL MARGINS IN PRIVATE SECTOR HOSPITALS

(Actual and Private Sector VA-level Growth Scenario)

	PPS 1	PPS 2	PPS 3	PPS 4
Non-teaching:				
Actual	8.0%	6.6%	5.1%	3.8%
"VA Growth Scenario"	8.0	5.6	2.6	-1.7
Major teaching:				
Actual	4.9%	4.7%	3.9%	3.0%
"VA Growth Scenario"	4.9	2.8	-2.0	-5.1

Notes: 1) Major teaching hospitals in the VA system are defined as COTH member hospitals. All others are defined as non-teaching. In the private sector, major teaching hospitals are defined as having at least one resident for every four beds. Non-teaching hospitals have no residents.

2) Total margins are case-weighted average values.

4. VA CMDE Expenditures Per Unit of Patient Care Activity

a. Per inpatient day and per outpatient visit

In recent years the VA has made efforts to shift workload from the inpatient to the outpatient setting. Accordingly, the number of inpatient days in the VA system has declined by about 6 percent annually since 1985 compared with growth of almost 8 percent per year in outpatient visits. The change in CMDE expenditures reflects this shift; outpatient expenditures grew by about 10.2 percent annually between 1985 and 1988 while inpatient expenditures grew by only 2.5 percent per year.

Table 20 indicates that CMDE expenditures per inpatient day rose faster than the medical care CPI between 1985 and 1988, reflecting the relative decline in the number of inpatient days. This increase reflects the higher intensity of treatment per day which accompanies the declining average lengths of stay in VA hospitals.[26] Expenditures per outpatient visit grew at a rate significantly below the medical care CPI as exhibited below. Both of these measures grew more rapidly in VA COTH hospitals than in non-COTH institutions.

b. Per weighted workload unit (WWU)

CMDE expenditures for inpatient and outpatient medical care were divided by the corresponding number of weighted work units. This measure grew by about 4.0 percent annually per inpatient WWU in VA COTH hospitals and about 0.9 percent in VA non-COTH hospitals. Data presented in Table 21 show that CMDE expenditures per outpatient WWU grew by 5.1 percent and 3.9 percent per year respectively for COTH and non-COTH hospitals. Both measures grew more

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[26] According to the VA, the average length of stay (ALOS) for short-term acute care patients (less than 99 days) during fiscal year 1985 was 13.8 days. ALOS declined to 12.2 days by December 1988. ALOS for all VA patients averaged about 23.4 days in FY 1985, declining to 18.7 days in December 1988. We calculated an average total ALOS for all VA hospitals of 21.5 days in FY 1985 and 17.9 days in FY 1988 based on the discharge and inpatient day data provided for this study.

Table 20

VA CMDE EXPENDITURES PER INPATIENT DAY AND OUTPATIENT VISIT

	FFY 85	FFY 86	FFY 87	FFY 88	ANNUAL GROWTH
$/Inpatient Day					
COTH	$191	$184	$225	$250	9.4%
NON-COTH	$143	$132	$158	$176	7.1%
$/Outpatient Visit					
COTH	$59	$62	$62	$65	3.4%
NON-COTH	$60	$65	$60	$61	0.7%
Medical CPI	113.5	122.0	130.1	138.7	6.9%

Source: Lewin/ICF estimates based on data from the VA Division of Resource Management.

Table 21

VA CMDE EXPENDITURES PER WEIGHTED WORK UNIT

	FFY 85	FFY 86	FFY 87	FFY 88	ANNUAL GROWTH
$/WWU (Inpatient)					
COTH	$51.76	$47.09	$55.30	$58.20	4.0%
NON-COTH	$50.38	$43.70	$47.33	$51.77	0.9%
$/WWU (Outpatient)					
COTH	$0.77	$0.77	$0.85	$0.90	5.1%
NON-COTH	$0.76	$0.78	$0.83	$0.85	3.9%
Medical CPI	113.5	122.0	130.1	138.7	6.9%

Source: Lewin/ICF estimates based on data from the VA Division of Resource Management.

slowly than the medical care CPI, and both indicate that the VA's major teaching hospitals were provided with relatively more resources than non-teaching hospitals over the past four years.

The fact that expenditures per WWU increased faster than expenditures per discharge, indicates declining resource intensity per case. However, as discussed previously, we believe that such a decline is unlikely, creating great uncertainty about the accuracy with which WWUs measure resource intensity.

D. THE IMPACT OF FEDERAL CONSTRAINTS ON VA SALARY GROWTH

Personnel in VA hospitals are paid according to the federal civil service pay schedule. Civil service pay increases averaged about 2.4 percent annually between 1985 and 1988, and federal workers are subject to maximum salary caps. We hypothesized that these constraints on federal salary growth might dampen the rate of increase in the costs of providing medical care in the VA system, and that the VA workforce might be absorbing the majority of the difference between revenue growth in the VA and the private sector. While such salary constraints may save money in the short run, over the long term this will create barriers to the recruitment of necessary staff and may lead to deterioration in the quality of care.

A recent study of relative pay differences in VA and private sector hospitals by Klemm Associates indicates that pay levels are equivalent for most types of hospital staff. However, the report notes that while VA salaries are, in general, similar to the rest of the marketplace, the VA cannot adjust its salary structure with sufficient speed to adapt to a changing environment, resulting in salary levels which may be out of date in certain geographic locations.[27] Table 22 compares average minimum and average maximum salaries for five hospital occupations in the VA and the private sector.

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[27] Klemm Analysis Group, "Study of Pay and Other Personnel Management Practices: Final Report to the Department of Veterans Affairs", May, 1989.

Table 22

SALARY LEVELS FOR SELECTED OCCUPATIONS IN THE VA AND PRIVATE SECTOR

1988

	VA	Private a/
Head Nurse		
Average Minimum	$29,295	$27,852
Average Maximum	39,418	39,504
Registered Nurse		
Average Minimum	22,033	22,416
Average Maximum	42,327	32,160
LPN/LVN		
Average Minimum	15,123	15,612
Average Maximum	22,213	21,012
Pharmacist		
Average Minimum	31,658	30,312
Average Maximum	39,278	40,476
Physical Therapist		
Average Minimum	28,103	24,504
Average Maximum	30,779	31,860

a/ National Survey of Hospital and Medical School Salaries Conducted by the University of Texas Medical Branch at Galveston.

Source: Klemm Analysis Group

Although the Klemm analysis did not include some important classes of personnel, particularly physicians, it appears that in general, slower VA budget allocations have not been absorbed by low staff salaries, since VA salaries do not appear to be uniformly below "market" levels.

Given VA salaries which are, on average, roughly comparable to the private sector, we expect that the VA would have to reduce the number of hospital personnel in response to slower budget growth. Table 23 indicates that the VA has indeed been cutting back on hospital staff. The number of FTE

Table 23

VA HOSPITAL FTE EMPLOYMENT PER DISCHARGE AND PER OUTPATIENT VISIT

VA COTH HOSPITALS	FY 1985	FY 1986	FY 1987	FY 1988	Annual Average 85-88
Inpatient FTEs	46,655	46,014	45,550	43,469	-2.3%
Discharges	448,777	483,346	452,632	452,097	0.2
Avg. Daily Census	27,043	25,950	24,157	22,611	-5.8
FTE/Discharge	0.104	0.105	0.101	0.096	-2.6
FTE/Avg. Daily Census	1.73	1.77	1.89	1.92	3.7
Outpatient FTEs	12,128	12,696	13,702	14,267	5.6
Outpatient Visits	11,360,670	11,650,550	13,031,113	13,882,132	6.9
FTE/Visit	0.00107	0.00109	0.00105	0.00103	-1.3

VA COTH HOSPITALS	FY 1985	FY 1986	FY 1987	FY 1988	Annual Average 85-88
Inpatient FTEs	29,793	28,795	27,738	26,385	-4.0%
Discharges	344,699	333,391	342,578	350,343	0.5
Avg. Daily Census	20,347	29,621	18,620	27,267	-5.3
FTE/Discharge	0.0864	0.0864	0.0810	0.0753	-4.5
FTE/Avg. Daily Census	1.46	1.40	1.49	1.53	1.4
Outpatient FTEs	5,530	6,550	6,966	7,410	4.3
Outpatient Visits	6,063,150	5,725,065	6,975,953	7,792,237	8.7
FTE/Visit	0.00108	0.00114	0.00100	0.00095	-4.1

Source: VA Resource Allocation Model

personnel providing inpatient services in COTH hospitals declined by about 2.3 percent annually between 1985 and 1988, while in non-COTH hospitals, inpatient personnel fell by 4.5 percent per year.[28] Inpatient FTEs are compared with two measures of patient care activity: inpatient discharges and average daily census. During the period analyzed, VA hospitals experienced little change in the number of inpatient discharges, resulting in a declining ratio of FTEs per discharge. The second measure of VA workload, average daily census (ADC), declined rapidly between 1985 and 1988 resulting in an increase in FTEs relative to the ADC. However, as noted earlier, the rapid decline in ADC results from declining average lengths of stay and shifting of workload to outpatient settings. Therefore, although the ratio of FTEs per ADC rose, the intensity of resources required per inpatient day probably also increased.

Although the number of personnel providing outpatient services in VA hospitals increased between 1985 and 1988, outpatient workload grew even faster. Outpatient FTEs per visit declined by 1.3 percent annually in VA COTH hospitals and by 4.1 percent per year in non-COTH hospitals.

Slower budget growth has resulted in a reduction in hospital personnel relative to several measures of patient workload, although the evidence is mixed in the case of FTEs per average daily census. In addition, given the similarity between average VA and private sector salaries, slower budget growth is also likely to have affected the procurement of supplies, maintenance, and long term capital investment.

E. SUMMARY AND CONCLUSIONS

The lack of traditional accounting measures for Veterans' Administration hospitals and the manner in which funds are allocated through the federal budget process complicates the analysis of the financial status of VA hospitals. Although conventional financial measures cannot be calculated

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[28] FTE data is from the Resource Allocate Model (RAM). The RAM data exclude certain types of administrative and support personnel and may not be directly comparable to FTE counts from other sources.

directly for VA hospitals, we analyzed a number of alternative measures, which generally indicate that during the past four years, the level of resources available to VA hospitals has risen more slowly than the level of revenues earned by private sector hospitals. However, because of limitations in the data available to perform this analysis, particularly the absence of an accurate case-mix measure for VA hospitals, it is difficult to determine what effect slower revenue growth has had on the VA's ability to provide quality medical services and maintain its historical involvement in graduate medical education. Our analysis suggests that the financial condition of VA hospitals has potentially declined. However, rather than being conclusive, we believe that the findings indicate the need for further research into the VA's financial status.

Perhaps the strongest indication of financial pressures in the VA system from this analysis is that CMDE inpatient expenditures per discharge in VA hospitals increased at a significantly slower rate than Medicare revenues per case in private sector hospitals; about 3.0 percent less annually in major teaching hospitals and about 5.0 percent less annually in non-teaching hospitals. Total VA hospital expenditures also grew more slowly than private sector total revenues, although the differential was smaller. If private sector total revenues had grown at the same rate as VA total expenditures between 1985 and 1988, all other things equal, both teaching and non-teaching hospitals would have had negative average total margins during the most recent two years. Finally, with the exception of CMDE expenditures per inpatient day, measures of VA expenditures per unit of patient care activity rose at rates below the medical care CPI.

All of the measures that we analyzed show that VA teaching institutions have received more rapid funding increases than non-teaching hospitals. CMDE expenditures per case grew by about 2 percent faster per year in VA COTH hospitals than in non-COTH institutions, while total expenditures in VA COTH hospitals rose by about 0.7 percent faster per year. Nevertheless, the rates of expenditure growth in VA teaching hospitals are significantly below the rate of revenue growth in private sector teaching institutions. Further study

is needed to determine whether these lower rates of growth have adverse implications for the ability of the VA to maintain its current teaching role in the future.

A variety of other events outside the scope of this analysis indicate financial pressures in the VA system. Recent unavailability of hospital beds due to funding shortages, the decision to limit care to patients with service-related disabilities in certain locations, the need for $340 million in emergency supplemental funds for fiscal year 1989, and a budget amendment of $840 million in fiscal 1990 before Gramm-Rudman sequestration all suggest financial tension in the VA system. In addition, declining margins in private hospitals over the past several years reflect many of the environmental and market factors concurrently affecting the financial condition of VA hospitals.

The importance of VA hospitals in providing medical services and offering educational opportunity to the nation's residents necessitates a better understanding of the forces affecting the financial status of VA institutions. However, better methods for measuring the relative cost, quality, and intensity of services need to be developed. Further research into changes in the VA's financial status would be assisted by development of a reliable case-mix measure for VA hospitals and more conclusive financial measures at the hospital level.

CHAPTER FIVE: OBSERVATIONS AND CONCLUSIONS

A. FEDERAL POLICY ON TEACHING HOSPITALS

Our study results indicate that PPS is beginning to exert financial pressure on teaching hospitals and indeed on all other hospital classes. While the PPS Year 4 results are by no means encouraging, given the mission of teaching hospitals the PPS Year 7 projections are cause for careful reflection if not alarm. PPS payments are rising at roughly half the growth rate in hospital expenses. While PPS was designed to place financial pressure upon the nation's hospitals, it has become a vehicle for federal budgetary policy. As the nation continues to experience federal deficit pressures and payer and Congressional frustration over escalating hospital costs, we must remain alert to the possibility that health care providers will continue to be a primary budget target for the Congress. One message of this report is that if hospital margins plummet, the use of historical data to gauge the financial condition of the hospital industry may not reflect its true current status.

Our projections of PPS margins for teaching hospitals make this point forcefully. The fact that recent reports indicate that by the end of PPS Year 4 teaching hospitals are not in severe financial condition says very little about possible outcomes in PPS Year 7 (the year we are now in) and beyond, even allowing for possible downward biases in our projection model.

We make the following observations:

- Early PPS margins were indeed relatively favorable for teaching hospitals; however, the cushion of previous profits under PPS no longer provides a rationale for increased financial pressure upon teaching hospitals. Federal payment policy must reckon with the total margin declines if there is going to be an adequate supply of well-equipped hospital beds including those needed by Medicare and Medicaid patients.

- PPS is not a sensitive budget policy tool. The wide range of variation around overall group means indicates that PPS is likely placing severe financial pressure on many of the nation's teaching hospitals. Our state-level projections for PPS Year 7 forcefully illustrate this point, as does our analysis of the increasing

number of teaching hospitals with negative margins. The uneven PPS impact on hospitals by type and location point up the imperfections in the PPS system as well as the inability of many hospitals to rein in their costs to meet governmental prospective payment targets.

- Given the high regional variation in teaching hospital financial condition, a prospective payment system based on national rates (even as adjusted by wage indices and the like) apparently is placing some teaching hospitals in certain parts of the country at a disadvantage. At the very least, our national rate system requires careful monitoring.

- The federal authorities can expect an assault from Congress and the outlier hospitals which are likely to be harmed the most by more stringent PPS payment policies. Teaching hospitals with large loads of indigent or Medicaid patients are particularly vulnerable as we enter the 1990s.

B. THE IMPORTANCE OF DECISIONS BY THE PRIVATE SECTOR AND STATES

The Medicare payment trends described above make private sector payment policies an increasingly important determinant of teaching hospital financial status. As the margins hospitals can earn from service to Medicare patients decline, hospitals have two choices: control costs better, or increase revenues from payers other than Medicare.

The tightness of labor markets in many parts of the country, especially for nurses and technical personnel, has made it increasingly difficult for hospitals to achieve human resource cost savings. Another large proportion of teaching hospitals' costs is driven by the new technology required for tertiary care pre-eminence and fulfillment of their teaching and research missions. Improved management practices and cost savings from adoption of industry best practices, joint purchasing, and the like all can increase the cost-effectiveness of teaching hospitals, probably significantly; yet savings may not match the pace of medical technology and professional earnings. Nevertheless, many teaching hospitals have maintained or increased their patient volumes, and in turn, some have moderated their cost growth.

Faced with these constraints, teaching hospitals have also chosen to raise their charges for patient care. The amount of funds they can generate through this strategy, however, depends on the willingness of private third party payers to pay the higher rates and on the volumes of unfunded patients for whom they provide care. Third party payers themselves face increasing competition for contracts with employers whose concern about increases in health care outlays is growing.

Our work with teaching hospital clients suggests that the willingness of private insurers, PPOs, and HMOs to continue to pay the higher rates of teaching hospitals varies across geographic markets and also varies with the uniqueness of the services offered by the teaching hospital. Some teaching hospitals provide the best value on care and services once case mix enters the equation. However, to the extent that price competition develops within markets, teaching hospitals will be at an increasing competitive disadvantage unless they are able to differentiate their services from non-teaching hospitals on quality, unique capabilities, or other dimensions of importance to insurers and patients.

For public hospitals as well as many private not-for-profit ones, state policy also has a profound impact on the difference between PPS margin and total margin. State payments, whether in the form of payments for the care of specific indigent patients or in the form of less earmarked subsidies, can spell the difference between financial viability and financial problems for teaching hospitals. Medicaid payments by state and by eligible population are highly variable, leaving many of our leading safety net teaching hospitals extremely vulnerable. The willingness and ability of state governments to continue to provide these funds also will affect the ability of teaching hospitals to continue their educational mission.

State policies toward medical schools also will be important to medical education. If major state-owned teaching hospitals become less able to support themselves through patient services, they will be less able to provide fiscal support for the schools. Relationships between medical schools

and their hospitals can be expected to be more abrasive, largely over economic issues.

Finally, although not identified specifically in this study, many minor teaching hospitals are smaller community institutions which have assumed responsibility for family practice and other primary care residency training. Our experience with these hospitals, in the context of the more rapidly deteriorating total margins in minor teaching hospitals, suggests that these hospitals will either reduce family practice residencies or seek greater state financial support.

C. TOWARD A TEACHING HOSPITAL RESEARCH AGENDA FOR COGME

We hope that the data provided in this report will help convince policymakers of the need to look ahead as budgets are formulated rather than looking at historical data which, during periods of downward trends, do not tell us what we need to know. Our review and projections suggest that the current system does not provide adequate warning of the possible consequences of legislative decisions as they are being made. The lack of an accurate feedback mechanism is a troubling aspect of the current Medicare budget process.

As COGME continues to consider issues affecting the financing of graduate medical education, a variety of potential research topics would provide insight into the implications of the financial status trends reported in this study on the continued ability of institutions to support graduate medical education. Given the study's findings, we suggest that COGME consider the following issues:

- The relationship between level of teaching commitment and financial status. This study examined only one measure of teaching commitment, the IRB ratio. A number of other potential measures exist including: the number of residency programs offered, the number of medical school clerkships, and the level of GME funding provided by hospitals. These measures to date are not well defined and there currently is no national database for examining them. Development of the definitions and data would need to be a

highly cooperative enterprise. A compilation of these types of data would improve researchers' ability to understand relationships between changes in financial status and the size and nature of teaching programs. COGME, because of its unique membership combining representatives of a wide range of educational and hospital constituencies, could make a major contribution by taking leadership on this issue.

- The relationship among hospital operating characteristics, the specialty mix of teaching, and financial status. One important question which remains unanswered by this study is whether certain types of residency programs occur primarily in hospitals which are experiencing declining financial status, and whether declining hospital financial status disproportionately affects primary care or specific categories of specialty training. This assessment might be accomplished by compiling more detailed information about residency programs and examining what types of programs are offered in the hospitals falling into both the upper and lower quartiles in our margin analysis.

- Regression analysis to relate hospital characteristics to financial status. While the tables presented in this report indicate correlations between hospital characteristics and hospital margins, the relative importance of different factors can be more accurately determined using multivariate regression analysis. Such analysis would enable COGME to more precisely isolate the degree to which the hospital teaching function is related to financial status.

- Shifts in sites of indigent care. The provision of indigent care is one of the key factors affecting the financial status of teaching hospitals. As indicated by the AHA data presented in this report, major teaching hospitals provide significantly more charity care than other types of hospitals. However, there is little publicly available information with which to conduct detailed analysis of shifts in indigent care financing. COGME may want to suggest that more precise information about charity care be included on the Medicare cost reports.

- Ability of teaching hospitals to control GME costs. The primary components of GME costs are resident stipends and benefits, stipends to teaching physicians, and hospital overhead in support of teaching. Further analysis of GME costs by hospital teaching status could be conducted. However, data on the Medicare cost reports are of a summary nature rather than disaggregated, therefore, development of additional information on these expenses might be considered.

- Third-party payer policies. Discussion at the November 2, 1989, COGME meeting pointed out uncertainties about the degree to which different types of third party payers contribute to the financing of GME. Better understanding of trends in third party payment

policies (e.g., the continuing efforts by some payers to achieve deeper discounts from hospitals) can help researchers predict future changes in hospital financial status.

- The implications of alternative methods for funding medical education. The method of funding a large portion of teaching expenses through patient services is increasingly under attack. A careful review and analysis of alternative funding mechanisms would help indicate the extent to which the current method of funding teaching institutions should be continued, revised, or repealed.

- State financing of GME. The degree to which states fund graduate medical education helps explain regional differences in the level of teaching programs. The importance of state subsidies and the extent to which states are likely to increase funding in the face of declining hospital financial status will improve understanding of regional pressures for cutbacks in GME.

- Best practices for accommodating shorter resident work hours. Recent legislation in New York City and pending legislation in California may indicate a trend towards requirements for shorter resident work hours. Hospitals which have relied heavily on residents as "low cost" labor may need to incur additional staff expenses to maintain their current level of service and quality. Guidelines for accommodating to shorter resident hours based on hospitals which have successfully adapted may be of use to institutions newly facing such restrictions.

APPENDIX B

AN ANALYSIS OF TEACHING HOSPITAL FINANCIAL STATUS

PHASE II -- DISCUSSION POINTS

As the second phase of our analysis of hospital financial status, Lewin/ICF was asked to prepare additional analyses of the characteristics of "winner" and "loser" teaching hospitals, defined as institutions in the upper and lower quartiles respectively based on their PPS margins in PPS year 4. These analyses were conducted separately for major and minor teaching hospitals. We were also asked to analyze the potential impact of changes in the indirect medical education adjustment on teaching hospital margins. These analyses are contained in the following tables:

1. Average financial measures for winner and loser hospitals from PPS1 through PPS7.

2. The distribution of winner and loser hospitals by hospital group characteristics.

3. Average hospital operating characteristic variables for winner and loser hospitals in the major and minor teaching categories.

4. Projections of the percentage of hospitals with negative PPS margins in PPS5 through PPS7 by hospital teaching status.

5. Projections of the impact of different indirect medical education (IME) factors on PPS margins in PPS year seven by hospital teaching status.

We note that the projections of PPS margins for PPS Year 7 prepared here include adjustments made to account for OBRA 89 and some technical adjustments to our cost projection model which were not modeled in our earlier report. The these changes have significantly depressed PPS margins in major teaching institutions and academic medical centers.[1]

Our interpretations of the attached tables are presented below.

1. <u>Financial measures for winner and loser hospitals from PPS1 through PPS7</u>.

Table 1 presents average margins and balance sheet ratios calculated seperately for winner and loser hospitals. The data was not trimmed or otherwise edited beyond the original data edits described in the draft report.

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[1] Our data from PPS1 and PPS2 do not include hospitals from PPS exempt states (NY, MA, MD, NJ). The data for PPS3 and PPS4 do not include hospitals in Maryland and New Jersey but <u>do</u> include those in New York and Massachussetts.

A. Major teaching hospitals

- Winner hospitals have been able to maintain relatively high PPS margins. Despite generally declining trends in PPS margins, winner hospitals actually experienced rising PPS margins between PPS1 and PPS4. This is likely due to PPS transition factors.

- Major winners experience some decline beyond PPS4 but are still projected to have positive PPS margins of 16.5 percent in PPS7.

- Total margins for winners and losers were about even in PPS1, but by PPS4 had fallen more for loser hospitals.

- By PPS7, the average loser hospital is projected to have PPS margins of negative 12.9 percent.

- The percentage point difference between winner and loser PPS margins has increased from 9.5 points in PPS1 to 30.9 points by PPS4 and a projected difference of 29.4 points in PPS7.

- Winners (defined according to PPS margin) have experienced very low patient margins, significantly lower than those experienced by loser hospitals. The inverse relationship between patient and PPS margins may be significantly affected by disproportionate share payments and the underlying role of bad debt and charity care.

- The CR is relatively stable for both winners and losers. The FAFR fluctuates somewhat but not consistently in one direction.

B. Minor teaching hospitals

- The percentage point difference between winner and loser PPS margins has increased from 9.0 points in PPS1 to 29.0 points in PPS4 and to a projected differences of 39.6 points in PPS7. This closely approximates the findings for major teaching hospitals.

- Total margins declined sharply for both winners and losers between PPS1 and PPS4. The percentage point difference stayed about the same during this period.

- Patient margin drops by similar percentage point amounts for winner and loser hospitals, although unlike the major teaching institutions, patient margins are higher for the winner hospitals.

- The CR and FAFR are stable for both winners and losers.

2. The distribution of winner and loser hospitals by hospital group characteristics.

Table 2 can be interpreted by comparing the distribution of winner and loser hospitals by hospital group characteristics to the distribution for all hospitals of the same teaching status. For example, 8.3 percent of all major teaching hospitals are located in New England while only 2.4 percent of major teaching "winners" are located there. This indicates that New England has relatively fewer than average major teaching "winner" hospitals.

- Location. A disproportionate number of winner hospitals are found in the Mid-Atlantic region. New England and the South Atlantic region have high proportions of loser hospitals. This is true for both major and minor teaching hospitals.

- Ownership. Proprietary hospitals have relatively more PPS margin losers than other types of hospitals.

- Disproportionate share. For both major and minor teaching hospitals, winners are more likely than average to get disproportionate share payments and losers are less likely to receive them.

- Urban/rural location. A higher proportion of winners are in urban areas and a higher proportion of losers are in rural areas.

3. Average hospital operating characteristic variables for winner and loser hospitals in the major and minor teaching categories.

- Winner hospitals had lower increases in average PPS cost per case, particularly those in the major teaching category.

- Winners also experienced greater increase in occupancy rates.

- For major teaching hospitals, winners had significantly higher disproportionate share payments as a percentage of Medicare operating revenue. However, the percentage IME payments were slightly higher for loser hospitals than for winners.

4. Projections of the number of percentage of hospitals with negative PPS margins in PPS5 through PPS7 by hospital teaching status.

- The proportion of hospitals projected to have negative PPS margins by PPS7 is striking. We project that these percentages will be:

  -- All hospitals (63.3%)
  -- Non teaching (62.7%)
  -- All teaching (65.8%)
  -- Major teaching (44.8%)
  -- Minor teaching (70.2%)
  -- Academics (47.3%)

5. Projections of the impact of different indirect medical education (IME) factors on PPS margins in PPS year seven by hospital teaching status.

- As previously noted, changes in the model to account for implementation of OBRA 89 result in significantly lower PPS margin projections for major teaching hospitals and academic medical centers under the current 7.7 percent IME factor.

- Reduction of the IME factor from will have a severe impact on major teaching hospitals and academic medical centers. The projected percentage point decline in PPS margins in PPS7 which would result from cutting the IME factor for 7.7 percent to 3.5 percent is:

  -- All hospitals (-2.8%)
  -- Non teaching (-0.5%)
  -- All teaching (-5.5%)
  -- Major teaching (-12.0%)
  -- Minor teaching (-3.6%)
  -- Academics (-13.1)

TABLE 1

AVERAGE FINANCIAL MEASURES FOR WINNER AND LOSER HOSPITALS
(PPS1 - PPS7)

		MAJOR TEACHING			MINOR TEACHING		
		WINNERS	LOSERS	DIFFERENCE	WINNERS	LOSERS	DIFFERENCE
PPS1	PPS MARGIN	23.3%	13.8%	9.5%	20.0%	11.0%	9.0%
	TOTAL MARGIN	3.8%	3.9%	-0.1%	10.1%	6.8%	3.3%
	PATIENT MARGIN	-12.9%	-2.5%	-10.4%	5.1%	2.2%	2.9%
	CURRENT RATIO	2.46	3.03	-0.57	2.41	2.48	-0.07
	FAF RATIO	0.75	0.56	0.19	0.64	0.63	0.01
PPS2	PPS MARGIN	27.3%	12.7%	14.6%	24.0%	8.4%	15.6%
	TOTAL MARGIN	3.5%	2.7%	0.8%	6.8%	5.7%	1.1%
	PATIENT MARGIN	-6.6%	-4.4%	-2.2%	2.1%	0.8%	1.3%
	CURRENT RATIO	2.77	3.71	-0.94	2.36	2.41	-0.05
	FAF RATIO	0.90	0.79	0.11	0.66	0.67	-0.01
PPS3	PPS MARGIN	24.7%	7.8%	16.9%	20.4%	1.7%	18.7%
	TOTAL MARGIN	2.9%	1.8%	1.1%	6.4%	3.8%	2.6%
	PATIENT MARGIN	-8.7%	-4.2%	-4.5%	0.2%	-1.6%	1.8%
	CURRENT RATIO	2.59	3.03	-0.44	2.25	2.50	-0.24
	FAF RATIO	0.83	0.81	0.02	0.67	0.65	0.02
PPS4	PPS MARGIN	29.4%	-1.5%	30.9%	19.2%	-9.8%	29.0%
	TOTAL MARGIN	1.7%	0.7%	1.0%	4.9%	1.7%	3.2%
	PATIENT MARGIN	-10.3%	-7.4%	-2.9%	-1.4%	-4.7%	3.3%
	CURRENT RATIO	2.97	2.74	0.23	2.28	2.34	-0.06
	FAF RATIO	0.69	0.73	-0.04	0.67	0.71	-0.05
PPS5	PPS MARGIN	23.0%	-3.4%	26.4%	20.8%	-13.4%	34.2%
PPS6	PPS MARGIN	20.3%	-6.4%	26.7%	18.4%	-17.9%	36.3%
PPS7	PPS MARGIN	16.5%	-12.9%	29.4%	13.5%	-26.1%	39.6%

NOTE: WINNERS ARE DEFINED AS THE UPPER QUARTILE OF HOSPITALS BASED ON PPS MARGIN IN PPS YEAR 4. LOSERS ARE DEFINED AS THE LOWER QUARTILE OF HOSPITALS. FINANCIAL MEASURES PRESENTED IN THIS TABLE ARE AVERAGE VALUES FOR HOSPITALS IN THE WINNER AND LOSER CATEGORIES.

SOURCE: LEWIN/ICF PAYMENT SIMULATION MODEL.

TABLE 2

DISTRIBUTION OF WINNER AND LOSERS BY HOSPITAL GROUP CHARACTERISTIC
(PPS YEAR 4)

	MAJOR TEACHING			MINOR TEACHING		
	WINNERS	LOSERS	ALL	WINNERS	LOSERS	ALL
URBAN	97.6%	81.4%	94.1%	93.7%	89.2%	93.1%
BEDS <100	9.5%	11.6%	5.3%	5.8%	16.0%	8.2%
BEDS 100-404	54.8%	32.6%	49.7%	65.1%	64.4%	64.3%
BEDS 405-685	23.8%	32.6%	30.8%	20.1%	7.2%	18.1%
BEDS > 685	9.5%	4.7%	8.3%	2.6%	1.5%	2.6%
RURAL	2.4%	18.6%	5.9%	6.3%	10.8%	6.9%
BEDS <100	0.0%	11.6%	3.0%	1.6%	3.6%	2.3%
BEDS 100-170	0.0%	2.3%	1.2%	1.6%	2.6%	1.7%
BEDS >170	2.4%	4.7%	1.8%	3.2%	4.6%	2.9%
TOTAL	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%
ACADEMIC MED CTR.	40.5%	51.2%	53.3%	0.5%	1.0%	0.6%

NOTE: WINNER HOSPITALS ARE DEFINED AS THE UPPER QUARTILE OF HOSPITALS BASED ON PPS MARGIN IN PPS YEAR 4. LOSER HOSPITALS ARE DEFINED AS THE LOWER QUARTILE OF THESE HOSPITALS. THE ALL CATEGORY INDICATES THE DISTRIBUTION FOR ALL MAJOR (OR MINOR) TEACHING HOSPITALS

SOURCE: LEWIN/ICF PAYMENT SIMULATION MODEL

TABLE 2 (continued)

DISTRIBUTION OF WINNER AND LOSERS BY HOSPITAL GROUP CHARACTERISTIC

	MAJOR TEACHING			MINOR TEACHING		
	WINNERS	LOSERS	ALL	WINNERS	LOSERS	ALL
NEW ENGLAND	2.4%	14.0%	8.3%	4.8%	9.3%	7.4%
MID-ATLANTIC	26.2%	9.3%	19.5%	22.2%	16.5%	17.5%
SOUTH ATLANTIC	4.8%	20.9%	11.2%	7.4%	12.9%	10.4%
EAST NORTH CENTRAL	11.9%	14.0%	14.8%	21.2%	21.1%	24.5%
EAST SOUTH CENTRAL	9.5%	11.6%	7.1%	3.7%	3.6%	4.5%
WEST NORTH CENTRAL	9.5%	4.7%	8.3%	10.1%	11.9%	9.9%
WEST SOUTH CENTRAL	11.9%	11.6%	11.2%	7.4%	11.3%	9.1%
MOUNTIAN	4.8%	2.3%	3.6%	5.8%	3.6%	4.5%
PACIFIC	19.0%	11.6%	16.0%	17.5%	9.8%	12.3%
	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%
CHURCH	7.1%	4.7%	7.1%	26.5%	19.1%	23.3%
NON-PROFIT	40.5%	44.2%	46.2%	59.3%	58.2%	60.8%
PROPRIETARY	2.4%	11.6%	4.1%	6.9%	11.3%	7.9%
GOVERNMENT	50.0%	39.5%	42.6%	7.4%	11.3%	7.9%
	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%
DISP. SHARE	78.6%	41.9%	60.9%	30.7%	16.5%	23.6%

NOTE: WINNER HOSPITALS ARE DEFINED AS THE UPPER QUARTILE OF HOSPITALS BASED ON PPS MARGIN IN PPS YEAR 4. LOSER HOSPITALS ARE DEFINED AS THE LOWER QUARTILE OF THESE HOSPITALS. THE ALL CATEGORY INDICATES THE DISTRIBUTION FOR ALL MAJOR (OR MINOR) TEACHING HOSPITALS

SOURCE: LEWIN/ICF PAYMENT SIMULATION MODEL

TABLE 3

AVERAGE HOSPITAL OPERATING CHARACTERISTICS
(WINNER AND LOSER HOSPITALS)

	MAJOR TEACHING		MINOR TEACHING	
	WINNERS	LOSERS	WINNERS	LOSERS
Percent Medicare Days	25.1%	29.7%	40.5%	43.1%
Percent Medicaid Days	26.5%	17.3%	10.3%	9.5%
Percent Change in Occupancy (PPS2 - PPS4)	3.5%	1.3%	2.8%	1.4%
Indirect Medical Education Payment a/	15.8%	16.3%	5.6%	3.3%
Disproportionate Share Payment a/	8.0%	1.9%	1.1%	0.8%
Outlier Payment a/	4.1%	4.8%	4.0%	4.7%
Percent Change in PPS Cost Per Case (PPS1 - PPS4)	18.9%	32.6%	20.1%	25.0%

a/ Payments experessed as a percentage of PPS operating revenue.

NOTE: WINNER HOSPITALS ARE DEFINED AS THE UPPER QUARTILE BASED ON PPS MARGINS IN PPS YEAR 4. LOSER HOSPITALS ARE DEFINED AS THE LOWER QUARTILE.

SOURCE: LEWIN/ICF PAYMENT SIMULATION MODEL.

TABLE 4

PERCENTAGE OF HOSPITALS WITH NEGATIVE PPS MARGINS

	PPS5	PPS6	PPS7
All hospitals	46.1%	51.2%	63.3%
Non-Teaching	46.7%	50.9%	62.7%
All teaching	43.7%	52.2%	65.8%
Major	26.1%	31.5%	44.8%
Minor	47.4%	56.6%	70.2%
Academics	29.7%	34.1%	47.3%

Source: Lewin/ICF Payment Simulation Model.

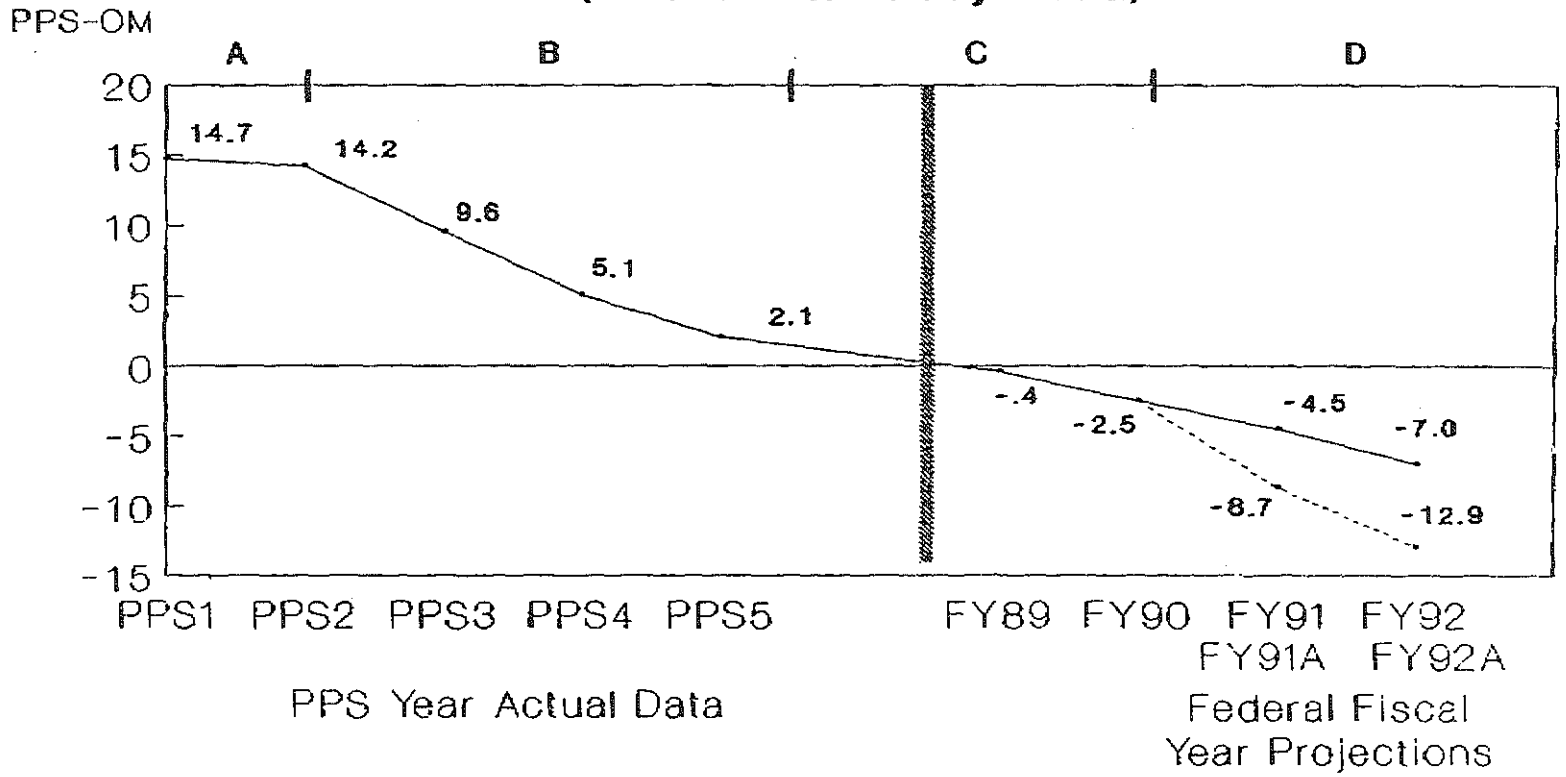
TABLE 5

PSM ANALYSIS WITH VARYING IME
PPS7 OPERATING MARGIN BY TEACHING STATUS

	IME FACTORS				
TEACHING STATUS	7.7	7.1	6.6	4.4	3.5
ALL HOSPITALS	-6.6	-7.1	-7.4	-8.8	-9.4
NON TEACHING	-8.4	-8.8	-8.8	-8.8	-8.9
ALL TEACHING	-4.9	-5.5	-6.1	-9.2	-10.4
MINOR TEACHING	-7.1	-7.6	-7.9	-9.9	-10.7
MAJOR TEACHING	3.2	2.6	0.7	-5.9	-8.8
ACADEMIC	1.6	0.2	-1.1	-8.4	-11.5

APPENDIX C

Trend in Case Weighted Medicare PPS Operating Margin* (Actual and Projected)



Projections for FY91 and FY92 Using Market Basket Rate of Increase and 7.7 IME.

Projections for FY91A and FY92A based on Market Basket-1.5% Rate of Increase and 4.05 IME

Source: Lewin/ICF Payment Simulation Model

With Case Weighting, Hospitals Influence Margin Estimates According to Their Number of Discharges

ALL MEDICARE ELIGIBLE HOSPITALS
MEDICARE ACTUAL AND PROJECTED MARGINS BY PPS YEAR
AND BY HOSPITAL GROUP AND OPERATING CHARACTERISTICS

GROUP	PPS YEAR ACTUAL DATA					FEDERAL FISCAL YEAR PROJECTIONS					
	PPS1	PPS2	PPS3	PPS4	PPS5*	1989	1990	1991**	1991A***	1992**	1992A***
ALL HOSPITALS	14.7	14.2	9.6	5.1	2.1	-0.4	-2.6	-4.5	-8.7	-7.0	-12.9
URBAN	16.1	15.4	10.5	6.0	2.8	0.1	-2.3	-4.3	-9.0	-6.8	-13.2
< 100 BEDS	17.2	15.5	10.9	2.8	1.1	-1.6	-2.7	-4.9	-7.4	-7.7	-11.9
100-404 BEDS	15.0	13.9	8.8	5.1	1.4	-1.9	-4.4	-6.5	-10.2	-9.1	-14.5
405-685 BEDS	16.9	18.3	13.3	8.3	6.3	1.8	-0.7	-2.4	-8.3	-4.8	-12.4
685+ BEDS	22.0	20.3	18.0	10.2	7.0	6.7	4.7	3.2	-4.7	1.0	-8.5
RURAL	8.2	8.1	3.8	-0.2	-1.4	-3.0	-4.1	-5.5	-6.7	-8.2	-11.0
< 100 BEDS	7.5	5.7	0.2	-1.7	-2.6	-1.7	-1.8	-3.3	-3.5	-6.0	-7.6
100-169 BEDS	8.4	9.1	8.2	-0.1	-0.4	-4.6	-5.9	-7.0	-7.9	-9.5	-12.0
170+ BEDS	9.5	12.1	6.3	2.1	-0.6	-3.2	-5.5	-7.0	-10.0	-9.8	-14.4
ALL TEACHING	17.7	17.9	13.2	8.8	6.0	2.8	0.6	-1.3	-7.9	-3.7	-11.9
MAJOR TEACHING	21.2	21.7	16.3	13.7	12.5	9.0	7.3	5.4	-5.3	3.4	-8.9
MINOR TEACHING	16.6	16.7	11.9	7.3	4.5	0.3	-2.1	-4.8	-8.9	-6.4	-13.0
NON TEACHING	12.2	11.1	6.1	1.8	-1.2	-3.4	-5.6	-7.5	-9.4	-10.2	-13.7
ACADEMIC MED CNT	22.1	22.6	17.0	11.5	8.7	7.1	5.1	3.9	-7.5	1.9	-11.2
NEW ENGLAND	12.8	13.2	8.7	3.8	-3.1	-12.0	-15.0	-16.8	-23.1	-19.8	-28.0
MID-ATLANTIC	16.5	15.8	12.4	9.8	7.1	7.5	5.8	2.1	-3.4	-0.1	-7.2
SO ATLANTIC	12.9	13.0	6.1	1.7	-2.0	-5.0	-7.5	-7.9	-11.7	-10.8	-16.2
E N CENTRAL	14.6	14.1	10.6	5.1	2.0	-1.3	-3.5	-6.3	-11.0	-8.6	-15.0
E S CENTRAL	10.6	12.1	5.9	3.0	1.7	1.4	-0.6	-1.8	-5.0	-4.4	-9.1
W N CENTRAL	16.0	16.1	12.8	6.6	3.2	1.1	-1.2	-4.0	-7.9	-6.6	-12.2
W S CENTRAL	15.5	13.5	8.4	2.9	0.3	-1.7	-4.3	-6.3	-9.5	-9.1	-14.0
MOUNTAIN	14.1	18.0	11.7	6.6	3.1	0.8	-0.1	-0.9	-4.0	-3.1	-7.7
PACIFIC	15.9	14.1	8.4	5.8	4.1	0.7	-1.5	-3.5	-6.8	-6.1	-11.0
CHURCH	15.6	15.7	10.5	5.5	2.2	0.7	-1.6	-3.4	-7.6	-5.8	-11.6
VOLUNTARY	15.1	14.4	10.0	5.8	2.6	-0.8	-3.1	-5.2	-9.7	-7.8	-13.9
PROPRIETARY	13.8	12.5	6.8	2.1	-1.3	-2.4	-4.1	-5.7	-8.1	-8.3	-12.4
GOVERNMENT	13.7	13.4	9.4	4.4	2.9	1.4	-0.5	-2.1	-7.1	-4.7	-11.3
DISPRO. SHARE	15.6	15.8	10.8	8.3	6.3	3.8	2.0	0.5	-4.8	-1.9	-8.7
MCR USAGE >= 65	13.0	10.2	4.7	-1.1	-3.7	-5.7	-7.7	-10.3	-12.4	-13.1	-16.8
MCR USAGE 50-64	13.5	12.6	7.5	3.1	1.3	-2.5	-4.8	-6.8	-9.9	-9.5	-14.1
MCR USAGE 25-49	13.2	15.0	10.4	6.1	2.5	0.7	-1.6	-3.3	-8.1	-5.8	-12.2
MCR USAGE 00-24	15.8	15.9	11.9	11.7	8.9	6.5	5.0	3.3	-3.9	1.0	-7.8

NOTE: * PPS5 DATA CONTAINS ONLY 3821 HOSPITALS.
** FEDERAL FISCAL YEAR PROJECTIONS FOR 1991 AND 1992 ASSUMES MARKET BASKET RATE OF INCREASE AND 7.7 IME.
*** FEDERAL FISCAL YEAR PROJECTIONS FOR 1991A AND 1992A ASSUMES MARKET BASKET RATE OF INCREASE AND 4.05 IME.

SOURCE: LEWIN/ICF PAYMENT SIMULATION MODEL

PSM ANALYSIS WITH VARYING IME FACTORS
PPS-7 OPERATING MARGINS BY TEACHING STATUS

	IME FACTORS				
	7.7	7.1	6.6	4.4	3.5
ALL HOSPITALS	-2.6	-2.9	-3.3	-4.8	-5.5
NON TEACHING	-5.6	-5.6	-5.6	-5.6	-5.6
ALL TEACHING	0.6	-0.2	-0.8	-3.9	-5.2
MINOR TEACHING	-2.1	-2.5	-2.9	-4.7	-5.5
MAJOR TEACHING	7.3	5.8	4.6	-1.6	-4.4
ACADEMICS	5.1	3.6	2.2	-4.4	-7.6

SOURCE: LEWIN/ICF PAYMENT SIMULATION MODEL

PPS MARGIN PERCENTILE TRENDS

	10TH	25TH	MEDIAN	75TH	90TH
PPS-5					
ALL HOSPITALS	-26.9	-11.6	-0.2	10.0	18.7
MAJOR TEACHING	-6.3	3.1	11.1	19.5	33.6
MINOR TEACHING	-19.4	-6.8	2.8	11.3	20.0
PPS-6 (PROJECTED)					
ALL HOSPITALS	-32.7	-14.4	-1.1	11.1	21.9
MAJOR TEACHING	-19.5	-6.1	9.0	20.6	31.6
MINOR TEACHING	-25.4	-11.8	-0.7	9.4	18.0
PPS-7 (PROJECTED)					
ALL HOSPITALS	-35.8	-17.1	-2.7	10.4	21.9
MAJOR TEACHING	-22.1	-9.1	7.7	19.8	31.2
MINOR TEACHING	-28.3	-14.8	-3.2	7.2	17.7

SOURCE: LEWIN/ICF PAYMENT SIMULATION MODEL

PPS MARGIN PERCENTILE TRENDS BY URBAN/RURAL AND TEACHING STATUS

		NUMBER OF HOSPITALS	10TH	25TH	MEDIAN	75TH	90TH
PPS 1	TOTAL	5214	-7.8	2.8	11.2	17.7	23.4
	URBAN	2527	1.2	8.0	14.2	20.0	25.7
	RURAL	2687	-14.0	-2.0	7.4	14.7	20.9
	TEACHING	886	3.5	10.5	15.8	21.2	26.7
	NON-TEACH	4328	-9.3	1.3	10.0	16.7	22.3
PPS 5	TOTAL	3821	-26.9	-11.6	-0.2	10.0	18.7
	URBAN	1959	-21.2	-9.2	1.2	10.9	19.7
	RURAL	1862	-33.0	-14.6	-2.0	9.0	17.7
	TEACHING	697	-17.9	-5.8	4.0	13.0	21.3
	NON-TEACH	3124	-28.6	-13.2	-1.1	9.3	17.9
FY 89	TOTAL	5328	-32.7	-14.4	-1.1	11.1	21.9
	URBAN	2803	-29.6	-13.6	-1.0	10.4	21.0
	RURAL	2525	-35.4	-16.1	-1.2	11.7	22.7
	TEACHING	1002	-23.5	-11.0	0.3	11.5	21.9
	NON-TEACH	4326	-34.1	-15.7	-1.4	10.9	21.9
FY 90	TOTAL	5328	-35.8	-17.1	-2.7	10.4	21.9
	URBAN	2803	-34.2	-16.9	-3.5	8.8	20.3
	RURAL	2525	-38.1	-17.2	-1.7	11.8	23.6
	TEACHING	1002	-26.7	-14.2	-1.8	9.4	21.7
	NON-TEACH	4326	-37.2	-18.0	-2.9	10.6	21.9
FY 91*	TOTAL	5417	-38.2	-19.1	-4.5	9.2	20.2
	URBAN	2892	-37.5	-19.3	-5.5	7.4	18.9
	RURAL	2525	-39.0	-18.9	-3.2	10.7	21.5
	TEACHING	1045	-30.3	-16.5	-3.8	8.2	20.4
	NON-TEACH	4372	-39.5	-19.8	-4.7	9.4	20.1
FY 91A**	TOTAL	5417	-40.5	-21.7	-6.7	7.2	18.9
	URBAN	2892	-41.8	-23.0	-9.1	3.7	15.5
	RURAL	2525	-39.1	-19.4	-3.5	10.5	21.5
	TEACHING	1045	-38.4	-22.0	-9.1	2.4	14.3
	NON-TEACH	4372	-41.1	-21.5	-5.9	8.3	19.6
FY 92*	TOTAL	5417	-43.0	-22.6	-7.2	7.2	18.5
	URBAN	2892	-41.9	-22.3	-8.2	5.3	17.2
	RURAL	2525	-44.2	-22.8	-5.6	9.1	20.0
	TEACHING	1045	-34.8	-19.2	-6.2	6.8	18.8
	NON-TEACH	4372	-44.2	-23.3	-7.5	7.5	18.4
FY 92A**	TOTAL	5417	-47.6	-26.6	-10.9	3.9	16.0
	URBAN	2892	-48.2	-28.0	-13.3	0.3	12.7
	RURAL	2525	-46.4	-24.6	-7.4	7.6	18.8
	TEACHING	1045	-45.5	-26.5	-13.1	-0.7	11.4
	NON-TEACH	4372	-48.1	-26.7	-10.2	5.1	16.9

NOTE: * FEDERAL FISCAL YEAR PROJECTIONS FOR 1991 AND 1992 ASSUME MARKET BASKET RATE OF INCREASE AND 7.7 IME.

** FEDERAL FISCAL YEAR PROJECTIONS FOR 1991A AND 1992A ASSUME MARKET BASKET RATE OF INCREASE AND 4.05 IME.

SOURCE: LEWIN/ICF PAYMENT SIMULATION MODEL

PERCENT OF ALL HOSPITALS WITH NEGATIVE PPS OPERATING MARGINS
BY FEDERAL FISCAL PROJECTION YEAR AND BY
HOSPITAL GROUP AND OPERATING CHARACTERISTICS

GROUP	1989	1990	1991*	1991A**	1992*	1992A**
ALL HOSPITALS	52.6%	55.6%	58.9%	63.0%	63.6%	69.3%
URBAN	52.4	57.4	61.5	68.6	66.1	74.5
< 100 BEDS	49.2	51.4	54.3	58.2	58.9	63.0
100-404 BEDS	54.8	60.3	64.9	72.4	69.8	78.3
405-685 BEDS	47.2	55.9	59.7	70.7	63.2	79.4
686+ BEDS	48.7	53.7	56.8	65.4	59.3	69.1
RURAL	52.8	53.7	55.8	56.7	60.8	63.4
< 100 BEDS	50.4	50.7	53.0	53.1	57.6	59.5
100-169 BEDS	58.7	61.1	62.4	64.6	67.7	72.8
170+ BEDS	64.2	68.7	71.1	76.6	78.1	83.6
ALL TEACHING	48.9	54.0	58.5	69.9	63.2	76.3
MAJOR TEACHING	34.5	37.0	40.1	60.9	43.5	66.2
MINOR TEACHING	52.5	58.2	63.0	72.1	68.0	78.8
NON TEACHING	53.4	56.0	59.0	61.4	63.7	67.7
ACADEMIC MED CNT	35.6	42.3	43.8	66.7	47.6	71.4
NEW ENGLAND	84.7	87.3	86.0	90.7	89.0	92.8
MID-ATLANTIC	45.5	50.1	55.3	64.3	60.3	73.2
SO ATLANTIC	62.8	66.6	66.3	69.9	70.3	75.6
E N CENTRAL	56.2	59.0	65.3	70.2	70.6	76.9
E S CENTRAL	42.3	43.8	46.4	48.1	50.6	55.1
W N CENTRAL	43.8	45.0	52.6	54.8	57.1	60.6
W S CENTRAL	52.6	56.0	60.1	63.6	65.7	69.5
MOUNTAIN	49.6	53.5	51.5	54.0	54.8	59.8
PACIFIC	48.5	52.8	54.0	59.2	59.5	66.0
CHURCH	52.5	55.1	59.2	64.8	65.5	73.0
VOLUNTARY	53.3	57.4	61.1	66.5	66.0	73.1
PROPRIETARY	54.8	57.9	60.2	62.4	63.5	67.8
GOVERNMENT	49.4	51.0	53.4	56.2	58.3	61.6
DISPRO. SHARE	43.1	46.6	49.5	55.9	53.6	61.8
MCR USAGE >= 65	53.9	56.2	61.2	63.4	66.2	69.4
MCR USAGE 50-64	53.6	56.2	60.1	63.5	65.1	70.5
MCR USAGE 25-49	52.5	56.2	59.2	64.1	63.8	70.0
MCR USAGE 00-24	46.3	48.4	48.3	53.8	51.9	59.4

NOTE: * FEDERAL FISCAL YEAR PROJECTIONS FOR 1991 AND 1992 ASSUME MARKET BASKET RATE OF INCREASE AND 7.7 IME.
** FEDERAL FISCAL YEAR PROJECTIONS FOR 1991A AND 1992A ASSUME MARKET BASKET RATE OF INCREASE AND 4.05 IME.

SOURCE: LEWIN/ICF PAYMENT SIMULATION MODEL

APPENDIX D

U.S. Registered Community Hospital Margins

INTRODUCTION

This report compares hospital margin estimates derived from the American Hospital Association's Annual Survey of Hospitals and National Hospital Panel Survey. Net patient margin is the difference between patient revenues and expenses expressed as a percentage of patient revenues. Patient revenues are revenues net of deductions for bad debt, charity care, and allowances from payers. Total margins use revenues from all sources in the calculation. As shown below total margin figures are comparable between the two surveys. The patient revenue margins differ more.

	PANEL SURVEY		ANNUAL SURVEY	
Year	Net Patient Margin	Total Margin	Net Patient Margin	Total Margin
1980	0.3%	4.6%	-4.1%	3.6%
1981	0.2%	4.7%	-3.9%	3.6%
1982	0.7%	5.1%	-3.1%	4.2%
1983	1.0%	5.1%	-2.6%	4.2%
1984	2.0%	6.2%	-1.7%	5.1%
1985	1.5%	6.0%	-0.6%	6.0%
1986	0.7%	5.1%	-2.0%	5.3%
1987	0.1%	4.7%	-3.6%	4.2%
1988	0.0%	4.8%	-4.7%	3.3%
1989	0.1%	5.0%		

BACKGROUND

The Annual Survey is a universe survey of all U. S. Registered Hospitals. Community hospitals are a subset of the universe consisting of short-term general and other special hospitals excluding units of institutions.

The Panel is a monthly survey of a stratified random sample of all U. S. Registered Community Hospitals. The result are projected to the universe.

DIFFERENCES

The differences between the Panel and the Annual margins can be at least partly attributed to the following:

- The Panel Survey is based on a sample of hospitals which cannot perfectly match the characteristics of the hospital universe.

- Hospitals cannot know the full extent of deductions for contractual allowances and bad debt until long after the services are rendered. This generally contributes to overstatement of revenues on the Panel Survey because the Panel asks hospitals to report revenues as soon as the month is over and not to include adjustments for prior periods. This same problem does not exist for the Annual Survey in that the Annual data are for a twelve month period and hospitals normally do not complete the Annual Survey until all monthly adjustments have been accounted for.

- In some cases, public hospitals report no patient revenues on the Annual Survey. "Tax Appropriations" received by these hospitals are classified as "Non-Patient" revenue even though some of the funds are used for patient care. In the Panel Survey, attempts are made to convert the "tax appropriations" dollars into patient care dollars where appropriate. In these cases Panel patient revenues will be higher than Annual Survey revenues.

- The Panel Survey does not normally include extraordinary revenues or expenses. Such expenses and/or revenues are included in the Annual Survey.

- Margin is essentially a ratio calculation. Given that the component values used to calculate margin will be different between the Annual Survey and Panel Survey, the impact on the calculated variable will be much greater than the difference at the individual component level. Even minor differences in values at the component level can have a major impact on the comparison of the calculated margin's values.

- The margins from the two surveys do not cover the same time periods. The Panel margins are based on data for a twelve month calendar year. The Annual Survey includes a mix of hospital reporting periods. While each edition of the Annual Survey asks hospitals to supply data for the year ending Sept. 30, hospitals' actual reporting periods vary. In 1988, the bulk of the hospitals reported for the following year ends: June 28.3%, Sept. 38.9%, Dec. 16.1%. While approximately 40% respond with a reporting period ending Sept. 30 over 30% have a reporting period which ends on or before June 30. The July-June reporting period is a full 6 months "behind" the calendar year Panel survey results.

The primary purpose of the Panel is to monitor rates of change and track the trend line in key hospital performance indicators. In comparing Panel and Annual Survey data one expects to see similar trend lines but not necessarily identical levels for any given variable.

American Hospital Association
Hospital Data Center

APPENDIX E

Council on Graduate Medical Education

Minutes of Plenary Session
November 2, 1989

Parklawn Conference Center
Rockville, Maryland

Members in attendance:

Dipali V. Apte
William S. Hoffman, Ph.D.
Harry L. Metcalf, M.D.
James A. Pittman, Jr., M.D.
Rene F. Rodriguez, M.D.
Cecil O. Samuelson, Jr., M.D.
David Satcher, M.D., Ph.D.
Juereta P. Smith, R.N., J.D.
Neal A. Vanselow, M.D.
George D. Zuidema, M.D.
John H. Kelso*
C. Ross Anthony, Ph.D.**
Elizabeth Short, M.D.***

Donald L. Weaver, M.D.+

* Designee of the Assistant Secretary for Health
** Designee of the Administrator, Health Care Financing Administration
*** Representing the Chief Medical Director, Department of Veterans Affairs
\+ Executive Secretary

Members absent:

Stuart J. Marylander

November 2, 1989

Dr. Vanselow called the meeting to order at approximately 8:30 a.m. The Council unanimously approved the minutes of the previous meeting.

Dr. Vanselow announced that Dr. Donald Weaver will be leaving his position as the Executive Secretary of the Council on Graduate Medical Education (COGME) to become the Director of the National Health Service Corps. Dr. Marilyn Gaston, who comes from the National Institutes of Health, will serve as the new Executive Secretary. He also introduced Dona Harris, Ph.D., COGME's new scholar-in-residence from the University of Utah.

Dr. Weaver thanked the COGME and the staff of the Division of Medicine for their cooperation and support during his tenure as Executive Secretary.

Dr. Vanselow noted that the terms of three COGME members were expiring, and thanked Drs. Satcher, Rodriguez and Whitcomb for their contributions. The status of the new appointments was still unknown. Dr. Vanselow also noted that Dr. Ross Anthony is leaving his position with the Health Care Financing Administration (HCFA) to work in the private sector.

Dr. Vanselow then discussed the effort to obtain separate appropriations for COGME. The Council will continue to be dependent on the Health Resources and Services Administration (HRSA) for funding, as no new appropriations were passed by Congress. He stated that while HRSA has been very generous with the Council, its budget is very tight, and COGME can anticipate reduced funding for studies.

The day's meeting was devoted to the topic of the financial status of teaching hospitals, which will be discussed further at the January 1990 COGME meeting. The Medical Education Programs and Financing Subcommittee will be assigned primary responsibility for developing conclusions and recommendations and a draft special report to Congress and the Secretary of Health and Human Services. Dr. Vanselow also indicated that the issue of minority representation in medicine was important enough to warrant a separate subcommittee, particularly to deal with the information to be provided at the next day's session.

Mr. Kelso gave an update on HRSA activities. He noted several agency personnel changes. The National Practitioner Databank will be operational by April 1. HRSA and HCFA have been working with the United Network on Organ Sharing (UNOS). UNOS regulations will go through the Federal Register process. HRSA will also be placing increased emphasis on infant mortality issues. Mr. Kelso briefly discussed the effects of the budget appropriations and Gramm-Rudman sequestration on HRSA funding levels.

Dr. Anthony discussed the responses to the proposed direct medical education regulations which were recently published in final form. Major issues raised concerning the regulations were the retroactivity of the law that sets limits on the per resident amount (about $400 million total is at stake), a report in progress on the variation in the per resident amount, and the teaching physician payment regulation.

On the HCFA budget, Dr. Anthony said that there are a number of bills; there is no provision in either House bill to change the indirect medical education adjustment (IMEA), while the Senate provision is to reduce it to 7.1 percent. For direct medical education, there is a proposal to increase payments for primary care residents. A major area is physician payment reform, including proposals for a resource-based relative value scale (RBRVS), expenditure targets, and a limitation on balance billing to protect beneficiaries. He also noted an effort to review hospital allocations of administrative costs of nursing education programs.

The person nominated to be the new HCFA Administrator, Dr. Gail Wilensky, will be approved once her FBI security clearance is completed, Dr. Anthony said. Dr. Anthony expressed his reluctance to leave his positions with HCFA and COGME and thanked all those present.

Dr. Pittman asked whether the RBRVS would in fact provide increases to primary care physicians, or just reduce payments to other specialists. Dr. Anthony replied that there is not a simple answer because of variations around the averages, particularly by geography. Primary care physicians in some locations would lose, while physicians in some other specialties might gain in a few locations but lose in most. A major factor will be the cost-of-practice index to be applied. He noted that Congress up to this point has taken savings from reductions in payments for specific procedures that appear overpriced, but that the proposed changes might be too large to be taken entirely as savings.

Dr. Satcher asked what factors would lead a primary care provider in New York to lose money under the RBRVS. Dr. Anthony replied that if the provider's fees are above the resource-based fees, that provider's fees will be cut. Conversely, providers whose fees are lower than the RBRVS estimate will receive more. Primary care specialists have been undervalued as a group, especially in rural areas. In inner-city areas, the geographic cost-of-practice index will have a very big impact. The index currently discussed in Congress will adjust only for practice costs, but there are also indexes that adjust for the value of the physician's time. The impact will vary greatly among the States.

Dr. Short presented an update on the activities of the Department of Veterans Affairs (DVA). She said that the DVA is experiencing similar problems with budget appropriations, but that if the expected budget comes through the DVA will be able to offer the same level of care as last year. While the DVA searches for a new Chief Medical Director, an internal realignment has taken place: the former Department of Medicine and Surgery is now known as the Veterans Health Service and Research Administration. Within the system as a whole, they have been looking at realigning the mission of the medical centers to respond to increasing needs for primary, ambulatory, and geriatric care while preserving the DVA's tertiary care capabilities. An effort is also being made to raise nurse and physician pay scales to improve recruitment.

Dr. Vanselow introduced Mr. Robert Derzon, Vice President of Lewin/ICF, Inc., to present Lewin/ICF's analysis of the financial status of teaching hospitals. Copies of the presentation were distributed; the draft report had previously been distributed to the members.

Mr. Derzon described why COGME commissioned the study and how the study was approached. Previous, current, and projected data trends were assessed to determine the current and expected financial status of teaching hospitals, and the risk they assume by entering the Medicare Prospective Payment System (PPS). Other concerns addressed in the study are bad debt and charity burdens, maintaining cutting-edge technology, and competitive disadvantages of teaching as opposed to nonteaching hospitals.

Mr. Derzon described the methods and measures used to analyze the data. He mentioned several limitations of the study, such as the small number of measures of hospital finances, the lack of information on the state of finances in hospitals with different mixes of graduate medical education (GME) programs, and the inability to explain differences in costs among teaching hospitals. He did not think regression analyses would tell a great deal more than this analysis. Also, no one has a good handle on how third parties are dealing with teaching hospitals.

Mr. Derzon stressed the importance of the issue of physician payment, noting that academic medical centers are probably 35 percent dependent upon patient care income through their faculty practice plans. Thus, to the extent that are major dislocations in physician reimbursement, there will also be dislocations in the financial well-being of medical schools.

Mr. Derzon discussed the financial measures used in the report. They were operating statement measures, which tell how a hospital has performed over a limited period, and balance sheet measures, which tell about the assets, liabilities and net worth of the hospital. Operating statement measures used were: (1) PPS operating margin (PPS-OM), which tells only whether the hospital is gaining or losing from Medicare; (2) patient margin (PM), which is net <u>patient</u> revenues minus <u>total</u> expenses; and (3) total margin (TM), which is <u>total</u> revenues minus total expenses. He noted that PPS-OM data exclude the direct GME and capital pass-throughs and costs not allowed by Medicare, while all these are included in TM data.

The balance measures were (1) the current ratio (CR), or current assets minus current obligations, and (2) the fixed asset financing ratio (FAFR), a measure of whether hospitals are diminishing their assets or increasing their long-term obligations. Mr. Derzon indicated that, according to their analysis, balance sheet measures have not changed much on average.

Mr. Derzon listed the data sources: their Medicare cost data bank, the American Hospital Association (AHA), the Association of American Medical Colleges (AAMC), the American Osteopathic Hospital Association (AOHA), and the DVA. He observed that some hospitals think that cost reports are not necessary in Medicare's PPS. He thought this is short-sighted because their existence is the only way of demonstrating financial condition through publicly-garnered information.

Mr. Derzon described the teaching hospital universe they studied. The Medicare data base, the largest one, consisted of about 4,460 hospitals, of which a little over 1,000 are teaching hospitals; these numbers are close to AHA's. The AAMC furnished data on 79 closely followed academic medical center hospitals.

Mr. Derzon introduced Allen Dobson, Ph.D., also Vice President at Lewin/ICF, to review how the projections were made and the findings. Dr. Dobson noted that while the last audited data were from PPS year four (PPS-4), consisting of a mix of data from 1987 and 1988, their report made projections into 1990. Key assumptions had to be made about both revenues and costs, and about PPS case mix index changes--also important in view of an estimate by the Prospective Payment Assessment Commission (ProPAC) that 20 percent of the 30 percent increase in revenues in the first four years of PPS came from case mix changes. He stated that they believed their assumptions and estimates to be conservative, as they estimated 10 percent cost increases in contrast to 11 percent actual between PPS-3 and PPS-4, and revenue increases at a higher rate than Congress is likely to allow.

Dr. Dobson stated that the Medicare PPS-OMs for all hospitals fell from 14.7 percent in PPS-1 to 5.1 percent in PPS-4. He continued with projections (because post-1987 actual data were not available) for Federal fiscal years 1988-1990: operating margins were projected to have decreased to 2.8 percent in Federal fiscal year (FY) 1988, approximately zero in 1989, and -6.3 percent for 1990. He noted that the Federal FYs are not defined the same as PPS-year data because the latter are an amalgam of financial information from individual hospital FYs that begin over the course of a year and thus overlap over nearly a two-year period.

Dr. Dobson noted that the drops to 2.8 percent and zero were small because of a dramatic increase in those years in Medicare case mix, causing increased revenues. However, a sharp decline of about 6.3 percent is projected for FY 1990, based on cost increases of 10 percent and predicted revenue increases of only 3.5 percent according to HCFA Federal Register predictions. These included HCFA's estimated case-mix changes and an assumed IMEA of 7.7 percent. Dr. Dobson noted that the decline could be less if case mix increases are more than predicted--HCFA apparently estimated only a 0.7 percent increase--but could be greater if hospital costs increase by more than 10 percent.

In response to Dr. Anthony's question about earlier Medicare margins, Dr. Dobson stated that before PPS was instituted, margins were essentially zero because retrospective cost-based reimbursement was used. He stressed that when PPS was legislated, hospitals were asked to take a certain amount of risk. Although margins were initially high, the risk apparently was great for individual hospitals as there are some severe losses among the bottom 25 percent of hospitals in the country. This becomes increasingly important as average PPS margins head toward minus 5 or 6 percent. Hospitals were not asked to absorb this risk prior to the PPS.

Dr. Zuidema noted that the margins did not include changes in medical education payments. Dr. Dobson agreed, stating that, in a simulation done previously, cutting the IMEA in half dropped the average margin to about

-11 percent. For this report, however, they conservatively stayed with the Federal Register estimates. Dr. Dobson noted that direct medical education payments and changes were not included in these numbers. They also did not include data on other payers such as Medicaid.

Dr. Haspel wished to know how this model would have been affected if the direct medical education reimbursement from Medicare had been factored in. A participant stated that margins on direct medical education were a non-issue since it has been reimbursed at cost on a pass-through basis. Dr. Haspel stated that the margins are a factor if expenses but not revenues associated with direct medical education are in the data. Nevertheless, Dr. Dobson thought that direct education, as aggregate numbers, would not affect the overall figures very much.

Dr. Dobson displayed a graph showing trends in PPS-OMs for several categories of teaching and nonteaching hospitals. The trends were virtually in parallel. In order of highest to lowest margins by FY 1990, referred to as PPS-7, average PPS margins were: major teaching hospitals 5.5 percent; academic medical centers (also included in major teaching hospitals) 4.5 percent; all teaching hospitals -3.9 percent; all hospitals -6.3 percent; minor teaching hospitals -6.5 percent; and nonteaching hospitals -8.6 percent. It could be seen from the graph that minor teaching hospitals had declined from a higher average PPS margin than the all-hospital average in PPS-4, to slightly below all hospitals by PPS-7.

Dr. Dobson noted that these trends were contingent on the IMEA not being changed; if, however, the IMEA is reduced by Congress, the lines would cease to be parallel and the major and academic centers in particular would fall off very sharply in PPS-7 or PPS-8.

Dr. Dobson observed that academic medical centers are 46 percent of the major teaching institutions, and emphasized their importance as flagship institutions. Mr. Derzon noted that minor teaching institutions have close to 25 to 30 percent of the residency positions in the United States, and probably most of the family practice residencies. Dr. Dobson stated that major teaching hospitals are defined as a .25 or more intern- and resident-to-bed (IRB) ratio. Minor teaching hospitals are defined as having less than a .25 IRB ratio.

Dr. Dobson turned to a complex table showing how a number of parameters (PPS costs, case-mix index, IMEA and disproportionate share (DSH) payments, occupancy rates, FTE interns and residents, and direct cost per intern/resident) varied among the categories of teaching and nonteaching hospitals, and how they changed from PPS-1 through PPS-4. Costs rose faster than revenues--30 percent versus 18.8 percent--explaining the decline in PPS margins. Compared with nonteaching institutions, PPS costs in all teaching institutions rose about the same, but rose more slowly in major teaching hospitals despite a much more pronounced increase in case mix, especially in academic medical centers. He thought this suggested reasonable cost control in major teaching hospitals. The fact that major teaching hospitals experienced favorable revenue growth compared with cost per-case increases explains why their PPS-OMs fell more slowly than nonteaching hospitals, in both percentage and absolute terms.

Occupancy rates have increased in teaching hospitals, especially academic health centers, suggesting a shift to teaching institutions since the overall occupancy rate fell a small amount from PPS-2 to PPS-4. Also, discharges increased in major and academic teaching centers while falling overall. The number of interns and residents increased in major teaching institutions but stayed about the same in minor teaching institutions. Finally, the average direct cost per intern rose almost twice as fast as overall costs from PPS-1 to PPS-4.

Dr. Dobson turned to a table showing average PPS-OMs, TMs, and PMs for teaching and nonteaching hospitals in PPS-4 (projections could not be done for these measures). While the margins were as high as 13.7 percent for major teaching hospitals, TMs were much lower, at 1.8 percent for major teachings and 2.0 percent for academic centers. TMs for all hospitals were 3.5 percent, a figure close to the 3.35 percent TMs for all hospitals for PPS-4 that the AHA calculated from its survey data base. Thus, over the PPS-1-to-PPS-4 study period, all hospitals' PPS margins fell from 14.7 to 5.1 percent, TMs fell from 7.6 to 3.5 percent, and PMs fell from 2.6 to 2.1 percent. Very conservatively speaking, if these trends continued, average TMs will have fallen below 3.5 percent by PPS-7.

Mr. Derzon said that the real issue for hospitals is TM, and called attention to the fact that major teaching hospitals have high Medicare margins but low TMs, probably because from a payment standpoint the rest of their patient mix is not very good. In addition, some major teaching hospitals have deep discounted their services, perhaps to protect or add market share, and the increasing case mix may be part of the problem as well. The chronic issue for government regulators is what TMs should be. In his view, if TMs get much below 2 or 3 percent over a period of years, organizations are consuming their assets. A high inflationary period or period of faster construction and replacement requires a higher margin if capital development is to be financed out of operations. Most financial advisors say that a 4 or 5 percent TM is needed to stay in business, replace equipment, and make moderate progress, if philanthropy, state grants, or other factors are not taken into account.

Dr. Hoffman said that this would be so if what was wanted was just a continuation of the status quo. Mr. Derzon responded that that might be all that could be afforded, and added that most hospitals were funding on historic cost depreciation rather than replacement; few could afford to do otherwise.

Dr. Dobson turned to PMs. This measure includes all expenses but only net patient revenues. In a pattern that diverges from TMs, PMs go sharply negative as teaching activity increases. In PPS-4, PM was -2.1 percent for all hospitals and -2.2 percent for minor teaching hospitals, but -8.2 percent for major teaching hospitals and -8.8 percent for academic medical centers. This suggests that major teaching hospitals and academic medical centers that do not do well on patients overall will have depressed TMs.

Dr. Hoffman asked whether non-patient care expenses such as operating an HMO would be included as a cost in the PM. Mr. Derzon replied that most

hospitals record those in the accounts of other subsidiaries, rather than hospital accounts; they are allocated out of the Medicare cost report. He stated that the chart shows a lot of major teaching hospitals lose money taking care of patients but does not show where they get the funds to meet the losses. He said that some teaching hospitals have large endowments, and state and city subsidies are another source. In response to further queries from Dr. Hoffman, Dr. Dobson stated that PM includes Medicare, and incorporates all operating costs.

Dr. James Bentley of the AAMC further clarified that the PM incorporates all costs, including a cafeteria, parking facility, a research program operated by the hospital, etc. He added, however, that it does not include state appropriations in the revenue component, nor endowment income, gifts or grants, which have no operating expenses they can be tied to. Thus, there is a very negative margin in the institutions that receive state or other governmental appropriations, and the negative PMs overstate the operating margins. The measure logically would be purely patient revenues and patient expenses.

Dr. Hoffman still wondered if the PM could also reflect hospitals incurring operating expenses in increased nontraditional activities. Mr. Derzon acknowledged the possibility, but added that the restructuring of hospitals has led to creating a number of subsidiaries, and that most have taken the more profit-oriented activities off their books.

Dr. Dobson turned to a slide showing the impact of various operating characteristics (cost per case, Medicaid days, etc.) on PPS-OMs and TMs in PPS-4. PPS-OM and TM were shown for hospitals in the "low" (bottom quartile), "medium" (middle 50 percent) and "high" (top quartile) ranges for each characteristic. This tested their hypothesis that hospitals that performed the best in the measures would do best with their margins. The table showed that this was largely the case: hospitals that increased their occupancy rates and discharges and minimized their costs per case the most did the best in PPS-OMs. This was not necessarily consistent for TMs, as hospitals with the best cost control had only 2.0 percent TMs while middle and high cost-per-case-increase hospitals both had TMs of 4.1 percent. Greater case mix increases produced higher PPS-OMs and TMs.

For unknown reasons, PPS-OMs were highest in hospitals with the lowest portion of Medicare days, while TMs were highest in hospitals in the middle group, suggesting that, for many hospitals, Medicare days are not necessarily important to the overall bottom line. Medicare and Medicaid days produce divergent results: increased Medicare days are associated with low PPS-OMs while TMs show no pattern; Medicaid days, on the other hand, are unexpectedly associated with a large increase in PPS-OMs, and, more predictably, with a substantial decrease in TMs.

Dr. Dobson discussed data prepared by the AHA showing TMs by teaching status and level of bad debt and charity care for the 1985 and 1988 AHA annual survey years; hospitals with a high proportion of bad debt and charity as defined by the AHA tended to have lower TMs than those with low proportions. Another slide showed how PPS-4 PPS-OMs and TMs varied geographically by Census division; the range of PPS-OMs, 1.7 to 9.8 percent, was larger than the range of TMs, 1.7 to 4.8 percent.

Dr. Dobson stated that in PPS-1, the PPS-OM range was smaller, from 16.5 to 10.6 percent. Viewed from a regional perspective, PPS "winners" and "losers" may be driven as much by payment formulas as what hospitals are able to do themselves; regional stuctures seem to predominate and hospitals have not been able to compensate. In addition, the regional PPS-OMs and TMs do not vary in tandem. He thought that the increasing disparity in the relationship of margins through time and across regions might be driven in part by regional cost structures.

Dr. Dobson discussed PPS-OMs and TMs for various sizes of urban and rural hospitals. Urban hospitals do better than rural hospitals under PPS, probably in part because rural hospitals tend to be smaller and do less well in both PPS and TMs. He said that they projected a reduced differential between urban and rural hospitals by PPS-7 (although both are negative), probably a result of improvements in payments to the latter.

Dr. Dobson presented the range of PPS-OMs for hospitals by teaching status in PPS-4 and (projected) PPS-7. He focused on the 25th and 75th percentiles as probably less affected by outliers and anomalies than the 10th and 90th percentiles. The 25th percentile of all hospitals in the United States had PPS-OMs at or below -8.9 percent in PPS-4, and will be at or below -22.8 percent in PPS-7. The bottom quartile of academic medical centers were at or below +5.7 percent in PPS-4 but will be at or below -8.6 percent in PPS-7. Major teaching hospitals' bottom quartile PPS-OMs will also move from positive to negative, and the minor teaching hospitals, already at -2.1 percent in PPS-4, will move down to -21.4 percent in PPS-7. Dr. Dobson noted that the all-hospital and minor teaching hospital figures were quite similar and ran in tandem.

Mr. Derzon noted that the two balance sheet ratios had not shown much shift through PPS-4. Ms. Smith asked whether aging of accounts receivable was being factored into current assets, stating that many hospitals are having trouble with cash flow. Mr. Derzon replied that hospitals should allow for that in their receivables, but that he lacked data. He thought that hospitals have cash flow problems largely because they are not accumulating capital fast enough, in part because of declining margins. This is why there should be a two to four percent margin, he said.

Mr. Derzon presented some key implications of the Lewin/ICF findings. He stated that hospitals have shifted charges (not costs) to commercial insurance carriers and indemnity plans. Consolidation of complex cases has been taking place in teaching hospitals as one of the effects of PPS, although high costs may force them to take on fewer such cases. As more hospitals get strapped, they will be less able to do complex care because they will not keep up with technology. Technology problems will especially fall on smaller hospitals which are in deeper trouble, and this will result in more consolidation of care at the major teaching hospitals. Teaching hospitals will have a tougher time with medical schools as they get more strapped, since the fiscal interchanges between the two will get still more difficult.

Mr. Derzon noted that the most successful hospitals in the last few years have been those that were effective in controlling operating costs. With

such differential outcomes from reimbursement, some hospitals are going to be in trouble, and minor teaching hospitals are particularly headed for trouble. Teaching hospitals will especially be in trouble if they have declining numbers of discharges, high costs, high rates of cost increase, or low case mix or low rates of case mix increase.

Dr. Zuidema asked about the implications for teaching hospitals as care shifts from inpatient to outpatient. Mr. Derzon replied that he did not know whether outpatient activity in teaching hospitals is a winner or loser, although it is a big loser in New York City and Philadelphia where it is needed most. He did not think that hospitals were likely to be a big source of ambulatory care training; residents may end up in physician offices and elsewhere. He added that there were few good working models of low cost, manageable ambulatory care sites training house staff.

Mr. Derzon thought that the number of residency positions will be reduced; residents have been advantageous because of the IMEA. This will happen in minor teaching hospitals first and choices for graduates will be fewer. Teaching hospital cost control measures will probably include reduction of paid supervision, which may lead to more voluntary faculty. There may be fewer rotations to community sites, and hospitals will look more closely at paying residents for time spent outside the hospital setting even when these are desirable for training. Hospitals may ask medical schools to pay for house staff teaching their students. Teaching hospitals will continue to press their faculty to build up faculty practices, perhaps directed to services that provide high yields to hospitals. Dr. Pittman said that if medical schools were to be charged for teaching students, they might ask for tuition from residents, and it would just wash.

Mr. Derzon stated that private health insurers will be affected by these changes through charge increases. Some teaching hospitals are indispensable in their communities and insurers cannot sell their programs without them. State and local government will be pressed to support GME costs, and they will look more closely at the mix; 75 percent specialists may not wash that well with them. Nonteaching hospitals, while not looking good in the projections, have price advantages, especially if they control their costs and case mix better than the teaching hospitals. Mr. Derzon was more concerned about the cost differential among teaching hospitals than advantages to nonteaching hospitals.

Mr. Derzon suggested several issues that COGME may want to address in the future, such as whether teaching hospitals will give up their medical education programs. They have not tied together the hospital operating characteristics with the levels of teaching commitment, although they have the data to do so. Shifts in sites of indigent care are a big factor in teaching that should be better tracked as some hospitals get out of indigent care. Raising of endowment for education should be studied to find out why some hospitals can and some cannot, although that cannot support much education. More monies will not be forthcoming from State governments as long as there are substantially unexplained teaching hospital costs and variations. Last, COGME should track on studies on accommodating shorter resident work hours.

After a brief break, Dr. Vanselow introduced Dr. James Bentley, Vice President of the AAMC. Dr. Bentley reemphasized the need to consider all payers, not just Medicare, and the importance of the TM to the bottom line. Second, teaching hospitals should not be aided at the expense of nonteaching institutions as we need all types to serve the whole population. Third, DVA hospitals are of great importance because they finance about 12 percent of U.S. residencies. Its system is falling behind the rest of the country and is in many cases a less useful place for teaching programs.

Dr. Bentley commented on certain payment variables of importance to teaching hospitals: case mix adjustment, urban-rural cost differentials, the need to recognize atypical case mix adjustment, and adjustments for such higher costs as medical education. Medicare attempts to address each one of these in its payment formula, and many payers do not. Thus, while the Medicare payment debates are ones of measures and adjustments, for other payers they are whether to make payments at all.

Dr. Bentley discussed the initially high PPS-OMs and why they did not translate directly into high TMs. The hospital-specific payment calculated for the phase-in of PPS was set too high for many hospitals, and the 1981 case mix used to compute the hospitals' average cost per case tended to be underreported, perhaps more so from teaching hospitals. He noted that the PPS-OMs decreased as the DRG payment was phased in in place of the hospital-specific reimbursement component.

Second, the level of the indirect medical education adjustment from the start of PPS to May 1986 was higher than many understood it to be, and it was easier to err on the high than to aim at some middle rate. Also, the adjustment was erroneously computed on a linear basis when it should have given smaller increases for higher resident to bed ratios. Dr. Bentley noted that hospitals with small volumes could be more damaged by outliers.

Then, the beginning of PPS coincided with behavioral changes such as rigid cost cutting by teaching hospital directors and maximizing PPS incentives for increased volume (which helps average out outliers) and case mix. Dr. Bentley thought that PPS has caused some regionalization; in any case, the more expensive cases appear to have migrated to teaching hospitals, which are also doing more resource-intensive, specialized cases.

AAMC has advocated retaining hospital cost reports, Dr. Bentley said, as necessary in a price-administered system if regulators are to judge the impacts of their actions. It is the only national data base he is aware of. Also, because it feared the fallout from margins that were too high because of a misspecified hospital-specific cost base, AAMC asked that it be recalculated. This was not done, and he thought that teaching hospitals are still suffering from the bad press of a correctable error. Thus, AAMC did not oppose the recalculation of the too-high IMEA, and it supported the creation of the DSH adjustment out of recognition that the IMEA overcompensated the teaching hospital with a small charity load and undercompensated the nonteaching hospital with a large one.

Dr. Bentley reminded the Council that, even though the PPS-7 data are projections, the projections are of the present. The national debate is focused on PPS-4, three years ago. He believed that the projections are too conservative, and noted a dissonance in viewpoint between the payer who reads reports of hospitals operating at a profit, and the hospital administrator who with more current data knows that the hospital is in a negative margin. Data that the AAMC have obtained from member hospitals of its Council of Teaching Hospitals (COTH) show that PPS margins have fallen rapidly in the last 3 years. He observed a major change for hospitals when they went from 25 percent to 50 percent DRG payment, a change he said swamped other payment rate changes. AAMC's impression is that for FY 1990, the majority of the COTH hospitals will be in the red.

Dr. Bentley stressed the importance the enormous variation around the reported averages. He stated that the Lewin/ICF chart showing that the top quartile staying at +18.0 percent in both PPS-4 and PPS-7 while the bottom quartile falls to a negative figure is consistent with AAMC data. There is no category of hospital that has a narrow distribution of margins around the average. He stated that the PPS is underspecified in not capturing variations in the characteristics of hospitals and costs. The AAMC-related institutions with a very low Medicare population, a very large population of Medicaid patients and a large percentage of no-pay patients have the worst total bottom lines and the best PPS bottom lines.

Dr. Bentley closed with some observations. It appears that PPS-5 will see a dramatic drop in margins. Other payers are being rigid, and as Medicare drops its margin, little latitude for shifting will exist. Whereas it was difficult to lose money in the cost reimbursement era, downside risks have increased dramatically. We have moved the industry to expect it to borrow money to recapitalize itself. Once past efficiency decisions, hospitals will have to make program decisions. Finally, a series of issues lacking answers include medical education, charity care and tertiary care, about which the hospital community are very anxious as each payer sets its own patient margin to cover just its beneficiaries.

Dr. Vanselow introduced Ms. Monica Dreuth, Director of the Division of Medical Affairs, AHA. Ms. Dreuth agreed that there was a dissonance between the most recent data and the current situation, and concurred that the Lewin/ICF projections may be somewhat conservative on the current status of hospitals. She agreed that the COTH hospitals with the greatest problems are public hospitals, and thought one reason was the large number of AIDS patients being treated in those hospitals.

She stated that AHA represents all U.S. hospitals, including the 900 smaller teaching hospitals that are not members of COTH. She said that AHA agrees that the financial status of all hospitals continues to deteriorate, and that (by AHA data) 44.5 percent of hospitals in the United States lost money last year taking care of Medicare patients. She offered AHA's assistance in further analysis.

Because of its interest in representing the 900 or so smaller teaching hospitals, AHA is examining ways of defining that group. She noted that a great deal of primary care is provided and taught in minor teaching

hospitals, and that Dr. Gienapp of the Accreditation Council for Graduate Medical Education (ACGME) says that one-half of family practice residency programs and 100 internal medicine programs are the only, or one of only two, programs in such institutions. Many of these are considering whether they can afford to stay in the education business--a huge public policy question (Dr. Pittman stated that a still bigger policy issue is whether GME will be in or outside of the hospital). The information in the report does not allow COGME to evaluate the relationship between the financial condition of hospitals and the numbers of residents and sizes of programs in a way that will help it get at the primary care question.

Ms. Dreuth concluded by saying that the stability of hospitals' financial status is due to the CEOs doing a greatly improved job of managing their liquidity. She recommended that COGME examine two areas not covered in the report: Medicaid, and the financial relationships of teaching hospitals with medical schools. She also mentioned an AHA contract from the Prospective Payment Assessment Commission (ProPAC) to assess the financial status of teaching hospitals using Medicare cost report data and AHA survey data, and a small demonstration project to look at the differences in direct costs between settings, paralleling work that AAMC is doing with its members.

Dr. Hoffman asked why, if hospitals' current assets and liabilities are fairly stable, there is alarm about the financial status of teaching hospitals, and what happened to the money hospitals made during the profit surge of a few years ago. Dr. Bentley replied that no one knows why the CR has stayed the same. He stated that most hospitals used the money for improvements to pay off debts, although some reduced or held the line on prices. The bulk of the industry is not-for-profit and has no shareholders to return dividends to. Another use, however, was to subsidize Medicaid; teaching hospitals are by and large the largest Medicaid providers in any State, and States, being aware of high Medicare profits, held very tight to Medicaid rates and imposed new coverage limits. Dr. Bentley stated that while Medicare profits carried Medicaid for a time, we are down to the point that no payer provides profit margins.

Dr. Hoffman said he did not disbelieve, but that he still had trouble with statements that assets and liabilities are in balance; if institutions did indeed increase their long-term debt and fixed assets, we ought to know it. Mr. Derzon replied that current ratios cannot change too much or hospitals will have to go out of business. They may have to borrow short-term money (a short-term liability and asset), extend their payables, etc. Regarding use of the higher profits, the small percentage with big windfalls set aside reserves for investment or rainy day funds and thus have reserve strength. Some used it for capital since under cost reimbursement it was hard to improve plant, although they still borrowed for the rest. And, Dr. Bentley was correct about using some for new ventures, with some moving off the balance sheet into new subsidiaries.

Dr. Haspel stated that some hospitals refinanced and extended previous debts because of a feeling that tax-free issues might not be as available in future years; this reduced their principal and interest, and stabilized the ratios. He agreed with Mr. Derzon that many used additional funds to

replenish assets so that parts of balance sheets could deteriorate at different rates. Also, some hospitals used their capital to create new business ventures with various degrees of success. Mr. Derzon agreed that refinancing is a key point, as is the issue of cash reserves. Some hospitals are now losing over $1 million a month, so as financing gets more volatile it becomes prudent to build reserves.

Dr. Anthony asked if the report captured everything such as investment income and profit-related businesses. Mr. Derzon stated that investment income traditionally appears as other income on balance sheets. A few apparently have put funds into foundation accounts for education and research, and these would not appear on balance sheets. He emphasized, however, that the well-being of the institution is pretty well displayed in the Medicare cost reports; investment income has to be shown there, and if it does not flow into the hospital, it is not available for all practical purposes, and is not going to show up in total margins.

After lunch, Dr. Vanselow introduced Dr. Michael Opipari, Vice President for Medical Affairs at the Detroit Osteopathic Hospital Corporation. Dr. Opipari presented the views of the American Osteopathic Hospital Association (AOHA) and the Academy of Osteopathic Directors of Medical Education.

He described the osteopathic teaching hospital system; there are 178 osteopathic hospitals in the country, of which 117, or 66 percent, are approved for post-doctoral training. The osteopathic teaching hospital averages 182 beds, and is usually a community oriented hospital with a primary mission to train physicians to deliver primary care. These hospitals traditionally have competed among themselves for trainees, and their faculties have always served without compensation as volunteers. However, as voluntary faculty face increasing practice pressures, their hospitals may not be able to retain them without support.

The new Medicare medical education reimbursement regulations will have a significant impact, since direct costs can be elevated only by annual inflation factors from the 1983-1984 base year. This forces osteopathic teaching hospitals into a permanent competitive disadvantage because osteopathic trainee salaries average $6,000 per year less than allopathic trainee salaries. Because of these differences, a significant number of osteopathic trainees have chosen to enter allopathic residencies, in part because of the high level of indebtedness of osteopathic graduates, which has risen $5,000 to $10,000 per year per trainee, reaching $64,700 in 1988.

Reductions in the indirect medical education adjustment factor will have an adverse effect on osteopathic teaching hospitals, Dr. Opipari said. Most fall into the minor teaching hospital category, and most provide training programs for primary care physicians. In the last seven years, 37 osteopathic hospitals have closed, including 15 teaching hospitals for a loss of 150 training positions. They estimate that about 1,550 students will graduate in the coming spring. He stated that a large percentage of their hospitals qualifies for the DSH.

He concluded with three recommendations: first, that a per-resident amount be calculated on the basis of a regional median salary amount, thus permitting all institutions to be treated equitably; second, reimbursement be increased for primary care residencies and other priority specialties on the basis of need; and third, have a mechanism to correct the disparity in GME support between osteopathic and allopathic teaching hospitals.

In response to a question by Dr. Pittman, Dr. Opipari stated that they project just enough, 1,560, funded internship positions for July 1990. He replied to Dr. Satcher that he does not have system-wide IRB ratios, although it is 0.25 in Detroit. Ms. Smith inquired about the characteristics of the osteopathic hospitals that had closed. Dr. Opipari stated that most were located outside of urban areas; Mr. Martin Wall of the AOHA agreed, but also stated that a three-hospital system in Philadelphia recently filed for bankruptcy and that others in inner cities were on the brink. Dr. Metcalf asked whether the burden of educational programs was a major factor contributing to the 15 closures. Dr. Opipari responded that most perceived that to be true and reduced or eliminated their programs, but that such actions did not save the hospitals.

Mr. Kelso asked which allopathic specialties the osteopathic graduates were going into. Dr. Opipari replied that about 60 percent have been entering primary care specialties--about equal numbers in family practice and internal medicine, and then obstetrics and pediatrics. Their concern is that most of those entering allopathic internal medicine programs ultimately enter a subspecialty. In response to a question by Dr. Vanselow, Dr. Opipari said that their annual survey of all graduating interns have shown that the salary differential has been the overriding factor in graduates choosing to enter allopathic residencies.

At Dr. Haspel's query, Dr. Opipari estimated that, after subtracting those who go on to a subspecialty, the proportion of osteopathic graduates who end up as primary care practitioners is perhaps 60 percent. He attributed this to the influence of their medical school, clinical, and internship training. Ms. Smith asked whether the increasing indebtedness of students who complete the osteopathic program has reduced the pool of applicants; Dr. Opipari replied that the pool of medical school students has generally decreased, but it cannot be determined if indebtedness is a cause. Dr. Haspel thought that this trend had reversed in the past two years, with an increased number applying.

Dr. Vanselow introduced Dr. Richard Egan of the American Medical Association (AMA), who filled in for Dr. Roy Schwarz, the scheduled speaker. Dr. Egan stated that GME depends on solvent teaching hospitals with a proper mix of patients. The averages fail to really convey the threat to GME. The bottom 25 percent may well include such hospitals as the municipal facilities in New York which serve a critical social need and provide a large amount of the GME in the country. Other sources of revenue are equally important to PPS in support of GME. The concerns of all payers for the cost of hospitals services has reduced the potential for cost shifting, and the lack of an effective approach to financing the care of the indigent contributes to the problems of financing GME. He also commented on the importance of the Veterans Administration, the need

for ambulatory medical education, restrictions on work hours, wide range of direct costs per resident, alternative GME funding sources, and the impact of new technology, case mix shift, and the aging population.

Dr. Anthony spoke on behalf of HCFA. He stated that the numbers in the report on the actual data were as close as they could be to what ProPAC has done and HCFA could come up with. However, cautioned about the projections; while it was correctly stated that case-mix changes have driven payment increases in teaching hospitals, the assumed annual .7 percent increase differs from a more widely accepted 3.5 to 4 percent range. This would not, however, undermine the major conclusion that the profit margins probably have continued to decline after the latest actual data. He stated that the 5.5 percent update assumption is very subject to change, with proposals ranging from 2 to 3 percent to 7.7 percent (for rural hospitals). Dr. Anthony thought that if Congress sees hospitals in trouble, it probably would take that into account in future decisions.

Dr. Anthony called attention to Table 3, showing TMs, PMs and PPS-OMs by teaching status for PPS-1 through PPS-4. He noted that the PPS-OMs were the highest margins in every case, were positive in every case, and were very large in the case of teaching hospitals. If the PPS-OMs were not included, the TMs would be lower than they presently are. What that said to him was that Medicare tends to be paying its share, and that the problems teaching hospitals have is not primarily a Medicare payment problem. The statutory obligations of Medicare are to provide access and pay for high quality care for Medicare beneficiaries, not to provide additional payments to any number of recipient categories.

Dr. Anthony passed out a sheet showing HCFA calculations of PPS-OMs, and compared the teaching hospital margins with the lower, sometimes negative margins of rural and sole community hospitals, both of which are seen as important for access to care for Medicare beneficiaries. He suggested that when Congress has to decide where to put increasingly stretched resources, the teaching hospitals are doing quite well by PPS. The real issue is one of the right profit margin for a hospital, and who should pay and how should they pay. The Council needs to get beyond Medicare because it cannot be a subsidy for a lot of other problems we all think are important. Much more data are needed on Medicaid, and on individual facilities to determine the relationship between profit margins and the size and mix of programs and the activities of States and private payers.

Dr. Anthony provided comments on the anticipated changes in the catastrophic insurance legislation and the administrative ramifications.

Dr. Vanselow solicited Dr. Anthony's ideas on non-Medicare solutions to financial problems faced by teaching hospitals. Some of the costs should be added to insurance premiums or payments, he said, although employers and insurers will not be receptive; it might have to be statutory.

Dr. Vanselow introduced Mr. Richard W. Landen, Associate Director of Insurance Managed Care and Provider Relations for the Health Insurance Association of America (HIAA). The HIAA represents 320 private health insurance companies, representing approximately 85 percent of U.S. policies not counting Blue Cross/Blue Shield coverage.

Mr. Landen commented on the Lewin/ICF study. Although considerable data were not available--capital, public funding at times, endowments and philanthropy, outpatient statistics, and, possibly other lines of hospital business--the report nevertheless was well done and he doubted that the other data would greatly influence the outcome. He agreed that hospital operating margins are indeed shrinking. However, the margins are not the whole picture; a broader look has to be taken. It must be asked why costs have increased. He stated that the HIAA expects that governmental payers will continue to ratchet down on their payments overall, and the other payers will try to avoid the resulting cost shifts through managed care, selective contracting and discount arrangements. Larger payers will be able to shift costs to an increasingly smaller number of small payers, who will not be able to afford that.

Mr. Landen stated that to the extent that hospital costs continue to escalate far beyond the general inflation rate, employers will have to try to contain those costs. Managed care provisions are now incorporated into well over half the insurance policies in this country. Employees' sharing the cost of insurance premiums with the employer will continue to increase, Mr. Landen said. Although employers are reluctant to reduce benefits, they will be forced to do so as rising health care costs threaten their operation's profitability. HIAA believes that government payments will not keep pace with cost increases and payers will take more aggressive measures to resist cost shifts. Hospitals will be faced with difficult decisions on how to get revenue to make up for the shortfall.

Mr. Landen stated that insurers generally have been willing to do their fair share in paying for the costs of the American health care system as long as its share is fair, broadly based, and of reasonable cost. However, the base is no longer broad and cost is way out of control. Noting that the report showed costs up 31 percent (and revenues up 19 percent) over the first four years of PPS, he stated that costs must be contained and unnecessary costs limited. If this is done, margins will go up. Focus must be on efficiency, efficacy, and less costly alternatives.

He concluded by saying that as governmental programs narrow the scope of what they pay for, insurers and employers will begin to question their obligations to pay for other than direct patient care. Teaching programs are expensive, tend to emphasize new technology and high-cost modalities, and generally fail to train residents in equally effective, low-cost alternative treatments. Insurers are slowly becoming more sophisticated in their approach to quality assessment. Selective contracting will continue to grow, and simple-technology-based, low-cost providers will have a marked advantage over high-technology-based, high-cost providers when there is no demonstrable difference in quality of service. Rather than lamenting lagging revenues, Mr. Landen suggested that innovative and aggressive control of costs must take place, low cost treatments must be utilized where there are no significant differences in outcomes, and interns and residents must be trained in cost management as well as patient management. In summary, the report focuses on only one aspect that they do not believe is particularly important. The big issue is that the country has an insatiable appetite for health care, and hard decisions must be made to bring costs in line with available revenues.

Dr. Satcher questioned the statement that insurance companies wanted low-cost procedures and preventive and ambulatory care, as those services have the greatest difficulty getting reimbursed. Mr. Landen agreed that that has been a problem in the past but that it is changing. And, the employer, not the insurance company, ultimately determines what is offered.

Mr. Schwab asked whether Mr. Landen was recommending that teaching programs categorically not be supported by private payers. Mr. Landen said that he was not saying that. Rather, the general escalation of health care costs will cause insurance companies to question more closely their role in society, and if they perceive state, local, and Federal governments as abrogating their support for GME and shifting the cost to insurers, the latter will question the appropriateness of the burden. As long as everybody paid their fair share, their industry had no qualms about participating, but as they become more isolated, the question will be asked although the answers will vary.

Dr. Vanselow asked if private payers are paying more than their share, was it because government has backed off or because other private payers were refusing to pay anything. Mr. Landen replied that it was all these, but that Medicaid in particular does not pay actual provider cost and Medicare typically does not absorb a proportionate share. Dr. Dobson noted that there has been a shift to higher cost providers, contrary to Mr. Landen's hypothesis; Mr. Landen could not explain this. Dr. Hoffman asked if the HIAA would be in favor of an all-payer system, health planning, and/or national health insurance. Mr. Landen responded that HIAA does not advocate national health insurance but has submitted a proposal at the Federal level that contains public and private initiatives that would address most problems of the insurance system. HIAA does support health planning at the regional level. Its current policy on all-payer systems is an acknowledgment that there are circumstances in which all-payer systems are better than market systems.

Dr. Satcher introduced Mr. Robert A. Snyder, Executive Director of Payment and Cost Management, Blue Cross/Blue Shield Association of Chicago. Mr. Snyder briefly described how Blue Cross/Blue Shield functions: the 69 Blue Cross plans around the country have negotiated free choice, PPO, or HMO contracts with hospitals. The trend in payment arrangements has been to pre-established fixed payments. Twenty-two plans pay on the basis of DRGs, and others pay by category of care, per-case, or other methods. Secondly, the payments tend to be based on specific experience with the hospital, such as working off a base year and adjusting forward. The Blue Cross plans have almost entirely moved off of systems that deal with individual items of cost or financial requirements, so that negotiations do not involve specifics of GME costs for the hospital.

Mr. Snyder stated that the plans continue to pay a large amount toward GME even though it is not explicitly spelled out in the arrangements. Their concern about the report is that it looks at Medicare and lumps everyone else together, giving the impression that the other payers are not doing their share because TMs are less than Medicare's margins. He stated that the report could be improved if Medicaid and indigent care could be separated out and studied for their impact on institutions' bottom lines.

Mr. Snyder discussed the market forces affecting Blue Cross/Blue Shield plans. Their local rates are market driven, and they have a series of competitors who may deal with small niches or not include hospitals with GME. Also, some teaching hospitals offer competing insurance plans. Nor is the playing field level in terms of premiums, because of ERISA and self-insuring employers. The long-standing lack of community rating and the way to be successful in insuring involves being careful about who you insure. This drives more people out of the insurance pool and creates a greater pool of uninsured.

He developed two points from this. First, the report is revenue-driven; we indeed may need more revenue, and the place to start is uncompensated care and Medicaid. He too believes that in many communities Medicaid is not paying the cost of care for its beneficiaries. Second is the cost side: costs will have to be demonstrated to be necessary and reasonable before increases can be requested of Congress and other payers.

In response to Dr. Samuelson's query on Blue Cross/Blue Shield payment of GME costs, Mr. Snyder said that they had no data on what they pay for GME, but that their studies almost all show that they pay a disproportionately high percentage of operating and total margin costs compared with Medicare or other payers. In response to Dr. Satcher's question, Mr. Snyder stated that about 10 to 12 percent of those insured by Blue Cross/Blue Shield are now part of health maintenance organizations (HMOs). In response to Dr. Hoffman's question, he stated that while a few plans that pay GME pass-throughs might have data on GME expenditures, most do not because they pay on a price basis. The market is deciding on reasonableness of cost at the present time.

Mr. Derzon rose to state that he would be glad to incorporate Blue Cross information that is paying a certain level of margins over cost, but was puzzled over whether the information was actually available. Also, the payers were competing for who is paying the highest margins while TMs are going the other way; some might not be paying at all, or facts might not be correct. He noted a lack of complaints about cost shifting when Medicare paid high margins and possibly subsidized other payers and arrangements. Perhaps a more ordered arrangement is called for such as an all-payer national health insurance. He stated that while Lewin/ICF had been asked to study financial conditions, not costs, the report had clearly stated how costs were going up; that both insurance companies and Blue Cross have made arrangements with teaching hospitals that were good bargains; that not all teaching hospitals are too expensive; and that nothing in the report advocated higher payments to teaching hospitals. He stated that hospital behavior is out of synch with revenues and will have to rethink their attitude toward costs to some extent.

Ms. Smith sought to identify data sources on local and State government impact both on costs, for example from mandated benefits, and revenues. Mr. Snyder said that mandated psychiatric benefits particularly added to costs in hospitals.

Dr. Satcher introduced Ms. Janet Corrigan, Director of the Medical Directors Division of the Group Health Association of America (GHAA), the largest trade organization representing HMOs. GHAA members consist of well over 50 percent of HMOs and about two-thirds of total HMO enrollment. They are both payers and delivery systems, as such playing multiple roles and having multiple perspectives on all the day's issues. Consensus is hard to find because HMOs are so diverse. Some own their hospitals, some of them teaching, but most purchase hospital services, frequently from a combination of teaching and nonteaching hospitals.

She stated that HMOs are concerned about inequitable cost shifting that might be taking place, but that it was not clear from the data or discussion that we know if it exists or the extent of it. As to whether HMOs shy away from teaching hospitals because of higher charges, this is a very complex issue with many factors going into the selection of hospitals for an HMO's network. The quality and perception of quality in the community are very important, as is the effect of the hospital choice on the HMO's ability to recruit physicians. Some HMOs have been moving toward the idea of centers of excellence for high tech and costly or highly specialized procedures to send such cases to.

Also, HMOs are a payer for physician services, and are concerned that there be an adequate supply of primary care physicians trained and experienced in managed care. This is an opportunity to think about some of the relationships that might be established between HMOs and teaching hospitals; while some operate or support residency training programs, they do not have good data on the extent. Greater involvement of HMOs might lead to more GME support because of the need for primary care physicians.

Dr. Metcalf asked about HMO involvement in primary care programs; he did not know of any, although about 37 percent of new resident graduates from family practice programs are going into HMOs. Ms. Corrigan replied that about eight or ten could be identified; they are going to survey 300 GHAA members to ask about activities and relationships in GME. Mr. Derzon stated that Kaiser has been taking about 10 percent of new graduates and that all HMOs take about 20 percent. However, he said, HMOs are not conducting 20 percent of the residency training. Dr. Hoffman stated that HMOs should do more, but cautioned about the premise since a physician's participation in an HMO does not mean that he or she went into practice with an HMO. Ms. Corrigan said that HMOs are involved in GME in a variety of ways, including use of teaching hospitals and affiliated relationships in which residents rotate through ambulatory care areas, so that it cannot be determined whether HMOs contribute to 20 percent or less.

Dr. Sundwall asked about GHAA having a policy like HIAA's on encouraging training for low technology and cost effectiveness. Ms. Corrigan said that her association strongly supported primary care training. The issue around high technology is efficient and appropriate use, not nonuse.

Dr. Hoffman asked for comment on statements that HMOs tend to want to get away from teaching arrangements because they want to avoid more specialization and use of more personnel for training in high tech. Ms. Corrigan responded that this was complex because HMOs want to use

teaching hospitals/high tech centers when they are needed. However, HMOs are also concerned about the need to emphasize more primary care and managed care training for physicians.

Dr. Satcher introduced Dr. Donald Young, Executive Director of ProPAC. Dr. Young discussed the origin and responsibilities of ProPAC, one of whose commissioners is Dr. Hoffman. He noted three issues that underlie COGME's discussion: the societal role in the support of GME--whether it is government or private sector and direct or indirect funding; the role of third parties, particularly Medicare, in recognizing GME costs as part of patient care; and what--and whether--we as a nation, both government and private sector, wish to do regarding the containment of spending.

Dr. Young discussed ProPAC's determination of the appropriate level of the IMEA. In 1989, major teaching hospitals received an average of 18 percent more per case after controlling for case mix, wages and geographic location. They have recommended a reduction in the IMEA with the savings to go back into the standardized amounts for all hospitals, and that the reductions should be empirically determined each year. They have wanted to look at the relationship between the teaching effect and Medicare costs; the overlap between the IMEA, the DSH and the overlap between the two; and the financial impact of changing the teaching adjustment on teaching hospitals and subclasses of teaching hospitals.

They have looked at the PPS-OMs and the TMs calculated for them by the AHA, and found that the information was in keeping with the Lewin/ICF report. ProPAC accordingly recommended that the downward adjustment should be only one-third this year and that its staff continue to examine it. Now, using 1987 data, the most recent available, the correct amount for a residual unexplained difference between teaching and nonteaching hospitals is 3.5 percent, down from 4.4 percent last year. This is because of the divergence in the case mix index between teaching and nonteaching hospitals which has been reflected in PPS payments, and the IMEA pays for unexplained differences.

Regarding the financial condition of teaching hospitals, Dr. Young agreed with Mr. Derzon that TMs also must be focused on. Two aspects require more study: uncompensated and unsponsored care and where the responsibility for that lies; and the impact of shifts in services from the inpatient to the outpatient setting. The issue of payments to teaching physicians should also be considered, as they add greatly to the revenue flow into hospitals and should be factored into third party responsibilities for GME. Finally, they have been struck by the dramatic differences between winners and losers, both in teaching hospitals where they are more compressed, and in nonteaching hospitals where they are not. It is possible that the payment formula is still badly flawed in spite of best intentions to adjust for all factors, or that there are very great differences in medical practice and effectiveness and the relationship between capital and operating costs. It might be useful to pursue the reasons for winners and losers in the cohesive group of major teaching hospitals.

Dr. Haspel asked about ProPAC's evaluation of severity of illness. Dr. Young said that diagnosis-related groups (DRGs) are being revised to measure severity better, although they do not have a really robust measure of severity in individual patients. They are also going to look at the question of higher Medicare costs and higher percentage of outliers in patients transferred to referral centers. This may be something that DRGs cannot handle and needs to be corrected in transfer policy.

Dr. Vanselow observed the concerns over what was happening with the IMEA at 7.7 percent and the major problems that would be likely at four to five percent. Now with an estimate of 3.5 percent, how were teaching hospitals going to get out of the dilemma over the next few years, and were they still going to have to use the IMEA as a proxy? Dr. Young replied that the need for an IMEA as a proxy is diminishing over time as the DRGs and other adjustments are increasingly measuring previously unexplainable things. The second issue, however, is the declining financial condition of all hospitals, and now the declining condition of the really intensive teaching hospitals. This issue relates to cost containment, which is very different from the issue of the IMEA; do we want to deal with hospital financial conditions generally or just teaching hospitals? The IMEA is only one way, and it is already working along that line. COGME might want to look at goals to be achieved in relation to what the rest of the society is doing.

Dr. Pittman and Dr. Young discussed the years from which the data were gathered to achieve these figures. We are stuck with older data, Dr. Young said, but ProPAC does not like to get into simulations, although it has been aware of the declining hospital conditions. Political and financial considerations affect the IMEAs, as do empirical factors.

Dr. Haspel thought he was observing a pattern of high Medicaid and uncompensated care volumes, high PPS-OMs, and low TMs. He suggested that the DSH factor has defined Medicaid in such a way that those on, say, general assistance in Illinois are not counted. Nor are uncompensated care or unsponsored patients considered in the DSH, he said. Dr. Young replied that the DSH attempts only to recognize the costs of treating Medicare when that hospital also treats a large number of poor; it is not a proxy for uncompensated care. Thus, it was limited to poor Medicare beneficiaries and Medicaid. Dr. Bentley commented that although both adjustments were empirically derived for narrow purposes in the beginning, as time has gone on Congress has sought to accomplish other purposes. Dr. Young conceded this, and added that the IMEA was doubled for similar reasons at the beginning of the PPS.

Mr. Derzon returned to the subject of who should pay for GME, and stated that it used to be clear that payers had a reasonable responsibility for paying a fair share. This was decided for Medicare after a reasonable debate, just as one could decide that it is reasonable to pay other professions and businesses for educating actual and potential trainees. Thus, he felt that whether educational costs ought to be processed through health care costs was an empty issue and he finds it confusing when payers and consumers, including HMOs, ask why they should support GME. Taking the long view, insurers and consumers should recognize that it is in their

interest to have an adequate supply of physicians to select among. The beneficiaries of GME have a responsibility to pay for some of the benefits.

Dr. Short observed that it is not the cost of GME that we are talking about: the IMEA will vanish with more sophistication in measuring the care being paid for, and a resident who costs less than another physician is not going to drive up the cost of care. Teaching hospitals are a subset of the institutions that are in trouble because it either costs too much or we pay too little to take care of patients irrespective of medical education. We are concerned with teaching hospitals as a venue, rather than GME costing so much; it is the discrepancy between the product and what people are willing to pay that we are troubled with.

Ms. Stanley said that it has become increasingly apparent that payers and purchasers of health care are unable or unwilling to pick up the cost of GME, either to compete with each other or to meet costs as businesses or government. Actuaries are having a difficult time figuring out long-term projections of costs because they cannot predict when and what would be the reaction to increasing costs; the projections for 2025 varied from 19 to 35 percent of GNP. In Washington State, they are spending 14 percent on health care now, with 750,000 uninsured, and it will grow to 23 percent with no additional coverage of procedures or population. The Governor has said he has to pay for other things including for the poor as well. So, the real issue is the cost issue, and it is unrealistic to try to get insurers to take it on voluntarily.

Dr. Vanselow introduced Dr. Frank Sloan, Director of the Health Policy Center, Institute for Public Policy Studies at Vanderbilt University, who discussed the economics of GME financing. Dr. Sloan began by saying that he disagreed with Mr. Derzon that many firms provide training; they provide only specialized training from which they can recoup a benefit. General training, on the other hand, is paid for in reduced wages, and employing an apprentice is not paying for training.

Dr. Sloan stated that the Lewin/ICF paper was very good. While it provided forecasts, which most others do not, they are not really forecasts because they are so short term; rather, they reflect data lags because they project where we are today. Longer run forecasting has to be based more on a feeling of forces leading to changes in revenues and costs.

Dr. Sloan stated that the paper may reflect more of a cycle than a trend. He discussed hospitals' TMs from 1963 to 1980, noting that they skyrocketed after Medicare was implemented from under three to over six percent, went down in 1972-1973, and then rose substantially by 1980. After PPS, they blipped up and what we are seeing here is the downward slope. Thus, four years of data are not enough to isolate a cycle from a trend. Another question is what is the right value of a financial indicator such as TMs. Most literature speaks of return on equity, which would depend on risk. Accountants say three to four percent, probably based on history, and a three percent TM may be all right. Hospitals in New York and Massachusetts have had quite a bit less than three percent for years, and one could look at whether they are capital starved.

Dr. Sloan discussed certain specific factors: (1) There is probably little technological change in the health sector that is not payment driven; benefit cannot be easily separated from generosity of payment. (2) While most of the labor market is independent of payment policy, the physician's wage is extremely payer-driven. Nurses' wages are more exogenous, and if payments do not keep up with them, hospitals are put in a substantial squeeze. (3) Capital is just a word for the debt to asset ratio, and the report is probably correct that it has been flat over recent years. Under cost-based reimbursement, hospitals took on a lot of debt; hospitals facing greater risk took on less debt. Teaching hospitals have not had a different capital structure from nonteaching hospitals. Deteriorating bond ratings will increase the cost of capital to hospitals. He stated that there has been an increase in risk since 1983, for which hospitals may need a higher return, and this would be a permanent, not cyclical, change.

Dr. Sloan stated that they had studied cost shifting and concluded that, in the aggregate, hospitals had not been able to cost shift. In the aggregate, hospitals cannot both cost shift and go broke; individual hospitals can, but only to a limited degree. They found some cost shifting in metropolitan areas where there is more viability, but not in rural hospitals where viability is more limited.

Dr. Pittman challenged Dr. Sloan's statement that cost shifting prevents hospitals from financial ruin. Dr. Sloan replied that only complete cost shifting would be effective, which, realistically, hospitals cannot do. Dr. Sundwall asked whether Dr. Sloan felt that there is underlying mistrust of hospital accounting among economists. Dr. Sloan replied that the procedures used to compute margins and costs were consistent and that the trends were more interesting than absolute figures. In response to a question from Ms. Smith about Medicaid margins, Dr. Sloan stated that he had studied price to charge ratios several years ago and found that Medicaid paid perhaps 70 percent of charges compared with Blues at about 92 percent and commercials at about 96 percent. He noted that these were percentages of charges, not costs. He did not have more recent data.

Dr. Dobson wondered why, when the risk increased so much and looming trouble is obvious, hospital administrators and policy regulators were not reacting more strongly. Dr. Sloan replied that hospitals so far have reacted to a very limited extent to very short-run effects. Dr. Short asked if there weren't three exogenous factors: technology, wages, and social demand of the American people. Dr. Hoffman added to this a strong commitment to the number of hospital beds we now have; there might not be as much difficulty if hospital care and GME were more rationalized as opposed to just trying to maintain the present high expenditure rates. We needed to get the unexplicit assumptions out in front of us.

After a brief break, Dr. Vanselow summarized the points made thus far. As COGME's next report is not due until July 1, 1991, he asked whether there should be an interim or special report to Congress. Dr. Samuelson suggested that COGME issue an interim report. Dr. Pittman agreed, but suggested caution in making predictions. He also expressed concern regarding the logistics of writing such a report. Dr. Vanselow indicated that it should be a fairly brief report, and outlined a plan for preparing

it, including formulation of conclusions and recommendations. It would be compiled by the Subcommittee on Medical Education Programs and Financing and discussed at the January meeting.

Dr. Satcher stated that important information was hidden in the averages, such as the characteristics of hospitals with negative TMs, especially as it relates to contributing to the needs of underserved communities. Dr. Dobson stated that they could identify from Medicare cost reports the hospitals with high and low margins. He could give a list of hospitals at the top or bottom, and staff would have to do the assessment asked. Dr. Lawrence Clare, Staff Liaison for the Medical Education Programs and Financing Subcommittee, emphasized that staff resources were limited. The contents of the report were identified as data on teaching hospitals that were either doing very well or very poorly under PPS, minor teaching hospitals, and trend lines of the indirect medical education adjustment.

The substance of the preparatory research and the feasibility of completing it in time to include the findings in the special report were discussed. Dr. Metcalf stated that if minor teaching hospitals with primary care training programs were especially in trouble, we should know that; he thought they might be in the lowest 25 percent and in the 100 to 150-bed community hospitals. Dr. Pittman cautioned that while minor teaching hospitals in Alabama have closed, they ought not necessarily to be saved through GME, and that in any case the third year of family practice residency is mostly outside the hospital. He he did not believe we should decide to save hospitals in order to save primary care programs.

Dr. Zuidema suggested that the trend lines should be looked at if the IMEA were decreased by different amounts. Dr. Hoffman asked if these were just going to be PPS data, as TMs were the more important question. Dr. Dobson noted that the two ran differently and would produce very different analyses. Dr. Vanselow asked what would happen to both PPS-OMs and TMs if the IMEA were changed by different amounts; Dr. Clare suggested that ProPAC had studied the effects on PPS margins from the lowering of indirect rates by various degrees, and offered to furnish copies to COGME members. Dr. Short added that the Council has yet to see DVA data. Dr. Zuidema asked about the various State Medicaid policies on GME and was told that all cumulative and segregated data on this subject are several years out of date. Such data are very difficult to gather, Dr. Bentley added, and the AAMC has almost given up trying to determine how much Medicaid pays for GME. Dr. Pittman pointed out that in Alabama, a family earning $1,500 a year is too rich to qualify for Medicaid. Dr. Dobson noted that Lewin/ICF could not obtain confidential AHA data on TMs and uncompensated care by individual hospital, although they can do DSH. Dr. Bentley noted that one data set not available on tape was the mix of residency programs by hospital, especially as to which university programs with how many residents are located at individual teaching hospitals.

Dr. Vanselow noted that some were saying that we needed a report and others were requesting data that could not possibly be obtained in time. It was agreed to pursue the report with what could be obtained. The logistics of communication to prepare the interim report and discuss the research findings were debated and the issues to be analyzed further delineated.

Dr. Zuidema reported on the previous day's meeting of the Physician Manpower Subcommittee. He discussed the activities of the individuals from Abt Associates involved in the study to reexamine the adequacy of physician supply. The findings of this study will improve the applicability of the original needs-based study conducted by the Graduate Medical Education National Advisory Committee.

Dr. Zuidema spoke about the presentation given by Mr. Jim Cultice of the Division of Medicine, who described a demand-based model to project physician requirements. The model is based on appropriate extrapolations of medical care utilization with consideration given to such things as changes in prices of services and third-party insurance coverage.

Dr. Zuidema summarized the main points of several speakers on a panel on the geographic distribution of physicians in urban areas. He reviewed the Subcommittee's correspondence in its efforts to gather data, noting indications from particular specialty societies of willingness to participate in the needs-based study. He noted a draft briefing agenda for an upcoming meeting to which all national specialty societies will be invited.

Ms. Apte inquired whether declines in individual physician productivity due to rising numbers of women physicians would be considered in either of the two studies. Dr. Zuidema responded that productivity is an issue that will be looked at. Dr. Vanselow solicited the opinion of Mr. Jim Cultice of the Division of Medicine. Mr. Cultice indicated that productivity will be assessed, including that of women physicians, and described how this might be approached.

Dr. Vanselow discussed several procedural matters, including the formation of a subcommittee to develop conclusions and recommendations on minority participation in medicine.

As there were no comments from the public, the meeting was adjourned until the following day.

APPENDIX F

Council on Graduate Medical Education

Minutes of Plenary Session
November 3, 1989

Parklawn Conference Center
Rockville, Maryland

Members in attendance:

Dipali V. Apte
William S. Hoffman, Ph.D.
James A. Pittman, Jr., M.D.
Rene F. Rodriguez, M.D.
Cecil O. Samuelson, Jr., M.D.
David Satcher, M.D., Ph.D.
Juereta P. Smith, R.N., J.D.
Neal A. Vanselow, M.D.
George D. Zuidema, M.D.
John H. Kelso*
C. Ross Anthony, Ph.D.**
Elizabeth Short, M.D.***

Donald L. Weaver, M.D.+

* Designee of the Assistant Secretary for Health
** Designee of the Administrator, Health Care Financing Administration
*** Representing the Chief Medical Director, Department of Veterans Affairs
\+ Executive Secretary

Members absent:

Stuart J. Marylander
Harry L. Metcalf, M.D.

Friday, November 3, 1989

Dr. Vanselow opened the meeting and announced that Dr. Satcher had agreed to chair a special Subcommittee on Minority Representation in Medicine, which was established the previous day. He asked Dr. Hoffman, Mr. Marylander, Dr. Metcalf, Ms. Apte, and Ms. Smith to serve on the Subcommittee.

Dr. Herbert Nickens of the Association of American Medical Colleges (AAMC) spoke on the topic of data and issues on the entry of minorities in medicine. He discussed differences among the growing minority populations in the United States and the need for policy makers to set standards to determine which groups and what proportions will be targeted for special programs and resources in medical education. He cited several statistics from Minority Students in Medical Education, Facts and Figures, showing that college enrollment rates are lower for blacks and Hispanics and that they tend to go into fields that do not prepare them for medicine. The number of applicants to medical school is declining, including a decrease in white male applicants. First-year enrollment of underrepresented minorities has been stagnant for the past decade.

He noted that approximately 80 percent of minority students now attend medical schools that are not historically black. The trajectory of minority students in medical school is more erratic and takes longer than that of white students. However, there is a 90-percent retention rate for fourth-year minority medical students, suggesting that resources devoted to prematriculation and retention programs should not be decreased and more resources are needed to evaluate their effectiveness. The cost of medical education is a barrier to minorities, and more scholarships are needed. Attention must be focused on junior high school, high school, and college. There is increasing concern about barriers for minorities entering graduate medical education and practice and about limited opportunities to join faculties and administrations. Marketing medicine as a profession to minority youth needs to be more aggressive.

Dr. Vivian Pinn-Wiggins of the National Medical Association gave a presentation on the progress of minorities through the educational system. She stated that the academic preparation of minorities will contribute significantly to their successful progression through medical education. She also spoke about the decline in medical school applicants. From 1983 to 1989, underrepresented minorities among applicants decreased by 11.4 percent, blacks decreased by 13.4 percent, and black males decreased by 26.8 percent. Future projections will depend upon the population growth of minorities, their predicted educational progress, and factors that affect their becoming applicants. Approximately one-fourth of junior high school through college age populations will be black or Hispanic by 1990, and one-third will be black or Hispanic by 2010. By 2010, the U.S. black population is expected to by anywhere from 21 to 27 percent, and Hispanics will increase by 50 percent.

However, the number of minority students who complete college, especially in a scientific field, probably will decrease. Larger proportions of minorities do not enter college after high school, and the dropout rate from the educational system continues to be high. Only about 40 percent

of Hispanics complete high school. The college entrance rate for blacks and Hispanics is lower than that of the total population. In 1985, the proportion of high school graduates going to college declined 11 percent for blacks and 16 percent for Hispanics. About 24 percent of 20- to 24-year-olds in the total U.S. population attended college, but only about 20 percent of blacks attended, and about 16 percent of Hispanics. The percentage of Asian Pacific Islanders was greater than both blacks and Hispanics. The attrition rate in science courses is greater among females, blacks, and Hispanics than among white males.

Dr. Pinn mentioned several factors that contribute to the decline in black male applicants: they are outnumbered by black females, there are fewer black role models as teachers, and black males are disciplined, expelled, and suspended from school at higher rates. For those who support families, decreased black male annual earnings are a factor. Also discouraging them or possibly contributing to the situation are newspaper articles that report declines in black male college enrollment or social or community attitudes that may affect the progress of black males through the educational system. Many minorities are placed in nonacademic paths in high school, and blacks and Hispanics are overrepresented in both general and vocational curricula, which require only lower level math and perhaps science. She said that many of the problems with the progress of minorities through the educational process will require governmental, community, and parental influence to ensure a supply of highly trained scientists and physicians needed to care for underserved minority populations in the future.

During questions and answers, Dr. Pittman mentioned a lag time of at least one decade from the first-year class through residency even if black enrollment was to rise in 1990. Dr. Pinn replied that attention must be given to the college age group, where the largest dropout rate occurs. Elementary school students also need to be stimulated and provided role models to have a long-term national impact.

She addressed the need for scholarships rather than loans for minority students. Because a purpose of increasing minority enrollment is to serve disadvantaged populations in underserved areas, graduates risk bankruptcy from loan debts by working in areas with the lowest reimbursement and with a high percentage of uninsured patients.

Dr. Nickens mentioned the Baylor School of Medicine model, in which the medical school runs a magnet high school that is 70 percent minority. It benefits from the riches of Baylor, and provides role models for going into medicine. He said there are a large number of support programs in medical schools that work well and should be evaluated, funded, and made permanent. He stressed that this is a 10- to 20-year problem and not a short-term issue. Dr. Nickens suggested an increased use of models in which young people enter a program that guarantees both financial aid and programmatic security as long as they progress through the educational process.

Dr. Rodriguez stated that Asians represent 7 percent of medical faculties, while blacks and Hispanics each constitute less than 1 percent. There is a need for more minority faculty members as role models to increase enrollments of minority students.

Dr. Pinn emphasized the need to demonstrate that an increase in minority health professionals is needed to work with the underserved despite the overall surplus of physicians. She said that admissions committees need to establish a balance between students who are interested in academic careers and serve as role models and those who are likely to enter primary care specialties.

Dr. James Curtis, Chairman of the Subcommittee on Minority Participation in Graduate Medical Education of the New York State Council on Graduate Medical Education, discussed the goal of another council appointed by the Governor last year, that within a 4-year period at least 11 percent of teaching hospital residents in first-year training programs should be from minority groups. Their Council will look at creating a pool of money to enable consortia of teaching hospitals to stimulate this effort, which will come from medical education subsidies in New York State. Their Council also may request each consortium to report annually on the number of residents in each specialty and to state an affirmative action recruitment goal and strategy, which will be published in a public report. He mentioned the need for programs throughout the educational process to attract minority medical faculty members. He said the Associated Medical Schools of the State of New York recently announced plans to increase the enrollment of underrepresented minorities in New York State medical schools to 16 percent by the 1992-93 academic year, an increase of 1,250 students.

Dr. Sullivan, Secretary of Health and Human Services, gave a keynote address before COGME. He said that minorities do not have access to affordable health care and that blacks have a 1.5-times higher death rate than whites and less access to care. One factor is an undersupply of black physicians, especially those to serve poor and minority citizens. More minority physicians are needed as practitioners, teachers, researchers, administrators, and policymakers. The proportion of minority physicians has not kept pace with the increasing proportion of the Nation's minority populations.

Although by the year 2000 the black and Hispanic populations combined will constitute about 25 percent of the population, black and Hispanic physicians will represent only 4.1 and 3.4 percent of the Nation's physicians. Secretary Sullivan stated that the recommendations of the COGME Subcommittee on Minority Representation in Medicine regarding the disparity in minority health and the need for more minority physicians are consistent with the direction of the Department of Health and Human Services (DHHS) in the Bush administration. The fiscal year 1990 budget will include $43 million for educating minority health care professionals. Secretary Sullivan also has endorsed congressional action that would provide $117 million in fiscal year 1991 for minority health programs and training minority health care professionals.

There are plans to reduce the rate of increases in Medicare physicians' fees and have payments more closely reflect actual costs, which would introduce incentives for physicians tc practice in medically underserved rural areas and inner cities and emphasize primary care. Secretary Sullivan also spoke about fostering prevention efforts such as early detection and intervention, immunization, and behavior change. He discussed AIDS and drug abuse as they relate to the need for more trained health professionals and changes in the health care financing system.

Dr. William D. Wallace, University of Illinois College of Medicine, spoke about the Urban Health Program of the University of Illinois to identify, admit, and graduate minorities from the medical college. An early outreach program identifies talented students from grammar school to high school who are interested in pursuing a medical career. An extensive recruitment program includes relaxing residency requirements to admit out-of-state students and establishing a summer program to stimulate interest in medicine among young people. A program is held during the summer of the year before matriculation to expose students to the environment of the medical school. By 1987, the university ranked first among majority medical schools in total minority graduates, tied for first with Drew-UCLA in the number of black graduates, and ranked first among all medical schools in the number of Eispanic graduates.

He noted that 48 percent of University of Illinois minority graduates versus 29 percent of majority graduates took residencies in primary care specialties. About 50 percent of the majority graduates have left Illinois, whereas 75 percent of the minority graduates practice in underserved areas of Chicago and the State of Illinois. Efforts such as a 5-year program with reduced yearly tuition have increased the retention rate from 60 to 88 percent.

Mr. Sterling Lloyd, Howard University College of Medicine, presented a history of Howard University College of Medicine. He spoke of 1968 as a turning point in efforts to expand the number of blacks in medical education. Black enrollment in U.S. medical schools rose from 783 in 1968-69 to 3,884 in 1974-75 through Federal programs to expand medical school enrollment and provide financial assistance to minorities. Also instrumental were activities of the AAMC and pressure from civil rights activists and community groups. He also spoke about the beginnings of the Morehouse School of Medicine and Drew-UCLA Medical Education Program in the 1970s. He spoke about Howard's medical faculty, who, in addition to contributing to the medical literature and serving on editorial boards of scientific and medical journals, are involved with and support the National Medical Association and the National Association of Medical Minority Educators. Blacks make up 75 to 80 percent of the medical students at Howard, and more than half are women. The faculty includes 300 full-time and 550 part-time basic scientists and clinicians. The college has 2 centers, 19 departments, and a 500-bed teaching hospital.

Ms. Hilda Crespo, Aspira of America, Inc., spoke on the advancement of Hispanics through the educational system. She described Aspira's Health Careers Program that addresses the health needs of the Hispanic community by working with high schools, postsecondary institutions, and medical and

health professional institutions to facilitate entry of students into medical schools. These students are expected to return to the community. Although the U.S. physician population has increased, minorities still are medically underserved.

She also stated that minority medical graduates are twice as likely to serve medically underserved communities and practice primary care. She said that Hispanics are at the highest risk of low educational attainment and are the most difficult to educate because of poverty, language barriers, and limited educational resources. She reported that of all U.S. college students 4.6 percent are Hispanics, as are 2.2 percent of graduate students and 2.9 percent of professional school students. Hispanics are affected by shortage of physicians and role models, who are key to a medical student's successful educational attainment. Too few minority high school and college students take advanced math and science courses, which are critical preparation for the medical profession and are reflected in standardized test scores. Minority applicants for medical school are three times more likely to come from families with annual incomes under $15,000.

She spoke about the need to increase minority enrollment within the faculty and administration of medical schools and to sensitize residency directors regarding the value of black and Hispanic students in residency programs. Hispanic professional associations and community-based organizations could promote medical education and serve as a link between high schools, colleges, and medical schools. Intervention programs, such as the Robert Wood Johnson, Macy, and Kaiser Family Foundations, should be replicated and expanded to reach more Hispanic students. Cross-cultural medicine should be required in medical academia to address the needs of the Hispanic community.

Dr. Gerald L. Ignace, a past-president of the Association of American Indian Physicians (AAIP) and a member of the National Health Service Corps Advisory Council, spoke about the shortage of American Indian and Alaskan Native health professionals. He said the AAIP is concerned with the shortage of American Indian and Alaskan Native health professionals to provide medical and dental care to American Indian communities. In 1980, Native Americans represented 0.6 percent of the population but only 0.1 percent of physicians. First-year enrollment of Native Americans in medical schools increased from 47 in 1978 to 76 in 1988; total enrollment was 202 in 1978, peaked at 258 in 1983 and 257 in 1984, then decreased to 237 in 1988. The number of American Indian medical school graduates increased from 46 in 1978 to 58 in 1988. About 48 percent of American Indian graduates indicate they would practice in socially and economically deprived areas, compared with 7.2 percent of nonminorities.

Dr. Ignace stated that it is not necessarily as important for Native Americans to be in direct private service as it is that they be involved in Indian-oriented health care delivery systems where policy decision making can have more impact on improving the health status of Native Americans. He noted several deterrents for American Indians to choose a health professions career: lack of a supportive home environment and social structure, such that advancement through the educational process

may be viewed by families and communities as conflicting with the tribal identity of the individual; inadequate preparation in math and science at the high school and college levels; poor guidance counseling; insufficient career information; lack of role models, mentors, and peer support groups; and the high cost of medical education and decreasing financial aid.

The major goal of AAIP is to provide recruitment, admission, and retention programs to increase the number of American Indian health professionals and thereby improve the quality of health care provided to American Indians. AAIP has a Health Careers Opportunities Program grant. AAIP's objective is to identify promising high school graduates and college undergraduates and provide them with skills to gain admission to, remain in, and graduate from schools of medicine, osteopathy, dentistry, veterinary medicine, optometry, pharmacy, and podiatry. AAIP also has a career recruitment program that involves over 1,000 students from a variety of disciplines and has distributed 80,000 pieces of literature related to health careers, financial aid, health professions schools, preadmission workshops, health career pathway workshops, and summer live-in programs.

AAIP has developed a prototype model recruitment-retention program that includes a preadmission workshop in which 25 to 30 premed students go through the admissions process, including a mock interview. AAIP also identifies health professions schools seeking to recruit American Indian students and identifies financial resources. It has provided counseling and technical assistance to the Association of Native American Medical Students, which currently has 75 to 100 members. AAIP has become a national resource on health careers, and its program has been adopted by seven Indian health boards.

The goal of AAIP's American Indian Health Professions Assistance Program is to improve the quality of health care provided to American Indians by increasing the number of American Indian health professionals who practice medicine near an Indian reservation or in an urban health clinic that provides service to American Indians. It also helps Indian students to gain admission to a medical or health professions institution, to remain there until completion, and to maximize their exposure to the medical needs of American Indians. Four components of the program are scholarships, clinical clerkships, a deceleration program, and a summer cultural enrichment program.

Dr. Richard C. Richardson, Professor of Leadership and Policy Studies at Arizona State University, discussed the results of a 10-State study under the U.S. Department of Education to determine why more students proceed to higher levels in some institutions than in others. Ten predominantly white institutions that had established a track record for graduating people from American Indian, African American, and Hispanic backgrounds were identified. The institutions passed through three stages. First, barriers to diversity were removed in recruitment, financial aid allocations, and admissions. Second, outreach activities such as summer programs for incoming students were established, faculty became more involved as mentors and advisors, and overt racism was confronted. Third, changes that helped students to meet common standards which required

assessing differences among entering students and assisting those with preparation gaps. Curriculum content was changed to reflect the cultures within the institution. It was noted that institutions must emphasize both diversity and achievement. They also must consider the mission of the institution, its selectivity, its teaching research emphasis, its residential or commuter orientation, and the service area demographics. The State policy environment and degree of minority faculty and administrator involvement in the institution's decision-making process also are important factors.

Ms. Victoria D. Weisfeld, Senior Communications Officer of the Robert Wood Johnson Foundation, spoke about the Foundation's efforts toward improving access to health care for underserved people, including activities in the Minority Medicine Education Program. The foundation provides grants to educational programs for minority high school and college students, financial aid to augment the clinical faculty and strengthen management at Meharry Medical College, support for a Minority Medical Faculty Development Program, and support for a minority medical education program aimed at academically talented college students interested in medical careers. The foundation also has funded grants to study the status of minorities in medicine and the effectiveness of intervention programs. New programs target students later in their academic training to ensure that they pursue careers as physicians.

The Minority Medicine Education Program's goal of increasing minority acceptance rates in medical schools includes a summer laboratory experience that exposes students to both clinical and research aspects of medicine and provides an M.D. or Ph.D. mentor, academic enrichment, counseling about medical school selection, Medical College Admission Test (MCAT) preparation and review, and stipend and travel support, if necessary. The goal of the Minority Medical Faculty Development Program is to increase the number of minority medical faculty likely to achieve senior academic positions in medical schools. These fellowships cover 4 years of training, including research allowance and stipend support.

Ms. Augusta Villaneuva, Program Officer of the Pew Charitable Trusts, spoke about the activities of her organization, including funding grants for institution-initiated requests targeted for premedical students and medical school matriculants. There are summer enrichment programs for juniors and seniors in college and a range of year-round academic, social, and career-oriented programs that contribute to retention and graduation of medical students. Other activities focus on leadership development in conjunction with minority organizations committed to minority education issues. Education programs not related to health also target precollege students and focus on math, science, and English. Four trust-initiated programs that focus on minority faculty development include nutrition, nursing, veterinary medicine, and dentistry. An institution-initiated program based at Duke University, The Future of the Health Professions, focuses on the educational sector, including minority education issues. Representatives from professions in medicine, nursing, veterinary medicine, dentistry, public health, allied health, and pharmacy have been meeting and will report to the trust with recommendations.

Dr. Leon Johnson, President of National Medical Fellowships, Inc. (NMF), spoke about the financial assistance, fellowship, and information programs of his organization to increase the numbers of underrepresented minorities in medicine and promote an equitable health care system. NMF sponsors awards for academic excellence and leadership and special fellowship programs that encourage health promotion, research, and diversity. These programs encourage students to pursue careers in areas such as biomedical research, child psychiatry, and AIDS-related research.

NMF also has a program to enhance the successful recruitment, admission, and retention of minority students by encouraging and helping economically disadvantaged premedical students to develop effective admissions and financial planning strategies in preparation for medical school. He noted that although a surplus of physicians is projected, more primary care and minority physicians are needed, particularly in underserved areas. He stated that according to recent Bureau of Labor Statistics, the number of black physicians declined from 26,000 in 1984 to 19,018 in 1987. Minority physicians serve disproportionately more patients of their own racial or ethnic group, practice in health manpower shortage areas, and have more Medicaid recipients. Minority physicians also overwhelmingly choose primary care specialties of family practice, general internal medicine, general pediatrics, and obstetrics-gynecology, the areas of greatest public need.

Dr. Johnson stated that the high cost of medical education is a critical factor constraining the size of the minority applicant pool. In 1988, the mean indebtedness of all medical school graduates was $38,489 and of underrepresented minority graduates was $44,897, 16.6 percent higher. Also, 36.7 percent of minorities had debts over $50,000. Projected indebtedness for students who entered school in 1988 is $70,000 for all students and $80,816 for minorities. Indebtedness is becoming an obstacle for low-income, disadvantaged, and underrepresented minority students in pursuing a medical education. A balance of scholarships, loans (both subsidized and market rate), service and work opportunities, and career options needs to be maintained.

During the discussion, Dr. Johnson said that minority applicants to medical school are better qualified today than in the mid-1970s, yet less likely to be accepted. He noted several reasons: students do not approach the application process in a defined manner to enhance their chances of being admitted, they apply to too few institutions, they do not investigate institutions, institutions do not use the pool of minority students efficiently, and many students that are accepted never enroll.

Dr. Clay E. Simpson, Director of the Division of Disadvantaged Assistance in the Bureau of Health Professions, described the Health Careers Opportunity Program (HCOP), which has been a stimulus during the past 20 years to provide opportunities for disadvantaged students. He said that preferential treatment for funding will be given to institutions that identify seven or more minority college graduates and enroll them in a special postbaccalaureate program that will ensure admission to that institution. He spoke about plans for an interagency coordinating committee on minority health science careers.

Mr. Schwab spoke about the importance of institutional commitment and a need for policies at both the Federal and institutional levels. He said that colleges should look more carefully at the undergraduate students within their institution as a pool for postbaccalaureate study. Institutions also should increase their sensitivity in terms of diverse perspectives and views.

Dr. Simpson mentioned that institutions should have faculty teach more and do less research. He also addressed a question about the problem of minority students in debt and unable to afford setting up practices in underserved areas.

During the Public Comment period, Dr. Lipscomb, President of the National Association of Medical Minority Educators, spoke about the importance of looking at the continuum of education from kindergarten through high school and focusing on the identification of a pool of minority candidates. She spoke about medical education institutions interacting more with professional educators and taking some different approaches in educational interventions.

Dr. Weaver was bid farewell and thanked for serving as the Council's Executive Secretary, and Dr. Gaston was welcomed as the new Executive Secretary. The meeting was adjourned.

for

Neal A. Vanselow, M.D.
Chairperson

December 1989

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Public Health Service
Health Resources and Services Administration
Bureau of Health Professions
Division of Medicine

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COUNCIL ON GRADUATE MEDICAL EDUCATION

ADDENDUM
to the Second Report of the Council

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The Financial Status of the Department of Veterans Affairs Teaching Hospitals

U.S. DEPARTMENT OF HEALTH AND HUMAN SERVICES
Public Health Service
Health Resources and Services Administration

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- Monitoring developments affecting health facilities, especially those in rural areas.

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The views expressed in this document are solely those of the Council on Graduate Medical Education and do not necessarily represent the views of the Health Resources and Services Administration or the U.S. Government

CHARGE TO THE COUNCIL

Title VII of the Public Health Service Act in Section 799(H), as amended by Public Law 99-272, required that the Council on Graduate Medical Education provide advice and make recommendations to the Secretary and to the Committees on Labor and Human Resources, and on Finance of the Senate and the Committees on Energy and Commerce, and on Ways and Means of the House of Representatives, with respect to:

(A) the supply and distribution of physicians in the United States;

(B) current and future shortages or excesses of physicians in medical and surgical specialties and subspecialties;

(C) issues relating to foreign medical school graduates;

(D) appropriate Federal policies with respect to the matters specified in (A), (B), and (C) above, including policies concerning changes in the financing of undergraduate and graduate medical education programs and changes in the types of medical education training in graduate medical education programs;

(E) appropriate efforts to be carried out by hospitals, schools of medicine, schools of osteopathy, and accrediting bodies with respect to the matters specified in (A), (B), and (C) above, including efforts for changes in undergraduate and graduate medical education programs; and

(F) deficiencies in, and needs for improvements in, existing data bases concerning the supply and distribution of, and postgraduate training programs for, physicians in the United States and steps that should be taken to eliminate those deficiencies. The Council is to encourage entities providing graduate medical education to conduct activities to voluntarily achieve the recommendations of this Council under paragraph (E) above.

COUNCIL ON GRADUATE MEDICAL EDUCATION

Dipali V. Apte
Medical Scholars Program
University of Illinois
College of Medicine
190 Medical Sciences Building
506 South Matthews
Urbana, Illinois 61801
(217) 333-2435 (Through 9/30/91)

Jack W. Colwill, M.D.
Chairman and Professor
Department of Family & Community Medicine
M228 Health Sciences Center
University of Missouri-Columbia
Columbia, Missouri 65212
(314) 882-2996 (Through 9/30/94)

Lawrence U. Haspel, D.O.
Executive V.P., Hospital Operations
Chicago College of Osteopathic Medicine
5200 South Ellis Avenue
Chicago, Illinois 60615
(708) 747-4000 ext. 1294
(Through 9/30/91)

William S. Hoffman, Ph.D.
Director
UAW Social Security Department
8000 East Jefferson Avenue
Detroit, Michigan 48214
(313) 926-5321 (Through 9/30/92)

Stuart J. Marylander
President and Chief Executive Officer
Triad Healthcare
4911 Van Nuys Boulevard, Suite 309
Sherman Oaks, California 91403
(818) 995-7366 (Through 9/30/94)

Pedro Ruiz, M.D.
Department of Psychiatry
Baylor University
College of Medicine
One Baylor Plaza, Room 604-D2
Houston, Texas 77030
(713) 798-4855 (Through 9/30/93)

Cecil O. Samuelson, Jr., M.D.
Senior Vice President for Medical Affairs
Intermountain Health Care Inc.
36 South State Street, 22nd Floor
Salt Lake City, Utah 84111
(801) 530-3537 (Through 9/30/91)

David Satcher, M.D., Ph.D.
President
Meharry Medical College
1005 D.B. Todd Boulevard
Nashville, Tennessee 37208
(615) 327-6605 (Through 9/30/93)

Juereta P. Smith, R.N., J.D.
Counselor
USAA, RMRHO
1855 Telstar Drive
Colorado Springs, Colorado 80920-9936
(719) 528-4918 (Through 9/30/92)

Margaret T. Stanley, M.H.A.
Administrator
Washington State Health Care Authority
4505 Woodview Drive SE, QF 31
Olympia, Washington 98504
(206) 438-7979 (Through 9/30/92)

Robert L. Summitt, M.D.
Executive Vice Chancellor and Provost
Dean, College of Medicine
University of Tennessee, Memphis
Health Science Center
62 South Dunlap, Suite 400
Memphis, Tennessee 38163
(901) 528-5529 (Through 9/30/94)

Neal A. Vanselow, M.D.
Chancellor
Tulane University Medical Center
1430 Tulane Avenue
New Orleans, Louisiana 70112
(504) 588-5295 (Through 9/30/91)

Charles E. Windsor
President and Chief Executive Officer
St. Mary's Hospital
129 North 8th Street
East St. Louis, Illinois 62201
(618) 274-1900 (Through 9/30/93)

George D. Zuidema, M.D.
Vice Provost for Medical Affairs
The University of Michigan
4100 Medical Science Bldg. 1,
C-Wing, 0608
1301 Catherine Road
Ann Arbor, Michigan 48109-0608
(313) 764-2104 (Through 9/30/92)

James O. Mason, M.D., Dr.P.H.
Assistant Secretary for Health
Department of Health & Human Services
Public Health Service
Hubert H. Humphrey Bldg., Room 716G
200 Independence Avenue, S.W.
Washington, D.C. 20201
(202) 245-7694

Gail R. Wilensky, Ph.D.
Administrator, Health Care
Financing Administration
Department of Health & Human Services
Hubert H. Humphrey Bldg., Room 314G
200 Independence Avenue, S.W.
Washington, D.C. 20201
(202) 245-6726

James W. Holsinger, Jr., M.D.
Chief Medical Director
Department of Veterans Affairs
810 Vermont Avenue, N.W.
Washington, D.C. 20420
(202) 233-2596

Designee of the Assistant Secretary for Health

Robert G. Harmon, M.D.
Administrator
Health Resources and Services
Administration
Public Health Service
Parklawn Building, Room 14-05
5600 Fishers Lane
Rockville, Maryland 20857
(301) 443-2216

Designee of the Health Care Financing Administration

Robert G. Eaton
Associate Administrator for
Program Development
Health Care Financing Administration
Hubert H. Humphrey Bldg., Room 325H
200 Independence Avenue, S.W.
Washington, D.C. 20201
(202) 245-7063

Designee of the Department of Veterans Affairs

Peter F. Regan, M.D.
Assistant Chief Medical Director
for Academic Affairs
Department of Veterans Affairs
810 Vermont Avenue, N.W., Room 874
Washington, D.C. 20420
(202) 233-5093

Executive Secretary

Carol S. Gleich, Ph.D.
Division of Medicine
Bureau of Health Professions
Health Resources and Services
Administration
5600 Fishers Lane, Room 4C-25
Rockville, Maryland 20857
(301) 443-3626

Deputy Executive Secretary

F. Lawrence Clare, M.D., M.P.H.
Division of Medicine
Bureau of Health Professions
Health Resources and Services
Administration
5600 Fishers Lane, Room 4C-25
Rockville, Maryland 20857
(301) 443-6326

FORMER MEMBERS THROUGH SEPTEMBER 1989

Harry L. Metcalf, M.D.
President
Highgate Medical Group, P.C.
Williamsville, New York

James A. Pittman, Jr., M.D.
Dean
University of Alabama
School of Medicine
Birmingham, Alabama

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COUNCIL ON GRADUATE MEDICAL EDUCATION SUBCOMMITTEES

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William S. Hoffman, Ph.D.
Stuart J. Marylander
Pedro Ruiz, M.D.
Juereta P. Smith, R.N., J.D.
Robert L. Summitt, M.D.

Staff liaison: Lanardo E. Moody, M.A.
Division of Medicine

I. INTRODUCTION

OVERVIEW

The Council on Graduate Medical Education (COGME) is charged by law to provide recommendations concerning the adequacy of the current and future supply and distribution of physicians in the United States; issues relating to foreign medical graduates; appropriate Federal policies with respect to changes in the financing of undergraduate and graduate medical education (GME) programs, and changes in the types of GME programs; appropriate efforts to be carried out by hospitals, schools of medicine, schools of osteopathy, and accrediting bodies with respect to physician supply adequacy and medical education programs; and deficiencies and needs for improvements in data bases concerning physician supply and distribution, and medical education programs in the United States. COGME works by obtaining data and information from expert testimony and contracted analyses, and discussions with experts in the field.

Clinical medical education and GME in the United States are centered in teaching hospitals which serve as a key resource for the nation. They provide leadership in biomedical training and research, access to health care for large minority and underserved populations in nearly all states, complex and intense care frequently not available elsewhere, and leadership in the quality of care provided to the American people. The financial status of teaching hospitals is a key factor in their ability to maintain the quality and thoroughness of training, the adequacy of the supply and distribution of physicians, high quality of care, and access to health care for many citizens who are underserved or in need of the most advanced levels of medical care. In particular, teaching hospitals of the Department of Veterans Affairs (DVA, or VA) make up a significant proportion of U.S. teaching hospitals, in which 20,000 medical students received some portion of their undergraduate medical education, and through which more than 25,000 residents obtain some portion of their graduate medical education (GME) each year. This number of residents is equivalent to over 8,000 full-time residents, or about 10 percent of all residents in training in the United States.

PURPOSE

In mid-1989, the Council became concerned with anecdotal evidence of a deteriorating financial status for many of the nation's teaching hospitals, including those of the VA. Because such difficulties could have the potential to affect the quality and operations of GME programs and the number of GME programs available to train future physicians, COGME at its June 1989 meeting decided to engage a contractor to comprehensively analyze existing data on the financial status of both VA and non-VA teaching hospitals, and to consider issuing a special report on the subject.

To study the financial status of teaching hospitals, the Bureau of Health Professions (BHPr) and the Health Resources and Services Administration (HRSA) of the Department of Health and Human Services, and the Department of Veterans Affairs (DVA), commissioned Lewin/ICF, Inc., to analyze existing financial data and information on non-Federal and Veterans Administration teaching hospitals. The portion of the Lewin/ICF report on VA hospitals was presented and discussed at the regular COGME meeting of January 29-30, 1990 (the portion on non-VA teaching hospitals had been presented at a special COGME meeting on November 2, 1989). After some further work by Lewin/ICF, its final report on VA teaching hospitals was presented to COGME in the final Lewin/ICF report dated March 8, 1990.

FINANCIAL STATUS OF VA MAJOR TEACHING HOSPITALS, 1985-1988

EXECUTIVE SUMMARY:

In 1989-90 the Congressionally chartered Commission on Graduate Medical Education (COGME) undertook an analysis of recent trends in the fiscal status of U.S. teaching hospitals with a view to assessing their institutional viability as the major sites for graduate medical education in an era of increasing fiscal pressures on hospitals. The first portion of these studies[1] focused on non-federal teaching hospitals. The present report sets forth selected data concerning financial trends in Department of Veterans Affairs (VA) major teaching hospitals compared with their nonfederal counterparts with many of whom these VA hospitals share affiliated, integrated GME programs.

Concern for the stability and viability of VA-sponsored GME is motivated by cognizance of the significant role these hospitals play in GME. In recent years, VA teaching hospitals have supported 12 percent of U.S. residents in all specialties but OB-GYN and Pediatrics. In 1989-90 VA supported 8,350 resident positions through which were rotated more than 30,000 residents. Thus VA hospitals are major GME sites for over half of all residents each year.

COGME examined patient care funding on the presumption that if the fiscal viability of teaching institutions were imperiled by underfunding of patient care costs, their teaching capacity would eventually be compromised. COGME found that in non-federal teaching hospitals, the average total hospital margin had declined steadily in the years since the prospective payment system (PPS) was established. By PPS year 4, total margins were negative in at least 25 percent of these hospitals.[1] This progressive decrement in patient care revenues to expenditures was viewed with concern for its potential impact on the GME mission of these major teaching institutions.

The comparison analysis of the financial status of VA hospitals proved more difficult. Appraisal of the financial condition of VA hospitals cannot be performed using traditional income statement or balance sheet measures such as hospital margins or current ratios. Financial record keeping in the VA is centered around the Federal budget process, since, for all practical purposes, the Federal government is the VA's sole source of funds. VA hospitals do not fill out Medicare or other types of cost reports or track revenues and expenses in the same manner as non-Federal hospitals. VA hospitals do not receive extra revenue for more patients than were assumed in their budget allocation unless the Congress authorizes supplemental appropriations, and by law, VA hospitals cannot run deficits. Thus the concept of hospital margins has no meaning for VA hospitals, which operate totally within the budget process.

These methodological limitations led to the present analysis in which various VA patient care expenditures for federal fiscal years 1985-1989 were compared with patient care revenues available to nonfederal teaching hospitals for the same period (PPS 1-4). The following findings emerged:

- The annual increase in total noncapital expenditures in VA major teaching hospitals was below the annual rate of growth in total net revenues in non-Federal major teaching hospitals, at 5.1 percent vs. 7.9 percent annual growth from 1985-88.

- Per inpatient case measures of major teaching hospital income also demonstrate that VA hospitals lag behind their non-Federal teaching counterparts. VA expenditures per inpatient case in major teaching hospitals grew only 2.8 percent per year from 1985-88, while Medicare per case revenues grew 5.8 percent. Adjusted for case mix, using the Medicare adjusted case mix index, VA expenditures grew only 1.8 percent annually; during the comparable time period, similarly adjusted Medicare per-case revenues increased 4.2 percent per year and the medical CPI increased 6.9 percent per year.

- Since federal salaries were capped at 2.4 percent annual growth from 1985-88, VA was increasingly forced to use scarce health specialty wage exemptions, special pay, and service contracts rather than FTE employment, to keep pace with market wages for health personnel. These increasing costs in the face of limited revenues forced an annual decline in employment from 1985-88 of -2.6 percent FTE per discharge and -1.3 percent FTE per outpatient visit.

Since nonfederal teaching hospital revenues grew at a slower rate than expenditures, and even fell below expenditures in at least 25 percent of these institutions, it can be inferred that the even slower annual growth rate of expendable resources in VA teaching hospitals was also progressively less adequate for purchase of similar goods and services. These preliminary comparisons suggest that VA hospitals are experiencing fiscal constraints similar to those of their sister institutions, but firm conclusions cannot be drawn from this study because of persistent uncertainties about the comparability of patient care costs and patient populations between these institutions.

Neither non-federal nor VA major teaching hospitals have reduced the scale of their GME programs to date in response to these trends, but COGME remains concerned that these trends will have an impact on the quality of patient care, and that excellence in education cannot be sustained in institutions where quality of care is compromised.

CONCLUSIONS

The lack of traditional accounting measures for VA hospitals and the manner in which funds are allocated through the Federal budget process complicates the analysis of the financial status of VA hospitals. Although conventional financial measures cannot be calculated directly for VA hospitals, alternative measures generally indicate that during the four years 1985-1989, the level of resources available to VA major teaching hospitals has risen more slowly than the level of revenues earned by non-VA major teaching hospitals. Because of limitations in the data available to perform this analysis, particularly the absence of a comparable case-mix measure for VA hospitals, it is difficult to determine what effect slower revenue growth has had on the VA's ability to provide quality medical services. The present analysis documents that the financial condition of VA hospitals has declined. The findings suggest a need for further research into the VA's financial status, and its impact on quality of care and its medical education mission.

Perhaps the strongest indication of financial pressures in the VA system from this analysis is that CMDE inpatient expenditures per discharge in VA hospitals increased at a significantly slower rate than Medicare revenues per case in non-VA hospitals--about 3.0 percent less annually in major teaching hospitals. Total VA hospital expenditures also grew more slowly than non-VA sector total revenues, although the differential was smaller. Thus, the rates of expenditure growth in VA teaching hospitals are significantly below the rate of revenue growth in non-federal teaching institutions. Further study is needed to determine whether these lower rates of growth have adverse implications for the ability of the VA to maintain its current teaching role in the future.

RECOMMENDATION

The importance of VA hospitals in providing medical services and offering educational opportunity to the Nation's residents necessitate a better understanding of the forces affecting the financial status of VA teaching institutions. However, better methods for measuring the relative cost, quality, and intensity of services need to be developed. Further research into changes in the VA's financial status would be assisted by development of a reliable case-mix measure for VA hospitals and more conclusive financial measures at the hospital level.

FINANCIAL STATUS OF DEPARTMENT OF VETERANS AFFAIRS HOSPITALS BETWEEN 1985 AND 1988

A. INTRODUCTION

Approximately 12 percent of GME provided in the U.S. in all specialties save OBGYN and pediatrics is conducted at VA hospitals. The VA supported 8,350 resident positions in the 1988-89 academic year and more than 30,000 residents rotated through VA hospitals as part of integrated academic medical center programs. About 90 percent of these residencies were located in the 74 VA hospitals which are members of the AAMC's Council of Teaching Hospitals (COTH). Many of the VA's major teaching hospitals are located close to a major university teaching hospital, and in some cases they are physically connected. These VA teaching hospitals provide services similar to those available in non-VA academic centers and compete with them for personnel and other local resources. Because VA hospitals play an important role in graduate medical education, their financial status has important implications for the training of future physicians.

Appraisal of the financial condition of VA hospitals cannot be performed using traditional income statement or balance sheet measures such as hospital margins or current ratios. Financial record keeping in the VA is centered around the Federal budget process, since, for all practical purposes, the Federal government is the VA's sole source of funds. VA hospitals do not fill out Medicare or other types of cost reports or track revenues and expenses in the same manner as non-Federal hospitals. VA hospitals do not receive extra revenue for treating more patients than were assumed in their budget allocation unless the Congress authorizes supplemental appropriations, and by law, VA hospitals cannot run deficits. Thus the concept of hospital margins has no meaning for VA hospitals, which operate totally within the budget process.

The number of patients treated in VA hospitals is constrained by a given year's budget allocation and the efficiency with which the hospitals use this allocation. If service demands increase faster than budget appropriations or if inflation-adjusted budget levels decline, VA hospitals can only respond by: (1) reducing the number of patients served by reducing care to patient populations of lower priority in the VA's mandate (e.g., patients with nonservice-related conditions); (2) operating more efficiently while maintaining a constant level of quality; (3) reducing the quality of care provided to each patient; or (4) allowing depletion of the institutions' capital stock.

Several other factors should be considered when comparing the VA system to the non-VA sector. The VA budget includes physician salaries while the majority of physicians working in non-VA hospitals bill separately for their services. In the context of this analysis, VA expenditures purchase both physician and hospital services while non-VA hospital revenues come primarily from providing hospital care. Thus, VA teaching hospital expenditures, while growing at a slower rate than those of non-federal teaching hospitals, must cover all costs of faculty/staff physicians as well as all other expenditures.

Approximately 63 percent of the VA medical care budget is used for salaries and benefits, compared with about 53 percent in non-VA community hospitals. While some portion of the VA's personnel costs are constrained to rates of increase well below the medical care CPI, many health professional specialties are paid by contract or at scarce specialist wage rates competitive with private sector markets.

B. METHODOLOGY

Because of the lack of traditional measures available to analyze the financial pressures on VA hospitals, a variety of alternative approaches were constructed by Lewin/ICF. These alternative measures were used to compare the rate of growth of non-VA hospital revenues to the rate of expenditure growth in VA hospitals. While each VA major teaching hospital is a tertiary acute care institution comparable to its university hospital counterpart, with fully integrated residency training programs and faculty physicians, comparison of VA and university teaching hospital financial status is hampered by the lack of a reliable, comparable case-mix measure. VA hospitals do not use the Medicare adjusted case-mix index, and their DRG-based weighted work unit (WWU) is not a comparable measure of complexity or case mix. Because of the absence of comparable cost data and without a reliable measure of relative changes in resource intensity between VA and non-VA major teaching hospitals, the implications of differences in revenue growth rates on quality of care and the continued ability to offer educational opportunities cannot be fully evaluated at this time.

Because complete budget information was not available on a hospital-specific basis, hospital-specific "case mix direct and educational" (CMDE) expenditures were used as a proxy for VA revenues when inpatient and outpatient data needed to be separately analyzed. For other analyses, total VA hospital expenditures were used and compared with net revenues in the non-VA sector. Although CMDE and total expenditures provide reasonable proxies for the rate of revenue growth available to VA hospitals, analysis of relative financial condition is limited by the lack of cost data. Moreover, the patient categorization system developed for VA hospitals does

not appear to accurately reflect changes in resource intensity. The following alternative measures were developed by Lewin/ICF to analyze the financial condition of VA hospitals:

- The rate of increase in inpatient CMDE expenditures per case in VA hospitals was compared to the rate of per-case Medicare revenue growth in non-VA hospitals.
- The rate of growth in total revenues (net of contractual allowances) in non-VA hospitals was compared with the increase in total expenditures in VA hospitals.
- The rate of growth in CMDE expenditures per unit of "patient care activities" was analyzed.
- Some personnel expenditures and staffing levels were analyzed.

All measures developed in this study were analyzed for major teaching hospitals. VA major teaching hospitals are defined as VA member hospitals in the Association of American Medical Colleges Council of Teaching Hospitals (COTH). The data analyzed include 74 VA COTH hospitals, which provide about 90 percent of the VA's residency positions. For these hospitals, there is an acute care intern/resident-to-bed ratio (IRB) of at least 0.25. Major teaching hospitals in the non-federal sector were defined as those with a resident-to-bed ratio of at least 0.25.

C. FINDINGS

FINDING 1: TOTAL "REVENUE"* GROWTH IN VA MAJOR TEACHING HOSPITALS INCREASED AT A SLOWER RATE THAN TOTAL REVENUES IN NON-FEDERAL MAJOR TEACHING HOSPITALS BETWEEN 1985-88.

1. VA Inpatient CMDE Expenditures Per Discharge Versus Medicare Per-Case Revenue In Non-federal Sector Hospitals

This analysis measured the change over time in the relative level of resources available to treat inpatient cases in the VA and non-VA hospitals. Medicare per-case inpatient revenues were used to analyze the non-VA sector because Medicare Cost Reports do not contain sufficient detail to calculate total net revenues for inpatient care only.[2] While measures of inpatient hospital revenues from all payers can potentially be developed from other data sets (e.g, the AHA annual hospital survey), this was outside the scope of the Lewin/ICF study. Although the rate of change in Medicare revenues may differ from that of other payers, it is an important public funding program and a significant source of revenues for many non-VA teaching hospitals. Therefore it is probably a relevant measure for comparison with per-case changes in the VA system.

CMDE expenditures for inpatient and outpatient services from the VA's Resource Allocation Model (RAM) were used as a proxy for VA hospital revenues. Because VA hospitals spend their full budget appropriation, expenditures closely approximate hospital revenues. CMDE expenditures include costs related to direct patient care activities, such as physician and nursing salaries, laboratory tests, X-rays, and supplies. CMDE expenditures also include educational costs, but do not include resident salaries. Although CMDE expenditures only account for about half of the costs incurred in VA hospitals, the rate of growth from year to year is roughly consistent with the rate of growth in budget authority.[3] Budget authority for inpatient care grew by 1.8 percent per year while inpatient CMDE expenditures grew by 2.5 percent. Budget authority for outpatient care grew by 10.0 percent annually compared with 10.2 percent for outpatient CMDE expenditures.

* Annual total expenditures in VA hospitals are a "revenue" measure because all appropriations are expended in the fiscal year. VA does not record revenues or accumulate margins, and annual expenditures represent the best measure of total income. They exclude capital investments for major building projects.

Observed differences in per-case revenue growth rates may be influenced by the different patient populations in each system.[4] Because estimates of per-case revenue growth would be more informative when adjusted for changes in hospital case-mix, VA CMDE were adjusted for one-half of the Medicare case mix index for PPS 1-4. This case mix adjustment was chosen because it is the same as the one used in adjusting private sector Medicare per case revenues in VA's companion major teaching hospitals. VA does not have a case mix index which functions comparably with the Medicare index in adjusting for case complexity/severity.

In order to reflect the impact of growth in inpatient case mix in the general population, both VA and non-VA sector per-case revenues were adjusted by one-half the increase in the Medicare case mix index.[5] This approach assumes some similarity in case-mix growth between the two systems, and should help to estimate the degree to which some portion of revenue growth may be required to treat an increasingly complex mix of patients.

As shown in **Table 3-1**, per-case inpatient Medicare revenues in non-VA hospitals grew faster than did CMDE per-case inpatient expenditures in VA hospitals. Medicare per-case revenues grew about 5.8 percent annually in non-federal teaching hospitals between PPS-1 and PPS-4, compared with 2.8 percent annual growth in VA major teaching hospital CMDE between 1985 and 1988. CMDE expenditures per case are lower than Medicare per-case revenues in major teaching hospitals in 1985, and the relatively slower growth in per-case expenditures in VA hospitals over the ensuing four years created a cumulative per-case revenue growth differential of 12 percentage points, a large decrement in revenue flow to VA teaching hospitals relative to their counterparts.

The rate of annual Medicare revenue growth is driven in large part by growth in service intensity, measured by the change in the average Medicare case-mix index. The Medicare case mix index rose by about 3.1 percent per year in major teaching hospitals between PPS-1 and PPS-4.[6] As discussed previously, one-half this amount was used to adjust both the VA and non-VA sector amounts. The net effect was case-mix adjusted revenues which rose by about 4.2 percent annually in major teaching hospitals in the non-federal sector. After adjusting for one-half of the change in Medicare case mix, annual revenue growth was 1.8 percent for VA major teaching hospitals.

Table 3-1
Inpatient Revenues per Discharge
(Medicare Revenue versus VA CMDE Inpatient Expenditures)

Major Teaching Hospitals	FFY 85	FFY 86	FFY 87	FFY 88	Annual Change
VA System					
Expenditure/Case	$4,139	$3,915	$4,330	$4,500	2.8%
Case Mix Adj.	$3,376	$3,129	$3,411	$3,506	1.8%

	PPS-1	PPS-2	PPS-3	PPS-4	CHANGE
Non-federal Sector					
M'Care Rev/Case	$5,211	n/a	n/a	$6,172	5.8%
Case Mix Adj.	$4,250	n/a	n/a	$4,808	4.2%

Notes

1. Medicare inpatient operating revenues per case exclude capital and direct house staff expenditures. PPS-1 through PPS-4.

2. The case mix adjustment is equal to one-half the increase in the Medicare case mix index for major teaching and nonteaching hospitals.

3. CMDE inpatient expenditures is used as a proxy for revenue in VA hospitals. CMDE expenditures include all educational costs except for residence salaries and exclude capital and indirect (administrative salaries and routine maintenance) expenses. They represent about 50 percent of total expenditures.

4. Major teaching hospitals in the VA system are defined as COTH member hospitals. The vast majority have acute care IRB ratios of at least 0.25. In the non-VA sector, major teaching hospitals are defined as having at least one resident for every four beds.

SOURCE: Lewin/ICF estimates based on data from the VA, ProPac, and MCRs.

2. Total VA Hospital Expenditures Versus Total Net Revenues in Non-Federal Hospitals

Another way to analyze the financial status of VA hospitals is to compare changes in total VA hospital expenditures to the growth in total net revenues experienced by non-VA hospitals. VA total expenditures could be used for this comparison because it did not require disaggregation into inpatient and outpatient components. Total VA expenditures include all hospital costs except capital and are more nearly comparable to non-VA total net revenue than VA CMDE expenditures because they include indirect expenses for administrative salaries and routine maintenance. Total net revenues for non-VA hospitals include payments for inpatient and outpatient services and nonoperating revenues, and were calculated using data from Medicare cost reports. Only hospitals which submitted cost reports during all four years of the PPS were included in the comparison.[7] Total expenditures in the VA system are from FFY 1985 through FFY 1988.

As **Table 3-2** shows, total net revenue in non-VA hospitals rose faster than total expenditures in the VA system between 1985 and 1988. Non-federal major teaching hospitals, experienced revenue growth of about 7.9 percent annually between PPS-1 and PPS-4, compared with VA major teaching hospitals which experienced budget growth of about 5.1 percent per year. The VA experienced faster growth in total expenditures than in CMDE inpatient per-case expenditures (5.1 percent compared with 2.8 percent) because Congress increased VA's funding for outpatient care more rapidly than inpatient care.[8]

Over the four-year period, total net revenues grew by about 26 percent in non-VA major teaching hospitals compared with a 16 percent increase in total expenditures for the VA major teaching hospitals. This differential represents a significantly lesser amount of financial resources available to these federal major teaching hospitals.

Table 3-2
Total Net Revenues in Non-federal Hospitals Versus Total Expenditures in VA Institutions
(Millions)

Major Teaching Hospitals	FFY 85	FFY 86	FFY 87	FFY 88	Annual Growth
VA System	$5,070	$5,289	$5,531	$5,883	5.1%
Non-VA	$10,923	$11,704	$12,802	$13,720	7.9%

Notes: 1) Total net revenue in non-VA hospitals include payments for inpatient and outpatient services (net of contractual allowances) and nonoperating revenues. Total VA expenditures include both direct and indirect expenses for inpatient and outpatient care. While not all non-VA hospital revenues include a specific capital allocation similar to Medicare payments, total net revenue implicitly include reimbursement for capital expense. The VA measure does not include capital expenditures.

2) Major teaching hospitals in the VA system are defined as COTH member hospitals. Almost all have an acute care IRB ratio of at least 0.25. In the non-VA sector, major teaching hospitals are defined as having at least one resident for every four beds.

3. VA CMDE Expenditures Per Unit of Patient Care Activity

Several measures of the rate of growth in revenue per unit of "patient care activity" were also examined to determine whether the funds available to VA hospitals rose or fell in relation to the amount of services provided. CMDE expenditures were compared to two measures of patient care activity: inpatient days and outpatient visits. While it is difficult to say what the rate of growth in revenue per unit of patient care activity should be, three potential comparison measures are the medical care CPI, which grew by about 6.9 percent per year over the period analyzed; the rate of growth in Federal salaries, which averaged 2.4 percent annually over the past four years; and non-VA hospital per-case Medicare revenues which grew about 5.8 percent per year over the study period.

In recent years the VA has made efforts to shift workload from the inpatient to the outpatient setting. Accordingly, the number of inpatient days in the VA system has declined by about 6 percent annually since 1985 while outpatient visits have grown by almost 8 percent per year. The change in CMDE expenditures reflects this shift; outpatient expenditures grew by about 10.2 percent annually between 1985 and 1988 while inpatient expenditures grew by only 2.5 percent per year. Table 3-3 shows that expenditures per outpatient visit grew at a rate significantly below the medical care CPI. CMDE expenditures per inpatient day appear to have outpaced medical CPI because of a combined decline of 1.6 days in average length of stay and 6 percent per year in inpatient days during 1985-88. Per case expenditures rose only 2.8 percent annually (Table 3-1) while medical CPI rose 6.9 percent.

Table 3-3
VA CMDE EXPENDITURES PER INPATIENT DAY AND OUTPATIENT VISIT

VA COTH Hospitals	FFY 85	FFY 86	FFY 87	FFY 88	Annual Growth
$/Inpatient Day	$191	$184	$225	$250	9.4%
$/Outpatient Visit	$59	$62	$62	$65	3.4%
Medical CPI	113.5	122.0	130.1	138.7	6.9%

Source: Lewin/ICF estimates based on data from the VA Division of Resource Management.

Notes:
1) CMDE expenditures per inpatient day rose faster than the medical care component of the Consumer price Index (CPI) between 1985 and 1988, reflecting the relative decline in the number of inpatient days. This increase reflects the higher intensity of treatment per day which accompanied the declining average lengths of stay in VA hospitals.

2) In the VA, the average length of stay (ALOS) for patients (less than 99 days) during Fiscal Year 1985 wa 13.8 days. ALOS declined to 12.2 days by December 1988.

3) Adjusted Medicare case-mix index.

FINDING 2: EXPENSES IN VA MAJOR TEACHING HOSPITALS ARE IN THE MAIN DRIVEN BY THE SAME MEDICAL MARKET FORCES AS THOSE OF THEIR NON-FEDERAL TEACHING COLLEAGUE INSTITUTIONS. THUS, THE REVENUE LAG EXPERIENCED BY VA HOSPITALS IS NOT MITIGATED BY RESTRICTION OF GROWTH OF EXPENSES.

VA Salary and Employment Trends

Personnel account for a greater share of total expenditures in VA hospitals (63 percent) than in non-VA teaching hospitals (53 percent). Personnel in VA hospitals are paid according to the Federal civil service pay schedule. Civil service pay increases averaged about 2.4 percent annually between 1985 and 1988, and Federal workers are subject to maximum salary caps. Such constraints on Federal salary growth might dampen the rate of increase in the costs of providing medical care in the VA system, and the VA workforce might be absorbing the majority of the difference between revenue growth in the VA and the non-VA sector. While such salary constraints may save money in the short run, over the long term this could create barriers to the recruitment of necessary staff and may lead to deterioration in the quality of care.

In fact, a recent study of relative pay differences in VA and non-VA hospitals by Klemm Associates indicates that pay levels are equivalent for most types of hospital staff, since many health profession specialists are paid by contract or at scarce specialist wage rates rather than standard federal civil service wages. The study notes that while VA salaries are, in general, similar to the rest of the marketplace, the VA cannot adjust its salary structure with sufficient speed to adapt to a changing environment, resulting in salary levels which may be out of date in certain geographic locations.[9] **Table 3-4** compares average minimum and average maximum salaries for five hospital occupations in the VA and the non-VA sector.

Although the Klemm analysis did not include some important classes of personnel, particularly physicians, it appears that in general, slower VA budget allocations have not been absorbed by low staff salaries, since VA salaries do not appear to be below "market" levels. Given VA salaries that are, on average, roughly comparable to the non-VA sector, budget shortfalls are likely to have affected personnel employment levels.

Indeed, VA has been reducing staff in its hospitals. **Table 3-5** indicates that the number of FTE personnel providing inpatient services in COTH hospitals declined by about 2.3 percent annually between 1985 and 1988. However, during the period analyzed, VA hospitals did not experience a decline in inpatient discharges, indicating relatively fewer personnel resources devoted to each patient discharged. Although the number of personnel providing outpatient services in VA hospitals increased between 1985 and 1988, outpatient workload grew even faster. Outpatient FTEs per visit declined by 1.3 percent annually in VA COTH hospitals.

Given VA salaries which are, on average, roughly comparable to the private sector, budget shortfalls appear to have resulted in a reduction in hospital personnel relative to several measures of patient workload. In addition, shortfalls are likely to have affected the procurement of supplies, maintenance, and long term capital investment.

Table 3-4
Salary Levels for Selected Occupations in The VA and Non-federal Sector
1988

Professional Occupation	VA	Private a/
Head Nurse		
Average Minimum	$29,295	$27,852
Average Maximum	39,418	39,504
Registered Nurse		
Average Minimum	22,033	22,416
Average Maximum	42,327	32,160
LPN/LVN		
Average Minimum	15,123	15,612
Average Maximum	22,213	21,012
Pharmacist		
Average Minimum	31,658	30,312
Average Maximum	39,278	40,476
Physical Therapist		
Average Minimum	28,103	24,504
Average Maximum	30,779	31,860

a/ National Survey of Hospital and Medical School salaries conducted by the University of Texas Medical Branch at Galveston.

Source: Klemm Analysis Group

Table 3-5
VA HOSPITAL FTE EMPLOYMENT PER DISCHARGE AND PATIENT VISIT
1985–1988

VA COTH HOSPITALS	FY 1985	FY 1986	FY 1987	FY 1988	AVERAGE Annual Growth
INPATIENT FTEs	46,655	46,014	45,550	43,469	-2.3%
DISCHARGES	448,777	438,346	452,632	452,097	0.2%
FTE/DISCHARGE	0.104	0.105	0.101	0.096	-2.6%
OUTPATIENT FTEs	12,128	12,696	13,702	14,267	5.5%
OUTPATIENT VISITS	11,360,670	11,650,550	13,031,113	13,882,132	6.9%
FTE/VISIT	0.00107	0.00109	0.00105	0.00103	-1.3%

Source: VA Resource Allocation Model

REFERENCES

1. Council on Graduate Medical Education. Second Report: The Financial Status of Teaching Hospitals and the Underrepresentation of Minorities in Medicine. DHHS, HRSA, August, 1990.

2. MCR Data includes net total revenue (inpatient, outpatient, and nonoperating), and gross patient revenues (before contractual allowances) for inpatient and outpatient care separately. However, net inpatient revenues and net outpatient revenues cannot be developed separately from the data in its current format.

3. CMDE expenditures were used because data on total expenditures was not available separately for inpatient and outpatient services.

4. In general, VA hospitals treat relatively more long-term psychiatric and substance abuse patients than non-VA hospitals, and many maintain nursing home units. However the acute care units are the major components of the VA's tertiary care teaching hospitals, and these units are more comparable in case mix intensity to non-federal major teaching hospitals.

5. According to the Prospective Payment Assessment Commission, approximately half of Medicare case-mix increase is due to coding practices rather than increases in service complexity. Half of the Medicare case mix index, which rose by about 2 percent annually for nonteaching and 3 percent for major teaching institutions, is roughly consistent with the Canadian case mix which has risen by about 0.5 to 1.0 percent annually and the Medicare pre-PPS case mix increase of about 0.5 per year. The Canadian and pre-PPS indexes do not reflect the PPS incentives for upcoding.

6. Case mix figures from ProPAC's June 1989 Report to Congress are for 1984 through 1987 which roughly correspond to PPS-1 through PPS-4.

7. One potential problem with this comparison is that the VA data for Federal fiscal years is somewhat more recent than the PPS Year data. VA medical care appropriations for FFY 1988 are based on a period beginning in October 1987 which technically falls into PPS-5, while non-VA hospitals in PPS-4 have fiscal years beginning primarily in October 1986, January 1987, and July 1987.

8. Between 1985 and 1988, budget authority for outpatient care rose by 10 percent annually compared with about 2 percent per year for inpatient care.

9. Klemm Analysis Group, "Study of Pay and Other Personnel Management Practices: Final Report to the Department of Veterans Affairs," May 1989.

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