

EXECUTIVE SUMMARY
ECONOMIC ANALYSIS OF HEALTHCARE COST STUDIES
COMMISSIONED BY BLUE CROSS BLUE SHIELD ASSOCIATION
February 25, 2003

I. Introduction

This Executive Summary presents the results of an extensive economic report (Economic Report) commissioned by the American Hospital Association (AHA) and conducted by Margaret Guerin-Calvert and Economists Incorporated to: (1) evaluate empirical studies conducted on behalf of the Blue Cross and Blue Shield Association (BCBSA) that examine factors that increase healthcare spending, and (2) assess the findings of these studies and the policy conclusions the BCBSA drew from them. In particular, the Economic Report focuses on the BCBSA's claims that hospital "consolidation" and "restructuring" of hospital markets¹ have contributed substantially to increased hospital expenditures as well as to overall healthcare (premium) cost increases.²

The major conclusions of the Economic Report are:

- **There is no valid empirical basis for the conclusion reached in the BCBSA studies that changes in market structure or "consolidation" have accounted for increases in spending on hospital services.**³
- **Based on a review of actual merger data and trends, hospital merger activity does not explain the increases in spending on hospital services claimed in the BCBSA studies.**
- **Increases in spending on hospital services are explained by many factors, such as increased patient volume and increased costs of providing care, rather than "consolidation" and changes in market structure.**

¹ Hospital "consolidation" and "recent restructuring of the hospital market" are not clearly defined in the BCBSA studies. Different measures of consolidation are used across and within the studies with varied types of "consolidation," including mergers, acquisitions, formation of systems (including single hospital systems), hospital closures due to failure, and consolidation of hospital facilities into fewer hospital facilities (with and without a change in ownership).

² The BCBSA summary states that "18 percent of rising inpatient costs are related to hospital consolidation, with every 1-percent increase in market share due to consolidation leading to a 2-percent increase in inpatient expenditures" and that "consolidated systems received 12% higher payments per discharge when compared to local independent hospitals." See, www.bcbshealthissues.com/costpressconf/execsum (11/13/02), p. 2.

³ The Economic Report reviews the six of the studies commissioned by the BCBSA that addressed inpatient and outpatient hospital services and focuses primarily on the study by Joel Hay: **Hospital Cost Drivers: An Evaluation of State-Level Data**, (October 15, 2002).

- **Spending on hospital care has declined as a percentage of overall healthcare expenditures. Of the increases in healthcare spending (from 1999-2001), 70% were from sources other than hospital services. Some non-hospital sectors, such as pharmaceuticals experienced larger percentage increases.**

A discussion of the report's major conclusion's follows.

II. The Economic Report Findings

A. The BCBSA studies provide no valid empirical basis for concluding that hospital consolidation activity has resulted in increases in spending on hospital services.

The primary conclusion in the BCBSA Executive Summary is that hospital consolidation and restructuring of hospital markets accounted for 18 percent of increases in spending on inpatient care in recent years and thus has significantly contributed to increased healthcare costs. The implication is that, but for hospital consolidation activity, these spending increases would not have occurred. This conclusion is not supported by the BCBSA studies or by well-documented trends in health care spending.

In particular, the 18 percent increase is not supported by the study conducted by Joel Hay (the Hay study).⁴ That study purports to draw a causal relationship between changes in "market structure" and increased spending on hospital services. As detailed in the Economic Report, the Hay study is seriously flawed and does not support the conclusions drawn by the BCBSA.

The study does not attempt to develop any well-defined antitrust markets nor does it use any valid market share or concentration measures. The study relies on state-level data and fails to recognize that state boundaries do not define relevant antitrust markets. Both federal antitrust agencies and the courts have concluded that it is appropriate to analyze the competitive effects of hospital mergers for most inpatient services in more local markets. The Hay study, however, implies that the hospitals in New York City, for example, are in head-to-head competition for all inpatient services with hospitals in Buffalo.

The study does not measure the effect of changes in hospital market structure and changes in spending over time; rather it examines differences in the level of hospital expenditures across states at a point in time. While even this analysis is flawed for the reasons set out below, such an analysis cannot be used to infer that a particular change in structure will lead to a particular change in expenditures.

⁴ Joel Hay, **Hospital Cost Drivers: An Evaluation of State-Level Data**, (October 15, 2002).

The measure of “market” structure that is employed in the study does not provide any indication of “competitiveness” in hospital markets. It does not measure the number or the shares of independent firms in any well-defined market. Instead, it uses an aggregate measure that does not account for either the number of beds held by each independent system or the number of independent hospital systems. As a result, there is no valid basis for the Hay study’s conclusion that past consolidation has led to higher expenditures on hospital services.

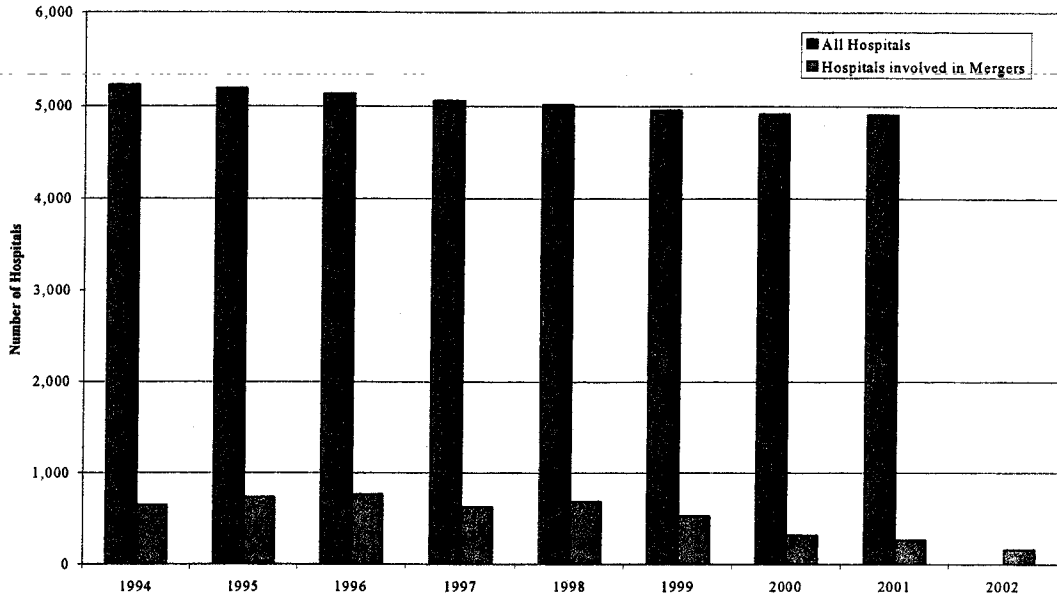
The study mistakenly assumes that differences in the “market structure” measures across states have competitive significance. The “market structure” or “concentration” measures used in this study could vary across and within states even if there were no mergers or acquisitions. For example – closure of a single hospital within a system would result in a lower “structure” measure. Similarly, the decision of a single hospital in a state to form a system would result in a higher “structure” measure. Finally, inclusion of a hospital in one city into a system located in another city in the same state would increase the “structure” measure, even if the hospitals in the two cities do not compete. The composite measure for a state will reflect all of these possibilities, as well as mergers and acquisitions in the same city. As a result, the “concentration” measure used in the Hay study provides no meaningful predictor of the likely effects on hospital expenditures or any other performance measure.

The study uses a flawed regression analysis, which in itself provides no empirical support for its conclusion that hospital consolidation accounted for 18 percent of increases spending on inpatient services. Moreover, the 18 percent number is additionally flawed by the unsound methodology that was used to derive the estimate from the regression results.

B. Based on a review of actual merger data and trends, hospital merger activity does not explain the increases in spending on hospital services claimed in the BCBSA studies.

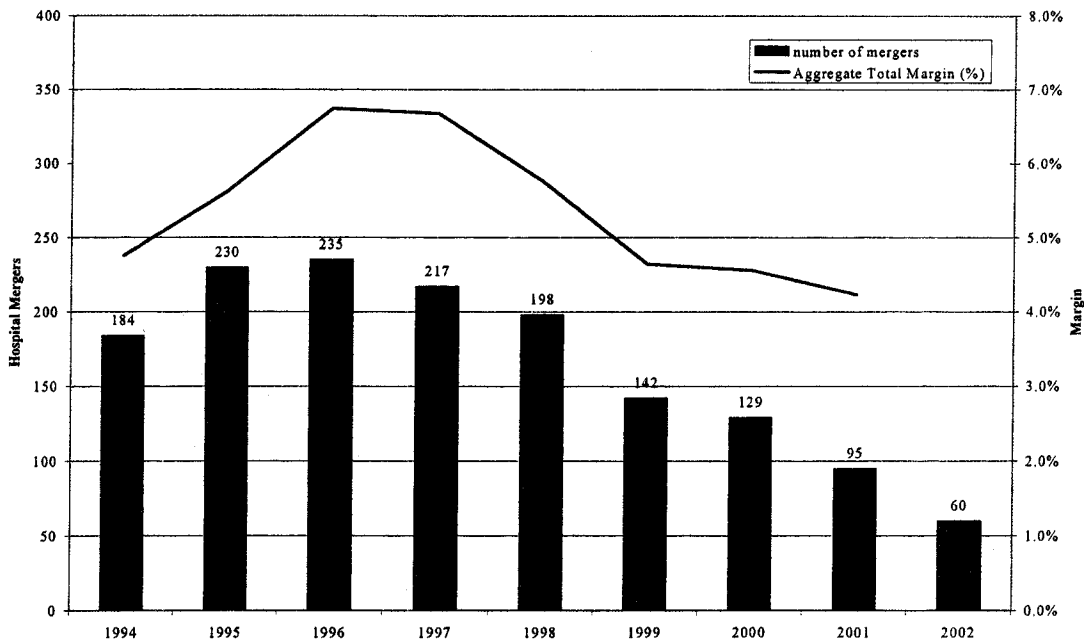
Hospital merger activity, whether measured by facilities involved or number of transactions, decreased from 1999-2001, both in total and as a percentage of hospitals. In 2000 and 2001, fewer than 6 percent of hospital facilities were involved in a transaction.

Hospitals involved in Mergers Compared with All Hospitals



Source: Analysis of American Hospital Association Annual Survey data for community hospitals and Modern Healthcare.

Aggregate downward margin trends in the hospital field over the same period (and for the 5 preceding years) are inconsistent with findings that merger activity has led to substantial profits.



Source: Analysis of American Hospital Association Annual Survey data for community hospitals and Modern Healthcare.

These downward trends are consistent with findings that increased expenses and not increased revenues have driven increased spending on hospital services.⁵

Fewer than 10 percent or 450 hospitals facilities have been involved in a merger since 1999. It is inconceivable that increased spending on hospital services at these facilities could account for the 18 percent increase in spending on hospital services that the Hay study implies are merger related. To put this problem with the Hay study in context, hospital care expenditures increased by \$57.5 billion between 1999 and 2001; 18 percent of this increase would be about \$10 billion.

Even this unrealistically high value significantly understates the problems with this result of the Hay study. A very large proportion of the mergers shown in the chart raise no competitive issues because they involved hospitals with small market shares or hospitals in different product or geographic markets. As detailed in the Economic Report as well as in statements by the antitrust agencies, mergers that were regarded as potentially raising anticompetitive issues by the antitrust agencies represent a very small fraction of the consolidation activity shown in the chart above and, therefore, at most could account for only an insignificant fraction of increased spending on hospital services.

The merger activity that occurred during the period reflected in the chart above was part of complex period in which significant numbers of hospitals experienced poor financial performance (and in some cases, even closed) and all faced increased pressure to improve services and facilities. The BCBSA studies, for example, note that 70 percent of hospitals in so-called "competitive" markets may not have financially sustainable performance in 1999-2000. Other trends during the same period, such as increased utilization of services, increased demand by consumers for more choice and less restrictive PPOs in lieu of tightly controlled HMOs, also help to explain hospital performance and spending trends.

C. Hospital cost increases can be explained by factors other than changes in market structure and consolidation.

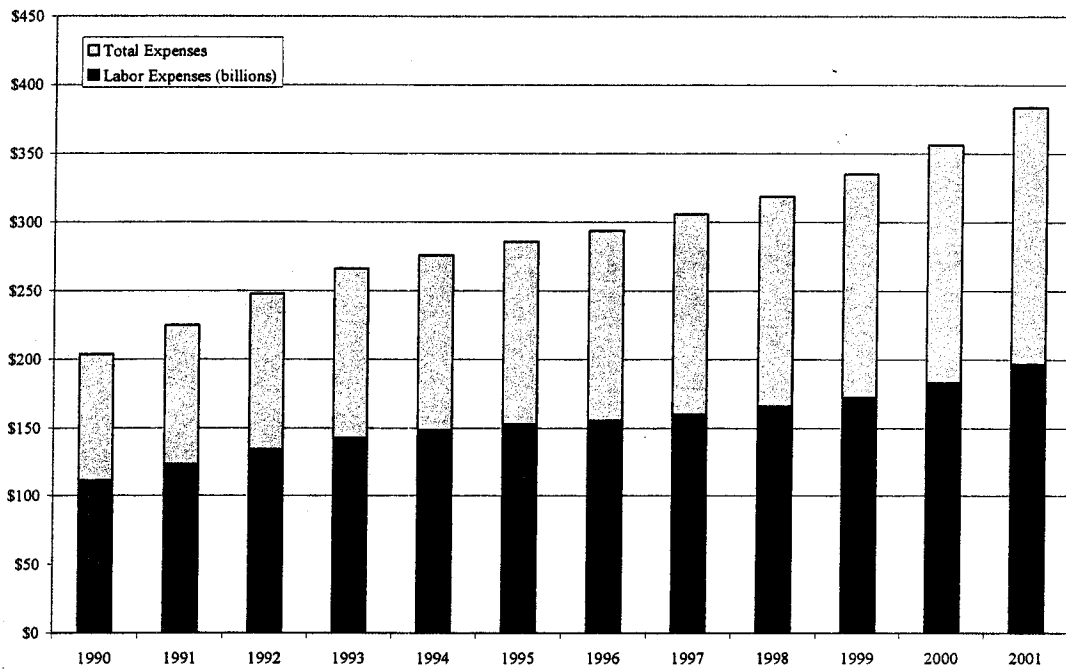
It is important to note that hospital expenditures may increase for a number of reasons, including: (1) increased input costs; (2) increased demand for and utilization of services; (3) increased prices; or (4) changes in the products or services that are purchased. Among the major contributors to increased expenditures on hospital services in 1999-2001 were input cost increases, including labor cost increases (including the effects of nursing shortages), pharmaceutical cost increases, and technology costs, as well as increased demand for services. The BCBSA studies themselves found that over 80% of expenditure increases in the hospital sector are due to these and other competitively neutral factors.⁶

⁵ The PriceWaterhouseCoopers study "Cost of Caring: Key Drivers of Growth in Spending on Hospital Care" (February 19, 2003) examines the sources of expenditure increases that stem from volume and input cost changes.

⁶ The BCBSA studies provide extensive data analysis of the varied sources of cost increases and hence expenditure increases for inpatient and outpatient services from sources such as labor costs, pharmaceuticals, and increased volumes.

As is shown in the following chart, aggregate hospital expenses (a function of demand and input costs) were increasing each year between 1990 and 2001, with a recent acceleration in the period 1999-2001 after modest percentage changes in the mid-1990s.⁷ In 2001, about half of total expenses are attributable to labor costs and these are anticipated to continue to increase due to the national shortage of nurses and other hospital workers. This is consistent with the BCBSA Summary, which identifies the other factors that contribute to the inpatient expenditure increases – the largest contributor is from hospital wages, with 20% of the cost increases attributed to such costs (and particularly to the effect of shortages in nursing staff).⁸

Total Expenses and Labor Expenses (billion \$)



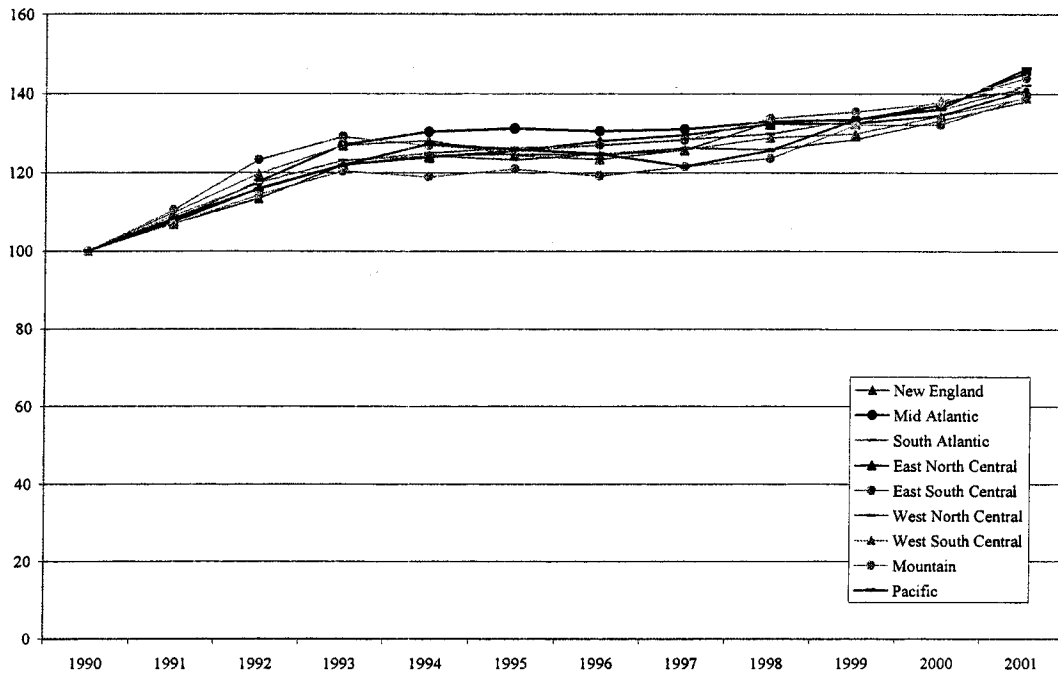
Source: Analysis of American Hospital Association Annual Survey data for community hospitals.

This trend in increased expenses, as measured for example, by the change in expenses per adjusted admission, was felt in every region of the country. While cost levels may vary due to mix of hospitals as well as regional differences in costs, the pattern of cost increases was very similar throughout the country, as depicted in the following graph:

⁷ The sources of expense increases, including the increasing volume of patients served and increased input costs, among other factors, are studied in detail in the PriceWaterhouseCoopers study "Cost of Caring: Key Drivers of Growth in Spending on Hospital Care" (February 19, 2003)

⁸ See, www.bcbshealthissues.com/costpressconf/execsum (11/13/02), p. 2.

Index (1990 = 100) of Expenses per Adjusted Admission by Region



Source: Analysis of American Hospital Association Annual Survey data for community hospitals.

Demand for services also increased. One measure of increased demand, the number of admissions, is shown in the following table. The table shows that admissions had declined somewhat in the mid-1990s and then began increasing in the late 1990s.⁹

The table also shows that Medicare and Medicaid admissions increased, both absolutely and as a percentage of total admissions. Finally, the table and the following chart show that outpatient visits have increased dramatically over the period.

⁹ There are a number of factors that are cited for increased admissions as well as increases in other measures of utilization. One of the factors, which is addressed in greater detail in the Economic Report, is the shift of consumers from HMOs to PPOs, regulatory changes, product changes and demographic factors that may increase utilization of services. There are other factors, such as shifts to outpatient services, which may offset the effect of these changes.

Hospital Admissions Trends

Year	Total Admissions	Medicare Admissions	Medicare		Medicaid		Outpatient Visits
			Admissions as % of Total	Admissions	Admissions as % of Total	Admissions	
1990	31,181,046	10,692,845	34.3%	4,381,747	14.1%	300,514,516	
1991	31,064,283	10,776,239	34.7%	4,767,762	15.3%	321,044,324	
1992	31,033,557	11,126,925	35.9%	5,159,007	16.6%	347,847,202	
1993	30,748,051	11,354,240	36.9%	5,360,368	17.4%	366,533,432	
1994	30,718,136	11,596,940	37.8%	5,465,877	17.8%	382,780,358	
1995	30,945,357	11,944,865	38.6%	5,366,258	17.3%	413,748,403	
1996	31,098,959	12,116,070	39.0%	5,254,457	16.9%	439,863,107	
1997	31,576,960	12,424,571	39.3%	4,989,342	15.8%	450,140,010	
1998	31,811,673	12,390,196	38.9%	4,689,760	14.7%	474,193,468	
1999	32,359,042	12,458,136	38.5%	4,686,123	14.5%	495,346,286	
2000	33,089,467	13,567,553	41.0%	5,210,907	15.7%	521,404,976	
2001	33,813,589	13,884,333	41.1%	5,462,091	16.2%	538,480,378	

Source: Analysis of American Hospital Association Annual Survey data for community hospitals.

Medicare and Medicaid admissions currently account for close to 60% of total admissions at hospitals and an important source of revenue for most hospitals and disproportionately for many. Reimbursements for Medicare and Medicaid in recent years have reflected a lower proportion of total costs of care, which when coupled with the costs associated with uncompensated care, have resulted in increased pressure on hospital margins and financial stability.¹⁰ In the aggregate, hospital revenues did not keep pace with the increase in expenses for hospitals.

D. More than 70% of the increase in healthcare expenditures in the period 1999-2001 was from sources other than hospital services; and some non-hospital sectors experienced larger percentage increases.

Hospital services are only one part of the overall healthcare sector in the US. The following table reports each sector's contribution to total healthcare costs in 2001.

¹⁰ In 2001, costs for Medicare, Medicaid and uncompensated care, collectively, exceeded their payments by \$23.3 billion.

**National Health Expenditures, Aggregate and Per Capita
Amounts, And Share of Gross Domestic Product**

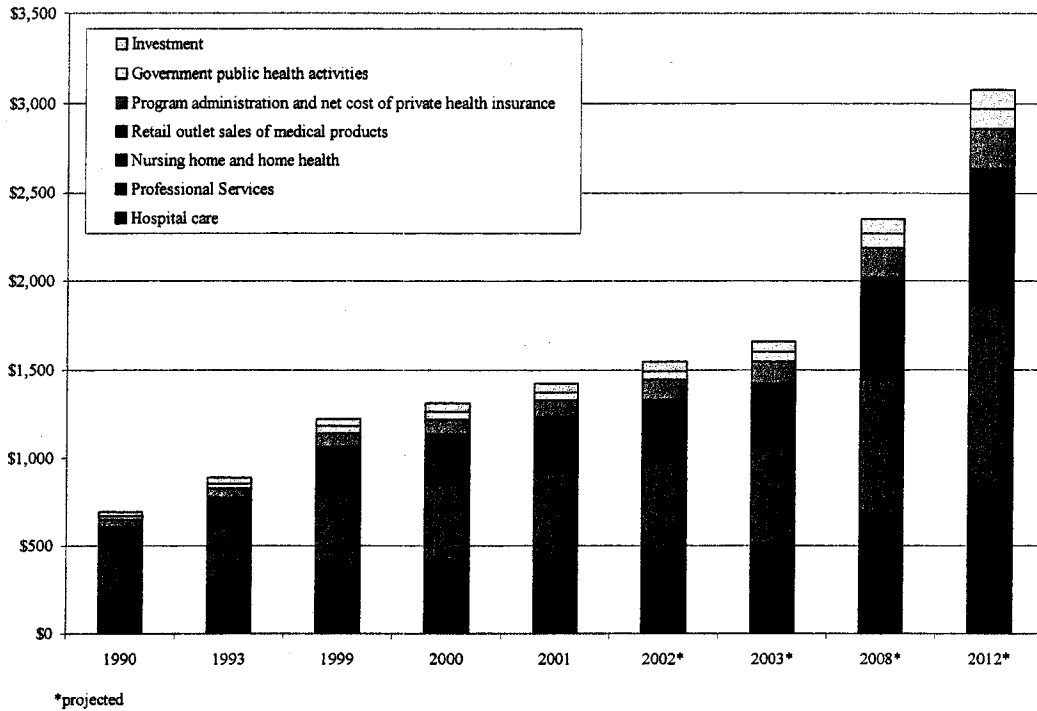
Spending Category	2001	% of NHE
NHE (billions)	\$1,424.5	
Health services and supplies	1372.6	96.4%
Personal health care	1236.4	86.8%
Hospital care	451.2	31.7%
Professional Services	462.4	32.5%
Physician and clinical services	313.6	22.0%
Other professional services	42.3	3.0%
Dental services	65.6	4.6%
Other personal health care	40.9	2.9%
Nursing home and home health	132.1	9.3%
Home health care	33.2	2.3%
Nursing home care	98.9	6.9%
Retail outlet sales of medical products	190.7	13.4%
Prescription drugs	140.6	9.9%
Durable medical equipment	18.4	1.3%
Other nondurable medical products	31.8	2.2%
Program (Government) administration and net cost of private health insurance	89.7	6.3%
Government public health activities	46.4	3.3%
Investment	52.0	3.7%
Research	32.8	2.3%
Construction	19.2	1.3%
Population (millions)	282.9	
NHE per capita	\$5,035	
Personal health care deflator	115	
Real NHE, billions of dollars	\$1,301.9	
GDP, billions of dollars	\$10,082	
Chain-weighted GDP index	109.4	
Real GDP, billions of dollars	\$9,215	
NHE as percent of GDP	14.1%	

Source: Centers for Medicare and Medicaid Services, Office of the Actuary, National Health Statistics Group; and U.S. Department of Commerce, Bureau of Economic Analysis and Bureau of the Census.

Total healthcare expenditures are projected to continue increasing over the next decade, with total expenditures in 2012 (17.7% of GDP) projected to be double the levels in 2001.¹¹ While spending on hospital care is expected to increase, it will represent a declining portion of overall healthcare expenditures – projected to drop from 31.7% of expenditures in 2001 to 27.9% in 2012. In contrast, pharmaceutical costs are expected to increase from 9.9% of overall expenditures in 2001 to 14.5 percent in 2012. The following chart, which shows graphically the magnitude of expenditure increases between 1990 and 2012, highlights the increasing influence of medical products (including pharmaceuticals) on overall healthcare costs.

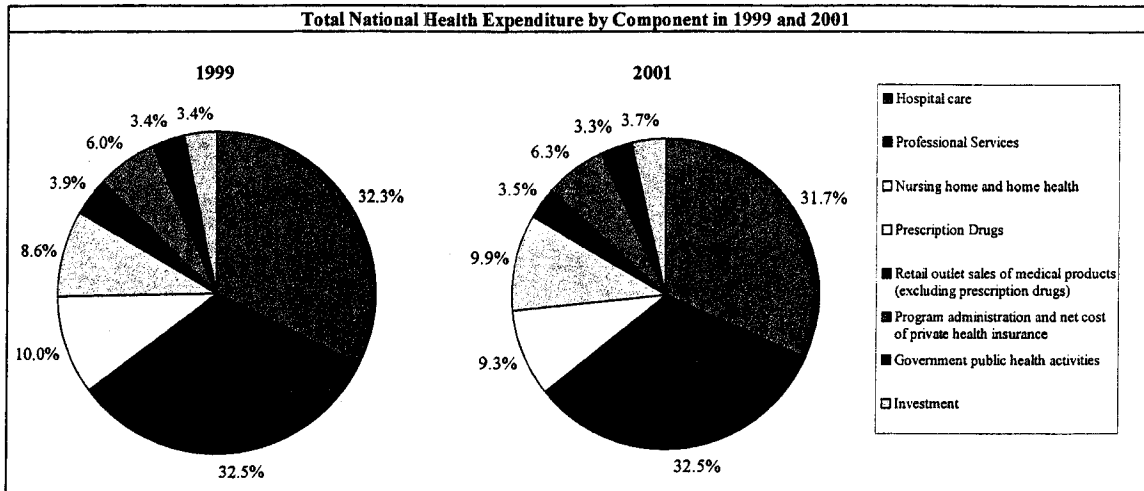
¹¹ Centers for Medicare and Medicaid Services, Office of the Actuary, National Health Statistics Group

Total National Health Expenditures by Component (billions \$)



*projected
 Source: Centers for Medicare and Medicaid Services, Office of the Actuary, National Health Statistics Group; and U.S. Department of Commerce, Bureau of Economic Analysis and Bureau of the Census.

Each of the major categories experienced large dollar increases between 1999 and 2001, with the largest percentage increases occurring in pharmaceuticals. Overall expenditures increased from \$1,219.7 billion in 1999 to \$1,424.5 billion in 2001 for a total increase of \$204.8 billion. During this period, expenditures on hospital care increased by \$57.5 billion from \$393.7 billion to \$451.2 billion. Increases in spending on hospital care thus accounted for about 28% of healthcare spending increases over the period 1999-2001. Over 70% of the increases in spending were attributable to other categories of expenses. Prescription drugs increased from \$104.4 billion in 1999 to \$140.6 billion in 2001; the change in prescription drug costs accounted for about 18% of the increase in healthcare expenditure between 1999 and 2001. Thus, while hospital expenditure increases represent a substantial portion of the total increase, they did not account for the majority of the increases in total expenditures in the last few years.



Source: Centers for Medicare and Medicaid Services, Office of the Actuary, National Health Statistics Group; and U.S. Department of Commerce, Bureau of Economic Analysis and Bureau of the Census.

E. Conclusions

The BCBSA conclusions about the effects of hospital consolidations are not supported by their studies and in important respects are either contradicted by or inconsistent with one or more of them. The BCBSA studies recognize that over 80% of the increases in spending for inpatient and outpatient hospital services are attributable to causes other than hospital “consolidation,” such as high labor and pharmaceutical costs. The one study the BCBSA relies on to demonstrate that the remaining expenditure increases are attributable to “consolidation” provides no valid empirical analysis, lacks a conceptual antitrust foundation, employs a flawed econometric analysis, and finds counterintuitive results.

A review of recent merger trends and hospital financial performance further undercuts the BCBSA’s conclusions about the effects of hospital “consolidation.” Both the rate of mergers and aggregate total margins for hospitals declined over the period covered by the BCBSA studies, 1999-2001. These findings are inconsistent with the BCBSA’s conclusion that hospital mergers have led to substantial increases in profits by means of anticompetitive use of market power. Instead, these findings are consistent with other findings in the BCBSA studies and other recent studies that indicate that increased spending on hospital services is driven primarily by increased expenses, such as labor costs.

Evaluating trends in spending on hospital services is more complex than in many other sectors. Assessment of revenue increases, in particular, need to take into account increases due to changes in the quantity of service provided, increased demand for services – more patients, more services, more expensive services, longer stays for sicker patients – and increases in prices of inputs such as labor or technology. The price for any particular service may change for a variety of reasons; the significant reason is the underlying pressures on the cost side of the hospital.

Recent years have been marked both by dramatic increases in input costs and increased pressure on most hospitals to cover the costs associated with plant maintenance and improvement. Trends in managed care, government reimbursement and uncompensated care have also been significant factors affecting hospitals. As a result, many hospitals are grappling with poor financial performance. These trends and related data provide useful background and valuable context for evaluating the hospital sector, including assessment of the rationale for and potential gains from mergers and consolidation. These trends do not, however, indicate either that past hospital merger activity and changes in hospital market structure due to “consolidation” have resulted in price increases or that greater antitrust enforcement activity is required in the hospital sector.