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Financial Performance of Hospitals in Maine, 1993-2003

by Nancy Kane



Hospitals are the largest single component of healthcare expenditures. Nancy Kane's study of hospital financial performance fulfills a mandate of the Dirigo Health Reform Act. By most financial measures, Maine's hospital industry outperformed hospitals nationwide and in the Northeast during 1993-2003. Still, there is major variability among the state's hospitals in financial performance. Kane analyzes financial and nonfinancial characteristics of high-, medium-, and low-performing hospitals, and suggests that not maintaining acute inpatient volume is the biggest problem for low-profitability hospitals. Although no hospital is in imminent danger of failing, Kane suggests a new "blueprint" is needed for Maine's healthcare system, before financial crisis and loss of access occurs. In their commentaries on Kane's article, Mary Mayhew provides the perspective of the Maine Hospital Association, and D. Joshua Cutler gives his insights as a physician member of the Commission to Study Maine's Hospitals. 



Sponsored, in part, by the *Maine Health Access Foundation*, an organization committed to promoting affordable and timely access to comprehensive, quality health care, and to improving the health of every Maine resident.

INTRODUCTION

In response to concerns about healthcare cost, quality, and affordability, in May 2003 state policymakers passed the Dirigo Health Reform Act, a comprehensive law aimed at expanding affordable coverage to high-quality care for all. Under this law, all parties, from patients and providers to insurers and employers, are required to play a role. For example, the hospital sector agreed to one-year voluntary limits on unit cost increases (3.5%) and consolidated operating margins (3%) as part of its contribution to implementing Dirigo Health. Hospitals are the largest single component of health expenditures, representing 35-40% of spending. Therefore, much effort is going into understanding the role hospitals play in allocating scarce health resources in Maine.

Over the last decade, Maine's hospitals have generally done well financially.¹ By most measures of financial health, the state's hospital industry has outperformed hospitals in the Northeast and in the country. At the same time, healthcare cost growth is accelerating in Maine and elsewhere. Employers are concerned about the high cost of health premiums in Maine, and many are increasing the amount that employees must pay out of pocket for insurance coverage. In addition, Maine has one of the highest tax burdens relative to personal income in the country. State and federal government finances close to 50% of all health spending, primarily through its Medicare and Medicaid (MaineCare) programs (Wolf 2003). Affordability is a major concern.

As part of the state's cost, quality and access initiative, the Dirigo Health Reform Act established the Commission to Study Maine's Hospitals, whose duty is to provide a "report on a comprehensive analysis of hospital costs, roles, reimbursement, capital needs, and opportunities," and to make policy recommendations. A study of Maine hospitals' financial performance was commissioned to assist this group and the Governor's Office of Health Policy and Finance in their planning process. Presentations prepared for these groups are available to the public (www.dirigohealth.maine.gov). This article summarizes the hospital financial performance study for a general policy audience. Here, we address a number of key questions about the financial

performance of Maine's 36 acute-care nonprofit hospitals:

How profitable have Maine hospitals been over the last decade, in aggregate?²

Where do aggregate hospital financial resources come from and where do they go in Maine?

Are there major differences in the profitability of hospitals within Maine?

What are the nonfinancial characteristics of hospitals with stronger versus weaker profitability?

How is third-party payer mix related to the profitability of hospitals?

What role does inpatient volume play in understanding the profitability of hospitals?

To what extent does uncompensated care affect the profitability of hospitals?

How do hospitals with strong profitability differ from others in terms of liquidity, solvency, and ability to maintain property, plant, and equipment?

What do financial performance differences imply in terms of access, cost, and quality of care, particularly for underperforming hospitals?

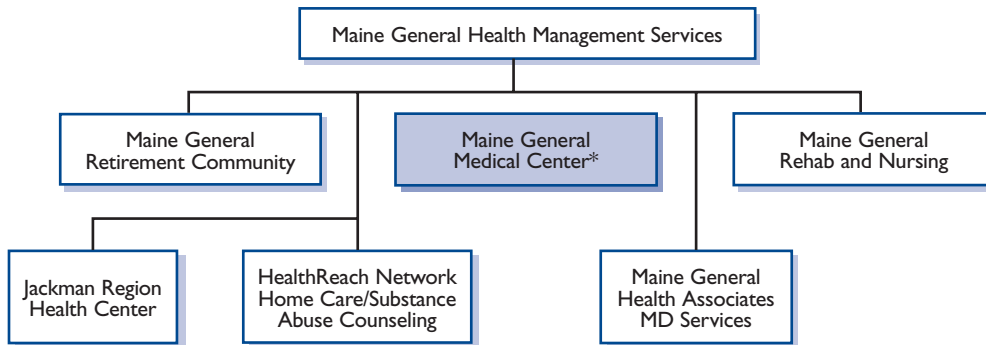
What policy issues arise from an in-depth analysis of hospital financial performance in Maine?

DATA SOURCES AND METHODS

The focus of the financial analysis in this article is on the hospital entity. Over the last decade, Maine hospitals have consolidated into complex corporate structures, some of which include multiple acute hospitals, mental and rehabilitation hospitals, physician practices and health centers, long-term care facilities,

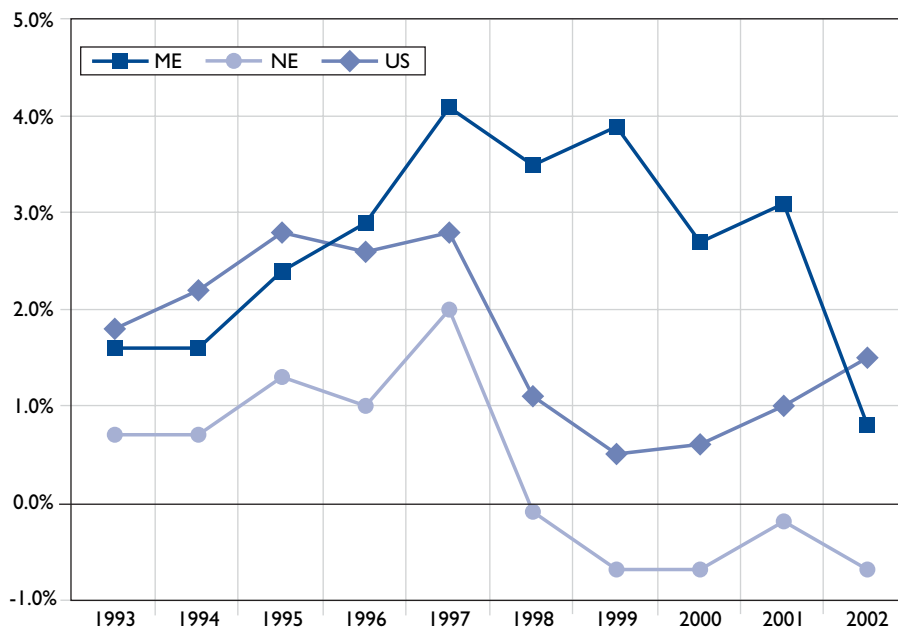
By most measures of financial success, the state's hospital industry has outperformed hospitals in the Northeast and in the country.

FIGURE 1: Example: Corporate Structure of a Health System in Maine



*The acute-care hospital component, Maine General Medical Center, is the result of a merger of Kennebec Valley and Mid-Maine Medical Centers, with locations in Augusta and Waterville.

FIGURE 2: Hospital Median Operating Margins, Maine, the Northeast and the United States, 1993-2002



housing and real estate activities, and other health- and non-health-related entities. In most instances, acute-care hospitals are the largest and most profitable components in such systems. They usually are the source of cash and sometimes noncash support (e.g., loan guarantees, suppliers of management and other personnel) for their “related entities,” which are the other organizations linked to their system through common governance and control mechanisms. Figure 1 shows a simplified example of the corporate complexity in Maine, using the Maine General Health system as of 2003.

While nonhospital entities are financially important, the approach in this article is to focus on the hospital entity alone, while showing the financial impact of the broader system upon the hospital. This enables the comparison of apples-to-apples, since hospital affiliations vary considerably from system to system.

Financial information is derived from audited financial statements, particularly the consolidated statements of individual hospitals within larger corporate systems. Reported data were standardized into a uniform format that is in accordance with generally accepted accounting principles to enable comparisons across hospitals and over time.

HOW PROFITABLE HAVE MAINE HOSPITALS BEEN OVER THE LAST DECADE IN AGGREGATE?

One widely used financial measure of profitability is *operating profit margins*, that is, the profit margin hospitals make by providing health-care services to patients. This excludes the revenues hospitals earn from their

TABLE 1: **Maine Hospital Aggregate Cash Flows, 1993-2003**

SOURCES OF CASH	\$000	% TOTAL	USES OF CASH	\$000	% TOTAL
Cash operating profits	1,266,806	66%	Expenditures on property, plant, equipment	1,312,119	68%
Cash from investment income and other nonoperating revenues	391,342	20%	Transfers to other system entities	311,298	16%
Donations for capital spending	74,819	4%	Increase in cash (mostly) and working capital	263,120	14%
Borrowing from external lenders	146,081	8%	Increase other assets	30,760	2%
Other sources of cash	38,249	2%			
TOTAL	1,917,297	100%	TOTAL	1,917,297	100%

investment portfolios or investments in other entities, so it is a relatively straightforward measure of how hospitals are doing in their central mission of providing health services in exchange for payment from patients and their insurers.

According to Figure 2, over the decade 1993-2002, the median (50th percentile) operating margin in Maine (ME) has been above the U.S. median in six of the last 10 years, and above the median operating margin for the Northeast (NE) for all 10 years.³ This operating profitability fueled the financial strength of the industry throughout the decade.

While hospitals in the rest of the country experienced declining and relatively lower margins between 1997-2000, Maine's hospitals generally remained strong. The national decline was at least partly a result of competitive contracting by managed care companies, a phenomenon that largely bypassed Maine. Low managed care enrollment and the consolidated hospital systems in Maine reduced the opportunity to create a competitive market system and helped maintain robust hospital operating margins.⁴ The level of aggregate operating profits in Maine over the last decade was more than adequate to cover reasonable hospital financial requirements, as the next section will demonstrate.

WHERE DID THE RESOURCES COME FROM AND WHERE DID THEY GO?

Over the past decade in Maine, hospital cash operating profits plus investment income were used to reinvest in hospital property, plant, and equipment, and to increase cash balances and working capital. Some

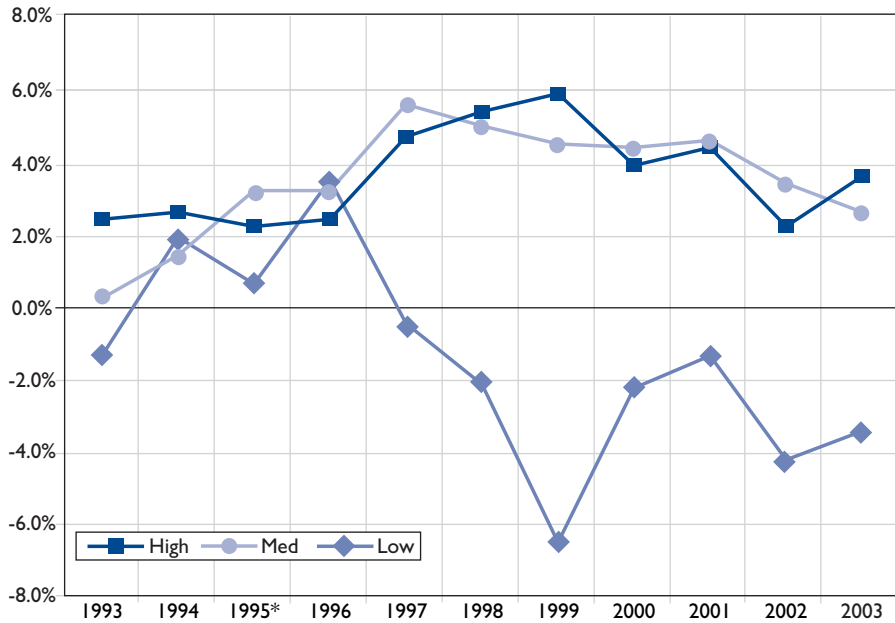
funds were used to acquire or financially maintain other entities in the corporate system. Table 1 summarizes where the aggregate profits made by hospitals came from and where they went over the decade in terms of cash flows.

The level of aggregate operating profits in Maine over the last decade was more than adequate to cover hospital financial requirements... .

Table 1 presents a very positive aggregate financial picture. Hospitals were able to finance internally all of their \$1.3 billion in capital expenditures (68% of cash uses), mostly from cash operating profits (66% of cash sources). In the aggregate (meaning, as a group), they did not need to borrow any cash to maintain their property, plant, and equipment. Because hospitals also had growing resources invested in marketable securities (e.g., stocks and bonds), they generated substantial investment income (20% of cash sources), which helped to finance over \$300 million in transfers to other system entities (16% of cash uses), especially to physician practices acquired by the systems.⁵

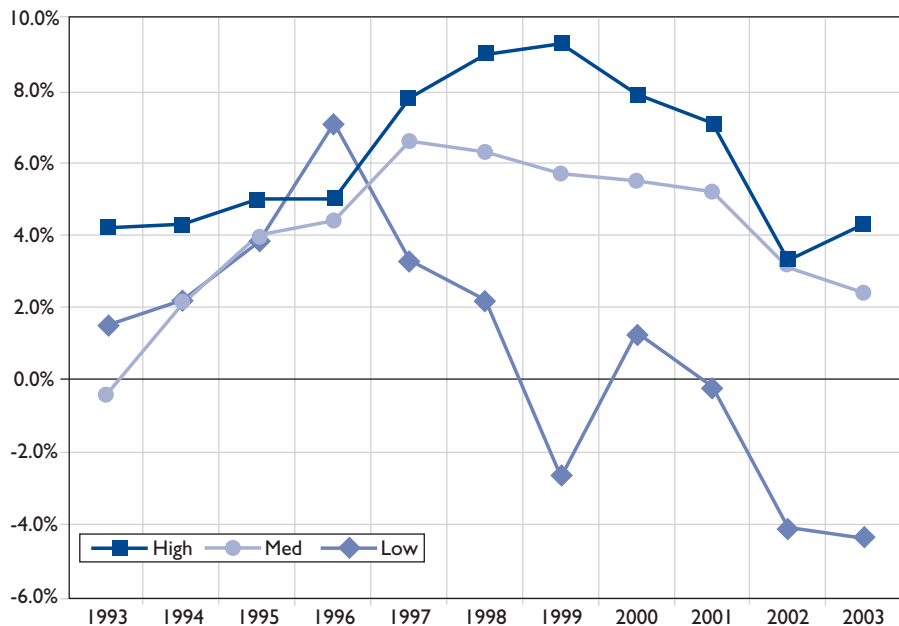
Even after capital expenditures and affiliate transfers, aggregate cash balances (including marketable securities) grew by over \$270 million (14% of total cash uses).

FIGURE 3: Average Maine Hospital Operating Margins by Financial Performance Group, 1993-2003



*1995 is the year that state rate regulation ended.

FIGURE 4: Average Maine Hospital Total Margins, by Financial Performance Group, 1993-2003



Recent research has found that non-profit hospitals do not impose limits on the accumulation of cash, unlike investor-owned hospitals, which are subject to market-imposed limits (Rivenson 2004). There is ongoing debate over whether the accumulation of cash balances beyond working capital and creditor requirements is an appropriate or efficient use of charitable assets, given the problem of affordability of health insurance, but no policy conclusions have yet emerged.

The level of cash accumulated by Maine hospitals was fairly typical of what was going on in nonprofit hospitals nationally at the same time, especially during the stock market boom of the mid-to-late 1990s. As of 2003, the median level of days cash on hand was about 70 days, with a range of four to 305 days.⁶

Philanthropy, in the form of donations for buildings and equipment, while important sources of community support, provided only 4% of total cash sources over the decade.⁷ Borrowing from external lenders provided only 8% of cash sources. Thus, in the aggregate, the bulk of resources required for hospitals to maintain plant and equipment, and to acquire and maintain extensive corporate system entities, came from internally generated sources, not borrowing or philanthropy.

ARE THERE MAJOR DIFFERENCES IN THE FINANCIAL PERFORMANCE OF HOSPITALS WITHIN MAINE?

While the aggregate picture of the hospital industry in Maine is financially robust, there is significant

variation in performance within the industry. In order to give a clear picture of financial conditions and reasons for variability, hospitals were divided into three groups based on their most recent five years of operation and profitability. Figure 3 shows the operating profits of the hospitals separated into high-, medium-, and low-performance groups.

There are 12 hospitals in the high-performing group, 12 in the medium-performing group, and 12 in the low-performing group. The low performers appear to have struggled financially, even before the lifting of Maine hospital rate controls in 1995. While they enjoyed a few years of operating profitability from 1994-1996, the group average turned negative by 1997 and stayed there through 2003. The other two groups performed quite well, particularly after rate controls were removed, reaching peak operating profitability in 1998 and 1999 before dropping back to the 1995-1996 level in 2002. Another good year for the high performers was 2003, but the average for the medium performers continued to decline.

When investment income (on marketable securities and cash balances) and other nonoperating revenues are added to the operating profit margin, we see a wider spread in performance between these three groups in the 1997-2003 period. This combined margin is known as the *total margin*. As can be seen in Figure 4, the high performers did better, on average, than the medium performers when investment income is added to their margins, especially in the 1998-2001 period, but also in the regulatory period (1993-1995). The total margin decline since 1999 was partly a reflection of the decline in the stock market in the 1999-2002 period. While the high and medium performers maintained positive total margins from 1994 on, the low performers still did not break even in four of the last five years (1999-2003).

WHAT ARE THE NONFINANCIAL CHARACTERISTICS OF HOSPITALS WITH STRONGER VERSUS WEAKER PROFITABILITY?

Another way of looking at financial profitability is to look at the nonfinancial characteristics of hospitals, including their location in the state, size (i.e., number of

TABLE 2: **Financial Performance Group by Nonfinancial Characteristics**

FINANCIAL PERFORMANCE GROUP	HIGH	MEDIUM	LOW
Region*			
North (% Region)	3 (15%)	8 (42%)	8 (42%)
Central (% Region)	5 (63%)	3 (37%)	0
South (% Region)	4 (44%)	1 (12%)	4 (44%)
Critical Access Hospital	0	2 (25%)	6 (75%)
Staffed Acute Beds 2001, Average	140	101	52
Acute Occupancy 2001, Average	56%	50%	38%

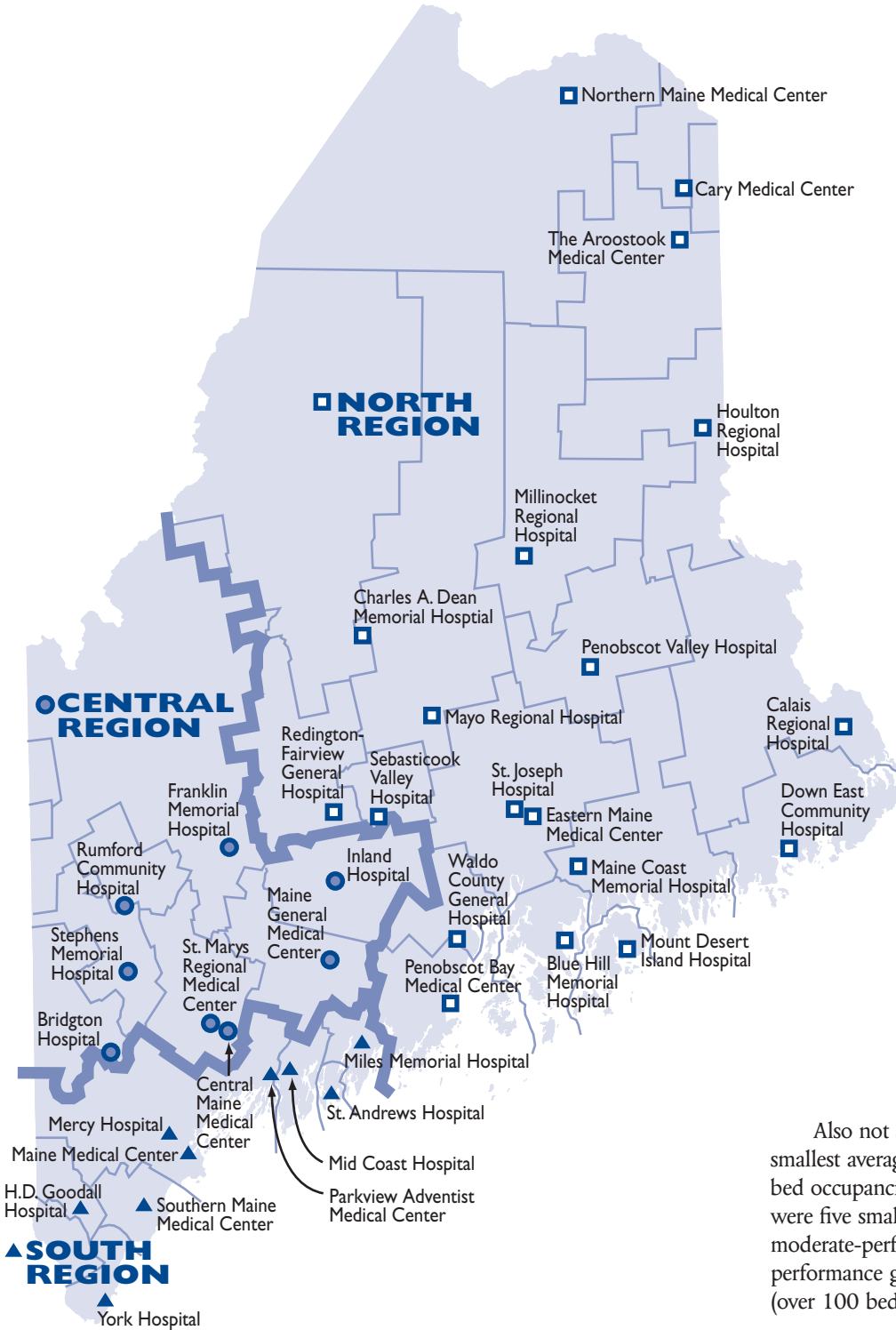
* Region defined by Regional Resource Center Catchment Area; see Figure 5 for the regional map.

Numbers in **bold** represent group averages that are different at the .05 level of significance.

staffed, acute beds), occupancy rates for acute beds, and status as a critical access hospital (CAH). A critical access hospital is a small facility—25 beds or less—that gives limited outpatient and inpatient hospital services, including around-the-clock emergency care, to people in rural areas and maintains an average length of stay of no more than 96 hours. There are eight such hospitals in Maine, six in the northern region and one each in the central and southern regions.

Table 2 presents selected nonfinancial characteristics of the low-, medium-, and high-performance groups of hospitals. In terms of location (see map, Figure 5), hospitals in the central region are the healthiest, with two-thirds in that region falling into the high-performance category, and one-third into the medium-performance category.⁸ Hospitals in the south region are distributed across the financial categories, with 44% in the high-performance category, 12% in the moderate, and 44% in the low-performance category. The population in the south region is closest to the hospitals and providers in other states (New Hampshire and Massachusetts), and is the home of Maine Medical Center, the largest and most tertiary hospital in the state. Because of this, the region could face greater competitive pressures, even with fewer acute staffed beds per 1,000 population than in the central region (2.4 beds/1,000 in the south vs. 2.7 in the central region).

FIGURE 5: State Health Plan Regions



The highest number of low performers in the state is found in the north region. Only three of the 19 hospitals in the north region fell into the high-performance group. Despite having the greatest number of hospitals, the majority of hospitals in the north region are small, and the north has the lowest ratio of staffed acute inpatient beds, only one per 1,000 population. If hospitals in the low-performance group begin to fail, populations in that region are most vulnerable to experiencing access problems. Six of the eight critical access hospitals are in the north, a further indication that there should be concern over access issues in that region.

Critical access hospitals are, not surprisingly, more likely to be in the low-performing group than any other, and none made the high-performance group. Critical access status has only recently been granted, and most hospitals have only been CAH for a year or two. For those in the first wave of CAH status, profits in particular have not changed markedly. A couple of CAH hospitals are surviving primarily on transfers from affiliated hospitals and/or nonoperating gains/support.

Also not surprising, the low performers had the smallest average bed sizes and lowest average acute bed occupancies of the three groups. However, there were five small (50 beds and under) hospitals in the moderate-performance group, and three in the high-performance group. Also, one relatively large hospital (over 100 beds) fell into the low-performance group.

Low occupancy also does not automatically result in poor financial performance. The acute occupancy range in the high-performance group was 40-77%, while in the low-performance group it was 10-66%.

HOW DOES THIRD-PARTY PAYER MIX RELATE TO THE PROFITABILITY OF HOSPITALS?

There were some significant differences in payer mix percentages by profitability group, as Table 3 shows. Results will be discussed by payer.

Medicare

The high performers had significantly lower Medicare inpatient revenue percentages than did the low or medium performers; while the medium performers had significantly higher Medicare outpatient percentages of revenue than the high performers. However, the low and medium performers were not statistically different from each other for inpatient or outpatient Medicare percentages. This indicates that having a relatively high percentage of gross inpatient revenues from Medicare is not enough, by itself, to put a hospital into the low profitability category.

...having a higher proportion of Medicaid patients does not appear to be a driving force for low profitability in this period [1999-2003].

Medicaid

The low performers had a statistically significant and lower percentage of inpatient revenue from Medicaid. The medium and high groups were not significantly different in the percentage of their inpatient revenue from Medicaid. For outpatient care, there were no statistically significant Medicaid percentage differences between the groups. Thus, having a higher proportion of Medicaid patients does not appear to be a driving force for low profitability in this period.

TABLE 3: Financial Performance Group by Hospital Payer Mix

FINANCIAL PERFORMANCE GROUP	HIGH	MEDIUM	LOW
Average % inpatient gross revenue, 1999-2003			
Medicare	57.8%	61.1%	64.5%
Medicaid	11.4%	12.6%	8.9%
Other Payers	30.8%	26.3%	26.6%
Average % outpatient gross revenue, 1999-2002			
Medicare	31.5%	36.8%	35.2%
Medicaid	11.8%	13.4%	12.1%
Other Payers	56.7%	49.7%	52.7%

Source: Maine Health Data Organization

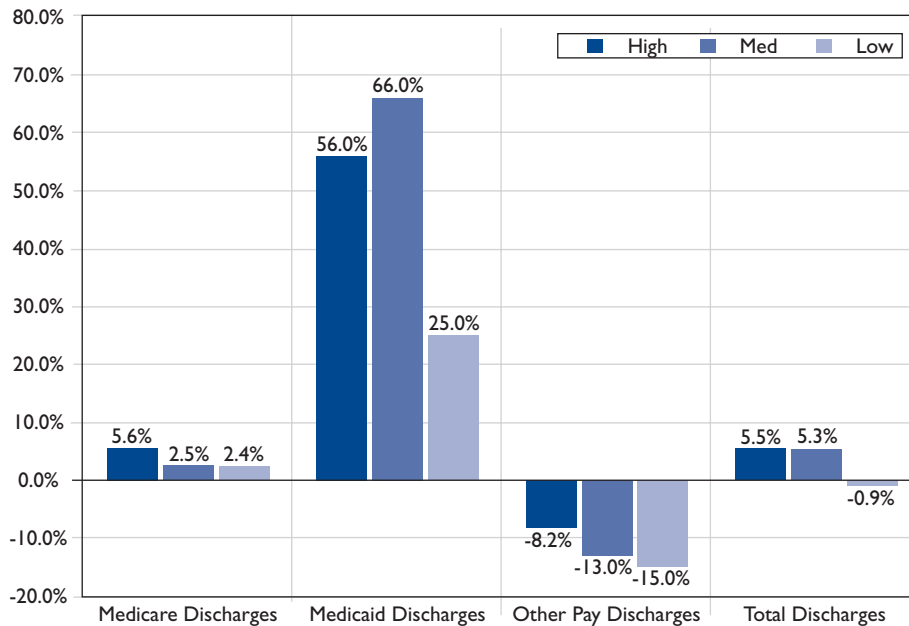
Numbers in **bold** are statistically different from the nonbold numbers at the 1% level.

Other Payers

The high-performance hospitals had significantly more “Other Payers” (largely privately insured patients) than did the medium and low performers. This held true in both the inpatient and outpatient categories. But the medium performers had the lowest average percentage of “Other Payers,” and still outperformed the low performers. Thus, having a high percentage of “Other Payers” helps explain why the high-performance group did so well, but does not explain why the low-performance group did worse than the medium-performance group.

“Cost-shifting” is often blamed as the source of high prices faced by employers paying private insurance premiums. Cost-shifting in this instance describes the practice of obtaining higher payment-to-cost ratios from the private sector to offset shortfalls when payments from public sector patients (Medicare and Medicaid) are below “cost.” Historically, private sector payers have paid higher payment-to-cost ratios than have public payers, although the private sector ratio declined nationally during the 1990s under managed care contracting.

FIGURE 6: Percentage Change in Number of Discharges, 2003 Over 1999, by Hospital Financial Group and Payer Class



Source: Maine Health Data Organization

Not maintaining acute inpatient volume, regardless of payer mix, may be the biggest problem facing the low-profitability group.

This analysis shows that the hospitals in Maine with the highest proportion of private payers (the high performers) achieved superior profitability. However, the medium performers, which have the least ability to cost shift (the lowest proportion of private-pay patients), achieved very reasonable profitability as well as solid performance on other financial measures (discussed later). The high performers may well be “cost-shifting” to their privately insured patients, but not just to cover

operating cost shortfalls on public patients; they achieved higher profits, cash balances, and capital spending than would have been possible with less cost-shifting.

WHAT ROLE DOES INPATIENT VOLUME PLAY IN UNDERSTANDING THE PROFITABILITY OF HOSPITALS?

Volume is a factor in understanding the differences in profitability among the three groups, as seen in Figure 6. The low performers had the lowest aggregate growth in the total number of discharges in all three payer classes over the period 1999-2003. Statewide, there was a reduction in the number of other payer discharges and a fairly large increase in the number of Medicaid discharges. The high and medium performers absorbed most of the growth in Medicaid. The low performers had the greatest loss in other payer discharges over the period 1999-2003.

The trend in total discharges is perhaps the most telling difference between low performers and the other two performance groups. While the higher profitability groups experienced a roughly 5% increase in discharges in 2003 over 1999, the low profitability group had 0.9% fewer discharges in 2003 than in 1999. Not maintaining acute inpatient volume, regardless of payer mix, may be the biggest problem facing the low-profitability group. Why this is happening should be a focus of the Dirigo state health planning process. Are these hospitals no longer needed for acute inpatient care (e.g., population declines, a shift to outpatient care), or are there factors such as shortages in specialists or technology/equipment that account for the lack of inpatient volume growth in the low-performance hospitals?

TO WHAT EXTENT DOES UNCOMPENSATED CARE AFFECT THE PROFITABILITY OF HOSPITALS?

Uncompensated care falls into two types: *free care* and *bad debt*. Free care (also known as charity care) represents services provided for which payment was never expected and is not pursued from the patient. Hospitals value free care at charges on their financial statements, which is different from the cost of providing the care. Bad debt represents service charges for which a hospital expected to collect but does not receive payment. Bad debt also is valued at charges.

Figures 7A and 7B show the distribution of free care among the hospital financial performance groups. Figure 7A shows that free care (valued at gross charges) is a small and declining percentage of hospital gross revenues across the three groups, with all three groups providing roughly the same level of free care, between 0.8% and 1.6% of gross revenue. Figure 7B shows that the bulk of free care provided, valued at cost, is provided by the high-performing group (52%); this is fairly consistent across the years of this analysis. Thus, it does not appear that the burden of hospital free care falls disproportionately upon the low performers. It would not be the primary driver for their relatively poor operating and total margins.

Figures 8A and 8B show that the highest burden of bad debt expense appears to fall on the high-performance group, while the low-performance group has a more erratic but generally lower ratio of bad debt expense to gross patient service revenue. As with free care, the bad debt burden (valued at cost) falls most heavily on the high-performance hospitals. The low-performance hospitals have a slightly higher share of bad debt (15%) than they do of free care (12%). Why there is this difference is not clear; it could have to do

FIGURE 7A: Free Care as a Percentage of Gross Patient Revenue, Average Values by Financial Performance Group, 1993-2003

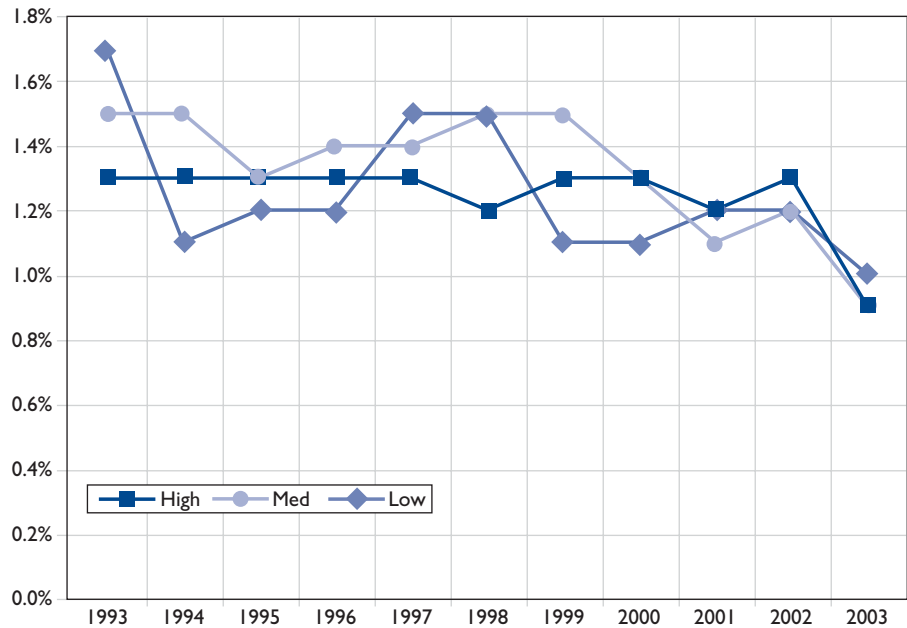


FIGURE 7B: Free Care at Cost in Aggregate, by Financial Performance Group, 2003

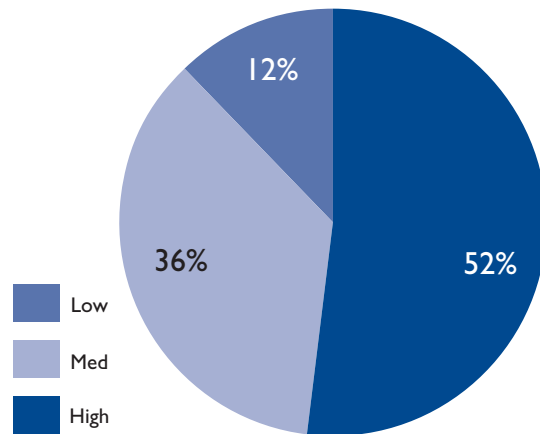
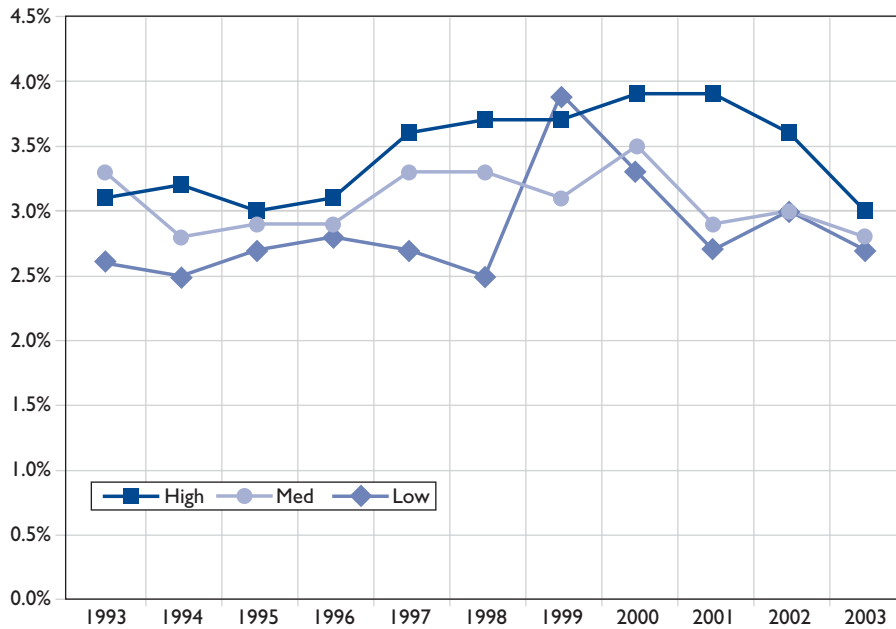


FIGURE 8A: **Bad Debt as a Percentage of Gross Patient Service Revenue, Average Values by Financial Performance Group, 1993-2003**



with service mix or the income levels of the hospital service area, the types of insurance products sold, or with differences in how patients might qualify for or find out about free care.⁹

HOW DO HOSPITALS WITH STRONG PROFITABILITY DIFFER FROM OTHERS IN TERMS OF LIQUIDITY, SOLVENCY, AND ABILITY TO MAINTAIN PROPERTY, PLANT, AND EQUIPMENT?

A key liquidity measure is days cash on hand (Figure 9). This measures how many days a hospital can go without collecting any revenue and still be able to pay its cash operating expenses. For this performance measure, the low performers kept up with the high performers until 1998,

when their cash balances went on a rapid downward trajectory. This was due partly to the loss in market value of investments in the stock market, but also partly to the lack of operating profits as a source of cash to maintain plant. The poor performers could not save cash because they needed to spend it on capital needs. The medium performers never accumulated the levels of cash of the other two groups; this was partly because they transferred relatively more of their total cash to affiliates (18% of total cash uses) rather than keeping large cash balances on hand.

The high performers lost roughly \$33 million in the value in their marketable securities holdings as stock market values declined between 1999 and 2002; the 2003 recovery is captured by the uptick in days cash on hand for the high performers, part of which came from recovering some of the unrealized losses suffered earlier. Still, at year end 2003, this group had between 52-306 days cash on hand, although only three hospitals had over 150 days cash on hand.

Solvency ratios measure the ability of the hospital to pay back its long-term debt or mortgages. Figure 10 shows the equity financing ratio, which is the

FIGURE 8B: **Bad Debt at Cost, in Aggregate, by Financial Performance Group**

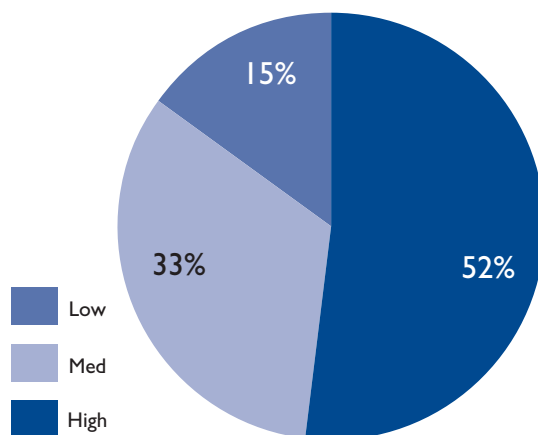
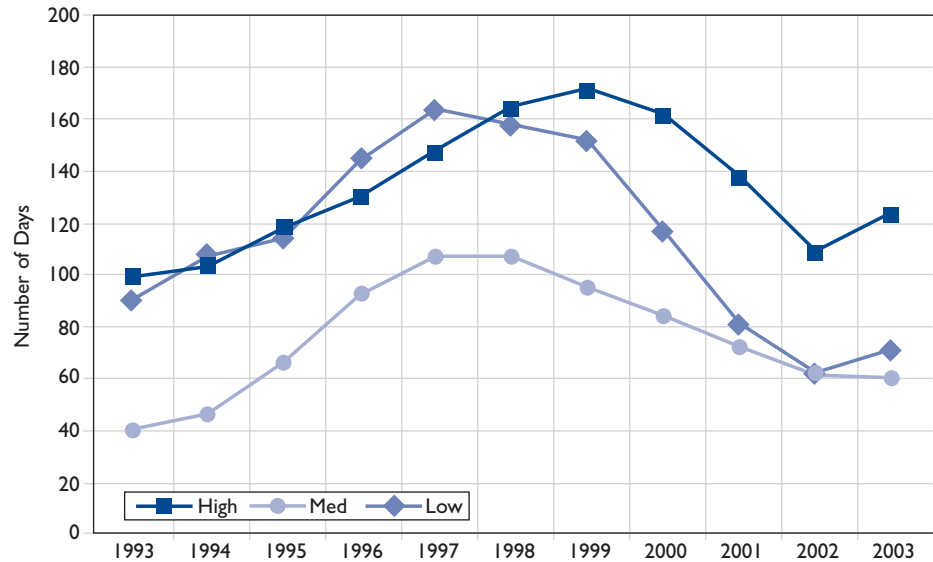


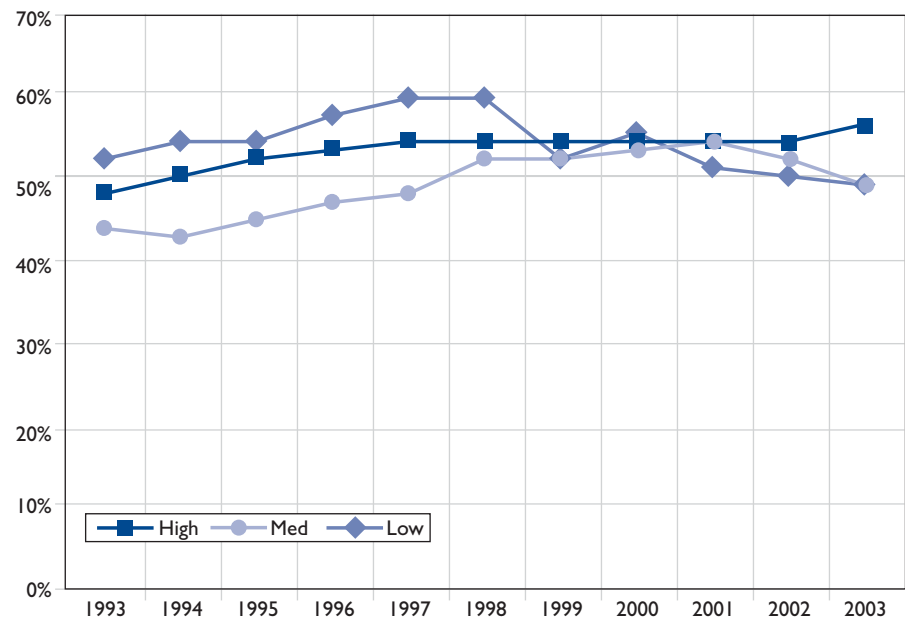
FIGURE 9: Days Cash on Hand, Including Board-designated Cash, by Financial Performance Group, 1993-2003



amount of equity relative to total assets, or the proportion of internal financing that the hospitals use to maintain their working capital and buildings, equipment, and other assets. A higher ratio is more favorable as it indicates less financial risk and better access to credit.¹⁰

In Figure 10 it is apparent that the low performers were doing better than the high performers until 1999, when their equity ratio deteriorated, ending below 50% by 2003. All three categories of hospitals increased their long-term debt over the period 1999-2003. However, for low performers, equity lost value because of operating losses. The medium performers also experienced a decline in relative levels of equity in the period 2000-2003, largely due to affiliate transfers and unrealized losses on marketable securities. The high performers actually increased their equity ratio in 2002-2003, despite large affiliate transfers and unrealized losses; this increase was driven by strong profitability.

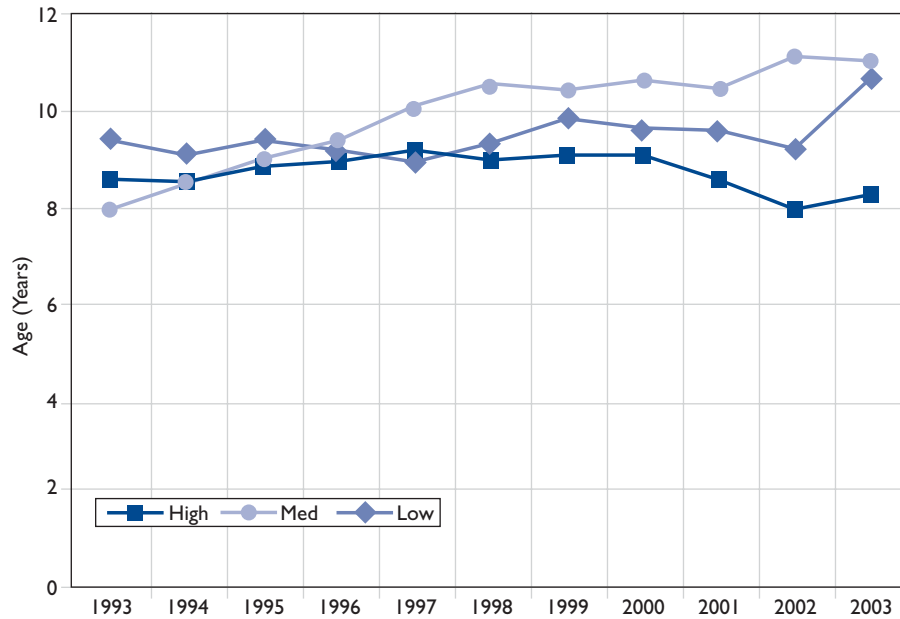
FIGURE 10: Average Equity Financing Ratio, by Financial Performance Group, 1993-2003



One measure of the ability to maintain property, plant, and equipment is plant age. Figure 11 shows that the high performers have by far the youngest plants, and have been largely successful at maintaining the age of their plants and equipment throughout the decade. Both the moderate and the poor performers have a gradually aging plant over the decade. Overall, hospitals in Maine have maintained a median plant age that is roughly equal to the national median, and is slightly younger than the median in the northeast region.

The high performers reinvested in their plants at a rate that was roughly 173% of depreciation

FIGURE 11: **Maine Hospital Plant Age, by Financial Performance Group, 1993-2003**



off point at which hospitals were able to maintain plant age or even reduce it. Investing at less than 150% is associated with an aging plant.

The low performers' investment in property, plant, and equipment was constrained largely by their inability to generate operating profits over this period, particularly in the later years. The medium performers, which started out the period with the youngest median plant age, ended as the oldest age. This relatively low level of plant investment does not appear to be due to lack of capacity to invest; it is possible that this group of hospitals has favored cash conservation and affiliate investment over hospital capital investment in recent years, particularly as the value of marketable securities declined. They made a significant investment of \$135 million in affiliates over the decade, which may have been a higher priority than updating property, plant, and equipment.

TABLE 4: **Cost and Access, by Financial Performance Group**

FINANCIAL PERFORMANCE GROUP	HIGH	MEDIUM	LOW
Average inpatient charge per discharge, 2002	\$10,334	\$10,283	\$9,199
Average inpatient cost per discharge, 2002	\$5,657	\$5,619	\$5,508
Average case weight, 2002	1.096	1.125	0.97
Average % admissions for ambulatory care-sensitive conditions	21%	25%	27%

Bold numbers are statistically significant at the 10% level or below.

expense, or the value of the plant written off over the decade; the moderate performers reinvested at a rate of 153%, while the poor performers reinvested at a rate of 145% of the value of the plant written off. In Maine, a ratio of capital expenditure to depreciation expense of 150% over a 10-year period was the cut-

WHAT DO FINANCIAL PERFORMANCE DIFFERENCES IMPLY IN TERMS OF ACCESS, COST, AND QUALITY OF CARE, PARTICULARLY FOR UNDERPERFORMING HOSPITALS?

Several access, cost, and quality variables were examined to see if there were differences among hospitals in the three financial performance groups. Selected measures are displayed in Table 4.

The first two variables, inpatient charge per discharge (hospital list price per discharge) and inpatient cost per discharge (what the hospital actually spends per discharge), are case-mix adjusted. *Case mix* is the distribution of patients into categories reflecting differences in severity of illness or resource consumption. *Case weight* is the relative resource intensity of the inpatient case mix; for example, a low case weight implies relatively low intensity. Hospitals with low average case weights are expected to also have lower

costs, and therefore are generally paid less per discharge than hospitals with higher case weights.

The values for average inpatient charge per discharge and average inpatient cost per discharge in 2002 were both slightly lower in the low-performing group, but the differences are not statistically significant. The hospitals in the lower financial performance group are neither cheaper nor more expensive on a charges basis, on average, than the hospitals in the other two performance categories. Nor are they more or less efficient in terms of their cost per inpatient discharge.


The two variables with statistically significant different average values between groups were the case weight and the percentage of admissions that were for ambulatory care-sensitive conditions. (The significance was only at the 10% level, which is not a strong statistical difference.)

Admissions for ambulatory care-sensitive conditions include cases in which the patient should not have been admitted if ambulatory care had been available and appropriately delivered. This includes admissions for conditions such as asthma, hypertension, diabetes, and congestive heart failure. The low-performing hospitals have a significantly higher proportion of admissions for ambulatory care-sensitive conditions, which is consistent with their relatively low case weight. This is happening either because the ambulatory care system in the service area is inadequate, or because the hospital is filling beds to maintain capacity. Health services research indicates that having excess hospital beds correlates highly with having a high proportion of admissions for these ambulatory care-sensitive conditions.

The low-performance group's low case weight and high proportion of admissions for ambulatory care-sensitive conditions also are consistent with data provided by the Maine Quality Forum on variability in rates of admission for certain conditions.¹¹ Hospitals in the low financial performance group are located in geographic areas with the highest rates of medical admissions per 1,000 population. There appears to be a quality and an access issue with respect to the low financial performance group. Part of the problem may be related to the earlier noted lack of growth in inpa-

tient volume. Either the hospitals themselves or the primary and/or long-term care infrastructure in their service areas are not serving the population with the same appropriateness of care that is common in other parts of Maine.

Several widely available inpatient quality measures for 2001 also were tested, including severity-adjusted mortality, obstetrics complications, adverse events and wound infections. No statistically significant differences in these measures were found among the hospital groups. In other words, the clinical quality of inpatient care, as measured by these variables, appears to be the same regardless of hospital financial performance.



The low-performing hospitals have a significantly higher proportion of admissions for ambulatory care-sensitive conditions.

WHAT POLICY ISSUES ARISE FROM AN IN-DEPTH ANALYSIS OF HOSPITAL FINANCIAL PERFORMANCE IN MAINE?

While in the aggregate Maine hospitals are doing very well financially, there are substantial disparities in financial performance. Those in the high financial performance group are doing well enough to have accumulated substantial cash reserves and capital investments, even as they transferred almost \$180 million out to affiliates over the decade 1993-2003. Those in the medium-performing group also did well, but with lower cash reserves and a lower rate of capital investment. Like the high-performing group, they made significant affiliate transfers, especially in the last five years. The low financial performance hospitals present a problem in terms of their long-term viability and the appropriateness of their current service configuration to their local area needs.

One policy question raised by this analysis is whether a limit on hospital profits should continue


under Dirigo Health, and if so, at what level and for which system entities. In 2003, 13 hospitals exceeded a 3% operating profit, earning roughly \$16 million in operating profit above the 3% level. However, the current voluntary limit is on consolidated system operating profits, and these are much lower than hospital entity profits; no consolidated margins exceeded the 3% level in 2003. Losses from physician practices, start-up assisted living centers, community health centers, home care, and other related affiliate activities offset hospital profits. Dirigo Health policymakers need to consider applying profit limits to where the profits are first generated, if such limits are to be a meaningful source of cost savings. There does appear to be some room for profit limits that will not affect hospital financial viability, but it could affect the viability of hospitals' affiliates or the level of cash reserves maintained by some hospitals.

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The broader issue is whether the state should exert pressure on more hospitals to reduce their subsidies, particularly to physician practices, at least in some areas where such practices might be able to operate independently and still remain viable. While the hospitals in the north region may have to subsidize physician practices to be able to retain physician presence in the community, this may not be the case for hospital service areas in the central or southern regions. Some practices are subsidized for as much as half of their operating budgets, and represent a significant financial burden on the sponsoring hospital. The state health planning process initiated under Dirigo Health should tackle this issue sooner rather than later.

Hospital trustees and the communities served by specific hospitals should take time to learn about and understand their hospital's financial condition and the strengths and weaknesses of its service configuration. The state should post hospital-specific information on a public Web site that includes a standardized set of hospital financial ratios and a layperson-oriented analysis to assist the public in understanding their local hospital.

Finally, the state needs to consider intervention to ensure appropriate inpatient and ambulatory-care capacity, particularly in the northern region. This might take the form of long-term planning; assistance to hospitals seeking critical access hospital status or other types of service revisions; developing best practices in the sharing of specialty physicians, expensive equipment, and managerial resources within a region or health system; financial assistance to rural physician practices; and other measures. To the extent that a different service configuration is desirable, the state needs to work with the various payers to ensure that needed services are adequately reimbursed. One problem with the current system may be that acute inpatient care "pays better" than do the services that are more needed in the area.

While the most widely understood focus of the Dirigo Health plan is to expand access to the uninsured, Dirigo also presents a new and exciting opportunity to expand our knowledge and understanding of how the health system works and does not work in Maine. Hospitals are a key part of that system. Most hospitals in Maine have done well, and no hospital is in imminent danger of failing, due to philanthropic and intersystem financial support, as well as accumulated financial reserves. That support may not always be there. Now is the best time to develop the blueprint for the healthcare system for Maine, before financial crisis and inadvertent loss of access occurs. State health planning, broad participation in the design and implementation of Dirigo Health, and an educated and informed public are critical ingredients that will ensure that the future of Maine's health system is financially sound and responsive to population needs. 

ENDNOTES

1. In the analysis and discussion in this article, rehabilitation and mental health hospitals are excluded. The Maine General Health System, which has two hospitals, one in Augusta and one in Waterville, is treated as a single entity. Because the Maine Health Data Organization (MHDO) still reports data from these two hospitals separately, in MHDO's count there are 37 acute-care hospitals. In the analysis here, we use the total of 36 hospitals.
2. Even though Maine's acute-care hospitals are all "nonprofit," they do make profits. Nonprofit hospitals are tax-exempt due to their charitable mission, but they need to make profits in order to maintain their property, plant, and equipment, to finance working capital, and to finance other strategic initiatives such as expansions of service.
3. Comparative data are not yet available for 2003.
4. Twenty of Maine's 36 acute-care hospitals are in four state-wide systems; three more are in multistate systems.
5. For instance, in 2001 and 2002 combined, 58% of transfers to affiliates went to support physician practices, 20% to other operating entities, 14% to parent entities, and 8% to support other hospitals in the system.
6. Days cash on hand represent the number of days a hospital could continue to meet its cash operating expenses without collecting another dollar of revenue in cash. Top-rated hospitals in the bond market report a median of roughly 100 days cash on hand in 2002 (HFMA 2004).
7. This excludes philanthropy provided for operating support, which for some hospitals in Maine is substantial. Such support is reported as "nonoperating revenues."
8. Regional characteristics are from the Governor's Office of Health Policy and Finance, Maine Healthcare System Profile Assessment, Data Template Draft, 10-29-2004.

9. Hospitals in Maine establish their own free care policies. Some offer 100% discounts to patients with household income up to 100% of federal poverty level (FPL), while others offer the 100% discount to patients with household incomes up to 200% of FPL. Some hospitals offer sliding scale discounts for household incomes between 100-200% FPL.
10. A very high equity ratio (e.g., above 80%) may not be a positive thing, as it may indicate that the hospital cannot borrow due to financial weaknesses, such as extensive losses.
11. For access to the data published by the Maine Quality Forum on variability in admissions in the state, see www.dirigohealth.maine.gov.

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