

RESEARCH PAPER

HOSPITAL OPERATIONAL AND FINANCIAL PERFORMANCE IMPROVING

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CENTER FOR HEALTHCARE IMPROVEMENT



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TABLE OF CONTENTS

Introduction	1
Data Sources and Methodology	2
Margins, Revenues, and Expenses	2
Other Operating Characteristics	6
Patient Characteristics.....	9
Summary.....	11

LIST OF FIGURES

Figure 1: Percent of Hospitals With Negative Total Margins, Q2 2005 – Q1 2009	2
Figure 2: Median Total Margin, by Hospital Class, Q3 2008 and Q1 2009	3
Figure 3: Hospitals' Median Total Margins, All Hospitals and Quartiles, Q2 2005 – Q1 2009.....	3
Figure 4: Hospital Median Operating Margin by Hospital Class, Q2 2005 – Q1 2009	4
Figure 5: Annual Change in Hospital Revenues and Expenses, Q2 2005 – Q1 2009.....	4
Figure 6: Annual Change in Median Hospital Labor and Nonlabor Expenses, 2007 – 2009	5
Figure 7: Hospital Median Days Cash on Hand, All Sources, Q2 2005 – Q1 2009	6
Figure 8: Hospital Median Bad Debt Percent of Net Patient Revenue, Q2 2005 – Q1 2009	6
Figure 9: Hospital Charity Expense Percent of Gross Patient Revenues, Q2 2005 – Q1 2009.....	7
Figure 10: Hospital Median Capital Expense Percent of Operating Expense by Class, Q2 2005 – Q1 2009	7
Figure 11: Hospital Median Interest Expense Percent of Operating Expense by Class, Q2 2005 – Q1 2009 ..	8
Figure 12: Median Percentage of Licensed Beds in Operation by Class, Q2 2005 – Q1 2009.....	8
Figure 13: Annual Change in Inpatient Acute Care Discharges by Hospital Class, Q2 2006 – Q1 2009.....	9
Figure 14: Median Hospital Case Mix Index by Hospital Class, Q2 2005 – Q1 2009	9
Figure 15: Average Hospital Length of Stay, Q2 2005 – Q1 2009.....	10
Figure 16: Medicaid Percent of Patient Days by Hospital Class, Q2 2005 – Q1 2009	10

INTRODUCTION

During the summer and fall of 2008, U.S. hospitals found themselves facing unprecedented financial challenges. Stock and bond values fell in nearly every asset class, dramatically affecting hospital investment values and income. Credit markets were in crisis, and some hospitals were forced to draw on cash reserves to satisfy financial covenants. There was concern that hospital demand was contracting in a segment of the economy that was once deemed “recession proof.”

Earlier this year, Thomson Reuters provided a comprehensive review of the hospital marketplace, using then-current financial and operational data through the third quarter of 2008. At that time, our hospital financial data quantified the significant stress confronting hospitals. As some conditions in financial markets have improved, have hospitals seen signs of relief?

In this research brief, we examine hospital financial and operational data through first quarter 2009 with a focus on:

- Hospitals’ revenues, expenses, and margins
- Liquidity
- Bad debt and charity care
- Interest and capital expense
- Length of stay
- Occupancy
- Case mix/acuity
- Payer mix

The primary source of information for this paper is the Thomson Reuters ACTION O-I® database, which provides an array of financial and operational indicators for a large sample of general acute-care hospitals.

DATA SOURCES AND METHODOLOGY

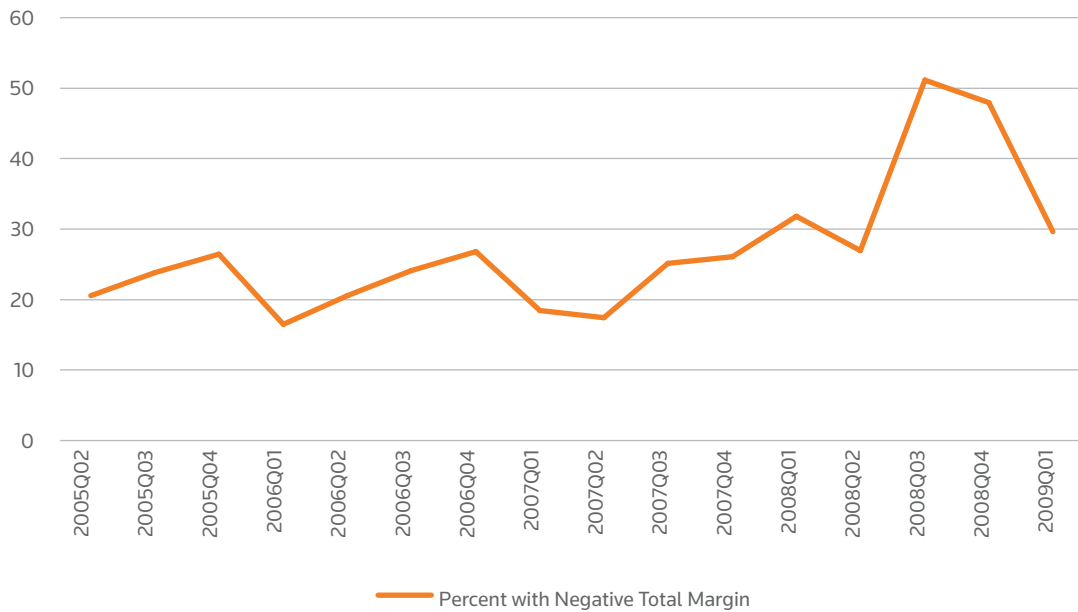
The hospital operational and financial performance data used in this study are quarterly financial data (Q2 2005 through Q1 2009) for general acute-care community hospitals in the proprietary Thomson Reuters ACTION O-I database. The quarterly samples have an average 522 reporting hospitals, comprised of 91 small community hospitals (26 – 99 beds), 151 medium community hospitals (100 – 249 beds), 94 large community hospitals (250+ beds), 108 teaching hospitals, and 77 major teaching hospitals.

Trend data reported here have been weighted to be representative of the U.S. general acute-care population by hospital class and geographic (census) region.

MARGINS, REVENUES, AND EXPENSES

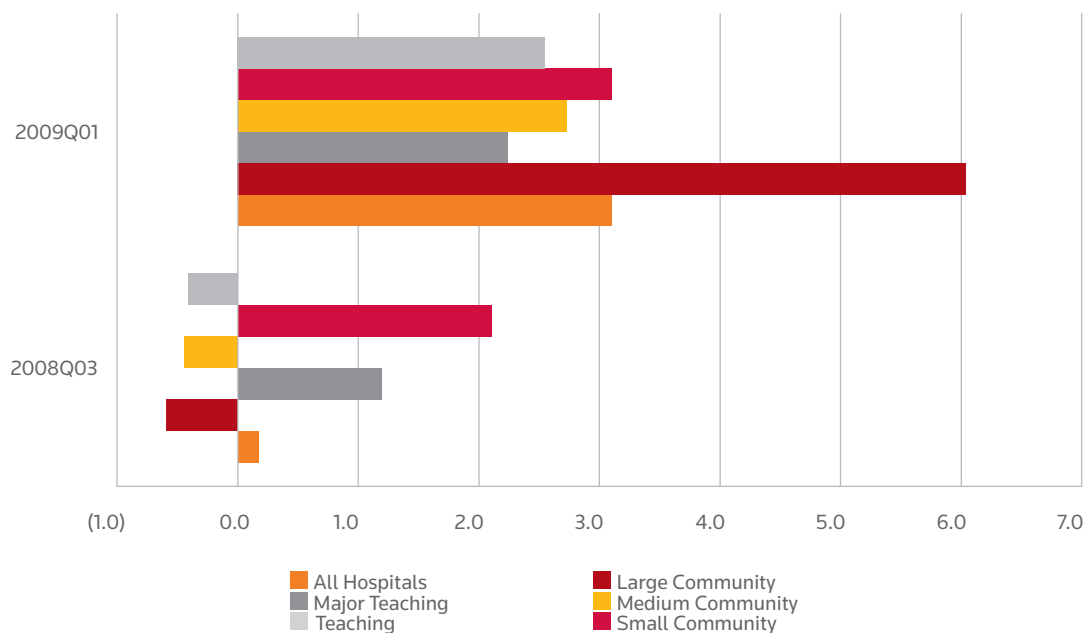
U.S. hospitals' total margin (it's not called profit, because many hospitals are not-for-profit organizations) plunged to historic lows in the last half of 2008. It recovered substantially by first quarter 2009, reflecting modest improvements and stabilization in financial markets. This translates to fewer hospitals operating in the red. Earlier this year (Figure 1), Thomson Reuters reported that half of U.S. hospitals had negative margins in third quarter 2008. That declined to around 30 percent in first quarter 2009.

FIGURE 1: Percent of Hospitals With Negative Total Margins, Q2 2005 – Q1 2009



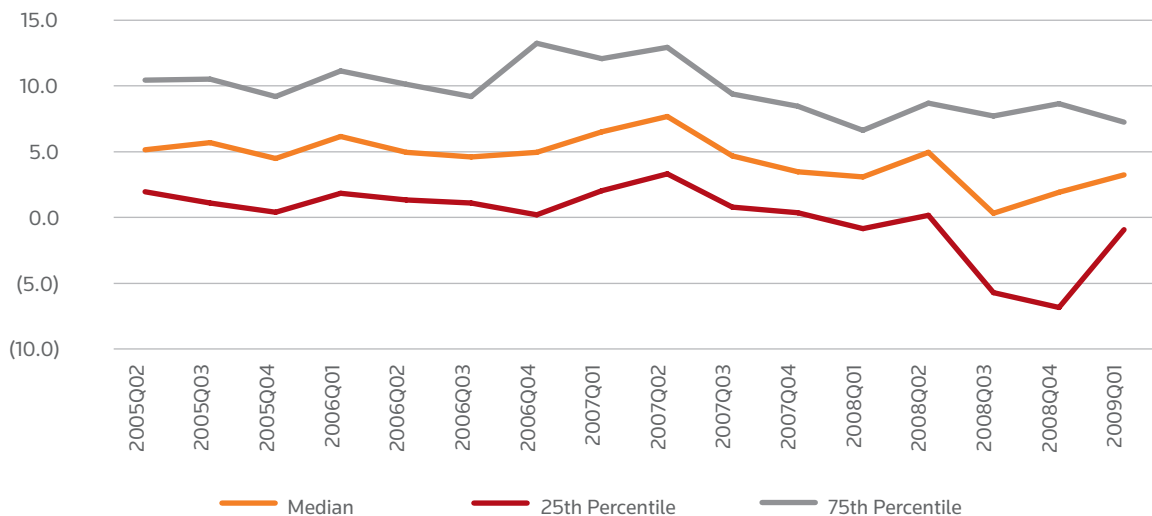
Among all hospitals in the study, median total margins rose from 0.17 percent in third quarter 2008 to 3.1 percent in first quarter 2009. The recovery was broad-based and affected all hospital classes (Figure 2). In third quarter 2008, median total margin was in negative territory for teaching hospitals and medium and large community hospitals, while small hospitals and major teaching hospitals were less affected by the economic downturn. In first quarter 2009, all five hospital classes had positive median margins, with large community hospitals showing the strongest recovery.

FIGURE 2: Median Total Margin, by Hospital Class, Q3 2008 and Q1 2009



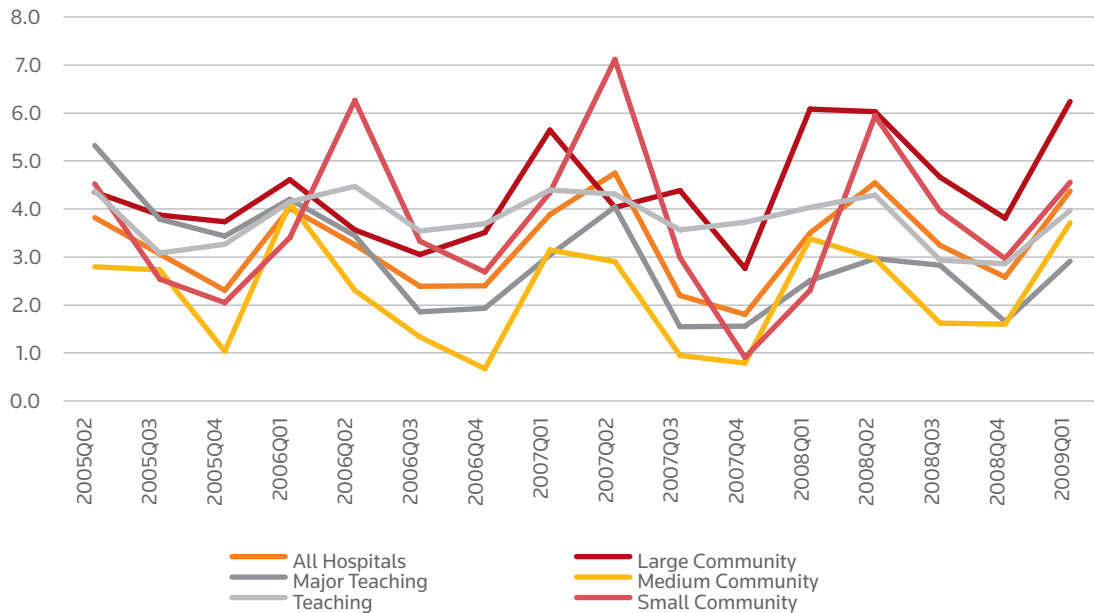
There is substantial variation among hospitals in total margin performance. In first quarter 2009, we estimate that the bottom quartile of hospitals is operating with total margins of less than -1 percent, while the top quartile has total margins in excess of 7 percent (Figure 3).

FIGURE 3: Hospitals' Median Total Margins, All Hospitals and Quartiles, Q2 2005 – Q1 2009



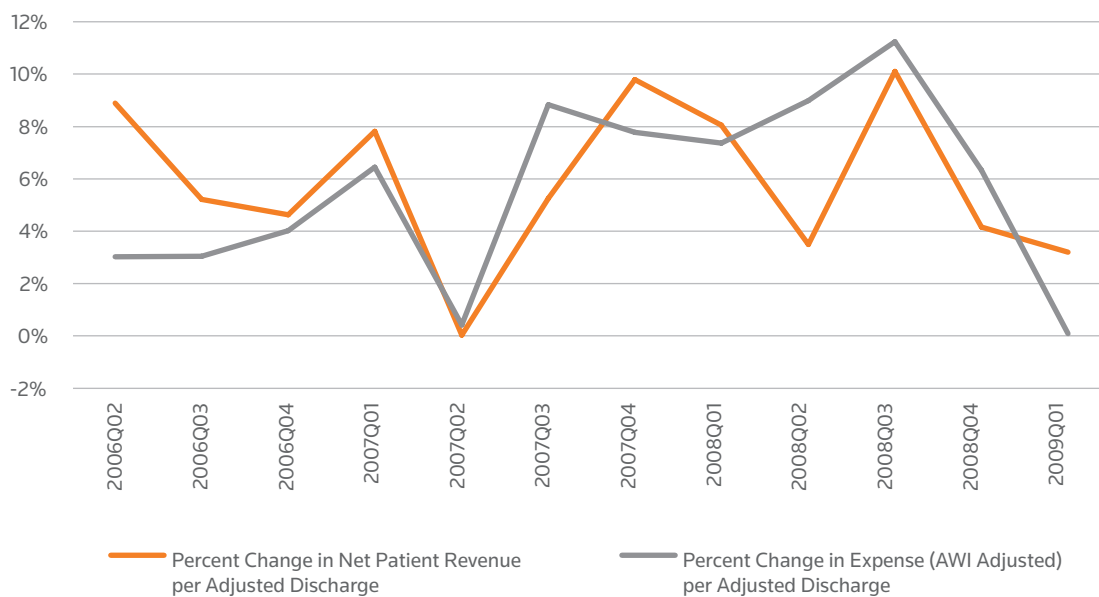
Total margin consists of excess revenue derived from operations as well as nonoperating margins derived primarily from investments. Hospital operating margins follow a cyclical pattern, with lowest values typically in the fourth quarter. For all hospitals in the study, median operating margin moved from 3.45 percent in first quarter 2008 to 4.33 percent a year later in first quarter 2009. According to our estimates (Figure 4), small and large community hospitals had the largest operating margins in first quarter 2009 (approximately 4.5 percent and 6 percent respectively), while major teaching hospitals had the smallest (slightly less than 3 percent).

FIGURE 4: Hospital Median Operating Margin by Hospital Class, Q2 2005 – Q1 2009



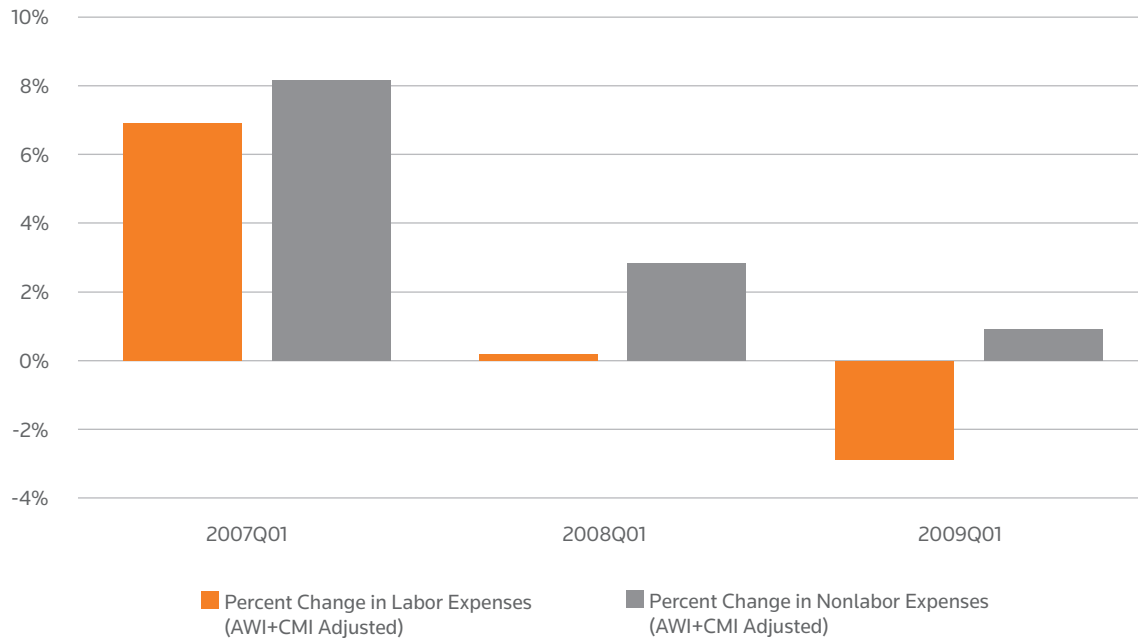
Revenue and expense trends interplay to produce the relatively stationary operating margin series observed in Figure 4. In mid 2008, hospital revenue and expense growth began to decline. Figure 5 displays annual changes in median net patient revenue per adjusted discharge and expense per adjusted discharge (wage index adjusted). Hospitals have managed expense increases to match changes in revenue growth. By first quarter 2009, hospitals were holding costs at close to 0 percent annually.

FIGURE 5: Annual Change in Hospital Revenues and Expenses, Q2 2005 – Q1 2009



How have hospitals contained expense growth? When hospital expenses are partitioned into labor and nonlabor components, as in Figure 6, it is clear that hospitals have reduced growth in both categories of expense, although to a greater degree with labor expenses. Labor expenses in this summary have been adjusted by the hospital case mix index (CMI), a measure of patient acuity, and may be overstating the expense reduction to some degree (see page 9 for a discussion of the CMI).

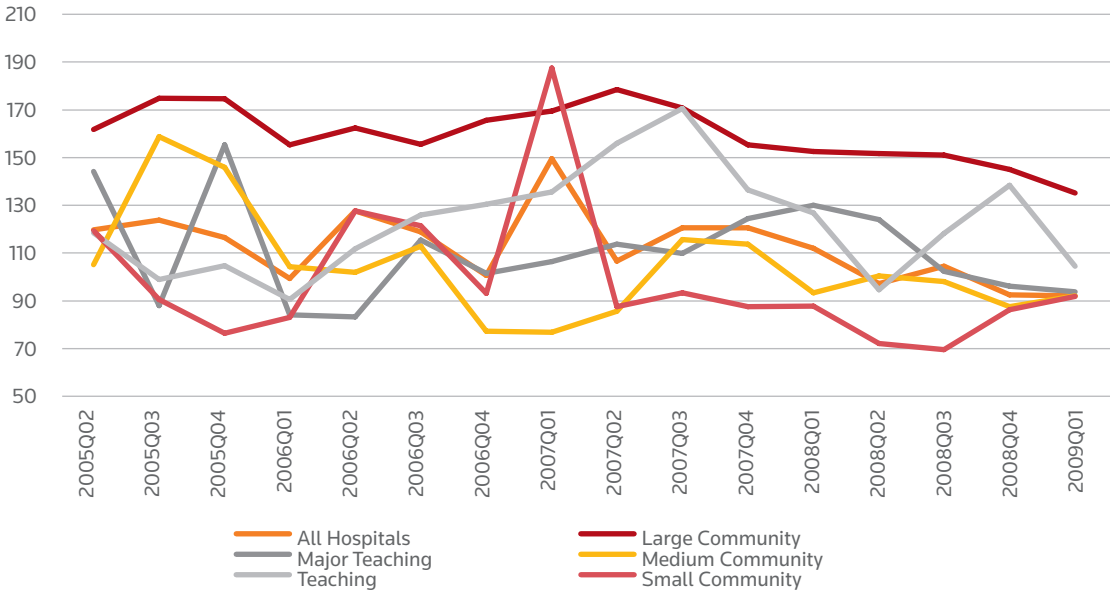
FIGURE 6: Annual Change in Median Hospital Labor and Nonlabor Expenses, 2007 – 2009



OTHER OPERATING CHARACTERISTICS

Since the beginning of the recession, hospitals have faced credit market conditions that potentially impact interest expense for debt and free-cash reserves. In particular, there have been news reports of hospitals drawing on cash to resolve problems with various debt covenants. Our estimates of one liquidity measure, days cash on hand (Figure 7), show that the all-hospital median declined from more than 110 days in the second quarter of 2005 to approximately 90 days in first quarter 2009. There is variability by class of hospital, but the general trend downward is apparent.

FIGURE 7: Hospital Median Days Cash on Hand, All Sources, Q2 2005 – Q1 2009



Two expenses that might be expected to increase as a result of the recession are bad debt and charity care. Figure 8 contains estimates of median bad debt expense (as a percent of net patient revenue) and Figure 9 (page 7) displays charity care expenses (as a percent of gross patient revenue). The bad debt series shows no consistent pattern and the charity series exhibits an upward trend. It is tempting to attribute the upward trend to the recession, but the movements started well before the fourth quarter of 2007. They may reflect more thorough implementation of accounting standards for charity care by hospitals in response to inquiries by state attorneys general.

FIGURE 8: Hospital Median Bad Debt Percent of Net Patient Revenue, Q2 2005 – Q1 2009

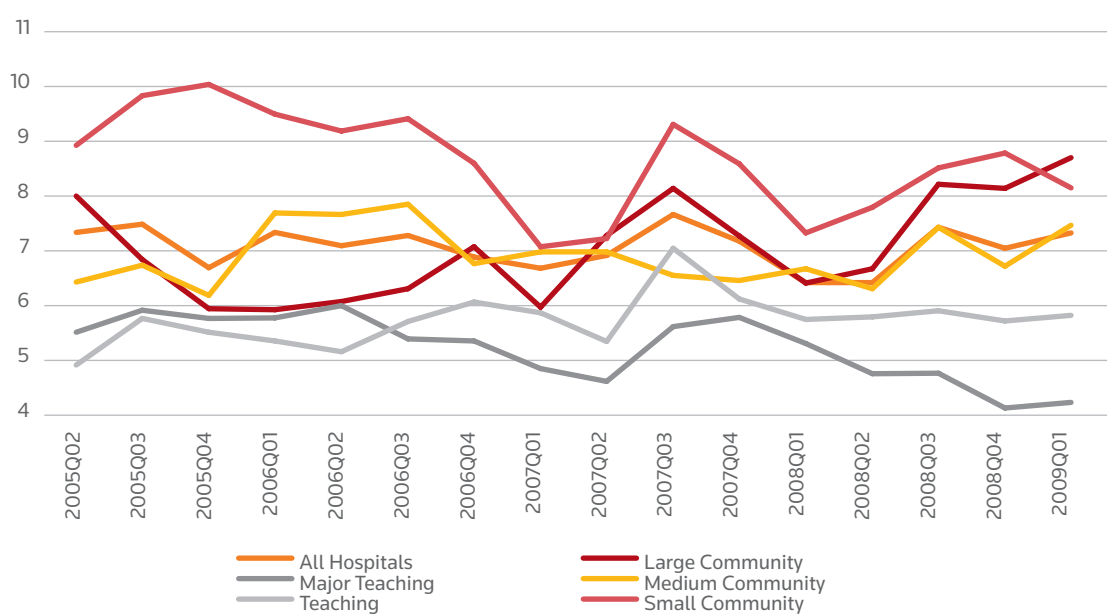
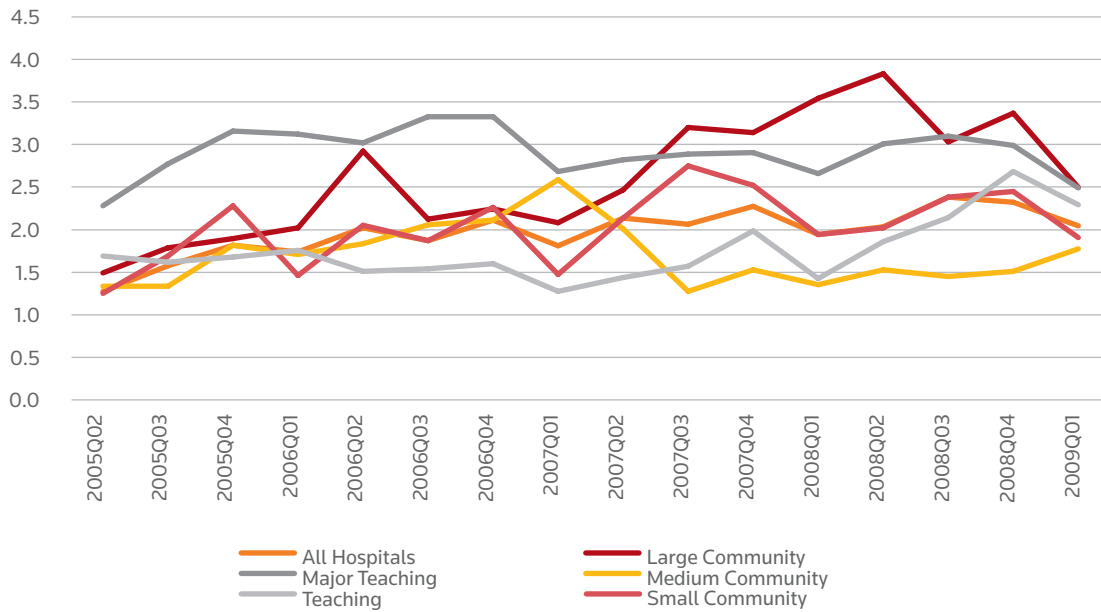


FIGURE 9: Hospital Charity Expense Percent of Gross Patient Revenues, Q2 2005 – Q1 2009



Other expenses that might be impacted by the recession are capital expenditures and interest. Figure 10 displays estimates of capital expense and Figure 11 (page 8) of interest expense, each stated as a percentage of total operating expense. Capital expenses, which represent accruals, exhibit a stationary pattern. Accrued interest expenses show a pattern of increase up to the start of the recession followed by a downward trend starting in first quarter 2008 and continuing through first quarter 2009. Note, however, that the variation is not large (see axis of Figure 11).

FIGURE 10: Hospital Median Capital Expense Percent of Operating Expense by Class, Q2 2005 – Q1 2009

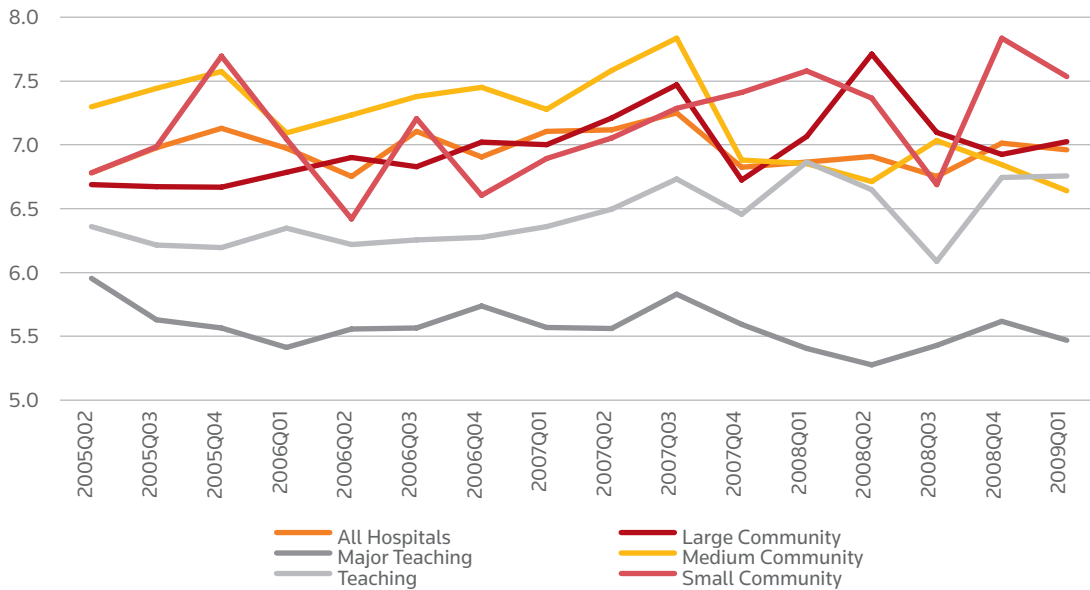


FIGURE 11: Hospital Median Interest Expense Percent of Operating Expense by Class, Q2 2005 – Q1 2009

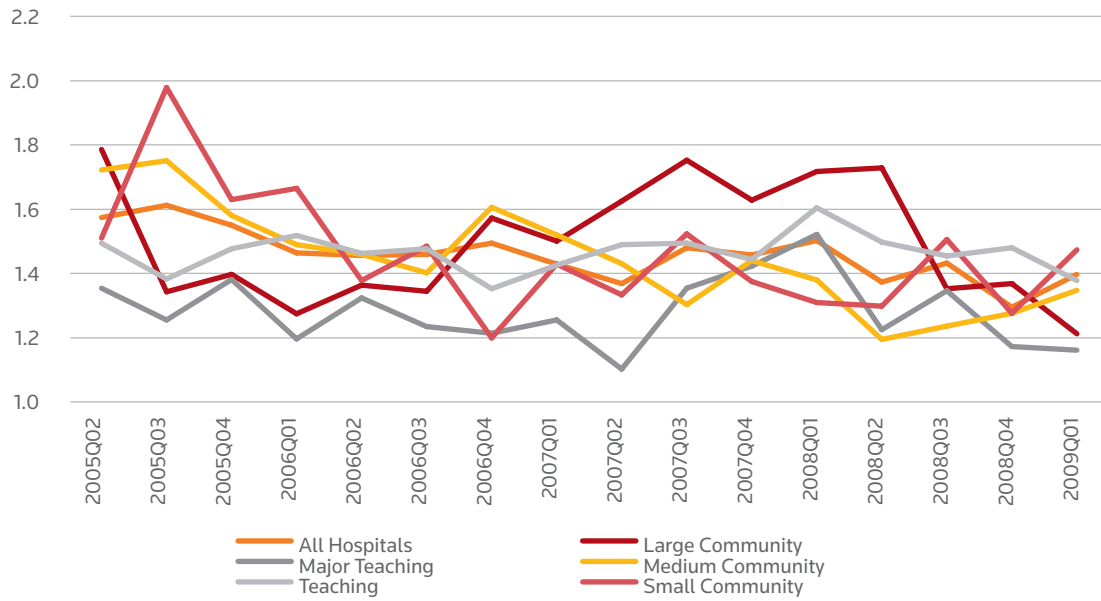
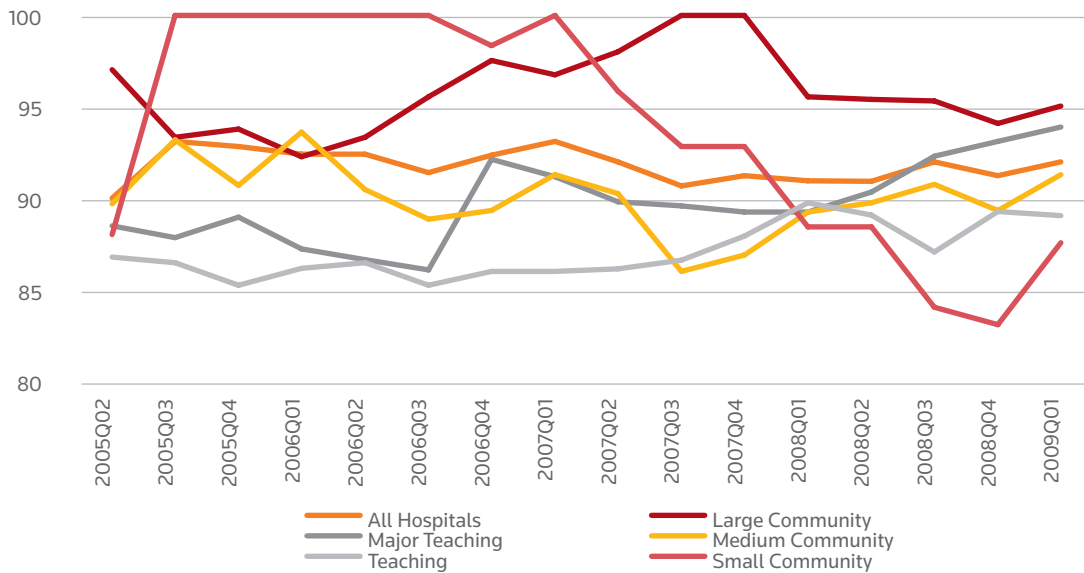


Figure 12 displays the median percentage of licensed beds in operation. The all-hospital average is stable throughout the series, while there is some small movement up and down, depending on the hospital class. Hospitals are not closing beds to decrease expenses. As of first quarter 2009, more than 90 percent of licensed beds were in operation in a typical hospital.

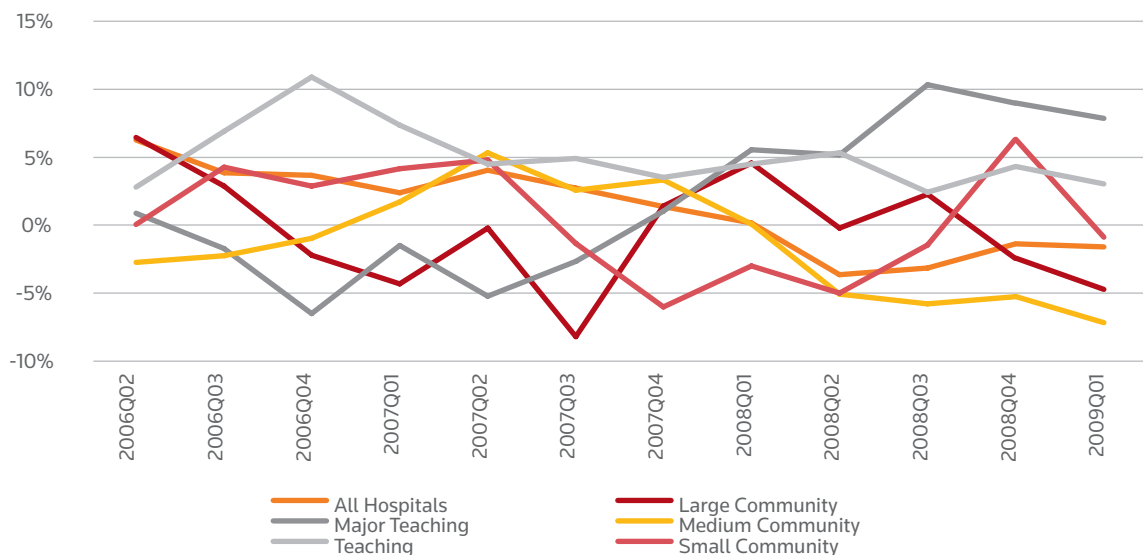
FIGURE 12: Median Percentage of Licensed Beds in Operation by Class, Q2 2005 – Q1 2009



PATIENT CHARACTERISTICS

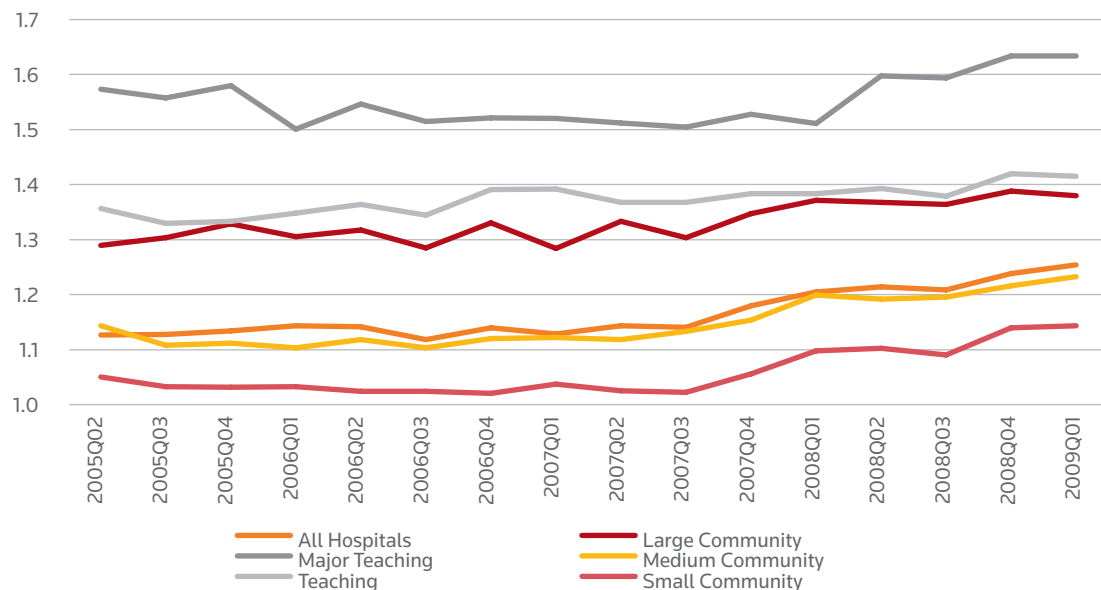
Some hospitals have reported declines in inpatient and outpatient case volumes attributable to the recession that started in fourth quarter 2007. We find some evidence of volume decline in our estimates. Inpatient discharges for all hospitals showed negative growth starting shortly after the start of the recession. However, the rate of change in discharge volumes is highly variable and depends on hospital class (Figure 13). In particular, major and minor teaching hospitals experienced more annual growth in inpatient volume during the first quarter of 2009, while other hospital classes had year-over-year declines. The amount of annual variation shown in Figure 13 is consistent with reports received from Thomson Reuters customer hospitals on discharge volumes: some up and some down.

FIGURE 13: Annual Change in Inpatient Acute Care Discharges by Hospital Class, Q2 2006 – Q1 2009



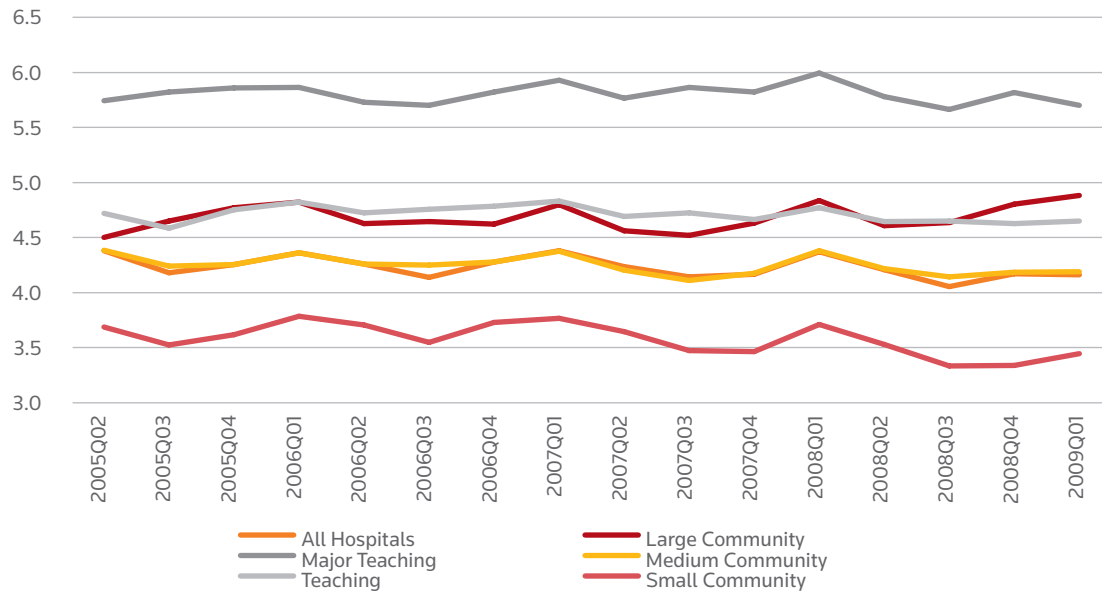
Is the severity of illness of inpatient discharges increasing? This might be expected if inpatient elective procedures are being deferred. The all-hospital case mix exhibits a stationary trend until fourth quarter 2007, followed by a steady increase. This is likely due to the Centers for Medicare & Medicaid Services (CMS) shifting to the MS-DRG system, which created refinements in patient diagnosis coding. All other factors being equal, this creates an “upcoding artifact” which artificially inflates the hospital case mix index. The increases observed in our data are consistent with those estimated by the CMS.

FIGURE 14: Median Hospital Case Mix Index by Hospital Class, Q2 2005 – Q1 2009



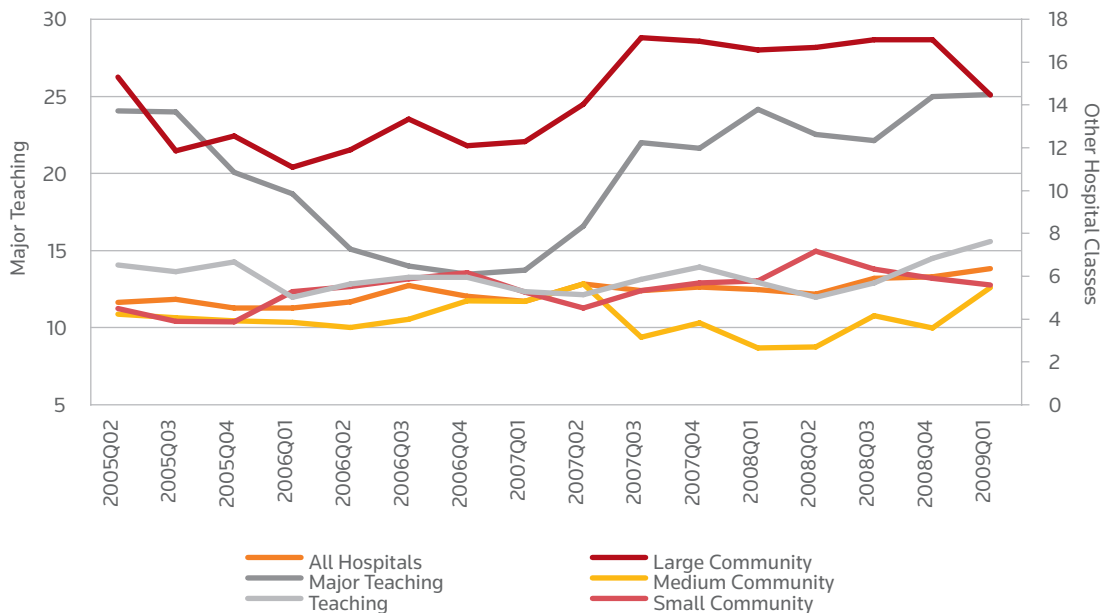
Average hospital length of stay in first quarter 2009 continues historic trends in all hospital classes (Figure 15). There is some evidence that all-hospital length of stay may be declining slightly in comparison to first quarter 2008, but more data is needed to establish a pattern.

FIGURE 15: Average Hospital Length of Stay, Q2 2005 – Q1 2009



Have economic conditions led to shifts in payer mix, in particular increases in Medicaid and government-sponsored payment? Figure 16 displays percent of Medicaid patient days by hospital class. Expectations of increased Medicaid utilization are not born out in our hospital dataset.

FIGURE 16: Medicaid Percent of Patient Days by Hospital Class, Q2 2005 – Q1 2009



SUMMARY

- Hospital total margins recovered in first quarter 2009 with approximately 30 percent of hospitals still operating in the red, a large improvement over the 50 percent reported in third quarter 2008.
- Median total margin improved for all hospitals in the study from 0.17 percent to 3.1 percent.
- While total margin improved for all hospital classes, there was a wide range of variation as of first quarter 2009. At that time, the bottom quartile of hospitals reported total margins of -1 percent or less while the top quartile delivered +7 percent or more.
- In first quarter 2009, small and large community hospitals had the largest operating margins (approximately 4.5 percent and 6 percent respectively), while major teaching hospitals had the smallest (slightly less than 3 percent).
- Hospitals held expense growth close to 0 percent in first quarter 2009 — largely by carefully managing labor expenses.
- Hospital cash reserves continue to be stressed. Median days cash on hand for all hospitals was close to 90 days in first quarter 2009, continuing the declines noted in prior quarters.
- Inpatient discharges for all hospitals began to decline shortly after the start of the recession. However, the rate of change in discharge volumes is highly variable and depends on hospital class.
- Hospital case mix indices began increasing shortly after the beginning of the recession in fourth quarter 2007. This is more likely due to coding changes required by implementation of MS-DRGs by CMS rather than to increased patient acuity.

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The Center for Healthcare Improvement (CHI) is a knowledge creation center for Thomson Reuters. Its main focus is creating insights to guide the healthcare industry toward improved performance.

CHI performs research aimed at improving the future of healthcare. Its experts mine treatment, outcome, safety, financial, operational, market share, and patient perception data across care settings to create new knowledge for providers. The team consists of pioneers who continually find new ways to integrate and analyze disparate data streams to develop unique measures and benchmarks. CHI seeks to support performance improvement cultures in hospitals and develop new methods to increase utility, reliability, and predictability of information for improving healthcare.

The members of CHI have subject matter expertise in hospital performance measurement, operations, statistics, epidemiology, demographics, patient care, managed care, and hospital-cost reporting.

CHI also concentrates on preproduct research and development, and government and industry relations, and contributes data, analysis, and content to several annual reports and programs.

- *By the Numbers* healthcare industry annual trends report features new national trends in hospital business and clinical performance that affect providers, pharmaceutical companies, insurers, and government. It includes in-depth analysis of high impact developments that will change healthcare as we know it today.
- The 100 Top Hospitals® program incorporates a national hospital balanced scorecard and benchmarks with academic and industry research partnerships that investigate hospital leadership, organizational change, best practices, and performance improvement. By combining publicly available datasets and empirical, time-tested methodologies, the 100 Top Hospitals program objectively identifies the highest performers in the nation and national rates of improvement.

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This research brief continues our monthly series focusing on the impact of the current recession on hospitals. The series combines current, proprietary Thomson Reuters data with public data to deliver unprecedented insight. Thomson Reuters works with its clients to provide information solutions to ease recession impacts in local markets. Read more of our research at http://thomsonreuters.com/news_ideas/thought_leadership/.

Consistent with Thomson Reuters guiding principles, this series provides insights on factors that affect hospital business performance that are unbiased, reliable, and as current as possible. We track metrics at a national and local level that may impact hospital financial or clinical performance. In doing so, we will:

- Use quantitative data to identify significant hospital industry changes
- Avoid reliance on opinion
- Incorporate public and Thomson Reuters proprietary data sources to construct findings

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