



TRENDWATCH

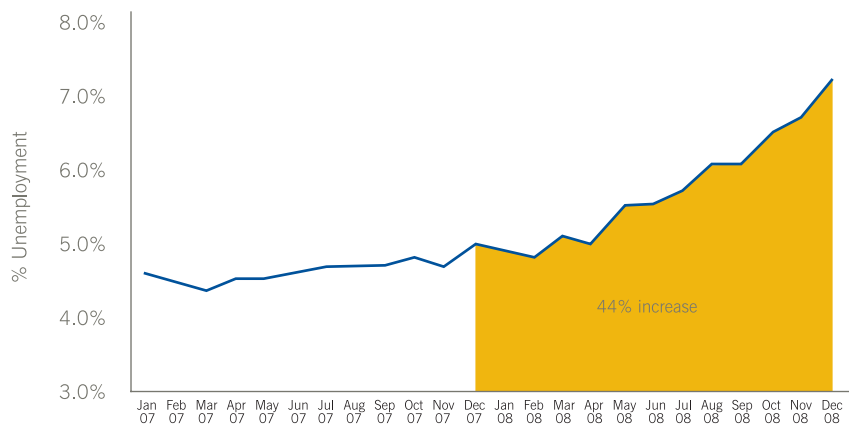
The Economic Downturn and Its Impact on Hospitals

According to the National Bureau of Economic Research, the U.S. economy has been in recession since December 2007, and many fear the worst may be yet to come.¹ In December 2008, 524,000 jobs were lost,² sending the jobless rate to 7.2 percent,³ which marks a 16-year high. 1.9 million jobs have been lost in this country since September alone. This sharp rise in unemployment has been accompanied by losses of employer-sponsored health insurance. In turn, more people are relying upon safety-net programs, such as Medicaid, and on providers' charity care programs for their health care.

Safety-net programs and providers often get squeezed during economic downturns. Medicaid is funded primarily by state tax revenue, which is falling precipitously. As states attempt to curb their budget deficits, Medicaid – the single largest state budget item – is particularly vulnerable to cuts in eligibility, benefits and/or provider payment.⁴ Yet Medicaid reimbursement already does not cover the cost of care.⁵ And if states tighten eligibility, more beneficiaries will become uninsured, further stressing hospitals and other providers.

Unemployment has grown markedly over the past year.

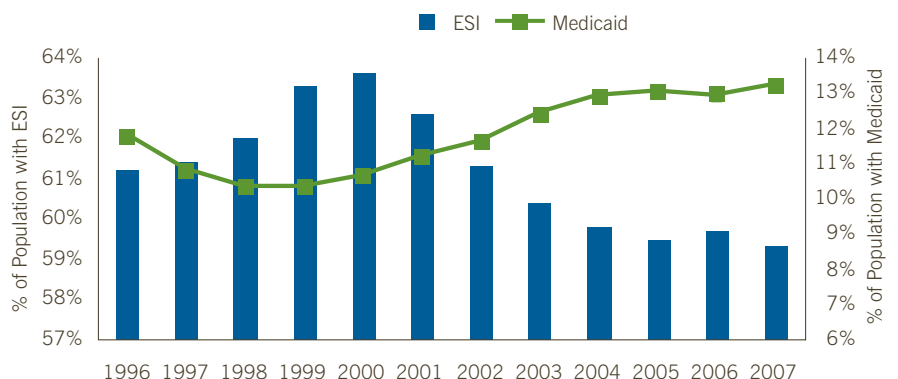
Chart 1: Unemployment Rate (Non-farm), 2007-2008



Source: Department of Labor, Bureau of Labor Statistics, Labor Force Statistics. (2008).
Access at: <http://www.bls.gov/oco/cg/cgs035.htm>.

As individuals lose employer-sponsored insurance, pressures on Medicaid increase.

Chart 2: Percent of Population with Employer-sponsored Insurance (ESI) and Medicaid



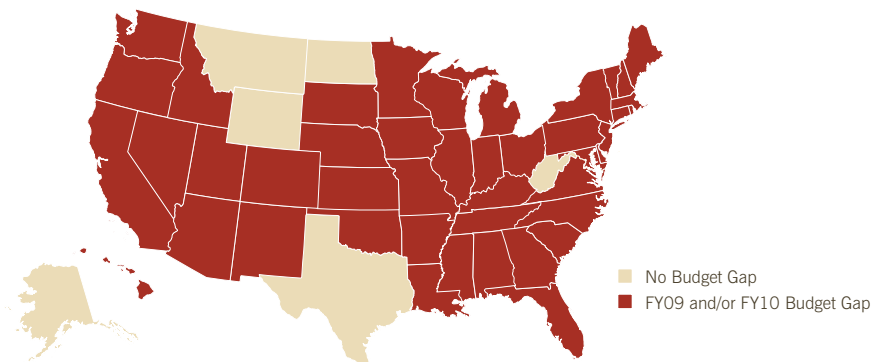
Source: Current Population Survey, U.S. Census Bureau. (2008). Access at: <http://www.bls.gov/oco/cg/cgs035.htm>; and Fronstin, P. (November 2005). Sources of Health Insurance Characteristics of the Uninsured: Analysis of the March 2005 Current Population Survey. *EBRI Issue Brief*, No. 287.

Coupled with the economic downturn is a “once in a century” credit crisis that began to unfold over the past year. Since that time, the stock market has lost nearly 40 percent of its value and formerly well-established companies have gone bankrupt.⁶ Practically speaking, the credit crisis has made borrowing significantly more costly, or next to impossible, for individuals and businesses alike. Hospitals also have felt the effect, as many borrow to fund day-to-day operations and longer-term facility improvements and technology purchases. As a result of these conditions, Moody’s and Fitch recently downgraded the outlook for the not-for-profit hospital sector from stable to negative.⁷ In the for-profit sector, a major, publicly traded national hospital chain reported weak third quarter results, stating that the weakening economy will weigh on its business through 2009.⁸

Hospitals play a vital role in our nation’s communities, not only for the health care they provide, but also for the economic contribution they make. Nationally, hospitals employ more than 5 million people, and every dollar spent by a hospital supports more than \$2 of additional economic activity.⁹ Yet hospitals are not immune to the effects of economic downturns. When the economy weakens, hospitals see fewer elective cases, provide more charity care, absorb more bad debt, and care for an increasing share of Medicaid patients. Caring for Medicare and Medicaid patients generates about half of hospitals’ revenues.¹⁰ Consequently, hospitals’ financial health through the current downturn hinges upon adequate funding from these programs.

Many states face budget shortfalls...

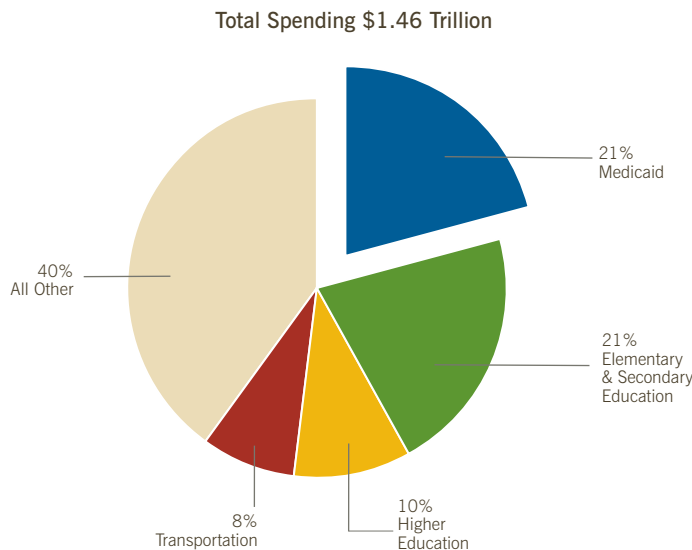
Chart 3: States with Budget Gaps in FY 2009 or Projected for FY 2010, as of December 23, 2008



Source: McNichol, E., and Lav, I.J. (23 December 2008). *State Budget Troubles Worsen*. Washington, DC: Center on Budget Policy and Priorities.

...and Medicaid – comprising nearly a quarter of state spending – is a target for budget cuts.

Chart 4: Percent of State Spending by Function, FY 2007



Source: National Governors Association and National Association of State Budget Officers. (June 2008). *The Fiscal Survey of States*. Washington, DC.

“ ”
from the field

“Moody’s has a negative outlook for the U.S. not-for-profit hospital sector, as virtually all rated health care credits are facing some degree of credit stress due to a combination of impaired access to the capital markets, soaring credit spreads, counterparty downgrades, and a slowdown in the global economy.”¹¹ Moody’s Investors Service

Capital Crisis Leads Hospitals to Delay Facility and Technology Investments

The economic downturn and credit crisis are due to a confluence of factors: the housing slowdown, loose home mortgage lending standards, and soaring food and energy costs. The Federal Reserve and U.S. Treasury have responded to the crisis by lowering interest rates to spur economic growth, and by taking unprecedented measures, including creating a funding mechanism to inject federal dollars directly into corporations.¹²

Even the municipal bond market, which historically has been a very stable and reliable means of raising cash for both hospitals and local governments, has been roiled by the credit crisis. The situation was so dire in late September that the State of California warned that it may be forced to ask the federal government to buy its debt so the state can meet its short-term obligations.¹³

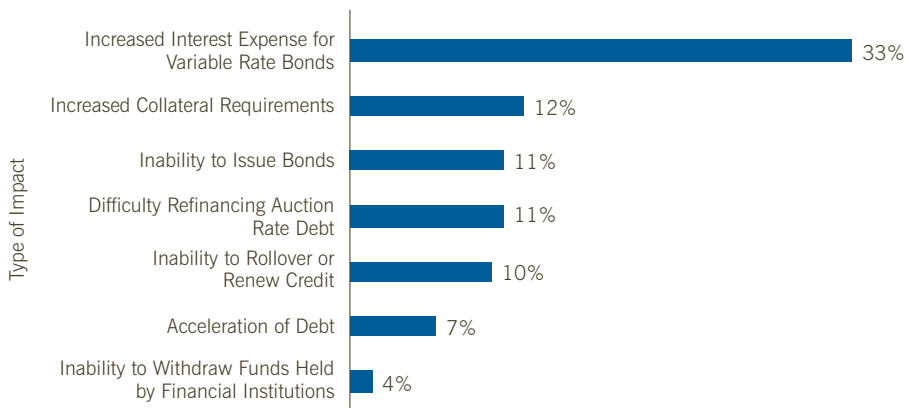
The effects of the credit crisis have spilled into the hospital field as hospitals' ability to secure financing and meet day-to-day obligations has been impaired. As payment to hospitals traditionally lags behind care delivery, hospitals often must borrow to meet operating expenses. The current crisis is making such credit difficult to secure or significantly more expensive when obtained. Health care financing experts warn that hospital credit lines may be called in as financial covenants become harder to maintain.¹⁴

Hospitals with existing variable rate debt saw their interest payments jump wildly in a period of weeks, making it difficult for them to meet existing debt obligations. In addition, higher interest payments have made access to adequate cash reserves even more critical.

Due to a combination of limited funding options, higher interest rates and worsening economic conditions, many hospitals are reconsidering or

The credit crunch is affecting hospitals in multiple ways.

Chart 5: Percent of Hospitals Reporting Various Effects of Credit Crisis, November 2008



Source: AHA. (November 2008). Rapid Response Survey, The Economic Crisis: Impact on Hospitals.

More than half of hospitals are reconsidering or postponing investments in facilities and equipment.

Chart 6: Percent of Hospitals Reconsidering or Postponing Capital Expenditures, November 2008



Source: AHA. (November 2008). Rapid Response Survey, The Economic Crisis: Impact on Hospitals.

putting off replacing aging physical plants and upgrading technology.¹⁵ For example, the Lakeview Hospital in Stillwater, Minnesota, has postponed breaking ground on a 60,000-square-foot facility that would expand its emergency department and surgical offerings due in part to current economic conditions.¹⁶ More than 50 percent of hospitals responding to a recent survey reported reconsidering or postponing expansion projects or renovations.¹⁷

Hospitals also rely on philanthropic donations and it is likely that these will slow due to the broader economic crisis. According to a survey conducted in November 2008, 38 percent of hospitals already have experienced a decrease in philanthropic giving.¹⁸ Hospital philanthropy experts believe that donations of appreciable property during this economic crisis will mirror the downward trend of donations following the 1987 stock market crash and the late 1990s dot-com bust.¹⁹

The Economic Downturn Is Eroding Health Insurance Coverage and Financing

The recent economic downturn is driving up the number of uninsured, underinsured and Medicaid beneficiaries. More than 60 percent of Americans get their health insurance through employers,²⁰ but the steady rise in unemployment since the beginning of 2007 has resulted in a loss of employer-sponsored insurance. According to a recent Urban Institute study, a one percentage point increase in the unemployment rate leads to a loss of employer-sponsored coverage for 2.5 million beneficiaries and dependents.²¹

The recent growth in unemployment also has swelled Medicaid enrollment. Experts estimate that a one percentage point increase in unemployment increases enrollment in Medicaid and the State Children’s Health Insurance Program (SCHIP) by one million.²² In fiscal year (FY) 2009, Medicaid enrollment and spending are expected to grow by 3.6 percent and 5.8 percent, respectively.²³

Just as Medicaid rolls and the ranks of the uninsured continue to grow, state tax revenue is falling. A recent survey of 15 states found a median decline in total tax revenue of 5.9 percent from June to September 2008 when compared to the same period in 2007.²⁴ As a result of declining state revenues, 29 states had

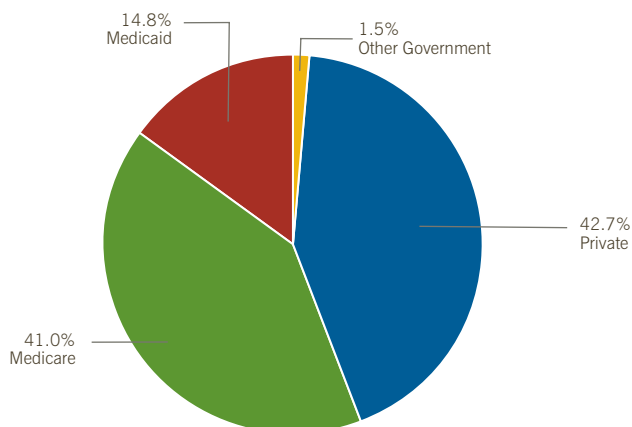
to close budget shortfalls, totaling more than \$48 billion, when finalizing their FY 2009 budgets. Despite these efforts, states continue to experience fiscal challenges. Forty-one states and the District of Columbia (DC) are now reporting mid-year FY 2009 budget gaps totaling \$42 billion. In total, 44 states and DC have reported budget shortfalls for the current fiscal year or projected budget shortfalls for FY 2010.²⁵

State budget deficits are forcing some states to cut hospital payments at a time when hospitals are seeing a greater number of uninsured and Medicaid patients. This is not new; in response to the last economic downturn, 31 states cut or froze inpatient hospital rates in FY 2003, and 32 states did so in FY 2004.²⁶

California, for example, recently passed a 10 percent Medicaid payment reduction for all health care providers through

More than half of hospitals’ revenue comes from Medicare and Medicaid...

Chart 7: Percent of Gross Revenue by Payer, 2007



Source: Avalere Health analysis of American Hospital Association Annual Survey data, 2007, for community hospitals.

Precedent Exists for the Federal Government to Use FMAP Increase as Fiscal Relief

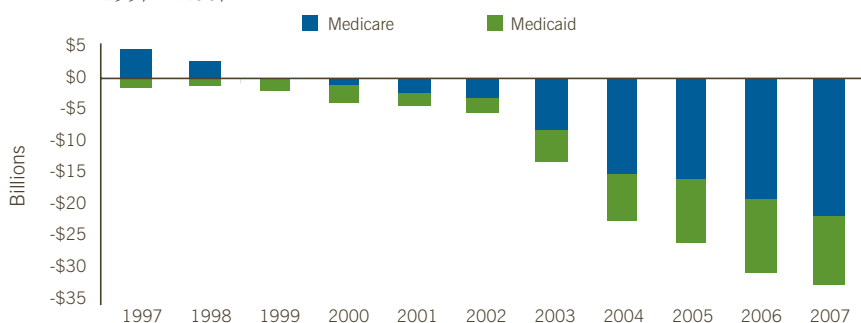
The federal government and states share responsibility for funding the Medicaid program. The federal government matches state dollars spent on Medicaid services at a rate known as the federal medical assistance percentage (FMAP). The FMAP varies by state, ranging from 50 to 77 percent based on a state’s per capita income.³¹

During the last slowdown, Congress delivered approximately \$10 billion in fiscal relief to states by temporarily increasing each state’s FMAP by 2.95 percentage points from April 2003 to June 2004. States were required to

maintain Medicaid eligibility requirements as a condition of receiving the increased assistance; most used these federal funds to ease their budget gaps and prevent further Medicaid cutbacks. Forty-two states used the additional federal dollars to close their Medicaid shortfalls. Twenty-seven states used the enhanced FMAP to avoid, lessen or postpone Medicaid cuts or freezes.³² Missouri and New Jersey, for example, were able to reverse planned cuts to Medicaid coverage for beneficiaries due to the federal fiscal relief.³³

...yet Medicaid and Medicare payments to hospitals already fail to cover costs.

Chart 8: Hospital Payment Shortfall Relative to Costs for Medicare and Medicaid, 1997 – 2007



Source: Avalere Health analysis of American Hospital Association Annual Survey data, 2007, for community hospitals.

March 2009, after which a smaller cut of 5 percent will be imposed. These planned reductions are being contested

in the courts.²⁷ In October, Massachusetts announced more than \$200 million in payment cuts to providers, including

hospitals.²⁸ More states may impose similar cuts as their budget gaps continue to grow.

At the federal level, the growing budget deficit is raising concerns about potential cuts to both Medicare and Medicaid. Together, these programs support more than half of hospital care provided. This share will grow as more people become eligible for Medicaid and as the first Baby Boomers reach age 65. Furthermore, Medicare and Medicaid payment rates already fall short of hospitals' costs. In 2007 alone, hospital payment shortfalls relative to costs were \$10.4 billion for Medicaid patients and \$21.5 billion for Medicare patients.²⁹ The Medicare Payment Advisory Commission (MedPAC) estimates that aggregate Medicare hospital margins will be negative 6.9 percent for FY 2009.³⁰

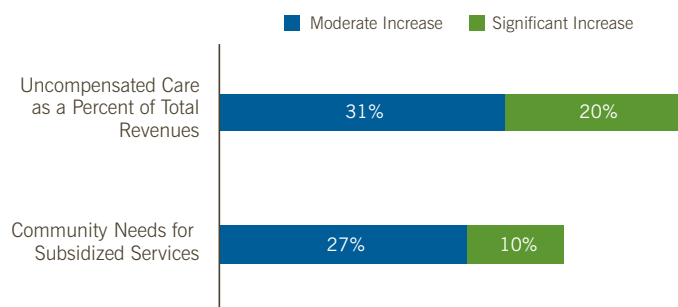
Hospital Financial Stress Increases as Fewer Patients Are Able to Pay for Care

As the economic downturn continues, hospitals will see an initial decline in patient care volume as patients put off elective procedures. At the same time, hospitals will care for an increasing number of patients with immediate needs who are unable to pay their bills. Hospitals' uncompensated care costs are rising as hospitals provide more charity care and accrue more bad debt. From 2001 to 2007, as the number of uninsured grew from 39.8 million to 47 million, hospitals' total uncompensated care costs also rose, from \$21.5 billion to \$34 billion. Over the past three months alone, about half of hospital survey respondents reported a moderate to significant increase in their uncompensated care costs. Additional data indicate an 8 percent increase in hospitals' uncompensated care costs³⁴ in the third quarter of 2008 compared to the same quarter in 2007.³⁵

However, the impact is likely to vary for different areas of the country and

During economic downturns, the need for financial assistance and subsidized services swells.

Chart 9: Percent of Hospitals Reporting a Moderate to Significant Increase in Uncompensated Care and Need for Subsidized Services in Past Three Months, November 2008



Source: AHA. (November 2008). Rapid Response Survey, The Economic Crisis: Impact on Hospitals.

different hospital types. For example, these trends are likely to be more pronounced in regions experiencing greater numbers of layoffs (e.g., those heavily dependent on financial services or

manufacturing). Also, public hospitals and other predominantly safety-net hospitals likely will see increased numbers of patients as the ranks of Medicaid and uninsured patients grow.

Moreover, many people who cannot afford care will delay seeking it until their conditions worsen and their treatment becomes even more expensive. In a recent Commonwealth Fund report, 68 percent of the uninsured and 53 percent of the underinsured reported going without necessary care in 2007 due to costs.³⁶ As patients forgo care until urgently needed, hospitals are likely to see initial drops in patients seeking care followed by an influx of emergency department visits when needs can no longer be put off.

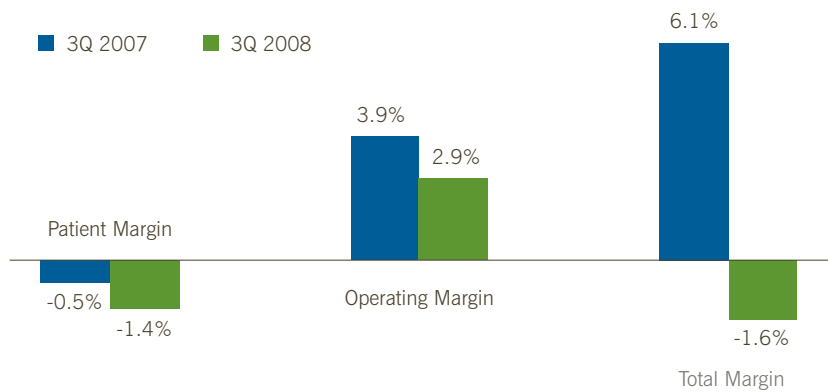
The economic downturn also is causing a marked uptick in the number of Americans seeking mental health assistance and turning to their local hospital. Approximately 20 percent of hospitals recently reported a moderate to significant increase in the number of patients presenting with behavioral health needs in the months of August, September and October 2008.³⁷

Additionally, hospitals traditionally have relied on investment income to supplement revenues from patient care, which often don't cover costs, but these gains have turned to losses

as the stock market indices have fallen by the greatest amount since the Great Depression. Overall financial health is at risk, and many hospitals are considering cutbacks.

The downturn is beginning to impact the financial health of hospitals.

Chart 10: Total, Operating and Patient Margins*, 3rd Quarter 2007 vs. 3rd Quarter 2008



Source: DATABANK, 557 hospitals reporting data for both 3rd Quarter 2007 and 3rd Quarter 2008 as of November 11, 2008.
 * Total Hospital Margin is calculated as the difference between total net revenue and total expenses divided by total net revenue.
 Operating Margin is calculated as the difference between operating revenue and total expenses divided by operating revenue.
 Patient Margin is calculated as the difference between net patient revenue and total expenses divided by net patient revenue.

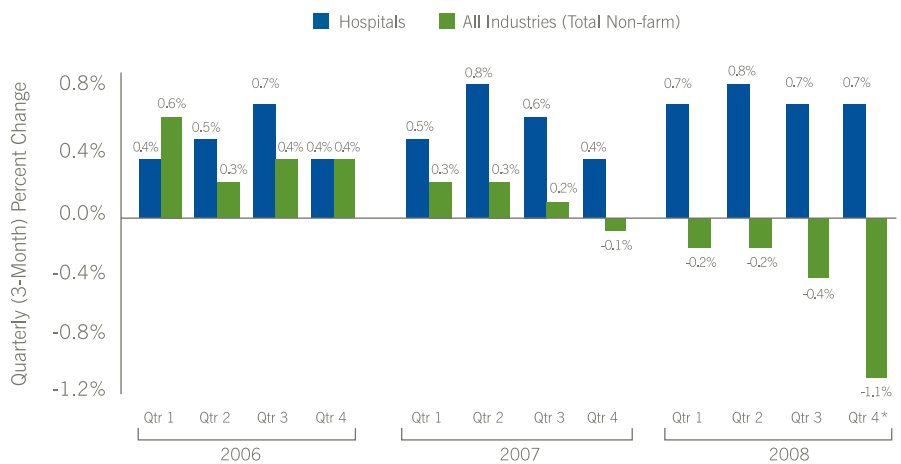
Beyond Health Care, Hospitals Support Economic Activity and Growth

Hospitals historically have been an important and steady source of employment in their communities in both good and bad economic times. In 2007, U.S. hospitals employed more than 5 million people, ranking second as a source of private-sector jobs.³⁸ The U.S. Bureau of Labor Statistics estimates that health care will generate more jobs than any other industry from 2006 to 2016 by adding 3 million new salary and wage jobs.³⁹

In 2007, hospitals spent approximately \$299 billion on employee compensation and \$304 billion on goods and services. When hospitals purchase goods and services, pay wages or pay taxes, that spending supports other jobs in their communities and is used by employees to purchase other goods and services. When these multiplier

Nationwide, hospital jobs are still growing even as employment in other industries declines.

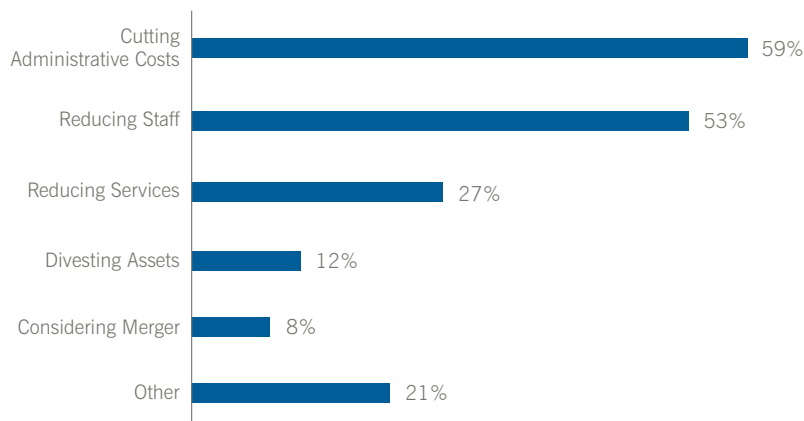
Chart 11: Percent Change in Employment, Seasonally Adjusted: Hospital vs. All Industries (Total Non-farm), 2006 – 2008



Source: Department of Labor, Bureau of Labor Statistics. (2008). Link: <http://www.bls.gov/bls/employment.htm>.
 *2008 Qtr 4 data are preliminary.

Even so, many hospitals are making or considering cutbacks as economic concerns mount.

Chart 12: Percent of Hospitals Making or Considering Changes in Response to Economic Concerns, November 2008



Source: AHA. (November 2008). Rapid Response Survey, The Economic Crisis: Impact on Hospitals.

effects are included, hospitals supported nearly \$2.0 trillion in economic activity.⁴⁰

Historically, hospitals have continued as a source of economic and job growth

during recessionary periods. For example, during the last economic downturn, monthly national employment figures dropped consistently from mid-2001 to the end of 2003,

while at the same time health care and education experienced job growth.⁴¹

Uncertainty about the length and depth of this recession, however, raises concerns about whether these trends will hold. Employment figures from the current economic downturn tell a mixed story. From January through December 2008, the health care and education sectors experienced job growth even as national monthly employment declined.⁴² Meanwhile, the number of mass layoffs – defined as an action involving 50 or more people at a single employer – experienced by the health care field this year has surpassed the 10-year average.⁴³ That said, hospital mass layoffs comprised just 20 percent of the total 544 mass layoffs experienced by the health care field overall through November 2008.⁴⁴ So while the field as a whole is still growing, individual hospitals are making adjustments to ensure they remain financially viable.

Policy Decisions Will Be a Key Factor in How Hospitals Fare Moving Forward

Given the severity of the economic situation, hospitals will have to be very conservative to maintain their dual role as health care provider and economic engine, but policy decisions also will play an important role.

Hospitals will have to more carefully scrutinize programs and services and reassess the costs and benefits in this new environment. They also will have to manage both cash and debt carefully to ensure that their overall financial positions do not deteriorate to the point that they jeopardize their ability to meet current and or future community needs.

Even when the credit markets do regain their footing, hospitals will likely continue to find borrowing to be more difficult and expensive. Initial excess

demand could result in only the highest rated hospitals being able to access credit. Hospitals that delay making capital improvements may see their ability to keep pace with the needs of their community deteriorate.

Against this backdrop, adequate payment from Medicare and Medicaid will become even more critical. The current economic situation also is likely to heighten calls for wholesale reform as this downturn casts an even brighter light on the many failings of the nation's health care system. Whether and how policymakers deal with these larger health system issues as they struggle to revive the economy will ultimately determine the outcome for hospitals, patients and their communities.

POLICY QUESTIONS

- What types of federal policy interventions are necessary to address the increased burden hospitals bear as a direct result of this challenging economic climate?
- How might policymakers work together with hospitals to ensure that the effects of the recent credit crisis do not permanently stunt hospitals' ability to deliver quality care and to make economic contributions to their communities?
- As policymakers consider broad health care reform, how might hospitals' experience and responsibility in the current downturn inform their decisions?

ENDNOTES

- 1 Merle, R. (1 December 2008). Stocks Tank as Recession Declared. *The Washington Post*.
- 2 Department of Labor, Bureau of Labor Statistics, Current Population Survey. (9 January 2009). Access at: <http://www.bls.gov/cps>.
- 3 Blackstone, B. (9 January 2009). Jobless Rate Surges to 7.2% in December. *The Wall Street Journal*.
- 4 Kaiser Commission on Medicaid and the Uninsured. (October 2006). *State Fiscal Conditions and Medicaid*. Washington, DC.
- 5 Avalere Health analysis of the American Hospital Association Annual Survey data, 2007, for community hospitals.
- 6 Dow Jones Industrial Average Snapshot. (5 November 2008). Access at: http://www.bloomberg.com/markets/stocks/movers_index_dow.html.
- 7 Goldstein, L., et al. (November 2008). *Not-for-Profit Healthcare Sector Outlook Revised to Negative from Stable*. New York, NY: Moody's Investors Service.
- 8 AP. (5 November 2008). *Tenet Healthcare Falls on Weak 3Q and Outlook*.
- 9 Avalere Health analysis of American Hospital Association Annual Survey data, 2007, for community hospitals, and Avalere Health analysis, using BEA-RIMS II (1997/2006) multipliers for hospitals, applied to AHA Annual Survey data for 2007.
- 10 Avalere Health analysis of American Hospital Association Annual Survey data, 2007, for community hospitals.
- 11 Goldstein, L., et al. (December 2008). *Diagnosing Not-for-Profit Hospital Downgrades: Escalation in 4th Quarter 2008 Rating Downgrades Indicates Effects of Rapid Weakening in Economy and Investment Losses*. New York, NY: Moody's Investors Service.
- 12 The Federal Reserve created a lending facility for corporate commercial paper after its market almost ground to a halt in early October.
- 13 Reuters. (3 October 2008). *California May Need US Treasury to Back-Stop Debt Offering*.
- 14 PRWEB. (17 November 2008). *Healthcare Experts Weigh in on Financial Crisis: Hospitals Facing Tight Credit Must Seek Creative Expense Control*.
- 15 Abelson, R. (15 October 2008). Disappearing Credit Forces Hospitals to Delay Improvements. *The New York Times*.
- 16 Divine, M. (13 November 2008). Lakeview Hospital Delays Expansion for at Least 3 Months. *Twin Cities.com*.
- 17 AHA. (November 2008). Rapid Response Survey, The Economic Crisis: Impact on Hospitals.
- 18 AHA. (November 2008). Rapid Response Survey, The Economic Crisis: Impact on Hospitals.
- 19 Abelson, R. (11 November 2008). Expecting Donations to Fall, Hospitals Brace for Bad News. *The New York Times*.
- 20 Kaiser Commission on Medicaid and the Uninsured. (October 2008). *The Uninsured: A Primer*. Washington, DC.
- 21 Dom, S., et al. (April 2008). *Medicaid, SCHIP, and the Economic Downturn: Policy Challenges and Policy Responses*. Washington, DC: Kaiser Commission on Medicaid and the Uninsured.
- 22 Dom, S., et al. (April 2008). *Medicaid, SCHIP, and the Economic Downturn: Policy Challenges and Policy Responses*. Washington, DC: Kaiser Commission on Medicaid and the Uninsured.
- 23 Smith, V., et al. (September 2008). *Headed for a Crunch: An Update on Medicaid Spending, Coverage and Policy Heading into an Economic Downturn*. Washington, DC: Kaiser Commission on Medicaid and the Uninsured.
- 24 Johnson, N., et al. (27 October 2008). *State Revenues Plummet: July-September Revenue Numbers Are Worst in Years*. Washington, DC: Center on Budget and Policy Priorities.
- 25 McNichol, E., and Lav, I.J. (23 December 2008). *State Budget Troubles Worsen*. Washington, DC: Center on Budget and Policy Priorities.
- 26 Smith, V., et al. (September 2003). *States Respond to Fiscal Pressure: State Medicaid Spending Growth and Cost Containment in Fiscal Years 2003 and 2004*. Washington, DC: Kaiser Commission on Medicaid and the Uninsured.
- 27 Kaiser Daily Health Policy Report. (25 September 2008). *State Watch: Governor Schwarzenegger Signs \$143 Billion California State Budget*. Access at: http://www.kaisernet.org/daily_reports/rep_index.cfm?hint=3&DR_ID=54669.
- 28 Lazar, K. (17 October 2008). Two Safety-Net Hospitals Hit Hard by Budget Cuts. *Boston Globe*.
- 29 Avalere Health analysis of American Hospital Association Annual Survey data, 2007, for community hospitals.
- 30 Stensland, J., et al. (4 December 2008). *Updating Payments for Hospitals*. Presented at the December 2008 MedPAC Meeting in Washington, DC.
- 31 Smith, V., et al. (September 2008). *Headed for a Crunch: An Update on Medicaid Spending, Coverage and Policy Heading into an Economic Downturn*. Washington, DC: Kaiser Commission on Medicaid and the Uninsured.
- 32 Smith, V., et al. (September 2008). *Headed for a Crunch: An Update on Medicaid Spending, Coverage and Policy Heading into an Economic Downturn*. Washington, DC: Kaiser Commission on Medicaid and the Uninsured.
- 33 Wachino, V. (November 2005). *Financing Health Coverage: The Fiscal Relief Experience*. Washington, DC: Kaiser Commission on Medicaid and the Uninsured.
- 34 AHA. (November 2008). Rapid Response Survey, The Economic Crisis: Impact on Hospitals.
- 35 DATABANK, 557 hospitals reporting data for both 3rd Quarter 2007 and 3rd Quarter 2008 as of November 11, 2008.
- 36 Schoen, C. (10 June 2008). *How Many Are Underinsured? Trends Among US Adults, 2003 and 2007*. New York, NY: The Commonwealth Fund.
- 37 AHA. (November 2008). Rapid Response Survey, The Economic Crisis: Impact on Hospitals.
- 38 Avalere Health analysis of the American Hospital Association Annual Survey data, 2007, for community hospitals.
- 39 Department of Labor, Bureau of Labor Statistics. (2008). Access at: <http://www.bls.gov/oc/cg/cgs035.htm>.
- 40 Avalere Health analysis, using BEA RIMS-II (1997/2006) multipliers for hospitals applied to 2007 American Hospital Association Annual Survey data. Employee compensation includes wages and benefits.
- 41 Department of Labor, Bureau of Labor Statistics. (2003). Access at: http://www.bls.gov/schedule/archives/empst_nr.htm#2003.
- 42 Department of Labor, Bureau of Labor Statistics. (2008). Access at: <http://www.bls.gov/news.release/empst.t14.htm>.
- 43 Carlson, J. (21 November 2008). Healthcare Nears 10-Year Record for Mass Layoffs. *Modern Healthcare*.
- 44 Department of Labor, Bureau of Labor Statistics. (2008). Access at: <http://data.bls.gov/PDQ/outside.jsp?survey=ml>.



American Hospital
Association

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