

TRENDWATCH

Teaching Hospitals: Their Impact on Patients and the Future Health Care Workforce

Teaching hospitals train future health care professionals, conduct medical research and fulfill a distinct and vital role in delivering patient care. While many hospitals offer

comprehensive care, teaching hospitals have additional capabilities to deliver sophisticated diagnostic and treatment services. In 2007 there were more than 1,000 teaching hospitals.¹ Every state

currently has at least one teaching hospital; some states have more than 50.² Most teaching hospitals operate on a non-profit basis.³ More than one-tenth of teaching hospitals are public institutions.⁴

Teaching Hospitals Serve a Unique Role

Teaching hospitals serve as the training ground for health professionals. In 2007, teaching hospitals trained approximately 100,000 medical and dental residents.⁵ Through these residency programs, recently graduated physicians get the clinical knowledge and experience necessary to enter independent practice. Many teaching hospitals also have training programs for nurses and allied professionals.

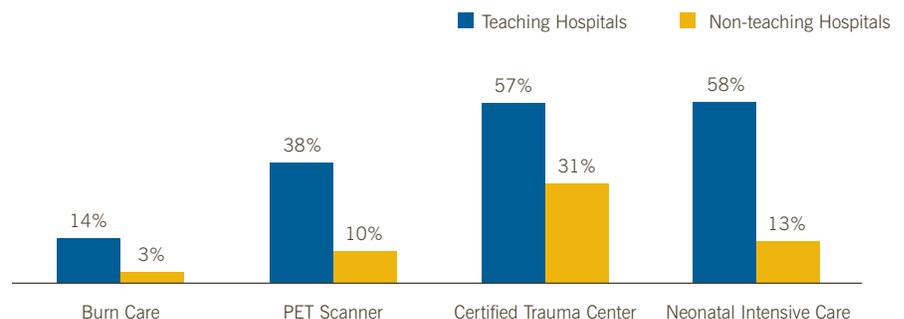
Teaching hospitals serve as centers of research and innovation, helping to develop new treatments and cures. The first live polio vaccine, intensive care unit for newborns and pediatric heart transplant were pioneered at teaching hospitals.⁶ To help support research efforts, the National Institutes of Health (NIH) provide funding to many of the nation's major teaching hospitals. In 2005, NIH awarded teaching hospital faculty \$2.2 billion in research funding.⁷

Teaching hospitals play distinct roles in their communities' care delivery systems, offering specialized services not available in other facilities. For example, intensive care services often are concentrated in teaching hospitals. More than half of all teaching hospitals have neonatal intensive care units (NICUs);

similarly, 57 percent have certified trauma centers.⁸ In contrast, only 13 percent of non-teaching hospitals have NICUs and 31 percent have certified trauma centers.⁹ A recent American Hospital Association (AHA) survey reveals that 76 percent of hospitals that provide heart transplant services are teaching

Highly specialized services are concentrated in teaching hospitals.

Chart 1: Percent of Hospitals Offering Specialized Services, Teaching vs. Non-teaching, 2007



Source: Association of American Medical Colleges. (February 2009). *Key Facts About Teaching Hospitals*.

institutions.¹⁰ In 2007, teaching hospitals treated approximately 96 percent of all patients needing burn care services and 91 percent of all patients needing pediatric intensive care services.¹¹ Thanks to teaching hospitals' capacity to perform such specialized care, patients often are transferred to these hospitals when their medical needs exceed other facilities' capabilities. In 2006 there were 321,567 Medicare patient transfers, 72 percent of which were to teaching hospitals.¹²

Teaching hospitals are an important component of the health care safety net, delivering care to many of the nearly 50 million Americans who lack health insurance. Teaching hospitals account for 55 percent of all hospital uncompensated care costs¹³ and 50 percent of all Medicaid hospitalizations.¹⁴ In addition to their clinical missions, teaching hospitals also provide important non-hospital services that benefit patients and their communities such as health screenings and support groups.

The burden of uncompensated care on teaching hospitals continues to grow. From 2000 to 2007, the total cost of uncompensated care delivered by teaching hospitals rose by \$6.5 billion.¹⁵ The flagging economy is exacerbating this trend. So far in 2009, 49 percent of teaching hospitals have seen a moderate to significant jump in the proportion of patients covered by Medicaid or other public programs for low-income populations compared to last year.¹⁶

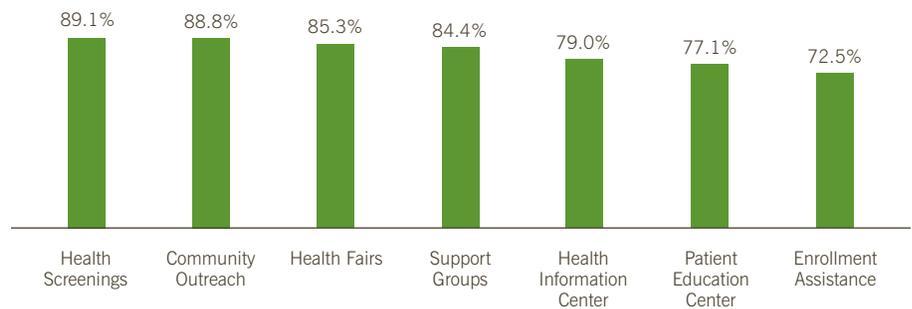
In part because of their clinical, research and educational missions, teaching hospitals are major economic engines in their communities, generating business, employment and tax revenue. Teaching hospitals directly employ 2.7 million people and are often among the largest employers in their communities.¹⁷

Businesses operating in other sectors benefit from the direct expenditures of hospitals and their staff. For example, hospitals purchase goods and services such as drugs, information technology, food and bed linens. Those purchases create revenue for local communities and income for employees of other organizations. In 2007, teaching hospitals had a total economic impact of \$1.05 trillion

and were directly or indirectly responsible for more than 7 million full-time jobs.¹⁸ A study by the Association of American Medical Colleges (AAMC) also found that every dollar spent by a member medical school or teaching hospital indirectly generates an additional \$1.30 when it is "re-spent" on other businesses or individuals, resulting in a total impact of \$2.30 per dollar spent.¹⁹

Teaching hospitals offer important "non-hospital" services to benefit their communities.

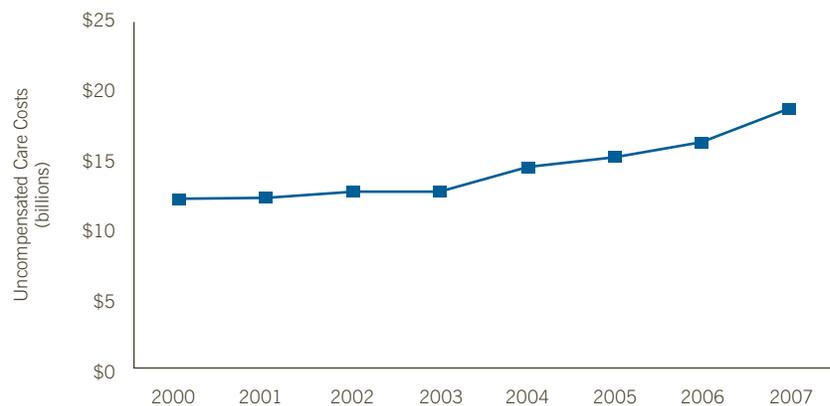
Chart 2: Percentage of Teaching Hospitals Offering "Non-hospital" Services, 2007



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

Teaching hospitals provide a significant and growing amount of uncompensated care.

Chart 3: Uncompensated Care Costs (in Billions), Teaching Hospitals, 2000 – 2007



Source: Avalere Health analysis of American Hospital Association 2000 – 2007 Annual Survey Data. Uncompensated care includes charity care and bad debt.

Teaching Hospitals Rely on Special Payments to Cover the Costs of Their Educational and Clinical Roles

Training resident physicians involves significant costs beyond those customarily associated with patient care. In addition to residents' salaries and benefits, teaching hospitals must pay for faculty, faculty offices, classroom space, comprehensive medical libraries and advanced, highly sophisticated technological equipment to support their residency programs.²⁰ Additionally, the involvement of trainees in care reduces the overall efficiency of hospital operations.

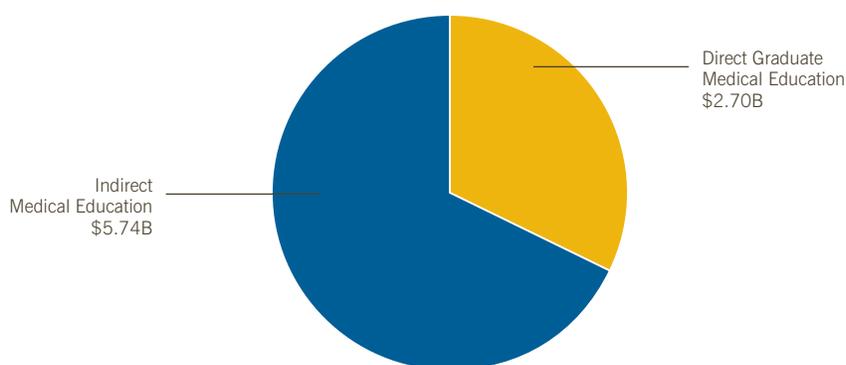
Congress has historically acknowledged the extra costs associated with teaching hospitals' missions by directing Medicare to make separate payments to these institutions. Under the Medicare program, teaching hospitals receive additional payments to offset the added costs associated with the training and support of medical residents, as well as additional patient care costs not directly captured by the traditional Medicare diagnosis-related group (DRG)²¹ and other payment systems. These

additional Medicare payments are provided in two ways: direct graduate medical education (DGME) and indirect medical education (IME) funding for

operating and capital costs (*See Sidebar*).²² In FY 2008, the Medicare program paid an estimated \$2.70 billion for DGME and \$5.74 billion for IME.²³

Medicare payments for graduate medical education totaled an estimated \$8.4 billion in FY 2008.

Chart 4: Medicare Special Payments to Teaching Hospitals, 2008



Source: Centers for Medicare & Medicaid Services, Office of the Actuary, July 2008.
FY = fiscal year

Medicare DGME and IME Funding Support

DGME: Direct Graduate Medical Education payments compensate hospitals for costs directly associated with educating residents, such as salaries and benefits for residents and supervising faculty, plus associated overhead. In general, these payments to hospitals are determined by first calculating a per resident amount (PRA) for each hospital, which is defined as a hospital's total allowable DGME costs divided by the number of residents in 1984 (for most teaching

hospitals), trended forward by inflation. The PRA is then multiplied by a full-time equivalent count of residents at each hospital (subject to a "cap" that was imposed in FY 1998); the total payment is multiplied by the hospital's ratio of Medicare hospital days to total inpatient days to determine the DGME payment.²⁴

IME: Indirect Medical Education payments compensate hospitals for the higher patient care costs at teaching

hospitals. IME payments are paid as an add-on to each DRG payment and are calculated based on a formula using each hospital's ratio of interns- and residents-to-beds (IRB). The formula is determined by Congress and is part of the inpatient prospective payment system (IPPS). Hospitals also receive capital IME payments to cover the additional equipment and facility costs required by training programs, adjusted to reflect the intensity of each institution's teaching activities.

Unlike the Medicare program, state Medicaid programs are not required by statute to support graduate medical education. However, 47 states and the District of Columbia elect to make such payments under their Medicaid programs.²⁵ Private payers typically do not contribute explicitly to graduate medical education.

State Medicaid programs also contribute to graduate medical education.

Chart 5: Number of State Medicaid Programs that Contribute to Graduate Medical Education, by Type of Contribution, FY 2005



Source: Henderson, T.M. (August 2006). *Medicaid Direct and Indirect Graduate Medical Education Payments: A 50-State Survey*. Completed for the Association of American Medical Colleges.
⁽¹⁾Includes payments directly to teaching programs and recognized in managed care rates.
 FY = fiscal year.

Challenges for Teaching Hospitals

Teaching hospitals will confront several and varied operational and financial challenges in 2009 and beyond. Specifically, hospitals are being challenged by evolving patient needs and shifts in where care is delivered; increasing pressure on already-stretched resources; Medicare residency caps that may constrain their ability to train new physicians; and payment changes that limit their ability to offer state-of-the-art clinical and educational experiences.

AAMC estimates that an expansion in coverage could require 31,000 additional physicians by 2025, on top of the projected shortage of 124,000 physicians.²⁷

Today’s medical students are the future physician supply, but the number

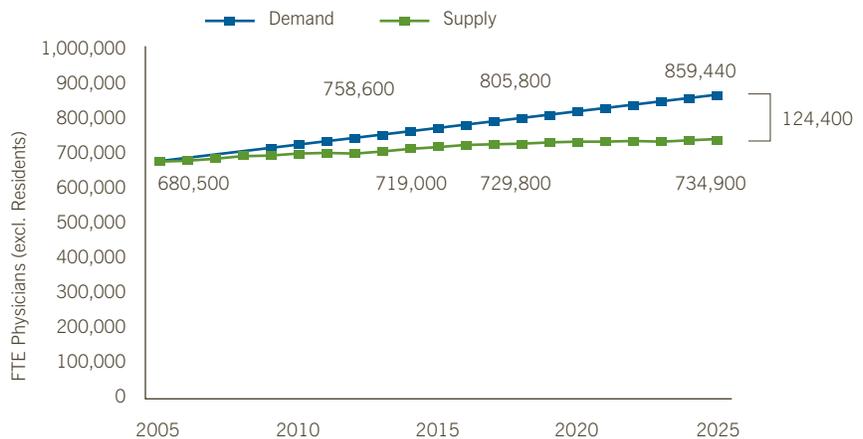
of available residency positions may be constraining their graduate clinical training opportunities. First-year residency slots have grown slowly in the past several years and currently number approximately 26,000.²⁸

The Impact of Residency Caps on Educational Capacity

Due to factors such as population growth and aging, as well as current efforts to expand health insurance coverage, many policymakers believe the U.S. will experience a growing shortage of physicians. Data from Massachusetts, which implemented comprehensive coverage reform in 2006, show that the state needed more physicians, especially primary care physicians than were available to meet the medical needs of newly insured residents.²⁶ Likewise,

Physician demand will outpace supply — even without expanded coverage — and residency caps limit ability to fill the gap.

Chart 6: Projected Physician Shortage, 2009 – 2025



Source: Association of American Medical Colleges. (February 2009). *The Complexities of Physician Supply and Demand: Projections Through 2025*.

The Balanced Budget Act of 1997 (BBA) imposed residency caps for hospitals. The caps restrict the number of residency slots for which hospitals may receive Medicare DGME funding as well as the number of residents that hospitals may count in their IRB ratios, which affects IME payments. The caps are hospital-specific, meaning that a hospital cannot receive Medicare payments for an expansion of slots in one residency program without corresponding reductions in another.²⁹

There are a few exceptions to the residency caps. They include allowances for rural hospitals and new teaching hospitals.³⁰ Some hospitals had their cap levels increased or decreased as a result of the Medicare Prescription Drug, Improvement, and Modernization Act of 2003, which reduced slots for hospitals that were not using them and gave those slots to other hospitals that applied for them; a similar program has been proposed in health reform legislation.³¹ While some hospitals may not use their entire resident allotment, many hospitals are training residents above and beyond their funding caps – requiring these hospitals to fully absorb the costs of training the additional residents. In 2007, 306 teaching hospitals – about one-quarter of all teaching hospitals – trained nearly 7,000 residents with no Medicare support.³² Hospitals at or above their caps may face difficult decisions about accepting unfunded, additional residents for training. In addition, the current residency cap structure does not account for students graduating from new medical schools or new programs needed because of geographic shifts in population.

Ambulatory Training to Reflect Where Much of Care Is Delivered

More than one-third of all Medicare beneficiaries are living with three or more chronic conditions. Much of chronic care is delivered in ambulatory settings. It is increasingly important for residents to receive additional training at these non-hospital sites. Such sites could include physician offices, as well as nursing homes, outpatient clinics and patient homes. The Medicare Payment Advisory Commission (MedPAC) notes that experience in non-hospital settings is vital for new physicians learning how to coordinate care, but that financial and operational challenges may be limiting residents' opportunities to train at ambulatory sites.³⁴

Accreditation standards almost uniformly require some level of ambulatory training for most, if not all, residency programs. Teaching hospitals can receive Medicare DGME and IME payments when residents train at ambulatory sites if they incur “all or substantially all” of the cost of training at these sites. However, several regulatory requirements create operational barriers to training residents in non-hospital settings. For example, teaching hospitals must track, catalog, and report on all resident hours spent at non-hospital sites to receive payment, a process which requires significant effort. Additionally, the site providing the training must have a formal arrangement with the teaching hospital. Often physicians who train residents in non-hospital sites wish to do so voluntarily, but without a contract, teaching hospitals cannot receive funding for that training. These and

other challenges may make it difficult for teaching hospitals to create streamlined financial and operational processes for their residents to receive training at other sites. However, this training is becoming increasingly important for new physicians entering the workforce.

Medicare regulations also may limit the amount of non-patient educational activities that can occur, both in hospital and non-hospital sites. For example, didactic opportunities for formal training in quality improvement, system-based practices and other topics important for residents are not supported by Medicare.

Current and Future Economic Challenges

The current economic environment places a significant financial strain on teaching hospitals. Even in a strong economy, teaching hospitals suffered declining Medicare margins.³⁵ From 2000 to 2007, teaching hospitals' Medicare margins fell by more than 12 percentage points,³⁶ and from 2006 to 2007, teaching hospitals' overall Medicare margins dropped from negative 10.1 percent to negative 11.4 percent.³⁷

The current recession has exacerbated the financial difficulties of teaching hospitals. The median total margin of all U.S. hospitals has fallen to zero.³⁸ In 2009, 46 percent of teaching hospitals reported a “significant decrease” in total margin, and 27 percent reported a similar drop in operating margin.³⁹ All hospitals are facing financial pressure, but the economic crisis may put particular strain on teaching facilities' resources to support their training programs and their role in the safety net.



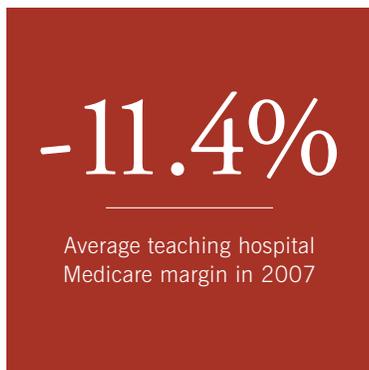
from the field

“The physician workforce is in jeopardy and any cutbacks in GME funding could have serious repercussions for many years.”³³

Council on Graduate Medical Education, Nineteenth Report, September 2007

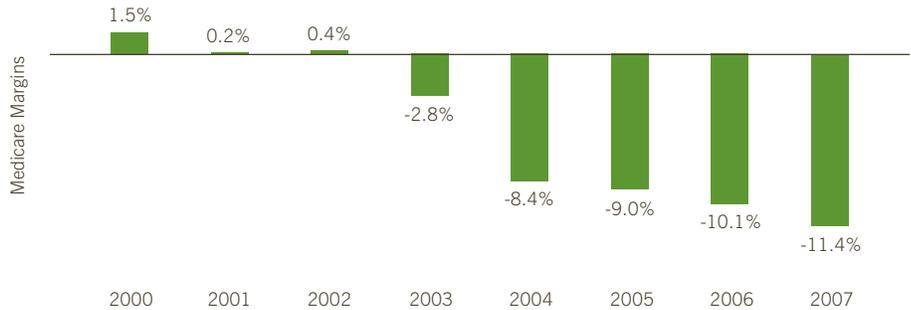
Since September 2008, 52 percent of teaching hospitals have reduced their staff, and 29 percent have cut services such as behavioral health programs.⁴⁰ Among teaching hospitals that have recently reduced staff, 35 percent have eliminated 100 employees or more.⁴¹ On average teaching hospitals employ about 1,900 full-time equivalent workers.⁴²

The economic downturn also has reduced teaching hospitals' investment assets, eroding another means of support for medical education. For example, a Chicago medical center recently announced plans to reduce spending by seven percent due to a significant decrease in its endowment.⁴³ A Boston medical center announced in January that certain expansion plans were on hold due to declines in the hospital's endowment,⁴⁴ and a health system in Maryland announced plans to reduce its staff by 8 percent, or 440 positions.⁴⁵



Teaching hospital overall Medicare margins have steadily declined since 2000.

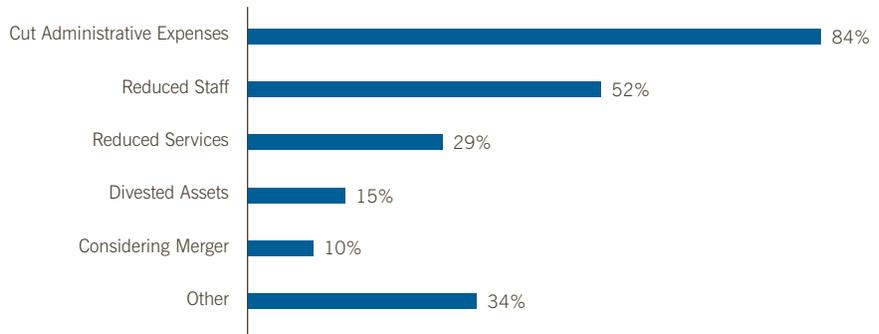
Chart 7: Average Teaching Hospital Medicare Margins, 2000 – 2007



Source: Health Forum, American Hospital Association, 2007 Annual Survey. Includes all hospitals with intern-to-bed ratios greater than zero.

Teaching hospitals are making cutbacks to address economic challenges.

Chart 8: Percent of Teaching Hospitals Making Changes in Response to Economic Concerns Since September 2008



Source: American Hospital Association. (April 2009). *The Economic Crisis: The Toll on the Patients and Communities Hospitals Serve*.

Proposed Payment Changes Could Weaken the Financial Health of Teaching Hospitals

Teaching hospitals play vital roles in patient care, education, and research, and in supporting their communities. Proposed funding cuts to these hospitals, especially on top of the current economic climate, could jeopardize their ability to perform these functions in the future.

Many of the health care reform proposals under discussion would cut Medicare payments to hospitals, affecting teaching and non-teaching hospitals alike. Additionally, MedPAC has recommended cuts to IME funding in its 2007, 2008 and 2009 reports to

Congress. Specifically, MedPAC recommends reducing the IME adjustment by 1 percentage point (to 4.5 percent),⁴⁶ an 18 percent reduction in IME payments. Based on the Commission's estimates of total IME funding, this cut would reduce

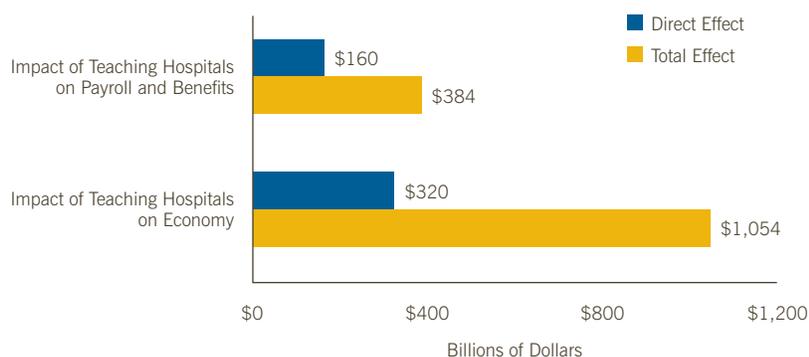
teaching hospitals' Medicare support by approximately \$1 billion.⁴⁷

As teaching hospitals consider how best to fulfill their varied roles in the face of increasing financial pressure, many are evaluating staff and services against available resources. These and other changes could have implications for patients in both the short and long run.

Policymakers considering health reform are rightly seeking to proceed in a fiscally responsible way. Assuring Medicare's support for the special missions of teaching hospitals will ensure stability for these institutions as they continue to train the future physicians of this country and help ensure the successful reform of our health care system.

Cuts to teaching hospital resources could have ripple effects for other sectors of the economy.

Chart 9: Direct and Total Effects of Teaching Hospitals on U.S. Economy, 2007



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

POLICY QUESTIONS

- How can policymakers ensure the preservation of the important roles that teaching hospitals have in educating physicians and other health professionals, providing an environment for clinical research and continuing to provide highly sophisticated patient care services?
- How can policymakers work with teaching hospitals to ensure that graduate medical education is adequately supported?
- How can graduate medical education policy contribute to the appropriate number and mix of physicians in the future?
- How can graduate medical education adapt to meet changing demographics, the rising burden of chronic disease and changes in the delivery of health care services?
- How might health reform proposals – for example extending health insurance coverage – affect teaching hospitals' service mission, research and graduate medical education responsibilities?
- With teaching hospitals serving as a source of much innovation in health care, what roles can these institutions play in finding solutions to cost growth?
- How can teaching hospitals serve as role models in delivery system reform mechanisms such as medical homes and/or accountable care organizations?

ENDNOTES

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American Hospital
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