The Impact of Health Care Economics on Surgical Education

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Abstract

Just like the world economy in 2012, health care is in a state of flux. The current economic environment will impact not only current colorectal surgery residents, but also future generations of surgical trainees. To understand the economic impact of the current health care environment on colorectal surgery residencies, we need to know the basics of graduate medical education (GME) funding for all residents. Since the 1960s with the initiation of Medicare, the federal government through the Center for Medicare and Medicaid Services (CMS) has been the largest source of GME funding. There are two types of costs associated with GME. Direct GME (DME) funding covers costs directly attributed to the training of residents. These costs include residents' stipends, salaries, and benefits; cost of supervising faculty; direct program administration costs; overhead; and malpractice coverage. Indirect GME (IME) costs are payments to hospitals as an additional or add-on payment for the increased cost of care that is generally found in teaching hospitals. In 2010, President Barak Obama signed into law H.R. 3200, the Patient Protection and Affordable Care Act (PPACA). In 2011, the Supreme Court held that the majority of the PPACA is constitutional. Although the true impact of this bill is unknown, it will change the formula for Medicare GME reimbursement as well as shift unused residency positions to primary care.

Keywords

- graduate medical education
- funding
- GME costs

Objectives: On completion of this article, the reader will: (1) understand the current mechanism for funding postgraduate medical education, and (2) understand the challenges changes in health care economics generate for the future of medical education.

Just like the world economy in 2012, health care is in a state of flux. The current worldwide economic downturn will impact not only current colorectal surgery residents, but also future generations of surgical trainees. These changes will impact more than resident's future earning potential; they will have a long-term impact on the American health care system's ability to train quality colon and rectal surgery residents to meet the needs of an ever-aging population.

History of GME Funding

To understand the economic impact of the current health care environment on colorectal surgery (CRS) residencies, the basics of graduate medical education (GME) funding for all residents must be understood. GME is currently funded by a variety of sources both public and private. These include (1) Medicare, the major funding source; (2) Medicaid; (3) non-CMS sources; and (4) revenues generated by physician practices.

Since the initiation of Medicare in the 1960s, the federal government through CMS has been the largest source of GME funding. Prior to 1960 residents and fellows training was funded directly by the hospitals and universities affiliated with hospitals. In the post-World War II era the costs of training physicians were relatively low. For example, at Rhode

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Island Hospital in 1952 a fifth-year surgery resident received \$1,300/year and room and board at the hospital (equivalent to \$10,752/year in 2011 dollars).¹ With President Johnson signing the Medicare Act (H.R 1nd S.R1) in 1965 as part of the Great Society program, the federal government became not only involved in providing subsidies for medical care, but also became involved in the supply side, with payments to medical schools and resident funding.² In 1966, a year after the Medicare Act, that same fifth-year resident received \$6,600/year (equivalent to \$45,000 in 2011 dollars).¹ Hospitals and training programs also received money for resident training in addition to resident salary support. These new revenue sources not only increased the funding of training, but it also increased the number of training programs. As you can imagine, the amount of money spent on resident training skyrocketed.

Prior to 1992, physicians were reimbursed based on “usual, customary and reasonable charges” (UCR). UCRs were based on the physician’s most frequent charge for the service (usual), the average charge for that service in the area (customary), and the actual charge for the service (reasonable).³ Individuals within the federal government, private insurers, and nonprocedure-based medical specialties thought that this system perpetuated increasing health care costs and inequities in medical care. They believed that this system served as an incentive for physicians to inflate charges even in those instances in which actual costs were decreasing, and were perpetuating the inequities in fees between proceduralists and nonproceduralists. In response to this, the federal government instituted the Medicare fee schedule and instituted the Resource Based Relative Value System (RBRVS) in 1992. This led not only to significant changes in the Medicare payment system, but also significant changes in government funding of GME. Despite efforts at cost containment, health care costs are still rising as a percentage of gross domestic product (GDP) and Medicare remains the largest single source of funding GME funding. Medicare invested over 9.2 billion dollars in 2009, spending almost \$100,000 per resident per year.⁴

Costs of GME Funding

There are two types of costs associated with GME: DME and IME.

DME

Direct GME (DME) includes costs directly attributed to the training of residents. These costs include residents’ stipends, salaries, and benefits costs of supervising faculty, direct program administration costs, overhead, and malpractice coverage. DME expenses accounted for over 3 billion dollars in the Medicare budget in 2009.⁴ Prior to 1997 the total DME payments a hospital received was based on three factors: (1) the hospital-specific per resident cost amount (salaries, benefits, administration, and clerical costs), (2) the number of residents or FTE (fulltime equivalents) per institution, and (3) the number of Medicare patients seen and treated by a particular institution. There was no set number of resident

slots available at any institution. From an economic perspective, institutions could increase the number of residents as they saw fit and would be compensated appropriately. In reality, the number of categorical residents and fellowship spots was set by the Residency Review Committee (RRC) and the certifying agencies (American Board of Colon and Rectal Surgery [ABCRS]). This changed in 1997, when the Balanced Budget Act not only capped any increase in Medicare spending to \$25 million per year without legislative action, but also capped the number of Medicare-funded training positions at ~105,000 residents per year.^{5,6} It also linked DME payments each year to inflation by the consumer price index for all urban consumers (CPI-U). Furthermore the Balance Budget Act capped training at 5 years for residency and reimbursed fellowship training at ½ FTE rate. Fortunately, because colon and rectal surgery training culminates in its own board certification (ABCRS), it is considered a residency, and these trainees are reimbursed at the full FTE level.

IME

IME is a much less concrete number and as expected the costs are significantly more than DME costs. These payments are payments to hospitals as an additional or add-on payment for the increased cost of care that is generally found in teaching hospitals.⁷ In 2009, IME expenses accounted for over 6 billion dollars in the Medicare budget.

The federal government currently reimburses hospitals based on a prospective payment system that was developed by Fetter and associates at Yale University. It categorizes patients based on primary and secondary diagnosis, primary and secondary procedures, age and length of stay, and then sets a uniform cost for each category.⁸ These diagnostic-related groups (DRGs) set a maximum amount that would be paid for the hospital care of Medicare patients for a specific problem. Medicare then reimburses IME as an add-on to DRG payments. These IME costs are expected to cover the increased costs associated with resident training, for example, the higher numbers of diagnostic tests ordered by residents, the fact that sicker or more complex patients tend to receive care in teaching hospitals, have longer patient stays, and that teaching hospitals make increased use of new technologies. IME payments are calculated by using the hospitals ratio of residents to Medicare available beds and an IME multiplier that is set by Congress. The formula is $[c \times \{(1 + r).405 - 1\}]$ with c being the multiplier and r being the ratio of residents to beds. In an effort to control costs and with Congress’ concern that the government was overpaying hospitals relative to their additional teaching costs, the IME multiplier has decreased yearly from 1.8 in 1999 to its current level of 1.39. Teaching hospitals in communities with smaller shares of Medicare beneficiaries and subsequently less Medicare inpatient admissions receive proportionately lower IME payments per resident.⁹

How Much Do We Spend on GME?

In 2006, Medicare provided direct GME support to hospitals for ~89,600 FTE residents and fellows.¹⁰ Hospitals received approximately \$70,000 in IME payments and \$30,000 in GME

payments for each resident. Regulations for counting eligible FTEs for direct GME and IME payments are complex, so the number of residents supported by Medicare through direct GME and IME payments differ. For the IME payment adjustment, Medicare supported 79,800 FTE residents in inpatient prospective payment system hospitals. For each teaching hospital, Medicare limits the number of residency positions it supports through a hospital-specific cap on medical education subsidies.

Although the majority of GME funding is from Medicare, there is some funding through other federal and state programs. For example, state Medicaid programs contribute more than \$3 billion annually. Unfortunately, in the current economic climate, state governments are also being squeezed and in response have decreased their support of GME funding. In 2005, 47 states contributed \$3.78 billion to medical education; in 2009, 41 states contributed \$3.18 billion.¹¹

The Department of Veterans Affairs (VA) funds 9,000 residents and allows more than 30,000 residents and fellows to rotate through VA hospitals each year. The Department of Defense funds and trains ~3,000 military residencies per year. The Children's Hospital Medical Education Program administered by the Health Resources and Services Administration (HRSA) provides \$300 million to support direct and indirect GME costs. Some Title VII grants administered by HRSA are also used to support residencies in geriatrics and primary care.

The Future

In 2010, President Barak Obama signed into law H.R. 3200, the Patient Protection and Affordable Care Act (PPACA).¹² Although the true impact of this initial attempt at improving the quality of the American health care system and controlling its escalating costs is unknown, the PPACA does have an impact on resident training. The PPACA attempts to rebalance the specialty mix and geographic distribution of residents, reimburse for DME and IME time spent in an ambulatory setting, increase the socioeconomic diversity in the physician workforce, and improve the competencies of graduating residents. It establishes the National Health Workforce Commission under direction of the Government Accounting Office (GAO) and the HRSA, the primary federal agency for improving access to health care services for people who are uninsured, isolated, or medically vulnerable.

The largest effect of the PPACA, redistributing the specialty mix with an increasing focus in primary care and general surgery will have a negligible impact on CRS residents now and in the near future. The PPACA continues the 1997 Balanced Budget cap with regards to the number of funded residencies, but it now requires that 65% of the residency spots that have not been filled in the preceding 3 years be redistributed to either primary care or general surgery.¹³ Furthermore 30% of these positions are required to go to rural hospitals in states that are designated in the top 10 as a health professionals shortage areas (as of March 23, 2010), as documented by the ratio of the total population in an area to the total population of the state based on the most recent

census data. These include Louisiana, Mississippi, Puerto Rico, New Mexico, South Dakota, North Dakota, District of Columbia, Montana, Wyoming, and Alabama. Although this sounds like a huge shift in resident training, in reality it only affects ~1000 positions and none are CRS training positions.¹⁴

Of more concern to future residents, including CRS trainees, is the battle over GME funding as a whole. The Simpson-Bowles debt reduction commission pushed to get the federal government to "bring GME payments in line with cost of medical education by limiting hospitals DME payments to 120% of the national average salary paid to residents in 2010"; and also cutting IME payments in half.¹⁵ This prompted the American Medical Association (AMA) and the AAMC to call for an increase in GME funding not only from the federal government, but from new sources, possibly the insurance industry.

Further impacting colorectal surgical residents in the future is the physician workforce needs. In 1997, at the time of the Balanced Budget Act, there was a projected glut of physicians in all specialties, explaining the cap on GME positions. Currently, there is a projected shortage of physicians, especially in primary care and general surgery despite the increased number of physician extenders, such as advanced practice nurses. In the current fiscal environment, it becomes necessary to round up other funding of GME to minimize the strain on CMS and by definition, the U.S. taxpayer.¹⁶

Where this will lead and its impact on CRS trainees and their future careers is unclear. What is known is that with the changing population demographics there will be a need for colorectal surgeons who have been trained to provide quality care for their patients and can expect to receive reasonable compensation. Nonetheless, in the ever-changing face of the socioeconomic landscape, physicians need a solid basis that allows them to function in today's practice environment.

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