

Financing of Graduate Medical Education

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The road to become a practicing physician is an expensive endeavor for everyone. Undergraduate allopathic medical education leaves the average medical student in debt over \$150,000.¹ Graduate medical education, necessary for physician licensure and board certification, is very costly. In academic year 2009-2010, the ACGME reported there were approximately 111,000 residents and fellows in ACGME-approved programs nationwide.² Current salaries for those trainees range from approximately \$44,000 – \$70,000 depending on post-graduate level and region.³ The cost of training residents and fellows is considerably higher than their salaries suggest; fringe benefits, malpractice coverage, teaching and administrative costs, support services, library and electronic medical literature resources, call rooms, etc, must be provided as well. In 2009, it is estimated that federal and state financial support for GME exceeded \$12 billion.⁴

Since the mid-1960s, Medicare has been the largest source of federal funding for graduate medical education. Prior to the creation of Medicare and Medicaid, hospitals funded individual resident and fellow training. The costs were relatively low; for example, prior to 1952 interns at RIH did not receive any remuneration, and fifth year residents received a stipend of \$1,320 per year, and were housed on campus, providing care more than the current 80 hours per week limit. Residents were vital to the care of patients and therefore the financial stability of the hospital. Resident stipends at RIH steadily increased to \$4,300 and \$6,600, for PG-1s and PG-5s, respectively in 1966. With the enactment of the Medicare and Medicaid public insurance programs, however, came a greater demand for physician services. Medicare assumed partial responsibility for supporting **graduate medical education (GME)** as an incentive for hospitals to create more residency training positions, in part to keep up with the demand for services. In addition, providing educational opportunities for resident and attending physicians at teaching hospitals improved patient care, benefiting Medicare beneficiaries.⁵⁻⁷ Until the

mid-1980s reimbursement was cost-based, and determined by each teaching hospital's calculation of "reasonable GME costs." Hospitals would submit reports to Medicare on the costs of providing training, and Medicare would reimburse each hospital accordingly.

In 1985, with the passage of the Consolidated Omnibus Budget Reconciliation Act, Medicare established two types of prospective payments for GME in tandem with the establishment of DRG's: **Direct Medical Education (DME)** and **Indirect Medical Education (IME)** Adjustments. DME payments were allocated to cover resident salary and fringe benefits, operating expenses and supervising physician costs. The total DME payment that a particular hospital received was calculated based on three factors: 1) a hospital-specific **Per Resident cost Amount (PRA)** based on FY1984 cost report data (which included resident salaries and fringe benefits, supervising physician, administrative and clerical costs); 2) the number of resident FTE's at the hospital and 3) the proportion of Medicare patient-days at the particular hospital relative to total patient-days.

IME adjustment payments were intended to cover additional costs borne by teaching hospitals to provide postgraduate training which were not directly tied to training programs, to account for the increased use of tests and ancillary services, the greater acuity of illness of patients cared for at teaching hospitals, and other inefficiencies associated with teaching hospitals. IME payments are made as a percentage an add-on to a hospital's **diagnosis related group (DRG)** payment rate for Medicare discharges. They are based on the IME adjustment factor, which is calculated using a hospital's ratio of residents to beds and an IME multiplier, which is set by Congress. Thus, the total IME payment that a hospital receives is dependent upon the number of residents the hospital trains, the number of Medicare discharges, and the current level of the IME multiplier. For the first several years of the prospective payment system, Medicare provided DME and IME pay-

ments to hospitals for each resident/fellow FTE employed at the hospital based on the Medicare Cost Report submitted by the institution. If the number of residents employed increased, so did the reimbursement. Not surprisingly, residency positions continued to increase at hospitals over the decade.

During the same timeframe, but without changing the basic reimbursement model, Medicare made a number of changes to try to control costs. For example, Medicare reduced the IME multiplier, and in an effort to balance primary care versus specialty training, Medicare reduced DME payments for most fellowship positions to half the reimbursement of residency positions. This discrepancy in payment for fellowship positions versus residency positions remains in effect.

Despite these efforts, expenditures continued to increase, and in 1997, Congress passed the Balanced Budget Act, which included sweeping changes in the Medicare reimbursement program for GME.⁸ The major provisions that affected reimbursement to hospitals included:

- 1) Establishment of a "cap" for each hospital, a maximum number of resident FTE's, for which DME and IME payments would be made, based on FTE numbers reported on that hospital's 1996 Medicare Cost Report.
- 2) The IME multiplier was decreased from 7.7 percent per 0.1 **intern/resident-to-bed (IRB)** ratio in FY 1997 to 5.5 percent in FY 2001 and subsequent years.
- 3) A cap on the FTE's used in the IRB ratio which is used in calculating the Medicare IME payment.
- 4) Medicare initiated IME payments to hospitals, in addition to DME payments previously received, for the time residents train at non-hospital ambulatory sites. However, the hospital had to incur

most or all of the training costs at that site, including faculty salaries. Hospitals could not contend that physicians in non-hospital sites volunteered their time.

These limits appear to have curtailed growth in resident positions for the first five years after implementation. From 1997 to 2002, there was only a 0.1% increase in the number of US residents and fellows in ACGME programs according to the AAMC National GME Census. In the subsequent five years, there was a 7.9% increase in the number of trainees.⁹ Some of that growth is due to the trend of increasing fellowship training after residency rather than an absolute increase in the number of medical school graduates in residency training. It has also been posited that duty hours changes in 2003 may have influenced the growth in resident FTE's despite cap limits and declining IME payments.

Over the past decade, debate has continued over how to support graduate medical education adequately and reliably. Resistance to change and the tension between service and education inherent in GME activities has contributed to a lack of reform. Various groups have advocated for a number of different models for supporting GME from developing an all payer system (where all insurance providers would contribute to supporting residency and fellowship programs) to modifying current Medicare regulations to more accurately reflect the actual costs of providing training.^{6,7,10} The **Council on Graduate Medical Education (COGME)**, an advisory group authorized by Congress in 1986, is charged with providing ongoing assessment of physician training and workforce issues, including finance policies. In 2007, COGME called for increased flexibility in graduate medical education, with several broad recommendations:¹¹

- 1) Align GME with future health-care needs by increasing funded GME positions by a minimum of 15%, directing support to innovative training models which address community needs and which reflect emerging, evolving and contemporary models of healthcare delivery.

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- 2) Broaden the definition of "training venue" beyond traditional training sites (e.g., hospitals) by decentralizing training sites and allowing for new training venues while enhancing the quality of training for residents, and revising current CMS rules that restrict the application of Medical GME funds to limited sites of care.
- 3) Fund innovative GME projects with the goal of preparing the next generation of physicians to achieve identified quality and patient safety outcomes by promoting training venues that follow the Institute of Medicine's (IOM) model of care delivery
- 4) Assess and rewrite statutes and regulations that constrain flexible GME policies to respond to emergency situations and situations involving institution and program closure.
- 5) Develop mechanisms by which local, regional or national groups can determine workforce needs, assign accountability, allocate funding, and develop innovative models of training which meet the needs of the community and of trainees, in order to make accountability for the public's health the driving for GME. Continued funding of GME to institutions should be linked to meeting predetermined performance goals.

The most recent health care reform legislation, the **Patient Protection and Affordable Care Act (PPACA)** signed into

law in the spring of 2010, calls for changes in many aspects of health care, including graduate medical education.¹² Although the total number of Medicare-funded positions was not increased (as recommended by COGME and a number of other GME leadership groups), approximately 900 unused residency FTE's will be redistributed with a goal of increasing residency positions in primary care specialties and general surgery. Hospitals in states in the lowest quartile of resident-to-population ratio, those in states with the highest percentage of population living in a **health professional shortage area (HPSA)** and rural hospitals will be given priority, so that it is unlikely that hospitals in Rhode Island will be able to gain any positions. The legislation also allows for the redistribution of slots from closed hospitals to be allocated permanently to other hospitals, preferentially in the same geographic area.

CMS has also revised definitions for reimbursable time in several areas to allow sponsoring hospitals to count training activities that take place in non-hospital sites. The sponsoring institution need only incur the costs of the residents' salary and fringe benefits, eliminating the requirement for covering faculty salaries. In addition, didactic time in both hospital and non-hospital sites is now allowable (previously, only time spent in the hospital or clinic caring for patients was reimbursable). This change in the regulations will particularly benefit those hospitals that are under their cap. The PPACA also provides funds for establishing teaching health centers to train primary care physicians, and allows for training grants to develop and/or expand primary care residency programs. And finally, there are proposals (based on COGME recommendations) to tie a portion of IME reimbursement to performance-based measures. Payments would be linked to documentation that residents are being trained appropriately in a variety of settings and systems for future practice, and are receiving training in care coordination, the cost and value of diagnostic and treatment options, inter-professional and multi-disciplinary teams, identification of system errors and solutions, and the use of health information technology. The ACGME already requires programs to provide these types of training experiences, however, documentation

requirements may become more rigorous in order for programs and hospitals to qualify for this type of reimbursement from Medicare.

How the PPACA will ultimately impact the financing of GME is yet to be seen. A primary concern, resident caps, has not been addressed. And while provisions in the legislation may begin to address other issues related to financing graduate medical education, there is still no consensus on how to appropriately support GME in order to ensure sufficient workforce of highly qualified physicians to care for the patient care needs of the country.

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Disclosure of Financial Interests

The authors and/or their spouses/significant others have no financial interests to disclose.

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