Articles

Overview of Graduate Medical Education

Funding Streams, Policy Problems, and Options for Reform

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In this article, we examine the financing mechanisms for graduate medical education (GME) in the United States. In so doing, we identify Medicare as the single largest contributor to GME and the most important barrier to producing a physician workforce that is appropriately sized, balanced, and skilled. Until passage of the 1997 Budget Reconciliation Agreement, the structure of Medicare payments promoted overproduction and skewed production toward training specialists in tertiary settings. We then examine the various reform proposals put forward by major health care organizations and policy bodies. These organizations generally agree on seven policy objectives:

- **Remove incentives that promote expanded resident production;**
- **Base the GME subsidy on actual costs and distribute it more uniformly;**
- **Focus reductions on specialty residency positions;**
- **Provide GME payments for training provided in ambulatory, community, and managed care sites;**
- **Decouple Medicare GME reimbursement from payments to health maintenance organizations for patient care;**
- **Require all health insurers to contribute to GME; and**
- **Ensure that reductions in the GME subsidy do not reduce access to care for low-income persons.**

A myriad of different mechanisms for achieving these objectives have been recommended, many of which could be melded together to form a comprehensive approach to GME reform. The prospects for meaningful GME reform are dim in the absence of broader Medicare reform. The costs to stakeholders are too concentrated while the benefits to the public are too diffuse for GME reform to stand alone. But the political imperative to deal with the federal budget's short-term deficit and Medicare's long-term solvency will likely create an opportunity for GME reform. An addendum has been added that shows how the 1997 Budget Reconciliation Agreement addresses most of the major reform objectives identified but that several important issues remain unresolved.

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There are growing demands for change in health care at many levels—individual and corporate, public and private. With the failure of comprehensive government reform, the problems of cost, quality, consumer satisfaction, and access remain, and markets are responding with their own remedies. Competition between and among providers, health plans, and purchasers has unleashed powerful forces that are rationalizing health care.

In the midst of this radical restructuring, the evidence suggests that the nation's system of educating and training current and future physicians continues to produce a workforce that is not positioned to meet the demands of the emerging health care system. In other words, a disconnect exists between supply and demand. Managed care systems seem to utilize fewer physicians while the production of physicians has and continues to grow faster than the population. In the year 2000, the United States is projected to have 203 patient care physicians per 100,000 population, but the generally accepted requirements range for that year will only be 145 to 185 physicians per 100,000.[1] These estimates of demand suggest that, within the decade, the supply of physicians will reach an excess of 10% to 40%.

This growth of physician supply has been excessively concentrated in the specialties, providing further evidence of the disconnect between supply and demand. As a result, the proportion of physicians practicing as gen-

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ABBREVIATIONS USED IN TEXT

AAPCC = adjusted average per capita cost
COGME = Council on Graduate Medical Education
DME = direct medical education
FTE = full-time equivalent
GME = graduate medical education
HCFA = Health Care Financing Administration
HMO = health maintenance organization
IME = indirect medical education
IMG = international medical graduate
RRC = residency review committee
VA = Department of Veterans Affairs

eralists over the prior three decades decreased from 51% to 35%.[2] Currently, about 30% of those who complete residency programs begin their careers as a generalist, while 70% begin their careers as a specialist.[2] These trends have transpired even as the market has demanded fewer specialists and more generalists.

The disconnection between supply and requirements exists in part because the mechanisms of governance and financing that surround graduate medical education (GME) have encouraged educational and training programs to produce physicians without attention to health care system needs. Policy goals and incentives must be aligned with market demands to encourage a physician workforce that has the proper size (smaller), mix (increased primary care emphasis), and skill or type of training (ambulatory-based with attention to cost reduction, consumer satisfaction, outcomes, and psychosocial and behavioral dimensions of disease). In this article, we describe the major methods of federal funding for GME, the incentives and problems these methods create, the major policy proposals for reforming GME, and the kinds of reform that seem likely to be enacted.

This article was originally submitted in December 1996, before the announcement by the Health Care Financing Administration (HCFA) of the Medicare GME demonstration project in New York State and the passage of the significant Medicare GME reform contained in the Budget Reconciliation Agreement of August 1997 (Public Law 105-83). An addendum has been added that summarizes and briefly assesses these recent reforms.

Overview of GME Financing

Medicare is the largest source of federal funding for medical education. In the mid-1960s, Congress created Medicaid and Medicare, two public insurance programs that brought about a large increase in the demand for medical services. With this increase in demand grew concern over the adequacy of physician supply. To promote the training of physicians, Medicare assumed partial responsibility for the financing of graduate medical education, quickly becoming the largest single source of funding. Until 1983, Medicare paid for these programs on a cost-reimbursement basis.[3] With the enactment of the Consolidated Omnibus Budget Reconciliation Act of 1985, Medicare replaced its cost-based funding formula with two types of discrete payments: direct medical education (DME) payments and indirect medical education (IME) adjustments. Direct medical education payments are intended to defray the costs associated with program administration and salaries for residents and teaching personnel. Indirect medical education adjustments are intended to cover the costs associated with the unnecessary procedures that residents order, other inefficiencies of residents, and the greater morbidity of the patients that teaching hospitals tend to treat.[4]

In fiscal year 1995, Medicare GME payments totaled $6.4 billion—$1.85 billion went to DME and $4.55 billion went to IME. On average, a hospital received $70,000 annually in DME and IME payments for each resident in 1993.[4] However, significant variations exist in the payments that each hospital receives, because the payment formula is based in part on costs incurred by each individual hospital in 1984.[5] One fourth of teaching hospitals receive less than $58,000 per resident whereas a fourth receive more than $102,000 per resident in 1993 dollars.[4] This variation probably reflects differences in accounting practices and historical inefficiencies rather than true differences in the costs of supporting GME from one hospital to another.[6]

Medicare's payment to health maintenance organizations (HMOs) is based on the adjusted average per capita cost (AAPCC) for Medicare beneficiaries in the fee-for-service sector. Prior to the enactment of the 1997 budget reconciliation agreement, Medicare included the additional payments made for GME in the fee-for-service sector in AAPCC calculations. The Health Care Financing Administration has estimated that the AAPCC included $400 million in GME payments.[4]

Other sources of public funding for medical education include Medicaid, the Department of Veterans Affairs (VA), the Department of Defense, and the Bureau of Health Professions. Most states (48 of 50 states) fund GME through their Medicaid programs and receive federal matching funds for this purpose. The VA and the Department of Defense allocate funds to their own medical facilities that sponsor or participate in residency programs. The Bureau of Health Professions provides grants to medical schools for program development and financial assistance for medical students and residents. These grants are for specific purposes such as increasing the number of underrepresented minority physicians, increasing the number of generalist physicians, and improving physician competence in meeting particular needs such as the prevention and treatment of HIV/AIDS.

The total amount of funding provided by other federal sources is much less than Medicare expenditures for GME, as depicted in Table 1. Medicare expenditures for GME are 10 times greater than VA expenditures for this purpose and 40 times greater than the Bureau of Health Professions' budget for medical education programs.[7,8]

Private health plans do not contribute directly to GME. Nonetheless, revenue from private insurers' health

TABLE 1.—*Federal Funding for Health Professions Education by Source (in order of magnitude of annual expenditures)*

Source	Purpose	Annual Expenditures (in billions of dollars)
Medicare		
A. Direct Medical Education (DME)	Reimburses teaching hospitals for direct costs of clinical training for health professions, mostly physicians.	DME: $2.2
B. Indirect Medical Education (IME)	Reimburses teaching hospitals for indirect costs associated with operating clinical training programs.	IME: $4.3
Medicaid	48 of 50 states reimburse direct and indirect costs of clinical training for physicians and other health professionals.	$1.0 (estimated)
Department of Veterans Affairs (VA)	Pays stipends of residents training in VA facilities.	$0.90
Department of Defense (DoD)	Pays stipends of residents training in DoD facilities.	$0.30
Health Services Resources Admin. (title VII, title VIII, etc.)	Provides program development grants to primary care physician programs as well as nursing, allied health, and public health education programs.	$0.28
Total		$8.98

Note: All figures are for FY 1995 except Department of Defense figures, which are for FY 1994, and Medicare figures, which are for FY 1996.
Sources: Medicare: Institute of Medicine. "On Implementing a National Graduate Medical Education Trust Fund." Washington, DC: National Academy Press, 1997; Medicaid: Plumb D and Henderson T. "Medicaid Funding of Graduate Medical Education: A Survey of the States." Washington , D.C.: Intergovernmental Health Policy Project, 1995; VA and HRSA: Budget of the U.S. Govt., FY 1997; DoD: Robert Politizer, BHPr, personal communication, January 28, 1997.

plans for patient care provided by residents and their sponsoring institutions constitutes the most significant general source of funds for GME. In the past, private health plans contributed to GME indirectly by utilizing teaching hospitals and paying them a higher rate. As the HMOs and managed care carriers utilize the less expensive community hospitals and, in some cases, negotiate lower reimbursement rates with academic health centers, this indirect subsidy has begun to diminish.[9]

The 1997 Budget Reconciliation Act will bring about substantial changes to Medicare's funding of GME, which are briefly described in the addendum.

Major Policy Problems With GME Funding Mechanisms

The federal medical education financing structure is complex and creates a number of barriers to the production of an appropriately sized, mixed, and skilled physician workforce. Medicare GME has been the major impediment to achieving these goals.

Most importantly, the structure of Medicare GME payments has promoted oversupply, that is, the excessive growth in residency positions, in general, and international medical graduate (IMG) residents, in particular and most recently. Until passage of the 1997 budget reconciliation agreement, hospitals received payments for each additional resident hired. No cap on such payments existed; they were essentially an entitlement. With such an entitlement in place, hospitals have had every financial incentive to expand, without limit, the size and number of their residency programs, regardless of whether the health care delivery system actually needed or demanded such expansion.

In addition, Medicare's GME funding mechanisms have established incentives that skew the discipline mix toward the specialties and the skill base toward the tertiary (nonambulatory) environment. For example, Medicare's method of financing GME creates disincentives for training residents in nonhospital ambulatory settings.[10] Until passage of the 1997 budget reconciliation agreement, Medicare did not reimburse residency programs for training occurring outside of the acute care hospital, except if the hospital itself incurred the costs of the ambulatory program. As a consequence, nonhospital ambulatory care sites have frequently declined to participate in GME or strictly limited the number of residents for whom they will provide clinical training opportunities, which in turn creates a bias toward specialized training in tertiary settings.

In an effort to limit the growth of specialty training, the 1985 federal budget directed Medicare to reduce DME payments by 50% for residents in training more than a year beyond the minimum number of years of training required for initial board eligibility.[3,11] Effective July 1, 1995, the reduction in DME payments applies to all training beyond minimum requirements for board eligibility or five years, with the exception of training in geriatrics and preventive medicine. The initial residency period is limited to five years (codified at 42 CFR 413.86[g]). Despite these modifications, this policy still provides substantial support for many specialty training programs.

Moreover, Medicare's policy for establishing HMO rates created disincentives for training physicians in managed care settings, an important practice context for future physicians. Until passage of the 1997 budget reconciliation agreement, payments for GME were included in the AAPCC formula HCFA used to set HMO rates. Yet, HMOs were under no contractual obligation to use these funds for GME. Thus, HMOs that chose to operate a residency program could find themselves at a competitive disadvantage if other Medicare risk contractors in

their markets chose to use these funds for other purposes, such as advertising.[12]

Finally, Medicare's method of reimbursing GME programs based on their 1984 costs rewards programs that had higher costs at that time, regardless of whether those higher costs resulted from program inefficiencies or externalities such as higher-than-average property values or wage costs for nonresident labor.[5,6]

Reforming Federal GME Policy

Congress, the Clinton Administration, and organizations concerned with GME[3,6,12–20] have identified seven major objectives for the reform of federal policy.

- Remove incentives that promote expanded resident production;
- Base the GME subsidy on actual costs and distribute it more uniformly;
- Focus reductions on specialty residency positions;
- Provide GME payments for training provided in ambulatory, community, and managed care sites;
- Decouple Medicare GME reimbursement from payments to HMOs for patient care;
- Require all health insurers to contribute to GME; and
- Ensure that reductions in the GME subsidy do not reduce access to care for low-income persons.

In the following sections, we describe major policy options that have been proposed for addressing each of these objectives problems. Most recommendations address Medicare GME because it is the largest source of federal funding for medical education. For the most part, these approaches are not mutually exclusive. Indeed, the best policy may well combine a variety of strategies.

Remove Incentives That Promote Expanded Resident Production

Research predicts a future oversupply of physicians if production continues at current levels. The existence of excess physicians implies the inefficient deployment of scarce public resources because government resources are dedicated to training physicians who are not needed. Moreover, the government subsidy per resident may be larger than necessary. Therefore, most advocates for federal GME policy reform believe that society will benefit if these resources are reduced or redirected to alternative purposes.

Graduate medical education reform advocates are especially concerned about the open-ended entitlement contained in the current GME subsidy. This entitlement provides an incentive for residency programs to expand without consideration of whether there is a need for additional physicians. Proposals for removing these incentives can be grouped into two categories: those that seek to contain and redirect Medicare GME expenditures, and those that also seek to limit the number of residency positions funded by Medicare.

Approaches to containing and redirecting Medicare GME expenditures. Proposals for containing Medicare GME expenditures include (1) capping GME expenditures[3] and (2) changing payment formulas. The first approach ends the current open-ended entitlement by limiting the aggregate amount of the subsidy: as the aggregate number of residents increases, the per-resident subsidy decreases. It eliminates the inefficiency of the entitlement, but not the inefficiency of too large an aggregate subsidy.

The second option takes many shapes and forms. Examples include using a three-year rolling average of the number of full-time–equivalent (FTE) residents to calculate DME and IME[15] and basing IME payments on a combination of current and historical data.[3] Both of these proposals lessen the financial incentive to add residents. But neither completely eliminate this incentive, nor do they reduce the subsidy to an amount that reflects actual costs.

Cap the number of subsidized positions. Some policy and professional bodies believe that reforms must go beyond containing and redirecting the GME subsidy to regulating the number of subsidized residency positions.[6,13–20] The basic argument has been that oversupply causes health costs to increase. However, this assumption is far from clear. The economics literature suggests that oversupply has caused only a small increase in health costs in the fee-for-service context.[21–26] In the managed care context, oversupply may even cause health costs to decline.

Three basic approaches to regulating supply exist: Cap the number of residents who receive the subsidy through vouchers[17]; cap the number of residency positions that receive the subsidy[6,16,18–20]; and cap the total number of residency positions for which Medicare pays on a per hospital basis, but continue using the current Medicare GME formula.[15]

Vouchers represent the most administratively simple approach. Once the question of who receives vouchers has been resolved, the allocation of vouchers could be superimposed on the existing National Resident Matching Program with relative ease.[17] The voucher approach potentially creates a competitive environment in which residency programs would have to continually adjust to new market realities in order to attract medical school graduates.

Deciding which residents will receive a voucher is not a simple matter. Some think that graduating from a US medical school ought to be a sufficient signal of merit, but it is unclear whether this criterion would withstand legal challenge if the result were the elimination of GME funding for the two thirds of IMGs who are US citizens or permanent residents.[27] A Council on Graduate Medical Education (COGME) work group proposed using scores on the US Medical Licensure Examination, but other COGME members objected that the test was not a valid measure of merit and promise as a physician and expressed concern that its use might leave US medical graduates without vouchers.

Some argue that medical students are in the best position to make such judgments because their future careers and earning potential are most directly affected by these decisions. However, critics question whether reliable and valid measures of merit exist by which to ration the vouchers; the start-up costs of a residency program are prohibitive enough to create barriers to entry and impede competition between programs; medical students have the ability to discriminate on the basis of quality; and the voucher program will introduce instability into residency programs and undermine educational quality. If a program has one bad recruiting year, it may be forced to continue without a full complement, imposing substantial disruption on the training of those residents who are in the midst of that program's training.

The program-based approach relies on a public body to award the subsidy to the required number of residency programs, using quality among other factors as a criterion. The specific public body charged with this assignment varies across proposals, including a congressionally appointed national allocation board and residency review committees (RRCs),[6] a nonpartisan, public commission and RRCs,[18,19] and regional consortia.[20]

The program-based approach may provide a better guarantee of quality to the extent that "experts" are better judges of quality than are medical students. However, a number of drawbacks do exist. First, the use of centralized mechanisms to determine requirements and then ration the subsidy will entail substantial start-up and administrative costs. The information costs involved in discriminating between programs based on quality are potentially high because to date little research has been done to identify valid and reliable outcome measures of program quality. Second, the political costs of centralized closure decisions are high and run against American distrust of government-guided rationing. A consortia-based approach may be more feasible than relying on a national body such as RRCs because agreement would be required only on a regional level. But even at this level, efficient decisions by centralized bodies will be impeded by pressures from consortia members to preserve programs that meet institutional needs regardless of their contributions to society.

Base the GME Subsidy on Actual Costs and Distribute It More Uniformly

A related set of questions has arisen concerning appropriate aggregate GME expenditures and distribution of GME payments across teaching institutions. Ideally, aggregate expenditures and distribution mechanisms should be based on the resources necessary to efficiently provide GME. Two basic approaches have been proposed:

- Reduce DME and IME subsidies to efficient amounts;
- Uniform payment of DME at a level lower than the current average.

The first option faces the least political resistance and does make the subsidy more efficient. Examples of this approach include proposals to reduce the IME adjustment percentage to a level that more accurately reflects actual indirect costs that can be attributed to the furnishing of care to Medicare beneficiaries in teaching hospitals.[6,11] However, it leaves in place a GME formula that contains enormous and illogical discrepancies in the per-resident DME subsidy paid to programs.

The second option corrects for these discrepancies by allowing for differences in DME payments only based on reasonable factors such as regional variation in cost of living. Both approaches could change the average DME and IME payments so that they reflect the actual costs associated with training residents. However, both approaches in isolation fail to correct one of the central problems with the current subsidy: the incentive to produce physicians without attention to health system needs.

Focus Reductions on Specialty Residency Positions

As mentioned earlier, most groups have accepted estimates of demand for physicians that fall within the requirement bands proposed by COGME. These bands project a demand in the year 2000 between 60 and 80 per 100,000 for generalists and 85 to 105 for specialists.[1] The current supply of generalists falls within the lower end of the band, and for that reason there is disagreement as to whether there is a moderate undersupply of generalists. On the other hand, specialists are clearly in substantial excess. If current trends continue, COGME predicts 125,000 excess specialists by the end of the decade.[1]

Most groups agree that the current mix of 30% generalists and 70% specialists among residents must move closer to 50%. Two basic approaches to the specialty-mix issue are apparent. One approach seeks to change the mix by reducing the number of GME positions for specialists while holding the number of generalist positions constant. The other implicitly assumes that an absolute shortage of generalist physicians exists and proposes changing the mix by both reducing the number of specialists and increasing the generalist residency positions. Proposals include the following:

- Up-weight payments for generalist residency positions and/or further down-weight payments for specialist residency positions.[6,16,18,19]
- Authorize a congressionally appointed advisory body or regional consortium to establish the mix (and the overall number) of residency positions.[6,18–20]

Those who believe that an imbalance of generalists and specialists creates inefficiencies that will not be corrected by the market support the second option. However, strong arguments exist that such an imbalance does not currently create inefficiencies, since the United States does not have an aggregate shortage of generalists. Even if one believes that the imbalance is inefficient, government intervention may not be necessary, since market forces are correcting this imbalance.[28,29]

Provide GME Payments for Training Provided in Ambulatory, Community, and Managed Care Sites

Over the past decade, the amount of health care services delivered in ambulatory settings has increased dramatically. Several forces have promoted this shift.[18] Prospective reimbursement of hospitals has given hospitals a powerful incentive to reduce lengths of stay. Furthermore, new technologies have made many procedures that once required hospitalization performable on an outpatient basis. Moreover, the pressures to reduce costs have made the less expensive ambulatory setting more appealing. The movement of care to nonhospital settings necessitates expansion of clinical training in these settings.

To promote training in ambulatory and managed care sites, several proposals have been advanced:

- Allow GME payments to follow each resident to any training location, regardless of the entity sponsoring the residency program and the setting in which training takes place.[3,6,13,15,16,18,19] This reform would enable ambulatory-based residency programs in community or managed care sites to receive GME support directly from Medicare.
- Require that 25% of residency training for most specialties take place in community, ambulatory, or managed care–based settings, as a condition for receipt of Medicare GME payments or even as a condition of accreditation.[18]

Decouple GME Reimbursement From HMO Payments

Teaching hospitals have been especially critical of Medicare's policies regarding GME payments associated with beneficiaries enrolled in HMOs. Historically, the AAPCC formula—the formula HCFA uses to calculate Medicare HMO capitation rates—incorporated historical Medicare expenditures in a given market inclusive of GME expenditures. Medicare did not require HMOs to use that fraction of their capitation payments derived from historical GME expenditures to subsidize GME. Teaching hospitals alleged that Medicare HMOs were diverting some enrollees from teaching hospitals and, when enrollees were admitted to teaching hospitals, were failing to compensate them for GME costs.[3,14] Most GME reform advocates have recommended that this situation be remedied by revising the AAPCC to exclude historical GME costs and, instead, reimbursing teaching hospitals for GME directly based on utilization by Medicare HMO enrollees.[3,13–16,18,19]

Require All Health Insurers to Contribute to GME

Currently, Medicare provides the major explicit subsidy of GME. As discussed earlier, private health plans, purchasers, and patients do not contribute directly to GME, and their indirect subsidy has begun to diminish. Yet, these private entities all benefit from an appropriately trained physician workforce. As a result, a number of groups have proposed that GME be financed through an all-payer fund.[3,6,13–16,18–20] All health insurance plans, public and private, would contribute to this fund, potentially by way of a uniform insurance premium tax. This proposal would force private health plans to share in the responsibility of supporting GME. Because non-Medicare health plans would relieve Medicare of a substantial portion of its financial obligation, proposals also include recommendations on how these freed-up Medicare GME funds may be spent, such as enhancing existing subsidies for uncompensated care. An open question is whether this fund would include the public resources spent on GME by the VA, Department of Defense, and Medicaid. While the all-payer fund makes considerable sense from an equity perspective, it faces stiff political opposition. Health care plans and payers will oppose the premium tax because it increases their costs.

Ensure That Reductions in the GME Subsidy Do Not Reduce Access to Care for Low-Income Persons

Teaching hospitals rely on residents and, more importantly, on the federal GME subsidy that accompanies the residents to finance health care to uninsured, underinsured, and low-income people who have limited access to health care services. Reducing the number of IMGs, federally subsidized residency positions, or GME payments to teaching hospitals may reduce access to health care for low-income people. The impact of such proposals is likely to be most pronounced at teaching hospitals with a large number of IMG residents. One study found that 77 of the 688 hospitals serving as principal teaching sites for programs in one of the six core specialties—internal medicine, family practice, obstetrics and gynecology, surgery, pediatrics, and psychiatry—in the United States are IMG-dependent (that is, 50% or more of the residents in at least 3 programs were IMGs) and provide significant amounts of hospital care to the poor (that is, at least 20% of the patients served are uninsured or receiving public assistance).[30] It is believed that the GME subsidy allows these hospitals to hire IMGs and thereby provide care to the poor as a joint product along with the training and research. Across-the-board cuts in the GME subsidy may lead teaching hospitals to reduce the amount of indigent care they provide.

A number of policy proposals have been proposed to address this concern:

- Expand the National Health Service Corps to fill the service gaps created by the reductions in the GME subsidy and residency programs.[6,13,17–19,31]
- Provide transitional funding to hospitals that agree to cease their residency program altogether or replacement funding for those hospitals that provide a disproportionate share of health care to the poor. The recent HCFA waiver for New York State and the 1997 budget agreement provides transitional assistance.[13–15,17–19]
- Expand production of midlevel practitioners so that hospitals can lower their costs and maintain (or even increase) the care they provide to indigent persons by substituting mid-level practi-

tioners for physicians.[18,19]
- Enact universal health insurance coverage.

The most efficient means for ensuring access to care for all Americans would be the enactment of universal health insurance coverage, or at least the establishment of a health insurance subsidy for low-income persons who do not qualify for assistance under existing programs. However, enacting anything beyond incremental reforms seems unlikely in the current political climate. In the absence of universal access to health insurance, subsidizing health care institutions and health professionals who serve the uninsured remains essential.

Conclusion

Today's physician workforce is oversupplied, unbalanced, and trained in inappropriate settings. Current federal GME policies contribute to these problems. To prepare the physician workforce for practice in the context of integrated delivery systems that manage care, many organizations and some government officials have called for reform of these policies. Although specific recommendations vary, these organizations generally agree on the seven policy objectives enumerated in the preceding section.

As the preceding section illustrates, a myriad different mechanisms for achieving these objectives have been recommended, many of which could be melded together to form a comprehensive approach to GME reform. However, prospects for meaningful GME reform are dim in the absence of broader Medicare reforms. The financial costs and dislocation of reform for the status quo's stakeholders are too massive and concentrated while the benefits of reform for the broader public are too diffused for reform to garner enough political momentum. The prominence of New York's congressional delegation in the power structure of Congress makes GME reform on its own even less likely because New York State's teaching hospitals rely on large GME subsidies to provide indigent care and support large residency programs.[32]

However, the "counterforce" that does have the power to drive GME reform appears to be the continuing political imperative to deal with the federal budget's short-term deficit and Medicare's long-term fiscal solvency, or as some say, the "baby boomers' problem." In this context, the need to reduce aggregate Medicare expenditures provides a powerful incentive to trim Medicare expenditures for GME. The necessity to trim Medicare expenditures will undoubtedly create an opportunity for removing the current incentives to overproduce residents. Moreover, general awareness of the need to maintain primary care production capacity of the country will make it likely that reductions will be focused on specialists and that GME payments will be expanded to ambulatory contexts. On the other hand, substantial opposition to premium taxes by insurance companies and ideologues will make the creation of an all-payer fund less likely.

Addendum

Since this article was originally submitted, two significant developments have taken place with respect to graduate medical education. In February 1997, HCFA announced a demonstration project in New York that embodies some of the most important changes described above. In August 1997, President Clinton signed into law budget reconciliation legislation (Public Law 105-83) that enacted substantial and far-reaching changes in Medicare's GME subsidy. A brief description and discussion of both developments follows.

New York's GME Reforms

In February 1997, the HCFA announced a Medicare GME demonstration project in New York State. Under this demonstration project, teaching hospitals in New York State that agree to downsize their residency programs over the next five years will have GME payments reduced more slowly than the actual cuts in residency positions. Teaching hospitals can then use these funds to develop alternative arrangements for meeting patient care needs, such as hiring teams of physicians and midlevel practitioners. To participate in the demonstration project, teaching hospitals must agree to reduce residency positions by 25%, or by 20% if they agree to simultaneously increase the fraction of generalist positions. If implemented as planned, the project will save $300 million in Medicare GME expenditures over its five-year course.[33]

HCFA's New York State GME demonstration project complements changes made in New York State GME policies in 1996. Total state expenditures for GME (Medicaid and an assessment on private payers) were reduced 20% from $1.8 to $1.4 billion. In addition, a $54-million pool was established to provide financial incentives for reducing the total number of residents trained and increasing training in primary care disciplines, ambulatory sites, and underserved areas.[34]

1997 Budget Reconciliation Agreement

The 1997 Budget Reconciliation Agreement enacted significant changes to Medicare's subsidy of GME. The agreement includes the following elements consistent with the GME policy reform objectives articulated above:

- *Removes incentives to expand resident production.* DME and IME payments are based on the average number of FTE residents on duty during the current year and the two preceding years (that is, a rolling average). This provision encourages downsizing by continuing to provide a subsidy for eliminated positions, albeit partial and temporary, and mitigates the financial rewards of expanding residency programs. The agreement caps the total number of positions in each teaching hospital eligible for Medicare DME and IME reimbursement at the number of FTE residents on duty as of December 31, 1996.

This provision will discourage the expansion of residency programs. It authorizes HCFA to establish a demonstration project to test the viability of GME consortia as a mechanism for aligning GME with market demand for physicians (for example, reducing the number trained, improving specialty distribution, expanding training in nonhospital sites).

- *Reduces GME subsidy.* Reduces the IME payments that hospitals receive by roughly 25% over five years. A cap on the ratio of residents to beds used to calculate a hospital's IME payments will prevent teaching hospitals that close beds from reaping additional IME payments. This reduction probably still leaves the subsidy at a higher level than actual costs.
- *Provides funding for training in nonhospital sites.* Authorizes HCFA to reimburse federally qualified health centers, rural health clinics, managed care organizations, and other nonhospital providers for DME. Allows teaching hospitals to include time residents spend in any outpatient setting in which the teaching hospital bears all or substantially all the costs of training in determining the number of FTE residents for which IME may be claimed.
- *Decouples GME reimbursement from HMO payments.* Revises the AAPCC to exclude historical expenditures for GME. Beginning in 1998, IME payments will be made directly to teaching hospitals. Direct payment of DME to teaching hospitals and eligible nonhospital providers will be phased in over five years. For both DME and IME, Medicare payments to individual teaching hospitals will be based on utilization by Medicare HMO enrollees.
- *Preserves access to care for low-income persons.* Provides transition assistance to teaching hospitals and consortia that voluntarily reduce the size of their residency programs while maintaining or increasing the percentage of residents training in primary care disciplines. These provisions minimize the short-term costs of downsizing residency programs and give teaching hospitals time to develop alternative strategies for providing patient care services. Such assistance is especially needed in communities that rely on teaching hospitals to provide a large amount of uncompensated care.

The 1997 budget reconciliation agreement contains many of the most important changes consistent with the recommendations for Medicare GME reform described above. The incentive to expand resident production has been eliminated. Moderate incentives to downsize while maintaining primary care capacity have been established. Training in ambulatory settings will be encouraged through expansion of eligibility for DME and IME payments for training conducted in these sites. And HMOs will no longer receive GME payments unless GME training is provided.

However, the budget agreement does not fully address all proposed reforms and addresses one issue in a less than optimal manner. Given the questionable argument that oversupply constitutes a public policy problem, capping the number of Medicare-funded residency positions may not be the most efficient mechanism for capping aggregate Medicare expenditures. A better approach may have been to cap the aggregate subsidy each hospital receives rather than positions. This alternative approach would have reduced unnecessary expenditures on training while leaving the number of actual positions to market forces. In addition, DME and IME subsidies are probably still at a higher level than actual costs.

In addition, this legislation may have important consequences for the education of other health professionals in nonhospital sites, especially nurse practitioners and physician assistants. In the past, nonhospital providers were not directly reimbursed for the training of any health professionals. Direct payment of Medicare DME to nonhospital providers will create a financial incentive for them to serve as clinical training sites for residents and may lead them to reduce the number of persons they train in other health professions. The impact would likely be most severe for nurse practitioners and physician assistants, who already compete with physicians for nonhospital training sites.

Finally, the absence of provisions that would establish an all-payer fund or other mechanism to ensure that private payers join public payers in contributing toward GME is especially disappointing. As competition among private payers intensifies, the indirect subsidy of GME through payment of higher rates to teaching hospitals for services will erode even further. Public programs should not fully absorb the costs of training that benefits all payers. An all-payer pool would ensure a more stable base of support for GME and would distribute contributions more equitably across private payers.

These weaknesses notwithstanding, the budget agreement represents substantial and promising change that warrants close scrutiny to determine whether additional reforms are necessary to bring graduate medical education closer in line with US physician supply requirements.

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