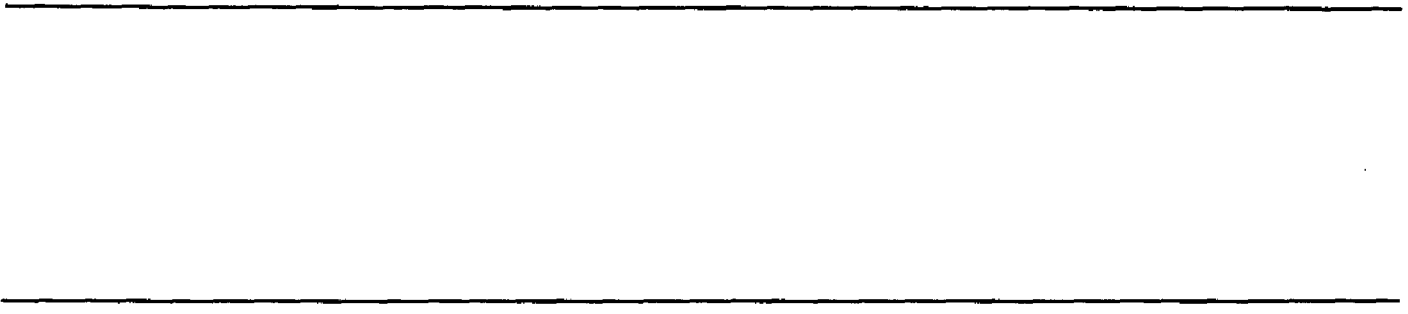


May 1994

# MEDICARE

## Graduate Medical Education Payment Policy Needs to Be Reexamined







United States  
General Accounting Office  
Washington, D.C. 20548

Health, Education, and  
Human Services Division

B-254528

May 5, 1994

The Honorable David H. Pryor  
Chairman  
The Honorable William S. Cohen  
Ranking Minority Member  
Special Committee on Aging  
United States Senate

The Honorable John Conyers, Jr.  
Chairman  
Committee on Government Operations  
House of Representatives

It is widely stated that the United States is not training a sufficient number of primary care physicians relative to nonprimary care physicians.<sup>1</sup> In 1961, about 50 percent of physicians were in primary care practice. In 1990, about 33 percent of physicians were in primary care practice, and it is estimated that if current trends continue, the number will decrease to about 26 percent by 2020. In contrast, to the extent that health care reform may bring a delivery system that incorporates managed care, the need for primary care physicians will increase given the significant role of primary care physicians in managed care organizations.<sup>2</sup>

The Medicare program is the primary vehicle through which the federal government contributes to the financing of physician training and education, also referred to as graduate medical education (GME). Medicare financing of physician training and education began with the enactment of the program in 1965; at that time, the Congress was concerned about a shortage of physicians to serve newly insured individuals, including those under Medicare. In 1992, Medicare total payments for GME amounted to \$5.2 billion. Although data are limited, some researchers assert that Medicare funds are used by hospitals to disproportionately support the training of nonprimary care physicians at a time when more primary care physicians are needed.

Concerned about the declining ratio of primary care to nonprimary care physicians, you asked us to assess the role of medical education in physician specialty choice and how federal financing may influence such

<sup>1</sup>Primary care generally refers to family medicine, general internal medicine, and general pediatrics.

<sup>2</sup>In managed care organizations, primary care physicians serve as the patient's initial contact for medical referrals and comprise as much as 50 percent of physician staff.

choices. In this report we will (1) describe how Medicare compensates hospitals for the costs of GME and (2) determine the extent of Medicare's support for the GME of primary care and nonprimary care physicians.<sup>3</sup> In a separate report, we will address the larger concerns of factors beyond Medicare GME financing that play a role in determining the types of physicians produced in the United States.

## Results in Brief

The Medicare program pays for about 29 percent of the total direct costs of GME. These payments, which amounted to \$1.46 billion in 1992, are intended to compensate hospitals for Medicare's share of the costs associated with training physicians.<sup>4</sup> Historically, the Medicare program has based these payments on distributions of interns and residents determined by hospitals. In 1985 and 1986, the Congress modified Medicare's payment methodology for GME in an attempt to promote primary care training programs. Under the American Health Security Act of 1993, the administration has proposed several changes to further promote primary care training. However, the extent to which Medicare pays for the training of primary care and nonprimary care physicians has never been analyzed.

For the 1989-91 period, our analysis showed that about 60 percent of interns and residents were training in nonprimary care specialties versus about 40 percent in primary care specialties. About 55 percent of Medicare direct graduate medical education (DGME) payments were associated with the training of nonprimary care interns and residents while about 45 percent were associated with the training of primary care interns and residents.

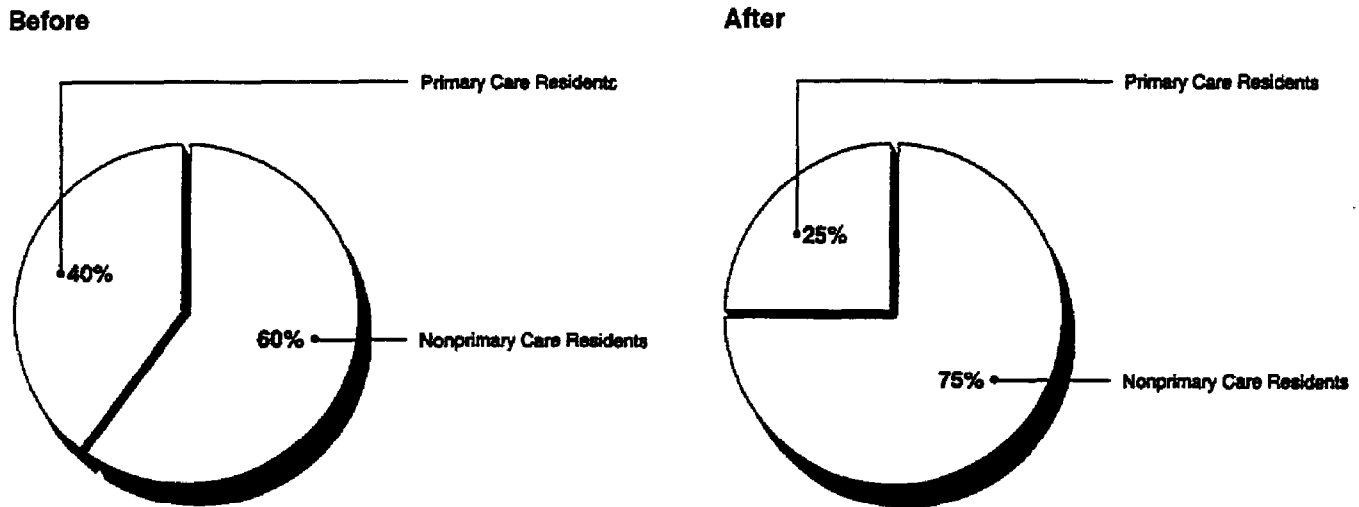
However, some interns and residents in primary care training will ultimately complete their residency training in nonprimary care and enter practice as nonprimary care physicians. This phenomenon is often referred to as "branching." When branching is considered, our analysis showed that the proportion of interns and residents categorized as nonprimary care physicians changed from about 60 percent to about

<sup>3</sup>While this report focuses on Medicare financing of GME, we recognize that Medicare has a limited role in the overall financing of GME and that many physicians choose their specialty during their undergraduate medical education (medical and osteopathic school).

<sup>4</sup>Another \$180 million went toward nursing and allied health training programs. Direct costs include salaries and fringe benefits, the costs of classroom space, equipment, and overhead. Medicare also provides payment for indirect costs, which are the portion of higher patient care costs due to the presence of GME activities. In 1992, Medicare provided about \$3.56 billion in payments for indirect costs; estimates of total indirect costs of GME are unavailable.

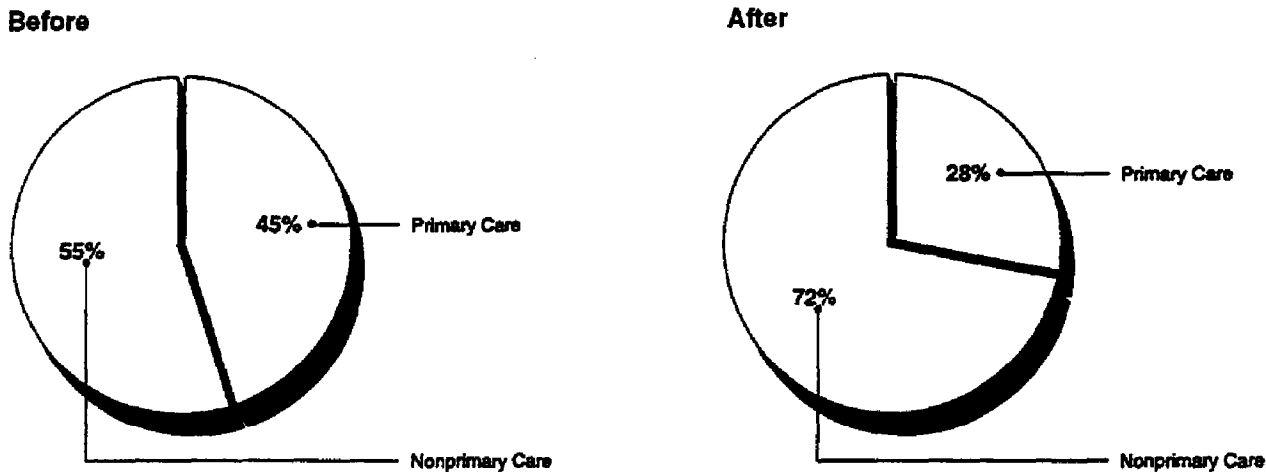
75 percent. The proportion of interns and residents categorized as primary care changed from about 40 percent to about 25 percent. (See fig. 1.)

Figure 1: Distribution of Interns and Residents in Training Before and After "Branching" Is Considered



Also, when branching is considered, the proportion of DGME payments associated with the training of nonprimary care interns and residents changed from about 55 percent to about 72 percent, while the proportion associated with the training of primary care interns and residents changed from about 45 percent to about 28 percent. (See fig. 2.)

**Figure 2: Distribution of Direct Graduate Medical Education Payments Before and After "Branching" Is Considered**



These distributions were primarily driven by hospitals' decisions regarding their residency programs. However, there is reason to question whether hospitals should be the primary decisionmakers in determining such distributions.

## Background

The Medicare program, authorized by title XVIII of the Social Security Act, helps pay medical costs for about 32.3 million people aged 65 years and older, as well as for about 3.8 million individuals with disabilities. Medicare is administered by the Health Care Financing Administration (HCFA), within the Department of Health and Human Services (HHS). As part of paying for individuals' hospitalization costs, Medicare also pays for the costs associated with providing GME.

## Physicians Receive Specialty Training Through Residency Programs

During the fourth year of medical school, students formally elect the medical specialty area they intend to pursue.<sup>5</sup> Students typically are then matched, through the National Resident Matching Program, with a

<sup>5</sup>Factors thought to influence a student's specialty choice include the type of training experiences he or she has during medical school, role models, and other factors such as working hours, loan indebtedness, income, and prestige afforded by the specialty area chosen.

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residency training program that will prepare them for practice in the chosen specialty area.<sup>6</sup> This period of training is referred to as GME and generally takes 3 to 7 years after graduation from medical school, depending on the specialty or subspecialty.<sup>7</sup> During this time, physicians are generally called "interns" or "residents."<sup>8</sup>

In the primary care specialties, which include family medicine, general internal medicine, and general pediatrics, residency training takes 3 years.<sup>9</sup> After completing the training for internal medicine and pediatrics, these physicians may choose to enter practice (as general internists or as general pediatricians) or continue with additional training. Internal medicine and pediatric graduates who pursue additional training become subspecialists. For example, they may become cardiologists or gastroenterologists. Subspecialists are required to maintain their competency in general internal medicine or general pediatrics, as it pertains to the subspecialty area. Thus, internists and pediatricians who become subspecialists are generally no longer classified as primary care physicians.<sup>10</sup> In contrast, family physicians who pursue additional training do not necessarily become subspecialists as a result of additional training. Family physicians may pursue additional training for added qualifications in geriatrics, which is not a subspecialty but rather provides new expertise. Consequently, family physicians with added qualifications remain primary care physicians. Although some physicians elect to pursue additional subspecialty training after several years of practice, many physicians elect to pursue this training immediately after their initial residency training.

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<sup>6</sup>This applies to allopathic (M.D.) and osteopathic (D.O.) physicians. Allopathic medicine is the most common form of medical practice. Osteopathic medicine is a form of medical practice similar to allopathic medicine that also incorporates manual manipulation of the body as therapy.

<sup>7</sup>Some disciplines require a preliminary year that may be done in internal medicine, surgery, or a transitional internship; e.g., certification to practice ophthalmology requires 1 preliminary year of training in internal medicine and then 3 years in ophthalmology.

<sup>8</sup>The term "intern" refers to osteopathic physicians in their first year of graduate medical education, after which they are referred to as residents.

<sup>9</sup>Some studies include obstetrics/gynecology (OB-GYN) in their definition of primary care. Several studies have shown that other specialists provide some primary care to their patients. In addition, nurse practitioners, physician's assistants, and others make significant contributions to the provision of primary care. While these other primary care practitioners are important to any discussion of physician supply, they are beyond the scope of this study.

<sup>10</sup>In some cases, nonprimary care physicians also provide some primary care services to patients.

Residents primarily receive their training in teaching hospitals.<sup>11</sup> About 1,250 of the nation's more than 5,000 hospitals are categorized as teaching hospitals. In 1992, 89,368 interns and residents were training in 7,065 residency programs in such hospitals throughout the United States.

### Medicare Pays for GME to Meet Community Needs

GME is funded primarily through revenue generated by hospital patient care services and, to a lesser extent, by payments from the Medicare program. Hospital charges are generally set at levels high enough to cover a portion of the facilities' GME costs; private payers who pay charges contribute toward GME costs in this way. The Medicare program makes separate payments to hospitals for GME using methodologies to calculate payments for Medicare's portion of GME costs.<sup>12</sup>

When it established the Medicare program, the Congress acknowledged a need for Medicare to support the financing of GME.<sup>13</sup> According to the committee reports accompanying the original Medicare legislation, Medicare support for residency training programs was viewed as necessary to help meet the needs of the community for trained health personnel. At that time, increased availability of private health insurance had stimulated public demand for health services and there was a public perception of a shortage of health professionals. Efforts to provide health insurance to the elderly through Medicare contributed to growing public and congressional concerns that this increased demand for health services could not be met due to a shortage of health professionals. Because of the perceived overall physician shortage, Medicare's original payment methodology paid the portion of costs associated with training residents regardless of their specialty or the length of training.<sup>14</sup>

While the committee reports did not define "community need," Medicare historically has based GME payments on distributions of interns and

<sup>11</sup>"Teaching hospitals" refer to hospitals with one or more graduate medical education programs approved by the Accreditation Council for Graduate Medical Education or the American Osteopathic Association.

<sup>12</sup>The federal government also contributes to the financing of graduate medical education through programs administered by the Department of Veterans Affairs, the Department of Defense, the Public Health Service within HHS, and through federal sharing in states' costs of the Medicaid program.

<sup>13</sup>The committee reports indicated that these educational activities enhance the quality of care in an institution and that Medicare should recognize these costs for reimbursement purposes until communities undertake to bear such costs in another manner.

<sup>14</sup>However, legislative changes in 1985, 1986, and 1993 had the effect of limiting payments by specialty and based on length of training. (See pp. 10-11 for a complete discussion.)



residents determined by hospitals.<sup>15</sup> In effect, Medicare has relied on hospitals to determine the specialty distribution of physicians to be trained.

## Scope and Methodology

To describe how Medicare compensates hospitals for the costs of graduate medical education, we reviewed documents from HCFA and interviewed agency officials. To determine (1) the number and specialty distribution of physicians in training and (2) Medicare expenditures for GME, we analyzed data from HCFA's Intern and Resident Information System (IRIS), Hospital Cost Report Information System Minimum Data Set, and the Second National Graduate Medical Education Data Collection. Because the IRIS dataset was incomplete at the time of our analysis, our average annual Medicare payment for 1989-91 was less than the \$1.07 billion average reported by HCFA. However, our payment estimate represented about 78 percent of total Medicare payments. (See app. I for objectives and additional information on our sources and methodology.)

We conducted our work from March 1993 to January 1994 in accordance with generally accepted government auditing standards.

## Medicare Pays Hospitals for a Portion of Graduate Medical Education Costs

Medicare's payment methodology for the costs of graduate medical education has two components: Medicare reimburses teaching hospitals for both the direct and indirect costs of medical education.<sup>16</sup> These payments are intended to compensate hospitals for Medicare's "share" of the costs associated with providing graduate medical education.<sup>17</sup>

The direct costs of providing medical education include salaries and fringe benefits for residents and teaching physicians, the cost of conference and classroom space, the cost of additional equipment and supplies, and allocated overhead costs. The indirect cost of medical education is the portion of the higher patient care costs at teaching hospitals thought to be due to such factors as increased diagnostic testing, increased number of

<sup>15</sup>Hospitals determine the number and types of residency training programs they offer within parameters set by the Accreditation Council for Graduate Medical Education or the American Osteopathic Association.

<sup>16</sup>Medicare considers any hospital with residents enrolled in an approved GME program to be a "teaching hospital."

<sup>17</sup>Following implementation of Medicare's prospective payment system, the Congress replaced retrospective, reasonable cost reimbursement for GME (which had applied to direct payments) with formula payments based on each hospital's per resident costs. This change was designed, in part, to restrict the growth in costs per resident.

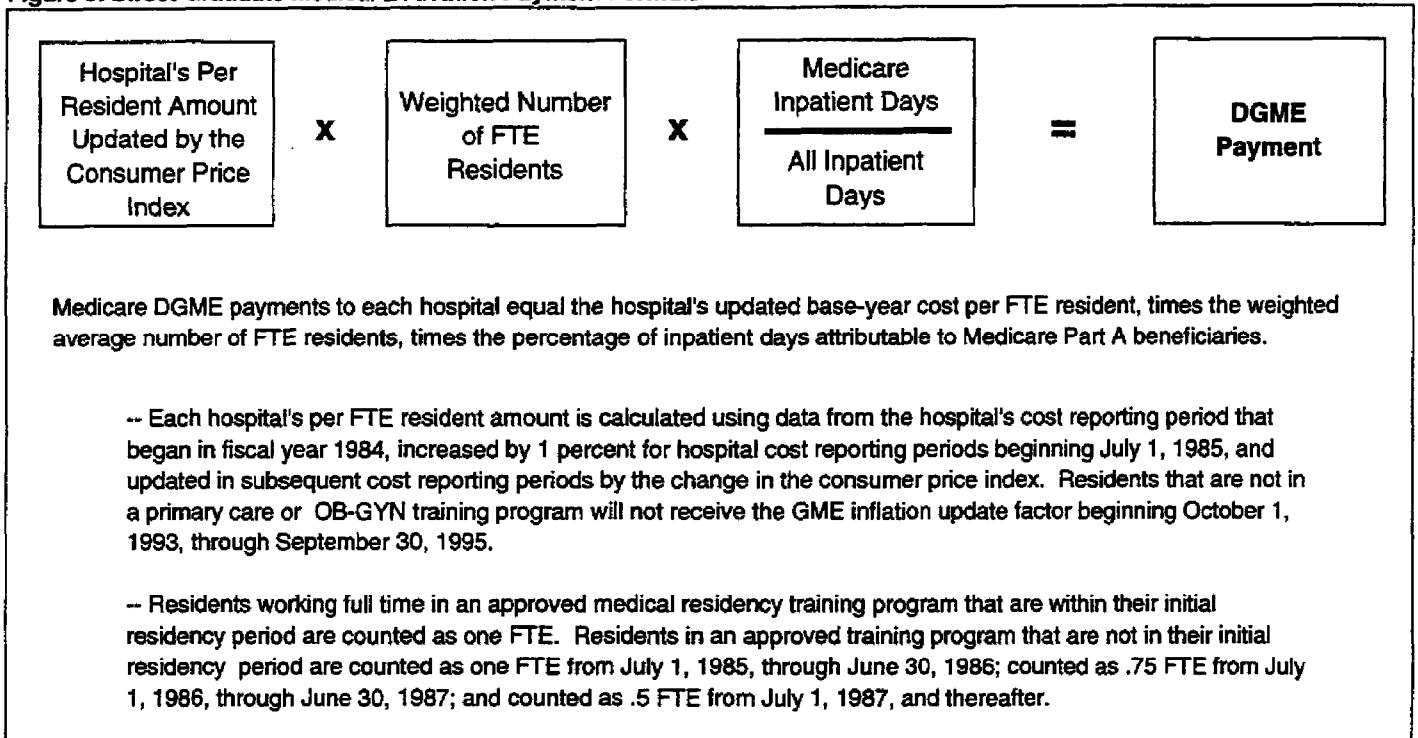
procedures performed, higher staffing ratios, and increased record keeping. While indirect medical education (IME) payments were intended to compensate hospitals for higher costs attributable to the involvement of interns and residents in patient care, they are also used to compensate teaching hospitals for the higher costs associated with their urban location, treating more severely ill patients, and treating a disproportionate share of low-income patients.<sup>18</sup> Thus, IME payments were not included in our analysis because they are sometimes used to compensate for costs other than teaching costs.

Both direct and indirect payments are calculated annually for hospitals based on formulas using fixed base-costs and driven by the number of full-time equivalent (FTE) residents and the proportion of Medicare days of care. (See figs. 3 and 4.) Thus, the amount of Medicare funds received by each hospital is determined, in part, by the number of residents that each hospital recruits and the proportion of training time interns and residents spend in the institution.

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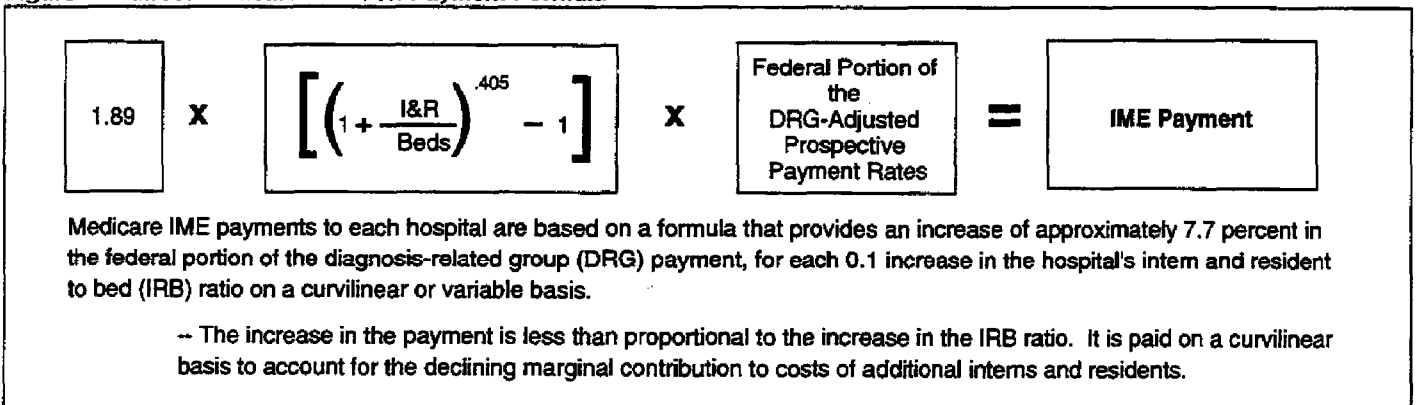
<sup>18</sup>We previously reported that IME payments to teaching hospitals are too high and that the indirect teaching adjustment should be reduced from the current statutory level. Though we are concerned about the effect of reducing the indirect teaching allowance to high-charity hospitals, we do not believe that the indirect teaching adjustment is the appropriate vehicle for addressing hospitals' charity care burdens. (See *Medicare: Indirect Medical Education Payments Are Too High* [GAO/HRD-89-33, Jan. 5, 1989].) The Congressional Budget Office, the Prospective Payment Assessment Commission, and HHS have also reported that IME payments are too high.

**Figure 3: Direct Graduate Medical Education Payment Formula**



Sources: HCFA and Committee on Ways and Means, U.S. House of Representatives.

**Figure 4: Indirect Medical Education Payment Formula**



Sources: HCFA and Committee on Ways and Means, U.S. House of Representatives.

In fiscal year 1992, Medicare's payments to teaching hospitals for graduate medical education amounted to about \$5.20 billion, of which \$1.64 billion represented payments for direct medical education costs and other educational activities.<sup>19</sup> In 1991, Medicare payments equaled about 29 percent of the total direct costs of graduate medical education. About \$3.56 billion represented payments for the indirect costs of medical education.

### Changes in Legislation Attempt to Promote Primary Care Training

Since enacting Medicare, the Congress has modified the payment method for GME for several reasons. Among these reasons was the desire to enhance the incentives for training in primary care.<sup>20</sup> This was done because of a perception that Medicare payments were being used to provide greater support to nonprimary care training. To this end, the Congress made three changes to the payment method for direct costs.

- The Consolidated Omnibus Budget Reconciliation Act of 1985 limited full payment for direct costs associated with training beyond initial residency, placing some disincentive on subspecialty training.<sup>21</sup>
- The Omnibus Budget Reconciliation Act of 1986 authorized Medicare to recognize—for payment purposes for direct costs—training in nonprovider settings under limited conditions.<sup>22</sup> Prior to this, Medicare did not recognize the costs of training in nonprovider settings. Because primary care residents spend more time in nonprovider settings, the change was designed to enhance the incentives for training in primary care. In addition, the change was important because of the growing trend of treating patients in nonprovider settings.
- The Omnibus Budget Reconciliation Act of 1993 provided that GME payments for interns and residents not in a primary care or OB-GYN training program will not receive the GME inflation update during fiscal years 1994 and 1995. This is likely to result in a permanent difference in rates between primary care and most nonprimary care training programs.

<sup>19</sup>Of this \$1.64 billion in direct medical education payments, about \$1.46 billion supported physician training programs and about \$180 million supported nursing and allied health training programs.

<sup>20</sup>The other reasons were to restrict the growth in costs per resident and to limit the participation of less qualified foreign medical graduates.

<sup>21</sup>Full Medicare payment was limited to the period required for initial board certification plus 1 year, not to exceed 5 years (initial residency), with the exception of geriatrics. As a practical matter, this results in full payments for either 4 or 5 years. After that period of residency, payments are reduced.

<sup>22</sup>Medicare pays for training in nonprovider settings if a hospital incurs all or substantially all of the costs of the training program.

Under the American Health Security Act of 1993, the administration has proposed several changes in reimbursement for GME costs in order to refocus federal support on primary care. The stated reason is that ensuring quality health care and access for all Americans requires shifting the balance in GME from nonprimary care to primary care.

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## Barriers to Primary Care Training Persist

Despite legislative changes, barriers to primary care training persist in Medicare's payment method for the direct costs of graduate medical education. First, Medicare continues to rely primarily on hospitals to determine the specialty distribution of physicians to be trained. Hospitals make those decisions based largely on hospital service needs rather than other methods that might account for the full range of health and medical needs of the community. Second, under current HCFA rules, only hospitals and hospital-based providers are eligible to receive DGME payments. An Institute of Medicine (IOM) study reported that because of changes in the health care system, hospitals are less suitable than ambulatory settings as principal training sites, in particular for primary care physicians who spend most of their career in ambulatory settings.<sup>23</sup> The IOM study further stated that because payments for health services are skewed to favor inpatient care and specialty education, it is difficult for educators to increase the time that residents spend in outpatient settings. When residents do train in outpatient or ambulatory care settings, Medicare does not always recognize the direct costs of such training; Medicare limits DGME funding for training in ambulatory care settings to those training programs for which a hospital incurs all or substantially all of the costs of the ambulatory care training program. This places primary care programs at a financial disadvantage because of those programs' extensive use of ambulatory care sites for training, including those in nonhospital settings. In addition, hospital-based training can create an environment that may influence residents in internal medicine and pediatrics to subspecialize, thus diminishing the primary care pool.<sup>24</sup>

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<sup>23</sup>See Primary Care Physicians: Financing Their GME in Ambulatory Settings, Institute of Medicine (1989).

<sup>24</sup>An HHS study indicated that the training environment exerts an independent effect in directing residents in internal medicine and pediatrics into primary care careers. (See Assessment of the Development and Support of Primary Care Residency Training: General Internal Medicine and Pediatrics, HHS (Sept. 30, 1987).)

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## More Residents Train in Nonprimary Care

Our analysis of the IRIS dataset for the 1989-91 period revealed that a greater proportion of interns and residents were receiving training in nonprimary care specialties than in primary care specialties. About 60 percent of interns and residents were receiving training in nonprimary care specialties while the remaining 40 percent were receiving training in primary care.<sup>25</sup>

It is important to note that these results represent a "snapshot" of the specialty distribution of interns and residents in training in the 1989-91 period—not necessarily the specialty distribution of physicians in practice after training has been completed.

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## More Medicare DGME Payments Support Nonprimary Care Training

Our analysis showed that a greater proportion of Medicare DGME payments are used by hospitals to support the training of interns and residents in nonprimary care specialties. In the 1989-91 period, about 55 percent of DGME payments were associated with the training of interns and residents in nonprimary care and about 45 percent of DGME payments were associated with the training of interns and residents in primary care. During this period, the average annual Medicare DGME payment for the training of interns and residents in nonprimary care was about \$453 million and the average annual payment for the training of primary care interns and residents was about \$380 million.<sup>26</sup>

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## A Greater Proportion of Medicare DGME Payments Supports Nonprimary Care Training When Branching Is Considered

The proportion of interns and residents in nonprimary care training, and associated DGME payments, increased when branching was considered. In this case, the proportion of interns and residents categorized as nonprimary care was about 75 percent versus 25 percent categorized as primary care; the proportion of DGME payments associated with nonprimary care training was about 72 percent versus about 28 percent with primary care.

Our objective for this analysis was to determine the distribution of interns and residents, and associated DGME payments, according to the type of training they would ultimately complete (i.e., primary care or nonprimary

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<sup>25</sup>For the purposes of this analysis, we included general internal medicine, general pediatrics, family practice, general practice (osteopathic), as well as preventive medicine, and public health/preventive medicine in the definition of "primary care." All other specialties and subspecialties were included in the definition of "nonprimary care."

<sup>26</sup>DGME payments for physician training programs in 1989, 1990, and 1991 totaled \$1.03 billion, \$1.073 billion, and \$1.10 billion, respectively. Because of incomplete data in the IRIS dataset, our payment estimates are less than the actual amounts.

care). In our original analysis, we categorized interns and residents in general internal medicine and general pediatrics as training in primary care. However, a proportion of these interns and residents who train in primary care specialties will ultimately complete their training in nonprimary care subspecialties, a phenomenon referred to as "branching."<sup>27</sup> Therefore, we estimated the number of primary care interns and residents (in general internal medicine and general pediatrics) who will branch, and we reallocated them to nonprimary care. (See app. I for a detailed description of our methodology.)

When branching is considered, the proportion of interns and residents categorized as training in nonprimary care increased from about 60 percent to 75 percent. The proportion of interns and residents categorized as training in primary care decreased from about 40 percent to about 25 percent.

The proportion of DGME payments associated with the training of nonprimary care interns and residents increased from about 55 percent to about 72 percent. The proportion of DGME payments associated with the training of primary care interns and residents decreased from about 45 percent to about 28 percent. This change represented about \$148 million in annual DGME payments: an increase in DGME payments for nonprimary care from about \$453 million to about \$601 million, and a decrease in DGME payments for primary care from about \$380 million to about \$232 million.

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## Concluding Observations

Medicare's stated purpose for supporting graduate medical education is to meet community needs for trained health personnel. During the 1989-91 period, Medicare funds were used to support a training distribution of 75 percent nonprimary care interns and residents versus 25 percent primary care. This distribution is based primarily upon hospital service needs. To the extent that "community needs" are reflected by hospitals' service needs, Medicare payments support community needs. There is reason to question, however, whether hospitals should be the primary decisionmakers in determining physician training distributions and, in effect, in defining community need.

Health care reform is expected to place a greater emphasis on managed care; and, as a result, the types of physicians needed and the settings in which they are trained are expected to change. The definition of

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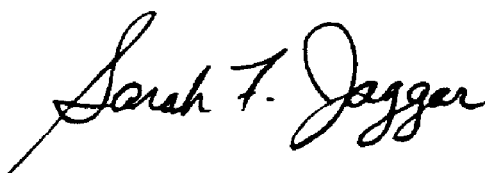
<sup>27</sup>We used American Board of Medical Specialties data on the number of general and special certificates awarded to estimate the proportion of residents in general internal medicine and general pediatrics who pursue additional subspecialty training.

community need as it relates to Medicare graduate medical education payment policy may need to be reassessed as the need for primary care physicians increases.

## Agency Comments

HHS officials reviewed a draft of this report and generally agreed with our findings. (See app. II.) HHS officials concur that Medicare payments are being driven by hospitals' decisions regarding their residency programs. They noted that the Council on Graduate Medical Education<sup>28</sup> is concerned that the payment methodology provides an incentive to add residency positions based on hospital service needs rather than societal and educational needs. They further noted that the administration's proposed Health Security Act supports increasing the amount of residency training that is performed in nonhospital settings. They also provided technical comments, which we incorporated as appropriate. We provide some additional clarification on our methodology in our response to HHS' letter in appendix II.

As agreed with your office, unless you publicly announce its contents earlier, we plan no further distribution of this report until 30 days after its issue date. At that time, we will send copies to others on request. If you have any questions about this report, please call me at (202) 512-7119. Other major contributors are listed in appendix III.



Sarah F. Jagger  
Director, Health Financing  
and Policy Issues

<sup>28</sup>The Council on Graduate Medical Education is administered by the Public Health Service and reports to the Secretary of HHS and the Congress on matters related to graduate medical education.



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## Abbreviations

DGME	direct graduate medical education
DRG	diagnosis-related group
FTE	full-time equivalent
GME	graduate medical education
HCFA	Health Care Financing Administration
HCRIS	Hospital Cost Report Information System
HHS	Department of Health and Human Services
IME	indirect medical education
IOM	Institute of Medicine
IRB	intern and resident to bed
IRIS	Intern and Resident Information System
NGMEDC	National Graduate Medical Education Data Collection
OB-GYN	obstetrics/gynecology



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# Objectives, Scope, and Methodology

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One purpose of this review was to determine the extent of Medicare's support for the direct costs of the graduate medical education of primary care and of nonprimary care physicians. We divided this goal into three subobjectives, as follows:

- determine the distribution of interns and residents training in primary care and in nonprimary care,
- determine the amount of DGME payments made in support of training in primary care and in nonprimary care, and
- estimate the distributions of interns and residents and of DGME payments that account for additional subspecialty training by residents in internal medicine and pediatrics.

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## Creating a Combined Database

To accomplish these objectives, we combined information from several HCFA databases for fiscal years 1989, 1990, and 1991. Specifically, we used HCFA's Intern and Resident Information System, Hospital Cost Report Information System (HCRIS) Minimum Data Set, and Second National Graduate Medical Education Data Collection (NGMEDC).

IRIS was developed by HCFA to monitor intern and resident activity affecting Medicare direct and indirect payments for graduate medical education. IRIS data records contain information on training rotations of interns and residents, including chief residents and fellows. Among other things, each record includes information on the type of residency, year of residency, location of training, and percentage of time working at that location.

The HCRIS Minimum Data Set contains cost, financial, and other information from the Medicare Hospital Cost Report. The NGMEDC contains information on graduate medical education costs and each hospital's Medicare GME per resident reimbursement amount, as well as information on the weighted number of full-time equivalent interns and residents.

To create a combined database for our analyses, we added variables from the NGMEDC and the HCRIS Minimum Data Set to the variables from the IRIS dataset. We created a datafile from the IRIS dataset that included the following information for each intern and resident: residency designation (specific specialty or subspecialty), year of residency training, location (provider number) for training, and the duration and the percentage of time at the training location. We linked variables from the other datasets to the IRIS datafile using provider numbers. Specifically, we added hospital

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Appendix I  
Objectives, Scope, and Methodology

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GME per resident amounts from the NGMEDC and the ratio of Medicare inpatient days to total inpatient days from the HCRIS Minimum Data Set.

For the purposes of these analyses, we categorized interns and residents as either primary care or nonprimary care as follows: primary care included those who were receiving training in general internal medicine, general pediatrics, family practice, general practice (osteopathic), preventive medicine, and public health/preventive medicine; nonprimary care included the interns and residents in all other specialty and subspecialty training programs.

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Analysis of the Distribution  
of Interns and Residents

To determine the distribution of interns and residents, we ran frequencies on the combined database to determine the number and the proportion of interns and residents in primary care residencies and in nonprimary care residencies, for each of 3 years of data. We then computed the proportion of interns and residents in primary care and the proportion in nonprimary care for the 1989-91 period.

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Analysis of the Distribution  
of DGME Payments

To determine the distribution of DGME payments, we calculated DGME payment amounts for training in primary care and in nonprimary care for each of 3 years of data. We based these calculations on HCFA's DGME payment formula:

weighted number of FTEs × the hospital's per resident amount updated by the Consumer Price Index × ratio of Medicare inpatient days to all inpatient days.

For each year in our analysis, we determined the value for the factors in the payment formula in three steps. First, we determined the FTE status of each intern and resident at each hospital, based on HCFA's rule for calculating FTE, using information on training rotations.<sup>1</sup> We then determined a weight to be assigned to each FTE intern and resident, based on HCFA's rule, using data on the year of residency training.<sup>2</sup> Second, we

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<sup>1</sup>No individual may be counted as more than one FTE. If a resident spends time in more than one hospital or in a nonprovider setting, the resident counts as a partial FTE based on the proportion of time worked at the hospital to the total time worked. A part-time resident counts as a partial FTE based on the proportion of time worked compared with the average time spent by other residents working in the same specialty program.

<sup>2</sup>For interns and residents in the initial residency period (i.e., the number of years necessary to satisfy the requirements for certification in a specialty or subspecialty, plus 1 year, not to exceed 5 years, with the exception of geriatrics whose initial residency may last up to 2 additional years), the weighting factor is 1.0. For residents not in an initial residency, the weighting factor is 0.5.

computed each hospital's per resident amount by updating the base period per resident amount with the Consumer Price Index-Urban Consumers. Third, we calculated each hospital's ratio of Medicare inpatient days to all inpatient days.

Through these calculations, we determined DGME payment amounts associated with each intern and resident's training for a given year. We totaled DGME payments for those in primary care residencies and for those in nonprimary care residencies, in each year 1989, 1990, and 1991. We then computed the proportion of total DGME payments in 1989-91 that supported interns and residents in primary care and the proportion that supported those in nonprimary care.<sup>3</sup>

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### Estimates of the Distribution of Interns and Residents and DGME Payments, Given Branching

IRIS contains information on interns and residents and their training assignments during the 1989-91 period. In a given year, interns and residents in the dataset are at different stages in training (ranging from training year 1 to 9). Our objective for this analysis, however, was to determine the distribution of interns and residents according to the type of training they would ultimately complete (i.e., primary care or nonprimary care). We estimated this distribution using the following methodology:

1. All interns and residents who were not receiving training in general internal medicine, general pediatrics, family medicine, preventive medicine, public health/preventive medicine, or osteopathic general practice were counted as nonprimary care.

2. Interns and residents in family medicine, preventive medicine, public health/preventive medicine, and the osteopathic specialties of general internal medicine, general pediatrics, and general practice were counted as primary care.

3. We allocated the remaining number of residents (those in allopathic internal medicine and pediatrics) between primary care and nonprimary care using estimated "branching" rates.<sup>4</sup> These branching rates reflect the

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<sup>3</sup>We calculated DGME payments for only the interns and residents in the IRIS dataset. Because the IRIS dataset was incomplete, our DGME payment estimates for the 3 years analyzed were less than the DGME expenditures reported by HCFA. However, our estimates represented about 78 percent of reported DGME payments.

<sup>4</sup>While our analysis is based on both allopathic and osteopathic interns and residents, osteopathic physicians are not included in the American Board of Medical Specialties certification data on which our estimated branching rates were based. Thus we did not estimate the effect of branching on osteopathic primary care interns and residents. However, osteopathic primary care interns and residents equaled only about 7 percent of total primary care interns and residents allocated.

estimated proportion of allopathic residents being trained in internal medicine and pediatrics (heretofore classified as primary care) who will ultimately complete their training in nonprimary care. Specifically, these estimates were based on the ratio of special certificates to general certificates awarded between 1982 and 1991 as reported by the American Board of Medical Specialties.<sup>5</sup> We calculated and applied separate estimates of branching rates for internal medicine and pediatrics (66 percent and 18 percent, respectively).<sup>6</sup> (See fig. I.1.)

Figure I.1: Estimating the Distribution of Interns and Residents While Accounting for "Branching"

Internal Medicine:  $.66 \times 21,385 \text{ PC Residents}$ <b>= 14,114 Residents in PC Who Will Branch</b>
Pediatrics:  $.18 \times 7,508 \text{ PC Residents}$ <b>= 1,351 Residents in PC Who Will Branch</b>
 $14,114 + 1,351$ <b>= 15,465 IM-PEDS Residents in PC Who Will Branch</b>
 $39,212 \text{ PC Residents} - 15,465$ <b>= 23,747 Residents in PC (25%)</b>
 $56,133 \text{ Non-PC Residents} + 15,465$ <b>= 71,598 Residents in Non-PC (75%)</b>

Note: PC = primary care.  
IM-PEDS = internal medicine and pediatrics.

We also estimated DGME payments associated with training of interns and residents for primary care and for nonprimary care. For each year, we computed the average DGME payment per primary care intern and resident before adjusting for branching and multiplied this amount by the estimated number of interns and residents who branched, as determined

<sup>5</sup>General certification is the initial or basic certification conferred on individuals who meet the requirements for certification in a specified field of medical practice. Special certificates designate special training in a subspecialty field. For example, an individual may be granted a general certificate in the primary care specialty of internal medicine and then granted a special certificate in one of the approved internal medicine subspecialties.

<sup>6</sup>Our branching estimate for internal medicine is comparable to other estimates stated in the literature; however, our branching estimate for pediatrics is somewhat lower than others stated in the literature.

in the previous analysis. We reallocated this amount from the total DGME payments for primary care to the total DGME payments for nonprimary care. This resulted in the revised distribution of DGME payments for primary care and nonprimary care for the 1989-91 period. (See fig. I.2.)

Figure I.2: Estimating the Distribution of DGME Payments While Accounting for "Branching"

$\$493,548,481$  PC Payments / 39,212 PC Interns and Residents  
=  $\$12,587$  per PC Resident

$\$12,587 \times 15,465$  IM-PEDS Residents Who Will Branch  
=  $\$194,670,542$  Shift in Payments From PC to Non-PC

$\$493,548,481$  PC -  $\$194,670,542$   
=  $\$298,877,939$  (28%) for PC

$\$592,979,107$  Non-PC +  $\$194,670,542$   
=  $\$787,649,649$  (72%) for Non-PC

Note: PC = primary care.  
IM-PEDS = internal medicine and pediatrics.

## Database Limitations Pertinent to Our Analysis


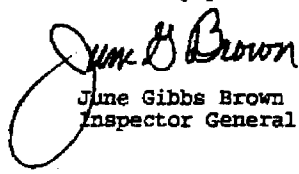
At the time of our analysis, HCFA indicated that the IRIS dataset was incomplete because some hospitals, although required, did not provide HCFA with data for fiscal years 1989 through 1991. We estimated, however, that DGME payments for interns and residents in our dataset represented about 78 percent of reported total DGME payments.

Another shortcoming in IRIS indicated by HCFA was the possibility of problems with the coding for "residency type." HCFA is not certain whether the residency type reported for some residents is the resident's initial residency or a prerequisite that is required for the resident's initial residency. For example, ophthalmology residents (nonprimary care) are required to train first for 1 year in internal medicine (primary care). During this first year, some of these residents may have been inaccurately reported as internal medicine residents. This type of error would result in overstating the number of interns and residents in primary care and understating the number in nonprimary care.



# Comments From the Department of Health and Human Services

Note: GAO comments supplementing those in the report text appear at the end of this appendix.

	<b>DEPARTMENT OF HEALTH &amp; HUMAN SERVICES</b>	Office of Inspector General
		Washington, D.C. 20201
JAN 4 1994		
<p>Ms. Sarah F. Jaggar Director, Health Financing and Policy Issues United States General Accounting Office Washington, D.C. 20548</p>		
<p>Dear Ms. Jaggar:</p>		
<p>Enclosed are the Department's comments on your draft report, "Medicare: Graduate Medical Education Payment Policy Needs to be Re-examined." The comments represent the tentative position of the Department and are subject to reevaluation when the final version of this report is received.</p>		
<p>The Department appreciates the opportunity to comment on this draft report before its publication.</p>		
Sincerely yours,		
 June Gibbs Brown Inspector General		
<p>Enclosure</p>		

**Appendix II  
Comments From the Department of Health  
and Human Services**

Comments of the Department of Health and Human Services  
on the General Accounting Office (GAO) Draft Report,  
"Medicare: Graduate Medical Education  
Payment Policy Needs to be Re-Examined"

General Comments

The stated objective of the GAO report is to describe how Medicare pays teaching hospitals for the costs of graduate medical education (GME) and to determine the extent of Medicare support of primary care versus non-primary care physician training. The report alleges that Medicare payments encourage more non-primary care training than primary training.

See comment 1.

See comment 1.

We believe the report should emphasize that it is not Medicare that is driving this policy, but rather that Medicare payments are being driven by hospital decisions regarding their residency programs. In fact, the report concludes that there is reason to question whether hospitals should be the primary decision-maker in determining physician training distributions and in defining community needs. Furthermore, President Clinton's Health Security Act (HSA) (H.R. 3600), Title III, Subtitle A, authorizes the creation of a national council on GME within the Department of Health and Human Services which will determine the number and specialty mix of GME residency positions and will make allocations among approved physician training programs. Specifically, HSA will mandate that 55 percent of all interns and residents be trained in primary care starting with first year residents in 1998. The HSA will also require that all payers contribute to a pool that will support GME, as opposed to the present situation where Medicare is the only explicit national payer of GME. Finally, the HSA also supports primary care training by providing incentives for physicians to practice in this area, and it also supports the notion of increasing the amount of residency training that is performed in non-hospital settings. Thus, hospitals will have less control over the number and specialty mix of residency training programs. The goal of this policy change is to ensure a more even distribution between primary care and other physicians. It would appear, therefore, that it is the hospitals, and not Medicare, that have controlled the distribution of primary care and non-primary care physician training.

See comment 1. See also  
p. 13.

Now on p. 12.

See comment 2.

In addition, we would note that the definition of primary care on page 5 is inconsistent with the definition used in the report on page 14. The latter definition includes preventive medicine. Furthermore, the Omnibus Budget Reconciliation Act of 1993 defined primary care for Medicare payment purposes as a training program in family medicine, general internal medicine, general pediatrics, geriatric medicine, preventive medicine, or osteopathic general practice. We believe the study data and findings should follow the statutory definition. Finally, the report includes general practice in the definition of primary care. Currently, this is not a specialty residency program which is approved by the Accreditation Council for GME.

Appendix II  
Comments From the Department of Health  
and Human Services

2

See p. 8.

We would also note that we disagree with the statement on page 9 that the purpose of indirect medical education (IME) payments "is not to compensate for teaching costs per se". The current level of the adjustment exceeds all recent estimates of the relationship between GME and patient care costs, and some have argued that this is appropriate because of other issues these hospitals face such as uncompensated care. Our position continues to be that these other issues should be addressed directly, and the IME adjustment should, as accurately as possible, compensate for higher costs associated with having a teaching program. Also, in the first sentence of the last paragraph, "direct and indirect costs" should be changed to "direct and indirect payments".

Now on p. 8.

The Council on GME (COGME), which is administered by the Public Health Service and reports to the Secretary and Congress on matters related to GME, has stated many of the same concerns regarding barriers to primary care training. The COGME is concerned that this payment methodology provides an incentive to add residency positions based on hospital services needs rather than societal and educational needs. This incentive is inconsistent with the view that there should be more educational experiences at non-hospital, community-based sites.

In its Fourth Report, which is due out in early 1994, COGME will recommend that the IME be paid on some other basis rather than the intern/resident to bed ratio. In this way, COGME hopes that the existing link between education and service will be uncoupled. In addition, COGME hopes the existing financial incentives for teaching hospitals to keep residents in hospital-based educational experiences and to recruit additional residents in numbers and specialties that are not required will be eliminated.

Now on p. 12.

Finally, on page 16 and throughout Appendix I, GAO explains that "leakage" increases the percentage of Medicare payments made for non-primary care specialties and decreases the percentage of payments made for primary care specialties. However, GAO's analysis does not seem to address the fact that after a resident completes an initial residency period in a primary care specialty, and then "leaks" to additional training in a non-primary specialty, the resident's weight is reduced to 50 percent for the calculation of GME payments. Based upon our review of the draft report, we cannot tell whether GAO considered this issue, or whether it would have a material effect on its calculations.

See comment 3.

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The following are GAO's comments on the Department of Health and Human Services' letter dated January 4, 1994.

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## GAO Comments

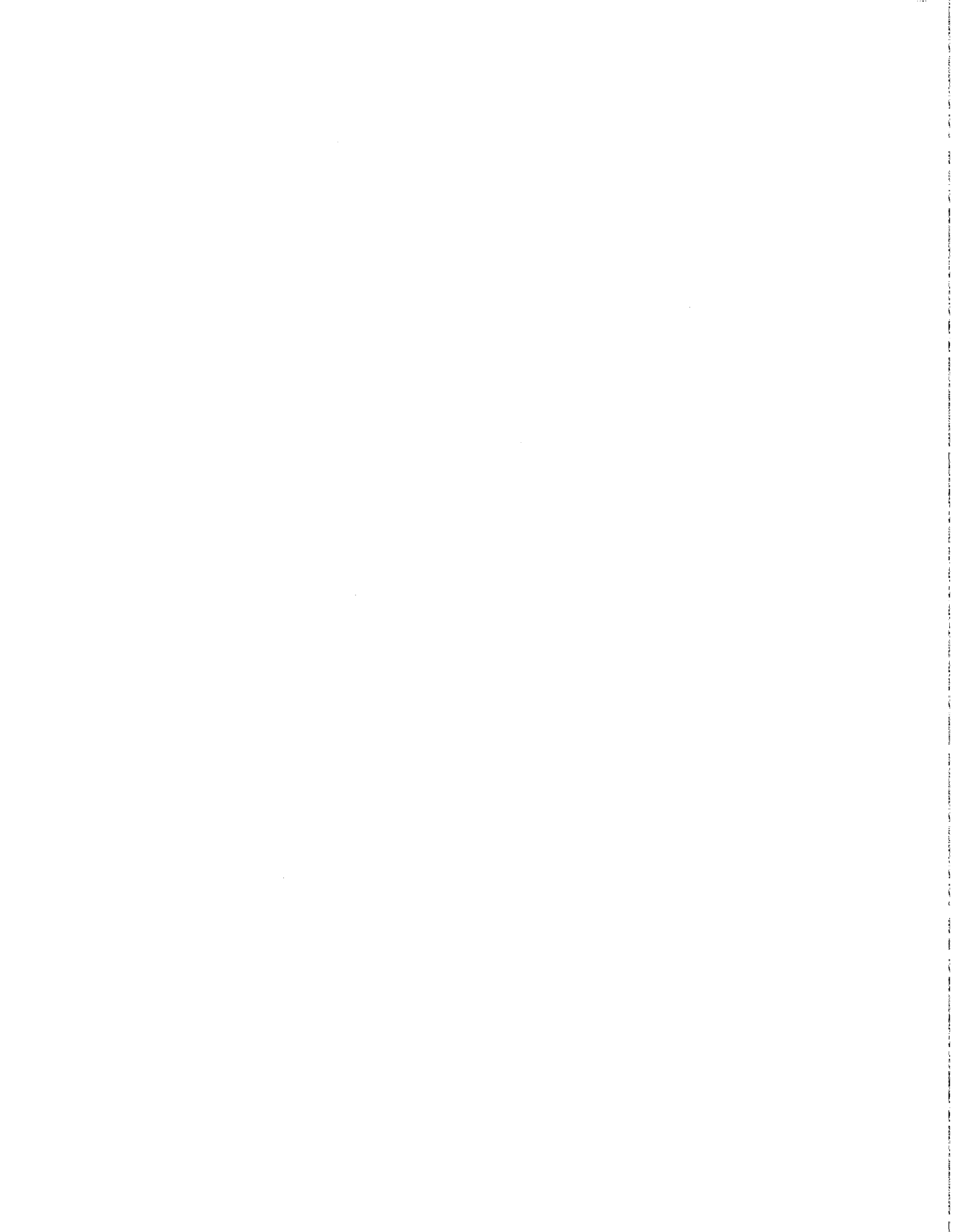
1. We agree and acknowledge in the report that the distribution of Medicare DGME payments is being driven by hospital decisions regarding their residency programs. We conclude that DGME payments have been used by hospitals to fund a training distribution in which a greater proportion of interns and residents are in nonprimary care training than are in primary care training.
2. We began our analyses in March 1993; the Omnibus Budget Reconciliation Act of 1993 was approved in August 1993. We recognize that the act, for Medicare payment purposes, includes geriatric medicine in its definition of primary care. Because geriatric medicine was not included in the definition of primary care in our analyses, we reviewed the effect that including geriatric medicine would have on our results. We concluded that our results would not be materially affected since interns and residents in geriatric medicine equaled less than 1 percent of the interns and residents in primary care.
3. We are aware that the weight assigned to a resident for payment calculations is 0.5 after the initial residency; however, this fact does not have a material effect on our estimations of the DGME payment distribution that accounts for "branching" (i.e., "leakage"). The objective of this analysis was to estimate the distribution of current DGME payments for primary care versus nonprimary care based on the type of training that residents would ultimately complete. Accordingly, a proportion of residents in their initial residency period, and the associated DGME payments (which are derived using 1.0 as the assigned weight per resident), were allocated to nonprimary care based on the estimation that they would ultimately complete their training in nonprimary care (i.e., "branching" would occur). The fact that the weight assigned to such residents, for payment calculations, is 0.5 after "branching" (a future event) is not an issue given our methodology.

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# Major Contributors to This Report

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