



## Aligning Graduate Medical Education with Public Policy

BACKGROUND  
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*OVERVIEW — As a precondition to board certification and independent practice, about 111,000 medical school graduates are currently enrolled in post-doctoral training programs requiring three or more years of additional study. Accreditation and oversight of these graduate medical education (GME) programs rest largely with professional organizations, while financial management and decision-making about program size and specialties are the responsibility of hospitals and other program sponsors. Medicare and other government programs pay substantial subsidies for GME but exercise little control over professional standards or sponsors' decisions. Questions about future health care workforce needs have prompted calls for a reexamination of GME policies.*

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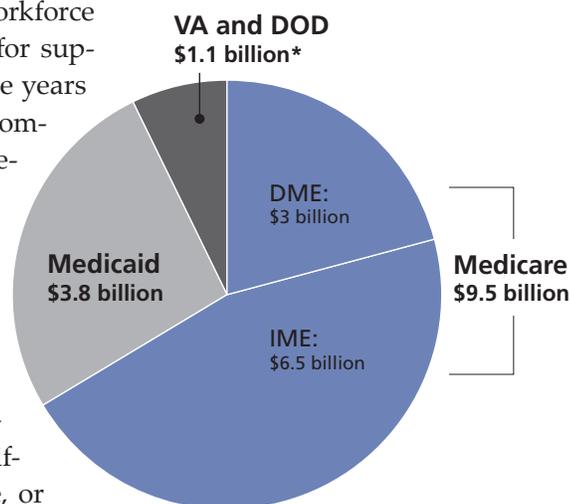
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Perennial concerns about the supply and distribution of the physician workforce deserve renewed attention at a time of population growth, aging, insurance expansions, and delivery system changes. Historically, public policy has focused on fluctuations between projections of shortage and surplus and on geographical and socioeconomic disparities in physician supply. In the current era of rapid medical innovation, the relative numbers of specialty and primary care physicians also have become a concern. As care has migrated increasingly to outpatient sites featuring team-based approaches and other innovations, increasing scrutiny has been given to broader considerations of the size and composition of the overall health care workforce as well as the quality and appropriateness of traditional modes of physician training that occur primarily in inpatient settings.

With good reason, federal policymakers view physician workforce issues primarily through the lens of Medicare's payments for support of graduate medical education (GME), the three or more years of hands-on training in hospitals and elsewhere (known commonly as residency and fellowship) that physicians must receive to obtain specialty board certification after graduating from medical school. Those payments reached \$9.5 billion in 2009, with another \$3.8 billion coming from 41 state Medicaid programs, and an additional \$1 billion from the Veterans Health Administration (Figure 1). Despite the size of these payments, however, policymakers have exercised limited effort to influence the direction of workforce training in the service of policy goals such as the need for a different balance between subspecialization and primary care, or more extensive outpatient training.<sup>1</sup> About one in four state Medicaid

**FIGURE 1: Public Funding Sources for GME, 2009**



\* Note: Data from Veterans Health Administration and Department of Defense are from 2007.

Sources: Medicare Payment Advisory Commission (MedPAC), Report to the Congress: Aligning Incentives in Medicare, chap. 4, June 2010, available at [www.medpac.gov/documents/Jun10\\_EntireReport.pdf](http://www.medpac.gov/documents/Jun10_EntireReport.pdf); Tim Henderson, "Medicaid Direct and Indirect Graduate Medical Education Payments: A 50-State Survey," Association of American Medical Colleges, 2010; and R.A. Cooper, "It's Time to Address the Problem of Physician Shortages," *Annals of Surgery*, 246, no. 4 (October 2007): pp. 527–524.

programs links GME support to multiple policy goals including building up rural and inner-city primary care, but they account for only a small share of the \$13.3 billion in the two programs' annual spending on GME.<sup>2</sup> The VA has also experimented with shifting the balance between primary care and subspecialty training in the residency programs it supports.<sup>3</sup>

To appreciate the context for any attempt at shaping GME outcomes, it is helpful to understand a little about the underlying structure and economics of residency programs. Overall hospital revenues provide the economic foundation for hospital residency programs, and federal subsidies offset some of the costs of operating these programs. Some hospitals have continued to expand residency programs even after the Balanced Budget Act (BBA) capped Medicare subsidy levels in 1997, suggesting that these expansions may be profitable even without subsidies.<sup>4</sup> But Medicare may tip the balance between positive and negative margins for many teaching hospitals. Residents work for moderate stipends, and their labor can substitute for that of more highly paid physicians and nurses and can be used to help providers increase patient volume and revenue. In addition to payment add-ons (subsidies) from Medicare and Medicaid, teaching hospitals usually command higher reimbursement from private payers.

This paper explores the structure and financing of residency training, and in this context reviews the recent history of Medicare policies and their effects on the physician workforce. It also reviews professional governance and accreditation policies and efforts to amend educational content and quality standards to meet the needs of an evolving health system. Current policy considerations are addressed amidst these background factors.

## SIZE AND STRUCTURE OF RESIDENCY PROGRAMS

Agreement is longstanding in the medical profession that undergraduate medical education is insufficient to prepare freshly minted MDs for hands-on, independent medical practice. Standards for systematic, supervised postdoctoral training developed gradually after medicine organized itself into specialized domains in the 1930s and '40s. Rapid growth of GME began before Medicare was enacted, fueled by a booming national economy, post-war hospital construction and research spending, and the spread of private insurance. From 1950 to

1965, the number of residency positions in the United States grew from 30,000 to more than 50,000, partly because medical school graduates were choosing to pursue increasingly sophisticated specialties and subspecialties that required longer periods of training. In response to a perceived physician shortage in the 1960s, medical schools were also expanding, also with the help of federal subsidies. Forty new allopathic medical schools opened in the 1960s and '70s, and changes in immigration law also steadily increased the numbers of international medical graduates (IMGs) available to fill new residency slots.

As medical knowledge and specialization have accelerated, residency training programs have grown into a multi-billion dollar enterprise of bewildering complexity. A minimum of three years of residency training is now required for a medical school graduate to obtain specialty board certification, and for many specialties and subspecialties the requirement can be several years longer.<sup>5</sup> In 2010 there were about 111,000 residents in 8,814 accredited U.S. programs, including 25,865 in their first year (Table 1).<sup>6</sup>

Programs vary widely in size and institutional structure. They may be sponsored by hospitals themselves or by medical schools, hospital and health systems, academic health centers, the Veterans Administration, or others. Because many large hospitals operate programs in multiple specialties and sometimes locations, the roughly 700 sponsors offer more than 8,800 programs in just 1,500 sites.<sup>7</sup> Fifteen large organizations employ more than 1,000 residents each and about one-fourth of all teaching hospitals account for 75 percent of residencies.<sup>8</sup> The average program has about 73 residents, and about 350 programs employ 10 or fewer residents.<sup>9</sup>

In keeping with prevailing norms of professional self-regulation, leaders of the medical specialties have retained essential control over the operations and governance of residency programs. Clinical department chiefs and residency program directors play a central role in hospitals' decision-making about their residency programs. A diffuse hierarchy of private professional organizations determines the educational standards and accreditation requirements for these programs. The overarching authority for approval and accreditation of these programs and their sponsoring institutions rests with the Accreditation Council for Graduate Medical Education (ACGME), which is made up of representatives of the American Medical Association (AMA), the American Hospital Association, the Association

**TABLE 1**  
**GME Residency Program Data,**  
**Academic Years 2001 and 2009**

	ACADEMIC YEAR	
	2001-2002	2009-2010
Residents	96,416	111,386
Programs	7,838	8,814
Sponsors	724	681

All data from ACGME, "Data Resource Book, Academic Year 2009-2010," August 2010, available at [www.acgme.org/acWebsite/dataBook/2009-2010\\_ACGME\\_Data\\_Resource\\_Book.pdf](http://www.acgme.org/acWebsite/dataBook/2009-2010_ACGME_Data_Resource_Book.pdf).

of American Medical Colleges, and others. The ACGME delegates oversight of the individual programs to 28 specialty-specific Residency Review Committees (RRCs), which are independent groups of volunteer physicians appointed by the AMA and the relevant specialty boards and organizations.<sup>10</sup> The ACGME itself certifies the sponsoring institutions.

### Examples of Residency Program Accreditation Requirements

The Accreditation Council for Graduate Medical Education (ACGME) sets educational standards for each residency program through its 28 specialty-specific Residency Review Committees. The requirements can be lengthy—43 pages and 38 pages of text for internal medicine and general surgery, respectively—and outline duties of administrators and faculty, minimum staffing ratios, limits on residents' duty hours and responsibilities, grievance and due process policies, competency objectives, and general goals for promoting patient safety, quality improvement, communications skills, collaborative care, etc. Examples of requirements for internal medicine and general surgery are listed below.

#### Internal medicine:

- Provide facilities for cardiac catheterization, bronchoscopy, gastrointestinal endoscopy, hemodialysis, ultrasound, angiography, and CT and MR imagery
- Serve a patient population representing a broad range of clinical problems
- Perform one-third of training in ambulatory sites
- Require three months minimum rotation in critical care
- Expose residents to all internal medicine subspecialties
- Eighty percent of residents completing training must take board certification exam, and 80 percent of these must pass

#### General surgery:

- Residents must complete five years of training and at least 750 major cases
- Faculty and residents must be involved in clinical and/or basic science research
- Residents must have documented experience in emergency care and surgical critical care involving severe and complex illnesses and major injuries
- Residents must obtain experience in essential areas including abdomen, soft tissue, endocrines, head and neck, pediatrics, oncology, trauma, vascular system, and transplantation
- Sixty-five percent of graduates must pass certification exams on first attempt

*Source: Program requirements for all specialties available under "Review Committees" at the ACGME website [www.acgme.org/acWebsite/home/home.asp](http://www.acgme.org/acWebsite/home/home.asp). For internal medicine, see [www.acgme.org/acWebsite/navPages/nav\\_140.asp](http://www.acgme.org/acWebsite/navPages/nav_140.asp); for general surgery, see [www.acgme.org/acWebsite/navPages/nav\\_440.asp](http://www.acgme.org/acWebsite/navPages/nav_440.asp).*

## THE ECONOMICS OF HOSPITAL RESIDENCY PROGRAMS

A number of factors stand in the way of quantifying precisely what the net costs or benefits might be to a hospital that offers a residency program. Cost accounting in teaching hospitals involves expenses for facilities, labor, and supplies that are spread across multiple departments, each with its own unique cost profile in which multiple dimensions of GME costs are embedded. The indirect costs of residency training include reduced productivity for other hospital personnel who spend time assisting residents, and increased use of laboratory tests and imaging procedures to facilitate instruction; but neither of these categories of expense can be precisely observed or measured. A wide range of indirect benefits are similarly difficult to quantify, such as teaching hospitals' ability to command higher prices than their non-teaching competitors or to increase volume in profitable service lines. Practitioners at teaching hospitals may be able to increase their service volumes by having residents essentially serve as junior partners, in some ways functioning as the ultimate physician extender. This benefit may attract and retain higher quality physicians to teaching hospital medical staffs. More broadly shared community benefits may also include clinical research, potentially higher quality of care, and the ability to treat patients with complex and severe conditions, all of which are difficult to measure and may or may not be equal to the value of a nonprofit hospital's tax exemption. Finally, individual hospitals vary widely in the organization and structure of their teaching programs, precluding accurate generalizations about their collective financial condition.

It is nevertheless helpful to identify the categories of costs and benefits that enter into teaching hospitals' business decisions. Direct costs include faculty salaries, resident stipends, and the administrative and facility expenses involved in operating residency programs. These costs may be difficult to allocate precisely, because no bright line distinguishes the time that faculty physicians spend educating residents from the time they spend delivering revenue-producing patient care services. Indirect costs are still more difficult to estimate, because they too tend to blend seamlessly with patient care activities. The main categories of indirect costs include reduced productivity of nurses and other hospital personnel, as noted above, who spend extra time explaining procedures to residents, and increased

use of laboratory tests and imaging technology to clarify diagnoses and treatment decisions for the residents' benefit.

On the other side of the ledger, hospitals benefit economically in a number of ways from employing residents. Most distinctive is the value of resident labor, which may substitute for the labor of more highly paid nurses and physicians in performing routine tasks. The value of resident labor will vary from hospital to hospital depending on how such tasks would otherwise be staffed. Teaching hospitals may also benefit from increased demand for their services from patients, because of the prestige associated with their status, and from increased referrals from community physicians, for the same reason. As noted above, teaching hospitals may be able to both command higher prices from private insurers than competing community hospitals and increase volume in profitable service lines.<sup>11</sup> In addition, they receive from Medicare a payment to offset some direct medical education (DME) expenses and an indirect medical education (IME) payment add-on (that is, subsidy) for patient care services (explained further in next section).

### MEDICARE'S ROLE

Following the lead of traditional Blue Cross hospital insurance, Medicare's original system of cost-based reimbursement recognized the higher costs of teaching hospitals. After the system was modified with the introduction of prospective payment in the early 1980s, hospital-reported data on readily identifiable teaching costs, such as faculty salaries and resident stipends, were used to establish hospital-specific DME payments. The resulting payment amounts varied widely across hospitals, and these initial payment levels have since been trended forward to reflect inflation. Congress also accepted the teaching hospitals' contention that they incurred additional costs that were more difficult to measure—such as reduced productivity, increased use of diagnostic procedures, and the cost of treating sicker patients—that exceeded the value of the residents' low-cost labor. These were approximated in IME payments, which hospitals receive as add-ons to their per-case reimbursement under the diagnosis-related group (DRG) system.

Because of the intrinsic difficulty of observing and measuring IME costs, the amounts paid by Medicare have been persistently controversial. The Prospective Payment Assessment Commission [which

later become the Medicare Payment Advisory Commission (MedPAC)] reported on multiple occasions that the payments exceeded the underlying costs and recommended reductions,<sup>12</sup> and payments were lowered from an average of 7.7 percent to 5.5 percent in the BBA. More recently, however, MedPAC reported that the current \$6.5 billion in IME payments is \$3.5 billion higher than its estimate of empirically justified indirect costs.<sup>13</sup> DME payment amounts are also not without controversy: the Association of American Medical Colleges contends that direct teaching hospital costs have grown faster than Medicare's payments, which remain based on 1984 costs trended forward.<sup>14</sup>

## GME PROGRAM GROWTH

Medicare's influence on the growth of GME programs is impossible to isolate definitively, in part because subsidy amounts vary so widely. Average per-resident GME payments range across hospitals from 70 percent to 130 percent of the national mean, by one estimate.<sup>15</sup> Recent analyses of variations in per-resident Medicare payment amounts are lacking, but a decade ago various studies documented wide variation in both hospital costs and Medicare payments within and across states and regions as well as between programs of different sizes. In a 2001 study of the largest teaching hospitals in six states, per-resident DME payments within the state of Texas varied from \$7,135 to \$65,318. In California, the range was \$8,911 to \$21,316.<sup>16</sup>

Medicare GME subsidy policy came under increasing scrutiny in the 1990s, partly because of federal budget pressures and partly because the early successes of managed care had temporarily changed many analysts' and policymakers' thinking about continued expansion of the physician workforce. In mid-decade, annual DME updates for

## Medicare's Graduate Medical Education Subsidies

### Direct medical education (DME):

- Pays to support Medicare's share of resident stipends, supervising physician salaries, and administrative overhead
- Is based on a hospital-specific per-resident amount calculated in 1984 and trended forward for inflation
- Supports subspecialty fellowship positions at half the amount of core programs, with total number of all positions supported capped at 1996 levels
- Payments totaled \$3 billion in 2009

### Indirect medical education (IME):

- Pays to support Medicare's share of higher patient care costs associated with being a teaching hospital, including greater use of technology and extra time of nurses and others to assist trainees
- Includes hospital-specific adjustment for intensity, based on resident-to-bed ratios, subject to 1996 resident cap number
- Includes payments for Medicare Advantage patients
- Payments totaled \$6.5 billion in 2009, which MedPAC estimates to be twice as much as its cost estimate

*Source: Medicare Payment Advisory Commission (MedPAC), Report to the Congress: Aligning Incentives in Medicare, chap. 4, June 2010, available at [www.medpac.gov/documents/Jun10\\_EntireReport.pdf](http://www.medpac.gov/documents/Jun10_EntireReport.pdf).*

non-primary care residency programs were halted temporarily in a largely fruitless attempt to check the steadily declining proportion of residents going into primary care. In 1996, six medical organizations issued a consensus statement calling for a reduction in residency slots to align the number more closely with the number of U.S. medical graduates.<sup>17</sup> Then in 1997, the BBA capped the number of slots Medicare would support and initiated a phased reduction in IME payments.<sup>18</sup> These changes were no sooner accomplished than the managed care backlash erupted, restoring liberal coverage policies, inclusive provider networks, and increased service use. Prior workforce forecasts based on the assumption that the managed care model would become dominant had concluded that an oversupply of physicians loomed. But as the backlash set in, the forecast changed from surplus to shortage.

It is then not too surprising that the BBA had only short-lived success in arresting the continuing growth of resident employment, a hiatus that coincided with a similarly brief (and unprecedented) flattening out of hospital spending growth in the late 1990s. From 1997 to 2002, the number of residents grew by little more than 0.1 percent per year. But from 2002 to 2007, growth snapped back and the number of residents increased from about 98,000 to 106,000 or 1.6 percent per year—a rate of growth close to that observed in the five years prior to BBA enactment. Besides a shift in expectations regarding future demand for services, another factor that may have increased growth is ACGME's imposition in 2003 of an 80-hour weekly limit on resident duty hours, which may have prompted some hospitals to add positions at their own expense<sup>19</sup> (with no new funding from Medicare). New federal funding for GME in children's hospitals beginning in 1999 also likely contributed to some of the growth.<sup>20</sup>

## INFLUENCE ON TYPES OF SPECIALTY TRAINING

Also cloudy is the impact of Medicare on the distribution of residency slots across medical specialties. The federal government does not regulate the specialty choices of medical school graduates or the residency program choices of hospitals. But Medicare subsidies up until the 1990s tended to go up with hospital costs and with hospitals' resident-to-bed ratios, creating an open-ended incentive for hospitals to build residency programs. The incentives tended to be strongest in high-intensity, high-tech service lines, which often offered enhanced economic

opportunities. For some services in some specialties, Medicare and other payers reimbursed hospitals at higher levels than it cost to provide them.<sup>21</sup> In some cases hospitals built up specialty service lines to fend off competition from large single-specialty medical groups. Medical staff leaders sometimes sought to expand programs that conferred prestige and enhanced earnings, and which patients demanded. Robust specialty service lines could also lead to market dominance and improved bargaining leverage with insurers.<sup>22</sup> These opportunities were attractive to residents as well, bringing them close to cutting-edge practice innovations and promising high future earnings.

Approximately 13,000 new positions were created from 2000 to 2010, a rate of increase of 13.4 percent. (The previous ten-year period saw a rate of increase of 16.9 percent.) But the distribution of this growth reveals what might be the relative benefits of residency programs in different specialties. Advanced and subspecialty programs that cannot be entered immediately after medical school grew at four times the rate of basic specialty training. A frequently cited 2008 study of post-BBA growth found that the total number of ACGME-accredited positions (excluding some osteopathic slots) grew by 7,754 from 2002 to 2007, but only 1,672 were new first-year slots.<sup>23</sup> Since then, about 400 new first-year slots have been added annually.<sup>24</sup> (See text box, left, on growth by specialty.)

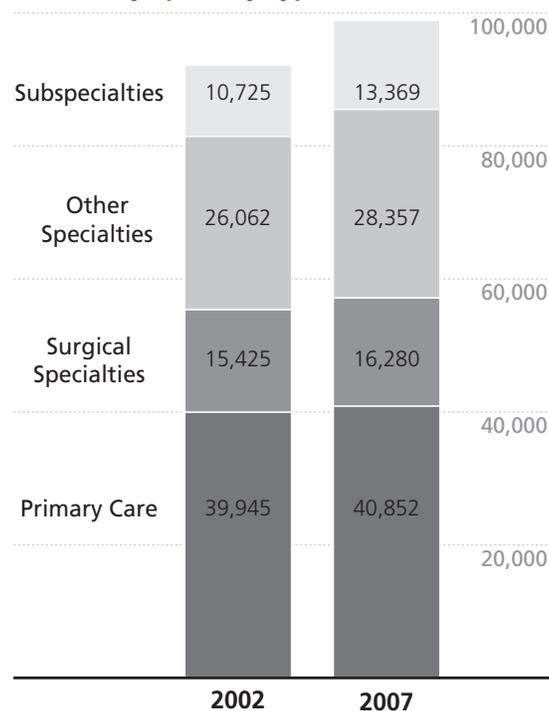
### Growth of Graduate Medical Education

A breakdown of GME growth from 2002 to 2007 fleshes out the picture of residency training growth. U.S. medical schools filled 3,410 of the new positions, with an almost equal number of IMGs (3,041) and a growing number of osteopathic graduates (1,457). Specialties with the largest numerical growth were internal medicine, emergency medicine, diagnostic radiology, anesthesiology, and pediatrics. Growth in internal medicine and pediatrics was fueled to a large extent by increased subspecialization in those fields. Positions in family medicine and preventive medicine declined. The estimated percentage of all residents who will potentially practice primary care fell from 28.1 percent to 23.8 percent, although in 2009 and 2010 there was a slight uptick in the number of U.S. medical graduates choosing family practice residencies and a small increase in the total number of family medicine slots.

*Source: All data from Edward Salsberg et al., "US Residency Training Before and After the 1997 Balanced Budget Act," Journal of the American Medical Association, 300, no. 10 (September 10, 2008): pp. 1174–1180, available at <http://jama.ama-assn.org/content/300/10/1174>.*

*Note that the data included other categories which are not reflected here.*

#### Growth by Specialty Type



The post-BBA growth suggests that, in the aggregate, residency programs produce positive financial returns for teaching hospitals, which favors creation of subspecialty training opportunities over first-year residency positions. As a result widely shared concerns have been heightened about the relatively low proportion of generalists in the physician workforce as well as possible future physician shortages. Medicare's essentially neutral stance on specialty distribution is a perennial issue for advocates of stronger public policies to increase the primary care workforce. Shortages in some specialties and some geographic regions have been reported, and the Association of American Medical Colleges and others have called for an aggressive effort to ramp up the supply of physicians. Researchers at Dartmouth University and others argue that oversupply in some specialties and regions has resulted in waste, over-spending, and over-utilization of services, although recently the Dartmouth findings have come under increased scrutiny.<sup>25</sup>

## CONTENT AND QUALITY

Debate about the content and quality of graduate medical education persists as stubbornly as policy concerns about physician supply and specialty distribution. Studies and commission reports over a period of decades have argued that physicians who have completed residency training are often not adequately prepared to practice medicine independently;<sup>26</sup> that providing services takes precedence over education in a physician's hospital training experience;<sup>27</sup> and that traditional inpatient residencies fail to develop the skills needed to practice in ambulatory settings or in emerging delivery system models which emphasize quality improvement, team-based and patient-centered care, systems-based practice, the use of information technology, and other innovations.<sup>28</sup> These studies and reports parallel many similar critiques of the content of undergraduate medical education and the difficulty in bringing about change.<sup>29</sup>

Citing "evolving societal mandates for quality, safety and accountability," ACGME's residency review committee for internal medicine in 2004 published a detailed proposal for reforming accreditation standards for its residency programs that emphasized enhanced accountability for educational outcomes in a modernized curriculum. The proposal listed 28 specific competencies in six broad areas, and recommended an equally detailed inventory of assessment techniques

by which outcomes could be measured. The competencies reflect both the technical and behavioral dimensions of care. They include interpersonal and communications skills, respect and compassion for patients, the ability to acquire and apply new medical knowledge, the ability to work with other professionals in a system, an awareness of efficiency standards and the cost of care, proficiency in the use of health information technology (IT), and an understanding of the principles of quality improvement.<sup>30</sup>

In 2010, MedPAC recommended that Medicare adopt a system of performance assessment for residency programs modeled on the ACGME proposal and that it change its formula for IME payments to reward programs according to how well they meet a set of standards.<sup>31</sup> The difficulty of implementing the recommendations, however, was apparent in the findings of a 2009 RAND Corporation survey for MedPAC asking 26 residency program directors in internal medicine how well they had been able to reshape their curriculum to reflect the ACGME proposal and its goals. Respondents said their hospitals provided instruction to residents on quality improvement methods and the use of decision-support tools, but that the depth of the instruction varied and the approach was usually informal. Programs also varied widely in providing experiences with team-based care and teaching the use of IT tools, which were not readily available in many hospitals. In other areas, too, MedPAC found, the programs often fell short. Program directors cited numerous obstacles, including IT capacity, faculty competence and commitment, resource limitations, institutional support, and other factors.<sup>32</sup> Training in outpatient settings has been hindered by a variety of financial and logistical challenges that make it difficult to meet accreditation standards for patient care and resident supervision in small and scattered sites of care.

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*Medicare's capacity to shape the physician workforce is limited.*

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## GOVERNANCE AND POLICYMAKING

Most discussions of GME policy begin with the observation that Medicare is the largest single external source of funding for hospital residency programs. But Medicare's capacity to shape the physician workforce is limited. The program's GME subsidies helped teaching hospitals enlarge that workforce when demand exceeded supply, starting in the 1960s. But the attempt to curb growth in 1997 was only partially successful. Policymakers have worried for years about

the balance between specialty and generalist practitioners but have struggled to define firm specialty mix goals amid deep disagreement about appropriate physician supply levels. “The forces fueling greater specialization are far more powerful than any potential incremental change in federal policy,” in the words of a report in the *New England Journal of Medicine*.<sup>33</sup>

Meanwhile, though, direct control of the GME system rests largely in the hands of the professional organizations that regulate and accredit residency programs. While it has made persistent efforts to address content and quality issues, the ACGME, with its constituent specialty societies and stakeholder organizations, does not attempt to influence the aggregate number, size, or specialty mix of the programs it oversees.<sup>34</sup> The argument for professional responsibility and stewardship over these factors was made in a 2010 report by a group of leaders in academic medicine who maintain that more accountability is needed from these private stakeholders because GME is a public good subsidized by the taxpayers and is critical to the health of the nation. The professional organizations that control the standards of the GME system have not taken the necessary steps to meet the needs of the people the system is meant to serve, these leaders declared. The report argues for shared responsibility between the federal government and the medical profession, and echoes the recommendation that an independent commission be formed to direct such an effort.<sup>35</sup>

In its periodic forays into workforce policy, Congress has made a series of efforts to regulate physician supply, with only limited success. Other efforts to regulate the system have been thwarted “because key professional organizations were unwilling to accept any form of government regulation,” according to an analysis published by the Josiah Macy Jr. Foundation.<sup>36</sup> Government has no oversight authority for the GME system as a whole, and the recommendations of two advisory groups, COGME (the Council on Graduate Medical Education) and MedPAC, have not received priority attention from federal policymakers. Although creation of a national workforce commission by the Patient Protection and Accountable Care Act (PPACA) conforms to one such recommendation, funds have not yet been appropriated.<sup>37</sup>

Observers have noted ambivalence about upsetting the status quo even in the field of internal medicine, where concern about the future of primary care has prompted repeated efforts to change the

dynamics of residency training. Internal medicine residencies are the platform from which many fledgling physicians embark on subspecialization.<sup>38</sup> Any regulatory policy that potentially limited this option for residents or hospitals could have unpopular consequences. Conversely, a serious effort to refocus internal medicine on managing patients with multiple chronic conditions would require commitment of a kind that has not been seen in the past from professional leaders, hospitals, and payers.<sup>39</sup> Such an effort also would have to contend with trainees' perceptions about the prestige and excitement of innovative subspecialties as compared to the less glamorous realities of general practice.

The most notable exceptions to the prevailing inertia may be the handful of state Medicaid programs who tie Medicaid GME payments to public policy goals to improve the supply and distribution of physicians. Of the 40 states that continue to support GME through Medicaid, 10 impose such requirements, most of which are directed toward increasing the supply of primary care physicians and other specialties that are in short supply, encouraging training in rural and other underserved communities, and increasing the supply of other health professionals.<sup>40</sup>

## CONCLUSION

At current rates of population growth and graduation of new physicians, the size of the physician workforce relative to the U.S. population will begin to decline by 2020. The physician-to-population ratio in the United States is already lower than in most other industrialized countries, although without a means of determining the optimal ratio, this information is moot. Many U.S. medical schools are expanding and nearly a dozen new schools are preparing to open, but only minimal growth has occurred in the number of new first-year residency positions, which would be necessary for increasing overall physician supply in the future. Many new domestic graduates may find stiffer competition for training positions than in recent years, and international graduates may find themselves crowded out. New residency programs may be prohibitively expensive for many hospitals to initiate, and many larger programs may have reached the limits to which they are willing to expand. Recent growth in the number of residents in training has occurred, though, largely through the addition of subspecialty training opportunities.

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*Direct control of the GME system rests largely in the hands of the professional organizations that regulate and accredit residency programs.*

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Graduate medical training entails a wholesale commitment of resources and organizational energies that must mesh with the provision of health services by teaching hospitals. The costs of training are embedded in the costs of providing services. Likewise, Medicare GME subsidies are embedded in overall patient care revenues that make it possible for hospitals to meet their payrolls and operating costs. Even if the Medicare subsidies make up only a relatively small part of hospital budgets, they may tip the balance between profit and loss and drive decision-making at the margin. Medicare may be able to influence hospital behavior through its GME subsidies, but for the most part Medicare's hand has been stayed by the medical profession's maintenance of authority over accreditation and the teaching hospitals' ability to resist change as a result of their prestige and their role in local economies.

The fate of MedPAC's proposal to redirect some IME funds toward performance incentives will signal whether Medicare's position of neutrality is ripe for change. Other changes in coverage policy, payment, or conditions of participation could also potentially be used to promote content, quality, and workforce goals, but Medicare would have difficulty trying to achieve such goals unilaterally. Private-sector stakeholders—hospitals, professional organizations, and health plans—would probably have to be involved.

## ENDNOTES

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