

COUNCIL ON GRADUATE MEDICAL EDUCATION

Nineteenth Report

Enhancing Flexibility in Graduate Medical Education

SEPTEMBER 2007

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The views expressed in this document are solely those of the Council on Graduate Medical Education and do not necessarily represent the views of the U.S. Government.

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The Council on Graduate Medical Education

The Council on Graduate Medical Education (COGME) was authorized by Congress in 1986 to provide an ongoing assessment of physician workforce trends, training issues, and financing policies and to recommend appropriate Federal and private-sector efforts to address identified needs. The legislation calls for COGME to advise and make recommendations to the Secretary of the Department of Health and Human Services (DHHS); the Senate Committee on Health, Education, Labor, and Pensions; and the House of Representatives Committee on Commerce. Since 2002, COGME has been extended through annual appropriations.

The legislation specifies 17 members for the Council. Appointed individuals are to include representatives of practicing primary care physicians, national and specialty physician organizations, international medical graduates, medical student and house staff associations, schools of medicine and osteopathy, public and private teaching hospitals, health insurers, business, and labor. Federal representation includes the Assistant Secretary for Health, DHHS; the Administrator of the Centers for Medicare and Medicaid Services, DHHS; and the Chief Medical Director of the Veterans Administration.

CHARGE TO THE COUNCIL

The charge to COGME is broader than the name implies. Title VII of the Public Health Service Act, as amended, requires COGME to provide advice and recommendations to the Secretary and Congress on the following issues:

1. The supply and distribution of physicians in the United States;
2. Current and future shortages or excesses of physicians in medical and surgical specialties and subspecialties;
3. Issues relating to international medical school graduates;
4. Appropriate Federal policies with respect to the matters specified in items 1–3, including policies concerning changes in the financing of undergraduate and graduate medical education (GME) programs and changes in the types of medical education training in GME programs.
5. Appropriate efforts to be carried out by hospitals, schools of medicine, schools of osteopathy, and accrediting bodies with respect to the matters specified in items 1–3, including efforts for changes in undergraduate and GME programs; and
6. Deficiencies and needs for improvements in databases concerning the supply and distribution of, and postgraduate training programs for, physicians in the United States and steps that should be taken to eliminate those deficiencies.

In addition, the Council is to encourage entities providing GME to conduct activities to voluntarily achieve the recommendations of the Council specified in item 5.

COGME PUBLICATIONS

Reports

Since its establishment, COGME has submitted the following reports to the DHHS Secretary and Congress:

- First Report of the Council (1988);
- Second Report: The Financial Status of Teaching Hospitals and the Underrepresentation of Minorities in Medicine (1990);
- Third Report: Improving Access to Health Care Through Physician Workforce Reform: Directions for the 21st Century (1992);
- Fourth Report: Recommendations to Improve Access to Health Care Through Physician Workforce Reform (1994);
- Fifth Report: Women and Medicine (1995);
- Sixth Report: Managed Health Care: Implications for the Physician Workforce and Medical Education (1995);
- Seventh Report: Physician Workforce Funding Recommendations for Department of Health and Human Services's Programs (1995);
- Eighth Report: Patient Care Physician Supply and Requirements: Testing COGME Recommendations (1996);
- Ninth Report: Graduate Medical Education Consortia: Changing the Governance of Graduate Medical Education to Achieve Physician Workforce Objectives (1997);
- Tenth Report: Physician Distribution and Health Care Challenges in Rural and Inner City Areas (1998);
- Eleventh Report: International Medical Graduates, The Physician Workforce and GME Payment Reform (1998);
- Twelfth Report: Minorities in Medicine (1998);

- Thirteenth Report: Physician Education for a Changing Health Care Environment (1999);
- Fourteenth Report: COGME Physician Workforce Policies: Recent Developments and Remaining Challenges in Meeting National Goals (1999);
- Fifteenth Report: Financing Graduate Medical Education in a Changing Health Care Environment (2000);
- Sixteenth Report: Physician Workforce Policy Guidelines for the United States, 2000–2020 (2005);
- Seventeenth Report: Minorities in Medicine: An Ethnic and Cultural Challenge for Physician Training, an Update (2006); and
- Eighteenth Report: New Paradigms for Physician Training for Improving Access to Health Care (2007).

OTHER COGME PUBLICATIONS

- Scholar in Residence Report: Reform in Medical Education and Medical Education in the Ambulatory Setting (1991);
- Process by which International Medical Graduates are Licensed to Practice in the United States (September 1995);
- Proceeding of the GME Financing Stakeholders Meeting (April 11, 2001) Bethesda, Maryland;
- Public Response to COGME's Fifteenth Report (September 2001);
- Council on Graduate Medical Education and National Advisory Council on Nurse Education and Practice: Collaborative Education to Ensure Patient Safety (February 2001);
- Council on Graduate Medical Education: What Is It? What Has It Done? Where Is It Going? 2nd edition (2001);
- 2002 Summary Report (2002).

COGME RESOURCE PAPERS

- Preparing Learners for Practice in a Managed Care Environment (1997);
- International Medical Graduates: Immigration Law and Policy and the U.S. Physician Workforce (1998);
- The Effects of the Balanced Budget Act of 1997 on Graduate Medical Education (2000);
- Update on the Physician Workforce (2000);
- Evaluation of Specialty Physician Workforce Methodologies (2000); and
- State and Managed Care Support for Graduate Medical Education: Innovations and Implications for Federal Policy (2004).

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Executive Summary

A central charge of the Council on Graduate Medical Education (COGME) is to make policy recommendations to the Nation with respect to the adequacy of the supply and distribution of physicians in the United States (US). This mandate includes recommendations on current and future shortages or excesses of physicians in the medical and surgical specialties and subspecialties. In its sixteenth report (2005), *Physician Workforce Policy Guidelines for the United States, 2000-2020*, COGME outlined a significant gap between the expected physician supply, demand, and need for physicians. The nineteenth report builds upon the sixteenth report, which detailed the projected shortfall and need to expand the training pipeline for physicians in the US. The current report starts from the premise that, if our overarching goal is to adequately address the healthcare needs of the nation we need to 1) expand the number of graduate medical education (GME) trainees and 2) improve how GME is delivered. In order to address these issues, increased flexibility is needed in terms of how GME training is structured, designed, accredited, and funded. A series of recommendations is proposed that would remove barriers to achieving an expanded and more appropriately trained physician workforce.

U.S. medical schools are increasing their enrollments in response to calls from COGME and the Association of American Medical Colleges (AAMC) to expand by 2015 the number of graduating physicians by 15 and 30 percent, respectively. However, little expansion is planned for GME positions [1]. If medical school graduates are increased without a corresponding increase in GME positions, the result will be an increase in the number of US-trained physician residents without an increased production of independent physicians at the end of the medical education pipeline. Caps on the number of resident trainees imposed by Medicare (still the single largest funding agency for GME) restrict the number of physician residents and provide teaching hospitals with little flexibility for expansion. Moreover, Medicare regulations regarding ambulatory and other nonhospital sites of training, governed by funding, have had the unintended consequences of concentrating GME training in limited modalities and settings. Numerous calls for reform of and innovation in GME have not been implemented due to these funding restrictions and resistance to change and tension between the provision of services and the educational goals of training programs. Thus, not only is the US providing too few training opportunities in GME, but current training models are not preparing physicians for the demands of future practice.

Flexibility is needed in curriculum, structure, funding, and accreditation of GME programs and positions. Specific

recommendations address the need for greater flexibility and how it may be achieved. The first two recommendations are focused more on the content, structure, and setting of GME training, while the last two focus on funding mechanisms and regulations pertaining to these mechanisms.

RECOMMENDATIONS

RECOMMENDATION 1: Align GME with future healthcare needs

- a. Increase funded GME positions by a minimum of 15%, directing support to innovative training models which address community needs and which reflect emerging, evolving, and contemporary models of healthcare delivery.

RECOMMENDATION 2: Broaden the definition of "training venue" (beyond traditional training sites)

- a. Decentralize training sites
- b. Create flexibility within the system of GME which allows for new training venues while enhancing the quality of training for residents.

RECOMMENDATION 3: Remove regulatory barriers limiting flexible GME training programs and training venues

- a. Revise current Centers for Medicare & Medicaid Services (CMS) rules that restrict the application of Medicare GME funds to limited sites of care
- b. Use CMS's demonstration authority to fund innovative GME projects with the goal of preparing the next generation of physicians to achieve identified quality and patient safety outcomes by promoting training venues that follow the Institute of Medicine's (IOM) model of care delivery
- c. Assess and rewrite statutes and regulations that constrain flexible GME policies to respond to emergency situations and situations involving institutional and program closure.

RECOMMENDATION 4: Make accountability for the public's health the driving force for graduate medical education (GME)

- a. Develop mechanisms by which local, regional or national groups can determine workforce needs, assign accountability, allocate funding, and develop

innovative models of training which meet the needs of the community and of trainees

- b. Link continued funding to meeting pre-determined performance goals**
- c. Alter Title VII in order to revitalize support for graduate medical education.**

Background

COGME's sixteenth report, *Physician Workforce Policy Guidelines for the United States, 2000-2020*, outlined a significant gap between the expected physician supply, demand, and need for physicians in the future [2]. COGME recommended three strategies to address this projected deficiency: increase medical education and physician training capacity by 15% over the next decade; improve physician productivity; and establish a more rigorous and continuous assessment of the supply and demand for physicians in the United States. On the basis of the projected physician shortage, the Association of American Medical Colleges called for a 30% increase in enrollment in Liaison Committee on Medical Education (LCME) -accredited medical schools over the next ten years.

Coinciding with the imperative to increase the physician supply, dramatic changes have occurred within the graduate medical education (GME) and healthcare delivery systems with a shift towards outpatient and multi- or interdisciplinary care. However, the funding mechanisms for GME remain largely tied to hospital services. COGME's fourteenth and fifteenth reports sought to address the need for establishing a stable and more flexible financial model for supporting GME, but little change has occurred to date [3,4]. Unfortunately, current models of GME financing often prevent the funding of innovative training models and expansion of GME positions outside of traditional inpatient settings. The gap in funding has widened the chasm between current models of training and future models of healthcare delivery which will likely be more outpatient and patient-centered in their approach.

The Council, therefore, recognizes three essential imperatives for establishing an adequate and well-trained physician workforce for the future: 1) the number of GME positions must be increased to address the future physician workforce needs of the United States public; 2) resident physicians must be trained in environments which are more reflective of our evolving healthcare delivery system; and 3) the financing of GME must be realigned to achieve these goals.

A brief review of historical physician workforce recommendations provides an important perspective. In the 1980s and 1990s COGME and other workforce analysts predicted that by the beginning of the 21st century, the United States would experience an overall surplus of physicians but a shortage of primary care providers. In response to these predictions, COGME recommended reducing physician supply and increasing the production of primary care practitioners. The specific actions included holding the level of

medical school matriculants at a steady state, developing programs to encourage entry into primary care fields, and decreasing total GME positions with a 50/50 distribution of primary care/specialist training positions.

By 2000, it was evident that these earlier physician workforce predictions were not accurate. To date there is no evidence of a surplus of physicians. In fact, mounting analytical work has demonstrated that, barring unforeseen fundamental changes in either the need for or means by which healthcare is delivered, current trends will likely culminate in a significant shortage of both primary care and specialist physicians within the next twenty years.

Multiple factors have contributed to the marked shift in the predictions regarding the physician workforce. As outlined in COGME's sixteenth report, the demographics of the aging population are anticipated to create a greater burden of chronic disease. The physician workforce is also aging, and while the number of physicians entering the workforce has been relatively constant, evidence suggests that these younger physicians will likely not work the same number of hours or as many years as their predecessors. These forces are expected to decrease the number of full-time equivalent (FTE) physicians as compared to historic calculations.

In order to increase the current supply of physicians, an adequate number of GME training positions must be available. At present (academic year 2005-06), the number of Accreditation Council for Graduate Medical Education (ACGME)-accredited first year residency positions is 23,844, of which US medical school graduates fill about 71% (allopathic, 64.4%; and osteopathic, 6.3%) and international medical graduates (IMGs) fill the remainder [5]. In 2006, osteopathic residency programs were filled by 1,300 new graduates (46% of all D.O. graduates, with the remainder in ACGME training positions) [6]. By the year 2019, the projected 21,500 allopathic medical school graduates and 5,500 osteopathic graduates will need a total of about 27,000 first-year positions just to place all US graduating physicians. Assuming the number of international medical school graduates remains stable (in absolute numbers), there will be gap, relative to projected need, of about 10,400 first-year positions.

Increasing the number of medical school graduates alone does not increase the supply of physicians, as completion of an accredited GME program is required to practice medicine. In order to increase the number of practicing physicians, there must be increases in GME positions. Moreover, if there is an increase in the number of US allopathic medical schools, there must be

opportunity to create new funded graduate medical education programs, both in support of the undergraduate clerkships, as well as to absorb the increased numbers of US allopathic graduates.

Ensuring the adequacy and sufficiency of GME positions to fulfill the needs of the public is dependent upon multiple factors. An adequate, stable, and flexible funding source is critical. About 40% of current GME funding comes from the Medicare program, and all other positions are supported by alternate funding sources that vary by institution and state and are often subject to the vagaries of annual appropriations [7].

Apart from funding considerations, sponsoring institutions must provide appropriate patient and educational experiences as mandated by the Accreditation Council for Graduate Medical Education (ACGME) and American Osteopathic Association (AOA). Resources include adequate support for faculty supervision and teaching of residents, sufficient patient experiences for training, and an ability to meet accreditation standards for both the individual training programs as well as the sponsoring institution. GME training should also provide training in a venue that is reflective of future practice environments and healthcare delivery models. Both GME accrediting bodies (ACGME and AOA) have emphasized the importance of educational integrity, standardization of training, and development of innovative paradigms that reflect future practice models. They also seek to dissociate service from education when possible.

Unfortunately, the current mechanisms for funding GME are largely disconnected from educational and professional ideals, and remain predominantly hospital-based and tied to delivery of inpatient patient-care services. Difficulties in extending Medicare GME funds to outpatient settings and training venues, which are reflective of current and future practice models, have created significant tension. Institutions sponsoring GME must meet accreditation standards that emphasize a broad educational experience while maintaining the hospital's bottom line, which has been historically dependent on resident service. This dilemma has raised the question of whether funding for GME programs should be directed to educational sponsors rather than to hospitals.

Regardless of how the current funding is directed, the Balanced Budget Act (BBA) of 1997 introduced a cap on funded GME positions. The BBA set the number of Medicare GME-funded resident positions to the number of approved positions the institution had in place in December 1996. Coupled with cuts to Medicare GME funding in the BBA of 1997 and the Balanced Budget Refinement Act of 1999, sponsoring institutions and hospitals have found it difficult to expand their residency training programs even when they have sufficient educational opportunities to support growth in their GME

positions. Moreover, the BBA and subsequent regulations had other important effects on GME flexibility. The BBA permitted indirect medical education (IME) funds be paid to select outpatient facilities; however, the law and particularly the regulations crafted by CMS (then HCFA) changed long-standing policy regarding GME payments for resident time in outpatient training. Until that time, training institutions could receive direct GME payments for outpatient training if they bore all, or substantially all of residents' salaries and benefits. In 1998, the definition of "all, or substantially all" was changed to add the costs of the supervisory physician. This change created uncertainty and risk (audits), making outpatient training a less appealing option for hospital and training administrators.

This brings us to the crossroads of the public policy debate. With the accelerated pace of Medicare expenditures, GME funding has often been viewed as a target for federal cutbacks. Based on compelling data presented above, COGME believes that the physician workforce is in jeopardy and any cutbacks in GME funding could have serious repercussions for many years. The Council also understands that any additional funding for GME must be incorporated into the future plans for Medicare. Therefore, COGME proposes some innovative approaches to the current funding of GME programs.

The structure of GME funding, designed decades ago, has created barriers in training physicians for modern practice [8]. GME funds are tied to inpatient, hospital-based care, while medical practice and education are shifting more to the ambulatory setting for both primary and specialty care services. With the growing mandates for competency and quality assessment of physician performance, curricula now require proficiency-based training, utilizing both real and virtual patients and simulated patient experiences. While enhancing patient safety and care, these educational initiatives compete for patient care service time historically provided by resident physicians.

The future practice of medicine, and therefore training, should be coordinated, inter-disciplinary, and patient-centered, rather than fragmented among multiple unrelated providers and settings of care. Unfortunately, the current GME funding streams continue to perpetuate an outmoded style of medicine. Assigning residents to service-specific inpatient care roles leaves little room for the development of innovative GME programs featuring inter-disciplinary care, across all settings of care including the physician's office, hospital outpatient and inpatient services, nursing home, home, and community-based care. If physicians continue to be educated in narrowly defined practice models, the future physician workforce will fall well short of society's needs and expectations.

In summary, the current funding and organizational structures for GME are ill-designed to meet the current and future needs of the public. Recognizing that this system is immense and extraordinarily complex, creative incremental or even transformative changes are needed to improve our GME system.. Moreover, alterations in both the funding and the administration of GME programs should be the result of carefully controlled demonstration projects, with evaluation of outlined outcome variables prior to widespread implementation of the innovative programs. To achieve the goal of enhancing the flexibility of GME training and of assuring an adequate and well-trained phy-

sician workforce for the future, the Council recommends the following:

1. GME training must be aligned with future healthcare needs
2. The definition of “training venues” must be broadened to include non-traditional training sites
3. Regulatory barriers to executing flexible GME training programs must be removed
4. Accountability for public health should be the driving force for GME.

Recommendations

RECOMMENDATION 1: Align GME with future healthcare needs

- a. Increase funded GME positions by a minimum of 15%**
 - i. to accommodate medical school expansion**
 - ii. through support directed towards innovative training models which address community needs and which reflect emerging, evolving, and contemporary models of healthcare delivery.**

A physician workforce shortage is projected by COGME and others [9,10,11]. A complex array of factors will contribute to the shortage, including aging of the population (with its unique problems posed by multiple chronic conditions, complex treatment plans, multiple physicians, and an urgent need for improved communication, coordination, and continuity of care), an ever increasing availability of sophisticated diagnostic and treatment modalities, physicians working fewer hours, and a subset of physicians taking off extended periods of time during traditional working years or retiring earlier.

Several allopathic and osteopathic schools either are in the planning stages or have recently opened. In addition, several existing schools have recently increased or are planning to increase their class sizes. However, unless there is an increase in graduate medical education (GME) positions, the effect of an increase in the number of US schools and positions within US schools will be to increase in the percentage of GME slots filled by US medical school graduates, and an increase in the percentage of practicing physicians who are US medical school graduates. The current caps placed on GME positions limit the expansion of US allopathic medical schools to areas with existing GME programs, as GME programs in certain disciplines are essential components of the undergraduate medical education environment [12]. Expanding the number of US medical school graduates without expanding the number of GME positions will not have the desired effect of substantially increasing the number of physicians trained in US residencies who can enter the workforce, and may limit the settings in which medical school expansion may occur. To increase the number of practicing physicians in the US, there must be an increase in the number of GME positions.

In addition to a physician shortage, there is a consensus that deficits exist in some aspects of current GME [13]. GME programs are not uniformly educating residents/fellows with all of the required skills to enable them to meet the array of future healthcare needs of their patients, nor the

scope of future needs of the population. In addition, GME is not uniformly educating residents/fellows in systems that will reduce medical errors.

The two problems (i.e., physician workforce shortage and training which must be more innovative to address the future needs of the population) can be approached with a solution that addresses both issues and strengthens the notion of GME support as a public good.

COGME's present proposal is that funded GME entry-level slots be increased by a minimum of 15%, to accommodate COGME's recommended 15% increase in graduating medical students (or begin to accommodate the 30% increase recommended by the Association for American Medical Colleges (AAMC)) [15]. The entry-level positions would continue to be funded through incremental increases in resident caps that would follow the residents through the entire course of their core or primary specialty training (e.g., three to five or more years). It is COGME's intent that these positions should be actual new positions that are over and above the number currently being trained by an institution. For instance, if an institution is training residents beyond its CMS cap, then it could not apply additional funding to pay for existing resident positions—as the intent of COGME's recommendation is to increase the number of GME positions as a way to increase the number of practicing physicians. Furthermore, we recommend that these funds be directed to programs that incorporate innovative training models which address community needs and which reflect future models of healthcare delivery. In addition to payment for resident involvement in direct patient care, support of innovative training models should include funding for educational activities that are linked to improving patient care. We recognize that current mechanisms for funding GME cannot be abruptly changed, since this would likely have a dramatic adverse impact on the access to and the quality of healthcare that tens of millions of people receive. However, by providing funding for new programs and new positions in existing programs if they meet the new, required guidelines, an evolutionary process in GME funding as well as a major shift in the skill set of newly trained physicians may occur. The GME pilots may also have a ripple effect by developing and promoting new educational and clinical models.

We recommend that graduate medical education be increased by a minimum of 15% because there are some degree of uncertainty in the future physician workforce requirements. Moreover, we believe that the ageing population, physician retirement, and characteristics and practice patterns of new physician entrants (working

fewer hours and retiring earlier) may require an even larger expansion.

To be eligible to apply for funding for new GME positions/programs under this proposal, program directors must demonstrate that they will educate their graduates to achieve and maintain proficiencies in all six Residency Review Committee (RRC)/ACGME and AOA (American Osteopathic Association) core competencies [15] *as well as* in the five core areas reviewed in the Institute of Medicine's (IOM) Report, *Health Professions Education: A Bridge to Quality* (2003) [16]. These five core areas are:

1. Delivering patient-centered care
2. Working as part of interdisciplinary teams
3. Practicing evidence-based medicine
4. Focusing on quality improvement
5. Using information technology.

An application for funding additional positions within an existing program or for a new program would need to demonstrate innovative education/preparation in all five areas identified by the IOM, as well as meeting all RRC/ACGME and AOA program requirements, with waivers as appropriate. Measurable outcomes would need to be identified and approved in advance, both for funding the increased positions/new programs, and for regulatory approval. For funding and regulatory approval to continue, programs receiving positions would need to demonstrate that they are achieving their stated and agreed upon goals.

Potential examples of innovative educational programs may come from sources such as the residency demonstration initiative in family medicine: P4 – “Preparing the Personal Physician for Practice” [17]. Five categories of likely innovation training programs identified by the P4 Steering Committee included: content and scope of training, duration of training (for instance shortening by overlapping with the fourth year of medical school or with the future attending practice site), type of location where a greater portion of the training takes place, structure of the training (including coordination of care among multiple specialties, interdisciplinary teams, and various institutional and community-based settings of care), and measurement of competency, as well as other innovative initiatives.

In late 2006, the Association of Program Directors in Internal Medicine concluded that redesigning resident education in internal medicine would require an emphasis on alterations in the educational environment, curriculum, oversight, reward system for the faculty, and funding [18,19]. Their suggestions, along with those from others who have advocated new strategies for reform [20], could spur numerous ideas for new programs or program modifications, which would then make the programs eligible to

apply for the proposed 15% additional GME positions and concomitant new funding.

One example and possible model for implementation is the Educational Innovations Project (EIP) of the Internal Medicine Residency Review Committee (RRC) of the ACGME. The EIP initiative was open to all internal medicine training programs with exemplary accreditation track records that applied for, met criteria for innovation, and were accepted in response to a request for applications that was launched in December 2005, with the first programs being notified of acceptance in September 2006 [21]. Although the ACGME's EIP program did not increase the complement of residents in a program, programs had an incentive to apply in order to maintain a 10-year accreditation site visit cycle. In return, programs are required to file a brief evaluation form every year describing the outcomes of their innovations and any changes in the program. As the EIP program is somewhat experimental in nature, standardized evaluation tools are being developed to assess whether the goals of fostering innovative approaches to teaching and attaining competency are being achieved.

ACGME is also attempting to promote innovation in the learning environment and in accreditation practices through its Committee on Innovation in the Learning Environment (CILE), which was chartered in 2004 to move beyond duty hours to other ways to improve the educational environment [22]. The first CILE report was presented to the ACGME board in 2007. The CILE report recommends a number of initiatives to foster greater flexibility and improvements in how duty hours are implemented and to improve development of the ACGME core competencies in ways that integrate quality education with quality improvement in patient care, while at the same time applying industrial and human engineering concepts to the training. Projects include a study of ‘exemplary’ institutions to see what factors foster innovation and optimal clinical and training milieus. As noted, ACGME's efforts in educational innovation are not linked to increased complements of trainees.

One area in need of increased flexibility is the ACGME's approval process for the number of trainees in a program. The approval process is administered through the Residency Review Committees or ‘RRCs’ and is time-consuming at best and at worst frequently a major barrier that must be negotiated in order to expand the number of trainees in any accredited program. Moreover, RRCs vary considerably in their receptivity to requests to increase complements and their criteria for granting increases are not standardized.

The Department of Veterans Affairs (VA) is also innovating. In 2006, the VA invited VA teaching facilities, in collaboration with their academic affiliates, to apply for additional residency training positions through the VA's “GME Enhancement” initiative, a five-year plan to increase

the number of VA-funded resident physician positions by about 2,000 [23]. A competitive application process was used to allow facilities to request additional positions under one of three requests for proposals (RFPs). The *Critical Needs/Emerging Specialties RFP* permits VA facilities to address locally-identified needs for existing or emerging specialties. VA's *New Affiliations and New Sites of Care RFP* seeks to expand training sites in non-traditional locations such as VA community-based outpatient clinics, and its *Educational Innovation* program awards positions based upon willingness to change current educational systems [24]. *Educational Innovation*, open to core residencies in internal medicine, general surgery and psychiatry, asks programs to redesign medical education and, where appropriate, the related patient care delivery systems. The program requires that facilities enhance existing educational infrastructure (including attention to faculty development) to support the innovation(s) proposed. The eligibility criteria for *Educational Innovation* were modeled on those used for the ACGME's EIP effort in internal medicine. Successful applicants are required to demonstrate how the proposed innovations are amplified throughout a training program or post-graduate level. Thus, for example, the addition of one position may mean that 12 residents each have a one-month experience in quality improvement, patient safety, or a simulation lab. Such additional positions, although few in number, can have dramatic impacts on the ability of programs to offer innovative educational experiences in an environment in which duty hours have been restricted and coverage of clinical rotations may be difficult.

Applied to CMS-funded positions, the innovations model would provide funding for educational activities that are linked to improving patient care, but not restricted to direct patient care activities. Innovations could influence:

- The content or curriculum of training (i.e., instructional design);
- The clinical environment of training (innovations that focus on patient safety and patient-centeredness), the need for collaborative care delivery (i.e., inter-professional or inter-disciplinary models); or
- The use of educational technology (e.g., simulation).

Criteria for evaluation of the requests for proposals (RFPs) or applications (RFAs) and for evaluation of implementation would need to be developed (e.g., COGME or other professional groups could participate in this effort as federally-appointed advisors to CMS). An NIH-type study section or the VA model of proposal or application review could be used to evaluate the application according to criteria established in the RFA or RFP. If the proposed 15% increase in entry-level residency positions consists of innovative programs which are very thoughtfully and carefully developed and executed, not only will there be an increase in the number of practicing physicians, but

also GME (and hence, healthcare) in the United States can be transformed. Aligning GME expansion with the IOM recommendations for improving quality and safety will enhance the role and perception of GME funding as a public good.

Recommendation 2: Broaden the definition of "training venue" (beyond traditional training sites)

a. Decentralize training sites

b. Create flexibility within the system which allows for exploration of new training venues while enhancing the quality of training for residents.

Graduate medical education (GME) has traditionally been sponsored by and centered in the associated hospital systems of academic health centers and community teaching hospitals. The traditional role of hospitals in GME has evolved because of their access to adequate patient populations and case mix to support the requirements of resident education training and external funding to facilitate a mutually beneficial service and educational relationship. At one time, the hospital infrastructure contained a patient population with broad healthcare needs ranging from the evaluation and management of chronic disease to urgent, emergent and critical care. Many of these hospitals possessed diverse financial and administrative resources that supported unfunded GME requirements, which added greater stability to the GME infrastructure and thus permitted long-range educational planning and development.

Although teaching hospital-sponsored GME has served the public well, changes in healthcare delivery and management have had an undesired impact on the effectiveness of resident education in these settings. Diagnostic and therapeutic technological advances, financial constraints, and expanding regulatory control have shifted, and decentralized traditional hospital care to non-hospital clinical venues. This decentralization has resulted in a more subspecialized hospital environment, more expertly focused on a narrower portion of the disease spectrum, albeit more acute, unstable, and complex. These and other changes (e.g., decreased lengths of stay, fluctuating inpatient census, and narrower case mix) have made clinical experiences, exclusively in these inpatient settings, relevant to a smaller portion of the overall clinical experiences required to train most physicians in response to the comprehensive needs of today's and future healthcare delivery systems [25,26,27,28].

Changes in the healthcare delivery system have affected the care provided in non-hospital settings. A larger number of problems traditionally managed in hospital settings, now present in non-hospital venues. Likewise, the distribution of medical technological advances has resulted in the diagnostic and therapeutic management of more complex,

urgent, and chronic clinical problems in these expanding patient care environments. These changes in healthcare delivery and the growing emphasis on prevention, wellness, patient/family-centeredness and population health, coupled with the needs of an aging patient population, have created additional layers of complexity in an already complex ambulatory primary and subspecialty care system.

Many of the changing and emerging non-hospital clinical environments have been developed in response to needs other than those of GME and may lack planning and resources necessary to support an effective resident training interface even when an appropriate patient population exists for training [29]. Potential clinical venues for new teaching site development exist in the teaching and non-teaching hospital-based clinical services, private medical practice setting, health maintenance organizations, and at community health centers (CHCs) among others. However, relegating resident education to the least-supported and organized clinical setting in any organization with exclusive exposure to a contracted spectrum of patients (e.g., uninsured) may respond to specific service needs, but would be counter-productive to the appropriate preparation of residents for future practice [30].

The current concentration of GME in teaching hospitals and related venues is inconsistent with the decentralization of many aspects of healthcare to non-hospital settings because of cost and demonstrated clinical efficacy. The production of appropriately prepared physicians to provide healthcare services to meet the public's healthcare needs requires GME models be created and adapted that ensure residents receive relevant educational experiences in clinically effective contemporary healthcare delivery settings. Extensive changes in curriculum and faculty development will be required to interface GME appropriately with changing and newly emerging clinical venues to achieve desired educational outcomes.

GME has depended on an appropriate interface of education and service in healthcare environments where the service priority often adversely influences the quality of learning experiences. The linkage of service and GME can make the transition of aspects of resident training to more educationally relevant teaching venues difficult, especially given the constraints imposed by current GME funding policies. The educational deficiency produced by training in settings which are not contemporary examples of effective clinical care delivery has been noted by resident graduates of traditional GME systems and their postgraduate employers as impediments to appropriately functioning in today's healthcare environment [31,32,33,34,35,36]. The regulations of accrediting bodies often are not aligned with the needs for educational reform, which could permit more resident training in more relevant non-hospital settings. As hospital care is transformed, the management needs of the most unstable patients and the complexity of the ambulatory

care environment increases, this service and educational linkage is likely to affect the training in new teaching venues without substantial GME financing reform [37,38].

The effective training of physicians to meet the needs and realities of today's clinical practice environment requires realignment of GME experiences with a diversity of models and/or settings of effective contemporary healthcare delivery. To ensure that GME occurs in clinical settings capable of supporting appropriate resident training requires a reassessment of the educational relevance of the clinical services and systems of care present in existing, new, and planned hospital and non-hospital based settings. Academic health centers and traditional community teaching hospitals need to develop external clinical affiliations with entities to expand and diversify teaching resources available to promote more effective and relevant GME.

Creating GME experiences with targeted impact such as increased healthcare access, appropriate specialty distribution, and care for vulnerable patient populations remains a desired but difficult task. Simply moving GME into non-hospital venues may not result in a greater production of the number and types of well-trained physicians to respond to legitimate workforce needs. The multiple venues of ambulatory care (e.g., physicians' offices, community health centers, hospices and extended care, long-term care, procedural, and rehabilitation venues) may provide access to educationally relevant patient populations, but present major challenges for physicians teaching and training in these settings [39,40]. The educational processes used in traditional clinical teaching settings may be ineffective in environments that are mostly ambulatory with short periods of actual physician-patient and supervising faculty-trainee contact. For example, approaches to effective continuity and comprehensive clinical care may require instruction over extended periods using multiple patient encounters which may include face-to-face, direct telephone, tele-health instruction, e-mail, coordination with interdisciplinary teams who are actually seeing the patient and providing direct care between physician contacts, coordination with case managers, and patient and family instruction in self-management.

New approaches to clinical education must emphasize healthcare systems, health of populations, patient/family-centered care, continuous care, prevention, and wellness as well as the use of point-of-service, evidence-based clinical information in settings where patients have access to a medical home to promote understanding and coordinating of the complex interactions between various levels of care. Moreover, changes in the approach to education, as noted above, are required for residency training in specialties with the greatest experience in ambulatory instruction. These predominately ambulatory specialties also face financial and regulatory constraints that impede the development of needed educational innovations to effectively teach for a rapidly evolving system of clinical care.

New training venues, both in hospital and non-hospital settings, will require considerable investment to develop more effective and relevant educational experiences and infrastructure, while not adversely impacting patient care (especially in traditional non-teaching environments). Physicians with appropriate educational skills must be present to teach residents in evolving models of clinical practice and to evaluate their competencies. Emergent and new GME venues must be committed to education and have an infrastructure appropriately resourced and to support these novel educational endeavors. The GME curriculum should be designed to create an adequate balance between service and education, encompassing ever-changing residency review committee (RRC) requirements for various specialties. Medical information systems should be present to support the coordination of clinical care, provide access to current medical information, facilitate the assessment of quality of care delivered to individual patients and to populations, and provide online access to ‘real-time’ decision support. Training occurring in these settings should use, or be willing to experiment with, new models of care that incorporate concepts such as patient-centered care, population health, IT facilitated patient communications beyond hospitalization and office visits, quality assessment, and healthcare access for vulnerable populations.

GME training venues should provide access to appropriate numbers and types of patients reflecting the demographics and healthcare needs of the general population to facilitate competencies to manage appropriately frequently occurring medical and surgical problems. In response to healthcare access problems and medically-underserved populations, training opportunities must be created in clinical settings that serve vulnerable populations to ensure residents develop skills and understand concepts necessary to provide care in these settings [41,42]. A compelling need for greater GME flexibility should include training in venues created in response to specialty distribution, need for community healthcare advocacy, and physician workforce needs as it relates to underserved and at risk populations [43].

Clearly, traditional GME sponsors, the teaching hospitals, must make fundamental changes to ensure the appropriate resources required to support comprehensive GME reform are present. Traditional GME sponsors must develop additional educational venues in clinical environments outside the hospital and with non-affiliated services and organizations to increase the diversity of educational experiences available for residents. Restrictive requirements that impede the creation of new training affiliations with non-related clinical service entities must be removed to facilitate educational reform [44].

Although expanded teaching venues may provide access to a larger number and more appropriate mix of patients, use of alternative venues must be associated with the creation of an educational process that maximizes

resident learning and complements patient care activities. Exploring such partnerships could be the subject of newly authorized Title VII and other programs such as the P4 Initiative (i.e., “Prepare the Personal Physician for Practice”) [45], which will identify best practices for the education of future physicians. Evaluation systems aimed at determining the educational benefits and potential of these expanded non-hospital clinical venues and non-academic clinical settings should be planned from the outset.

Boosting the production of well-trained physicians to serve the diverse communities requires greater flexibility in the definition of a GME sponsor, which traditionally has been a teaching hospital or medical school. Non-teaching hospital-based entities (e.g., managed care organizations, public and private healthcare consortia) that are capable of assembling all the resources for effective GME to address healthcare access, quality, costs and workforce needs should be strongly considered as primary sponsors of GME. Such sites should have access to external financial resources or support that now funds traditional GME. Alternatively, such sites may participate in GME as affiliates of the sponsoring institution in order to provide more limited, but highly valuable clinical rotations [46].

Cooperative activities between various healthcare delivery systems and medical schools linked to addressing healthcare workforce needs provides an opportunity to train primary care physicians in settings where the healthcare need may be most critical. This corporate relationship could range from a loose confederation of healthcare and medical education organizations to a centralized state-sponsored GME consortium. Educational emersion in the community may improve the likelihood that greater numbers of resident graduates choose to practice in these settings and, if not, at least will leave with a heightened awareness of these medically disadvantaged communities [47]. Nonhospital-based entities that could serve as GME sponsoring units may include networks of community healthcare centers managed by non-hospital agencies (e.g., corporate and private) and managed care systems.

As new GME venues develop in response to future practice needs, ongoing assessments need to address effective provision of competency-based training in a variety of clinical settings. New teaching venues must also address more general GME problems such as resident duty hour restrictions, erosion of hospital or other sponsoring unit support for GME, GME reliance on volunteer faculty, and educational cross-subsidy [48].

The pressure to increase GME positions in response to the increased production of physicians by American medical schools provides an opportunity to experiment with new systems of education in evolving healthcare delivery systems. Potential changes in the participants in GME provide further opportunities to develop training models that respond to unique workforce needs.

Greater flexibility in the numbers and types of clinical venues used to enhance training relevancy and physician-training capacity in response to the healthcare needs of the nation can be accomplished by the following:

- Decentralize GME using a variety of clinical venues to expose physician residents to more diverse patient populations and systems of care that mirror the contemporary and evolving American healthcare delivery system.
- Implement competency-based education in new and emerging teaching settings associated with appropriate learning and assessment tools to ensure consistent quality of education.
- Include resident participation in interdisciplinary, collaborative care models;
- Expose residents to diverse clinical care settings and populations to improve geographic and specialty distribution based on workforce needs.
- Augment resident training opportunities in clinical settings serving vulnerable populations as a strategy to increase the number of physicians who ultimately practice in these settings.
- Integrate patient/family-centeredness into GME to ensure residents understand the important role patients can play in assessing the adequacy of healthcare delivery and as partners in their own healthcare management.
- Enhance use of information technology to facilitate point-of-care access to medical information and documentation to ensure quality healthcare and patient safety.
- Incorporate into resident education an increased use of clinical practice assessments to define healthcare deficiencies and to create and measure interventions for quality improvement.
- Remove the funding disincentives for the diversification of resident training venues to include both public and private entities to enhance GME relevancy.
- Expand capacity of GME in response to increased production of physicians by U.S. medical schools.
- Facilitate the development of service and educational relationships between traditional sponsors of GME and networks of federally qualified community health-care centers.

Recommendation 3: Remove regulatory barriers to executing flexible GME training programs and expanding training venues

- a. Address several of the limitations that currently exist within the Centers for Medicare & Medicaid Services (CMS) rules for expanding application of Medicare GME funds to nonhospital sites of care.**

b. Invite CMS to use its demonstration authority to fund innovative GME demonstration projects with the goal of preparing the next generation of physicians to achieve identified quality and patient safety outcomes by promoting training venues that follow the IOM's model of care delivery.

c. Assess and rewrite statutes and regulations that constrain flexible GME policies to respond to emergency situations and situations involving institutional and program closure:

- ✧ **To ensure the continued training of displaced residents; and**
- ✧ **To permit five-year affiliation agreements (as opposed to the current three-year) in the case of abrupt hospital closure to permit sufficient time for damaged hospitals to be repaired; and**
- ✧ **To require review of the impact of the loss of training positions on the community (e.g., to consider how best to preserve, sustain, or reconstitute local/regional physician workforce) in situations where a hospital is not able to resume training at previous levels due to natural disasters or unforeseen circumstances which result in the abrupt interruption, closure, or discontinuation of training programs, and the transfer of positions made permanent; and**
- ✧ **To provide hospitals receiving residents due to emergency closure of another hospital a temporary FTE cap adjustment and be allowed to exempt displaced residents from the three-year rolling average; and**
- ✧ **To clearly define 'displaced resident' and who is eligible for reimbursement under this new rule, so there is no ambiguity.**

The Social Security Act (the Act), as amended, and its associated regulations establish a methodology for determining payments to hospitals for the costs of approved graduate medical education programs. Section 1886(h)(2) of the Act, as added by COBRA, sets forth a methodology for paying hospitals for Medicare's share of the direct costs of a GME program at the hospital. The direct costs include the residents' salaries and fringe benefits, the teaching physicians' salaries and fringe benefits, and the program's overhead costs [49].

Hospitals that have residents in one or more approved GME programs also receive a payment to reflect the higher *indirect* patient care costs of teaching hospitals relative to non-teaching hospitals. For example, teaching hospitals typically offer more technologically advanced treatments to their patients, and therefore, patients who are sicker and need treatment that is more sophisticated are more likely to go to teaching hospitals. Furthermore, there are

additional costs related to the presence of inefficiencies associated with teaching residents that result from the additional tests or procedures ordered by residents and the demands put on physicians who supervise, and staff who support the residents.

The Balanced Budget Act (BBA) of 1997 (Pub. L. 105-33) established a limit on the number of residents that a hospital may include in its resident count for payment purposes—simplified, it is the institution’s resident count on or before December 31, 1996 [50]. Although hospitals have the flexibility to train residents above or below their caps, they do not receive funding beyond their cap.

The statute provides that payments are based on the average of the number of FTE residents reported in the current year, the prior year, and the penultimate year, subject to their cap. If a hospital increases its number of FTE residents, as a result of the three-year rolling average rule, the hospital would be able to count only one-third of the additional FTE residents in that year, two-thirds of the additional FTEs for the next year, and the full number in the third year, assuming there are no other changes in the number of FTE residents training in subsequent years. The same rule applies if a hospital decreases the number of its FTE residents. There are certain exceptions to the rolling average rule such as for newly accredited programs or when residents train at a host hospital from a closed hospital or closed residency program.

In addition to training in hospitals, residency training may also occur at nonhospital sites such as physician offices or community health centers. Under some conditions, for purposes of *direct* GME payments, hospitals have been able to count the time residents spend training in nonhospital sites [51]. Before October 1, 1997, for indirect medical education payment purposes, hospitals could not count the time residents spend training in nonhospital settings. While the BBA allowed hospitals to count time residents spent training in nonhospital sites for indirect medical education purposes, Medicare regulations redefined “all or substantially all of the costs for the training program in the nonhospital setting” as the residents’ salaries and fringe benefits (including travel and lodging where applicable), and the portion of the cost of teaching physicians’ salaries and fringe benefits attributable to direct GME [52]. Therefore, post-1999, hospitals had to include payment of off-site supervisors even if they voluntarily participate in teaching—creating a disincentive to expand training in nonhospital settings. Requiring that these volunteers are paid from direct graduate medical education (DGME) funds means that resources are diverted from other important educational initiatives. A regulatory change that recognized voluntarism (i.e., that did not require direct payment of voluntary faculty) would improve flexibility in training sites.

Another mechanism to address the issue of innovation in GME, including alternative, including nonhospital

training sites, would be to grant waivers to selected sites as described in Recommendation 1 of this report. According to COGME’s proposal, institutions receiving an increase in their cap would have to demonstrate innovative education/preparation in all five areas identified by the IOM, as well as meeting all RRC/ACGME ‘necessary’ requirements, with waivers as appropriate. By focusing on innovative approaches to medical education, which would teach, for example, advanced clinic access, chronic disease management, inter-disciplinary care, informatics and patient-centered care, long-term savings would be realized by CMS through reduced inpatient services. Importantly, for such innovations in education of physician residents to be approved and monitored, performance measures would have to be developed and agreed upon prior to implementation, and ongoing evaluation of achievement of educational and clinical goals built into the program guidelines. Continued funding of the additional resident positions would be linked to achievement of performance goals.

GME Flexibility in Situations of Emergency and Institutional Closures

In the wake of the devastating effects of hurricanes in Louisiana in 2005, the physician workforce in New Orleans and much of southern Louisiana was devastated and residents displaced. For example, the closure of Charity Hospital alone forced the redistribution of more than 500 resident physicians and the State could ill-afford the loss of large numbers of training positions. The disruption and redistribution was made more difficult by lack of GME policies covering emergency situations and institutional closure. Temporary GME transfers under existing policies addressed the need to permit residents transferred to local hospitals to complete their training but did not provide for national redistributions to preserve training positions vital to local communities. The transfers also created financial hardships for accepting institutions because the CMS GME payments were put on a three-year rolling average schedule, which meant that hospitals received only one-third of payments in year one and will not get full reimbursement for transferred positions until the third year. While CMS issued a regulation that suspended the three-year rolling average in emergency situations, it was in place only for the Katrina emergency and applied only for the time period from August 29, 2005 to June 30, 2006.

Continuing uncertainty leaves institutions that receive additional residents in the uncomfortable position of not knowing if they should invest further in their educational infrastructure to accommodate the transferred positions. Moreover, the failure to develop effective policies now to deal with these sorts of dislocations is likely to significantly impact medical residents, training institutions, and the broader public when future exigencies arise.

Recommendation 4: Make accountability for the public's health the driving force for graduate medical education (GME)

- a. Develop mechanisms by which local, regional or national groups can determine workforce needs, assign accountability, assign funding, and develop innovative models of training which meet the needs of the community and of trainees**
- b. Link continued funding to meeting pre-determined performance goals.**

Graduate medical education (GME) is a public good funded by billions of dollars from state and federal public funds as well as private payers, yet it is insufficiently accountable for its product [7]. In COGME's opinion, the ultimate accountability of GME is to the health of the public. Without an agreed upon set of overarching principles to guide GME, each provider of GME funding could become more parochial in their goals—e.g., CMS may wish to focus on the health of Medicare beneficiaries and their ability to access care; state funders may have specific interest in the production of particular physician specialties or their distribution; and the VA may become more interested in expansion and innovations in training that only advance the health of veterans and other beneficiaries. Private payers might be focused on adequate access or on educational innovations that stress cost-effectiveness. Recent evidence suggests that few people, even within training institutions, understand the GME payment process or purposes [53]. Without a specific sense of the shared undertaking in part, sponsors of training programs are free to focus solely on their own workforce needs, well-reimbursed procedural specialties, and prestige—within the constraints imposed by accrediting bodies. Moreover, the current situation leaves little incentive to operate physician training in the broader public interest and also means that there is little reason to do meaningful evaluation of outcomes. In this report, COGME recommends that the public good GME represents should be made explicit, accountable, and subject to regular and rigorous evaluation and management. The evaluation and management function will need financial leverage, including control of some funding of GME within states or regions. Active evaluation and management will also require a national vantage point to recommend and promote GME policy.

GME is a multi-billion dollar enterprise that produces a key workforce for a \$2 trillion healthcare industry. However, from a national perspective, the production of this important professional pipeline is relatively unsupervised. Many states have GME committees or advisory boards, but few states actively analyze, specify, or manage this production relative to the needs of their state. A few, such as Utah and Minnesota, have analytic and strategic planning

capacities plus some critical financial leverage over their GME pipeline. Similarly, at the national level, COGME has contracted for analytic capacity and produced many reports about managing this pipeline, but it holds no data, has no monitoring partnerships with states, and remains advisory, without any real capacity to directly influence GME. For such an expensive pipeline with important outputs for our country, COGME finds it remarkable that GME, like healthcare in general, remains a 'non-system.'

COGME has long advocated that the outcome of public funding for GME should "achieve the number and specialty mix of physicians needed by the nation" [54]. This goal has been circumvented by competing financial needs of hospitals [55], fragmented governance of GME both within hospitals and regionally [56], a lack of tightly integrated and mutually supportive interventions [57], and antiquated financing policies [58]. Options exist for relieving the last issue—e.g., financing of GME—that would increase both flexibility and accountability of GME to the American public.

Regional and State-level initiatives

Identification of individual state and regional needs regarding workforce numbers, distribution and specialty mix should be addressed at the level of the state or region, preferably by an appointed commission.

Workforce issues regarding specific specialty needs and distribution of that workforce might be considered, in significant part, the responsibility of individual states since most workforce issues are local or regional, rather than national. Governor-appointed commissions, e.g., a Medical Education Commission, could identify issues specific to individual states. All states and stakeholders must realize that the recent national call to increase medical school graduates by 15-30% over the next 10 years will not translate automatically into the individual states having an adequate number, distribution or specialty-mix of physicians. Physicians are more likely to ultimately practice in a state in which they originally lived, went to medical school, and/or completed GME training. Some states can focus more on 'growing' their own physicians by attracting more students from the state to their own medical schools and development of a wider diversity of GME training opportunities within those states specifically focused on state workforce needs. Some states, with historically strong and numerous GME programs will continue to produce physicians for other states. A combination of new and expanded programs, recognizing the role that some states play as 'net exporters' of physicians, will be critical to the successful expansion of GME.

Considerable variation exists in the processes for and extent to which states currently fund GME [59]. Funding new or expanded GME programs must become, at least

in part, the responsibility of the individual states through appropriations of state funds raised through taxes paid into a designated medical education fund. A medical education fund could and probably should be unconnected to state Medicaid funds. The determinants of how much money is needed to sustain this fund annually would be made by a Governor-appointed Medical Education Commission and would be a recurring state appropriation. Such commissions could be state-based or be regional with a consortium of states supporting them depending on geographic proximity, referral patterns, or existing patterns whereby some states are net producers and exporters of training and others are importers. Experiences in some states suggest that such commissions do not necessarily increase costs or bureaucracy and can increase funding and flexibility [60]. The commissions operating in at least two states, Utah and Minnesota, are instructive, but may not be readily transferable to other states. They offer working examples of what can be accomplished, structural models, and process examples.

The Medical Education Commission should include representation by a wide variety of constituents and stakeholders including representatives from all state medical schools, academic health centers, teaching hospitals, physician specialty societies, state legislature, public health, major healthcare insurers, lay public, state health policy leaders or any other contributors identified by the states. The Commission should meet regularly, dependent on state needs and could make recommendations to the Governor on an annual basis. The Medical Education Commission could consider applications submitted by sponsoring institutions for new programs or expansion of existing programs based upon state needs which have been identified by the Commission's ongoing work. Decisions to fund could be based on innovative aspects of the program, appropriateness of the application, potential for success, sustainability and whether the application met the identified workforce needs.

State involvement in GME analysis, planning, and funding should be viewed as supplementing other efforts to address needs 'closer to home.' However, if a state or region does become involved, then two things should happen if they appropriate money to GME:

- Monitoring of quality outcomes; and
- Providing assurance that the state-provided DGME funding is managed in a rigorous and responsible manner.

Monitoring quality and oversight of DGME funding are somewhat poorly performed at the federal level. Each Medical Education Commission would be responsible for assuring that these two requirements are met within their jurisdictions. The state commission would need to develop specific details regarding appropriate outcome measures

for their state. The states might eventually transition into becoming the intermediary between sponsoring institutions and CMS. If they were to do so, states performing in an outstanding manner could potentially become eligible for larger appropriations from CMS if and when funding becomes available in the future.

Another appropriate role for regional- or state-based initiatives might be the development of generous loan repayment programs to attract physicians to states. Student/resident debt has become an increasingly important factor not only in the specialty choice, but also in determining the location in which physicians ultimately practice. The trend of high-indebtedness influencing practice location and specialty is unlikely to change unless other action is taken. As states try to address their individual needs, the development of well-funded loan repayment programs could potentially draw physicians to their states. States may also wish to consider funding such programs through their state-supported medical schools (e.g., in the form of tuition waivers, named scholarships), insurance programs, charitable organizations, and individual philanthropy.

National-Level Initiatives

Recognition that GME support should be the responsibility of all payers in the current multi-payer system would help create consensus about the purposes and accountability of GME training programs and should make all-payer support more acceptable. COGME has previously proposed the establishment of a national medical education fund, which would be formed by *proportionate contributions from all payers*, including Medicare, Medicaid, the Department of Veterans Affairs, military health system, private insurers, and individuals who self-insure/self-pay [61]. COGME recognizes that, in the absence of a national all-payer system, a de facto all-payer GME system currently exists, as reimbursement for healthcare indirectly supports GME [7]. Moreover, GME support is provided by CMS, the VA, states, and philanthropy—although, as previously mentioned, the current arrangements do not foster accountability in GME. Creation of a National GME Trust Fund would be one method for administering and distributing the financing GME as a public good that would increase the public accountability. An all-payer funding option could reduce the burden on Medicare for financing GME and void many of the antiquated policies that are imbedded in Medicare policy—which is designed primarily as a method of paying for healthcare and not education.

The fundamental idea is that there should be the participation of the entire population in securing for itself the public good of GME. While members of Medicare Payment Advisory Commission [62] do not regard GME as a public good [63], COGME continues to join many others, including Congress, in advocating that GME should be regarded as a public good [64,65]. Other economists have noted

that, while GME may not meet the economist's definition of 'public good,' it may be considered a private good with positive externality and worthy of public financing [66]. Perhaps most noteworthy, Adam Smith once admonished that "society cannot safely subject physicians to the stringent fiscal discipline of freely competitive markets" [67]. Training programs and institutions care for a disproportionate amount of uninsured and underinsured patients [68]. As Gbadebo and Reinhardt have noted, "The nation's politicians have saddled academic medicine with an important social mission that is not asked of their peers in any other nation: the provision of and financing of a social safety net that has, so far, kept the United States in the Club of Civilized Nations."

One of the purposes of COGME's endorsement of greater GME flexibility is to further enhance this particular public good by permitting more educational service in settings where care to the underserved occurs. Learning in such settings helps young physicians appreciate the needs of underserved populations, helps residents learn to work in teams to provide care, and, potentially, to develop a passion for caring for less advantaged populations after training. As Medicare policy drives residents back into hospitals, a number of desirable outcomes will become less possible (as discussed under Recommendation 2).

If public accountability was a recognized principle, then viewing GME as a public good would gain larger acceptance. The distribution of payments from the National GME Trust Fund would be predictable exclusively for the purposes of GME, rather than as a byproduct of patient care payments. Educational payments could be made to entities held accountable for disbursing them to respond to the healthcare workforce requirements of a substantial, defined population.

Defining and establishing a state or regional disbursement mechanism for National GME Trust Fund money is the second consideration. As outlined above (under "State-level Initiatives"), state- or region-based Medical Education Commissions or similarly-structured and appointed Graduate Medical Education Centers; could direct national trust fund dollars to support states' physician workforce needs, and also be the accountability agent. A similar model has worked well in Utah *where, under a Medicare waiver*, the Utah Medical Education Committee (UMEC) has served in just such a role. The national contribution to these funds could be based on audited national averages of expenditures per trainee prorated to the population for which the Medical Education Commission accepts responsibility. The Medical Education Commissions or Centers might cover more than one state and could augment their GME fund, perhaps in response to incentives from the National GME Trust Fund or based upon state funding as described earlier in this section. However, in order to be fairly administered across the country, the Medical Education Commissions

could not reduce or redirect funding earmarked for GME away from the education and training of an appropriate physician workforce.

A definition of what types of training programs or sponsoring institutions might qualify to participate in the nation's GME funding would be necessary. The National GME Trust Fund could establish broad guidelines that avoided over-specification as the allocation methodology might be best left to local/regional decision-making. At a state or regional level, the Medical Education Commission could place additional stipulations and define allowable and desirable variations that make sense to them. Incorporation of other health professional students and trainees would be encouraged as part of a coherent educational strategy. The commission could work with institutions sponsoring GME to ensure that residency training programs that qualified for funding could receive: (1) base payments that would be automatic (to the sponsoring institution) as long as the training program qualified, subject to annual adjustments according to market circumstances; and (2) optional payments based on the program or the sponsoring institution's priorities and their ability to respond to these priorities.

To prevent healthcare providers who participate in GME from being unfairly disadvantaged in the healthcare marketplace, providers could receive reimbursement from the Medical Education Commission responsible for their jurisdiction for costs that they incur in support of GME. Such reimbursement would help avoid the problems raised by CMS's recent policies about volunteer preceptors, which were envisioned to help offset expenses incurred by community-based educators, but which may represent either potentially undesirable financial transfers to teaching hospitals or a diversion of needed resources that could be used to support educational initiatives. Participating GME providers could include hospitals, multi-specialty medical practices, single specialty practices, schools, hospices, nursing homes, community health centers, and perhaps other entities.

Another option for flexibility in improving training programs is Title VII of Section 747 of the Public Health Service Act, which is currently administered through the Health Resources and Services Agency (HRSA). Title VII addresses more than just GME but all of Title VII is relevant and important to GME. This report endorses the recommendation of COGME's 18th report, *New Paradigms for Physician Training for Improving Access to Healthcare* that a modern reinvigorated Title VII scheme for funding GME appropriate for the 21st century be implemented. Moreover, we caution that the goals of GME and Title VII should not be overlooked as the nation prepares again to consider reform of the healthcare system.

Like Title VII, along with the nation's Community Health Centers and the VA, the National Health Service

Corps (NHSC) has been effective in bringing health care to some of the neediest areas of the country. The continuing disparities in both health and health care that trouble the nation require further attention, with plausible roles and collaboration between GME and the NHSC. The NHSC could be further aligned with GME programs through their sponsoring institutions to enhance training and unite training and service in underserved areas. Such a relationship could greatly enhance the success of GME in meeting its public accountability objectives. Just as NHSC clinicians could be united with residency training programs as core, community-based faculty, at Community Health Centers and elsewhere. The NHSC could deploy its workforce as agents of change to incorporate into revised residency training using innovative principles and strategies (see Recommendations 1 and 2) necessary for personalized, integrated care for people of every background and circumstance. Such deployments could represent a renewable workforce, particularly for primary care residencies that aspire to help relieve health and healthcare disparities. Nevertheless, lack of sufficient numbers of qualified faculty in remote areas may be a limiting factor. As appropriate (i.e., whenever educational infrastructure is in place) incorporating residents into community-based outpatient clinics (as is being promoted and funded by the VA) would expose young physicians to mentors and role models essential to achieving confidence in caring for the underserved.

To be strategic and responsive to both local and national needs, the National GME Trust Fund and the Medical Education Commissions across the nation would require objective and representative information about what is going on at a national and state level. This would include information on the health of the public, the performance of the healthcare system, progress or lack thereof toward national and state objectives, emerging opportunities, and results of pertinent experiments concerning healthcare and GME. The interests of the different professions, accrediting agencies, and licensing and certifying boards can create a cacophony in which public good or the perception of public good can be, and indeed often has been, lost. Thus, the capacity to answer important questions in a relevant, timely, and targeted way would be a crucial competency for the National GME Trust Fund and the Medical Education Commissions.

Just as MedPAC assists CMS, a newly-created National Healthcare Workforce Commission could enable GME decision-making. Such a commission could be created by Congress and report to relevant committees in the House and Senate and to the Secretary of Health and Human Services. Support of the commission could be staffed by HHS and have a relatively narrow charge in two areas:

- (1) To make recommendations concerning the number of GME positions to be funded, the rates at which payers

fund GME training, and rates at which payments are made to residency training programs; and

- (2) To conduct regular assessments of important health-care workforce issues (not confined to the physician workforce), including commissioned research to answer critical questions for which necessary information is lacking.

The National Healthcare Workforce Commission could enlist the help of state or regional Medical Education Commissions to assure a balanced and adequate assessment of the entire nation's healthcare workforce situation. Utah's UMEC has functioned in this capacity as well, monitoring the health and workforce needs of the state to determine training needs and funding flow. The National Healthcare Workforce Commission would require independence sufficient to assure credibility of their findings and open debate of issues and options, similar to the Government Accountability Office.

Transitioning from the existing GME funding system to another would not be easy or without cost or risk. The gradual implementation of an all-payer fund was also a prior recommendation of COGME [69,70]. A transition consultation program could assist GME programs to understand new requirements, align professions, develop curricula, and secure critical partnerships.

Just as NHSC physicians may represent a new source of faculty for GME, Federally Qualified Health Centers could take on a much larger role as GME training platforms. Increasingly, Federally Qualified Health Centers are gaining interest in GME as potentially appropriate sites to train and recruit their future workforce. Aligning GME funding with community health center funding would enhance the capacity and success of both the health centers and GME in terms of their accountability to specific outcomes and the public good. Other innovative models of training, such as those funded by the VA, could serve as ways to expand GME programs and physician residents in order to meet high priority public goals, while providing excellent training venues [71].

In summary, COGME is re-iterating its call for consideration of an all-payer funding mechanism that requires active involvement at the state, regional, and federal levels. However, *recognizing that all-payer funding of GME is unlikely in the current political climate*, COGME recommends, in lieu of all-payer funding, that the states take a more pro-active role in healthcare workforce analysis, planning, and funding, using examples such as the Utah Medical Education Committee. Despite this recommendation, COGME realizes that the state-based model of planning and oversight of GME might not easily be replicated or even emulated in other states or regions. Nevertheless, as state-level planning is currently the exception rather

than the rule, we encourage other states and/or regions to become more actively involved in the analysis and planning to meet their healthcare workforce needs.

We contend that GME should be considered and funded as a public good, but at the same time held accountable to meeting public healthcare needs as the primary driver of the distribution and type of training positions. By making funding of post-graduate medical training linked to the achievement of education goals instead of the direct provision of patient care, education would have greater flexibility to develop innovative and appropriate models to meet the healthcare needs of all Americans.

In order to move the recommendations forward, COGME proposes that it serve as a convening body to bring together key representatives of states and major funding agencies of GME. COGME should stimulate discussion at the state/regional levels and research in areas of healthcare workforce planning. For example, COGME could host a collaborative meeting or conference with state representatives to discuss various models of healthcare workforce planning. Further review of state/regional assessments of healthcare workforce issues are needed as, apart from the few exceptions cited, little is known about planning processes and little research has been accomplished to support such efforts.

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Hospitals that have residents in one or more approved GME programs also receive a payment to reflect the higher *indirect* patient care costs of teaching hospitals relative to non-teaching hospitals. For example, teaching hospitals typically offer more technologically advanced treatments to their patients, and therefore, patients who are sicker and need more sophisticated treatment are more likely to go to teaching hospitals. Furthermore, there are additional costs related to the presence of inefficiencies associated with teaching residents that result from the additional tests or procedures ordered by residents and the demands put on physicians who supervise, and staff who support the residents. Indirect medical education (IME) payments are made as a percentage add-on adjustment to the

per-discharge Hospital Inpatient Prospective Payment System (IPPS) payment, and are calculated based on the hospital's ratio of FTE residents to available beds. More specifically, the statutory formula for calculating the IME adjustment is $c \times [(1+r).405 - 1]$, where "r" represents the hospital's ratio of FTE residents to beds, and "c" represents the IME multiplier, which is set by the Congress.

50. Under section 1886(h)(4)(F) of the Act, a hospital's unweighted FTE count of residents may not exceed the hospital's unweighted FTE count for its most recent cost reporting period ending on or before December 31, 1996. Under section 1886(d)(5)(B)(v) of the Act, the limit on the FTE resident count for IME purposes is effective for discharges occurring on or after October 1, 1997. A similar limit is effective for direct GME purposes for cost reporting periods beginning on or after October 1, 1997.

Rural teaching hospitals can start new residency training programs and receive an increase in their cap. In addition there are provisions for 'borrowing' caps that are not being utilized. However, under current legislation, an urban hospital may not receive a further permanent cap increase once its caps have been established. In addition, teaching hospitals that were training residents below their caps in 2002 received a reduction of 75 percent of the difference between their actual FTE resident count and their cap. These reclaimed billets were redistributed by CMS in the following order first to rural hospitals, second to urban hospitals not located in large urban areas, third to hospitals training residents in a program that is the only program in the state, and finally to all other urban hospitals. The provision was effective for cost reporting periods beginning on or after July 1, 2005.

51. Section 1886(h)(4)(E) of the Act, requires that the Secretary's rules concerning computation of FTE residents for purposes of direct GME payments "provide that only time spent in activities relating to patient care shall be counted and that all time so spent by a resident under an approved medical residency training program shall be counted towards the determination of full-time equivalency, without regard to the setting in which the activities are performed, if the hospital incurs all, or substantially all, of the costs for the training program in that setting."
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in patient care activities under an approved medical residency program at an entity in a nonhospital setting shall be counted towards the determination of full-time equivalency if the hospital incurs all, or substantially all, of the costs for the training program in that setting." Section 413.75(b) redefined "all or substantially all of the costs for the training program in the nonhospital setting" as the residents' salaries and fringe benefits (including travel and lodging where applicable), and the portion of the cost of teaching physicians' salaries and fringe benefits attributable to direct GME.

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