

COUNCIL ON GRADUATE MEDICAL EDUCATION

Twenty-Second Report

The Role of Graduate Medical Education in the New Health Care Paradigm

November 2014

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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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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 U.S. Department of Health and Human Services (HHS); 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 (or designee) for Health, HHS; the Administrator (or designee) of the Centers for Medicare and Medicaid Services, HHS; and the Chief Medical Director (or designee) 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;
6. Deficiencies in, and needs for improvements in, existing 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;
7. Encouraging entities providing GME to conduct activities to voluntarily achieve the recommendations of the Council as warranted; and
8. Development of performance measures, longitudinal evaluations and recommendation of appropriation levels for programs under COGME's charge.

In addition to providing advice and making recommendations to both the Secretary and Congress, the COGME shall also:

- Encourage entities providing GME to conduct activities to voluntarily achieve the recommendations of the Council.

COGME PUBLICATIONS

REPORTS

Since its establishment, COGME has submitted the following reports to the HHS Secretary and Congress. These reports can be viewed at:

<http://www.hrsa.gov/advisorycommittees/bhpradvisory/cogme/Reports/index.html>

- 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 U.S. Department of Health and Human Services' 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);

- Eighteenth Report: New Paradigms for Physician Training for Improving Access to Health Care (2007);
- Nineteenth Report: Enhancing Flexibility in Graduate Medical Education (2007);
- Twentieth Report: Advancing Primary Care (2010); and
- Twenty-First Report: Improving Value in Graduate Medical Education (2013)

Letters to Congress

These letters can be viewed at:

<http://www.hrsa.gov/advisorycommittees/bhpradvisory/cogme/Publications/index.html>

- COGME Letter Concerning 22nd Report to Congress (2014);
- COGME Teaching Health Center Graduate Medical Education (THCGME) Support Letter to Congress and the Secretary, HHS (2013);
- COGME Recommendations Letter to Congress (2011); and
- COGME Letter to HHS Secretary and Congress Concerning Primary Care Crisis and Health Care Reform (2009)

Resource Papers

These resource papers can be viewed at:

<http://www.hrsa.gov/advisorycommittees/bhpradvisory/cogme/Publications/index.html>

- COGME: What Is It? What Has It Done? Where Is It Going? (2000);
- State and Managed Care Support for Graduate Medical Education: Innovations and Implications for Federal Policy (2004)
- Summary Report to Congress and Secretary U.S. Department of Health and Human Services (2002);
- Proceedings of the GME Financing Stakeholders Meeting, Public Response to COGME's Fifteenth Report (2001);
- Collaborative Education to Ensure Patient Safety (2000);
- Evaluation of Specialty Physician Workforce Methodologies (2000);
- Compendium: Update on the Physician Workforce (2000);
- The Effects of the Balanced Budget Act of 1997 on Graduate Medical Education March (2000);
- International Medical Graduates (1998);
- Preparing Learners for Practice in a Managed Care Environment (1997);
- Report on Primary Care Workforce Projections (1995);
- Process by which International Medical Graduates are Licensed to Practice in the United States (1995);
- Physician Assistants in the Health Workforce (1994);
- Reform in Medical Education and Medical Education in the Ambulatory Setting September (1991);
- Assessing Physician Specialty Imbalances (1987); and
- COGME, Public Hearing (1987).

Council Membership

Chairman

H. David Reines, MD, FACS
 Professor of Surgery
 Virginia Commonwealth University
 Vice Chair of Surgery
 Inova Fairfax Hospital
 Director of CME
 Inova Health System
 Falls Church, Virginia

Kirk Calhoun, MD
 President
 The University of Texas Health Science
 Center at Tyler
 Tyler, Texas

Michael Core, MD
 Assistant Professor of Clinical
 Family Medicine
 Department of Family Medicine
 Keck School of Medicine of University of
 Southern California
 Los Angeles, California

Erin Corriveau, MD, MPH
 Resident Physician
 Johns Hopkins Bloomberg School of
 Public Health
 Baltimore, Maryland

Lois Margaret Nora, MD, JD, MBA
 President and Chief Executive Officer
 American Board of Medical Specialties
 Chicago, Illinois

Mary Ellen Rimsza, MD, FAAP
 Professor of Pediatrics
 Tucson, Arizona

Beth M. Roemer, MPH
 Senior Director
 Kaiser Permanente Institute for
 Health Policy
 Oakland, California

Vice Chair

Gamini Soori, MD, MBA, FACP, FRCP,
 CPE
 Medical Director
 Alegant Creighton Bergan Mercy
 Cancer Center
 Clinical Professor of Medicine
 Creighton University School of Medicine
 Nebraska Cancer Specialists
 Omaha, Nebraska

Keya Sau, MD, PhD
 Silver Spring Dermatology
 Silver Spring, MD

Kenneth I. Shine, MD
 Special Advisor to the Chancellor
 The University of Texas System
 Austin, Texas

David Squire, MD
 Assistant Dean, Finance
 University of Utah
 School of Dentistry
 Salt Lake City, Utah

D. Keith Watson, DO
 President
 Pacific Northwest University of
 Health Sciences
 Administration, Iron Horse Lodge
 Yakima, Washington

Daniel J. Winn, MD
 Vice President and
 Senior Medical Director
 CareFirst BlueCross BlueShield
 Baltimore, Maryland

Statutory Members

Assistant Secretary for Health
 Administrator, Centers for Medicare and
 Medicaid Services
 Undersecretary for Health, Veterans
 Health Administration

Designee of the Assistant Secretary for Health

J. Nadine Gracia, MD, MSCE
 Chief Medical Officer
 Office of the Assistant Secretary
 for Health
 U.S. Department of Health and Human
 Services
 Washington, DC

Designee of the Department of Veterans Affairs

Karen M. Sanders, MD
 Deputy Chief
 Office of Academic Affiliations
 Veterans Health Administration
 810 Vermont Avenue, N.W.
 Washington, DC

Designee of the Centers for Medicare and Medicaid Services

Miechal Lefkowitz
 Technical Advisor, Division of Acute Care
 Centers for Medicare and Medicaid
 Services
 Baltimore, MD

Federal Staff

Candice Chen, MD, MPH
 Director
 Division of Medicine and Dentistry
 Bureau of Health Workforce
 Health Resources and Services
 Administration
 U.S. Department of Health and Human
 Services
 Rockville, Maryland

Shane Rogers
 Designated Federal Officer
 Division of Medicine and Dentistry
 Bureau of Health Workforce
 Health Resources and Services
 Administration
 U.S. Department of Health and
 Human Services
 Rockville, Maryland

Crystal Straughn
 Writer/Editor
 Division of Medicine and Dentistry
 Bureau of Health Workforce
 Health Resources and Services
 Administration
 U.S. Department of Health and
 Human Services
 Rockville, Maryland

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The first writing group developed recommendations, background, combined the drafts of the writing groups, and edited the report's subsequent drafts. The group also focused on COGME and the recent Institute of Medicine Committee Report on graduate medical education. Members of this group included:

(Chair) H. David Reines, MD
 (Vice-Chair) Gamini Soori, MD, MBA, FACP, FRCP, CPE
 Kirk Calhoun, MD
 Michael Core, MD
 Erin Corriveau, MD, MPH
 Kenneth Shine, MD
 David Squire, MD
 Daniel J. Winn, MD

The second writing group focused on expanding the graduate medical education clinical training environment into the ambulatory and community setting and developing new knowledge and skills for the emerging care delivery system. The members of this group included:

Mary Ellen Rimsza, MD
 Beth Roemer, MPH
 Keya Sau, MD, PhD
 D. Keith Watson, DO

A third group focused on accountability in medical education. This group included:

(Vice-Chair) Gamini Soori, MD, MBA, FACP, FRCP, CPE
 Lois Margaret Nora, MD, JD, MBA
 Karen Sanders, MD

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Candice Chen, MD, MPH
 Shane Rogers
 Iwona Grodecki
 Crystal Straughn

Executive Summary

When Osler created the Modern Medical Residency at Johns Hopkins, at the dawn of the 20th century, it marked a revolution in how doctors in the United States are trained.¹ The United States is now at a similar turning point. GME will either meet the new challenges of training physicians for the 21st century or our health system could quickly erode. GME must provide physicians with the skills and attributes they will need to provide high quality patient care in the settings and systems of a changing practice environment. In addition, trainees must be prepared to work in community and team-based settings and care for populations. Traditionally, GME programs have focused on providing clinical knowledge and expertise, rather than training residents for practice in a broad mix of settings and delivery models. GME should also include an emphasis on population health, team-based care, and greater use of technology in patient care, in order to prepare residents for the future health care system.

There must be a shift in the emphasis from inpatient to more outpatient services. Currently, over 60 percent of procedures are performed in the outpatient setting and a majority of patient visits are conducted outside of the hospital.² However, most of GME's public funding supports sites of inpatient education and training. Both funding distribution and changes in teaching environments will be necessary to meet present and future needs, while stabilized and dedicated funding are needed for GME at Teaching Health Centers and Children's Hospitals. The funding mechanisms should be adaptable to the needs of the evolving health care system, but must remain at least at present levels to meet the increasing demands for health care providers. The Indirect Medical Education (IME) payment under Medicare must be more transparent and the institutions which receive these funds must demonstrate public accountability.

Increased diversity in GME enrollment should be encouraged, with national efforts to coordinate and engage underrepresented minority students in health care professions and medical careers. Public support for GME should be leveraged to improve access to physician specialists in underserved regions and communities.

The Council on Graduate Medical Education (COGME) wants to ensure that GME is an essential component of the new paradigm in health care by transforming GME to prepare students, residents, and physicians for the changing health care system. There is an increased need for coordination of GME and oversight of public funding for GME, as recently proposed by the Institute of Medicine (IOM) Consensus Committee on the Financing and Governance of Graduate Medical Education.³ By strengthening the membership of COGME with additional financial and programmatic resources, it could provide the public's need for transparency in process and accountability for funding of GME. Timely and vigorous support from all GME stakeholders, regulatory bodies, and the Secretary of HHS is essential to accomplish this vital goal of transforming the present GME system into a more accountable enterprise to meet the future needs of the nation. This report will discuss the expansion of GME clinical training in ambulatory and community settings, reconstructing the funding mechanisms under Medicare, and ensuring accountability and transparency of funding of GME.

Preamble

The United States has the best and the most expensive health care system in the world. Despite the high costs of care, the system is often inconsistent in the quality and distribution of care delivery. Concerns continue about patient safety, lack of continuity of care, fragmentation, inappropriate care, and inadequate prevention and promotion of health. The emphasis must shift to achieving measurable outcomes of care, based on best evidence and a culture of patient safety.

Currently, medical education is not adequately focused on preparing students and residents for the rapidly changing environment. COGME strongly believes that GME should prepare physicians for the future practice of medicine with competencies that can adapt to these changes and shift health care delivery to settings outside the inpatient arena.

In recent years, both the public and private components of the health care system have been moving in the direction of new care delivery models centered on the patient and populations. Coordinated care is provided through collaborative care models such as Medical Homes and Accountable Care Organizations (ACO), which feature multiple health professionals engaged in team-based care. GME continues to be the essential and valuable enterprise to prepare physicians for the practice of medicine.

COGME's principle goal is to seek changes in GME programs to focus on preparing residents for a 21st century health care system. This includes greater emphasis upon team-based care, population health, enhanced use of technology, and greater understanding of newer health care delivery models. Most of these changes have a substantial emphasis on non-inpatient practice. Patient-Centered Medical Homes and other collaborative ambulatory care models are important examples of these changes. Current federal programs, including the provisions of the Affordable Care Act (ACA), do not adequately address the role of GME in these new paradigms of health care delivery.

The residency review committees and the Accreditation Council for Graduate Medical Education (ACGME) have worked diligently to maintain the excellence of GME programs. Recently, a number of important changes have been implemented by the ACGME in the interest of continuous improvement. Regular site visits have been deemphasized in favor of annual self-assessments of the programs, relying more on achieving competencies of the trainees instead of time frames in training.⁴ The introduction of assessment "Milestone" projects, as well as programs stressing quality and safety, such as the American College of Surgeons Quality In-Training Initiative, are gaining in importance. However, present curricula have not kept pace with the current changes in health care policy and practice.⁵

The integration of GME into new clinical practice models and payment methodologies such as bundling of costs for outpatient procedures has not been well described. GME funding remains largely focused on inpatient educational and training locations. However, there are notable exceptions. For example, family medicine residencies now

require a 50 percent commitment to the outpatient environment. Many residencies offer opportunities for some outpatient experiences, but these often involve a part of a day each week, with little opportunity for the long term, longitudinal care of a group of patients. These experiences often limit the resident's understanding of patient outcomes, which are an important feature in the measurement of health care quality. In many medical specialties, including family practice, internal medicine, and pediatrics, physicians spend most of their practice time in the office or the outpatient environment. This emphasis has been further reinforced by the increasing role of hospitalists who provide a greater proportion of care for the hospitalized patients. Since the proportion of invasive and surgical procedures delivered in the outpatient arena now exceeds 60 percent, a shift must take place in both the venues of education and the reimbursement methodologies for all GME.

Despite the rationale for an enhanced outpatient experience, as required by a 21st century health care delivery system, the emphasis on inpatient resident education persists. Medicare funds to subsidize the costs of adult GME are largely distributed to hospitals, with the indirect payment calculated as an add-on to the inpatient prospective payment system. Understandably, as long as inpatient care determines GME funding, hospitals see care of hospitalized patients as the principal mission of their GME programs. Hospitals would likely be more supportive of outpatient care if it enhanced overall hospital revenues. However, often the contribution of the resident's time in the outpatient clinic is not as financially beneficial to the hospital as time spent on the inpatient units.

Forces in play may change these calculations. Historically, efficient and effective outpatient services and processes, which kept patients out of hospitals, did not significantly contribute to the finances of the hospital. As readmission and prolonged hospital stays lead to lower reimbursement, and as more hospitals are engaged in collaborative care models, they will benefit from more efficient and effective outpatient programs. New relationships are developing in academic health centers between practice plans and their hospitals that can create shared incentives for more coordinated and efficient high quality care. COGME believes that the balance of the time a resident spends in the outpatient environment and the inpatient experience needs to shift in many specialties, especially primary care. A stronger emphasis on outpatient care would better prepare clinicians for the real world of practice and allow the resident to learn the skills needed for 21st century health care.

Recommendations

COGME deliberated on the issue of transforming GME to prepare the future workforce for the changing health care system. The focus of this report is aligning future GME and GME funding to new health care delivery and payment models and training 21st century physicians to achieve new competencies. In this 22nd report, COGME makes the following seven recommendations for educators, funders, and policymakers of GME:

Recommendation 1: GME training should be expanded in ambulatory and community sites to reflect the current and evolving practice of medicine.

Rationale: As the proportion of health care delivered in ambulatory sites increases, the percentage of GME training that occurs external to inpatient units in ambulatory sites needs to be expanded to prepare graduating physicians for medical practice. GME trainees must be provided with educational experiences in practice environments where new competencies are utilized.

Recommendation 2: A portion of the financial support for GME training in community and ambulatory settings should be distributed to the educational sites or programs where the training occurs.

Rationale: A portion of the Medicare and Medicaid funding provided by the Centers for Medicare and Medicaid Services should be distributed to community and ambulatory training sites. This will defray the costs of faculty development, teaching time, program administrative costs, and/or training requirements necessary to provide high quality ambulatory educational experiences, not limited to community settings. In order to prepare faculty to teach the new curriculum, sustainable funding for faculty development, such as teaching fellowships and ongoing educational programs, should be developed. These changes should include ambulatory sites, which are located within the Academic Health Center as well as in the community.

Recommendation 3: There should be greater accountability and transparency for Indirect Medical Expenditures in order to achieve national health care aims and objectives. Reevaluation of the funding process of GME is necessary to ensure equity, proper distribution of specialties, location, and geographical distribution of residents.

Rationale: Up to 10 percent of IME funding should be reserved to recognize and stimulate innovation and meet identified community health care needs. Any transformational program should be designed to be fair and equitable for programs regardless of size, location, specialty mix, and geography. This would allow for the training of the right mix and distribution of specialties to meet public health needs. Current funding allocations based on Medicare inpatient payments are not a sustainable methodology. However, any change in the IME component may have significant consequences to existing programs, and disadvantaged or vulnerable populations. New funding processes need to be deployed in a stepwise manner to minimize disruptive

consequences. Medicaid funding could play an increasing role, provided it is consistent with above stated goals.

Recommendation 4: GME funding for the Teaching Health Centers (THC) and Children's Hospitals should be stabilized with dedicated ongoing funding.

Rationale: The current THC and Children's Hospitals GME funding systems, which provide GME funding to Freestanding Health Centers and Freestanding Children's Hospitals, are appropriated for limited time frames. This creates an unstable environment and reduces the ability of training programs located in these institutions to adequately plan for the future. THCs offer important opportunities in areas discussed in the report. Providing support for pediatric training programs from a secure entitlement fund would provide stability to these institutions that train almost 30 percent of the nation's general pediatric residents and 44 percent of the nation's pediatric medical subspecialists and surgical specialists.⁶

Recommendation 5: New curriculum is needed to address health care delivery system change and patient and population-centered GME.

Rationale: GME and Undergraduate Medical Education (UME) curriculum should include an understanding of the health care system and population health. It should also include specific skills such as quality and safety measurement and improvement, culturally appropriate care, value-based purchasing, and use of information technology to support evidence-based care. Curricula and training should incorporate key elements of the National Quality Strategy related to person and family centered care, management of transitions, care coordination, and effective team-based care.

The GME curriculum should be reassessed periodically. The performance and patient outcomes of graduates should be monitored so that changes in the curriculum can be made as the knowledge and skills necessary to provide high quality patient care change over time. The perspective of health care stakeholders including medical educators, accreditation and licensing agencies, public health, health care systems, payers, and consumers should be considered in determining the knowledge, skills, and professional attributes that trainees should acquire during training.

Recommendation 6: There should be a further national effort to coordinate and engage underrepresented minority students in health care professions and medical careers. Public support for GME should be leveraged to encourage physician specialists to locate in otherwise underserved regions and communities.

Rationale: Diversity in the health care workforce is beneficial in expanding access to care and for optimal patient engagement. It should be reflective of national demographics. There are significant issues with reference to access to health care as a result of geographic maldistribution of primary care medical specialties. GME funding allocation methodologies should promote improved access to health care to underserved populations and communities.

Recommendation 7: COGME should be strengthened by reconstituting the Council to provide strategic planning and oversight of GME innovation and funding with responsibility and authority to evaluate the accountability and outcomes of GME. Funding and programmatic support for COGME should be enhanced and must be adequate to execute the strengthened agenda of COGME.

Rationale: COGME, as it is currently constituted, is a representative body with a minimal current level of funding and staff resources, which severely limit its ability to deliver the increased demands of national GME issues. As highlighted by the IOM report of 2014, there is a pressing need for addressing GME issues of physician shortage, maldistribution, and aligning with new health care delivery and payment reforms. Furthermore, there are changing and expanded responsibilities of addressing population health, new venues, and training curricula. In addition, there is a need for comprehensive oversight of GME enterprise, public accountability, innovation, and rational national funding for GME. A strongly reconstituted COGME, with inclusion of expertise in relevant disciplines and adequate financial and programmatic resource support, could fulfill these dual oversight obligations of national GME planning and funding without creating a new bureaucracy.

SECTION 1: Expanding the Graduate Medical Education (GME) Clinical Training Environment into the Ambulatory and Community Setting

The majority of medical care in the United States is provided in the outpatient setting, while only a small percentage of patients are hospitalized. In 2012, 80 percent of adults requiring medical care received it in an ambulatory setting, while only 6 percent required care in hospitals.^{7, 8} GME in AHCs prepare physicians for a hospital-based career that focuses on highly specialized care for individuals requiring inpatient care. Trainees are frequently not provided with sufficient ambulatory clinical experiences to prepare them for practice in community environments, which will likely be their work environment after completion of training.

New training competencies have been identified for the successful physician in community practice.⁹ Additionally, the New Accreditation System (NAS) for GME will further define milestones and professional activities that will require enhanced community and ambulatory experiences. Expanding GME training to ambulatory and community-based settings can provide trainees with more robust educational experiences in systems-based care than AHCs alone can provide.

Challenges and Opportunities in Expanding GME Experience

Although the data on the impact of training sites on the quality of care provided by GME graduates is limited, there is a common misperception that only training in large academic centers can produce graduates who have the skills to provide high quality care. Asch and colleagues have found obstetrical outcomes are affected by training site, linking quality of training site with the outcomes of care provided by the trainees.¹⁰ However, other studies on this topic leave doubt about which markers should be used to evaluate physician practice quality in relation to residency training sites.^{11, 12, 13, 14, 15, 16}

In addition to concerns about quality of teaching and patient care in community and ambulatory settings, another barrier to expanding GME training to these sites is the lack of financial support for community-based programs. Present payment and training incentives for community-based training are insufficient to develop and maintain these ambulatory and community-based programs, even though it costs less to provide patient care and GME training in these sites, than AHCs and other teaching hospitals. The increased costs of AHCs and other teaching hospitals are in part due to their higher patient care costs. This includes the number of underinsured, biomedical research missions, and the maintenance of standby capacity for medically complex patients, in addition to the expenses incurred by teaching programs.¹⁷

Further expansion of existing community-based GME training experiences and development of new GME programs in community settings, in conjunction with hospital experience and educational opportunities, are needed in order to provide trainees with high quality community and ambulatory education. However, additional financial support is necessary to develop community and ambulatory-based GME training sites. Such programs are labor and time intensive and the current ACA and Medicare funding does not reward institutions for participating in expanded outpatient oriented education.

To identify best practices, efforts must be made to assess and compare the outcomes of these programs, so that high performing venues can be rewarded and expanded.

There are additional barriers to expanding GME training sites in community and ambulatory settings for both the training site and potential teaching faculty. The changing health care delivery models in the United States create financial uncertainty for health care facilities and therefore a reluctance to accept the financial risks associated with the expansion or initiating of GME programs. Furthermore, health professionals are reluctant to teach residents outside of the hospital due to increased demands on their time. The increased numbers of insured patients seeking care, financial uncertainty due to changes in payment, lack of incentives, and new health care delivery models, discourage some physicians from accepting the added responsibility of teaching residents without additional compensation.

Under current Medicare law, the primary recipients of Medicare GME funding are hospitals, which may lack motivation to train residents in an outpatient facility, because of the loss of valuable services those residents provide to hospital inpatients.¹⁸ In addition, the funds available for development of new and innovative programs in community settings are limited and require new appropriations to be financially sustainable. Without sustainable long term funding, potential educational sites are hesitant to commit to the development of new GME training programs, which require a minimum of 5-year commitment to guarantee completion of training.¹⁸

There are significant "start up" costs associated with the development of new GME training programs. These include the cost of recruitment of faculty and administrative personnel, and creating an institutional infrastructure. Recruiting physician faculty for new programs in community and ambulatory settings is challenging because the community physicians feel it is difficult to devote the time to teaching, at the expense of reduced practice income and decreased clinical productivity. Faculty members are also concerned that they lack the expertise in teaching methodologies to assure quality educational outcomes and support for self and learner needs.

Additionally, AHC faculty may not have the experience and training needed to teach new knowledge and skills required for the future health care delivery system, occurring outside of AHCs. These changes are being driven by regulatory forces including the ACA, as well as consolidation and competition in the marketplace. However, as centers of higher learning, AHCs are also engaged in research and creating new knowledge, which can serve as the foundation for care innovation. AHCs should increase collaborations with high-performing health care delivery systems to provide opportunities for teaching faculty to learn and experience the transformations taking place in health care. While there is likely to be a great interest in and willingness to learn about innovations in the evolving health care system, there is limited funding for faculty development. AHCs need to provide more opportunities for faculty development in this health care delivery science as well as in other areas.

Trainees and Patient Care

Current models of ambulatory health care delivery are burdened with productivity expectations for providers and with decreasing levels of both provider and patient satisfaction. Those who criticize placement of learners into this environment cite loss of financial productivity of faculty, effects on patient satisfaction, and potential negative impacts on patient outcomes, when learners are involved in care. Studies have shown that patient satisfaction is actually positively impacted in such teaching settings.^{19, 20} Although, it is commonly believed that the trainees may reduce physician productivity, proper utilization of learners in the flow of patient care can sustain or augment the productivity performance of faculty.^{21, 22, 23}

If GME training is to be successfully integrated into community and ambulatory settings, additional evidence-based studies and wider dissemination of knowledge about these issues will be necessary. ACOs provide an ideal opportunity to demonstrate the positive impact that trainees can make on both inpatient and outpatient health care delivery. Patient education incorporated with trainee education should provide the ideal setting to foster patient accountability for their care, improve health literacy, and help create a more educated patient population.

Preparing the Future Health Care Workforce

These are unprecedented times in American health care. Although there is a widespread belief that our nation's system of medical education produces superbly skilled clinicians, some have raised the concern that current physician education and training is not fully preparing new practitioners for a modernized 21st century health care system.^{24, 25, 26} The Flexner approach to medical education, though revolutionary in its time, demanded that physicians' training and practice be built on a scientific foundation.²⁷ Today, this is still necessary, but not comprehensive enough to prepare physicians to practice in the rapidly evolving health care system.

Achieving National Quality Aims and Priorities

As HHS moves to align all health programs around the National Quality Strategy's six priorities, federal accountability mechanisms will seek to assure that physicians are learning how to support health systems to meet them. The National Quality Strategy is formulated to provide better, more affordable care for individuals and the community. To achieve these aims, the Strategy identifies multiple priorities including:²⁸

1. Making care safer by reducing harm caused in the delivery of care;
2. Ensuring that each person and family is engaged as partners in their care;
3. Promoting effective communication and coordination of care;
4. Promoting the most effective prevention and treatment practices for the leading causes of mortality, starting with cardiovascular disease;
5. Working with communities to promote wide use of best practices to enable healthy living; and
6. Making quality care more affordable for individuals, families, employers, and governments by developing and spreading new health care delivery models.

Future physicians will need new knowledge, skills, and expertise to lead health system change and address the pressing health needs of their patients and society. It is essential to strive for a GME system that produces graduates who are capable of providing care that addresses the National Quality Strategy and provide training that is also:

- Prevention and community health focused;
- Patient-centered and culturally-effective;
- Evidence-based, safe, effective and equitable;
- Coordinated across settings, specialties, and time;
- Accountable for being current, providing quality and affordability for a population; and
- Accessible to all

These competencies are sometimes referred to collectively as “health care delivery science,” “patient medical home,” “patient-centered medical education,” “accountable care,” “system-based practice,” “accountable communities for health,” and other nomenclature. To develop a GME system that incorporates these competencies, changes to GME curriculum are needed and will require formal instruction, workplace learning, and reflection on practice.

Some forward thinking medical educators, policy makers, health care industry leaders, patient advocates, and physician leaders are creating and enhancing programs to prepare health professionals to practice in a reformed care delivery system.²⁷ For the most part, current graduate and undergraduate medical education programs do not fully prepare physicians for the new environment. The pace of change has been slow.²⁷ Leadership at the national level from educators, accreditors, regulators, and funders is needed to enable acceleration of the necessary changes. The newest legislation, the ACA, pays little attention to the role that a new education system can bring under the act.

Moreover, these competencies require improvement in training in two fundamental ways. First, physicians must engage in continuous professional development to adapt and learn throughout their careers. Medical education must improve the teaching of lifelong learning as a skill and set the expectation that a new definition of professionalism includes continuous professional development beyond the minimal requirements of licensure and certification. Second, physicians must learn how to care for both their patients and the populations they serve. The physician office visit or hospital admission is not the only unit of service that the residency program is preparing the physician to provide. The physician’s first responsibility is to their patients, but they should also improve health and lower the health care costs for the population.²⁹ This must include efforts to eliminate health care disparities and promote community-based wellness.

Trainees must also learn how to lead and practice in organized systems, provide care in multi-disciplinary diverse teams, practice value-based not volume-based care, and utilize evidence-based decision support. Training must include quality and patient safety performance measurements as well as meaningful use of electronic health records and

information technology to keep abreast of ever-increasing bodies of knowledge relevant to any individual physician's practice.

Some GME programs have already taken the lead in integrating these new skills into their training programs. Medical schools also are adding this body of knowledge and skills to the curriculum of UME. As practice settings change with the modernization of the health care system, more opportunities to incorporate this new curriculum into clinical practice will emerge. This will further enable GME programs to move clinical training out of the hospital and utilize new environments.

The knowledge, skills, and professionalism outlined above are the attributes of the ideal physician, as defined today. Those attributes must be continually updated as the health care system evolves to meet the changing needs of society. To assure continued relevance in the future, medical educators should apply the perspectives of appropriate stakeholders. These include private and public physician employers and payers, health insurers (including Medicare and Medicaid), health care consumers, and employers who desire a healthier workforce. Importantly, the involvement of other stakeholders from accreditation, licensing, and regulatory bodies at the national and state levels is necessary to make the relevant changes feasible and deployable. Their input is vital for optimal and sustainable financing and continued responsiveness of GME to the evolving needs of our society. Furthermore to assure that GME is continually adapting to changes in the health care system and the population, an effective mechanism responsible for monitoring, assessment, and reform of GME should be established.

Section 2: Preparing Residents for Future Practice: Ensuring Accountability in Medical Education

Calls for Accountability

With the implementation of the Medicare program in 1965, the federal government first subsidized the cost of GME, reasoning “education improves the quality of care, and should be an element in the cost of care to be borne partially by the hospital insurance program, until the community bears the cost in some other way.”³⁰

Since then, with tightening federal budgets and an evolving health care landscape, critics have questioned the extent to which the public is served by the dollars devoted to GME. In 2011, leaders from across the health care industry convened by the Josiah Macy Foundation concluded that GME must better meet the needs of, and be accountable to, the public:

*GME is responsible for upholding a social contract with the public it serves. GME benefits from significant public funding and must demonstrate clear return on society’s investment. GME is responsible for self-monitoring and largely self-regulating its professional outcomes; to do this responsibly, GME must have ongoing dialogue with key stakeholders in order to understand society’s needs and its expectations of individual physicians and the medical profession as a whole.*³¹

In its 2010 report to Congress, the Medicare Payment Advisory Commission (MedPAC) highlighted the need for workforce analysis, concluding that the nation’s medical education and graduate training programs are not “aligned with the delivery system reforms essential for increasing the value of health.” The Commission recommended increasing programs’ financial transparency, conducting workforce analysis to determine the number of residency positions needed by specialty, and implementing strategies to increase diversity.³²

More recently, policy research has focused on the extent to which GME programs, through their training sites, curriculum and learning environments, support system transformation. Looking at specialty choice and delivery settings, a study by the Robert Graham Center attributes residents’ selections to a host of factors, chief among them, where the student trained. The study found sites of training to be an important determining factor and recommended shifting substantially more training of medical students and residents to community, rural, and underserved settings. Learning experiences in Federally Qualified Health Centers (FQHCs), Rural Health Clinics and Area Health Education Centers can be means of accomplishing these goals. Arranging summer experiences for National Health Service Corps scholars after their first year of medical school could be another important opportunity.³³ The report suggests that providing more training opportunities in rural areas would ameliorate geographic disparities.

Some research questioning whether teaching programs adequately prepare physicians for future practice has identified training shortfalls. A 2011 survey of clinical department

chiefs at Kaiser Permanente indicate that almost half found critical deficiencies among newly recruited physicians in managing routine conditions or performing simple procedures typical of office-based practice. A third of the survey's respondents noted deficiencies in coordinating care for patients.²⁷

In 2012, the American Hospital Association (AHA) reported a need for resident education in population health management, resource management, medical economics, and palliative care.³⁴ The AHA identified interpersonal communication and team-based care, use of health information technology, and quality and safety systems improvement practices as competency domains essential to the emerging practice environment.

New Training Models

Sharing patients' concerns, health care providers and purchasers expect the medical education system to produce physician specialists who reflect the cultural and economic characteristics of the patients they serve and are prepared for practice in systems of care and non-traditional health care delivery sites. In an attempt to shorten the training period for primary care, the Commission on Osteopathic College Accreditation (COCA) approved the Accelerated Physician Assistant Pathway (APAP) to the Doctor of Osteopathic Medicine (DO) Degree in 2010 and COCA approved 12 APAP seats in 2011, with six DO seats reserved for primary care training. The inaugural APAP to DO class achieved a 100 percent pass rate on the COMLEX-USA Level 1 exam.³⁵

Working together to redesign the education of pediatricians, ACGME and the Association of American Medical Colleges (AAMC) have developed a competency-based training model that bridges the medical education continuum from medical school through residency training. Participating students will be exposed to working in different environments in the health care system, participate in interprofessional teams, and in a multi-year continuity clinic through which students will assume responsibility for increasing numbers of patients throughout the years of the program. Four training sites have been selected to implement the pilot planned, to train four successive cohorts of 15-20 trainees each for a six to seven year program over a ten year period.

Rather than acceleration, residency programs are working to "right-time" training through competency-based programs. The ACGME developed and recently launched the NAS.⁴ NAS includes two major initiatives: the Milestones initiative and the Clinical Learning Environment Review initiative (CLER).

ACGME's Milestones assessment program has created a platform to encourage GME programs to begin to assess student performance and proficiency with respect to key competency-based "Milestones" developed by the ACGME and the American Board of Medical Specialties (ABMS) for each specialty domain.⁴ The Milestones approach enables residents to progress as they achieve proficiency, rather than along an annual schedule and encourages competency-based education. Moreover, data collected on all residents as they progress through the developmental stages toward proficiency, will be used to guide curriculum and training and to enable the ACGME to conduct more targeted program oversight.

Through CLER, the ACGME will put a spotlight on the environment in which training occurs, focusing attention on institutional efforts to model safe practices, support professional behaviors and encourage improved patient care practices. CLER looks at six dimensions of the learning environment: quality improvement, safety, transitions in care, management, fatigue management, supervision and professionalism. Together with Milestones, CLER promises to help assure that training programs will impart quality and safety skills, crucial in the emerging delivery system. “CLER visits to sponsoring institutions will ensure that residents are exposed to an appropriate learning environment, and the Milestones will ensure that they demonstrate readiness for independent practice and possess the attributes that the public deems to be important in physicians” (Nasca, 2012, p. 1054).

The Milestones program implementation is currently underway. ACGME’s Milestones approach promises to improve the ability of the programs to provide concrete feedback on performance and to tailor the resident’s professional development based on demonstrated needs. The establishment of measurable, specialty-specific developmental milestones to guide the assessment of individual and program effectiveness enables ACGME to move towards outcomes and learner-centered approaches in other domains of education.⁴

The milestones reflect the six competencies of medical specialty practice:

1. Professionalism—commitment to carrying out professional responsibilities, adherence to ethical principles and sensitivity to diverse patient populations.
2. Patient care and procedural skills—care that is compassionate, appropriate and provides effective treatment for health problems and to promote health.
3. Medical knowledge—knowledge about established and evolving biomedical, clinical and cognate sciences and their application in patient care.
4. Practice-based learning and improvement—able to investigate and evaluate their patient care practices, appraise and assimilate scientific evidence and improve their practice of medicine.
5. Interpersonal and communication skills—demonstrate skills that result in effective information exchange and teaming with patients, their families and professional associates (e.g. fostering a therapeutic relationship that is ethically sound, uses effective listening skills with non-verbal and verbal communication; working as both a team member and at times as a leader).
6. Systems-based practice—demonstrates awareness of and responsibility to the larger context and systems of health care. Be able to call on system resources to provide optimal care (e.g. coordinating care across sites or serving as the primary case manager when care involves multiple specialties, professions or sites).

Accountability Assessment Metrics

Although accountability for meeting educational requirements has implicitly rested with the accreditation requirements of the American Osteopathic Association and ACGME, few health care leaders view accreditation as a sufficient indicator of a program’s public funding “worthiness.” A variety of program characteristics and outputs can be measured

at the level of both the sponsoring institution and primary ACGME teaching site. Chen et al, looking at specialty mix and geographic location after graduation, analyzed key program workforce outputs of special social concern – the production of physicians in primary care and location of physicians in rural or underserved areas.³⁶ Some proposed program elements are listed in Table 1.

Table 1 Suggested Accountability Program Metrics	
Selection criteria and admissions data	• Patient and family centered care • Geographic, racial, cultural and economic diversity • Cultural sensitivity • Workforce needs
Program vital statistics	• Alignment of curriculum with National Quality Strategy • Student completion rates • Initial Board certification pass rates • Accreditation data from ACGME
ACGME Milestones	• Competency outcomes
Clinical learning sites	• Learning environment (CLER results) • Data on teaching faculty and composition of faculty • Ratio of inpatient/outpatient experience • Patient care experience in non-traditional delivery systems, including FQHCs, medical home care models and community-based health centers • Specialty-specific data • Accreditation information from the Joint Commission and other program accreditors about training sites • Patient volume and case mix (as a measure of available clinical experience) • Patient engagement and satisfaction reports
Program output	• Number of graduates • Specialization mix • Distribution across specialties • Percent Board certified • Percent certified in specialty selected at time of admission • Practice location (rural/underserved)
Program cost	• Total program funding (federal direct and indirect, state, local, foundation, other) • Direct payments to GME participants • Overheads (to reflect the financial efficiency of the program)
Cost per graduate	• Total and component cost per graduating trainee

Optimally, program cost metrics, identified in Table 1, could be coupled with funding data enabling a better understanding of where federal funds are going and how the funds

are used. Transparency around the allocation of federal support, how programs use those funds and the outcomes they achieve, could inform policy and drive program performance. However, linking program cost information with outcomes metrics requires a level of financial disclosure that even the most forth-coming training programs may find difficult, if not impossible, to provide.

As noted previously, changes in the health care delivery system necessitate new and innovative curricula to prepare physicians for future practice. As physicians' roles and responsibilities evolve, the nation's medical specialty workforce needs will shift as well. Traditional manpower projections will be of limited value in guiding future funding policy and maintaining historic funding streams may sustain a status quo poorly matched to current population needs.

Recent research by Erin Fraher, demonstrates that physicians' practices are more fluid than fixed and that scope of practice changes over time as physicians respond to the evolving needs of their patients, and develop new interests, skills, and aspirations. Physicians within the same specialty may have very different scopes of practice; physicians in different specialties often have overlapping scopes of practice. Different configurations of specialties and practice teams will meet the same community requirements and patient care needs.³⁷

Creating Accountability for Public Funding

Accountability for public support of GME rests with the hospitals and training programs that receive public funds and with federal agencies that determine how those funds will be allocated. Fraher's research argues for comprehensive GME training, to provide future medical specialists with a platform for an evolving career and lifetime of learning.³⁷ Others assert that public funding should be efficient and focused, targeted to the production of physicians who are highly skilled in a specific area of practice and available only to those programs that channel physicians into the specialty domains, geographic locations, and delivery sites where they are most needed. Federal funding for GME must be accountable for striking an appropriate balance, encouraging innovation, and supporting residency programs that produce physician specialists who are skilled and competent and fully prepared for future practice.

GME funding is necessary to maintaining an adequate physician workforce, and in the longer-term GME funding must further support new and innovative education models. Specifically, COGME recommends the expansion of GME training into ambulatory and community settings, as well as a commitment to trainee literacy on health delivery systems change within the context of patient-centered care

By their very nature, the training of a pediatrician and the training of a neurosurgeon have some things in common, but also differ dramatically. Medical specialty training requirements vary, and flexibility with respect to GME funding methods and incentives would ensure provision of the experiences necessary to ensure well-trained practitioners in every specialty discipline. An appropriate and well-rounded physician workforce is needed to meet the growing demands on our ever-evolving health care system.

Changes to ensure GME accountability and transparency, design parameters for outcomes and reward programs, meeting goals, and funding GME at adequate levels requires input and flexibility from a variety of stakeholders. New approaches to GME funding should be piloted simultaneously. With the current increasing demand for health care services, missteps in GME policies could have long-lasting, detrimental effects on the physician workforce, cost, health care quality, access to medical services, and the patient experience. GME incentive payment models that benefit the trainee's experience, benefit communities, and allow for participation in a variety of GME programs are of great importance.

The skills described in Section 1 of this report are required by our physician workforce, regardless of specialty, and must be elements of high performing GME programs. GME programs should be required to document and report on their efforts with respect to teaching these necessary skills, and this reporting should be part of what is required to earn GME Medicare payments. Innovation in the above key experiences should be encouraged and rewarded through an incentive payment process, with particular attention to the maldistribution of the physician workforce.

Community-oriented primary care projects sponsored by training programs can result in better health and lower health care cost.³⁸ GME programs provide essential care to Medicare, Medicaid, underserved, and special populations. A dedicated funding stream that follows the resident physician to their training site, yet recognizes the oversight responsibility and administrative cost of the sponsoring institution, is recommended. Increased funding for primary care and psychiatric residency expansion, along with incentive payments for providing care to disadvantaged populations should be considered. These elements can be funded through cost savings generated by the ACA and a small GME assessment on insurers that counts towards the medical loss ratio commitment made by health plans.³⁹

MedPAC, has stated that two principles underlie their recommendations for GME funding:

1. The need to decouple Medicare's GME payments from the fee-for-service payment systems, and;
2. The need to ensure that resources for GME are devoted to meeting educational standards and outcomes that can improve the value of our health care delivery system.⁴⁰

MedPAC (2010) also points out, "Our nation's system of GME is, in some respects the best in the world. U.S. teaching hospitals produce thousands of physicians each year—physicians who are superbly skilled and able to apply cutting-edge technology and techniques to aid severely ill or injured patients. Teaching hospitals serve as linchpins of their local health care systems, and many contribute to stunning advances in medical science" (p. 107).

Section 3: COGME and The Institute of Medicine (IOM) Committee Report: Graduate Medical Education that Meets the Nation's Health Need

The IOM's Consensus Committee on the Governance and Financing of Graduate Medical Education recently released the report *Graduate Medical Education That Meets the Nation's Health Needs*.³ COGME commends the IOM Committee for its efforts to address the complex issues of GME financing. COGME shares the IOM Committee's view that public support for high-quality GME is necessary and appropriate and serves the public good; that GME funding must be stable, sustainable, and sufficient to support the nation's health care needs; and that public support should be leveraged and targeted to achieve national health goals. We strongly support continued funding for GME for the Teaching Health Centers and Children's Hospitals and believe that support provided to these important training programs should be stable, adequate and assured.

Further, COGME shares the IOM Committee's confidence in the quality oversight of physician specialty training offered by the ACGME and ABMS. GME funds should be used to produce a physician workforce that is prepared to meet the needs of our patients, encourages innovation, transparency and accountability.

Notwithstanding these broad areas of agreement, COGME recommends that the specific reforms of both governance and funding may warrant deeper investigation. Below are several issues of concern with the IOM Committee's recommendations:

Projections of Work Force Need

COGME does not share the IOM Committee's conviction that current funding levels and residency positions are adequate to meet future health needs. Reviewing the evidence for its 21st report (2013), COGME concluded that a physician shortage is likely in specific general and specialty areas.^{40, 41} COGME proposed several methods to assure that new residency positions meet national health care needs while maintaining capacity in areas that currently are not in shortage.

COGME urges caution to suggestions that the supply of physicians in the training pipeline should be limited until there is evidence to judge the effectiveness of emerging practice models that rely on mid-level providers. Although COGME recognizes that producing more physicians alone will not address the nation's workforce needs, mid-level practitioners cannot be substituted for physicians in all situations. There are differences in the scope and duration of their medical training and their professional competencies, which cannot fill all the gaps created by a shortage of physicians. The plasticity of medical practices and new, team-based delivery models that affect demand projections require ongoing research and adjustments of GME funding to meet new physician shortages as they change from current projections.

COGME disagrees with the IOM Committee's recommendation that funding should be limited to current levels. Evidence of shortages in many specialties are already demonstrable in areas including family medicine, geriatrics, general internal medicine, general surgery, and pediatric subspecialties as outlined in COGME's 21st report.

GME Policy Council

COGME agrees that the national oversight of GME funding is insufficient and a new approach is needed. The IOM Committee recommends the creation of a new entity, the GME Policy Council, to provide strategic planning and oversight for GME financing.

COGME was established and authorized by Congress to assess physician workforce trends, training issues, and financing policies, and to recommend federal and private sector efforts to address national workforce needs similar to that envisioned by the new GME Policy Council suggested by the IOM. However, COGME has been hampered by underfunding, restrictions on membership, lack of authority, and lack of adequate staff and operational support.

COGME proposes changes in membership, and sufficient funding for its operation. This will enable COGME to provide the function and structure recommended by the IOM Committee without creating a new bureaucracy within the HHS. Further, COGME's composition could be modified to retain valuable expertise in medical education, workforce development, and veterans' health care while including additional proficiencies in health care finance, economics, research, and health professions education.

Funding Reforms

COGME fully supports investment in innovation, research, and workforce analysis. However, COGME questions the wisdom of diverting significant amounts of present educational funds to support these activities. The IOM Committee suggests funding the new policy council and related administrative infrastructure with existing GME funds. This would diminish and further constrain the financial resources available to GME.

The proposed set-aside for the "Transformation Fund" to replace a significant portion of the present Medicare funding would not only redistribute education and training funding, but also disproportionately disadvantage smaller programs and community-based programs that lack the grant-writing abilities of larger institutions. It could reduce much needed GME program support and require that they use their limited operational capabilities to compete with larger, potentially more resource-laden, institutions to secure and sustain GME support. As medical care has steadily moved away from hospitals to bases in the community, and planning is underway to transform medical training to take place in these venues to improve the appropriateness of training for current health care systems, these types of programs will require special attention and support.

The IOM Committee draws on past analyses finding that much of IME is not devoted to training and could be cut without harming the programs. However, COGME believes that IME funding helps support programs and activities that serve an important public health need. These funds may be inextricable from the maintenance of training programs. An across the board reduction in these amounts would significantly disadvantage patients and communities as well GME trainees by reducing access to much-needed medical specialty care, particularly in disadvantaged and underserved communities. COGME supports transparency in the granting and application of these funds.

Conclusion

In this twenty-second report, COGME has addressed the pressing need for GME to be more aligned with the rapid transformation of national health care delivery and payment systems. Future physicians will need training and skills in domains of competencies demanded in their practice in rapidly changing systems of care. As health care delivery shifts increasingly to outpatient venues, future physician training environments should undergo corresponding and parallel transference. There is an increasing need for coordination of GME and oversight of public funding for GME. A reconstituted COGME, adequately funded and programmatically supported could fulfill these expanded responsibilities and comply with the public's need for transparency in process and funding. Timely and vigorous support from all GME stakeholders, regulatory bodies, and the Secretary of HHS is essential to accomplish this vital goal of training a highly competent and adequate national health care workforce.

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