A Proposal for Reform of the Structure and Financing of Primary Care Graduate Medical Education

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BACKGROUND AND OBJECTIVES: Accessible, high-quality, cost-effective health care systems are anchored in primary care, yet decreasing production from graduate medical education (GME) jeopardizes the primary care workforce and the nation's health. The GME Initiative recommends Congress (1) invigorates primary care physician (PCP) supply through GME benchmarking and enforcement by creating a workforce that is at least 40% PCPs, holding teaching hospitals accountable, and increasing the primary care residency position cap, (2) establishes a GME system supported by all insurers—public and private—and implements a fixed floor funding of direct GME (DME) at $100,000 per resident per year for residencies that produce graduates who truly go on to practice primary care, (3) reallocates some indirect GME (IME) to support primary care residency education, including enhanced PCP education outside hospitals, including teaching health centers, (4) restores funding for the 1997 full-time equivalent (FTE) PCP residency slots cut for training outside the teaching hospital, (5) allows states expanding Medicaid through the Patient Protection and Affordable Care Act (ACA) to increase PCP education capacity through Medicaid DME and/or IME at the enhanced Federal Medical Assistance Percentage (FMAP).

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Creating the Primary Care Workforce of the Future

An accessible, cost-effective, high-quality health care system is based on a balanced physician workforce with universal and equitable access to primary care.[1] In areas with a strong primary care foundation, health costs decrease, quality improves, and patients are more satisfied and engaged.[2] Yet, production of primary care physicians (PCPs) from graduate medical education (GME) residency programs is insufficient to meet current and future demand.[3]

The GME Initiative is a voluntary, grassroots collaboration of health care consumers and leaders in family medicine residency training, making recommendations to reform PCP training and financing to meet the nation's future health care needs.

Methods

The GME Initiative germinated from the strategic planning of the Colorado Commission on Family Medicine ("Commission" or "COFM"), a legislatively appointed commission, that included representatives from Colorado's family medicine residency programs, School of Medicine, and citizens from legislative districts, which took place in the summer of 2010. The GME Initiative was chaired by a federal magistrate judge and collaborated with regional experts in primary care workforce and GME financing from 10 states and the District of Columbia, the American Academy of Family Physicians (AAFP), and the Robert Graham Center (see Table 1). Members met by email and conference calls between February and July 2011 to review the literature, identify the problems with our current GME system, and begin to consider potential solutions. A face-to-face meeting held in Denver on July 8, 2011 encouraged participants to be creative, innovative, and bold. It was supported by the COPIC Medical Foundation, a nonprofit entity funding initiatives to improve health care outcomes and quality. Presentations, discussions, and experts allowed all attendees to share their ideas and make recommendations. This led to a consensus of expert opinion and final recommendations that were shared

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Table 1: GME Initiative Participants and Endorsers

Participants in the GME Initiative
GME Initiative participants included members and staff of COFM (Hon. Kristen L. Mix, Antonette DeLauro, Matt Guy, Carol Walker, Antonio Prado-Gutierrez, Sue Hall, Kathy Anderson, Terri Means), family medicine residency directors and faculty members (Brian Bacak, MD; Austin Bailey, MD; Dan Burke, MD; Dave Carlyle, MD; Daniel Derksen, MD; Ted Epperly, MD; Michael Gorman, DO; Kenneth Heiles, DO; Larry Severidt, MD; Kent Voorhees, MD; Brad Winslow, MD), family medicine residents (Amy McIntyre, MD; Brienna Seefeldt, DO), national family medicine experts (Andrew Bazemore, MD; Robert Phillips, MD; Perry Pugno, MD; Hope Wittenberg), and invited congressional staffers (Jake Swanton and other legislative aides).
Endorsers of the GME Initiative
Brian Bacak, MD: Director at Rose Family Medicine Residency, Denver, CO
Dan Burke, MD: Associate vice chair for Educational Program Development at the Department of Family Medicine, University of Colorado School of Medicine
Dave Carlyle, MD: Representative of the Iowa Academy of Family Physicians
Antonette DeLauro: Executive vice president for Communications at the Galloway Group and immediate past chair and current member of the Commission on Family Medicine
Daniel Derksen, MD: Professor and section chair, Public Health Policy and Management Section, University of Arizona, Mel and Enid Zuckerman College of Public Health, former director of New Mexico Office of Health Care Reform and senior fellow at the University of New Mexico RWJ Center for Health Policy
Ted Epperly, MD: Program director and CEO Family Medicine Residency of Idaho, Boise, ID and past president and past chair, American Academy of Family Physicians
Roland Goertz, MD, MBA: CEO Heart of Texas Community Health Center, Inc, Waco, TX
Michael Gorman, DO: Representative and rural director with the Nevada Academy of Family Physicians
Kenneth Heiles, DO: Past president and current chair of the Education Committee, American College of Osteopathic Family Physicians
Honorable Kristen Mix: US Magistrate Judge, chair of GME Initiative and of Commission on Family Medicine
Antonio Prado-Gutierrez, MPH, MA: Executive director, Commission on Family Medicine and Colorado Association of Family Medicine
Larry Severidt, MD: Representative of the Iowa Academy of Family Physicians
Lynn Strange, MD: Director at Southern Colorado Family Medicine, Pueblo, CO
Sherman Straw, MD: Director at St. Mary's Family Medicine Residency, Grand Junction, CO
Kent Voorhees, MD: Vice Chair for Education at the Department of Family Medicine, University of Colorado School of Medicine
Brad Winslow, MD: Director at Swedish Family Medicine Residency, Littleton, CO

COFM—Colorado Commission on Family Medicine

on October 20, 2011 with several US Senators with whom GME Initiative members had relationships. (See Table 2 for key recommendations). As a result, a joint letter from seven US Senators was sent on December 21, 2011 to ask the Institute of Medicine (IOM) to review GME governance and financing, identify potential GME reforms, and recommend how GME funding should be used to assure an adequate health workforce to meet the nation's future health care needs.

The recommendations focus on primary care physicians and prioritize family medicine training. Family physicians are the principal source of primary care in this country and are crucial to the nation's safety net, for the uninsured and those covered by Medicaid, Medicare, and other insurers. Others contribute to primary care workforce capacity, including family nurse practitioners and physician assistants. This training is not subsidized by Medicare/Medicaid GME funding and outside the scope of these recommendations.

Graduate Medical Education Financing

The federal government funds GME through Medicare and Medicaid payments to teaching hospitals. Direct GME (DME) covers costs directly

Table 2: Summary of Key GME Initiative Recommendations

1. Invigorate primary care supply through GME benchmarking and enforcement:

a. Benchmark the goal of a physician workforce comprised of at least 40% primary care physicians, by aligning federal subsidies of GME with this outcome.

b. Hold teaching hospitals accountable for maintaining or expanding PCP resident slots, regardless of the level of federal funding they receive.

c. Increase the GME cap on primary care residency slots to meet the nation's future workforce needs.

2. Establish a GME financing system supported by all insurers ("all payers")—public and private—accessible to Medicare, Medicaid, and otherwise insured and uninsured patients.

a. Establish a fixed floor of funding of Direct GME (DME) at $100,000 per resident per year for residencies that produce graduates who truly go on to practice primary care. This floor should not be tied to the percentage of Medicare patients treated in the sponsoring institution.

b. Reallocate some Medicare IME funding to support primary care residency education, including teaching health centers, teaching hospitals, and community-based ambulatory patient care centers that operate primary care residency programs. The Medicare Payment Advisory Commission (MedPAC), an independent agency that advises Congress on Medicare, and the President's National Commission on Fiscal Responsibility and Reform recommend reducing excess payments to teaching hospitals for IME from 5.5% to 2.2%, generating a cost "savings" of $3 billion. However, IME funding should not be cut. Physician shortages are worsening, especially for primary care, geriatrics, general surgery, and psychiatry. Therefore, IME funding should be reinvested to expand residencies in high need. An all-payer GME financing could reduce the overreliance on Medicare and Medicaid GME financing.

c. Ensure funding to support Rural Training Tracks and resident training in urban underserved communities.

d. Ensure that states expanding Medicaid through the ACA, increase PCP education through Medicaid DME and/or IME, at the enhanced ACA FMAP.

e. Restore funding for the 1997 full-time equivalent (FTE) PCP residency slots cut for training outside the teaching hospital

PCP—primary care physicians
GME—graduate medical education
DME—direct GME
IME—indirect GME
ACA—Affordable Care Act
FMAP— Federal Medical Assistance Percentage

related to training residents (eg, resident compensation). Indirect GME (IME) intends to pay for "factors which may legitimately increase costs in teaching hospitals."[4,5] Total federal and state GME exceeds $13.3 billion yearly.[6,7] (See Table 3).

Table 3: GME Federal Support

	$ in Billions
Medicare IME	$6.3
Medicare DME	$3.2
Medicaid IME/DME	$3.8
TOTAL GME	$13.3

GME—graduate medical education
IME—indirect GME
DME—direct GME

For comparison, federal funding intended to support primary care, general dentistry, and nursing education, and through grants and incentives to practice in underserved and rural sites totaled $530 million over that period. For every dollar spent on these programs, $25 was paid by Medicare and Medicaid to support physician training in teaching hospitals.[8] Expansion of coverage through Medicaid, a key ACA provision upheld by the Supreme Court but optional for states to carry out, will be a potential new source of funding for physician education and could facilitate innovative training to promote primary care physician education in the areas they are most needed. Because states have more flexibility in Medicaid GME payment and priorities, new funding through the Medicaid expansion could be directed to support interprofessional, team- and community-based primary care training.

Given the $13 billion federal and state investment in GME, one might expect it to yield the physician workforce needed. Understanding how GME is financed helps explain why it has not produced the primary care

workforce needed to anchor a cost-effective health care system.

Academic health centers, including teaching hospitals, are responsible for most GME training. Fiscal incentives contribute to the growing imbalance between the number of specialists and generalist physicians trained. MedPAC has noted the alarming decline in the proportion of US medical students choosing careers in primary care.[9]

GME payment to states and residency programs vary widely from the high in New Hampshire of $146,299 to the low for New Mexico of $43,532, averaging $101,315 per resident.[10] (See Table 4). Funding variability challenges training program viability, particularly for programs currently with lower funding. This is especially true for family medicine residencies as cognitive (evaluation and management) services are undervalued and paid poorly by Medicare.[11] They care for a high percentage of uninsured, Medicare, and Medicaid patients and thus generate insufficient revenue to cover costs.[12] Creating a floor of $100,000 DME per primary care resident per year will help assure adequate primary care funding and training capacity throughout the country. This would help teaching hospitals retain primary care residencies that are currently operating at a loss.

The Public Good, Social Responsibility, and Government Funding

Medicare assumed responsibility for GME financing in 1965 to provide a trained physician workforce to meet the needs of the country, "until the community bears the cost in some other way."[13] The 1965 Coggeshall Report highlighted the social accountability of GME in return for this public funding. To date, such support has not developed an adequate primary care workforce, nor addressed the unfavorable geographic and specialty distribution and mix of physicians.[14]

Experts agree that reform is needed: IOM recommended adjusting the Medicare DME payment to establish primary care residencies in ambulatory settings; MedPAC recommended Congress change GME payment to support the workforce skills needed to reduce cost growth and maintain or improve quality of care;[15] the Josiah Macy Jr Foundation convened experts to assess the nation's physician workforce needs and make recommendations about an accountable GME system. This report states that GME is a public good and must be accountable to the needs of the public.[16]

Why GME Is Specialty Oriented in Teaching Hospitals at the Expense of Primary Care

Mullan and Wiley noted: "Training in US hospitals is heavily specialty oriented, reflecting the nature of hospital care. Staffed mostly by residents, hospitals require a wholly different array of residents than the nation needs to deliver health care to 310 million people, nearly all of whom are not in a hospital. Hospitals also receive much more lucrative payments for specialty services. Thus, it isn't hard to understand why hospitals have increasingly focused on training specialists at the expense of primary care."[17]

The numbers are startling. From 2002 to 2007, despite Medicare caps restricting new position funding, hospitals opened 7,754 new residency positions, 88.3% in specialty care. Meanwhile, 20 family medicine residency programs closed, and 645 fewer family medicine residents were trained each year. And, fifteen years ago, more than half of internal medicine residents planned careers in primary care; less than a quarter did in 2007.[17] Of fourth-year medical students surveyed, only 2% planned a career in general internal medicine.[18] As the primary care resident supply decreases, new demands will be generated by the ACA's coverage provisions for the nation's uninsured, through the expansion of Medicaid (by 11 million enrollees) and insurance in a federal or state exchange (25 million).[15,16,19]

The Council on Graduate Medical Education (COGME) assesses physician workforce trends, training issues, and financing policies and makes recommendations to Congress.[3] COGME's *Advancing Primary Care* report addresses the accelerating PCP shortage. Fewer PCPs emerge from residency training that "effectively reduced primary care production by one third over the last decade." This report also points out that many large hospitals have developed GME programs to support their complex care, which are often more highly remunerative programs. The GME programs of these large teaching hospitals are effective in recruiting physicians to the medical staff and building subspecialty care. Meeting the needs of academic health centers is not the same as meeting the needs of the public.[3]

A Framework for Reforming the GME Structure and Financing System

The GME Initiative's overall recommendations for GME payment, accreditation policies, and expanded Title VII program funding should support a workforce composed of at least 40% primary care physicians.[3] Progress should be measured by assessing physicians in practice 5 years after graduation from medical school rather than at the start of residency training.[20] The majority of residents entering internal medicine and pediatric residencies go on to sub-specialize or become hospitalists, and thus do not accurately reflect those that remain in primary care.

The GME Initiative Recommendations

(1) Amend federal regulations to support family medicine training in accredited outpatient settings, to pilot practice models, and to prepare residents appropriately for an evolving, contemporary health care environment. This includes the patient-centered medical home, Accountable Care Organizations, and other team-based care models.

Table 4: Total and Direct Medicare Graduate Medical Education Per Resident Amount Paid in 2007, by State

State	Total Paid PRA/Not Adjusted for Medicare Patient Beds	Per Resident Amount—DGME	State	Total Paid PRA/Not Adjusted for Medicare Patient Beds	Per Resident Amount—DGME
AL	$71,427	$24,456	MT	$108,859	$29,115
AK	$65,095	$19,121	NE	$95,365	$31,930
AZ	$85,442	$25,016	NV	$68,383	$21,298
AR	$66,840	$25,415	NH	$146,299	$33,735
CA	$67,150	$18,935	NJ	$122,350	$39,790
CO	$68,155	$21,136	NM	$43,532	$14,355
CT	$142,217	$39,750	NY	$128,707	$47,979
DE	$115,144	$35,871	NC	$110,928	$35,809
DC	$82,299	$28,947	ND	$100,870	$33,031
FL	$88,001	$30,224	OH	$102,812	$31,843
GA	$82,894	$25,990	OK	$64,570	$20,091
HI	$64,368	$22,383	OR	$89,629	$25,151
ID	$64,248	$21,523	PA	$128,927	$42,225
IL	$93,614	$32,183	PR	$42,726	$15,331
IN	$81,320	$26,292	RI	$123,533	$39,325
IA	$79,727	$26,359	SC	$89,099	$28,136
KS	$88,024	$34,860	SD	$97,035	$40,191
KY	$77,693	$21,827	TN	$90,111	$25,306
LA	$53,794	$21,695	TX	$56,540	$18,653
ME	$117,592	$38,952	UT	$72,168	$17,108
MD	$90,933	$25,254	VA	$92,316	$31,719
MA	$122,450	$38,227	WA	$88,765	$24,788
MI	$130,811	$43,581	WV	$100,453	$30,563
MN	$113,264	$30,128	WI	$101,730	$29,675
MS	$53,249	$14,604	WY	0	0
MO	$97,122	$38,172			

Source: Robert Graham Center Policy Studies in Family Medicine and Primary Care.[10]

(2) Increase primary care GME positions to accommodate the growing number of US medical and osteopathic school graduates and attain the goal of a physician workforce comprised of at least 40% primary care physicians.

(3) Expand training in ambulatory, community, and medically underserved sites by:

(a) Promoting educational collaboration between academic health centers, teaching hospitals, Federally Qualified Health Centers, Rural Health Clinics, and the National Health Service Corps (NHSC).

(b) Implementing new methods of funding to:

(i.) Reallocate existing GME funding to meet physician workforce needs.

(ii.) Fund primary care GME through Medicaid, and Medicare and insurers to assure the workforce the nation needs, not based on percentage of Medicare patients a hospital

cares for or other convoluted formulas that have no relation to the cost of running a program. Expand Title VII funding for community-based training.

(iii.) Require all health care insurers to contribute to primary care GME training. Public and private payers benefit from an adequate primary care workforce; both should contribute to the costs. Overreliance on Medicare and Medicaid to support the GME system is unsustainable.

(iv.) Remove the cap on GME slots for primary care positions. The number of US medical students has increased by 16.6% over the last 10 years and will expand by a total of 30% from 2002 to 2017.[21] Creating more primary residency slots will partially address primary care shortages. ACA provisions creating primary care incentives (addressing Medicare and Medicaid undervalued primary care services, expanding loan repayment for service in underserved areas and high needs specialties such as primary care) will encourage more to choose primary care.[22] Medical schools and teaching hospitals should be held accountable for more of their graduates going into primary care and staying there, with incentives such as preferential scoring on NIH grants. Medical schools pay attention to federal incentives that affect their research, education, and clinical care missions.

(4) Implement GME payment to support primary care training by:

(a) Providing GME funding directly to accredited primary care residency programs, educational consortia, or non-hospital community agencies.

(b) Increasing payments for primary care residents, including higher salaries and early loan repayments, to decrease the negative impact of educational debt and primary care specialty choice. For example, NHSC medical student scholarship recipients are four times more likely to choose primary care residencies. NHSC loan repayment increases choosing primary care and practicing in areas of need.[22]

(c) Establishing a floor of $100,000 DME per primary care resident per year, not reduced by the Medicare percentage of the sponsoring institution.

(d) As pointed out, the best estimate of a program's production of primary care physicians is best determined by assessing physician practices 5 years after graduation from medical school, rather than at the start of their residency.[3,20]

(i.) An example of how to allocate this enhanced GME payment to programs producing primary care physicians would be to include a portion of the enhanced payment as a yearly incentive based on a rolling average of the "true" production of primary care physicians measured at 5 years after graduation from medical school.

(ii) This enhanced payment, in addition to helping the primary care residencies' operations, would also serve as an additional incentive for programs to encourage primary care practices.

(e) Rewarding teaching hospitals, training programs, and community agencies on the basis of the number of PCPs produced, as determined by specialty in practice 5 years after graduation rather than at the initiation of residency training.

(f) Ensuring adequate GME funding for family medicine Rural Training Tracks to get more family physicians into rural America.

(g) Supporting training of diverse residents from multiple ethnic backgrounds.

(h) Creating accountability for GME payments by requiring performance measures and public reporting of the number of physicians:

(i.) practicing in primary care 5 years after graduation from medical school

(ii.) from underrepresented minorities;

(iii.) working in rural and urban underserved areas.

(5) An all-payer system to fund GME should:

(a) Be independent of Medicare, Medicaid, insurers, and GME training institutions.

(b) Create fiscal incentives to hold GME training institutions accountable for educating a balanced mix of primary and specialty care physicians to meet the nation's needs.

(c) Periodically review the GME system to realign training with workforce needs for primary and specialty care, including rural and urban underserved communities and populations and assure an ethnically and culturally diverse workforce.

(6) Formulate and implement a messaging strategy and multi-level programs to explain the goals and anticipated outcomes of GME reform.

Rationale

GME is central to developing the physician workforce and meeting existing and future needs. The current primary care physician shortage will be exacerbated by increased demand, including the ACA provisions expanding coverage to 35 million uninsured, the aging population, the aging of the PCP workforce, and a growing disparity in reimbursement for primary care services versus procedurally oriented specialty care. The percentage of primary care physicians among all physicians is currently at 32% and declining.[3] Estimates from 2010 resident matching data showed that only 16%–18% of medical students were likely to practice primary care.[3]

Conclusions

A Call for Reform

Reform of the GME system must be tailored to address spiraling health care costs, while increasing access to quality care and improving health outcomes. Yet the GME system yields reluctantly to change. As far back as 1989, the IOM called for federal and local governments, hospitals, and private foundations

to expeditiously implement a set of recommendations for incremental change. This included using GME funding to create incentives to establish residencies in primary care and place these residencies in ambulatory settings.[23]

The GME Initiative shared its findings and recommendations with several US Senators, who in turn requested that the IOM conduct a study and make recommendations about ways to reform GME. The IOM has agreed to carry this out.

Moving Beyond the IOM Report

Health care systems built on a foundation of primary care deliver more effective, efficient, and equitable care. The supply of primary care physicians lags behind the demands of a growing and aging population and will worsen dramatically over the next decade if nothing is done now. The future primary care workforce must help assure timely access, improve quality, engage patients, enhance satisfaction, and control cost growth. The opportunity to boldly redesign the flawed GME financing and education system is at hand. This redesign should be strategically aligned with and rationally implemented to produce the workforce our country so desperately needs.

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