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Federal Support for Graduate Medical Education: An Overview

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Summary

Access to health care is, in part, determined by the availability of physicians, a function of the physician supply. Policymakers have demonstrated a long-standing interest in access to care, both in general and for specific populations. Moreover, federal support for medical residency training (a.k.a., graduate medical education [GME]) is the largest source of federal support for the health care workforce. Although the health workforce includes a number of professions, the size of the federal investment in GME—estimated at $15 billion in FY2012—makes it a policy lever often considered to alter the health care workforce and impact health care access.

This report describes federal programs that provide GME support. Although these programs may also support training for other health professions, this report focuses on training for physicians. The report examines GME support in Medicare, Medicaid, the Department of Veterans Affairs, the Department of Defense, and programs administered by the Health Resources and Services Administration, such as the Children's Hospital and Teaching Health Center GME payment programs. The report details the mechanisms that various federal programs use to support GME and provides data, when available, on funding and the number of trainees. Although some federal advisory groups have raised concerns about the transparency of federal GME investments, this report does not address such concerns; instead, it discusses some of the data gaps relevant to each of the federal GME programs.

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Access to health care is, in part, determined by the supply of physicians available to provide treatment. Physician supply is a function of the number of physicians trained, how long they remain in practice, their productivity, and the hours they work.[1] Policymakers have demonstrated a long-standing interest in access to care (in general and for specific populations). The federal government has identified certain health workforce concerns including those that relate to the physician workforce. In a recent report, the Government Accountability Office (GAO) estimated that the Department of Health and Human Services (HHS) administers 72 health workforce programs.[2] Among these programs are those that seek to increase access to physician services. For example, federal programs exist to encourage people to enter primary care to address identified concerns that there are too few primary care physicians relative to the number of physician specialists.[3] Federal programs also exist to recruit and retain physicians in rural areas because of concerns that the populations that reside in these areas lack access to care. Specifically, the federal government designates some areas as medically underserved or as health professional shortage areas and provides benefits (e.g., higher Medicare payment rates) to providers who practice in these areas.[4] In addition to these programs and policies, the federal government provides support for medical residency training (a.k.a., graduate medical education [GME]). Specifically, through payments that are generally made to hospitals, the federal government pays some of the costs that hospitals and other health providers incur when training residents. Such costs include, but are not limited to residents' and supervisors' salaries, and the costs of extra medical tests that residents may order as part of their training. The federal government makes a significant investment in GME—according to GAO, GME programs account for nearly three-quarters of HHS's health workforce expenditures[5]—and GME may be a strong policy lever to impact access because the number of medical school graduates who obtain and complete a residency determines the size of the physician workforce, and the types of residencies they complete determine its specialty composition. Finally, where physicians complete their residencies often determines where they establish their practices.[6] Given the influence of residency training on the physician population, policies that alter federal funding for GME may affect future physician supply and could be used to address identified workforce concerns.

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[1] CRS Report R42029, *Physician Supply and the Affordable Care Act*.

[2] U.S. Government Accountability Office, *Health Care Workforce: Comprehensive Planning by HHS Needed to Meet National Needs*, 16-17, December 11, 2015, http://www.gao.gov/products/GAO-16-17; hereinafter, *GAO Health Workforce Planning Report*.

[3] Department of Health and Human Services, Office of the Assistant Secretary for Planning and Evaluation, *Building the Nation's Health Care Workforce*, Washington, DC, July 2, 2015 and CRS Report R42029, *Physician Supply and the Affordable Care Act*.

[4] Ibid. See also, U.S. Department of Health and Human Services, Health Resources and Services Administration, "Shortage Designation: Health Professional Shortage Area & Medically Underserved Areas/Populations," http://www.hrsa.gov/shortage/index.html; and U .S. Department of Health and Human Services, Centers for Medicare & Medicaid Services, "Physician Bonuses," https://www.cms.gov/Medicare/Medicare-Fee-for-Service-Payment/HPSAPSAPhysicianBonuses/index.html?redirect=/hpsapsaphysicianbonuses/.

[5] GAO Health Workforce Planning Report. GAO used data from FY2014 for these calculations and GAO's GME data include GME obligations incurred to train certain non-physician providers (e.g., nurses and allied health professionals); however, expenses incurred to train non-physician providers comprise approximately 2% of the agency's overall GME obligations.

[6] For example, one study found that more than half of physicians who complete their residency in family medicine (a type of primary care) practice within 100 miles of where they trained. See E. Blake Fagan et al., "Migration After Family Medicine Residency: 56% of Graduates Practices Within 100 Miles of Training," *American Family Physician*, vol. 88, no. 10 (November 15, 2013), p. 704.

Some federal programs use GME to support training for non-physician health providers; however, this report focuses only on the training of physicians.[7] To be licensed to practice independently in a state, physicians in the United States must complete a minimum of three years of GME.[8] In 2014-2015, approximately 118,000 individual residents were in training,[9] including approximately 21,000 fellows[10]—medical school graduates who have completed their initial residency training and are continuing their training in a fellowship in a subspecialty.[11] (See text box for definitions.) GME generally takes place in hospitals that sponsor residency programs in specific specialties (e.g., pediatrics or surgery). Hospitals choose the number and specialties of the residents they train, but must meet accrediting body standards that attempt to assure that hospitals have the facilities, staffing, and patient load necessary to assure that residents will receive adequate training in their chosen specialty (see text box). During their residency, residents will rotate to outpatient facilities or other hospitals to gain experience treating different populations in different settings. Specific residency training requirements vary by specialty and are determined by the accrediting bodies.[12]

Federal Role in GME

The federal government makes significant investments in GME funding through various programs.[13] In FY2012, the last year of data available for all federal sources of GME payments, the federal government spent an estimated $15 billion on GME, which was the largest federal investment in the health care workforce.[14] Specifically, in an analysis of FY2012 federal support for the health care workforce, GAO found 78% of government-wide health workforce funding was for GME; with Medicare payments accounting for 85% of this funding.[15] Similarly, a more recent GAO analysis of HHS programs in FY2014, found that HHS supported 72 health workforce programs, but that nearly three-quarters of all spending was from Medicare GME payments.[16] The federal government supports GME through payments made by the Medicare and Medicaid programs, both administered by the Centers for Medicare & Medicaid Services (CMS) located in HHS; by training medical residents at Department of Veterans Affairs (VA) and

[7] For example, Medicare's GME payments can be used to support hospital-based training of dentists and podiatrists.

[8] U.S. Government Accountability Office, Graduate Medical Education: Trends in Training and Student Debt, 09-438R, May 4, 2009; hereinafter, *GAO GME Report*.

[9] Sarah E. Brotherton and Sylvia I. Etzel, "Graduate Medical Education, 2014-2015," *Journal of the American Medical Association*, vol. 314, no. 22 (December 8, 2015), pp. 2436-2454.

[10] Ibid.

[11] *GAO GME Report*.

[12] The Accreditation Council for Graduate Medical Education (ACGME) accredits the majority of residency programs; the remaining programs are accredited by the American Osteopathic Association (AOA). The two organizations are transitioning to a single accreditation system. See "Single Accreditation System for AOA-Approved Programs," at http://www.acgme.org/acgmeweb/.

[13] Federal funds are not the only source available for GME. For example, state and local governments could pay for GME and hospitals could use their revenue for GME. Data are not available on the full amount expended for GME (i.e., no data exist that aggregate the cost paid for GME by the federal government and other payers).

[14] Committee on the Governance and Financing of Graduate Medical Education; Board on Health Care Services; Institute of Medicine, *Graduate Medical Education That Meets the Nation's Health Needs,* ed. Jill Eden, Donald Berwick, and Gail Wilensky (Washington, DC: National Academies Press, 2014); hereinafter, *2014 IOM GME Report* and U.S. Government Accountability Office, *Health Care Workforce: Federally Funded Training Programs in Fiscal Year 2012*, 13-709R, August 15, 2013; hereinafter, *GAO Health Care Workforce Report.* The IOM's estimates are for physician residency and fellowship training. This report uses data from multiple years because more recent data are available for some, but not all, GME programs.

[15] GAO Health Care Workforce Report, pp. 5. The remaining amounts were from Medicaid 24%,

[16] GAO Health Workforce Planning Report.

Department of Defense (DOD) facilities; and by funding programs administered by HHS's Health Resources and Services Administration (HRSA) that support primary care training in certain outpatient facilities, and training in children's hospitals.

Selected GME Definitions

Medical Resident: An individual who has completed medical school and is in training to become a licensed physician. Residents generally train in a specialty for three to five years (although some specialties require a preliminary year of general medical training before specialty training commences). Obtaining a medical residency is competitive; medical students in their final year apply to residency programs in a particular location and specialty. Medical residents are paid a salary during residency, but this salary is generally a fraction of what they will earn after completing their residency.

Fellow: An individual who has completed a medical residency and elects to receive additional training typically for two or three years (called a fellowship) in a subspecialty. For example, a medical school graduate who completes an internal medicine residency and continues training in a fellowship program in cardiology.

Initial Residency Period (IRP): The minimum number of years required for a resident to become board-eligible in the specialty in which the resident first begins training. The IRP for a specialty is based on the minimum accredited length of a residency program, as determined by the Accreditation Council for Graduate Medical Education (ACGME) and the American Osteopathic Association (AOA).

Board-Eligible: a physician who has completed the requirements for admission to a medical specialty board, but has not passed the required board examination. For example, a resident must complete three-years of training in an internal medicine residency program to be eligible for certification by the American Board of Internal Medicine.

Teaching Hospital: A hospital that offers one or more accredited residency (or fellowship) programs; and is therefore, eligible to receive GME payments from federal programs. Teaching hospitals are often affiliated with a medical school.

Accredited Program: A residency or fellowship program that meets certain standards set by the accrediting body (ACGME or the AOA). Programs must be accredited to receive federal support.

Academic Year (AY): The year beginning July 1when residents either begin their training or move up to the next year within their training. For example, AY2015 began on July 1, 2015.

Primary Care Physician or Residents: Generally refers to physicians who are in training, or who have completed training in, family medicine, internal medicine, and pediatrics. Other definitions may also include geriatrics and obstetrics and gynecology.

Specialists: Physicians who are in training, or who have completed training in, a medical specialty that is not considered primary care.

Source: Association of American Medical Colleges, "The Road to Becoming a Doctor," https://www.aamc.org/download/68806/data/road-doctor.pdf; Association of American Medical Colleges, "Medicare Payments for Graduate Medical Education: What Every Medical Student, Resident, and Advisor Needs to Know," https://members.aamc.org/eweb/upload/Medicare%20Payments%20for%20Graduate%20Medical%20Education%202013.pdf; and Medicare Payment Advisory Commission's June 2009 Report to Congress: Improving Incentives in the Medicare Program, Chapter 1, at http://www.medpac.gov/documents/reports/Jun09_Ch01.pdf?sfvrsn=0; and "What is Primary Care" in CRS Report R42029, *Physician Supply and the Affordable Care Act*.

The federal government's primary role in GME has been as a payer. In this role, it has a significant influence on the physician workforce, but this role has generally been passive, because, with some exceptions, the federal government has little involvement through its support of GME in the content of training,[17] the specialties it pays for, or training locations. In addition,

[17] Generally, the federal government leaves the content of training to the accrediting bodies. However, federal advisory groups have made recommendations on topics to add to training, and the federal government awards grants for certain types of training experiences. As examples, the Council on Graduate Medical Education has recommended that medical residents learn how to work in a medical home model (see, for example, Council on Graduate Medical Education, *The Role of Graduate Medical Education in the New Health Care Paradigm*, Twenty Second Report, Rockville, MD, November 2014, http://www.hrsa.gov/advisorycommittees/bhpradvisory/cogme/Reports/22report.pdf), and the Health Resources and Services Administration (HRSA) awards grants for training in geriatrics (see http://bhpr.hrsa.gov/grants/

the government's role in GME has generally not been linked to other federal health workforce investments, such as investments made to train non-physician providers whose work could complement or replace that of physicians and who could be trained at a lower cost.[18] These critiques have been raised particularly with regard to Medicare's GME support because it is the largest source of federal GME support, at an estimated $11.3 billion in FY2013.[19] Medicare is also frequently discussed because, unlike other sources of GME support, it explicitly limits the number of residents it supports.[20] Some argue that this limit makes altering the number of residents in training difficult; however, evidence to support this is mixed because the Medicare limit on GME support is not an absolute because other sources can be used to expand or alter the number and types of residents in training and new hospitals can begin training residents and receive Medicare payment for doing so.[21] Some argue that this limit should be partially or fully removed[22] and Members of Congress have introduced legislation that would do so.[23] Others argue that expanding Medicare support, unless done in a way that is directive; for example, by explicitly allocating positions to hospitals in specific geographic areas or requiring hospitals to fund certain residency positions, would not address identified workforce issues such as too few physicians in certain areas or practicing primary care.[24]

GME Policy and Health Workforce Data

The federal government supports workforce data collection and projections of future needs; in addition, researchers and advocates also collect and disseminate such data.[25] Such data are necessary inputs for GME policy, but are not sufficient. Determining the appropriate GME policy is inherently challenging because training a new physician is a long process; as such, attempting to change the physician workforce through changes to GME requires a long time horizon and good initial data to project the future need for physicians. This projection is particularly challenging because policy changes may occur in the interim that alter the assumptions used in

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geriatricsalliedhealth/index.html).

[18] Medicare Payment Advisory Commission's June 2009 Report to Congress: Improving Incentives in the Medicare Program, Chapter 1, at http://www.medpac.gov/chapters/Jun09_Ch01.pdf; hereafter *2009 MedPAC Report*. The Government Accountability Office also noted that Medicare's support of GME was not linked to other workforce programs and did not have the oversight and infrastructure to track the outcome of its GME investments; see U.S. Government Accountability Office, *Health Care Workforce: Comprehensive Planning by HHS Needed to Meet National Needs*, 16-17, December 11, 2015, http://www.gao.gov/products/GAO-16-17.

[19] CRS analysis of 2012 and 2013 Medicare hospital cost reports as reported to the Healthcare Cost Report Information System.

[20] For more information on Medicare GME limits, see "Medicare DGME Payments" section of this report.

[21] Edward Salsberg et al., "U.S. Residency Training Before and After the 1997 Balanced Budget Act," *Journal of the American Medical Association*, vol. 300, no. 10 (September 10, 2008), pp. 1174-1180.

[22] See discussion in U.S. Government Accountability Office, *Health Care Workforce: Comprehensive Planning by HHS Needed to Meet National Needs*, 16-17, December 11, 2015, http://www.gao.gov/products/GAO-16-17.

[23] For example, in the 114th Congress, legislation has been introduced that would expand GME support, see, for example, H.R. 1117, H.R. 2124, and S. 1148.

[24] See, for example, discussion in Edward S. Salsberg, "Is the Physician Shortage Real? Implications for the Recommendations of the Institute of Medicine Committee on the Governance and Financing of Graduate Medical Education," *Academic Medicine*, vol. 90, no. 9 (September 2015), pp. 1-5.

[25] See, for example, National Center for Health Workforce Analysis, HRSA, *Distribution of U.S. Health Care Providers Residing in Rural and Urban Areas*, Rockville, MD, October 2014, http://bhpr.hrsa.gov/healthworkforce/supplydemand/nchwafactsheet.pdf. In addition, private organizations such as the American Medical Association collect data on the number of physicians. For a discussion of the American Medical Association's Masterfile, see "Measuring the Physician Population" section in CRS Report R42029, *Physician Supply and the Affordable Care Act*.

the projections. For example, in 2008, the National Center for Health Workforce Analysis, at HRSA, had projected physician shortages.[26] However, these projections were made prior to the passage of the Patient Protection and Affordable Care Act (ACA, P.L. 111-148, as amended), which could have a number of different effects on the need for physicians because the ACA expanded insurance coverage and encouraged alternative delivery models. Expanding coverage may increase the need for physicians and create or exacerbate shortages, while under alternative delivery models non-physician providers could begin to provide services that physicians have traditionally provided, which could lessen or avert shortages. The uncertain potential effects of the ACA are reflected in more recent HRSA projections. Specifically, HRSA projects that there will be a primary care physician shortage in 2020, but that the magnitude could vary greatly depending on assumptions about the role of non-physician providers.[27] Others disagree that shortages will occur, instead arguing that new care models could meet future demand, [28] while others believe that shortages will be greater than what HRSA predicts.[29] These debates and general questions about how care coordination could influence the future need for physicians demonstrate the importance of projections and that such projections should be updated regularly to incorporate policy changes such as those that encourage the use of alternative delivery models.[30] The general uncertainty about the future of need for physicians makes it challenging to develop and implement GME policy. However, it is relatively clear that good data are needed both to examine the overall health workforce and to determine how GME investments can be better aligned to achieve overall health workforce goals.

This report provides an overview of federal GME support; it discusses whether a particular source of federal GME support is actively used to further workforce goals such as altering the geographic or specialty distribution of residents trained. A number of GME critiques have raised concerns about the data that the federal government collects on these programs; for example, whether the data available are sufficient to determine program effectiveness.[31] This report details

[26] U.S Department of Health and Human Services, Health Resources and Services Administration, Bureau of Health Professions, The Physician Workforce: Projections and Research into Current Issues Affecting Supply and Demand, December 2008, http://bhpr.hrsa.gov/healthworkforce/reports/physwfissues.pdf; hereafter HRSA Physician Workforce Report.

[27] U.S Department of Health and Human Services, Health Resources and Services Administration, Bureau of Health Workforce, Health Workforce Analysis "Projecting the Supply and Demand for Primary Care Practitioners Through 2020: In Brief," November 2013, http://bhpr.hrsa.gov/healthworkforce/supplydemand/usworkforce/primarycare/index.html. Specifically, the model predicting the most extreme shortages finds that there will be a shortage of 20,400 primary care physicians in 2020, while models with full use of nurse practitioners and physician assistants finds that the shortage would be 6,400.

[28] David I. Auerbach et al., *New Approaches for Delivering Primary Care Could Reduce Predicted Physician Shortages, Research Highlight,*, Rand Corporation, Research Briefs RB9752, 2013, http://www.rand.org/pubs/research_briefs/RB9752.html.

[29] In contrast, the American Association of Medical Colleges (AAMC) argues that there will be physician shortages because of the ACA and the aging of the population; see AAMC, *Physician Supply and Demand Through 2025: Key Findings*, Washington, DC, April 2015, https://www.aamc.org/download/428660/data/workforceprojectionsonepagerogr.pdf. The AAMC is a private, non-profit organization that represents U.S. accredited medical schools and some teaching hospitals. AAMC, through its Center for Workforce Studies, makes physician population projections and publishes studies that evaluate the physician workforce. See www.aamc.org.

[30] This uncertainty was one of the major reasons that the IOM did not recommend increasing the amount of GME funding; see *2014 IOM GME Report.* Others have also argued that because not all states have implemented the ACA's Medicaid expansion, more local projections may be required because the need for physicians (and other health services) varies by area. See Rob Cunningham, *Challenges of Forecasting Physician Workforce Needs Amid Delivery System Transformation*, National Health Policy Forum, Issue Brief No. 851, Washington, DC, September 29, 2015.

[31] See, for example, U.S. Government Accountability Office, *Health Care Workforce: Comprehensive Planning by HHS Needed to Meet National Needs*, 16-17, December 11, 2015, http://www.gao.gov/products/GAO-16-17.

programmatic data gaps where they have been identified. It does not summarize recent GME critiques in detail; for readers interested in such critiques **Appendix A** provides some sources for further reading.

Federal GME Support

The federal government supports the health workforce generally, and the physician workforce specifically, through a number of programs, including those that provide loan repayment or scholarships to physicians.[32] More than three-quarters of federal workforce support is through GME.[33] The programs below are organized by relative size, as determined by the amount that the program spends annually. These programs are also briefly summarized in the **Appendix B**.

Medicare

Medicare is by far the largest source of GME support.[34] Medicare began supporting GME when the program was enacted in 1965. Congress stated that educational activities enhance the quality of care at a medical institution and therefore education costs should be borne by Medicare to an appropriate extent.[35]

Therefore, Medicare provides funding for GME, paying "its share" of costs. Medicare provides GME payments based on a number of factors, including a teaching hospital's full-time equivalent (FTE) residents. However, Medicare GME funding is not tied to a specific resident. Instead, multiple residents may occupy one FTE because not all time is counted for Medicare purposes (e.g., time spent at facilities operated by the VA would not be paid by Medicare). In FY2013, Medicare provided $11.3 billion in GME payments, or approximately $137,000 per FTE resident.[36] Medicare GME payments are provided under two distinct payment methods: direct graduate medical education payments (DGME) and indirect medical education payments (IME). Under these two payment methods, the number of FTE residents that a hospital may be reimbursed for is limited, or "capped."

Critics of Medicare's GME payment methodology have noted that CMS publishes limited data on the cost of operating residency programs in specific specialties. Although aggregate cost data are generally unavailable, CMS does gather information on intern and resident specialties.[37] CMS,

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[32] For examples, see CRS Report R43571, *Federal Student Loan Forgiveness and Loan Repayment Programs*, and CRS Report R43920, *National Health Service Corps: Background and Trends in Funding and Recruitment*.

[33] GAO Health Workforce Planning Report. This estimate includes support for other health professions beyond physicians; however, support for physicians is the largest component of GME.

[34] The Medicare program is a federal program that pays for covered health care services for qualified beneficiaries. Medicare beneficiaries are individuals aged 65 and over, individuals receiving Social Security Disability Insurance benefits, and individuals with end-stage renal disease (i.e., permanent kidney failure). For more information on the Medicare Program, see CRS Report R40425, *Medicare Primer*.

[35] U.S. Congress, House Committee on Ways and Means, *Social Security Amendments of 1965*, 89th Cong., 1st sess., March 29, 1965, House Report No. 213 (Washington: GPO, 1965), p. 32.

[36] CRS analysis of 2012 and 2013 Medicare hospital cost reports as reported to the Healthcare Cost Report Information System. This figure does not include Medicare's medical education reimbursement adjustments for psychiatric hospitals and rehabilitation hospitals that operate teaching programs.

[37] CMS gathers resident and specialty data from teaching hospitals using the Intern and Resident Information System (IRIS). CMS is currently working to improve the functionality of this dataset (personal communication from CMS, October 30, 2015). *Intern* typically refers to the first year of residency; however, in recent years that term has been phased out.

however, has not traditionally considered its role to be one of directing the physician workforce.[38] As such, it does not use this information to evaluate its GME investment or to otherwise direct the composition of the physician workforce. Specifically, CMS does not direct hospitals to train certain types of residents, nor does it dictate the content of training programs.[39]

The Medicare GME Cap

Medicare's GME support was initially open-ended, where Medicare would pay for additional FTE residents that hospitals trained. In 1997, graduate medical education stakeholders released a consensus statement arguing that the United States was on the verge of a serious oversupply of physicians and recommending limiting federal funding of GME positions to more align with the number of graduates of accredited U.S. medical schools.[40] Congress enacted the Balanced Budget Act of 1997, (P.L. 105-33), which limits Medicare's reimbursement of GME—most hospitals would receive DGME and IME support only for the number of FTE residents it had in training in 1996; in other words, each hospital was given a limit in terms of the number of positions or slots that Medicare would fund.[41]

Slots may be occupied by residents or fellows. Slots do not directly correspond to a specific resident or fellow because residents or fellows may spend periods of a given year at different facilities, or doing research. During these times, residents are not counted by the sponsoring hospital. Residents may not be counted simultaneously for payment by two government programs.[42]

This "cap" on the number of FTE residents Medicare will support is calculated for each hospital; however, hospitals can continue to train additional residents beyond the FTE slots that Medicare supports. Medicare provides DGME and IME funding to new hospitals that previously did not have residency programs—either newly constructed hospitals or existing hospitals that develop training programs—and the GME cap is not calculated and implemented until the new teaching programs' fifth year.[43] Since the Medicare cap was enacted, hospitals have expanded the number of residents they are training by using non-Medicare sources of support (such as, hospital revenue

[38] MedPAC, in its 2009 report, noted that despite Medicare' role in GME payments it has never used these payments to affect changes in medical education or the workforce. See MedPAC 2009, pp. 19.

[39] Generally, the federal government leaves the content of training to the accrediting bodies. However, federal advisory groups have made recommendations on topics to add to training, and the federal government awards grants for certain types of training experiences. As examples, the Council on Graduate Medical Education has recommended that medical residents learn how to work in a medical home model (see, for example, Council on Graduate Medical Education, *The Role of Graduate Medical Education in the New Health Care Paradigm*, Twenty Second Report, Rockville, MD, November 2014, http://www.hrsa.gov/advisorycommittees/bhpradvisory/cogme/Reports/22report.pdf), and the Health Resources and Services Administration (HRSA) awards grants for training in geriatrics (see http://bhpr.hrsa.gov/grants/geriatricsalliedhealth/index.html).See also, GAO Health Workforce Planning Report.

[40] American Association of Medical Colleges, *Medical Education and Residency Issues*, Consensus Statement on Physician Workforce, March 3, 1997.

[41] Critical access hospitals (small rural hospitals with no more than 25 inpatient beds) are reimbursed for GME based on 101% of the reasonable costs incurred.

[42] Association of American Medical College, *Medicare Payments for Graduate Medical Education: What Every Medical Student, Resident, and Advisor Needs to Know*, January 2013.

[43] The Medicare cap for new residency training programs is based on the sum of the products of the highest number of FTE residents in any program year during the fifth year of the new program's existence and the number of years in which residents are expected to complete the program based on the minimum accredited length for each type of program. For more information on the cap for newly-created training programs, see 42 CFR 413.79(e).

or state and local funds).[44] In addition, Medicare GME slots have been redistributed since the cap was enacted; for example, the Affordable Care Act (ACA) included two redistribution programs—the first redistributed unused slots, and the second continually redistributes slots from closed hospitals.[45]

Medicare DGME Payments

In FY2013, Medicare provided $3.4 billion in DGME payments to teaching hospitals, supporting approximately 83,200 FTE residents.[46] Medicare DGME payments reimburse teaching hospitals for the Medicare portion of approved program costs directly incurred with residency programs, such as resident stipends, supervisory physician salaries, and administrative costs. However, Medicare does not reimburse the teaching hospital for the actual costs incurred by the residency program, but is instead the product of the *total approved DGME costs* and the hospital's *Medicare patient load* percentage (see **Figure 1**). [47] Under this methodology, Medicare reimburses for its share of the approved program costs associated with the residency program, whereas non-Medicare payers (e.g., a private insurer) would theoretically cover the remaining costs of the residency program based on their patient share at the teaching hospital.

In general, the approved total DGME cost is based on a teaching hospital's approved weighted FTE count, subject to a cap, and a prospectively determined per-resident amount. Residents in their initial residency period (IRP) are weighted as 1.0 for the FTE count, whereas residents past their IRP are weighted as 0.5 for the FTE count. The hospital's approved FTE count is a rolling average of the hospital's FTE count over the past three years. The per-resident amount is a dollar value based on the amount of costs of the hospital's residency program for each FTE resident in a base period (FY1984 for most hospitals) and is updated each year.[48] The product of these two figures represents Medicare's total approved DGME amount for a teaching hospital in a given year. The Medicare patient load is based on the teaching hospital's number of Medicare Part A inpatient days out of the total inpatient days plus 86% of Medicare Part C (Medicare Advantage)

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[44] Edward Salsberg et al., "U.S. Residency Training Before and After the 1997 Balanced Budget Act," *Journal of the American Medical Association*, vol. 300, no. 10 (September 10, 2008), pp. 1174-1180.

[45] CRS Report R41278, *Public Health, Workforce, Quality, and Related Provisions in ACA: Summary and Timeline*. The Medicare Prescription Drug, Improvement, and Modernization Act of 2003 also included a program to redistribute unused slots. Although these slots were intended to increase training in primary care, some analyses found that the redistribution did not have this effect. See Candice Chen et al., "The Redistribution of Graduate Medical Education Positions in 2005 Failed To Boost Primary Care or Rural Training," Health Affairs, vol. 32, no. 1 (January 2013), pp. 102-110.

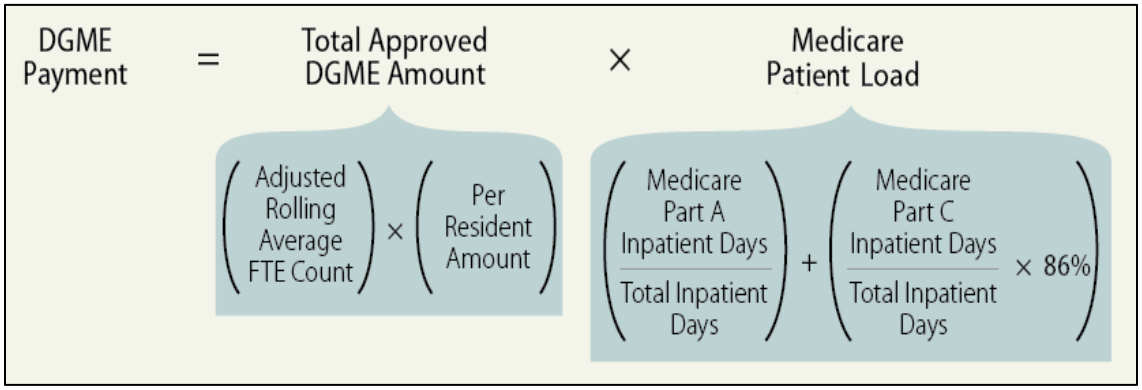
[46] See CRS analysis of 2012 and 2013 Medicare hospital cost reports as reported to the Healthcare Cost Report Information System.

[47] Some operators of GME programs contend that DGME costs are too low and do not reflect the direct costs that a hospital incurs when operating a residency program. For example, one hospital president estimated that DGME was nearly $40,000 too low per-resident per-year and that IME payments were used to (among other things) offset the DGME underpayment. See Marc L. Bloom, "Graduate Medical Education," Institute of Medicine, "Understanding the Costs and Financing of GME," Washington, DC, December 20, 2012, http://iom.nationalacademies.org/~/media/Files/Activity%20Files/Workforce/GMEGovFinance/2012-DEC-19/Boom.pdf. The AAMC also analyzed FY2009 Medicare hospital cost reports and noted that DGME payments reimbursed less than one-quarter of the total direct costs incurred by the teaching hospital. See U.S. Congress, Senate Committee on Health, Education, Labor, and Pensions, Subcommittee on Primary Health and Aging, *30 Million New Patients and 11 Months to Go: Who Will Provide Their Primary Care?*, Statement for the Record by the Association of American Medical Colleges, 113th Cong., 1st sess., January 29, 2013, p.2.

[48] Following the enactment of the Consolidated Omnibus Budget Reconciliation Act of 1985 (P.L. 99-272), Medicare DGME payments would not be open-ended but based on the hospital's DGME costs in a base period (FY1985 for most hospitals), updated for inflation each year.

inpatient days out of the total inpatient days. This reduction of 14% for inpatient days associated with beneficiaries enrolled in Medicare Part C reflects Medicare expenditures that are carved out to provide additional payments to eligible hospitals operating approved nursing or allied health education programs.[49]

Figure 1. Medicare DGME Payment Formula



Source: CRS analysis of Title XVIII of the Social Security Act (SSA) and relevant regulations.

Note: The adjusted rolling average FTE count is subject to the GME cap.

Medicare IME Payments

In FY2013, Medicare provided $7.9 billion in IME payments to teaching hospitals, supporting approximately 82,600 FTE residents.[50] Medicare IME payments support the indirect costs associated with residency programs, such as the higher patient care costs from additional testing that residents may order as part of their training.[51] Because Medicare's inpatient reimbursement method, the Inpatient Prospective Payment System (IPPS), does not typically provide separate reimbursement for additional testing, teaching hospitals may be disadvantaged by training residents under this reimbursement method. To adjust for this possibility, Medicare IME payments are provided as a percentage increase to Medicare's IPPS reimbursement (a sum reimbursement amount of separate operating and capital components) for each discharge based on a statutory payment formula.

Medicare's formula for IME payment adjustment to the operating component of the IPPS reimbursement is explicitly constructed in statute and is based primarily on an intern and resident-to-bed (IRB) ratio (see **Figure 2**).[52] The IME operating adjustment is the percentage increase to Medicare's IPPS operating per-discharge reimbursement.

[49] This reduction is required by section 541(b) of the Medicare, Medicaid, and SCHIP Balanced Budget Refinement Act of 1999 (P.L. 106-113).

[50] CRS analysis of 2012 and 2013 Medicare hospital cost reports as reported to the Healthcare Cost Report Information System. The number of residents that Medicare supports with DGME and IME payments differs because the two payment methods count time differently. These numbers are not unduplicated as hospitals receive both DGME and IME payments to support residents.

[51] In contrast to research that suggests DGME payments do not adequately cover direct costs, MedPAC, among others, contends that IME payments are too high and estimates that IME payments are nearly twice the amount that can be empirically justified For more information, see MedPAC, *Report to the Congress: Medicare Payment Policy*, March 2007, p.45, http://www.medpac.gov/documents/reports/Mar07_Ch02a.pdf?sfvrsn=0.

[52] See Section 1886(d)(5)(B) of the Social Security Act.

IPPS reimbursements also include a relatively smaller component that reflects the capital costs of the hospital. The Health Care Finance Administration (forerunner of CMS) constructed the IME capital adjustment formula and uses a residents-to-average daily census ratio (RADC) (not to exceed 1.5) to increase the teaching hospital's capital component under the IPPS (see **Figure 2**). Residents are counted in the same manner as in the IME operating adjustment formula. The addition of the IME percentage increases to Medicare IPPS operating and capital per-discharge reimbursement amounts reflects Medicare's IME payments.

Figure 2. Medicare IME Operating and Capital Adjustment Formulas

$\text{IME Operating Adjustment} = 1.35 \times ((1 + \text{IRB})^{0.405} - 1)$	$\text{IME Capital Adjustment} = (e^{0.2822 \times \text{RADC}} - 1)$

Source: CRS analysis of Title XVIII and relevant regulations.

Notes: IRB= an intern and resident-to-bed (IRB) ratio and RADC= residents-to-average daily census ratio. Both the IRB and RADC are subject to the GME cap. Other limits and restrictions to the formula may apply.

Medicaid

Medicaid provides the second-largest source of GME support.[53] Medicaid is a joint federal-state program. States must follow broad federal rules to receive federal matching funds, but they have flexibility to design their own versions of Medicaid within the federal statute's basic framework. The federal statute does *not* require states to make Medicaid GME payments, but states are allowed to make Medicaid GME payments, and most states have historically made these payments.[54]

Unlike for Medicare or other federal GME payment systems, there is no federal guidance for Medicaid GME. Therefore, states have significant flexibility in designing and administering their Medicaid GME payments.[55] As a result, states' Medicaid GME payments vary substantially. States make Medicaid GME payments through the fee-for-service (FFS) delivery system, managed care delivery system, or both systems.[56]

Data on Medicaid GME payments are limited. CMS began collecting information about Medicaid GME payments made through the FFS delivery system in FY2010 in the CMS-64 data.[57] According to these data, 28 states and the District of Columbia reported making Medicaid GME

[53] Medicaid is a means-tested entitlement program that finances the delivery of primary and acute medical services, as well as long-term services and supports. For more information about the Medicaid program, see CRS Report R43357, *Medicaid: An Overview*.

[54] Tim M. Henderson, *Medicaid Graduate Medical Education Payments: A 50-State Survey*, Association of American Medical Colleges, 2013; hereinafter, *AAMC Medicaid Survey*.

[55] While no federal guidance speaks to Medicaid GME payments, federal regulations specify upper payment limits (UPLs) for Medicaid payments to hospitals, which prohibit using federal matching funds for Medicaid fee-for-service payments in excess of what would have been paid under Medicare payment principles that include GME payments (42 C.F.R. 447.272). Also, states are allowed to make Medicaid GME payments for managed care enrollees if the state includes GME payments in their state plan (42 C.F.R. 438.6(c)(5)(v)) .

[56] Under the fee-for-service delivery system, health care providers are paid by the state Medicaid program for each service provided to a Medicaid enrollee. Under the managed care delivery system, Medicaid enrollees get most or all of their services through an organization under contract with the state.

[57] States submit the CMS-64 form to the Centers for Medicare & Medicaid Services on a quarterly basis, and the CMS-64 form is a statement of expenditures for which states are entitled to federal Medicaid matching funds. States are required to provide supporting documentation for total Medicaid expenditures.

payments through the FFS delivery system in FY2014, and those payments totaled $1.6 billion, with the federal government paying 59% of that amount.[58]

The CMS-64 data is the only publically available federal administrative data for Medicaid GME payments. Other information about Medicaid GME payments is available through a 50-state survey conducted every couple years by the Association of American Medical Colleges (AAMC),[59] which collects data on which states make Medicaid GME payments, through which delivery model, how states determine Medicaid GME payment amounts, and states' GME expenditures.

According to the most recent AAMC survey,[60] 42 states and the District of Columbia made Medicaid GME payments in state fiscal year (SFY) 2012.[61] Forty of these states made GME payments through FFS using various methodologies,[62] and 23 states provided GME support through managed care.[63] The managed care Medicaid GME payments were made explicitly and directly to teaching programs (14 states) or indirectly as an adjustment to the managed care capitation rates (9 states).[64] The AAMC report states that Medicaid GME payments totaled $3.9 billion in SFY2012, with about 60% of that paid through FFS and 40% through managed care.[65]

The SFY2012 FFS Medicaid GME payments reported by the survey ($2.3 billion) are significantly higher than the amount reported through the FY2012 CMS-64 data ($1.3 billion). In addition, the survey showed that 40 states made Medicaid GME payments through FFS, whereas the CMS-64 data showed 33 states made these payments. Even though one is reporting data for SFY2012 and the other is reporting for FY2012, the payment amounts and numbers of states making Medicaid GME payments are significantly different.

The information from these two sources is significantly different, and neither source is better than the other because both have limitations. The CMS-64 data includes only the Medicaid GME payments made through FFS, and the AAMC survey data is based on inconsistent responses from states (e.g., the SFY2012 payments figure is based on data for a different year in 18 states). Although these data sources have limitations, they are the best sources of information available for Medicaid GME payments.

In addition to these limitations, Medicaid data do not provide information about the total number of residents supported, the cost per resident supported, the hospitals they train at, the specialties

[58] Because states have been reporting this information for only four years, the Medicaid GME payments made through the FFS delivery system may be underestimated. This is at least partially because some states include Medicaid GME adjustments in the base inpatient rates, which makes it difficult to report Medicaid GME payments separately. Also, this figure does not include Medicaid GME payments made through the managed care delivery system. (Centers for Medicare & Medicaid Services, FY2014 CMS-64 data, as of March 30, 2015.)

[59] *AAMC Medicaid Survey*.

[60] This paragraph is drawn from AAMC Medicaid Survey.

[61] For most states, the state fiscal year begins on July 1 and ends on June 30 of the following calendar year, whereas a federal fiscal year begins on October 1 and ends on September 30 of the following calendar year.

[62] Specifically, 12 states used the Medicare methodology; 6 states used a per-resident method based on the teaching hospital's share of total Medicaid revenues, costs, or patient volume; 3 states used some type of a modified Medicare methodology; and 3 states used another methodology such as lump-sum payments.

[63] In 2012, 36 states used risk-based managed care in their Medicaid program. Under risk-based managed care, states contract with managed care organizations, which are private health insurers. See AAMC Medicaid Survey.

[64] States usually pay the managed care organizations (MCOs) on a capitated basis, which means the states prospectively pay the MCOs a fixed monthly rate per enrollee to provide or arrange for most health care services.

[65] Fifteen states reported amounts for SFY2011, and three other states use data from years prior to SFY2011. Also, two states reported estimates rather than actual Medicaid GME payments.

they train in, or track whether these residents treat Medicaid beneficiaries when they enter independent practice.

Department of Veterans Affairs (VA)

Training health care professionals—including physicians—is part of the VA's statutory mission. It does so to provide an adequate supply of health professionals overall and for the VA's health system.[66] In general, each year approximately 40,000 individual physician residents receive their clinical training by rotating through about 10,300 VA-funded physician FTE residency positions at VA medical facilities.[67] In FY2015, the VA spent approximately $1.52 billion for clinical training programs, including GME. The VA estimates it spent $0.67 billion in direct GME costs and $0.85 billion in indirect medical costs and an estimated $146,000 per FTE resident, which was higher than Medicare (and other programs) amount spent per resident. [68] Generally, the VA does not operate its own GME programs because accrediting bodies require that medical residents see a diverse population in terms of age, sex, and medical conditions throughout their training, which the VA's patient population generally does not provide. Instead, the VA partners with teaching hospitals, and residents from those hospitals' training programs rotate to a VA medical facility for a period of time.[69] About 99% of VA's GME programs are sponsored by academic affiliates.[70] When the VA partners with a teaching hospital that operates a residency program, it shares the costs of faculty and residents when the residents are training at the VA medical facility. During the time that residents are at a VA facility, they are not counted for the purposes of the Medicare GME cap (and are not paid using Medicare funds). This permits hospitals to train additional residents above their Medicare FTE cap to account for the time that residents are at VA facilities and therefore being paid by the VA.

Unlike Medicare and Medicaid, the VA does control the type of residents it trains and where these residents are located. Each VA medical facility may determine its staffing needs and the types of programs it partners with academic affiliates to operate.[71] As a result, the VA has data on the residents it trains and makes attempts to track whether its physician employees spent part of their residency training at the VA.[72]

The Veterans Access, Choice, and Accountability Act of 2014 (P.L. 113-46), a new law enacted to increase veterans' access to care outside of the VA health system, included a requirement for the VA to expand the number of residents it trains by up to 1,500 positions in primary care, mental health, and other high-priority areas for the VA over a period of five years.[73] To support residents training beginning in academic year (AY) 2015, the VA allocated 204.3 new VA positions; the

[66] 38 U.S.C. §7302.

[67] Office of Academic Affiliations briefing to the Commission on Care, October 6, 2015.

[68] Data provided by Department of Veterans Affairs, Veterans Health Administration, Office of Academic Affiliations.

[69] The VA may only reimburse an affiliate to cover the cost for the duration that a medical resident serves in a VA medical facility (Department of Veterans Affairs Veterans Health Administration *Disbursement Agreement Procedures for Physician and Dentist Residents* VHA HANDBOOK 1400.05 August 14, 2015).

[70] The VA is affiliated with 135 of 141 allopathic medical schools (MDs) and 35 of 40 osteopathic medical schools (DOs). Data is current for academic year 2014-2015 and may change from year to year. Residency positions do not actually match with VA medical facilities. They match at programs that include the VA medical facility as a participating site. See also,CRS Report R43587, *The Veterans Health Administration and Medical Education: A Fact Sheet*.

[71] Department of Veterans Affairs, Veterans Health Administration, *VHA Handbook*, 1400.01, December 19, 2012.

[72] Ibid.

[73] CRS Report R43704, *Veterans Access, Choice, and Accountability Act of 2014 (H.R. 3230; P.L. 113-146).*

largest number of positions were from primary care (73.8 positions) and mental health care (57.8 positions).[74] Positions were allocated to 66 facilities in 35 states (positions were also allocated to facilities in the District of Columbia and Puerto Rico). As of July 1, 2015, about 162.9 of the 204.3 allocated positions were filled.[75]

Department of Defense

The Department of Defense (DOD) trains residents who have a DOD service commitment, either because they attended Uniformed Services University of the Health Sciences (USUHS) or because the DOD paid for part or all of their medical school education. As authorized by law,[76] the DOD operates two complementary physician training programs: the Health Profession Scholarship Program and the Uniformed Services University of the Health Sciences.[77] Under the scholarship program, DOD pays tuition and fees, plus a monthly stipend for students enrolled in civilian medical schools. In return, the students incur an obligation to serve a year of active duty service for each year of benefits received, with a two-year minimum obligation. Upon graduation, most scholarship program participants (regular program participants) go on active duty and begin GME in military hospitals. Other scholarship program participants (deferred program participants) are granted deferments while they pursue civilian GME. USUHS students enter active military service as medical students, receive the pay and benefits of an officer at the O-1 level, and incur a seven-year service obligation upon graduation.

GAO estimated that DOD spent $16.5 million on GME in FY2012.[78] However, the branches of the Armed Services report that attempts to determine the actual cost of GME have been unsuccessful, and they agree that the data necessary "to do a valid calculation are not available."[79] GME funding is part of the larger training and education funding, amounting to approximately $750 million in total DOD health care education and training annually, appropriated through the annual DOD appropriation in the Defense Health Program budget account under Operations & Maintenance in the Education and Training budget activity group.[80]

In FY2015, DOD operated residency programs at DOD hospitals training an estimated 1,816 FTE residents in 109 specialties. DOD residencies are accredited by ACGME. They generally partner with teaching hospitals, where residents will rotate for training in areas or populations not seen at the DOD facility. Residents from the partner facilities may also rotate to DOD facilities. The DOD exercises control over the type of residents it trains and the facilities they train at. Specifically, each of the military services determines its workforce needs and then works with the DOD Comptroller to ensure adequate funding.

Within the Army, the Army GME Program Office in the Medical Education Directorate of the Office of The Surgeon General develops policy, manages the tri-service Medical Occupation Data System GME database, serves as the Army primary point of contact for GME, and coordinates

[74] The VA can support partial positions because residents undertake only part of their training at the VA. (Department of Veterans Affairs, Office of Congressional and Legislative Affairs, e-mail communication, July 1, 2015.)

[75] Office of Academic Affiliations briefing to the Commission on Care, October 6, 2015.

[76] The statutory authority for DOD GME is generally found within the provisions of chapter 101-112 of title 10, *United States Code*.

[77] See 10 U.S.C. §§ 2112 and 2121 respectively. Both provisions enacted by The Uniformed Services Health Professions Revitalization Act of 1972 (P.L. 92-426).

[78] *GAO Health Care Workforce Report, p. 30.*

[79] Personal communication from DOD official dated August 12, 2015.

[80] See PDF pages 129-130 at http://comptroller.defense.gov/Portals/45/Documents/defbudget/fy2016/budget_justification/pdfs/09_Defense_Health_Program/DHP_PB16_Vol_I-II.pdf.

the Army responsibilities for an annual selection board. The number, specialty, and location of specific training program slots are specified in an annual school year plan approved by The Surgeon General of the Army that serves as a blueprint for the Joint Services GME Selection Board (JSGMESB). This board is convened annually to select trainees for all programs.

Within the Air Force, the number and specialty type of training slots are determined through the Air Force Health Professions Education Requirements Board (HPERB). This process is used annually to model expected attrition, identify health care workforce needs, and plan and program for GME needs. The HPERB receives GME training requests from medical commands each March. Since Air Force medical billets are frequently integrated in sister service facilities, the Air Force commands collaborate with the other services in developing these requests.

Within the Navy, the Chief of the Navy Medical Corps determines the number and specialty of training slots during an annual Training Plan Meeting. Input from manpower and personnel planners, clinical specialty leaders, and the Chief of the Navy Medical Corps office are used in developing the annual Training Plan. Similar to the other services, the process culminates in selections made at the annual JSGMESB.

Because many DOD training programs are either integrated or collocated, the service GME chiefs collaborate throughout the year to ensure the integrity, efficiency, and quality of the military GME process. This involves aligning training slots to military treatment facilities that have the patient populations of beneficiaries large and diverse enough to sustain the training requirements.

Health Resources and Services Administration

The Health Resources and Services Administration (HRSA) supports GME primarily through two programs: teaching health center GME (THCGME) and the Children's Hospital GME program (CHGME). THCGME trains residents in primary care, while the CHGME program trains both general pediatricians and pediatric subspecialists. In addition to these specific programs, HRSA supports residency training through several smaller programs that do not focus explicitly on residency training but permit residency support as one of the allowable uses of funds.[81] Through these programs, in AY2014, HRSA supported 1,761 primary care residents[82] and 54 preventive medicine residents.[83] In addition to these programs, some residents may receive training in community-based settings supported by the Area Health Education Center (AHEC) Program or may receive specialized training in geriatrics through the Geriatric Workforce Enhancement Program. Data on the number of medical or dental residents trained through the AHEC and geriatrics program are not available; rather, available data are on all post-graduate health professionals trained in these programs.[84]

[81] Information and data about these programs were obtained from U.S. Department of Health and Human Services, Health Resources and Services Administration, Justification of Estimates for Appropriations Committees, FY2017, Rockville, MD.

[82] Public Health Service Act (PHSA) §737. This authority was also used to fund the Primary Care Residency Expansion (PCRE) in FY2010, which provided support to 504 residents some of whom completed their residency in Academic Year 2015.

[83] PHSA §768.

[84] U.S. Department of Health and Human Services, Health Resources and Services Administration, Justification of Estimates for Appropriations Committees, FY2017, Rockville, MD.

Teaching Health Center GME

HRSA administers the teaching health center GME program (or THCGME), which provides payments to outpatient facilities to support the training of primary care medical and dental residents at these facilities.[85] Because residency training has been, in general, hospital-based, experts have raised concerns that physicians are not prepared to treat patients in outpatient settings, where care is increasingly being delivered.[86] Under the THCGME program, HRSA provides DGME and IME payments to outpatient facilities, such as federal health centers,[87] to support the costs associated with residency training. The program started in FY2011, supporting residents who began their training in AY2012. The program has supported 550 FTE residents between FY2011 and FY2015.[88] Funding for this program was from a five-year mandatory appropriation of $240 million included in the ACA. This funding, provided at $60 million per year, was then extended for two years, through FY2017, in the Medicare Access and CHIP Reauthorization Act of 2015 (P.L. 114-10).

HRSA awards THCGME funds to all facilities eligible for payments under the statutory definition of a teaching health center.[89] In statute, the program's funds must be used to support primary care residents (defined as residents training in family medicine, internal medicine, pediatrics, combined training in internal medicine-pediatrics, obstetrics and gynecology, psychiatry, general dentistry, pediatric dentistry, or geriatrics).[90] Programs were paid $150,000 per FTE under the ACA funding, but beginning in AY2015 HRSA will be paying $95,000 per FTE using the MACRA funds. This decrease is because there are now more residents in training than when the program began.

The THCGME program funded 690 FTE residents in AY2014 and is supporting 690 FTE residents AY2015 at 59 grantee sites in FY2016.[91] The majority (442, or 64%) were training in family medicine or internal medicine (137, or 20%). The remaining residents were training in psychiatry, pediatrics, obstetrics-gynecology, dentistry, or geriatrics.[92] Outcomes associated with this program are preliminary, but researchers have found that residents trained using THCGME funds are more likely to enter into primary care practice at safety net facilities (such as the facility types that are eligible to sponsor a THCGME program).[93] HRSA will also be evaluating this program to determine whether its participants stay in primary care and whether they work in outpatient facilities that provide care to underserved populations.

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[85] The program is authorized in PHSA §340H (42 U.S.C. 256h).

[86] *2009 MedPAC Report*.

[87] For information about federal health centers, see CRS Report R43937, *Federal Health Centers: An Overview*.

[88] U.S. Department of Health and Human Services, Health Resources and Services Administration, Justification of Estimates for Appropriations Committees, FY2017 Rockville, MD.

[89] PHSA §749A defines a teaching health center is a community based, ambulatory patient care center that operates a primary care residency program. The definition explicitly includes federal health centers, community mental health centers, rural health clinics, facilities operated by the Indian Health Service, and Title X Family Planning clinics.

[90] 42 U.S.C. §293k.

[91] U.S. Department of Health and Human Services, Health Resources and Services Administration, Justification of Estimates for Appropriations Committees, FY2017 Rockville, MD.

[92] Personal communication, Health Resources and Services Administration, Office of Legislation, June 26, 2015.

[93] Andrew Bazemore et al., *Graduates of Teaching Health Centers are More Likely to Enter Practice in the Primary Care Safety Net*, Robert Graham Center, One Pagers, Washington, DC, November 15, 2015, http://www.graham-center.org/rgc/publications-reports/publications/one-pagers/thc-graduates-safety-net-2015.html.

Children's Hospital GME

The Children's Hospital GME (CHGME) payment program is a discretionary program created in 1999[94] and most recently reauthorized through FY2018 (in P.L. 113-98).[95] The program received an appropriation of $295 million in FY2016[96] to provide direct financial support to 54 free-standing children's hospitals[97] to train pediatricians and pediatric subspecialists. CHGME was created because children's hospitals typically received little, if any, Medicare GME payments because Medicare's GME payments are made based on a hospital's Medicare patient volume, which is generally low at children's hospitals because Medicare beneficiaries are individuals aged 65 and over, individuals receiving Social Security Disability Insurance benefits, and individuals with end-stage renal disease (i.e., permanent kidney failure).

At the time the CHGME program was created, advocates argued that the lack of direct federal support for GME in children's hospitals impeded the development of the pediatric workforce because children's hospitals, rather than general hospitals, are more likely to have the patient volume necessary to train pediatric subspecialists.[98] Since the CHGME program's creation, the overall size of the pediatric and pediatric subspecialty workforce has increased, whereas it had been declining in the 1990s before the program began. Advocates argue that this reverse can be attributed to the CHGME program, because nearly half of all pediatric residents and nearly two-thirds of all pediatric subspecialty fellows train at children's hospitals.[99] Others argue that children's hospitals do not need these subsidies because they have fewer uninsured patients than do general hospitals so they should be able to support training without these subsidies.[100]

The CHGME program makes both DGME and IME payments to children's hospitals for residents and fellows in training. It allocates one-third of its appropriation to DGME payments and the remaining two-thirds to IME payments. In FY2014, the program supported 6,698 FTE residents.[101] These FTEs supported approximately 20,000 residents who spend a part of their training at a children's hospital. Of those supported, approximately 43% were pediatric residents, 32% were pediatric subspecialty residents, and 275 were residents or fellows in other specialties who were pursuing further training in treating children in their specialty.[102] The program must make payments to all children's hospitals that meet the program's definition

[94] *Healthcare Research and Quality Act* of 1999 (P.L. 106-129).

[95] The Children's Hospital GME (CHGME) payment program is authorized in PHSA § 340 (42 U.S.C. 256e).

[96] P.L. 114-113.

[97] PHSA § 340E defines a children hospitals as "... a hospital with a Medicare payment agreement and which is excluded from the Medicare inpatient prospective payment system pursuant to section 1886(d)(1)(B)(iii) of the Social Security Act and its accompanying regulations."

[98] The American Academy of Pediatrics, the major professional association for pediatricians, released a 2000 report detailing shortages in pediatric subspecialties and calling for additional financial support for training and research. See Alan Gruskin et al., "Final Report of the FOPE II Pediatric Subspecialists of the Future Workgroup," *Pediatrics*, vol. 106, no. 5 (November 2000), pp. 1224-1244.

[99] See, for example, the policy positions of the Children's Hospital Association, "Children's Hospitals Graduate Medical Education Program Overview," https://www.childrenshospitals.org/Issues-and-Advocacy/Graduate-Medical-Education/Issue-Briefs-and-Reports/Childrens-Hospitals-Graduate-Medical-Education-Program-Overview.

[100] See, for example, ExpectMore.Gov, "Program Assessment: Children's Hospital Graduate Medical Education Payment Program," 2003, http://georgewbush-whitehouse.archives.gov/omb/expectmore/summary/10001063.2003.html.

[101] U.S. Department of Health and Human Services, Health Resources and Services Administration, Justification of Estimates for Appropriations Committees, FY2017, Rockville, MD.

[102] Ibid.

and have an eligible training program. Therefore, as the number of children's hospitals or eligible training programs increases, the program will provide lower payment levels per resident, unless the amount of funding appropriated to the program increases. This also means that HRSA does not have the authority to use this program to affect the geographic distribution of pediatric trainees. HRSA does require CHGME funding recipients to report on the number of residents they train, the specialties they train in, whether individuals who complete their training care for children within the hospital's service area or state,[103] and the GME support programs receive from other sources to prevent duplication of payment. In addition, HRSA requires children's hospitals to return duplicate payments.[104]

Concluding Observations

The federal government funds a number of programs that support medical residency training. These programs are operated by different departments across the federal government, and each has its own stated program goals. The rules governing these programs and the purposes of federal support vary. These programs have generally not been examined in conjunction with one another and may have goals that are contrary, duplicative, or otherwise not aligned. For example, in a 2015 report, GAO specifically noted that CMS's GME programs (i.e., Medicare and Medicaid) do not target areas that HHS has identified as workforce needs, nor do they align with workforce goals included in HHS's strategic plan.[105]

One of the major challenges for GME policymakers is that data to evaluate programs are lacking. This lack of program transparency has been a consistent theme in a number of recent GME evaluations.[106] Further, the lack of data (overall or for specific programs) makes it difficult for policymakers seeking to amend GME payments because data are not available to evaluate the relative success or weakness of the current payment systems. This may be particularly challenging for those who wish to expand payments, because the limited data that do exist indicate that payments—in particular, Medicare's IME payments—are higher than can be empirically justified.[107] As such, some argue that Medicare payments should be reduced; this was suggested by the National Commission on Fiscal Responsibility and Reform[108] and in various years of the President's Budget.[109] Others argue that payments should be expanded to reduce or avert physician shortages,[110] though such shortages themselves have been debated.[111]

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[103] Jim Kaufman, "Understanding the Costs and Financing of GME," Institute of Medicine, panel titled Understanding the Costs and Financing of GME, Washington, DC, December 20, 2012, http://iom.nationalacademies.org/~/media/Files/Activity%20Files/Workforce/GMEGovFinance/2012-DEC-19/Kaufman.pdf.

[104] Personal communication, Health Resources and Services Administration, Office of Legislation, June 26, 2015.

[105] GAO Health Workforce Planning Report. GAO's critiques also included non-physician training through Medicare and Medicaid GME payment programs.

[106] For example, the need for more data was among the recommendations in the 2014 IOM GME Report.

[107] MedPAC conducted these analyses which have since been used to recommend that IME payments be reduced with savings used for other needs either within GME or for overall deficit reduction.

[108] See National Commission on Fiscal Responsibility and Reform, "The Moment of Truth," December, 2010, https://www.fiscalcommission.gov/news/; see recommendation 3.35.

[109] CRS Report R43446, *Centers for Medicare & Medicaid Services: President's FY2015 Budget*.

[110] For example, in the 114th Congress, legislation has been introduced that would expand GME support, see, for example, H.R. 1117, H.R. 2124, and S. 1148.

[111] See discussion in report section "GME Policy and Health Workforce Data."

Congress may consider using federal GME support to encourage training in specific specialties and may consider doing so by amending how payments are allocated through existing federal programs as some of these programs (e.g., Medicare and Medicaid) exercise little control over the specialties it supports. Researchers have found that when hospitals expand residency training they tend to do so in specialties where the benefits derived from residents' labor exceed the cost of their training (i.e., it is profitable for the hospital to train additional residents).[112] However, current data collected on federal programs make it difficult to determine when a hospital requires an incentive (e.g., a payment from a federal program) to operate a residency program or when it is profitable for a hospital to train residents without an incentive.[113]

Congress could, and has in the past, pursued policy options to encourage additional training in specific specialties.[114] These options have not always been successful because incentives are generally given to the hospital and often measure the specialty when the resident begins training, which may miss residents who choose to subspecialize.[115] Designing policies to affect the specialty composition of the future workforce may be also challenging, because residents may move to a different hospital to pursue further training and because GME incentives are given to the hospital, but not to residents.

A related challenge is that currently most federal programs pay the same amount for resident across specialties and by year of training (with the exception of fellows). Some have speculated that a hospital's cost of training a resident may differ by specialty or by the year that the resident is in training. The relative cost to a hospital for operating a residency program may also vary by a number of factors, such as the size of the residency program, the specialty of the program, the total number of residency programs that the hospital operates, and the availability and cost of alternative providers who would be needed to replace the resident's labor. Residents may also generate revenue for a hospital directly (e.g., because they provide additional labor) or may do so indirectly (e.g., because the prestige of a teaching hospital may make it more attractive for some patients). Determining these "costs," should they exist, is challenging. In some cases, federal GME program payments may undercompensate a hospital while in other cases program payments may exceed the hospital's costs. In general, the data collected are not sufficient to determine if or when these scenarios occur nor are data available to determine the factors that may affect hospital training costs. Better data on these "costs" may be useful to better target federal GME support.

Congress may also consider policy options that seek to influence the geographical distribution of residents. Such strategies have been pursued in the past; for example, the ACA's redistribution of Medicare-funded residency slots gave preference to hospitals in states with health professional shortage areas and low resident-to-population ratios.[116] Successfully implementing policy options to achieve geographic distribution goals have a number of the same challenges that policy options

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[112] Edward Salsberg et al., "U.S. Residency Training Before and After the 1997 Balanced Budget Act," *Journal of the American Medical Association*, vol. 300, no. 10 (September 10, 2008), pp. 1174-1180.

[113] A 2013 report by MedPAC examined this issue; see MedPAC, "Does It Cost More to Train Residents or to Replace Them?" September 2013, www.medpac.gov/documents/contractor-reports/sept13_residents_gme_contractor.pdf?sfvrsn=0.

[114] For example, the ACA redistributed Medicare-funded residency slots and required hospitals to use some of these slots to training primary care physicians. See CRS Report R41278, *Public Health, Workforce, Quality, and Related Provisions in ACA: Summary and Timeline*.

[115] Stephen Petterson, Matthew Burke, and Robert Phillips, et al., "Accounting for Graduate Medical Education Production of Primary Care Physicians and General Surgeons: Timing of Measurement Matters," *Academic Medicine*, vol. 86, no. 5 (May 2011).

[116] CRS Report R41278, *Public Health, Workforce, Quality, and Related Provisions in ACA: Summary and Timeline*.

that seek to target the specialty composition of the physician population do. For example, proposed policy changes generally target hospitals and not the residents themselves, which may be not be effective when the outcomes desired are determined by where the residents ultimately choose to practice. In addition, geographic distribution policies may face challenges because some areas that have traditionally trained residents may lose their current levels of support. For example, prior critiques have raised concerns that where current residents are trained is not reflective of where the current population is located. For example, GAO notes that "Medicare GME funding is disbursed based on historical patterns. Therefore, the Medicare-supported residency slots, supported by this Medicare GME funding, are most highly concentrated in northeastern states."[117] Given this, successful policy options would either need to add total residents (i.e., expand overall support) or would need to implement a drawdown in support, which may be unpopular and may also be a lengthy process because some residents are currently supported in training programs that last a number of years.

Although much of prior critiques have focused on Medicare's GME support because it is the largest source of GME support;[118] program challenges are not limited to Medicare, as other federal sources of GME support have limited data available and some programs have little flexibility in how payments are used. As these programs all seek to train physicians, and at times, are training the same physicians, policymakers may be interested in examining these programs in concert to minimize duplication and maximize program alignment.

[117] GAO Health Workforce Planning Report, pp. 20.

[118] For example, the 2014 IOM GME Report.

Appendix A. Additional Resources

Below are resources for readers interested in specific critiques and policy options suggested to reform Graduate Medical Education (GME). Resources are organized alphabetically by the group that has issued the report.

Council on Graduate Medical Education (COGME)

Federal executive branch advisory council that provides ongoing assessment of physician workforce trends and training. For all reports, see http://www.hrsa.gov/advisorycommittees/bhpradvisory/cogme/index.html.

Relevant Reports:

Council on Graduate Medical Education, *The Role of Graduate Medical Education in the New Health Care Paradigm*, Twenty Second Report, Rockville, MD, November 2014, http://www.hrsa.gov/advisorycommittees/bhpradvisory/cogme/Reports/22report.pdf.

Council on Graduate Medical Education, *Improving Value in Graduate Medical Education* Twenty-First Report, August 2013, http://www.hrsa.gov/advisorycommittees/bhpradvisory/cogme/Reports/22report.pdf.

Council on Graduate Medical Education, Enhancing Primary Care, Twentieth Report, December 2010, http://www.hrsa.gov/advisorycommittees/bhpradvisory/cogme/Reports/twentiethreport.pdf.

Council on Graduate Medical Education, *Enhancing Flexibility in Graduate Medical Education* Nineteenth Report, September 2007, http://www.hrsa.gov/advisorycommittees/bhpradvisory/cogme/Reports/nineteenthrpt.pdf.

Council on Graduate Medical Education, *Financing Graduate Medical Education in a Changing Health Care Environment*, Fifteenth Report, http://www.hrsa.gov/advisorycommittees/bhpradvisory/cogme/Reports/fifteenthreport.pdf.

Government Accountability Office (GAO)

Federal legislative branch agency that evaluates federal programs including those that finance health care and support the physician workforce. For all reports, see www.gao.gov.

Relevant Reports:

U.S. Government Accountability Office, *Health Care Workforce: Comprehensive Planning by HHS Needed to Meet National Needs*, 16-17, December 11, 2015, http://www.gao.gov/products/GAO-16-17.

U.S. Government Accountability Office, Health Care Workforce: Federally Funded Training Programs in Fiscal Year 2012, 13-709R, August 15, 2013, http://www.gao.gov/products/GAO-13-709R.

U.S. Government Accountability Office, Graduate Medical Education: Trends in Training and Student Debt, 09-438R, May 4, 2009, http://www.gao.gov/new.items/d09438r.pdf.

Medicare Payment Advisory Commission (MedPAC)

Federal legislative branch advisory commission that evaluates Medicare payment policy, including Medicare's financing of physician training. For all reports, see www.medpac.gov.

Relevant Reports:

Medicare Payment Advisory Commission's June 2009 Report to Congress: Improving Incentives in the Medicare Program, Chapter 1, at http://www.medpac.gov/documents/reports/Jun09_Ch01.pdf?sfvrsn=0.

Medicare Payment Advisory Commission, Graduate Medical Education Financing: Focusing on Educational Priorities, Report to the Congress: Aligning Incentives in Medicare, Washington, DC, June 2010, Chapter 4, at http://www.med http://www.medpac.gov/documents/reports/Jun10_Ch04.pdf?sfvrsn=0 pac.gov/documents/Jun10_EntireReport.pdf.

National Academy of Medicine (Previously Institute of Medicine)

The National Academies of Sciences, Engineering, and Medicine are private, nonprofit institutions that aim to provide expert advice on pressing domestic and international challenges. Work can be funded by government and non-governmental entities. For all report, see http://www.nationalacademies.org/.

Relevant Reports:

Committee on the Governance and Financing of Graduate Medical Education; Board on Health Care Services; Institute of Medicine, *Graduate Medical Education That Meets the Nation's Health Needs,* ed. Jill Eden, Donald Berwick, and Gail Wilensky (Washington, DC: National Academies Press, 2014).

Committee on Implementing a National Graduate Medical Education Trust Fund, Division of Health Care Services, Institute of Medicine, *On Implementing a National Graduate Medical Education Trust Fund.* (Washington, DC: National Academies Press, 1997).

Appendix B. GME Program Information

Table B-1. GME Program Information

Program Name	Program Description	Funding Type	Program Controls Over Trainees	Total Funding	Uses of Funding	Number of Trainees	Cost Per Trainee
Medicare GME Payments SSA §1886h [42 U.S.C. §§1395ww(d(5)(B), 1395ww(h), (k)] (HHS/CMS)	Medicare payments to teaching hospitals and certain other training sites to cover the direct teaching costs (such as resident salary and fringe benefits, supervisory physician salaries, and space) and the indirect teaching costs (such as the costs of additional services that residents may order, and other expenses).	Mandatory.	Minimal: hospitals determine the types of trainees supported.	$11.3 billion in FY2013. [a]	Resident salary, supervisory physician salaries, and space, along with indirect teaching costs (such as the costs of additional services that residents may order and other expenses).	83,233 FTE slots (DGME) and 82,644 FTE slots (IME) in FY2013. [a]	$137,000 in FY2013.
Medicaid GME Payment (HHS/CMS)	Medicaid payments to teaching hospitals (may also be included as part of capitation rates under managed care) for residency training. The availability of these payments varies by state.	Mandatory.	N/A. States are permitted to make these payments to hospitals using their own criteria to determine which hospitals are eligible for payments.	N/A.	N/A. States are permitted to determine a hospital's appropriate uses of Medicaid GME funding.	N/A. The Medicaid program does not require states to report these data.	N/A. The Medicaid program does not require states to report these data.
Veterans Affairs GME Payments [38 U.S.C. §7302]. (VHA/VA)	Training of medical residents at facilities operated by the VA.	Discretionary.	VA facilities determine their staffing needs and the number and type of residents supported.	$1.52 billion in FY2015.	Resident salary, supervisory physician salaries, and space.	10,300 FTE slots in FY2014; more than 40,000 residents spend part of their training at a VA facility in FY2014.	$146,000 per resident (estimated in FY2015).

Program Name	Program Description	Funding Type	Program Controls Over Trainees	Total Funding	Uses of Funding	Number of Trainees	Cost Per Trainee
Department of Defense GME Payments[10 U.S.C. § § 2001 et. seq.]	Training of medical residents at facilities operated by the DOD.	Discretionary.	Divisions of the armed forces determine their staffing needs and the number and type of residents supported.	$16.5 million in FY2012.	Resident salary, supervisory physician salaries, and space.	1,816 in FY2015.	N/A
Teaching Health Centers GME Payment Program PHSA §340H [42 U.S.C. §256e] (HHS/HRSA)	Payments to qualified teaching health centers (i.e., community-based facilities that sponsor medical residency programs in primary care or psychiatry or primary care dental residency programs) to support residency training programs.	Mandatory (funding authorized through FY2017).	Funding to applicant teaching health centers that meet the program's eligibility requirements.	$60 million in FY2016.	Funds to support trainee stipends, faculty salaries, and program administrative expenses. IME costs associated with operating a program (expenditures associated with reduced hospital efficiency).	690 FTE slots in AY2015.	$95,000 anticipated in FY2016.
Children's Hospital GME Payment Program PHSA §340E [42 U.S.C. §256e] (HHS/HRSA)	Payments to freestanding children's hospitals that sponsor medical residency training programs in pediatrics and pediatric medical and surgical subspecialties in order to increase the number of physicians practicing in those specialties.	Discretionary.	Grant funding awarded to applicant children's hospitals that meet the program's eligibility requirements.	$295 million in FY2016.[b]	Funds to hospitals to support trainee stipends, faculty salaries, and program administrative expenses. IME costs associated with operating a program (expenditures associated with reduced hospital efficiency).	AY2014: 54 hospitals receive payments to support 6,698 FTE slots.	N/A

Source: CRS analysis of agency program data and various agency budget justifications. DGME refers to "direct graduate medical education;" IME refers to "Indirect Medical Education;" and FTE refers to "full time equivalent."

Notes:

a. Medicare GME payments are based on FY2012 and FY2013 Medicare hospital cost report as reported to the Healthcare Cost Report Information System. GME payments do not include Medicare's separate indirect medical education payments to rehabilitation and psychiatric hospitals. GME payments and FTE figures were estimated from hospital-reported figures by standardizing GME payments for each cost report submission and weighting GME payments and FTE figures by the amount of days the cost reporting period fell within FY2013 (October 1, 2012 through September 30, 2013). Trainee numbers are not unduplicated (i.e., DGME and IME payments support the same residents). The total number of FTEs supported differs because DGME and IME count residents differently. For example, DGME payments, but not IME payments, take into account whether or not a resident is in an initial residency program or a fellowship program when counting residents.

b. Under (P.L. 114-113), this program received an increase in appropriations from the FY2015 level of $265 million.

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