Washington and Lee Law Review

Volume 71 | Issue 4 Article 8

Fall 9-1-2014

I Need a Doctor: A Critique of Medicare Financing of Graduate Medical Education

Stacey A. Tovino
University of Nevada, Las Vegas

I Need a Doctor: A Critique of Medicare Financing of Graduate Medical Education

Stacey A. Tovino*

Abstract

In its broadest sense, this Article examines the complex relationship between population booms, doctor shortages, and United States government financing of graduate medical education (GME). More specifically, this Article argues that current rules governing the calculation of Medicare payments to teaching hospitals for the costs of GME are based on cost, population, and other data that are no longer relevant. As applied, these formulas discriminate in favor of the nation's oldest teaching hospitals, located in New England and the Middle Atlantic, and against current and future teaching hospitals located in growing population centers, especially regions in the South and West. To remedy these inequities, this Article proposes a new structure for calculating Medicare payments to teaching hospitals that takes into account current GME costs, population data, and geographic imbalances in physician and resident supply and distribution. These proposals are designed to boost residency training in physician shortage areas and in growing population centers and improve access to generalist and specialist physicians across the United States.

---

* Lincy Professor of Law and Lehman Professor of Law, William S. Boyd School of Law, University of Nevada, Las Vegas. I thank Daniel Hamilton, Dean, William S. Boyd School of Law, for his generous financial support of this research project. I also thank Jeanne Price, Director, Wiener–Rogers Law Library, Boyd School of Law, and Chad Schatzle, Student Services Librarian, Wiener–Rogers Law Library, for their outstanding assistance in locating many of the sources referenced in this Article.

Table of Contents

I. Introduction

The United States has thousands of communities that are plagued by physician shortages.[1] In some of these communities, patients wait months for routine medical appointments.[2] Other

1. *See* Lists of Designated Primary Medical Care, Mental Health, and Dental Health Professional Shortage Areas, 79 Fed. Reg. 36075, 36075 (June 25, 2014) (referencing the HRSA websites to find areas designated as having shortages of primary medical and mental care).

2. *See, e.g.*, THE HENRY J. KAISER FAMILY FOUND., THE VIRGINIA HEALTH CARE LANDSCAPE, FACT SHEET 8 (2014), http://kaiserfamilyfoundation.files.wordpress.com/2014/05/8592-the-virginia-health-care-landscape.pdf. (reporting that patients wait up to four months for first-time appointments at free health care clinics in Virginia); Eli Segall, *Doctor Shortage Could Leave Las Vegas in Critical Condition*, VEGAS INC. (Apr. 27, 2014, 2:00 AM), http://www.vegasinc.com/business/2014/apr/27/critical-doctor-shortage/ (last visited Nov. 18, 2014) (reporting that the Las Vegas physician shortage causes months-long

patients travel long distances to obtain health care services that are unavailable or inaccessible in their hometowns.[3] Still other patients wait until they are really sick and then seek care in the emergency department where they cannot be turned away.[4]

The nation's doctor shortages should not come as a surprise. The United States has a growing population, an aging population, and an increasing number of residents with health insurance coverage as a result of the Affordable Care Act.[5] The shortages are especially problematic in the American South and West,[6]

---

waits for appointments) (on file with the Washington and Lee Law Review).

3. *See, e.g.*, Laurence Hammack, *Health Care Law Brings More Patients to Already Strained Doctors*, ROANOKE TIMES (Dec. 8, 2013, 6:14 PM), http://www.roanoke.com/topics/obamacare/article_b33b9c24-6f4c-11e3-9208-0019bb30f31a.html (last visited Nov. 18, 2014) (reporting the story of Ann Foster, a resident of rural Highland County, Virginia, who travels three hours round trip for her doctor appointments) (on file with the Washington and Lee Law Review); Shannon Pettypiece, *Doctor Shortage Spreading in U.S. Presaged in Las Vegas*, BLOOMBERG (Oct. 22, 2012, 12:01 AM), http://www.bloomberg.com/news/2012-10-22/doctor-shortage-spreading-in-u-s-presaged-in-las-vegas.html (last visited Nov. 18, 2014) (reporting the story of Las Vegas resident Mary Berg, who moved to Phoenix to obtain cancer care that was unavailable in Las Vegas) (on file with the Washington and Lee Law Review).

4. *See* Jennifer Robison, *No Easy Cure for Doctor Deficit in Nevada*, LAS VEGAS REV. J. (Feb. 3, 2013, 1:59 AM), http://www.reviewjournal.com/business/economy/no-easy-cure-doctor-deficit-nevada (last visited Nov. 18, 2014) ("As doctors' appointment books fill up, more people go where they cannot be turned away–an emergency room.") (on file with the Washington and Lee Law Review). The federal Emergency Medical Treatment and Active Labor Act (EMTALA) requires Medicare-participating hospitals to provide appropriate medical screening examinations and necessary stabilizing treatment to individuals who request examination or treatment for a medical condition without regard to the individual's ability to pay. 42 U.S.C. § 1395dd(a)–(b) (2012). Hospitals that violate EMTALA may be subject to civil money penalties and private lawsuits. *Id*. § 1395dd(c)(1), (c)(2)(A).

5. *See, e.g.*, AM. MED. ASS'N, CRITICAL CONDITION: THE CALL TO INCREASE GRADUATE MEDICAL EDUCATION FUNDING 1 (2011) ("Many authorities agree that by 2025 the United States will face a shortage of physicians to meet the needs of a growing and aging U.S. population."); Kathleen Haughney, *Florida Doesn't Have Enough Doctors for Medicaid Expansion, Lobby Group Says*, SUN SENTINEL (Feb. 22, 2013), http://articles.sun-sentinel.com/2013-02-22/health/fl-doctor-shortage-medicaid-expansion-if-florida-20130222_1_medicaid-expansion-new-medicaid-patients-florida-medical-association (last visited Nov. 18, 2014) (noting that the Affordable Care Act's individual health insurance mandate and Medicaid expansion are driving demand for physician services) (on file with the Washington and Lee Law Review).

6. *See* Press Release, U.S. Census Bureau, S., W. Have Fastest-Growing

which have experienced higher than average population growth over the last several decades.[7]

With the hope of producing physicians who will stay and practice medicine, many southern and western states have recently opened or are planning to open new medical schools. In 2009, the University of Central Florida welcomed its first class of medical students in a new school in Orlando.[8] In 2013, the University of California, Riverside School of Medicine admitted its first class of medical students.[9] In 2015, the Edward Via College of Osteopathic Medicine will open a new medical campus in Auburn, Alabama.[10] In 2016, the Dell Medical School at The

---

Cities, Census Bureau Reports; Three of Top 10 Are in Tex. Capital Area (May 22, 2014) ("The South and West dominated the list of fastest-growing municipalities between 2012 and 2013, claiming all of the top 15, seven of which were in Texas.") (on file with the Washington and Lee Law Review); *id.* at tbl.1 (referencing states with the fastest growing cities); Samuel Weigley, Alexander E.M. Hess & Michael B. Sauter, *Doctor Shortage Could Take Turn for the Worse*, USA TODAY (Oct. 20, 2012, 2:45 PM), http://www.usatoday.com/story/money/business/2012/10/20/doctors-shortage-least-most/1644837/ (last visited Nov. 18, 2014) (discussing physician shortages in states with low physician-to-population ratios, most of which are located in the South and West) (on file with the Washington and Lee Law Review).

7. *See* ASS'N OF AM. MED. COLLS., CENTER FOR WORKFORCE STUDIES, 2013 STATE PHYSICIAN WORKFORCE DATA BOOK 8–9 (2013) [hereinafter AAMC, 2013 PHYSICIAN DATA BOOK] (reporting the number of active physicians per 100,000 population in each state); *id.* at 12–13, fig.3 & tbl.3 (reporting the number of active primary care physicians per 100,000 population in each state); AM. MED. ASS'N, PHYSICIAN CHARACTERISTICS AND DISTRIBUTION IN THE U.S. 458 (2014) [hereinafter, AMA, PHYSICIAN CHARACTERISTICS] (reporting the number of physicians in patient care per 100,000 population in each state).

8. *See* Marni Johnson, *UCF Medical School Graduated Its First Class*, ORLANDO SENTINEL (May 9, 2013), http://articles.orlandosentinel.com/2013-05-19/news/os-ucf-medical-school-graduates-20130517_1_ucf-medical-school-first-class-medical-students (last visited Nov. 18, 2014) (reporting on the graduation of UCF's first medical school class and detailing the institution's history) (on file with the Washington and Lee Law Review).

9. *See* Kris Lovekin, *White Coat Ceremony Launches UC Riverside School of Medicine*, UCR TODAY (Aug. 12, 2013), http://ucrtoday.ucr.edu/16926 (last visited Nov. 18, 2014) (describing the welcoming ceremonies for the UC Riverside School of Medicine's inaugural class) (on file with the Washington and Lee Law Review).

10. *See VCOM to Accept Student Applications for Auburn Campus*, EDWARD VIA COLL. OF OSTEOPATHIC MED., PROSPECTIVE STUDENTS AND VISITORS, http://www.vcom.edu/admissions/auburn-info.html (last visited Nov. 18, 2014) (announcing that the institution has received accreditation and plans to enroll

University of Texas at Austin is scheduled to admit its first class of medical students.[11] And, in May 2014, the University of Nevada, Las Vegas, appointed a Planning Dean who is responsible for developing a vision for the UNLV School of Medicine, which will be the first allopathic medical school in southern Nevada.[12]

Even with these new medical schools, states with physician shortages are severely limited in their ability to retain and train graduate medical residents, who would be very likely to practice medicine in that state.[13] These limitations exist because Congress in 1997 permanently capped the number of Medicare-financed residency slots at the number of residents reported by teaching hospitals on their 1996 Medicare cost reports.[14] These limitations

---

an inaugural class in 2015) (on file with the Washington and Lee Law Review).

11. *See Welcome to Dell Medical School,* UNIV. OF TEX. AT AUSTIN, http://www.utexas.edu/dell-medical-school (last visited Nov. 18, 2014) (detailing the University's plans for its forthcoming medical school) (on file with the Washington and Lee Law Review).

12. *See* Paul Takahashi, *UNLV Taps "Planning Dean" for Proposed Medical School*, LAS VEGAS SUN (May 7, 2014, 5:15 PM), http://www.lasvegassun.com/news/2014/may/07/unlv-taps-planning-dean-proposed-medical-school/ (last visited Nov. 18, 2014) (describing the credentials of UNLV's new medical school planning dean and her role in the development of the new institution) (on file with the Washington and Lee Law Review).

13. Physicians who complete both their undergraduate and graduate medical education in the same state are very likely to stay and practice medicine in that state. *See, e.g.*, AAMC, 2013 PHYSICIAN DATA BOOK, *supra* note 7, at 55 tbl.20 (reporting that 79.1%, of physicians who completed both their undergraduate and graduate medical educations in Nevada stayed in or returned to Nevada to practice medicine). Physicians who complete only their graduate medical education in a state are less likely to stay and practice medicine in that state. *See id*. at 53 tbl.19 (reporting that 55.8% of the physicians who completed their graduate medical education in Nevada stayed in or returned to Nevada to practice medicine). Physicians who complete only their undergraduate medical education in a state are even less likely to stay and practice medicine in that state. *See id*. at 49 tbl.17 (reporting that only 36.8% of the physicians who completed their undergraduate medical education in Nevada stayed in or returned to Nevada to practice medicine).

14. *See* 42 U.S.C. § 1395ww(h)(4)(F) (2012) (setting out the limitation on the number of residents in allopathic and osteopathic medicine); 42 C.F.R. § 413.79(c)(2)(i) (2013) (restricting hospitals' resident levels to below their unweighted FTE counts); Editorial, *Bottlenecks in Training Doctors*, N.Y. TIMES, July 20, 2014, at SR10 ("Medical school enrollments and the number of medical schools have soared over the past decade, statistics show, but the number of

also exist because the Centers for Medicare and Medicaid Services (CMS) in 2012 set the number of years non-rural teaching hospitals have to grow new medical residency training programs to an outside limit of five years from the date of the hospital's first new medical residency program.[15] Unlike many of the prestigious east coast teaching hospitals, which had decades to carefully plan and build out multiple specialty training programs,[16] today most new residency programs are forced to build themselves out as quickly as possible within a five-year period[17] without regard to whether a longer build-out period would have yielded higher numbers of more desirable residents and more qualified teaching faculty, a stronger and more efficient administrative base, and a broader range of higher-quality specialty training programs.[18]

This Article challenges these and other rules that govern Medicare payments to teaching hospitals for the costs associated with providing graduate medical education (GME). This Article proceeds as follows: Part II investigates the historical debate regarding the optimal size and shape of the U.S. physician workforce.[19] Since the middle of the twentieth century, a number of public and private bodies have assessed the overall number of physicians in patient care and have offered recommendations

---

residencies to train graduates has increased only modestly, largely because of a congressional cap on paying for the slots.").

15. *See* 42 C.F.R. § 413.79(e)(1) (2013) (defining the size limits of new medical residency programs).

16. *See, e.g.*, Fitzhugh Mullan, Candice Chen & Erika Steinmetz, *The Geography of Graduate Medical Education: Imbalances Signal Need for New Distribution Policies*, 32 HEALTH AFFAIRS 1914, 1918 (2013) [hereinafter Mullan et al., *Geography*] (noting that residency education took root in the first half of the twentieth century in the United States Northeast and that "[p]rograms in these areas were well positioned to take full advantage of Medicare GME as it developed in the latter part of that century").

17. *See* 42 C.F.R. § 413.79(e)(1) (providing that the allocation of residency positions for new institutions is determined based on its size after five years of existence). One exception to this general rule is that rural teaching hospitals have five years from the date of *each* new residency program (not the hospital's *first* new residency program) for program build out. *Id.* § 413.79(e)(3).

18. *See id.* § 413.79(e)(5) ("The cap will not [otherwise] be adjusted for expansion of existing or previously existing programs.").

19. *Infra* Part II.

that would expand or contract physician supply accordingly.[20] Part II reviews these assessments and recommendations and identifies the current consensus among workforce analysts that significant shortages of both generalist and specialist physicians already occur in many geographic areas and that new shortages will occur in additional areas over the next decade.[21] Population growth, population aging, and the expansion of health insurance associated with the Affordable Care Act are the three main factors driving these physician shortages and shortage projections.[22]

Part III examines current regional and state physician workforce data.[23] New England and the Middle Atlantic have the highest total numbers of physicians, physician-to-population ratios, and resident-to-population ratios in the nation.[24] The South and the West have the lowest total numbers of physicians, physician-to-population ratios, and resident-to-population ratios.[25] Particular states, including Alabama, Arizona, Arkansas, Georgia, Idaho, Iowa, Mississippi, Nevada, Oklahoma, Texas, Utah, and Wyoming, have exceptionally low total and relative numbers of generalists and specialists in patient care and residents training in GME programs.[26] Standing alone, however, this data cannot be interpreted as an oversupply or undersupply of physicians or as an adequate distribution or maldistribution of physicians.[27] Part III identifies and examines a number of additional factors that are necessary to consider when making determinations regarding optimal and equitable physician supply and distribution.[28]

Part IV reviews the important relationship between undergraduate medical education (UME), GME, and physician

---

20. *Id*.
21. *Id*.
22. *Id*.
23. *Infra* Part III.
24. *Id*.
25. *Id*.
26. *Id*.
27. *Id*.
28. *Id*.

supply and distribution.[29] Part IV explains why efforts to remedy physician shortages should focus not only on expanding or building new UME schools, which are necessary to prepare students for later specialty training and are critical in terms of the nation's long-term physician supply, but also on expanding or building new GME programs, which produce fully-trained and practice-ready physicians who are most likely to stay and work in the state where they completed both their undergraduate and graduate medical education.[30] Part IV assesses current state data regarding resident-to-population ratios, ratios of graduate medical residents to undergraduate medical students, and rates of physician retention following completion of UME and GME. Part IV identifies those states in greatest need of expanded or new GME programs.[31]

Part V explores the convoluted legal history of Medicare financing of GME.[32] In the early years of the Medicare Program, from 1966 to 1983, Medicare financed reasonable GME costs actually incurred by teaching hospitals.[33] That is, federal law did not limit the number of residents whose training costs could be reimbursed and teaching hospitals located in geographic areas with low resident-to-population ratios and in physician shortage areas were able to add residents to existing training programs and start new training programs without federal constraint.[34]

Part V further illustrates how Medicare financing of GME has changed dramatically since the mid-1980s.[35] In 1986, Congress declared that Medicare GME payments would no longer be based on reasonable costs actually incurred by teaching hospitals but, instead, on historical costs tied to fiscal year 1984 that are updated for inflation only.[36] In 1997, Congress permanently capped the number of medical residents that could

29. *Infra* Part IV.

30. *Id*.

31. *Id*.

32. *Infra* Part V.

33. *Id*.

34. *Id*.

35. *Id*.

36. *See infra* notes 244–49 and accompanying text (describing the switch in calculating GME aid).

be counted for purposes of Medicare GME payments to the number of residents counted on the hospital's 1996 cost report.[37] More recently, in 2012, CMS set the number of years most teaching hospitals have to grow new medical residency training programs to an outside limit of five years from the date of the hospital's first new medical residency program.[38]

Part VI argues that current rules governing the calculation of Medicare payments to teaching hospitals for GME are based on cost, population, and other data that are no longer relevant.[39] As applied, these formulas discriminate in favor of the nation's oldest teaching hospitals, many of which are located in New England and the Middle Atlantic.[40] Teaching hospitals located in states such as New York, Maryland, Massachusetts, and Pennsylvania had fully developed GME programs prior to 1984, the historic base year to which teaching hospitals' GME costs are now tied, and prior to 1997, the year in which Congress capped teaching hospitals' resident counts.[41] That is, most New England and Middle Atlantic teaching hospitals had achieved substantial, if not maximum, training and cost capacity when Congress transitioned from its reasonable cost basis methodology to its current capped-cost and capped-resident financing formulas.[42] One result is that New England and Middle Atlantic teaching hospitals have comparative advantages in terms of the overall dollar amount of Medicare GME reimbursement received, the relative dollar amount of Medicare GME reimbursement received per state resident, and permissible resident-to-population ratios.[43]

Part VI further argues that current formulas used to calculate Medicare GME payments discriminate against teaching hospitals located in growing population centers, including many

---

37. *See infra* note 280 and accompanying text (describing the impact of the Balanced Budget Act).

38. *Infra* note 305 and accompanying text.

39. *Infra* Part VI.

40. *Id*.

41. *Infra* notes 244–49 and accompanying text.

42. *Infra* Part VI.

43. *Id*.

teaching hospitals located in the South and West that were still building to full capacity in the 1980s and 1990s, as well as future teaching hospitals that should be built in the South and West due to significant population growth since the 1980s and 1990s.[44] Left unchanged, these formulas will exacerbate physician shortages and related health care disparities in areas with low resident-to-population ratios.[45]

Part VI proposes that Congress establish a new structure for calculating Medicare payments to teaching hospitals for the costs of their GME.[46] This structure would take into account current GME costs, population data, and geographic imbalances in physician and resident supply and distribution.[47] When combined with proposals set forth in a companion article critiquing state Medicaid financing of GME,[48] the proposals set forth in this Article will improve access to generalist and specialist physicians in growing population centers in the United States and will reduce related geographic health care disparities.

II. The Physician Workforce Debate: A Brief History

The proper size and shape of the United States physician workforce has been debated for over a century.[49] Over the past

---

44. *Id*.

45. *Id*.

46. *Id*.

47. *Id*.

48. Stacey A. Tovino, *A Critique of Medicaid Financing of Graduate Medical Education* (in progress).

49. *See* U.S. DEP'T OF HEALTH & HUMAN SERVS., HEALTH RES. & SERVS. ADMIN., GRADUATE MEDICAL EDUCATION AND PUBLIC POLICY: A PRIMER 13 (2000) [hereinafter HHS PRIMER] (referencing the longstanding debate); Adam Berényi, *Preface* to PHYSICIAN SUPPLY AND DEMAND xi (Adam Berényi ed., 2010) [hereinafter Berényi, *Preface*] (same); ELI GINZBERG, TEACHING HOSPITALS AND THE URBAN POOR 42 (2000) [hereinafter GINZBERG, TEACHING HOSPITALS] (examining "the importance of physician supply issues in the evolution of U.S. health care policy"); Hardy D. Loe, Virginia C. Kennedy & Frank I. Moore, *The Shifting Mosaic of Health and Medical Care in Houston and Harris County, Texas, in the Late 1980s* [hereinafter Loe et al., *Shifting Mosaic*], *in* CHANGING U.S. HEALTH CARE: A STUDY OF FOUR METROPOLITAN AREAS 159, 182 (eds. Eli Ginzberg, Howard S. Berliner & Miriam Ostow 1993) [hereinafter CHANGING U.S. HEALTH CARE] (referencing the divided opinion and evidence regarding the

fifty years, a number of public and private bodies have assessed the overall number of physicians in patient care across the United States and have offered recommendations that would expand or contract physician supply accordingly.[50] In the 1950s and 1960s,[51] several public and private bodies began projecting that the United States would soon suffer a physician shortage.[52] In response, the federal government recommended doubling the output of U.S. medical schools.[53] From 1963 to 1976, existing medical schools expanded their programs and public and private universities built new UME schools.[54] The freshman class at The Ohio State University College of Medicine, for example, increased

---

presence or absence of a physician surplus in a particular city, that is, in Houston, Texas). Debates regarding the appropriate size and shape of the physician workforce were so frequent in the third quarter of the twentieth century that analysts named the period from 1955 to 1980 the "Era of Debate and Funding for Health Manpower." 1 U.S. DEP'T OF HEALTH & HUMAN SERVS., REPORT OF THE GRADUATE MEDICAL EDUCATION NATIONAL ADVISORY COMMITTEE TO THE SECRETARY 39 (Sept. 30, 1980) [hereinafter GMENAC REPORT].

50. *See, e.g.*, John K. Iglehart, *The Uncertain Future of Medicare and Graduate Medical Education*, 365 NEW ENG. J. MED. 1340, 1345 (2011) [hereinafter Iglehart, *Uncertain Future*] ("The fits and starts of physician-workforce policy in the United States have been on display during the past several decades, with warnings of shortages and surpluses at different times.").

51. *See* ELI GINZBERG, THE MEDICAL TRIANGLE: PHYSICIANS, POLITICIANS, AND THE PUBLIC 169–78 (1990) (discussing the history and politics of physician supply before 1950).

52. *See, e.g.*, U.S. DEP'T OF HEALTH & HUMAN SERVS., HEALTH RES. & SERVS. ADMIN., PHYSICIAN SUPPLY AND DEMAND: PROJECTIONS TO 2020, at 2 (2006) [hereinafter HRSA PROJECTIONS 2006] ("During the 1950s and 1960s, projections of a growing physician shortage helped motivate an expansion of the Nation's medical schools, an increase in government funding for medical education, and the creation of policies and programs that encouraged immigration of foreign-trained physicians.").

53. ELI GINZBERG & PANOS MINOGIANNIS, U.S. HEALTH CARE AND THE FUTURE SUPPLY OF PHYSICIANS 2 (2004) [hereinafter GINZBERG & MINOGIANNIS]. *See generally* HRSA PROJECTIONS 2006, *supra* note 52, at 2 ("During the 1950s and 1960s, projections of a growing physician shortage helped motivate an expansion of the Nation's medical schools, an increase in government funding for medical education, and the creation of policies and programs that encouraged immigration of foreign-trained physicians."); Berényi, *Preface*, *supra* note 49, at xii (same).

54. RICHARD M. SCHEFFLER, IS THERE A DOCTOR IN THE HOUSE? MARKET SIGNALS AND TOMORROW'S SUPPLY OF DOCTORS 11 (2008)*; see also* ELI GINZBERG, AMERICAN MEDICINE: THE POWER SHIFT 77–79 (1985) (discussing federal and state support for the expansion of medical education in the 1960s and 1970s).

its enrollment from 150 medical students in 1963 to 225 medical students in 1973.[55]

This expansion-oriented physician supply policy did not last long. In 1976, the Secretary of the former Department of Health, Education, and Welfare (Secretary) established the Graduate Medical Education National Advisory Committee (GMENAC).[56] Among other responsibilities, GMENAC was charged with advising the Secretary regarding the number of physicians required to meet the health care needs of the American public.[57] Following a three-year study, GMENAC concluded in 1980 that the United States would face a surplus of almost 70,000 physicians by 1990, a surplus of 145,000 physicians by the end of the century, and that most physician specialties would have a surplus by these dates as well.[58] GMENAC therefore recommended a seventeen percent decrease in medical school enrollment and "prompt adjustments [to] the number of residency training positions in individual specialties to bring supply into balance."[59] Despite the intensity of GMENAC's recommendations, they attracted little attention and were largely disregarded by federal and state policymakers.[60]

During the 1980s and early 1990s, a number of other public and private bodies also projected physician surpluses. Authorized by Congress in 1986, the Council on Graduate Medical Education (COGME)[61] issued a report in 1994 stating that the United States

---

55. THOMAS E. WILLIAMS, BHAGWAN SATIANI & E. CHRISTOPHER ELLISON, THE COMING SHORTAGE OF PHYSICIANS: WHY THEY ARE DISAPPEARING AND WHAT THAT MEANS FOR OUR HEALTH 2 (2009) [hereinafter THE COMING SHORTAGE].

56. GMENAC REPORT, *supra* note 49, at 1.

57. *See id.* ("The research methodology, which consisted of three mathematical models to project physician supply and requirements, is described, and 40 recommendations to solve health manpower problems of 1990–2000 are presented.").

58. *Id.* at i, 3, 7, 41, 99; *see also* GINZBERG & MINOGIANNIS, *supra* note 53, at 2 (discussing the conclusions set forth in the GMENAC Report); GINZBERG, TEACHING HOSPITALS, *supra* note 49, at 52–53 (same).

59. GMENAC REPORT, *supra* note 49, at 99.

60. GINZBERG, TEACHING HOSPITALS, *supra* note 49, at 53.

61. DEP'T OF HEALTH & HUMAN SERVS., HEALTH RES. & SERVS. ADMIN., COUNCIL ON GRADUATE MED. EDUC., CHARTER 1 (2012).

had too many specialist physicians.[62] COGME recommended that the number of first-year GME residency positions be limited to only ten percent more than the number of U.S. medical school graduates and that at least fifty percent of residency graduates enter practice as generalist physicians, including family physicians, general internists, and general pediatricians.[63] COGME's recommendations were oriented towards its stated goal of producing twenty-five percent fewer physicians per year.[64]

The following year, the Taskforce on Health Care Workforce Regulation of the PEW Health Professions Commission released a report concluding that "[e]ither the U.S. was severely under-doctored in 1970 or it is currently oversupplied."[65] The PEW Commission proposed two medical education reforms, including (1) closing UME schools in order to decrease the size of the total entering medical school class in the United States by twenty to twenty-five percent; and (2) reducing the number of GME positions to the number of medical school graduates plus ten percent.[66] Policymakers largely ignored the recommendations of the PEW Commission as well.[67]

Notwithstanding the recommendations of GMENAC, COGME, and the PEW Commission, physician workforce analysts began singing a different tune after the turn of the century. Since 2002, at least sixty-two public and private bodies have issued reports projecting national, state, and specialty-

---

62. *See* COUNCIL ON GRADUATE MED. EDUC., FOURTH REPORT TO CONGRESS AND THE DEPARTMENT OF HEALTH & HUMAN SERVICES SECRETARY: RECOMMENDATIONS TO IMPROVE ACCESS TO HEALTH CARE THROUGH PHYSICIAN WORKFORCE REFORM, at v (1994) ("Recent data reinforces the conclusions of the Council's Third Report that the nation's physician workforce is not well-matched with public needs. Specifically, the nation has too few generalist and minority physicians, too many specialists, and poor geographic distribution of physicians.").

63. *Id*.

64. *See id*. ("If COGME's year 2000 goals were adopted and attained, the nation would produce 25% fewer physicians annually, of whom at least half would practice as generalists.").

65. THE PEW HEALTH PROFS. COMM'N, CRITICAL CHALLENGES: REVITALIZING THE HEALTH PROFESSIONS FOR THE TWENTY-FIRST CENTURY 30 (1995).

66. *Id*. at 32 (Recommendations D1 and D2).

67. *See* GINZBERG, TEACHING HOSPITALS, *supra* note 49, at 57 (describing the minimal contemporary political impact of various medical reports).

specific physician shortages.[68] In 2004, for example, Merritt, Hawkins & Associates published a detailed monograph predicting a looming shortage of 90,000 to 200,000 physicians across the United States, a dramatic increase in average wait times for non-emergency physician appointments, and increased health care costs.[69]

Similarly, COGME in 2005 released a report projecting a shortage of approximately 85,000 to 96,000 physicians across the United States by 2020.[70] COGME identified three major factors driving its projected physician shortage, including population growth, population aging, and the changing age-specific per capita physician utilization rates, including the higher use of services by individuals over age 45.[71] To meet excess demand for physician services, COGME recommended an increase by 3,000 in the number of physicians entering residency training.[72] COGME also recommended that the distribution of generalist and specialist physicians not reflect a rigid numerical target but, instead, ongoing assessments of demand for particular health care services.[73]

Likewise, the Center for Workforce Studies of the Association of American Medical Colleges (AAMC) issued in 2008 a report projecting a physician shortage of 124,000 physicians by 2025 if

---

68. *See, e.g.*, ASS'N OF AM. MED. COLLS., CTR. FOR WORKFORCE STUDIES, RECENT STUDIES AND REPORTS ON PHYSICIAN SHORTAGES IN THE UNITED STATES 1–22 (2012) [hereinafter AAMC, RECENT STUDIES] (listing dozens of state and specialty-specific reports published since 2000 that project significant physician shortages by the end of the first quarter of the twenty-first century); Iglehart, *Uncertain Future, supra* note 50, at 1341 (referencing these reports). *But see* Scott Gottlieb & Ezekiel J. Emanuel, Op-Ed., *No, There Won't Be a Doctor Shortage*, N.Y. TIMES, Dec. 4, 2013, at A35 (expressing skepticism regarding recent physician shortage projections).

69. JAMES MERRITT, JOSEPH HAWKINS & PHILLIP B. MILLER, WILL THE LAST PHYSICIAN IN AMERICA PLEASE TURN OFF THE LIGHTS? A LOOK AT AMERICA'S LOOMING DOCTOR SHORTAGE (2d ed. 2004).

70. COUNCIL ON GRADUATE MED. EDUC., SIXTEENTH REPORT: PHYSICIAN WORKFORCE POLICY GUIDELINES FOR THE UNITED STATES, 2000 TO 2020, at xvi (2005).

71. *Id*. at xv.

72. *Id.* at xvii.

73. *Id.*

physician supply and use stayed the same.[74] Given likely changes in physician supply and use, the AAMC issued a second projection that is a shortage of 159,300 physicians by 2025.[75] The AAMC noted that even a robust expansion of GME capacity (from, for example, 25,000 to 32,000 new medical residents per year) would only reduce its shortage projections by 54,000.[76]

In addition, a team of physicians affiliated with leading medical centers and health policy institutes across the United States prepared in 2009 a report on behalf of The Physicians Foundation for distribution to the federal government.[77] Based on their assessment of the future demand for physician services, the team endorsed the above-discussed reports projecting physician shortages.[78] The team ultimately recommended that Congress provide financial support for the expansion of UME schools and that Congress remove the caps it placed in 1997 on the number of Medicare-financed GME positions.[79]

By final example, the National Center for Health Workforce Analysis within the federal Health Resources and Services Administration (HRSA) issued a report in late 2013 projecting that the demand for primary care physicians will grow more rapidly than the supply of primary care physicians through 2020.[80] In particular, HRSA projected that the total number of

---

74. ASS'N OF AM. MED. COLLS., CTR. FOR WORKFORCE STUDIES, THE COMPLEXITIES OF PHYSICIAN SUPPLY AND DEMAND: PROJECTIONS THROUGH 2025, at 5–6 (2008).

75. *Id.*

76. *Id*. at 7.

77. RICHARD A. COOPER ET AL., THE PHYSICIANS FOUNDATION, PHYSICIANS AND THEIR PRACTICES UNDER HEALTH CARE REFORM: A REPORT TO THE PRESIDENT AND THE CONGRESS 1–48 (Sep. 9, 2009).

78. *See id.* at 5, 20 ("Based on an assessment of the future demand for physician services, the Project Team endorsed recent reports showing that physician shortages are developing across all specialties and region.").

79. *See id.* at 5 ("[T]he Team urged Congress to remove the cap on Medicare's support of residency positions, which was established more than a decade ago. The Team also called on academic leaders and health insurers to find an equitable payment formula for GME that encompasses all payers.").

80. U.S. DEP'T OF HEALTH & HUMAN SERVS., HEALTH RES. & SERVS. ADMIN., NAT'L CTR. FOR HEALTH WORKFORCE ANALYSIS, PROJECTING THE SUPPLY AND DEMAND OF PRIMARY CARE PRACTITIONERS THROUGH 2020, at 1–2 (2013) [hereinafter HRSA PROJECTIONS 2013].

primary care physicians will increase by eight percent (from 205,000 FTEs in 2010 to 220,800 FTEs in 2020), but that the total demand for primary care physicians will increase by fourteen percent (from 212,500 FTEs in 2010 to 241,200 FTEs in 2020).[81] These projections were based on the increase in the demand growth for primary care services due to overall population growth, the aging population, and the expansion of health insurance coverage required by the Affordable Care Act.[82] HRSA concluded that, without changes to the primary care delivery system, the growth in primary care physician supply would be inadequate to meet demand in 2020 with a projected shortage of 20,400 physicians nationwide.[83]

III. Regional and State Physician Workforce Data

Part II reviewed a number of reports assessing the overall size and shape of the physician workforce in the United States and showed that the current consensus is that the United States will experience significant shortages of both generalist and specialist physicians by the end of the first quarter of the twenty-first century.[84] This Part examines regional and state physician workforce data and explores other factors that are necessary to consider when making determinations regarding optimal and equitable physician supply and distribution in particular geographic areas.

As might be expected, some geographic areas within the United States have significantly higher numbers of physicians

---

81. *Id.*

82. *Id.*

83. *Id.*

84. *See, e.g.*, HRSA PROJECTIONS 2006, *supra* note 52, at 3 ("[A] growing consensus is that over the next 15 years, requirements for physician services will grow faster than supply—especially for specialist services and specialties that predominantly serve the elderly."); Berényi, *Preface, supra* note 49, at xiii (same); AM. MED. ASS'N, CTR. FOR TRANSFORMING MED. EDUC. & ADVOCACY RES. CTR, CRITICAL CONDITION: THE CALL TO INCREASE GRADUATE MEDICAL EDUCATION FUNDING 1 (2011) ("Many authorities agree that by 2025 the United States will face a shortage of physicians to meet the needs of a growing and aging U.S. population.").

than other areas. The Middle Atlantic, which includes New Jersey, New York, and Pennsylvania, has 168,230 total physicians, 126,890 of whom are in patient care.[85] In comparison, the Mountain region, which includes Arizona, Colorado, Idaho, Montana, Nevada, New Mexico, Utah, and Wyoming, has only 61,098 total physicians, 46,377 of whom are in patient care.[86] Similarly, the East South Central region, which includes Alabama, Kentucky, Mississippi, and Tennessee, has only 49,962 total physicians, 39,955 of whom are in patient care.[87]

Given the high populations in New Jersey, New York, and Pennsylvania, one would expect higher total numbers of physicians there. More helpful, then, are statistics that show the ratio of the number of physicians to a particular population. New England (which includes Connecticut, Maine, Massachusetts, New Hampshire, Rhode Island, and Vermont) and the Middle Atlantic have the highest numbers of total physicians in patient care per 100,000 civilian population at 477 and 408, respectively.[88] The West South Central (Arkansas, Louisiana, Oklahoma, and Texas), East South Central, and Mountain regions have the lowest number of physicians per 100,000 civilian population at 251, 268, and 270, respectively.[89]

Moving from regional to state data, the District of Columbia has the highest physician-to-population ratio in the nation with 923 physicians per 100,000 population.[90] Six hundred forty-seven of these D.C. physicians are in patient care.[91] Massachusetts has the second highest number of physicians per 100,000 population at 550,[92] Maryland has the third highest number at 484,[93] and New York has the fourth highest number at 460.[94] These numbers are not surprising given the high numbers

85. AMA, PHYSICIAN CHARACTERISTICS, *supra* note 7, at 65, 90.
86. *Id*. at 65, 96.
87. *Id*. at 65, 94.
88. *Id*. at 65.
89. *Id*.
90. *Id*. at 458.
91. *Id*.
92. *Id.*
93. *Id*.
94. *Id*.

of UME schools and GME programs in New England and the Middle Atlantic.[95] Virtually all of New York City's hospitals, for example, are teaching hospitals.[96] Six medical schools are located in New York City's 301 square miles alone and a seventh medical school, which relocated to a suburban county to the north, still maintains a large number of teaching hospitals in the city.[97] In addition, nine of the eleven public acute-care hospitals in New York City are affiliated with teaching programs.[98]

Physician-to-population ratios generally drop as one moves in a westerly and southerly direction. Idaho, for example, has the lowest number of physicians per 100,000 population at 204.[99] Oklahoma has the second lowest number at 208,[100] Mississippi has the third lowest number at 212,[101] and Wyoming and Nevada tied for the fourth lowest number at 223.[102] Other states that are in the top ten in terms of the lowest number of physicians per 100,000 population include Alabama, Arkansas, Georgia, Indiana, Iowa, Texas, and Utah.[103] Primary care physician-to-population ratios also drop as one moves in a westerly and southerly direction.[104] Vermont, Maine, Massachusetts, and New Hampshire have the highest ratios of primary care physicians to population in the nation.[105] Mississippi, Utah, Nevada, and Texas

95. *See* AM. ASS'N OF MED. COLLS., NUMBER OF U.S. MEDICAL SCHOOLS BY REGION 1 (2011) (showing that there are forty-five medical schools in the "Northeastern" region and forty-seven in the "Southern" region, including several Middle-Atlantic states like Virginia and Pennsylvania, but only thirty-three in the "Central" region and twenty in the "Western" region).

96. Howard S. Berliner, *Changes in the Health Care Delivery System in New York City: 1980–90*, *in* CHANGING U.S. HEALTH CARE, *supra* note 49, at 17.

97. *Id*. at 17–18.

98. *Id*. at 18.

99. *See* AMA, PHYSICIAN CHARACTERISTICS, *supra* note 7, at 458 (presenting physician to population ratios and state rank for 2012).

100. *Id*.

101. *Id*.

102. *Id*.

103. *Id*.

104. *See* AAMC, 2013 PHYSICIAN DATA BOOK, *supra* note 7, at 13–14 (presenting primary care physicians to population ratios for 2012).

105. *Id.*

have the lowest ratios of primary care physicians to population in the nation.[106]

The data presented above allow for simple comparisons between total and relative numbers of physicians in different regions and states.[107] Standing alone, however, this data cannot be interpreted as an oversupply or undersupply of physicians or an appropriate distribution or maldistribution of physicians.[108] A number of other factors must be considered in assessing optimal and equitable physician supply and distribution.[109] Some of these factors are discussed below.

Local health care needs are an important factor in any physician workforce analysis.[110] For example, age-adjusted rates of lung cancer in Jacksonville, Florida, have been among the highest of any metropolitan area in the United States for decades.[111] With an estimated population of around 842,000,[112] Jacksonville may need a greater supply of physicians who treat and diagnose lung cancer than a similarly sized city with lower rates of lung cancer. Likewise, Houston, Texas, is home to several major industries, including the oil and gas, petrochemical, shipping, manufacturing, and agricultural industries.[113] Although

106. *Id*.

107. *See* AMA, PHYSICIAN CHARACTERISTICS, *supra* note 7, at 64 (stating that the population and physician ratios "are presented as general guidelines to compare the distributions of physicians").

108. *Id.* at 439; *see also* RAYMOND W. PONG & J. ROGER PITBLADO, GEOGRAPHIC DISTRIBUTION OF PHYSICIANS IN CANADA: BEYOND HOW MANY AND WHERE vii (2005) (explaining that a maldistribution of health care providers occurs when there is a "mismatch between the spatial distribution of inhabitants and that of health care providers").

109. *See* AMA, PHYSICIAN CHARACTERISTICS, *supra* note 7, at 64 ("It is recognized that the quality and quantity of health care are predicated on a variety of factors such as medical need for services, demographic composition, geographical location, and socioeconomic variables, among others.").

110. *See id.* (including "medical need for services" as a factor affecting the analysis of health care provider distribution).

111. Phyllis M. Tousey et al., *Determinants of the Excessive Rates of Lung Cancer in Northeast Florida*, 92(5) S. MED. J. 493, 493 (1999).

112. *State and County Quick Facts, Jacksonville (City) Florida*, U.S. CENSUS BUREAU, quickfacts.census.gov/qfd/states/12/1235000.html (last updated July 8, 2014) (last visited Nov. 18, 2014) (on file with the Washington and Lee Law Review).

113. Loe et al., *supra* note 49, at 159–60.

the diversity of industry assures Houston a strong economic base, one result is a relatively high number of environmental and occupational health hazards and related illnesses and injuries.[114] With an estimated population of 2.2 million,[115] Houston may need a greater supply of physicians who are specifically trained to treat environmental and occupational illness and injuries than a similarly sized, but less industrial, city. Stated another way, total population is certainly not the only factor that should be considered in determining the number and specialty of physicians needed in a particular geographic area.[116]

Putting aside local differences in health care needs and holding steady other factors, demand for certain health care services can still increase over time, thus necessitating a greater supply of physicians who specialize in the provision of those services.[117] In 1980, for example, 400,000 patients were hospitalized for heart failure.[118] By 2000, this number rose to almost one million.[119] Holding steady other factors, this data may suggest a need for an increased supply of cardiologists. Similarly, the prevalence of autism has increased twentyfold to thirtyfold since the earliest epidemiologic studies were conducted in the late 1960s and early 1970s.[120] During that time period, prevalence estimates were approximately one in 2,500 children.[121] Today, prevalence estimates are one to two percent of all children.[122] Holding steady other factors, this data may suggest a need for an

---

114. *Id*. at 161.

115. *State and County Quick Facts, Houston (City) Texas*, U.S. CENSUS BUREAU, quickfacts.census.gov/qfd/states/48/4835000.html (last updated July 8, 2014) (last visited Nov. 18, 2014) (on file with the Washington and Lee Law Review).

116. *See* AMA, PHYSICIAN CHARACTERISTICS, *supra* note 7, at 64 (listing factors in addition to population that should be considered in a physician supply analysis).

117. THE COMING SHORTAGE, *supra* note 55, at 3.

118. *Id*.

119. *Id*.

120. *See, e.g.*, *Prevalence of Autism Spectrum Disorder Among Children Aged 8 Years—Autism and Developmental Disabilities Monitoring Network*, MORBIDITY & MORTALITY WKLY. REP., Mar. 28, 2014, at 2.

121. *Id*.

122. *Id*.

increased supply of physicians and other allied health professionals who are trained in providing services to children with autism.[123]

The age of the population in a particular geographic area is another important consideration in any assessment of physician supply.[124] According to the U. S. Census Bureau (Census Bureau), the median age of U. S. residents grew from 35.3 years in 2000 to 37.2 years in 2010.[125] In addition, an estimated 22% of the U. S. population will be over the age of 65 by 2030, and the fastest growing cohort within this subgroup includes individuals over 75.[126] Currently, approximately 44.5 million people are over the age of 75; by 2050, individuals over age 75 will number almost 50 million.[127] Older individuals typically utilize more, and higher cost, health care services than younger individuals.[128] Thus, the average age of the population in a given geographic area as well as the total and relative number of residents in the population's upper age brackets are important factors in assessing optimal physician and specialty supply for that area.[129] Florida, for example, has a higher percentage of residents who are 65 or older

---

123. *See id.* at 10 (noting that an analysis of service delivery patterns gleaned from sources that report prevalence of Autism Spectrum Disorder "might affect policy and funding decisions surrounding the early identification and treatment of [Autism Spectrum Disorder]").

124. *See* AMA, PHYSICIAN CHARACTERISTICS, *supra* note 7, at 64 (including "demographic composition" and "geographic location" as factors affecting the quality of health care and an analysis of physician supply).

125. Lindsay M. Howden & Julie A. Meyer, *Age and Sex Composition: 2010*, 2010 CENSUS BRIEFS, May 2011, at 5.

126. Sara J. Czaja & Joseph Sharit, *The Aging of the Population: Opportunities and Challenges for Human Factors Engineering*, 39 BRIDGE 34, 34 (2009).

127. *Id*.

128. *See* Mark W. Stanton, *The High Concentration of U.S. Health Care Expenditures*, 19 RES. IN ACTION, June 2006, at 3 ("The elderly (age 65 and over) made up around 13% of the U.S. population in 2002, but they consumed 36% of total U.S. personal health care expenses.").

129. *See, e.g.*, Nat'l Center for Health Workforce Analysis, *Professions Projecting the Supply and Demand for Primary Care Practitioners Through 2020*, Nov. 2013, at 22–23 (noting the increasing median age and stating that, "[s]ince the amount of primary care services sought by patients varies substantially by age, these demographics suggest a growing demand for geriatrics").

(18.2%) compared to the national average (13.7%).[130] Dixie County, Florida, has a particularly high percentage of residents (20.7%) who are 65 or older.[131] Physician requirements (and the average cost of health care) in Dixie County, Florida, will be very different than, say, Utah County, Utah, which has a very high birth rate and where only 6.8% of individuals are 65 or older.[132]

Any assessment of physician supply in a particular geographic area also must consider cultural determinants of health care access and effectiveness.[133] In 2010, for example, 41% of Hispanics lived in the West and 36% lived in the South.[134] The Northeast and Midwest only accounted for 14% and 9%, respectively, of the United States Hispanic population.[135] Although the Hispanic population grew in every region between 2000 and 2010, more rapid growth occurred in the South and Midwest.[136] Overall, 12.9% of individuals living in the United States are Hispanic; however, certain states such as New Mexico (42.1%), California (32.4%), and Texas (32.0%), have significantly higher percentages of Hispanic residents.[137] The cultural determinants of health care access and effectiveness would be

130. *State and County Quick Facts, Florida*, U.S. CENSUS BUREAU (last updated July 8, 2014), quickfacts.census.gov/qfd/states/12000.html (last visited Nov. 18, 2014) (on file with the Washington and Lee Law Review).

131. *State and County Quick Facts, Dixie County, Florida*, U.S. CENSUS BUREAU (last updated July 8, 2014), quickfacts.census.gov/qfd/states/12/12029.html (last visited Nov. 18, 2014) (on file with the Washington and Lee Law Review).

132. *State and County Quick Facts, Utah County, Utah*, U.S. CENSUS BUREAU, quickfacts.census.gov/qfd/states/49/49049.html (last updated July 8, 2014) (last visited Nov. 18, 2014) (on file with the Washington and Lee Law Review).

133. *See, e.g.*, Leo S. Morales et al., *Socioeconomic, Cultural, and Behavioral Factors Affecting Hispanic Health Outcomes*, 13(4) J. HEALTH CARE POOR & UNDERSERVED 477, 477 (2002) (examining cultural factors affecting health care access and outcomes).

134. Sharon R. Ennis et al., *The Hispanic Population: 2010*, 2010 CENSUS BRIEFS, May 2011, at 4.

135. *Id*.

136. *Id*.

137. *Id*. at 6 tbl.2.

important considerations in assessing physician workforces in these regions and states.[138]

Rates of health insurance among patients and willingness of physicians to accept health insurance also must be considered in any assessment of physician supply (and patient access to that supply).[139] Even in an area with a high number of physicians, an individual who does not have health insurance and who cannot pay for health care out of his or her own pocket likely will not be able to access an otherwise available physician.[140] Although the Affordable Care Act (ACA)[141] does require all individuals to obtain and maintain minimum essential health insurance coverage[142] and makes it easier for certain individuals to qualify for Medicaid due to ACA's Medicaid expansion,[143] ACA will not solve the nation's health care access problems for several reasons. First, a growing number of physicians across the United States do not accept any type of health insurance, regardless of whether it is private or public insurance.[144] Second, even those physicians who accept private insurance may not accept Medicare or

---

138. *See, e.g.*, José J. Escarce & Kanika Kapur, *Access to and Quality of Health Care*, *in* HISPANICS AND THE FUTURE OF AMERICA 410, 410–46 (Marta Tienda & Faith Mitchell eds., 2006) (examining features of the Hispanic population that affect access to and quality of health care).

139. *See id.* at 411 ("Lacking health insurance makes the costs of health care services prohibitive for many people and is the most important barrier to adequate health care access.").

140. GINZBERG & MINOGIANNIS, *supra* note 53, at 13.

141. Patient Protection and Affordable Care Act, Pub. L. No. 111-148, 124 Stat. 119 (2010) ("PPACA"), *amended by* Health Care and Education Reconciliation Act, Pub. L. No. 111-152, 124 Stat. 1029 (2010) ("HCERA") [as consolidated, the Affordable Care Act; hereinafter ACA] § 1501(b).

142. 26 U.S.C. § 18091 (2012).

143. *Id.* § 2001(a).

144. *See, e.g.*, Barbara Hollingsworth, *More Physicians Are Refusing to Accept Any Third Party Insurance*, CNSNEWS.COM (Dec. 9, 2013), http://cnsnews.com/news/article/barbara-hollingsworth/more-physicians-are-refusing-to-accept-any-third-party-insurance (last visited Nov. 18, 2014) (quoting the Executive Director of the American Association of Physicians and Surgeons as stating that "[a] small but growing number of physicians are not accepting government insurance, such as Medicare and Medicaid, and are even refusing to accept patients' private insurance") (on file with the Washington and Lee Law Review).

Medicaid.[145] Indeed, a recent study found that although 83.0% and 69.4% of doctors nationwide accept new Medicare and Medicaid patients, respectively, the rates vary widely across the nation.[146] For example, Wyoming, Minnesota, and North Dakota had the three highest rates of physician acceptance of new Medicaid patients at 99.3%, 96.3%, and 94.6%, respectively.[147] New Jersey, California, and Florida had the three lowest rates of physician acceptance of new Medicaid patients at 40.4%, 57.1%, and 59.1%, respectively.[148] One way some workforce analysts measure the availability of the physician workforce is by measuring physicians' willingness to accept new patients.[149] Although New Jersey is ranked in the top ten in the nation in terms of states with the largest numbers of physicians,[150] these physicians actually may be less accessible to New Jersey Medicaid beneficiaries compared to the accessibility of Wyoming physicians to Wyoming Medicaid beneficiaries.[151] Stated slightly differently, states such as New Jersey may actually need to increase their supply of physicians who accept Medicaid.[152]

Medical specialty is another factor that needs to be considered in assessments of the relationship between physician supply and patient insurance status.[153] Recent studies show that some physician specialties are more likely to accept Medicare and

---

145. *See* Sandra L. Decker, *In 2011 Nearly One-Third of Physicians Said They Would Not Accept New Medicaid Patients, But Rising Fees May Help*, 31 HEALTH AFF. 1673, 1675 (2012) (noting that 69.4% of physicians nationally accepted new patients with Medicaid compared to 81.7% that accepted patients with private insurance).

146. *Id.* at 1676 ex. 2.

147. *Id.*

148. *Id*.

149. *Id*. at 1673.

150. AMA, PHYSICIAN CHARACTERISTICS, *supra* note 7, at 286 tbl.H.

151. *See* Decker, *supra* note 145, at 1676 ex. 2 (showing that 97.9% of Wyoming physicians accepted new Medicaid patients compared to 27.9% of New Jersey physicians in 2011).

152. *See id.* (stating physician statistics regarding Medicaid acceptance).

153. *See* Esther Hing & Susan Schappert, *Generalist and Specialty Physicians: Supply and Access, 2009–2010*, NCHS DATA BRIEF, Sept. 2012, at 3 (listing factors to consider in a physician supply analysis).

Medicaid patients than are other physician specialties.[154] Data from the National Ambulatory Medical Care Survey (NAMCS) show that, in 2009 and 2010, generalist physicians were less likely to accept new Medicaid patients (65%) than were specialist physicians (71%).[155] Again, this data could be relevant in workforce projections that are focused on increasing the supply of physicians for the Medicaid population.[156]

Other physician characteristics also affect assessments of physician supply and distribution. The age of physicians in patient care as well as their average retirement also must be considered.[157] If two geographic areas have the same population and the same number of physicians but the average physician age in the first geographic area is 38 and the average physician age in the second geographic area is 50, then the second area may become undersupplied more quickly than the first area. Indeed, states have very uneven numbers and percentages of older physicians.[158] For example, 17,373 of Florida's 60,644 physicians (28.6%) are 65 or older.[159] In comparison, only 3,539 of Wisconsin's 17,787 physicians (19.9%) are 65 or older.[160] Holding all other factors equal, Florida may become relatively undersupplied more quickly due to a larger percentage of older physicians.[161]

---

154. *See, e.g.*, *id.* (noting that 71% of specialty physicians accepted new Medicaid patients in 2009–2010 compared to 65% of generalist physicians that accepted new Medicaid patients).

155. *Id*. This study defined generalists as physicians in the "specialties of family practice, general medicine, internal medicine, and pediatrics. Specialists included physicians in all other specialties." *Id*. at 1.

156. *See* Nat'l Center for Health Workforce Analysis, *supra* note 129, at 1, 25 (noting the interplay between Medicaid expansion and models predicting physician supply).

157. *See* THE COMING SHORTAGE, *supra* note 55, at 5 (noting that "changing retirement ages adds to the problem" of a potential future physician shortage).

158. *See* AMA, PHYSICIAN CHARACTERISTICS, *supra* note 7, at 51 tbl.2.1. (listing the average age of physicians in each state).

159. *Id.* at 51.

160. *Id*.

161. *See id.* (showing that Florida has more physicians that are more than sixty-four years old than any other state).

Workforce assessments also must consider average retirement ages, which are lowering over time.[162] The average retirement age of a general surgeon used to be 71 years of age.[163] By 2000, it had dropped to 58.[164] A recent survey reported that among physicians who are 50 years old, almost 50% of them were planning to retire, limit their practices, or seek other nonclinical opportunities within the next three years.[165] Even in geographic areas that have had an adequate supply of physicians in the past, lowering retirement ages may suggest a need for a greater physician supply in the future.[166]

Other physician work characteristics also affect assessments of physician supply and distribution. For example, some physician specialties are more likely to see patients during the evening and on the weekends than other physician specialties.[167] NAMCS data from 2009 to 2010 show that a greater percentage of generalist physicians worked evening and weekend hours (40%) than did specialty physicians (19%).[168] This data could be very relevant in geographic areas where a high percentage of residents work particular shifts, such as in factory towns. That is, holding all other factors equal, efforts to increase the number of generalist physicians, who may be more willing to work evening and weekend hours, may result in a higher effective supply of physicians than efforts to increase the number of specialist physicians, who would be less accessible to area residents with day-only shifts.

Physician workforce assessments also must consider the number of patient visits physicians are willing to schedule each year.[169] NAMCS data from 2009 to 2010 show that although the

---

162. *See* THE COMING SHORTAGE, *supra* note 55, at 5 (noting that "changing retirement ages adds to the problem" of a potential future physician shortage).

163. *Id.*

164. *Id.*

165. *Id.*

166. *See supra* note 162 and accompanying text.

167. *See* Hing & Schappert, *supra* note 153, at 4 (stating that generalist physicians worked more evening and weekend hours than did specialty physicians in 2009 to 2010).

168. *Id.*

169. *See id.* at 5 (discussing the difference in scheduling practices between

number of specialty physicians (636 per one million population) was significantly larger than the number of generalist physicians (472 per one million population), the number of visits to both types of physicians was about the same, resulting in higher annual visits per generalist than per specialist.[170] As in the prior example, this data could be relevant in discussions regarding the supply and distribution of generalists versus specialists.[171]

Ancillary medical resources also are important in physician workforce analyses.[172] Most states allow nurse practitioners, physician assistants, and certain other non-physician practitioners to independently provide a number of health care services—including the taking of personal and medical histories, the performance of physical examinations, the ordering of some tests, the administration of some vaccines, and the prescription of some drugs (such as oral contraceptives and topical anti-parasitic drugs)—or to provide these services pursuant to standing delegation orders developed and approved by a physician.[173] In geographic areas with high numbers of non-physician practitioners with broad scopes of practice, the supply of physicians may not need to be as great.[174]

A final illustrative factor is projected population growth. The population of the United States has increased from 227 million in 1980 to over 318 million in 2014, an increase of over 91 million people.[175] The Census Bureau predicts that the population of the

---

generalist and specialist physicians).

170. *Id*. at 2.

171. *See id.* at 6 (comparing physician workloads and suggesting further research to monitor the supply of generalist physicians at state and local levels).

172. *See, e.g.*, SCHEFFLER, *supra* note 54, at 53–63 (noting that other health care practitioners, including nurse practitioners and physician assistants, must be considered in any physician workforce analysis).

173. *See, e.g.*, 22 TEX. ADMIN. CODE §§ 193.2(19), 193.4(1)–(8) (2014) (defining standing delegation order and identifying health care services that certain non-physician practitioners in Texas can provide pursuant to standing delegation orders).

174. *See* HRSA PROJECTIONS 2013, *supra* note 80, at 2 ("Increased use of [nurse practitioners and physician assistants] could somewhat alleviate the projected primary care physician shortage if they are effectively integrated into the health care delivery system.").

175. THE COMING SHORTAGE, *supra* note 55, at 4 (providing 1980 data); *U.S. and World Population Clock*, U.S. CENSUS BUREAU, http://www.census.gov/

United States will reach 420 million by 2050, a 32% increase from 2014.[176] The Census Bureau also has reported that population growth is highest in the South and the West, especially in states such as Arizona, Idaho, Tennessee, Texas, and Utah.[177] These and other trends lead some workforce analysts to predict not only a nationwide shortage of 500,000 physicians by the year 2050, but also more severe physician shortages in some geographic areas compared to others.[178]

These are illustrative, not exhaustive, examples of factors that need to be considered in any assessment of physician supply and distribution. Other factors include, but are not limited to, advances in pharmacology and technology, which may render obsolete some of the medical practices and procedures that are required today, average patient care hours, which may be declining as today's physicians seek better work-life balance, further health care reforms, including additional changes in reimbursement and health care delivery models, and public perceptions and expectations regarding appropriate use of health care services and the ability of health care to improve health.[179]

IV. The Relationship Between Graduate Medical Education and Physician Supply and Distribution

There is a widely held belief that expanding existing UME schools or building new UME schools can cure physician shortages.[180] Expanding existing UME schools and building new

---

popclock/ (last visited Nov. 18, 2014) (estimating the U.S. population on September 8, 2014 at 1:46 PM EST to be 318,837,895) (on file with the Washington and Lee Law Review).

176. THE COMING SHORTAGE, *supra* note 55, at 4.

177. *See supra* note 6 and accompanying text (discussing the potential for physician shortages in the American South and West, where physician-to-population ratios are generally less than other areas of the country).

178. THE COMING SHORTAGE, *supra* note 55, at 4.

179. *See* GINZBERG & MINOGIANNIS, *supra* note 53, at 13 (noting that physician supply and access to health care is a multifaceted issue requiring analysis of several factors); Thomas R. Russell, *Foreword*, *in* THE COMING SHORTAGE, *supra* note 55, at xviii (listing several factors that affect physician workforce analyses); SCHEFFLER, *supra* note 54, at 7 (same).

180. *See* JULIE C. SPERO ET AL., GME IN THE UNITED STATES: A REVIEW OF

UME schools *is* critically important for the United States' long-term physician supply and *is* necessary to increase the number of individuals who are prepared to begin their GME.[181] In addition, however, policymakers and the public also need to understand the importance of GME to fulfill state licensure and practice requirements.[182] As discussed in more detail below, states with physician shortages need the ability not only to expand existing UME schools or build new UME schools, but also the ability to expand existing GME programs or build new GME programs that can absorb these recent undergraduates.[183] This way, each state can increase the number of fully-trained, practice-ready physicians who are most likely to stay and practice medicine in that state.[184] Before proceeding to this point, some background information regarding American medical education is necessary.

American medical education currently consists of three parts, including a baccalaureate or advanced degree program providing for the study of the basic medical sciences (sometimes referred to as a "pre-medical education"), an allopathic or osteopathic UME that leads to the M.D. or D.O. degree, and direct clinical experience in one to eight years of GME.[185] GME thus may be defined as the process by which a physician acquires additional clinical training in a designated area of specialization under the

---

STATE INITIATIVES 7 (2013) (stating that policymakers and interviewees from the public at large "were more interested in financing a new medical school because it increases a university's or city's prestige, . . . creates jobs, and tends to be perceived positively by local constituents").

181. *See id.* at 7–8 (noting evidence suggesting that the national growth of UME positions has outpaced the growth of GME positions).

182. *See id*. at 7 (discussing GME positions).

183. *See, e.g.*, NEV. LEGISLATIVE COMM. ON HEALTH CARE, NEVADA STRATEGIC HEALTH PLAN, at 3 (2007) (recommending the expansion of GME in Nevada, in part by seeking legislative removal of current resident caps).

184. *See infra* notes 185–221 and accompanying text (outlining the American medical education system and presenting statistics on states' retention of graduating physicians); *supra* note 13 and accompanying text (noting that physicians who complete both their undergraduate and graduate medical education in Nevada are most likely to stay and practice medicine in Nevada).

185. *See, e.g.*, HHS PRIMER, *supra* note 49, at 1 (providing an overview of undergraduate and graduate medical education).

supervision of a teaching physician.[186] The first year of a physician's GME is frequently referred to as an internship. The internship is followed by a core period of residency training.[187] Core residency training may be followed by a fellowship or additional advanced training that leads to a subspecialization, such as one in pediatric oncology or forensic psychiatry.[188] Residencies vary in length according to the chosen specialty and typically require three to eight years to complete.[189]

Importantly, most states require a minimum of at least one year of GME before licensure and practice, and most physicians do complete a full course—three to eight years—of GME before opening their own practices.[190] In all specialties recognized by the American Board of Medical Specialties and the American Osteopathic Association, board certification requires completion of a residency.[191] Because only board-certified or board-eligible physicians can obtain privileges in most hospitals, employment in most hospital-owned groups, and service as a preferred provider in most insurance panels, completion of a full course of GME is a practical necessity for those physicians who would like to engage in the traditional practice of medicine with hospital privileges and third-party reimbursement.[192] Only a few types of physicians do not need to complete a full course of GME.[193] Examples include

---

186. *See id.* at 2 (providing an overview of medical residency training).

187. *Id.*

188. *See id.* (discussing that medical students complete residencies that further their training in a chosen specialty area).

189. *Id*.

190. *See id.* at 1 (noting most states permit the practice of medicine after one year of "post-graduate training," but most physicians complete several years of graduate training first); Carolyn Schierhorn, *Practicing After One Year of GME: Is it Feasible? Should it Be?* THE DO (Feb. 5, 2014, 5:13 PM), http://thedo.osteopathic.org/2014/02/practicing-after-one-year-of-gme-is-it-feasible-should-it-be/ (last visited Nov. 18, 2014) (discussing whether a physician can realistically obtain employment after one year of training when the majority of employment positions require certification) (on file with the Washington and Lee Law Review).

191. Schierhorn, *supra* note 190.

192. *See id.* (discussing the practical necessity for physicians to complete a full GME program).

193. *See id.* (noting some physicians enter the workforce after one year of training and discussing the types of employment).

physicians who only want to work in the United States Military, "which allows one-year-trained physicians to serve as general medical officers and flight surgeons"; physicians who do not mind having cash-only (i.e., non-third party reimbursed) medical practices; and residents who moonlight to make extra money during their residencies.[194]

GME typically occurs in teaching hospitals or other health care settings that can provide a clinical setting that is appropriate for the training of physicians.[195] Most teaching hospitals are tertiary care hospitals that treat high numbers of medically complex patients and that care for a disproportionate share of uninsured or underinsured patients.[196] Financial arrangements between teaching hospitals, where residents physically see patients, and the medical schools that are responsible for their training vary widely.[197] As discussed *infra* Part V.A.1, the "lack of consistency among these arrangements makes it [extremely] difficult to accurately and appropriately determine [and] allocate the costs of GME."[198]

Nationally, the number of residents in ACGME-accredited training programs per 100,000 population varies widely across the United States, from a low of 2.0 in Montana to a high of 83.7 in Massachusetts.[199] The national average is 36.6 residents per 100,000 population.[200] In addition to Massachusetts, the four states with the highest resident-to-population ratios include New York, Connecticut, Rhode Island, and Pennsylvania.[201] In addition to Montana (ranked 50th), the ten states with the lowest resident-to-population ratios include Georgia (ranked 40th), Indiana (ranked 41st), Florida (ranked 42nd), Mississippi (ranked

194. *Id*.

195. HHS PRIMER, *supra* note 49, at 1–2.

196. *Id*. at 2.

197. *See id.* at 6 (noting the financial arrangements differ between programs due to "location, custom[,] and mission").

198. *Id*.

199. AAMC, 2013 PHYSICIAN DATA BOOK, *supra* note 7, at 32 map 6, 36 fig.12, 37 tbl.12.

200. *Id*. at 32.

201. *See id*. (displaying a graph and table with each state's resident-to-population ration compared to the other states).

43rd), North Dakota (ranked 44th), South Dakota (ranked 45th), Nevada (ranked 46th), Wyoming (ranked 47th), Idaho (ranked 48th), and Alaska (ranked 49th).[202]

State ratios showing the number of residents in GME programs to the number of students in UME schools are also helpful for understanding the relative number of residency positions in a state. Nationally, the number of first year allopathic and osteopathic UME seats increased by 30% between 2002 and 2012, from 19,567 to 25,503.[203] During the same time period, the number of first year (PGY-1) GME positions only increased by 17%, from 20,602 to 24,034.[204] Nationally, there are still more residents in GME programs than there are students in UME schools.[205] In the United States during the 2011–2012 academic year, for example, the average ratio of GME residents to UME students was 1.21 and the median ratio was 1.05.[206] However, these ratios vary widely across the country, with some states having significantly fewer GME slots than UME seats.[207]

The states with the highest GME-to-UME ratios include Connecticut (2.44), Utah (2.05), Rhode Island (1.89), Minnesota (1.86), Massachusetts (1.83), and New York (1.72).[208] The states with the lowest GME-to-UME ratios—not including Alaska, Delaware, Idaho, Montana, and Wyoming, which do not have either an allopathic or an osteopathic UME school and for which a GME-to-UME ratio can be calculated—include Iowa (0.56), West Virginia (0.55), South Dakota (0.51), North Dakota (0.46), and Nevada (ranked last in the nation with a ratio of 0.45).[209]

---

202. *Id*.

203. SPERO ET AL., GME, *supra* note 180, at 7.

204. *See id*. at 7–8 (noting the difference in growth rates between UME seats and GME positions).

205. *See* AAMC, 2013 PHYSICIAN DATA BOOK, *supra* note 7, at 42 fig.15 (noting the United States has more residents than medical students in the 2011–2012 academic year).

206. *Id.* at 42 fig.15, 43 tbl.15.

207. *See id.* (providing a graph and table of each state's GME-to-UME ratio and actual number of GME residents and UME students).

208. *Id*.

209. *Id*.

Nationwide, almost one-half (47.4%) of physicians will stay and practice medicine in the state where they completed their most recent GME.[210] In some states, more than one-half of physicians will stay and practice medicine in the state if they completed their most recent GME there.[211] The states with the highest GME retention rates are in the South and the West.[212] Nevada, for example, had the ninth highest GME retention rate in the nation; that is, after completing their GME in Nevada, 55.8% of these physicians stayed in or returned to Nevada to practice medicine.[213] GME retention rates are significantly higher than UME retention rates.[214] Nationwide, only 38.7% of allopathic and osteopathic medical students practice in the same state where they completed their UME.[215] Due in part to the low number of residency slots, Nevada, for example, retained only 36.8% of the physicians who completed their UME in the state.[216]

State retention rates are the highest for physicians who complete both their UME and GME in that state.[217] In 2012, two-thirds (66.6%) of the physicians in the United States who completed their UME and GME in the same state remained in or returned to that state to practice medicine.[218] Most of the top states in terms of combined UME and GME retention rates were in the South and West.[219] In 2012, for example, only 211 actively practicing physicians had completed both their UME and GME in

---

210. AAMC, 2013 PHYSICIAN DATA BOOK, *supra* note 7, at 47.

211. *See id.* at 52 fig.19, 53 tbl.19 (providing bar graph and table displaying data showing each state's physician retention rate from GME in 2012).

212. *See id*. at 47 map 11, 52 fig.19, 53 tbl.19 (identifying California, Florida, Texas, Arkansas, and Nevada as having high GME retention rates).

213. *See id.* at 52 fig.19, 53 tbl.19 (providing bar graph and table displaying data showing each state's physician retention rate from GME in 2012).

214. *See id.* at 48 fig.17, 49 tbl.17, 52 fig.19, 53 tbl.19 (comparing GME retention rates with UME retention rates).

215. *Id*. at 46 map 10, 48 fig.17, 49 tbl.17.

216. *Id*. at 49 tbl.17.

217. *See id.* at 54 fig.20, 55 tbl.20 (displaying data on the retention rates of physicians who complete their UME and GME in the same state).

218. *Id*. at 47 map 11.

219. *See id*. at 47 map 11, 54 fig.20, 55 tbl.20 (identifying Arkansas, California, Texas, California, Nevada, Florida, and Mississippi as having high retention rates for physicians who completed both UME and GME in the state).

Nevada.[220] However, Nevada retained 167 of these still actively practicing physicians, resulting in a 79.1% retention rate, the fifth highest in the country.[221]

In summary, states like Nevada that have low GME-to-UME ratios are investing in the undergraduate medical educations of individuals who then leave to complete their medical training and open their practices elsewhere. However, given Nevada's and other similarly situated states' very high UME-plus-GME retention rates, the building of new or expansion of existing UME schools combined with the building of new or expansion of existing GME programs would increase the number of local physicians but for the limitations on resident caps and build-out periods that I describe in Part V and that I propose eliminating in Part VI.

V. Medicare Financing of Graduate Medical Education

Given the importance of GME to physician supply and distribution, Part V examines the history and regulation of Medicare financing of GME. In 1965, Congress stated its intent that a part of the net costs of GME, including resident stipends and supervising faculty compensation, should be borne by the newly created Medicare Program:[222]

---

220. *Id*. at 55 tbl.20.

221. *Id*.

222. Funded and administered by the federal government, Medicare is a public healthcare program that in 1966 began providing health insurance to individuals age sixty-five or older who were insured under the Federal Old-Age and Survivors Insurance Program. Health Insurance for the Aged Act, Pub. L. No. 89-97, §§ 101–22, 79 Stat. 286, 290–360 (1965) (codified as amended in scattered sections of 42 U.S.C.). The Social Security Amendments of 1972 expanded Medicare eligibility to include certain individuals under the age of sixty-five who had disabilities and certain individuals with end-stage renal disease. Social Security Amendments of 1972, Pub. L. No. 92-603, § 299I, 86 Stat. 1329, 1463–64 (1972) (codified as amended in scattered sections of 42 U.S.C.); Robert M. Ball, *Social Security Amendments of 1972: Summary and Legislative History*, SOCIAL SECURITY BULL., Mar. 1973, at 3, 18–19, http://www.ssa.gov/policy/ docs/ssb/v36n3/v36n3p3.pdf (discussing the expansion of Medicare eligibility). At the time of the Social Security Amendments of 1965 and 1972, Medicare coverage consisted only of hospital insurance, known as Medicare Part A, as well as supplemental medical insurance, known as

> Many hospitals engage in substantial educational activities, including the training of medical students, internship and residency programs, the training of nurses, and the training of various paramedical personnel. Educational activities enhance the quality of care in an institution, and it is intended, until the community undertakes to bear such education costs in some other way, that a part of the net cost of such activities (including stipends of trainees as well as compensation of teachers and other costs) should be borne . . . to an appropriate extent by the hospital insurance program.[223]

Indeed, when President Lyndon B. Johnson signed the Social Security Amendments of 1965 (Amendments) into law on July 30, 1965,[224] the Amendments provided that GME costs were allowable inpatient hospital service[225] costs for which teaching

---

Medicare Part B. *See* 42 U.S.C. §§ 1395c to i-5 (2012) (codifying "[Medicare] Part A—Hospital Insurance Benefits for Aged and Disabled"); *id.* §§ 1395j to w-5 (codifying "[Medicare] Part B—Supplementary Medical Insurance Benefits for Aged and Disabled"). In the Balanced Budget Act of 1997, Congress added a third part to the Medicare Program, Medicare Part C. Balanced Budget Act of 1997, Pub. L. No. 105-33, 111 Stat. 251 (1997) (codified as amended at 42 U.S.C. §§ 1395w-21 to w-28 (2012)). Named Medicare+Choice, this part provided Medicare beneficiaries with managed care options. *Id.* In the Medicare Prescription Drug, Improvement, and Modernization Act of 2003 (MMA), Congress changed the compensation and business practices for insurers offering Medicare+Choice plans, renaming the part Medicare Advantage (MA). Medicare Prescription Drug, Improvement, and Modernization Act of 2003, Pub. L. No. 108-173, §§ 201–38, 117 Stat. 2066, 2176–2214 (2003) (codified as amended in scattered sections of 42 U.S.C.). The MMA also added a fourth part to the Medicare Program, Medicare Part D, which provided a prescription drug benefit that subsidized the costs of prescription drugs and prescription drug insurance premiums for Medicare beneficiaries. *Id.* §§ 101–11 (codified as amended at 42 U.S.C. §§ 1395w-101 to w-154 (2012)).

223. SEN. REP. NO. 89-404, at 36.

224. Social Security Amendments of 1965, 79 Stat. at 286.

225. The Health Insurance for the Aged Act (Act), which created the Medicare Program, stated that "[t]he benefits provided to an individual by the insurance program under this part shall consist of entitlement to have payment made on his behalf (subject to the provisions of this part) for inpatient hospital services for up to 90 days during any spell of illness." *See* Health Insurance for the Aged Act, *in* SSA Amendments of 1965, *supra* note 222, §§ 101–102. The Act further defined "inpatient hospital services" to include

> services provided in the hospital by an intern or a resident-in-training under a teaching program approved by the Council on Medical Education of the American Medical Association or, in the case of an osteopathic hospital, approved by the Committee on

hospitals may receive Medicare reimbursement on a reasonable cost basis.[226] As a result of the Amendments and their implementing regulations, teaching hospitals seeking payments from Medicare for GME costs between fiscal years 1967 and 1984 simply filed an annual cost report[227] with an assigned fiscal intermediary.[228] The intermediary then made a discrete annual

---

> Hospitals of the Bureau of Professional Education of the American Osteopathic Association or, in the case of services in a hospital or osteopathic hospital by an intern or resident-in-training in the field of dentistry, approved by the Council on Dental Education of the American Dental Association.

Id. (defining inpatient hospital services by adding Social Security Act § 1861(b)).

226. *See* Wilburn J. Cohen & Robert M. Ball, *Social Security Amendments of 1965: Summary and Legislative History*, SOCIAL SECURITY BULL. 3, 10, 12 (Sept. 1965), http://www.ssa.gov/policy/docs/ssb/v28n9/v28n9p3.pdf (stating that payment for inpatient hospital services includes services "provided by interns or residents in training under approved teaching programs" and payment is made on a reasonable cost basis). The "reasonable cost" standard comes from language in the Health Insurance for the Aged Act of 1965 (Act) providing, "[t]he amount paid to any provider of services with respect to services for which payment may be made under this part shall . . . be the reasonable cost of such services . . . ." *See id*. (adding Social Security Act § 1814(b)). The Act directed the Secretary of the federal Department of Health, Education & Welfare to establish regulations determining reasonable cost. *See id*. (adding Social Security Act § 1861(v)).

227. A Medicare cost report is a series of forms that collect descriptive, financial, and statistical data from an institutional healthcare provider such as a hospital, nursing facility, or home health agency to determine whether Medicare overpaid or underpaid the provider. *See, e.g.*, *Cost Reports*, CTRS. FOR MEDICARE & MEDICAID SERVS., http://www.cms.gov/Research-Statistics-Data-and-Systems/Files-for-Order/CostReports/index.html?redirect=/costreports/ (last updated July 23, 2014, 10:03 AM) (last visited Nov. 18, 2014) (explaining the requirement for Medicare-certified institutional providers to submit annual cost reports) (on file with the Washington and Lee Law Review).

228.

> Since Medicare's inception in 1966, private health insurers known as Part A Fiscal Intermediaries (FIs) and Part B carriers served as the federal government's agents in the administration of the Medicare program, including the processing of health care claims. Section 911 of the MMA mandated the Secretary of the Federal Department of Health & Human Services (HHS) to replace Part A FIs and Part B carriers with Medicare Administrative Contractors (MACs). As required under the MMA, [the Centers for Medicare and Medicaid Services (CMS) within HHS] established MACs as multi-state, regional contractors responsible for administering both Medicare Part A and Medicare Part B claims. The transition from Part A FIs and Part B carriers to MACs began in 2006, and the last FI and carrier

determination of the reasonable GME costs actually incurred by the teaching hospital and then paid that amount to the teaching hospital.[229] Neither the Amendments nor their implementing regulations limited the number of residents whose training costs could be reimbursed.[230] Thus, teaching hospitals located in geographic areas with low resident-to-population ratios and in physician shortage areas were able to add residents to existing training programs and start new training programs without federal constraint.[231]

> contracts [ended in] September 2013.

Medicare Administrative Contractors, CTRS. FOR MEDICARE & MEDICAID SERVICES, http://www.cms.gov/Medicare/Medicare-Contracting/Medicare-Administrative-Contractors/MedicareAdministrativeContractors.html (last updated July 10, 2013, 2:33 PM) (last visited Nov. 18, 2014) (discussing the transition from FIs and carriers to MACs) (on file with the Washington and Lee Law Review).

229. *See, e.g.*, OFFICE OF INSPECTOR GEN., OEI-09-00-00200, MEDICARE HOSPITAL PROSPECTIVE PAYMENT SYSTEM: HOW DRG RATES ARE CALCULATED AND UPDATED (2001) [hereinafter OIG, MEDICARE HOSPITAL PPS], https://oig.hhs.gov/oei/reports/oei-09-00-00200.pdf

> From fiscal years 1967 to 1984, hospitals were paid on the basis of the actual cost for providing services to Medicare beneficiaries. Under this system, each hospital submitted a report called a "cost report," which itemized expenditures incurred in the hospital's prior accounting period or "fiscal year" . . . .

230. *See, e.g.*, Federal Health Insurance for the Aged, 20 C.F.R. § 405.421(a) (1968) ("An appropriate part of the net cost of approved educational activities is an allowable cost."); *id.* § 405.421(b)(2) (defining "net cost" to include "stipends of trainees, compensation of teachers, and other costs[], less any reimbursements from grants, tuition, and specific donations"); *id.* § 405.521(d)

> If the teaching program is an approved educational activity of the hospital, reimbursement will also be available on a cost basis to the hospital for an appropriate share of the compensation it pays to physicians for teaching services . . . and for other costs of educational programs conducted by the hospital. These costs are allowable in accordance with the principles of reimbursement for provider costs . . . .

231. *See* Eugene C. Rich et al., *Medicare Financing of Graduate Medical Education: Intractable Problems, Elusive Solutions*, 17 J. GEN. INTERNAL MED. 283, 284 (2002) [hereinafter Rich et al., *Medicare Financing*] ("Medicare placed no limit on the number of residents reimbursed, so teaching hospitals were able to start new training programs and add residents to existing programs without federal constraint."); *Medicare Funding of Graduate Medical Education*, AM. MED. ASS'N, MEDICARE FUNDING OF GRADUATE MED. EDUC. (June 1999), http://lobby.la.psu.edu/011_Grad_Med/Organizational_Statements/American_M

The days of open-ended, cost-based, retrospective reimbursement of GME did not last long, and government financing of GME quickly became an intensely controversial topic.[232] In 1986, President Reagan signed into law the Consolidated Omnibus Budget Reconciliation Act (COBRA), which amended certain provisions within section 1886 of the Social Security Act (Act) relating to GME.[233] COBRA's new GME provisions, implemented through regulations now codified at 42 C.F.R. §§ 413.75 through 413.83[234] as well as 42 C.F.R.

---

edical_Association/AMA_Medicare_Funding_of_Graduate_Medical_Education.htm (last updated Sept. 16, 1999) (last visited Nov. 18, 2014) [hereinafter AMA, MEDICARE FUNDING] ("Before 1985, direct GME payments were un-capitated, and could be increased if a hospital's direct GME costs increased.") (on file with the Washington and Lee Law Review); HHS Primer, *supra* note 49, at 16

> [Until 1997], Medicare imposed no limits on the number of residents it supported—either at an individual hospital or in the national aggregate—as long as the residents are enrolled in a training program approved by the Accreditation Council for Graduate Medical Education or leading to a certificate by the American Board of Medical Specialties.

In an extreme oversimplification of the reasonable cost-based system of reimbursing teaching hospitals for GME, a teaching hospital that had a Medicare beneficiary utilization of 35% of the hospital in a given year would receive from Medicare a payment equal to 35% of the hospital's total GME costs for that year. *See* THE COMING SHORTAGE, *supra* note 55, at 114 (describing cost-based reimbursement for GME); Thomas C. Gentile, Jr. & David R. Buckley, *Medicare Reimbursement and Graduate Medical Education*, *in* MEDICAL EDUCATION IN THE TEACHING HOSPITAL 14-2 [hereinafter Gentile & Buckley, *Medicare Reimbursement*] ("Medicare paid its pro rata share . . . .").

232. *See* THE COMING SHORTAGE, *supra* note 55, at 114 ("Prior to 1984, Medicare simply paid expenses allocated to medical training programs under an open ended, cost based, retrospective reimbursement system."); Gentile & Buckley, *Medicare Reimbursement*, *supra* note 231 at 14-1 ("[F]ederal financing of GME is an intensely controversial subject.").

233. Medicare & Medicaid Budget Reconciliation Amendments of 1985, Pub. L. No. 99-272, §§ 9104, 9202, 100 Stat. 82, 157-58, 171-77 (1986) (codified as amended 42 U.S.C. §§ 1395x, 1395ww) (adding provisions titled "Payments to Hospitals for Indirect Costs of Medical Education" and "Payments to Hospitals for Direct Costs of Medical Education").

234. 42 C.F.R. §§ 413.75–85 govern Medicare payments to teaching hospitals for costs directly relating to GME. *See, e.g.*, 42 C.F.R. § 413.75 (titling as "Direct GME payments: General requirements"). On May 15, 2014, the federal Department of Health and Human Services (HHS) issued a proposed rule that would slightly modify some of these regulations in light of *Allina Health Services v. Sebelius*, 747 F.3d 1102 (D.C. Cir. 2014). *See* U.S. Dep't Health &

§ 412.105,[235] established new formulas for calculating two different types of Medicare payments to teaching hospitals for costs directly and indirectly relating to GME.

The first type of payment was designed to finance Medicare's share of the costs that directly relate to a teaching hospital's educational programs.[236] Known as direct GME (DGME), these costs include the stipends and fringe benefits of residents; the salaries and fringe benefits of faculty who supervise residents; malpractice insurance for residents; accreditation fees; the cost of clerical personnel who work exclusively in GME administrative offices; and allocated institutional overhead costs, including space, maintenance, and electricity.[237] COBRA specified that these DGME payments were to be paid as a "pass-through" outside of the diagnosis-related group (DRG) payments made under the then-new Medicare inpatient prospective payment system (PPS).[238]

Human Servs., Medicare Program, 79 Fed. Reg. 27,978, 28,307–08 (proposed May 14, 2014) [hereinafter 2014 Proposed Rule] (proposing to amend the determination of the number of all full-time equivalent residents and weighted number of full-time equivalent residents). HHS has not yet finalized this proposed rule. This Article therefore references the current regulations and, when relevant to the discussion, any proposed changes to these current regulations.

235. 42 C.F.R. § 412.105 governs Medicare payments to teaching hospitals for costs indirectly relating to GME. *See* 42 C.F.R. § 413.105 (titling as "Special treatment: Hospitals that incur indirect costs for graduate medical education programs"). On May 15, 2014, HHS issued a proposed rule that would slightly modify 42 C.F.R. § 412.105. *See* 2014 Proposed Rule, *supra* note 206, at 28,302–03 (proposing to amend payments for hospital programs incurring indirect costs for GME). Again, HHS has not yet finalized this proposed rule. This Article therefore references current 42 C.F.R. § 412.105 and, when relevant to the discussion, any proposed changes to this regulation.

236. *See supra* note 234 and accompanying text (discussing COBRA and new GME requirements).

237. *See, e.g.*, Catherine Dower, *Health Policy Brief: Graduate Medical Education*, HEALTH AFFAIRS, Aug. 16, 2012, at 1, 2 [hereinafter RWJ BRIEF], http://healthaffairs.org/healthpolicybriefs/brief_pdfs/healthpolicybrief_73.pdf (discussing costs directly associated with GME); Mullen et al., *Geography*, *supra* note 16, at 1915 (same); HHS PRIMER, *supra* note 49, at 6 (same).

238. Consolidated Omnibus Budget Reconciliation Act of 1985, Pub. L. 99-272, 100 Stat. 82, § 9202. The Social Security Amendments of 1983 established a prospective payment system (PPS) for hospitals. Social Security Amendments of 1983, Pub. L. No. 98-21, 97 Stat. 65 (1983) (codified as amended in scattered sections of 26 U.S.C., 38 U.S.C., & 42 U.S.C.). The inpatient hospital PPS is a

The second type of payment was designed to finance costs indirectly associated with a teaching hospital's GME activities, such as the longer inpatient stays associated with the medically complex patients who are treated at teaching hospitals; the higher rates of test ordering by residents, who are still learning to be efficient in their practice of medicine; and the lower productivity of teaching hospital staff due to their educational obligations.[239] COBRA specified that payments for these indirect medical education (IME) costs were to be reflected as an "add-on" to each Medicare case's DRG payment.[240] The formulas that the government currently uses to calculate Medicare's payments to teaching hospitals for their DGME and IME costs are complex and are examined in more detail below.

---

per-case reimbursement system in which inpatient admission cases are divided into relatively homogeneous categories called diagnosis-related groups (DRGS). U.S. DEP'T HEALTH & HUMAN SERVS., CTRS. MEDICARE & MEDICAID SERVS., MEDICARE LEARNING NETWORK, ICN 006815, ACUTE CARE HOSPITAL INPATIENT PROSPECTIVE SYSTEM, PAYMENT SYSTEM FACT SHEET SERIES [hereinafter MEDICARE IPPS], http://www.cms.gov/Outreach-and-Education/Medicare-Learning-Network-MLN/MLNProducts/downloads/AcutePaymtSysfctsht.pdf. Under the PPS, "Medicare pays hospitals a flat rate per [DRG] case for inpatient hospital care." *See* OIG, MEDICARE HOSPITAL PPS 1-3, *supra* note 229, at 3 (summarizing the Medicare inpatient hospital PPS); MEDICARE IPPS, PAYMENT SYSTEM FACT SHEET SERIES (same); *see also* CHANGING U.S. HEALTH CARE, *supra* note 49, at 4 (historicizing the shift from a cost-based system of hospital reimbursement to the PPS).

239. *See, e.g.*, RWJ BRIEF, *supra* note 237, at 2 (providing examples of costs that are indirectly associated with GME); Mullan et al., *Geography*, *supra* note 49, at 1915 (providing reasons why Congress believed teaching hospitals to be more expensive); HHS PRIMER, *supra* note 49, at 6 (providing examples of costs that are indirectly associated with GME).

240. *See, e.g.,* COBRA, *supra* note 233, § 9104 (adding a provision titled "Payments to Hospitals for Indirect Costs of Medical Education"); ASS'N OF AM. MED. COLLS., BECOMING A NEW TEACHING HOSPITAL: A GUIDE TO THE MEDICARE REQUIREMENTS 7 (2012) [hereinafter AAMC, NEW TEACHING HOSPITALS] (explaining that IME payments are made "as a percentage add-on to [the] basic Medicare per case MS-DRG payments").

A. Payments for Direct Graduate Medical Education Costs

Medicare DGME payments to teaching hospitals are calculated using a three-factor formula.[241] That is, a hospital-specific per resident amount is multiplied by a weighted average number of full-time equivalent residents,[242] the product of which is then multiplied by the hospital's Medicare patient load.[243] Each factor in this formula will be discussed in turn.

1. The Per Resident Amount

The first factor is the teaching hospital's per resident amount (PRA).[244] As a starting point, each hospital's PRA is calculated by dividing allowable DGME costs[245] accrued during a base period—

---

241. *See* 42 U.S.C. § 1395(h)(1)(A)–(B) (2012) (providing that Medicare payments to teaching hospitals for DGME shall equal the product of the "aggregate approved amount"); *id.* (defining the aggregate approved amount as the product of the hospital's approved full time equivalent (FTE) resident amount and the weighted average number of FTE residents in the hospital's approved medical residency training program in a hospital's cost reporting period).

242. *See* 42 U.S.C. § 1395ww(h)(1) (2012) ("[I]nstead of any amounts that are otherwise payable . . . with respect to the reasonable costs of hospitals for direct graduate medical education costs, the Secretary shall provide for payments for such costs in accordance with paragraph (3) of this subsection."); *id.* § 1395ww(h)(3)(A) (providing that Medicare payments to teaching hospitals for DGME shall equal the product of the "aggregate approved amount" and the hospital's Medicare patient load); *id.* § 1395ww(h)(3)(B) (defining "aggregate approved amount" as, for a hospital cost reporting period, the product of the hospital's approved FTE resident amount and the weighted average number of FTE residents in the hospital's approved medical residency training program in that period); *see also* 42 C.F.R. § 413.76(a) (2013) (implementing these statutory requirements in regulations).

243. *See* 42 U.S.C. § 1395ww(h)(3)(A) (providing that a hospital's payment amount per resident is the aggregate approved amount for that period multiplied by the hospital's Medicare patient load for that period); 42 C.F.R. § 413.76(a)–(b) (same).

244. *See* 42 C.F.R. § 413.77(a) (defining the per resident amount for the base period).

245. *See, e.g.*, *Medicare Direct Graduate Education (DGME) Payments*, ASS'N OF AM. MED. CS., https://www.aamc.org/advocacy/gme/71152/gme_gme0001.html (last visited Nov. 18, 2014) (listing allowable DGME costs) (on file with the Washington and Lee Law Review).

for most hospitals, October 1, 1983, through September 30, 1984 (FY 1984) but, for some hospitals, FY 1985[246]—by the base period's average number of full-time equivalent residents working in all areas of the hospital complex.[247] Using an oversimplified example, if a hypothetical teaching hospital had allowable base year (FY 1984) costs of $480,000 while operating one residency program with an average of ten residents working in the hospital complex, the hospital's starting PRA would be $480,000 divided by ten, or $48,000.[248] The PRA is then updated on an annual basis for inflation.[249] For example, a teaching hospital that had a PRA of $48,000 in FY 1984 may now have an updated PRA of $60,000.[250]

A couple of important points relating to the PRA are worth noting. First, financial arrangements between teaching hospitals and medical schools vary widely.[251] The lack of consistency in these arrangements makes it extremely difficult to accurately and appropriately determine or allocate the costs of GME.[252] "For example, the costs associated with faculty supervision of residents at a given institution may be wholly assigned to the

246. *See* 42 C.F.R. § 413.75(b) (defining base period); *id.* § 413.77(a)(1)(i)–(ii) (providing instructions for finding the per resident amount); Medicare Program, Final Rules and Interim Final Rule with Comment Period, 74 Fed. Reg. 43754, 43908 (Aug. 27, 2009) (explaining the base period); *see generally* HHS PRIMER, *supra* note 49, at 15 (same).

247. *See* 42 U.S.C. § 1395ww(h)(2)(A) (explaining that the Secretary determines the hospital's average amount recognized as reasonable for each FTE resident during the base period); 42 C.F.R. § 413.77(a)(1)(i)–(ii) (providing the manner in which DGME costs for each FTE are determined by determining the allowable GME costs and dividing that number by the base period's average number of FTE residents).

248. *See* Gentile & Buckley, *Medicare Reimbursement*, *supra* note 231, at 14-6 (providing mathematical examples of hospital-specific PRA determinations).

249. *See* 42 U.S.C. § 1395ww(h)(2)(B)–(D) (2012) (requiring the Secretary to update each average PRA by the percentage increase in the consumer price index during the 12-month cost reporting period); 42 C.F.R. § 413.77(c) (2013) (updating PRAs with reference to the Consumer Price Index for All Urban Consumers (CPI-U), as compiled by the United States Bureau of Labor Statistics); *id.* § 413.75(b) (defining CPI-U).

250. *See* Gentile & Buckley, *Medicare Reimbursement*, *supra* note 231, at 14-6 (providing examples of inflation update calculations).

251. HHS PRIMER, *supra* note 49, at 6.

252. *Id.*

affiliated medical school. In another location, the same cost may be assigned to the teaching hospital through a contractual relationship."[253] The result, at least historically, was wide variations in PRAs—for example, from $60,000 to $120,000—across training institutions.[254]

Second, once the government establishes a teaching hospital's PRA using the principles set forth above, that PRA is permanent other than an annual inflation update.[255] Unless and until Congress establishes new rules for determining PRAs, a teaching hospital's PRA will not change even if the hospital's current GME costs are significantly higher than its base year (FY 1984) GME costs and even if the hospital's GME costs increase faster than inflation.[256] Because teaching hospitals' PRAs are tied to allowable GME costs in a base year that is now thirty-one years old, it is fair to state that the PRAs are out of date.[257] In Part VI, I propose to correct Congress's outdated rules for determining hospital-specific PRAs.

Third, each teaching hospital's PRA is based on allowable DGME costs.[258] Some costs are not considered allowable and cannot be counted for purposes of determining the PRA.[259] For example, if a community has undertaken to bear the direct costs of GME through community support, the costs are not considered GME costs to the hospital for purposes of Medicare payment.[260]

---

253. *Id*.

254. *Id*. at 15–16.

255. *See* AAMC, NEW TEACHING HOSPITALS, *supra* note 240, at 6 (noting that the hospital's established PRA becomes its permanent PRA, updated only by an annual inflation factor).

256. *See id.* ("This PRA will not change, even if [the hospital's] GME costs increase faster than inflation.").

257. *See* ASS'N OF AM. MED. COLLS., MEDICARE PAYMENTS FOR GRADUATE MED. EDUC. 2 (2006), http://www.ttuhsc.edu/som/gme/documents/MedicarePayments forGME.pdf ("Since the DGME payment is based on historical costs, it is not related to the costs that the hospital currently incurs for training residents.").

258. *See* 42 C.F.R. § 413.77(a)(1)(i)–(ii) (2013) (providing instructions for finding the per resident amount: determine the allowable GME costs for the reporting period and then divide the costs by the average number of FTE residents working in all areas of the hospital complex during that period).

259. *See id.* (listing excluded GME costs).

260. *See id.* § 413.81(a)(1) ("If the community has undertaken to bear the costs of medical education through community support, the costs are not

Similarly, the costs of training residents that constitute a redistribution[261] of costs from an educational institution to a teaching hospital are also not considered GME costs to the hospital for purposes of Medicare payment.[262] Known as "community support and redistribution," these principles are designed to implement Congress's intent that the Medicare program finance GME only until the community undertakes the same mission.[263]

Fourth, due to a congressional freeze on inflation updates on PRAs for non-primary care residents in FYs 1994 and 1995,[264] most teaching hospitals have two PRAs; that is, one PRA for primary care residents[265] and obstetrics and gynecology residents and a second PRA for non-primary care and non-obstetrics and

---

considered GME costs to the hospital for purposes of Medicare payment.").

261. *See id.* § 413.75(b)(5) ("Redistribution of costs occurs when a hospital counts FTE residents in medical residency programs and the costs of the program had previously been incurred by an educational institution.").

262. *See id.* § 413.81(a)(2) ("The costs of training residents that constitute a redistribution of costs from an educational institution to the hospital are not considered GME costs.").

263. *See supra* note 223 and accompanying text ("Educational activities enhance the quality of care in an institution, *and it is intended, until the community undertakes to bear such education costs in some other way*, that a part of the net cost of such activities (including stipends of trainees, as well as compensation of teachers and other costs) should be borne to an appropriate extent by [Medicare Part A] . . . ." (emphasis added)).

264. *See* 42 U.S.C. § 1395ww(h)(2)(D)(ii) (2012) (instructing not to update the FTE resident amount for certain types of residents for cost reporting periods beginning during FYs 1994 and 1995); 42 C.F.R. § 413.77(c)(2) (2013) (stating that, for cost reporting periods beginning during FY 1994 and 1995, "each hospital's per resident amount for the previous cost reporting period will not be adjusted for any resident FTEs" of certain types).

265. *See id.* § 413.75(b) (stating that a "primary care resident is a resident who is formally accepted, enrolled, and participating in an approved medical residency training program in family medicine, general internal medicine, general pediatrics, preventative medicine, geriatric medicine or osteopathic general practice").

gynecology residents.[266] New teaching hospitals with programs that began after 1995 would only have one PRA.[267]

Fifth, later pieces of federal legislation established certain PRA "floors" and "ceilings" designed to reduce large variations in PRA amounts.[268] That is, the Medicare, Medicaid, and SCHIP Balanced Budget Refinement Act of 1999 (BBRA) and the Medicare, Medicaid, and SCHIP Benefits Improvements and Protection Act of 2000 (BIPA) established in 1999[269] and re-established in 2000[270] certain PRA floors of 70% and 85%, respectively, of a locality-adjusted national average PRA.[271] In addition, the Medicare Prescription Drug, Improvement and Modernization Act of 2003 (MMA) provided that hospitals with PRAs above 140% of the locality-adjusted national average would not receive updates through FY 2013.[272]

Finally, for a hospital that did not have an approved medical residency training program in FY 1984 but now has a program, the PRA generally is determined by the lower of (1) the new program's actual GME costs per resident or (2) the average of the PRAs of surrounding teaching hospitals in the same geographic

---

266. *See supra* note 264 and accompanying text (stating that, for FYs 1994 and 1995, "each hospital's per resident amount . . . will not be adjusted for any FTEs who are not either a primary care resident or an obstetrics and gynecology resident").

267. *See generally id.* (instructing not to update the FTE resident amount for certain resident for cost reporting periods beginning during FY 1994 and 1995).

268. *See* Mullen et al., *Geography*, *supra* note 16, at 1915 ("To reduce unwarranted variations in direct GME payments, for instance, the Benefits Improvement and Protection Act of 2000 established a ceiling and floor for these payments made to hospitals.").

269. Medicare, Medicaid and SCHIP Balanced Budget Refinement Act of 1999, Pub. L. No. 106-113, § 311, 113 Stat. 1501 (1999) [hereinafter BBRA].

270. Medicare, Medicaid and SCHIP Benefits Improvement and Protection Act of 2000, Pub. L. No. 106-554, § 511, 114 Stat. 2763 (2000) [hereinafter BIPA].

271. *See* 42 C.F.R. § 413.77(d)(2)(iii)(A)–(B) (2013) (codifying the regulations that implement these floors).

272. *See* Medicare Prescription Drug, Improvement, and Modernization Act of 2003, Pub. L. No. 108-173, § 502, 117 Stat. 2066, 2290 (2003) (revising the IME adjustment percentage); 42 C.F.R. § 413.77(d)(2)(iii)(B)(1)–(5) (codifying the regulation implementing this ceiling in the Code of Federal Regulations).

wage area.[273] New program PRAs are determined in the first year of the program if residents are on duty during the first month of the cost reporting period; if not, the PRA is determined in the second year of the program.[274]

2. The Number of Residents

The PRA is the first factor in the formula used to calculate Medicare payments to teaching hospitals for their DGME costs.[275] The second factor in the formula is the weighted average number of full-time equivalent residents[276] training in an approved medical residency program and working in the hospital complex or, under certain circumstances, nonhospital locations.[277] Each element of this factor will be examined in turn.

First, the "number" of allopathic and osteopathic residents that teaching hospitals may claim for DGME (and, as discussed *infra* at Part V.B, for IME) is generally capped at the number of residents counted on a hospital's most recent cost report ending on or before December 31, 1996.[278] Added by Congress in the

273. *See* 42 U.S.C. § 1395ww(h)(2)(F) (2012) (providing that the Secretary shall determine the appropriate approved FTE resident amount for hospitals that did not have an approved medical residency training program for a cost period beginning during FY 1984); 42 C.F.R. § 413.77(e)(1)(i)–(ii) (stating that the per resident amount is based on the lower of the hospital's actual cost per resident during the hospital's base year cost reporting period and the updated weighted mean value of per resident amounts of all hospitals located in the same geographic wage area).

274. *See* 42 C.F.R. § 413.77(e)(1) ("[If] the residents are not on duty during the first month of that period, the fiscal intermediary establishes a per resident amount for the hospital using the information from the first cost reporting period immediately following the cost reporting period during which the hospital participates.").

275. *See supra* Part V.A.1 (discussing the PRA).

276. *See* 42 C.F.R. § 413.75(b) ("Residents are interns, residents, or fellows who are formally accepted, enrolled, and participating in an approved medical residency program, including programs in osteopathy, dentistry and podiatry, as required in order to become certified by the appropriate specialty board.").

277. *Id.* § 413.78.

278. *See* 42 U.S.C. § 1395ww(h)(4)(F) (2012) (stating that the number of allopathic and osteopathic residence may not exceed the number of such full-time equivalent residents for the hospital's most recent cost reporting period); 42 C.F.R. §413.79(c)(2)(i) (2013) (same).

Balanced Budget Act of 1997 (BBA),[279] these allopathic and osteopathic resident caps responded to then-current projections of widespread physician surpluses across the United States.[280] Although later physician workforce analyses forecasted shortages, as discussed in detail in Part II, Congress never removed the caps.[281] Today, these caps significantly limit the ability of teaching hospitals located in physician-shortage areas to grow their residency programs and train physicians who might stay and practice medicine in needed specialty areas within the teaching hospital's catchment area.[282] Like the hospital-specific PRAs, the BBA caps are permanent unless and until Congress changes them.[283] In Part VI, I propose reconfiguring these caps in order to increase resident-to-population ratios in certain physician shortage areas.

Second, the "weighted" number of residents generally means that residents in their initial residency period (IRP), defined as the minimum number of years necessary for specialty Board eligibility,[284] are each counted as a full (or

279. Balanced Budget Act of 1997, Pub. L. No. 105-33, 111 Stat. 251 (1997) (codified as amended at 42 U.S.C. §§ 1395w–4 (2012)).

280. *See, e.g.*, SCHEFFLER, *supra* note 54, at 8 ("[T]he Balanced Budget Act of 1997 limited the number of resident physicians that Medicare was willing to finance. Policymakers basically believed at that point that the country didn't need to be producing as many doctors as it was.").

281. *See, e.g.*, *id.* (referencing the Association of American Medical Colleges' projection in 2006 of widespread physician shortages).

282. *See* Alex Wayne, *Doctor Shortage May Swell to 130,000 with Cap*, BLOOMBERG (Aug. 29, 2012 12:00 AM), http://www.bloomberg.com/news/2012-08-29/doctor-shortage-may-swell-to-130-000-with-u-s-cap.html (last visited Nov. 18, 2014) (explaining how medical schools are not expanding admissions because the number of applicants for resident positions already exceeds the number of positions available due to the fact that hospitals are not adding more residency positions because the federal funding is capped) (on file with the Washington and Lee Law Review).

283. *See* Gentile & Buckley, *Medicare Reimbursement*, *supra* note 231, at 14-3–14-13 (discussing the caps); Ronald S. Connelly, *CMS Prevents Changes to Medicare Resident Caps*, HEALTHCARE FIN. MGMT. MAG. (Jan. 2014), http://www.hfma.org/Content.aspx?id=20976 (last visited Nov. 18, 2014) ("Unless Congress acts or a court invalidates CMS's revised reopening regulation, GME funding is likely to remain fairly stagnant.") (on file with the Washington and Lee Law Review).

284. 42 C.F.R. § 413.79(a) (2013); *see* AAMC, NEW TEACHING HOSPITALS, *supra* note 240, at 5 ("The IRP for family medicine is three years, for example,

1.0)[285] FTE, while residents training beyond their IRP are counted as a half (or 0.5) FTE.[286] Congress designed this weighting feature to discourage the growth of specialty and subspecialty residency positions during a period when there was a perceived need for a greater number of generalists.[287]

Third, the "average" number of residents means that a hospital's FTE count in a given year is not a discrete determination but is actually based on the average of the count in the current cost reporting period and the counts in the two preceding periods.[288] Also added by Congress in 1997 in the BBA, this feature is known as the "three-year rolling average" and has the effect of softly reducing a teaching hospital's FTE cap over time if a hospital fails to fill all of its Medicare-funded resident positions.[289]

Fourth, for residents to be counted for Medicare payment purposes, they must be training in an approved medical residency program[290] and be working somewhere in the hospital complex or in certain nonprovider settings.[291] The term "hospital complex" is

---

and the IRP for surgery is five years.").

285. 42 C.F.R. § 413.79(b)(1); AAMC, NEW TEACHING HOSPITALS, *supra* note 240, at 5 (noting that one resident in his or her IRP usually will not equal a full (1.0) FTE because the resident usually will not spend 100% of his time in a single hospital and certain categories of time (e.g., certain research time) must be excluded from the FTE count).

286. 42 U.S.C. § 1395ww(h)(4)(C) (2012); 42 C.F.R. § 413.79(b)(2).

287. *See, e.g.*, Rich et al., *Medicare Financing*, *supra* note 231, at 285 ("This policy was intended to constrain the growth of specialty positions.").

288. *See* 42 U.S.C. § 1395ww(h)(4)(G)(i) ("[T]he total number of full-time equivalent residents for determining a hospital's graduate medical education payment shall equal the average of the actual full-time equivalent resident counts for the cost reporting period and the preceding two cost reporting periods."); 42 C.F.R. § 413.79(d)(2) ("[T]he hospital's weighted FTE count is equal to the average of the weighted FTE count for the payment year cost reporting period and the preceding two cost reporting periods.").

289. *See* HHS PRIMER, *supra* note 49, at 17 (noting that the BBA employs "a three year rolling average for calculating number of residents . . . to soften the impact of reductions in the number of residents").

290. *See* 42 C.F.R. § 413.75(b) (2013) (defining approved medical residency program).

291. *Id*. § 413.78(a), (g); *see also* 2014 Proposed Rule, *supra* note 234, at 28307 (proposing to prohibit 42 C.F.R. § 413.78 from being applied in a manner that would allow for certain re-openings of certain settled cost reports).

broadly defined as any area that meets the federal government's provider-based criteria, including distinct-part units and hospital-based providers, as well as nursery, research, and other non-reimbursable cost centers.[292] The term "nonprovider settings" includes certain freestanding clinics, nursing homes, and physician offices used in connection with an approved residency program if (1) the residents are engaged in patient care activities[293] (as well as certain nonpatient care activities that occur in a nonprovider setting that is primarily engaged in furnishing patient care)[294] and (2) the hospital incurs the costs of the stipends and fringe benefits of the resident during the time the residents spend in that nonprovider setting.[295]

Fifth, recent legislation has reduced certain hospitals' residency slots and redistributed those slots to other hospitals located in certain geographic areas.[296] That is, ACA reduced some hospitals' FTE resident caps by 65% of the excess resident slots if the hospitals' reference resident levels were less than their otherwise applicable resident limits.[297] Then, ACA redistributed those resident slots to certain other qualifying hospitals that submitted timely applications for them.[298] ACA specified that the newly gained slots were to be redistributed to other hospitals in the following manner: (1) 70% of the resident slots were to be distributed to hospitals located in States with resident-to-population ratios in the lowest quartile (i.e., Montana, Idaho, Alaska, Wyoming, South Dakota, Nevada, North Dakota, Mississippi, Indiana, Puerto Rico, Florida, Georgia, and Arizona);

---

292. *See* 42 C.F.R. § 413.77(a)(1)(i)–(ii) (defining "hospital complex").

293. *See id*. § 413.75(b) (defining patient care activities).

294. *See id*. § 413.75(b) (defining nonprovider setting that is primarily engaged in furnishing patient care).

295. *Id.* § 413.78(g)(1).

296. *See* Patient Protection and Affordable Care Act, Pub. L. No. 111-148, § 5503, 124 Stat. 119, 587 (2010), *amended by* Health Care and Education Reconciliation Act, Pub. L. No. 111-152, 124 Stat. 1029 (2010) (providing for the distribution of additional residency positions).

297. *See id.* (providing for the reduction of FTE resident caps); 42 C.F.R. § 413.79(m) (2013) (stating how reduction to the FTE resident cap due to unused FTE resident slots is determined).

298. *See* 42 C.F.R. § 413.79(n) (stating how an increase in an otherwise applicable resident cap is determined).

and (2) 30% of the resident slots were to be distributed: (a) to hospitals located in a state, territory, or district that were among the top ten in terms of the ratio of Health Professional Shortage Area (HPSA) population to the total population (i.e., Louisiana, Mississippi, Puerto Rico, New Mexico, South Dakota, the District of Columbia, Montana, North Dakota, Wyoming, and Alabama), and/or (b) to hospitals located in rural areas.[299] As an illustrative example, two Nevada hospitals received resident cap increases under this process.[300] Renown Regional Medical Center located in Reno, Nevada (Renown) received twenty-one additional resident slots, and University Medical Center located in Las Vegas, Nevada (UMC) received fifty additional resident slots.[301] In Part VI, I applaud ACA's attempt to redistribute resident slots to geographic areas with low resident-to-population ratios and to HPSAs and rural areas.[302] The discrete redistributions that occurred, however, were insufficient to affect the large-scale changes needed to remedy current and looming physician shortages.[303]

Sixth, for hospitals with new medical residency training programs[304] that otherwise would have caps of zero due to a lack

---

299. *See* Patient Protection and Affordable Care Act, Pub. L. No. 111-148, § 5503, 124 Stat. 119, 589 (2010), *amended by* Health Care and Education Reconciliation Act, Pub. L. No. 111-152, 124 Stat. 1029 (2010) (specifying the different regions for the distribution of residency positions).

300. *See Direct Graduate Medical Education (DGME)*, CTRS. FOR MEDICARE & MEDICAID SERV. (Aug. 4, 2014 4:06 PM), www.cms.gov/Medicare/Medicare-Fee-for-Service-Payment/AcuteInpatientPPS/dgme.html (last visited Nov. 18, 2014 9:08 AM) (providing an excel spreadsheet listing provider numbers and their corresponding IME and DGME reduction amount) (on file with the Washington and Lee Law Review).

301. *See id*. (listing resident slots at various medical centers).

302. *Infra* Part VI.

303. *Id.*

304. *See* 42 C.F.R. § 413.79(e)(1) (2013) (defining a new medical residency training program as a medical residency that receives initial accreditation by the appropriate accrediting body or begins training residents on or after January 1, 1995); Medicare Program Final Rule, 77 Fed. Reg. 53258, 53416 (Aug. 31, 2012) (explaining that existing medical residency training programs cannot manipulate this definition to re-classify themselves as new medical residency training programs); *id*. (existing medical school cannot close a program in an old hospital and move the program to a new hospital in order to increase its number of FTE residents); *see also* Medicare Program Final Rules

of residents at the time Congress set the caps in 1997, federal law does permit a cap adjustment to be made based on the sum of the products of the highest number of FTE residents in any program year during the fifth[305] year of the hospital's first new program's existence and the number of years in which residents are expected to complete the program based on the minimum IRP for each type of program.[306] Stated another way, new teaching hospitals' resident caps generally will equal the sum, for all programs, of the largest number of FTE residents in any post-graduate year (PGY) during the fifth and final year of the first new program's cap-building window, multiplied by the IRP for that residency program.[307] The cap adjustment may not, however, exceed the number of accredited slots available to the hospital for the new program.[308]

Unfortunately, teaching hospitals that would like to start small—perhaps by starting one new residency program every several years—in order to carefully and thoughtfully build sound training programs with competitive residents and sought-after

---

and Interim Final Rule, 74 Fed. Reg. 43754, 43908–10 (Aug. 27, 2009) (clarifying what CMS considers in determining whether an allegedly new hospital is really new); *id.* (explaining that CMS makes case-by-case determinations regarding whether a particular residency training program constitutes a new medical residency training program and does not specify the number or combination of factors that will contribute to a program's failure to be deemed a new medical residency training program).

305. *See* 42 C.F.R. §413.79(e)(1) (stating that the cap may be adjusted for new medical residency training programs that began training residents on or after January 1, 1995, but before October 1, 2012); *id.* (stating that the adjustment is based on the product of the highest number of residents in any program year during the *third* year of the first program's existence and the number of years for the residents' IRPs) (emphasis added); 77 Fed. Reg. at 53416–17 (acknowledging provider concerns and explanations for why teaching hospitals need more than three years to grow residency programs).

306. 42 C.F.R. § 413.79(e)(1); *see also* 2014 Proposed Rule, *supra* note 234, at 28146 (proposing to clarify the interaction of this regulation with the three-year rolling average requirement).

307. *See* 42 C.F.R. § 413.79(e)(1) ([T]he hospital's . . . resident cap . . . may be adjusted for new residency training programs based on the sum of the products of the highest number of FTE residents . . . during the fifth year of the first new program's existence and the number of years in which residents . . . complete the program.").

308. *See id.* ("The adjustment to the cap may not exceed the number of accredited slots available to the hospital for the new program.").

teaching physicians are penalized because the government will set each hospital's cap in the fifth year of the hospital's *first* new training program.[309] To maximize Medicare reimbursement, the federal rules contemplate teaching hospitals starting a number of residency programs all at the same time and then growing them as quickly as possible within a five-year period.[310] The rules would allow this growth without regard to accreditation requirements, which may not permit this scenario, and without regard to the quality of residents matched, the expertise of teaching faculty hired, or the likely administrative overload and/or inefficiencies that result from starting so many new programs at once.[311] In Part VI, I propose to amend these rules.

So far, this section has analyzed each element in the second factor—the number of residents—in the formula used to calculate Medicare payments to teaching hospitals for their DGME costs. A final note regarding the application of these rules to rural hospitals is important. That is, the BBA-established caps apply less stringently to hospitals located in rural areas.[312] For example, hospitals located in rural areas are capped at 130% (and not 100%) of the hospital's unweighted FTE count for the most recent cost reporting period ending on or before December 31, 1996.[313] By further example, rural hospitals[314] with less than 250 beds[315] are exempt from reductions in resident caps that otherwise would apply due to unused FTE slots.[316] In addition, if

309. *See* AAMC, NEW TEACHING HOSPITALS, *supra* note 240, at 10 (articulating that hospitals should "not only think about [the] initial number of residents . . . but also about [the] ultimate desired number of residents").

310. *See* 42 C.F.R. § 413.79(e)(1) (2013) (explaining the residency program cap is put into place in the fifth year of a new program).

311. *See id.* (omitting any potential factors or problems in beginning several programs at one time).

312. *See id.* § 413.79(c)(2) (providing examples of how rules apply to rural hospitals).

313. *Id*. § 413.79(c)(2)(i).

314. *See id.* § 412.105(a)(1)–(5) (identifying the conditions under which a hospital located in an urban area could be reclassified as a rural hospital).

315. *See generally id.* § 412.105(b) (providing instructions regarding how to count beds).

316. *See id.* § 413.79(c)(3)(i) ("A rural hospital . . . with less than 250 beds . . . is exempt from any reduction to the otherwise applicable FTE resident cap limit . . . .").

a rural hospital participates in a new medical residency training program, the hospital's unweighted FTE cap is calculated using the highest number of FTE residents in any program year during the fifth year of *each* new program's existence, and not the fifth year of the *first* new program's existence.[317] Moreover, a rural hospital that is later redesignated as an urban hospital may retain the increases to its FTE resident cap that it received under the provisions discussed above while it was located in the rural area.[318] Finally, hospitals with rural tracks[319] can include in their FTE count residents in those rural tracks without regard to the hospitals' otherwise applicable FTE caps[320] up to a rural track FTE limitation.[321]

3. Medicare Patient Load: Summary

In addition to the hospital-specific PRA and the weighted average number of FTE residents, the third and final factor used to calculate Medicare DGME payments is the hospital's Medicare patient load.[322] A teaching hospital's Medicare patient load is the total number of hospital inpatient days during the cost reporting period that are attributable to patients for whom payment is made under Medicare Part A[323] divided by total hospital

317. *See id.* § 413.79(e)(3) (explaining the policy for calculating a rural hospital's FTE cap when it participates in a new medical residency training program).

318. *See id.* § 413.79(c)(6) (providing rules for FTE resident caps for rural hospitals redesignated as urban); *see also* U.S. Dep't Health & Human Servs., Medicare Program, Proposed Rule, 79 Fed. Reg. 27978, 28307 (May 14, 2014) (proposing to amend this regulation).

319. *See* 42 C.F.R. § 413.75(b) (2013) (defining rural track and integrated rural track).

320. *See id.* § 413.79(k) ("[A]n urban hospital . . . with a rural track . . . may include in its FTE count residents in those rural tracks, in addition to the residents subject to its FTE cap . . . .").

321. *See id.* § 413.75(b) (defining rural track FTE limitation); U.S. Dep't Health & Human Servs., Medicare Program, Proposed Rule, 79 Fed. Reg. 27978, 28307 (May 14, 2014) (proposing to amend this definition slightly).

322. *See* 42 C.F.R. § 413.76(b) (listing the next step in the formula as multiplying by the hospital's Medicare patient load).

323. *See supra* note 222 and accompanying text (distinguishing Medicare Parts A, B, C, and D).

inpatient days.[324] Factoring a hospital's Medicare patient load into the equation is designed to ensure that Medicare pays the teaching hospital more when the hospital cares for a large number of Medicare beneficiaries but only its fair share when the teaching hospital cares for predominantly privately insured patients or other non-Medicare patients.

In summary, Medicare DGME payments are calculated using a three-factor formula.[325] That is, an updated hospital-specific PRA is multiplied by a weighted average number of FTEs, the product of which is then multiplied by the hospital's Medicare patient load, as illustrated by the following formula:

$$(PRA^{Inflation/Floors/Ceilings} \times WFTE^{1996Cap}) \times MPL$$

where, (1) $PRA^{Inflation/Floors/Ceilings}$ represents the hospital's per resident amount updated for inflation as limited by the BBRA, BIPA, and MMA floors and ceilings; (2) $WFTE^{1996Cap}$ represents the three-year rolling average of weighted resident FTE counts subject to the 1996 FTE resident cap; and (3) MPL represents the hospital's Medicare patient load.[326]

An oversimplified example may be used to show how Medicare calculates an annual payment to a teaching hospital for the costs of its DGME. Assume for FY 2014 that a hypothetical teaching hospital has (1) an updated PRA of $60,000;[327] (2) a DGME resident cap of 100 FTEs, all of whom the hospital is training, although seventy-five of these residents are training in their IRPs and twenty-five are training beyond their IRPs; and (3) a Medicare patient load of 30%. In this example,[328] Medicare

---

324. *See* 42 C.F.R. § 413.75(b) (defining a teaching hospital's Medicare patient load).

325. *See id.* § 413.76(a)–(b) (explaining the formula for Medicare DGME payments).

326. *See id.* § 413.76 (detailing the steps in the formula for Medicare DGME payments).

327. *See supra* notes 245–54 and accompanying text (explaining how a hypothetical hospital may have an updated PRA of $60,000).

328. This hypothetical is oversimplified because not all residents, even those working in their IRPs, will spend all of their time at one hospital complex or at an associated ambulatory site. Therefore, this example overstates the amount of Medicare reimbursement because it assumes that each resident spends all of his

will pay the hospital $1,575,000 for its FY 2014 DGME costs, as follows:

[1.0(75 x $60,000)] x .3 = $1,350,000 (Payment for residents training in their IRPs)

[0.5(25 x $60,000)] x .3 = $225,000 (Payment for residents training beyond IRPs)

= $1,575,000 (DGME payment to the hospital for FY 2014)[329]

B. Payments for Indirect Medical Education Costs

In addition to payments for costs that are directly associated with GME, Medicare also makes payments to teaching hospitals for costs that are indirectly associated with GME. Known as IME payments (or adjustments),[330] these payments have their roots in Medicare's early cost limits that were established in the 1970s.[331] As government-imposed payment limits for hospitals' routine costs grew more stringent, researchers responded by showing that teaching hospitals had higher costs than non-teaching

---

or her time at one teaching hospital complex or associated ambulatory site. In addition, many teaching hospitals train residents above their caps. Although Medicare will not reimburse teaching hospitals that train above-cap residents, most hospitals do train above-cap residents and this hypothetical assumes that the hospital trains a number of residents that exactly equals its cap.

329. *Cf.* THE COMING SHORTAGE, *supra* note 55, at 116 (providing additional illustrative examples of calculations of Medicare payments to teaching hospitals).

330. *See, e.g.*, U.S. Dep't Health & Human Servs., *Acute Care Hospital Inpatient Prospective Payment System*, CENTERS FOR MEDICARE & MEDICAID SERVICES PAYMENT SYSTEM FACT SHEET SERIES 4 (Apr. 2013), http://www.cms.gov/Outreach-and-Education/Medicare-Learning-Network-MLN/MLNProducts/downloads/AcutePaymtSysfctsht.pdf (illustrating and describing the IME payment as a policy adjustment for qualifying hospitals).

331. *Medicare Indirect Medical Education (IME) Payments*, ASS'N OF AM. MED. COLLS., https://www.aamc.org/advocacy/gme/71150/gme_gme0002.html (last visited Nov. 18, 2014) [hereinafter AAMC, IME PAYMENTS] (on file with the Washington and Lee Law Review).

hospitals even after DGME costs were taken into account.[332] Researchers specifically showed that teaching hospitals' intern- and resident-to-bed (IRB) ratios were related to increases in hospital patient care costs.[333]

The Tax Equity and Fiscal Responsibility Act (TEFRA), signed into law by President Reagan on September 3, 1982, was the first piece of federal legislation to recognize that teaching hospitals needed to be assisted with these higher costs and excused from otherwise applicable cost limits.[334] As explained by the Secretary of the Department of Health and Human Services (HHS) in December 1982:

> The indirect costs of graduate medical education are higher patient care costs incurred by hospitals with medical education programs. Although it is not known precisely what part of these higher costs are due to teaching (more tests, more procedures, etc.), and what part is due to other factors (the particular types of patients which a teaching hospital may attract), the Medicare cost reports clearly demonstrate that costs per case are higher in teaching hospitals.
>
> It is also clear that the mere presence of interns and residents in an institution puts extra demands on other staff and leads to the existence of higher staffing levels. The process of graduate medical education results in very intensive treatment regimens. Again, the relative importance of the

---

332. *See, e.g.*, Frank A. Sloan, Roger D. Feldman & Bruce Steinwald, *Effect of Teaching on Hospital Costs*, 2 J. HEALTH ECON. 1, 1–28 (1983) (estimating the effect of undergraduate and graduate medical education on teaching hospital costs using a national sample of 367 hospitals observed in 1974 and 1977 and reporting that non-physician expenses in teaching hospitals are up to 20% higher than in nonteaching hospitals); Mullan et al., *Geography*, *supra* note 16, at 1915 (referencing 1983 studies finding that teaching hospitals' costs were 5.69% higher than the costs of nonteaching hospitals for every 10% increase in the ratio of interns and residents to beds); Lane Koenig et al., *Estimating the Mission-Related Costs of Teaching Hospitals*, 22(6) HEALTH AFFAIRS 112, 112–22 (Nov. 2003) (concluding that limitations on government financing of GME may need to be reassessed in light of the higher costs associated with teaching hospitals).

333. *See* AAMC, IME PAYMENTS, *supra* note 331 ("Researchers found that a hospital's IRB ratio was related to an increase in hospital patient care costs.").

334. Tax Equity and Fiscal Responsibility Act of 1982, § 101, Pub. L. No. 97-248, 96 Stat. 324 (Sept. 3, 1982) (amending section 1886 of the Act to provide that, "The Secretary shall provide . . . adjustments . . . necessary to take into account . . . the special needs of medical . . . education costs . . . .").

> various reasons for the higher costs observed in teaching hospitals is difficult to identify precisely. However, there is no question that hospitals with teaching programs have higher patient care costs than hospitals without.[335]

Once Congress and HHS recognized that teaching hospitals had higher costs than non-teaching hospitals even after taking DGME costs into account,[336] the next question became the size of the percentage add-on that should be applied to each base DRG payment. The Secretary initially estimated that Medicare inpatient operating costs per case increased approximately 5.79% with each 10% increase in the number of residents per hospital bed; however, this percentage estimation was later increased, then re-calculated, and then lowered by President George W. Bush in the MMA.[337]

Today, section 1886 of the Act and its implementing regulations set forth the following formula for calculating teaching hospital IME adjustments:

$$\text{IME Multiplier} \times [(1+\text{IRB ratio})^{0.405} - 1]$$[338]

Each factor in this formula will be discussed in turn. The first factor, the IME Multiplier, is currently set at 1.35.[339] An IME Multiplier of 1.35 means that for every ten residents per

---

335. RICHARD S. SCHWEIKER, SECRETARY, U.S. DEP'T HEALTH & HUMAN SERVS., REPORT TO CONGRESS: HOSPITAL PROSPECTIVE PAYMENT FOR MEDICARE 48 (1982); *see also* H.R. REP. NO. 98-25, at 140–41 (1983) (explaining the purpose of the Medicare IME adjustment); S. REP. NO. 98-23, at 52 (1983) (offering another explanation for the purpose of the Medicare IME adjustment).

336. *See, e.g.*, Ian S. Metzler et al., *The Critical State of Graduate Medical Education Funding*, 97(11) BULL. AM. C. SURGEONS 9, 9 n.8 (2012), http://bulletin.facs.org/2012/11/critical-state-of-gme-funding (suggesting that only a certain percentage of IME payments can be analytically justified) (on file with the Washington and Lee Law Review).

337. *See* MMA, *supra* note 222, § 502 (revising the IME adjustment percentage); Gentile & Buckley, *Medicare Reimbursement*, *supra* note 231, at 14-2 (summarizing Congressional changes to the IME adjustment over time).

338. *See* 42 U.S.C. § 1395ww(d)(5)(B)(ii) (2012) (explaining the formula for calculating the indirect teaching adjustment factor); 42 C.F.R. §§ 412.105(d)(3)(xii), 412.105(e)(1) (2013) (describing formula for IME payment under prospective payment system); 2014 Proposed Rule, *supra* note 234, at 28302 (proposing changes to 42 C.F.R. § 412.105(a) and (f)).

339. 42 C.F.R. § 412.105(d)(3)(xii).

one-hundred beds, a teaching hospital will receive a 5.5% add-on payment to its basic DRG payment.[340]

The second factor, the IRB ratio, is designed to measure the hospital's teaching intensity; that is, the ratio of the number of interns and residents to beds.[341] Starting from the end of the IRB ratio, at the "B," the number of beds is generally based on the number of available beds during the cost reporting period divided by the number of days in the cost reporting period.[342] Several categories of beds are, however, excluded from the available bed count.[343]

Moving to the beginning of the IRB ratio, to the "IR," interns and residents are generally, but with some exceptions, counted and capped in the same manner for IME purposes as they are for DGME purposes.[344] One exception is that fellows training beyond the IRP are not weighted at 50% for IME payment purposes, so each fellow will count as 1.0 FTE in calculating a teaching hospital's IRB.[345] A second exception is that interns and residents can only be counted for IME if they are in the part of the hospital subject to PPS, they are in the outpatient department of a hospital that satisfies a certain provider-based status, or they are in a nonprovider setting and are engaged in certain patient care activities.[346] A third exception is that the community support and

340. *See Indirect Medical Education (IME)*, CENTERS FOR MEDICARE & MEDICAID SERVICES (Aug. 4, 2014, 4:07 PM), http://www.cms.gov/Medicare/Medicare-Fee-for-Service-Payment/AcuteInpatientPPS/Indirect-Medical-Education-IME.html (last visited Nov. 18, 2014) ("The formula multiplier of 1.35 represents a 5.5 percent increase in IME payment for every 10 percent increase in the resident-to-bed ratio.") (on file with the Washington and Lee Law Review).

341. *See* 42 C.F.R. § 412.105(a)(1) (listing the hospital's resident-to-bed ratio as a factor in calculating CMS payment).

342. *See id.* § 412.105(b) ("[T]he number of beds in a hospital is determined by counting the number of available bed days during the cost reporting period and dividing that number by the number of days in the cost reporting period.").

343. *See id.* § 412.105(b)(1)–(6) (listing the categories of beds excluded from the available bed count, such as beds in the "healthy newborn nursery").

344. *See id.* § 412.105(f) (defining how to determine the number of interns and residents); 2014 Proposed Rule, *supra* note 234, at 28302–03 (proposing changes to this regulation).

345. AAMC, NEW TEACHING HOSPITALS, *supra* note 240, at 8.

346. 42 C.F.R. § 412.105(f)(1)(ii)(A), (B), (E) (2013); *see also id.*

redistribution of cost requirements applicable to DGME[347] do not apply for purposes of counting residents for IME payments in the hospital setting, but they do apply for purposes of claiming residents for IME payments in nonprovider settings.[348] Finally, a hospital's IRB ratio in any given year is also limited, or capped, to its computed value in the prior year after accounting for the cap on the allopathic and osteopathic residents.[349]

An example might help illustrate how Medicare calculates IME payments to teaching hospitals. Assume a hypothetical teaching hospital has (1) 170 interns, residents, and fellow FTEs; (2) 666 beds; and (3) that CMS will be making a payment to the hospital for MS-DRG[350] 227 (cardiac defibrillator implant without cardiac catheter and without major complications or co-morbidities) at a payment rate of $29,000. To determine the teaching hospital's IME percentage add-on, the following formula is used:

$$\text{IME Multiplier} \times [(1+\text{IRB ratio})^{0.405} - 1] = \text{percentage add-on}$$

Applied to the hypothetical teaching hospital described above, the hospital's IME percentage add-on is

$$1.35 \times [(1+170/666)^{0.405} - 1] = 13\%$$

After determining the hospital's IME percentage add-on, the final step is to apply the percentage add-on to the particular cardiac defibrillator implant DRG case:

---

§ 412.105(f)(1)(iii)(B)–(C) (stating that resident time spent in activities not related to the treatment or diagnosis of a particular patient is not countable for IMA purposes); *id.* § 413.75(b) (providing relevant definitions).

347. *See supra* notes 260–63 and accompanying text (discussing the DGME).

348. *See* Medicare Program; Changes to the Hospital Inpatient Prospective Payment Systems and Fiscal Year 2004 Rates, 68 Fed. Reg. 45,436, 45,444 (Aug. 1, 2003) (explaining rules for training in nonhospital settings).

349. *See* 42 C.F.R. § 412.105(a)(1)(i) ("[T]his ratio may not exceed the ratio for the hospital's most recent prior cost reporting period after accounting for the cap on the number of allopathic and osteopathic full-time equivalent residents . . . .").

350. Beginning with discharges occurring on or after October 1, 2007, CMS began using a new DRG system called Medicare Severity Diagnosis-Related Groups (MS-DRGs) to better account for severity of illness and resource consumption for Medicare beneficiaries. MEDICARE IPPS, *supra* note 238, at 2.

$29,000 x 13% = $3,770

That is, the hypothetical teaching hospital will receive an additional payment of $3,770 for this DRG case to compensate the hospital for the additional patient care costs associated with being a teaching hospital.[351]

This Part V has examined the history and current regulation of Medicare funding of GME. Although Medicare is the largest federal governmental source of GME funding, the federal government also funds GME through several additional programs and grants, including the Medicaid Program,[352] the Teaching Health Center Graduate Medical Education Program,[353] the Children's Hospitals Graduate Medical Education Payment Program,[354] and certain Primary Care Residency Expansion grants.[355] The federal government further finances GME through contributions from other agencies, including the Department of Defense, the Department of Veterans Affairs, and the National Institutes of Health.[356] Some private insurers also support GME to some degree through payments they negotiate with teaching hospitals.[357] In addition, some teaching hospitals are obtaining financing from nontraditional sources, including by forging

---

351. *See* AAMC, NEW TEACHING HOSPITALS, *supra* note 240, at 8 (providing a similar example and explaining why examples such as these are over simplified).

352. *See generally* Tim M. Henderson, *Medicaid's Role in Financing Graduate Medical Education*, 19 HEALTH AFFAIRS 221 (2000) (providing a detailed discussion of state Medicaid approaches to financing GME).

353. Health Res. & Servs. Admin., *Teaching Health Center Graduate Medical Education (THCGME)*, U.S. DEP'T HEALTH & HUMAN SERVS., http://bhpr.hrsa.gov/grants/teachinghealthcenters/index.html (last visited Nov. 18, 2014) (on file with the Washington and Lee Law Review).

354. Health Res. & Servs. Admin., *Children's Hospitals Graduate Medical Education Payment Program*, U.S. DEP'T HEALTH & HUMAN SERVS., http://bhpr.hrsa.gov/childrenshospitalgme (last visited Nov. 18, 2014) (on file with the Washington and Lee Law Review).

355. Health Res. & Servs. Admin., *Primary Care Residency Expansion (PCRE)*, U.S. DEP'T HEALTH & HUMAN SERVS., http://bhpr.hrsa.gov/grants/medicine/pcre.html (last visited Nov. 18, 2014) (on file with the Washington and Lee Law Review).

356. *See* HHS PRIMER, *supra* note 49, at 7 (listing some of the sources through which GME is funded).

357. *See id.* (noting that some of GME is funded through private sources).

relationships with private, nonpayor institutions.[358] Although a discussion of these other programs, grants, and non-traditional funding sources is well beyond the scope of this current Article, I will be critiquing in a companion article a variety of methodologies adopted by state Medicaid agencies for funding GME and hope that this Article and its companion article will be read in tandem for a complete reform of Medicare and Medicaid funding of GME.

VI. Proposals

Parts II through V of this Article show how Medicare financing of GME can significantly impact both the overall supply as well as the geographic distribution of the physician workforce in the United States.[359] The question becomes whether and how Medicare financing of GME can be reconfigured to achieve a more equitable supply and distribution of physicians.[360]

In a study, "The Geography of Graduate Medical Education: Imbalances Signal Need for New Distribution Policies," published in late 2013 in *Health Affairs*, researchers affiliated with George Washington University School of Public Health and Health Services investigated the geography of GME, including state and regional imbalances.[361] Using Medicare cost reports that teaching hospitals submitted to CMS in FYs 2008 through 2010 as well as 2010 population data from the Census Bureau, the study authors identified or determined, as appropriate, each U.S. teaching hospital's BBA-imposed resident cap, the number of residents

358. *See* Andrew Kiraly, *Is There a Doctor in the House?*, DESERT COMPANION, at 102 (Aug. 2013), http://www.desertcompanion.com/article.cfm?ArticleID=628 (describing alternative sources of funding for GME).

359. *Supra* Parts II–V*; see also* Candice Chen et al., *The Redistribution of Graduate Medical Education Positions in 2005 Failed to Boost Primary Care or Rural Training*, 32(1) HEALTH AFFAIRS 102, 102 (2013) (addressing the ways in which GME funding affects training).

360. *See generally* Mullan et al., *Geography, supra* note 16 (asking the question of how new distribution policies may be used to achieve a balance in the supply of physicians).

361. *See generally id.* (analyzing new distribution policies to create more equity in physician distribution and supply).

trained by each hospital, and the number of residents trained by each hospital over its BBA cap.[362] The authors then determined the total resident cap for all teaching hospitals in each state, the total number of residents trained in each state, as well as total Medicare GME payments to teaching hospitals in each state.[363] Finally, the study authors calculated each state's resident cap per 100,000 people, Medicare GME payments per person, and average Medicare GME payments per medical resident.[364]

After analyzing the data, the study authors reported large differences in states' total numbers of Medicare-financed residents per 100,000 population, Medicare GME payments per person, and average Medicare GME payments per medical resident.[365] In particular, the study authors found that the number of Medicare-financed residents per 100,000 population ranged from 202.87 residents in the District of Columbia to 1.63 residents per 100,000 population in Montana, with a national average of 29.31 residents per 100,000 population.[366] In addition to the District of Columbia, states with the highest ratios included New York (77.13), Massachusetts (66.08), Rhode Island (61.48), Pennsylvania (54.48), Michigan (53.05), and Connecticut (49.65).[367] In addition to Montana, states with the lowest ratios included Idaho (2.24), Alaska (3.15), Wyoming (6.64), South Dakota (8.84), and Nevada (9.10).[368] Holding state populations equal, then, the federal government finances significantly higher numbers of residency positions in New England and the Middle Atlantic than in the Intermountain West.[369] Stated differently, the BBA-imposed caps are lower in the Intermountain West even

362. *See id*. at 1916 (explaining the methods and data sources of the study).

363. *See id.* (elaborating on the processes of the study).

364. *See id.* at 1917 (detailing the final step and calculations in the study).

365. *See id*. (revealing the analyzed data from the study in a chart with data from the top ten and bottom ten states).

366. *Id*.

367. *Id*.

368. *Id*.

369. *See id.* (comparing the numbers of federal government funded positions throughout the country).

taking into account the lower populations of many Intermountain West states.[370]

In terms of Medicare GME payments per person in each state (i.e., per state resident, not per medical resident training in a GME program), the study authors reported a range of $172.85 per person in the District of Columbia to $1.94 per person in Montana, with a national average of $32.31 per person.[371] In addition to the District of Columbia, states with the highest Medicare GME payments per person included New York ($103.63), Massachusetts ($85.43), Rhode Island ($81.23), and Michigan and Connecticut (both at $74.67).[372] In addition to Montana, states with the lowest Medicare GME payments per person included Idaho ($2.51), Wyoming ($2.91), Alaska ($3.17), Mississippi ($7.47), South Dakota ($9.05), and Nevada ($9.57).[373] Holding state populations equal, then, the federal government spends significantly more on GME per person in New England, the Middle Atlantic, and Michigan compared to the South and the Intermountain West.

In terms of average Medicare GME payments per medical resident in each state, the study authors reported a range of $155,135 in Connecticut to $43,908 in Wyoming, with a national average of $112,642.[374] In addition to Connecticut, states with the highest average Medicare GME payment per medical resident included Michigan ($141,126), New York ($139,126), North Dakota ($137,111), Pennsylvania ($133,879), and Rhode Island ($133,615).[375] In addition to Wyoming, states with the lowest average Medicare GME payment per medical resident included Louisiana ($63,811), Mississippi ($67,527), Hawaii ($97,744), Alaska ($100,625), South Dakota ($102,382), Illinois ($103,944), and Nevada ($109,514).[376] Holding the number of Medicare

370. *See id.* (providing data showing lower BBA-imposed caps for the Intermountain West states, such as Idaho and Nevada, than for other states).

371. *Id.*

372. *Id.*

373. *Id.*

374. *Id.*

375. *Id.*

376. *Id.*

funded residency positions equal, then, the federal government pays significantly more per medical resident in New England, the Middle Atlantic, and certain northern states, such as North Dakota, than it does in the South or most of the West.[377] After further analyzing their data, the study authors reported that New York received 29% of all Medicare GME funding while twenty-nine states, including states struggling with physician shortages, received less than 1%.[378] According to the study authors, a disproportionate amount of Medicare GME dollars are flowing to states such as New York, Massachusetts, and Rhode Island, even though these three states have the highest physician-to-population ratios and are not physician shortage states.[379]

Why do these geographic imbalances in Medicare GME funding exist? As explained in Part V, COBRA of 1986 tied most hospitals' per resident amounts to FY 1984 costs[380] and the BBA of 1997 capped the number of Medicare-financed residents at the number of residents reported on teaching hospitals' 1996 cost reports.[381] By these dates, teaching hospitals located in New England and the Middle Atlantic had already founded and fully grown all of their residency programs and maximized their GME costs.[382] Indeed, GME was born in New England and the Middle

377. *See id.* (providing the average Medicare GME payment per resident for the states in these regions).

378. *See* Kathy Fackelmann, *Twenty Percent of Nation's Graduate Medical Education Funds Go to New York While 29 States Get Less than One Percent, Study Says*, GEO. WASH. U. SCH. PUB. HEALTH & HEALTH SERVS. (Nov. 4, 2013), http://publichealth.gwu.edu/content/twenty-percent-nation%E2%80%99s-graduate-medical-education-funds-go-new-york-while-29-states-get (last visited Nov. 18, 2014) (explaining that northeastern states with no physician shortages receive a disproportionate percentage of Medicare's graduate medical education funding) (on file with the Washington and Lee Law Review).

379. *See id.* ("Many Southern and Western states—which already face shortfalls in their physician workforce—such as Montana, Idaho, Arkansas, Wyoming, Florida and even California do not do well in terms of Medicare GME funding under the current system, according to the authors.").

380. *See supra* Part V.A.1 (explaining the system that determines a teaching hospital's per resident amount).

381. *See supra* Part V.A.2 (explaining that the number of full-time equivalent residents is the second factor used in the Medicare payment calculation).

382. *See* Mullan et al., *Geography*, *supra* note 16, at 1918 ("These data

Atlantic almost a century before COBRA and the BBA were enacted.[383] Baltimore's Johns Hopkins Hospital established its first GME program—a one-year internship—in 1889,[384] and Johns Hopkins had more than ninety years to build twenty-eight different residency programs.[385] For purposes of comparison, the geographic area that later became Las Vegas had no inhabitants in 1889, the year Johns Hopkins founded its first GME program, and Las Vegas was not even founded as a city until 1905.[386] COBRA thus "froze" in place the high costs associated with Johns Hopkins' twenty-eight programs and then the BBA "cemented" the high numbers of residents that train in these programs.[387] Add to these advantages the fact that New England and the Middle Atlantic have experienced relatively slow population growth since COBRA and the BBA.[388] The populations of New York, Massachusetts, and Pennsylvania grew only by 2.1%, 3.1%, and 3.4%, respectively, between 2000 and 2010.[389] The result is high ratios of Medicare-financed residency slots per 100,000 population, high Medicare GME payments per person, and high average Medicare GME payments per medical resident in New

---

document a substantial imbalance favoring the Northeast, where residency education first took root in the first half of the twentieth century.").

383. *See id.* ("Programs in these areas were well positioned to take full advantage of Medicare GME as it developed in the latter part of that century.").

384. HHS PRIMER, *supra* note 49, at 2.

385. *See House Staff Training Programs at Johns Hopkins*, JOHN HOPKINS SCH. MED., http://www.hopkinsmedicine.org/som/gme/residents/programs.html (last visited Nov. 18, 2014) [hereinafter JOHN HOPKINS SCH. MED.] (providing a list of the various House Staff Training Programs available at Johns Hopkins) (on file with the Washington and Lee Law Review).

386. *See* RILEY MOFFAT, POPULATION HISTORY OF WESTERN U.S. CITIES & TOWNS, 1850–1990, at 156 (1996), https://bsl.app.box.com/s/4ia5zhu2p9d56b5k91gx (reporting that Las Vegas had zero residents in 1890 and only twenty-five residents in 1900).

387. *See* Mullan et al., *Geography*, *supra* note 16, at 1918–20 ("These payment advantages were essentially frozen in place by the 1997 Medicare GME caps, cementing the geography of the GME system that was largely built in the first half of the twentieth century and carrying that geography forward into the twenty-first century.").

388. *See id.* at 1920 (comparing slow population growth in New England and the Middle Atlantic with the greater population growth in the South and the West).

389. *Id.*

England and the Middle Atlantic and, of course, fewer reports of physician shortages.[390]

On the other hand, the populations of many states in the South and West grew dramatically in the late twentieth century and early twenty-first century.[391] From 1990 to 2000, for example, the populations of Nevada, Georgia, Texas, Florida, California, and Alabama grew by approximately 66%, 26%, 23%, 23%, 14%, and 10% respectively.[392] The population growth in Nevada was particularly startling.[393] In 1990, Nevada had 1,201,833 people.[394] By 2000, the Silver State had grown to 1,998,257 people, a 66.3% increase and the highest growth rate in the United States.[395] The following decade, from 2000 to 2010, the populations of Nevada, Texas, Georgia, Florida, California, and Alabama continued to grow by 35.1%, 20.6%, 18.3%, 17.6%, 10%, and 7.5%, respectively.[396] To respond to the increased health care needs associated with their growing populations, these and other states located in the South and West would like to build new or expand existing UME schools and GME programs.[397] And herein lies the

---

390. *See id.* ("In some cases, either a state will have to fund new GME positions, or many of its new graduates will have to leave the state to find residency positions.").

391. *See Population Change and Distribution: 1990 to 2000*, NAT'L ATLAS, http://www.nationalatlas.gov/articles/people/ a_popchange.html#t1 (last updated Jan. 14, 2013) (last visited Aug. 30, 2014) (highlighting population size and distribution changes in the United States that occurred from 1990 to 2000) (on file with the Washington and Lee Law Review).

392. *Id.*

393. *See id.* ("Growth in the West was led by Nevada, now the country's fastest-growing State for each of the past four decades.").

394. *Id*.

395. *Id*.

396. *See* U.S. CENSUS BUREAU, POPULATION DISTRIBUTION AND CHANGE: 2000 TO 2010, 2010 CENSUS BRIEFS 2 (2011), http://www.census.gov/prod/ cen2010/briefs/c2010br-01.pdf (discussing population changes from 2000 to 2010 for states and other geographic levels); Mullan et al., *supra* note 16, at 1920 (reporting the percentage growth rates of Texas, Florida, and California from 2000 to 2010).

397. *See* Inglehart, *Uncertain Future*, *supra* note 50, at 1342 ("Because of the cap on Medicare's payments, the expanding number of U.S. medical school graduates, and the continuing influx of some 7000 international medical graduates in search of GME posts every year, before long there will be too few positions to train them all.").

problem: Not only does Congress prohibit Medicare financing of new residency slots within existing medical residency programs, but CMS also limits the number of years that new medical residency programs located in urban areas have to start and build all of their training programs.[398]

An example may be used to illustrate the latter limitation. Assume that a hypothetical teaching hospital located in a growing population center in the South or West began training residents in a new family medicine program on July 1, 2013. Further assume that the teaching hospital wishes to slowly and carefully build its training programs and that it would like to have a few years of family medicine under its belt before beginning a new general surgery program on July 1, 2015, and before beginning a new sports medicine program on July 1, 2017, and a new dermatology program on July 1, 2019. CMS will close the five-year cap-building window for all four of these new training programs on June 30, 2018.[399] By this date, the family medicine program will have had five years to establish itself, the general surgery program will have had three years to establish itself, the sports medicine program will have had one year to establish itself, and the dermatology program will be one year away from its founding. Thus, none of the dermatology residents will be included in the hospital's resident cap, and it is likely that none of the other three programs, but especially the sports medicine and general surgery programs, will be running at their maximum capacity by June 30, 2018.[400] Again, compare the experience of this hypothetical teaching hospital to Johns Hopkins Hospital, which had approximately one century (from 1889, the date of its first internship's founding, to 1986, the date of COBRA's enactment, and 1997, the date of the BBA's

398. *See supra* Part V.A.2 ("[T]he BBA-established caps apply less stringently to hospitals located in rural areas.").

399. *See* 2014 Proposed Rule, *supra* note 234, at 28146 (providing a similar example).

400. *See* Mullan et al., *Geography*, *supra* note 16, at 1920 ("Governors and legislators who once knew little about Medicare GME are now aware that state investments in new or expanded medical schools face a substantial barrier because their residency program base is small and they lack Medicare GME funding to expand rapidly.").

enactment) to build and grow in terms of the number of specialty training programs, the total number of residents in those training programs, and the total costs associated with those training programs.[401] This example shows how, as applied, the statutes and regulations governing Medicare payments to teaching hospitals for the costs of their GME discriminate against existing and new teaching hospitals located in growing population centers in the United States.[402]

According to Fitzhugh Mullan, the lead study author of the *Health Affairs* study, the federal statutes and regulations governing Medicare financing of GME do "affect access to health care."[403] Mullan further explains that, "Unless the GME payment system is reformed, the skewed payments will continue to promote imbalances across the country."[404] Mullan concludes that "because the majority of newly minted physicians set up a practice near where they are trained . . . it is important that states with rural and growing populations receive appropriate support for starting and maintaining residency programs."[405]

This Article thus proposes a reconfiguration of the current methodology used to calculate Medicare financing of teaching hospitals' GME costs.[406] As described in more detail below, this proposed reconfiguration is designed to boost residency training in physician shortage areas and in growing population centers.[407]

---

401. *See id.* at 1918–20 (explaining how residency programs in the Northeast were in a better position than programs in other regions to take full advantage of Medicare GME); HHS Primer, *supra* note 49, at 2 (identifying the early establishment of Johns Hopkins's first GME program); JOHN HOPKINS SCH. MED., *supra* note 385 (listing the current twenty-eight residency programs available at Johns Hopkins).

402. *See* Mullan et al., *Geography*, *supra* note 16, at 1918–20 (describing how the Medicare GME favors residency programs in states that had a high density of residents at the time Medicare GME was established).

403. Fackelmann, *supra* note 378 (quoting and summarizing Mullan).

404. *Id.*

405. *Id.*

406. *See id.* ("The study adds to the evidence suggesting that the current system of allocating graduate medical education or GME money is based on an inflexible and outdated method, one that contributes to large imbalances in payments and a growing shortfall of physicians in some areas of the country.").

407. *Id.*

Let us begin with the PRA, which is the first factor in the formula used to calculate Medicare payments to a teaching hospital for the costs of its DGME.[408] Under current rules, each hospital's PRA is calculated by dividing allowable DGME costs accrued during a base year that is thirty-one years old (FY 1984) by the base period's average number of full-time equivalent residents working in all areas of the hospital complex, and then updating that amount for inflation.[409] Remember, too, that Congress froze inflation updates on PRAs for non-primary care residents and non-obstetrics and gynecology residents in FYs 1994 and 1995 to encourage support for primary care physicians even though current data in many states, such as Nevada, show significant shortages of specialists.[410]

This method of calculating PRAs is problematic for several reasons. First, remember that financial arrangements between teaching hospitals and medical schools historically have varied widely, and that the lack of consistency in these arrangements has made it almost impossible to accurately and appropriately determine or allocate GME costs.[411] For example, the costs associated with faculty supervision of residents may be wholly assigned to the affiliated medical school in one arrangement and assigned in whole or in part to the teaching hospital in a second arrangement.[412] Teaching hospitals that could easily identify

---

408. *See* 42 U.S.C. § 1395ww(h)(2) (2012) (describing how the per resident amount is determined for each hospital).

409. *See id.* (detailing the PRA calculation); 42 C.F.R. § 413.77 (2013) (providing further details on the PRA calculation).

410. *See* 42 U.S.C. § 1395ww(h)(2)(D)(ii) (providing the freeze in update provision for fiscal years 1994 and 1995); 42 C.F.R. § 413.77(c)(2) (providing further implementation of the freeze in update provision).

411. *See* HHS PRIMER, *supra* note 49, at 6 (describing several common inconsistencies in identifying and allocating GME costs that create variation in per resident cost amounts reported by teaching hospitals and medical schools).

412. *See id.* (explaining that this inconsistency results in wide reporting variations). Indeed, there is a saying in academic medicine that "If you've seen one academic medical center, you've seen one academic medical center." *See, e.g.*, Darrell G. Kirch, *A Word from the President: Realizing Just How Much We Have in Common*, AAMC REP. (2011) (emphasizing that the saying is very common). No two academic medical centers are alike, which makes the provision of accounting, legal, and other services to academic medical centers very difficult.

their GME costs were able to lock into place high PRAs.[413] Teaching hospitals whose GME costs were administratively difficult to follow were stuck with low PRAs.[414] The result is wide variations in PRAs across training institutions, even if labor and other costs are similar.[415] As the *Health Affairs* study shows, average Medicare GME payments per resident range from a low of $43,908 in Wyoming to $155,074 in Connecticut, with a national average of $112,642.[416]

Because some allowable GME costs (e.g., accreditation fees) do not vary, while other costs (e.g., resident stipends, teaching faculty salaries, and GME clerical personnel salaries) vary by region based on the cost of labor, the cost of living, and other similar factors, while still other costs (e.g., allocated institutional overhead costs, including electricity) vary by teaching hospital based on heating, cooling, and technology needs and by regional energy costs, and still other costs (e.g., malpractice insurance premiums) vary by region, even within the same specialty,[417] PRAs certainly will not and should not be the same at every teaching hospital.[418] That said, a three-point-five-fold variation in per medical resident payments (i.e., $43,908 in Wyoming to $155,074 in Connecticut) likely would not exist if physician workforce analysts could determine a standard method of

---

413. *See* HHS PRIMER, *supra* note 49, at 16 (describing the teaching hospitals receiving high GME subsidies).

414. *See id.* (describing the teaching hospitals receiving low GME subsidies).

415. *See id.* at 15–16 ("Because of large variations in historical per resident cost amount across training institutions (based on inconsistencies in identifying and allocating such costs), total GME subsidies to teaching hospitals by Medicare range widely—from about $60,000 to $120,000 per resident per year.").

416. *See* Mullan et al., *Geography*, *supra* note 16, at 1917 (describing several large differences between states in the number of residents funded by Medicare and the number of residents per 100,000 population).

417. *See* Alicia Gallegos, *Malpractice Premiums Steady in 2013, Vary Widely by Region*, OB.GYN. NEWS (Oct. 14, 2013, 11:40 AM), http://www.obgynnews.com/index.php?id=11146&cHash=071010&tx_ttnews[tt_news]=218953 (last visited Nov. 18, 2014) (noting substantial variation across regions with respect to same-specialty malpractice insurance premiums) (on file with the Washington and Lee Law Review).

418. *See id.* (providing reasons why PRAs will not be the same at every teaching hospital).

identifying and allocating allowable GME costs at every teaching hospital.[419]

My proposal with respect to PRAs thus has two parts. First, if physician workforce analysts could determine a standard method of identifying and allocating all DGME costs within all teaching hospital-medical school arrangements, then this new, standard methodology should be used and the thirty-one year old PRA should be discarded. More specifically, the current statutory and regulatory provisions governing PRA determinations set forth at 42 U.S.C. § 1395ww(h)(2) and 42 C.F.R. § 413.77 should be deleted and the new, standard method should be described at these provisions.

Second, if a new, standard methodology for identifying and allocating DGME costs cannot be identified due to the complexity and uniqueness of teaching hospital-medical school arrangements, then a new PRA methodology should be created. One option is to start with a base PRA that is equal to the current national average ($112,642 per resident)[420] and to adjust that amount up or down at each teaching hospital based on relative labor costs, costs of living, and other factors that vary by region. In a proposed rule, CMS could tentatively identify the factors to be used to adjust the base PRA as well as the specific wage, consumer, and other price indices that should be used to calculate such adjustments. The public input received through this notice-and-comment rulemaking process could be used to finalize these factors and indices. In the same proposed rule, CMS should also propose to delete the PRA inflation update freezes on non-primary care and non-obstetrician and gynecology residents in light of the number of states, such as Nevada, that have extreme specialist (in addition to generalist) physician shortages, as well as low numbers of residency positions in specialty areas.[421]

On July 29, 2014, after the above proposal was drafted, the Institute of Medicine (IOM) released a report titled "Graduate

---

419. *See* Mullan et al., *Geography*, *supra* note 16, at 1917 (describing the wide variation between per medical resident payments in Wyoming and Connecticut).

420. *See id.* (stating the national average GME payment per resident).

421. *See* Robison, *supra* note 4 (explaining the severity and extent of doctor shortages in Nevada).

Medical Education That Meets the Nation's Health Care Needs."[422] In that report, the IOM recommends replacing the separate DGME and IME payments with one payment based on a national PRA with a geographic adjustment.[423] A portion of that IOM recommendation—the idea of a national PRA with a geographic adjustment—is very similar to the proposal in this Article.

Let us now move to the second factor in the formula that is used to calculate Medicare financing of DGME: the weighted average number of full-time equivalent residents training in an approved medical residency program and working in the hospital complex or, under certain circumstances, non-hospital locations.[424] Remember, the number of allopathic and osteopathic residents that teaching hospitals may claim for DGME (and for IME) is generally capped at the number of residents counted on a hospital's most recent cost report ending on or before December 31, 1996.[425] Added by Congress in the BBA, these allopathic and osteopathic resident caps responded to then-current projections of widespread physician surpluses across the United States.[426] Two decades later, many states in the South and West are facing serious physician shortages and the entire United States is projected to face a physician shortage by the end of the first quarter of the twenty-first century.[427]

Policymakers have several options for confronting this challenge. One option is to leave the caps in place, thus

---

422. INST. OF MED., GRADUATE MEDICAL EDUCATION THAT MEETS THE NATION'S HEALTH NEEDS (July 29, 2014).

423 *Id*. at 5-22, Recommendation 4.

424. *See* 42 U.S.C. § 1395ww(h)(4) (2012) (describing the role of the second factor in the formula); 42 C.F.R. §§ 413.78–81 (2013) (providing further detail on how the second factor determines Medicare financing of DGME).

425. *See* 42 U.S.C. § 1395ww(h)(4)(F) (detailing the cap); 42 C.F.R. § 413.79(c)(2)(i) (reiterating the details of the cap).

426. *See, e.g.*, SCHEFFLER, *supra* note 54, at 8 ("Economists and policy experts in the early to mid-1990s were projecting physician shortages.").

427. *See* AM. MED. ASS'N, THE CALL TO INCREASE GRADUATE MEDICAL FUNDING, *supra* note 5, at 1 ("Many authorities agree that by 2025 the United States will face a shortage of physicians to meet the needs of a growing and aging U.S. population."); Weigley et al., *supra* note 6 (discussing concentration of physician shortages in the South and West).

perpetuating sub-optimal physician supply and distribution in the United States. Given the current and pending physician shortages across the United States, especially in growing population centers in the United States South and West, this option should receive no further consideration. Current federal statutes and regulations governing the calculation of Medicare payments to teaching hospitals discriminate against teaching hospitals located in growing population centers and these federal statutes and regulations cannot be maintained.

A second option is to maintain Medicare financing of GME at current levels but to reallocate residency slots among hospitals based on resident-to-population ratios or based on teaching hospital proposals regarding GME performance and innovation. In its July 29, 2014, report, the IOM recommends a variation on this option; that is, the IOM recommends the creation of a GME Transformation Fund that will "finance initiatives to develop and evaluate innovative GME programs, to determine and validate appropriate GME performance measures, to pilot alternative GME payment methods, and to award new Medicare-funded GME training positions in priority disciplines and geographic areas."[428] Note, however, that this IOM approach will not increase Medicare or other government financing of GME. This option will simply reallocate payments from some teaching hospitals to others based on need, performance, innovation, or a combination of those factors.[429] This option is certainly more just, or fair, than option one. However, this option will not cure the nation's current and looming physician shortages.

A third option, recommended by this Article, is for Congress to amend 42 U.S.C. § 1395ww(h)(4) (and for CMS to amend 42 C.F.R. § 413.79(c)) to remove the caps for certain teaching hospitals located in states with physician shortages that have low resident-to-population ratios. For example, this third option could be implemented by removing the statutory caps for teaching hospitals located in states that fall below the national average for

428. INST. OF MED., GRADUATE MEDICAL EDUCATION THAT MEETS THE NATION'S HEALTH CARE NEEDS, *supra* note 422, at 5-18 Recommendation 3.

429. *Id*. at 5-13, Recommendation 1 (recommending the maintenance of GME support at the "current aggregate amount").

physician-to-population ratios and to allow teaching hospitals in those states to apply for additional Medicare-financed residency slots up to a certain amount, perhaps the national average of residency slots. In 2012, the most recent year for which data are available, there was a national average of 260.5 active physicians per 100,000 population in the United States, ranging from a high of 421.5 in Massachusetts to a low of 180.8 in Mississippi.[430] Thus, teaching hospitals in states with physician-to-population ratios lower than the national average (i.e., Mississippi, currently ranked last in the relative number of physicians, through California, which currently has 257.6 physicians per 100,000 population)[431] could be authorized to apply for additional residency slots until the state in which the teaching hospitals are located achieves the current national average of residents; that is, 36.6 per 100,000 population.[432] Remember, however, that a variety of factors other than current population affect determinations regarding optimal and equitable physician supply and distribution.[433] Thus, CMS could offer the simple and straightforward "population" model described above as one option in a proposed rule, but CMS could seek comment on the use of other mathematical models with which the government is already familiar. These include, but are not limited to, the Physician Supply Projection Model, the GME Model, and the Physician Requirements Model.[434] Each of these models focuses on one or more of the other non-population factors described in Part III that affect optimal and equitable physician supply and distribution.

In structuring a process pursuant to which qualified teaching hospitals could apply for additional residency slots, CMS could

---

430. AAMC, 2013 PHYSICIAN DATA BOOK, *supra* note 7, at 4.

431. *Id.* at 9.

432. *Id*. at 32.

433. *See* AMA, PHYSICIAN CHARACTERISTICS, *supra* note 7, at 64 ("It is recognized that the quality and quantity of health care are predicated on a variety of factors such as medical need for services, demographic composition, geographical location, and socioeconomic variables, among others.").

434. *See, e.g.*, THE COMING SHORTAGE, *supra* note 55, at 54 (identifying and summarizing a number of different models); GMENAC REPORT, *supra* note 49, at 50 (same).

build on the application process it implemented following the enactment of the ACA, which allowed certain teaching hospitals (i.e., those teaching hospitals located in states with resident-to-population ratios in the lowest quartile, as well as teaching hospitals located in states that were in the top ten in terms of the ratio of HPSA population to total population, as well as hospitals located in rural areas) to apply for a discrete number of residency slots that were being redistributed from teaching hospitals that were not using all of their slots.[435] I applaud ACA's attempt to redistribute resident slots to geographic areas with low resident-to-population ratios and to HPSAs and rural areas.[436] The discrete redistributions that occurred, however, were insufficient to effect the large-scale changes needed to remedy current and looming physician shortages.[437] For example, seven teaching hospitals located in Georgia and eight teaching hospitals located in Arizona did not receive any additional residency slots, even though Georgia and Arizona are located in the bottom quartile of states in terms of their resident-to-population ratios.[438] In the end, only fifty-eight teaching hospitals across the United States received additional residency slots as a result of the ACA reallocation process.[439]

In constructing an application process, CMS should allow for applications not only by current teaching hospitals, but also by new teaching hospitals that would like to build new medical

---

435. *See* Patient Protection and Affordable Care Act, Pub. L. No. 111–148, 124 Stat. 119 (2010), *amended by* Health Care and Education Reconciliation Act, Pub. L. No. 111–152, 124 Stat. 1029 (2010) (codified as amended at 42 U.S.C. § 5503 (2012)) (providing the "Distribution of Additional Residency Positions" provision); 42 C.F.R. § 413.79(m) (2013) (same).

436. *See* Patient Protection and Affordable Care Act § 5503 (providing the provision that attempts to redistribute residency slots to area in need).

437. *See* Kiraly, *supra* note 358, at 102 ("Congress recently [in ACA] tossed Nevada an extra handful of residencies, but it's a drop in the proverbial IV bag." (quoting Dr. John Packham of the University of Nevada School of Medicine)).

438. *See Direct Graduate Medical Education (DGME)*, CTRS. FOR MEDICARE & MEDICAID SERV. (Aug. 4, 2014 4:06 PM), www.cms.gov/Medicare/Medicare-Fee-for-Service-Payment/AcutelnpatientPPS/dgme.html (last visited Nov. 18, 2014) (providing an excel spreadsheet listing provider numbers and their corresponding IME and DGME reduction amount) (on file with the Washington and Lee Law Review).

439. *Id*.

residency training programs. Remember that urban teaching hospitals with new medical residency training programs that otherwise would have caps of zero due to a lack of residents at the time Congress set the caps in 1997 may receive a cap adjustment based on the sum of the products of the highest number of FTE residents in any program year during the fifth year of the hospital's first new program's existence and the number of years in which residents are expected to complete the program based on the minimum IRP for each type of program.[440]

In its proposed rule, CMS should seek comment on an amendment to the second half of 42 C.F.R. § 413.79(e)(1), the regulation that establishes the five-year, urban hospital, cap-building window, that would provide for a longer cap-building window as well as a cap-building window that begins running from the start of each new residency program.[441] That is, CMS should seek comment on the time it actually takes to found and grow a high-quality and efficiently-run residency program. Based on my decades of experience representing academic medical centers in a variety of civil, regulatory, and transactional matters, I estimate this time to be in the absolute minimum range of six to eight years, depending on the specialty program and its IRP. As it currently stands, the five-year cap-building window is shorter than the time it takes some specialists, including neurosurgeons, to complete their residencies.[442] That is, CMS caps the number of Medicare-financed residents in new neurosurgery programs two years before the first class of neurosurgeons ever complete their training.[443] In its proposed rule, CMS should solicit comments that specifically address the ways in which current residency programs may be limited via the

---

440. *See* 42 C.F.R. § 413.79(e)(1) (explaining when a hospital's FTE cap may be adjusted).

441. *See id.* (detailing the regulation that the proposed rule should amend).

442. *See, e.g.*, *Neurosurgery Resident Curriculum*, BRIGHAM & WOMEN'S HOSP., http://www.brighamandwomens.org/Departments_and_Services/neurosurgery/residencyprogram/Residentcurriculum.aspx (last updated July 16, 2014) (last visited Nov. 18, 2014) (providing a seven-year neurosurgery residency) (on file with the Washington and Lee Law Review).

443. *See id.* (providing an example of the length of time it takes neurosurgeons to complete their training); 42 C.F.R. § 413.79(e)(1) (2013) (providing the five-year cap-building window).

five-year cap-building window as well as the optimal number of cap-building years.[444]

In addition, CMS should amend the second half of 42 C.F.R. § 413.79(e)(1) to mirror, in part, the cap-building window that applies to rural hospitals.[445] Under current law, if a rural hospital participates in a new training program, the rural hospital's resident cap is calculated using the highest number of FTE residents in any program year during the fifth year of *each* new program's existence (and not the fifth year of the *first* new program's existence).[446] Ignoring the current five-year length of rural hospitals' cap-building windows (which should be amended to mirror any longer cap-building window that would apply to urban hospitals under the proposal set forth above), note how rural hospitals' cap-building windows begin at the start of each new training program, not at the start of a hospital's first new training program.[447] Applying this rule to urban hospitals would allow experienced teaching hospital administrators to stagger the starts of multiple training programs as necessary to prevent administrative and cost overload without the cap-building window closing prior to the beginning of later training programs.[448]

Finally, the proposals described above will increase Medicare expenditures for GME. To finance these proposals, one option is for Congress to create an all-payer trust that would be funded by fees imposed on private health insurers, which also benefit from GME.[449] These trust funds would be used to cover the costs

---

444. *See* 42 C.F.R. § 413.79(e)(1) (providing the five-year cap-building window currently regulating residency programs).

445. *See* 42 C.F.R. § 413.79(e)(3) (explaining rural hospital participation in new medical residency training programs).

446. *See id.* (providing the described provision for rural hospitals).

447. *See id.* (explaining the manner in which the rural hospital provision differs from the provisions for other hospitals).

448. *See* BRIGHAM & WOMEN'S HOSP., *supra* note 442 (providing a seven-year neurosurgery residency that would exceed the current cap-building window); 42 C.F.R. § 413.79(e)(1) (providing the five-year cap-building window).

449. *Contra* INSTITUTE OF MEDICINE, GRADUATE MEDICAL EDUCATION THAT MEETS THE NATION'S HEALTH CARE NEEDS, *supra* note 428, at 5-13, Recommendation 1 (recommending instead that Medicare financing of GME be maintained at "the current aggregate amount (i.e., the total of indirect medical

associated with the expansion of existing residency programs and the building of new residency programs. The IOM's recent report, which proposes to modernize GME payments "based on performance, to ensure program oversight and accountability, and to incentivize innovation in the content and financing of GME,"[450] certainly could be incorporated into the design and implementation of this all-payer trust. That is, trust funds could be distributed in part based on GME performance and innovation.

Versions of all-payer trusts have been proposed in the past. In 2001, Representative Benjamin Cardin (D-MD) introduced the All-Payer Graduate Medical Act of 2001.[451] This bill would have amended the Internal Revenue Code to create a Health Care Workforce Trust that would have been funded by a fee equal to one percent of the premiums received under accident and health insurance policies.[452] Trust funds, estimated to total approximately four billion dollars, would have been used to finance DGME and IME payments to teaching hospitals.[453] A second illustrative bill, the Medical Education Trust Fund Act, was introduced by Senators Jack Reed (D-RI) and Hillary Clinton (D-NY) in 2001.[454] This bill would have required insured and self-insured health plans to contribute a 1.5% assessment on health insurance premiums[455] to a newly created Medical Education

---

education and direct graduate medical education expenditures in an agreed-on base year, adjusted annually for inflation).").

450. *Id*. at 5-13, Recommendation 1.

451. *See* H.R. 2178, 107th Cong. (2001) ("To amend the Internal Revenue Code of 1986 and title XVIII of the Social Security Act to provide for comprehensive financing for graduate medical education.").

452. *See id.* § 102 (describing the provisions for the financing of the fund).

453. *See id.* § 111 ("Formula payments regarding private-sector share of costs of graduate medical education.").

454. *See* S. 743, 107th Cong. (2001) ("To establish a medical trust fund, and for other purposes.").

455. *See id.* § 5 (providing the requirements imposed on both insured and self-self-insured health plans).

Trust.[456] Trust funds then would have been used to pay teaching hospitals for costs directly and indirectly associated with GME.[457]

The bills were introduced in 2001; that is, immediately following two decades of physician surplus projections[458] and immediately before workforce analysts came to their current consensus regarding widespread physician shortage projections.[459] In 2001, it was easy for Congress to cave to insurer objections to these bills without substantial evidence of current and looming physician shortages.[460] Today, the result should be very different.[461]

VII. Conclusion

This Article has carefully examined the complex relationship between population growth, physician shortages, and Medicare financing of GME. One conclusion is that current rules governing the calculation of Medicare payments to teaching hospitals for the costs of their GME are based on cost, population, and other data that are no longer relevant. A second conclusion is that the application of these formulas discriminates in favor of the nation's oldest teaching hospitals, most of which are located in New England and the Middle Atlantic, and against current and

---

456. *See id.* § 2 (amending the Social Security Act by establishing a Medical Education Trust Fund).

457. *See id.* (describing the payments made to medical schools).

458. *See supra* notes 56–66 and accompanying text (naming several different public and private bodies that predicted physician surpluses).

459. *See, e.g.*, AAMC, RECENT STUDIES, *supra* note 68, at 1–22 (listing dozens of state and specialty-specific reports published since 2000 that project significant physician shortages by the end of the first quarter of the twenty-first century); Iglehart, *Uncertain Future, supra* note 50, at 1341 (referring to these reports).

460. *See supra* notes 56–66 and accompanying text (providing numerous sources of physician surplus projections made during the two decades prior to the year 2001).

461. *See, e.g.*, PHYSICIANS FOR A NATIONAL HEALTH PROGRAM, HEALTH INSURANCE COMPANY CEOS' TOTAL COMPENSATION IN 2013 (reporting annual compensation for health insurance company CEOs at $30.7 million (Aetna), $17 million (Wellpoint), $14.5 million (Centene), $13.5 million (Cigna), $12.1 million (United Health), and $8.8 million (Humana)).

future teaching hospitals located in growing population centers, especially regions in the South and West. To remedy these inequities, this Article proposes a new structure for calculating Medicare payments to teaching hospitals that takes into account current GME costs, current geographic imbalances in physician and resident supply and distribution, and current and future population growth. If implemented by Congress and CMS, these proposals will boost residency training in physician shortage areas and in growing population centers and will improve access to generalist and specialist physicians across the United States.