



# Physician Supply and the Affordable Care Act

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## Summary

An adequate physician supply is important for the effective and efficient delivery of health care services and, therefore, for population health and the cost and quality of health care. Assessments of the adequacy of physician supply often focus on three dimensions of the physician population: its size; its composition (e.g., the mix between primary care and specialty physicians); and its geographic distribution. Policies that aim to alter physician supply generally focus on both current and future supply along these three dimensions because physician training is a lengthy process; therefore, changes implemented to alter supply do not have immediate effects.

Each of the three dimensions of physician supply is important for health care spending and for population health because physician clinical decisions affect approximately 90% of each health care dollar spent. In addition, as physicians provide health care services that, with some exceptions, cannot be provided by non-physicians, the size, composition, and geographic distribution of the physician population affects the amount and type of health care services available. A number of studies have found physician shortages overall, in certain specialties, and in certain geographic areas. The federal government pays for physician services, primarily through the Medicare and Medicaid programs, and supports physician training through a number of programs in various departments and agencies. Given current investments in physician services and the physician workforce, the adequacy of the current and future physician supply may be of interest to Congress.

The Patient Protection and Affordable Care Act (ACA, P.L. 111-148, as amended) may affect the demand for physician services, a major determinant of physician supply, because it expands insurance coverage to some of those previously uninsured. The ACA also includes provisions that may affect the size, composition, and geographic distribution of the physician population by supporting changes to physician training, compensation, and practice. Specifically, provisions targeting the number of physicians trained and their productivity may affect the size of the physician population. The composition of the physician population may be altered by provisions targeting the supply of primary care providers or specialties in shortage. Provisions addressing the diversity of the physician workforce and those incentivizing practice in rural or other underserved areas may affect the geographic distribution of the physician population. Finally, the ACA includes provisions that provide for data collection and evaluation of the adequacy of the workforce in general, and federal workforce programs specifically. Whether and how these provisions will affect physician supply is not yet known because some of these provisions have not been implemented yet, are temporary, will not have immediate effects, or rely on discretionary funding.

This report examines each dimension of physician supply, separately discussing current (and, where appropriate, future) concerns and relevant changes included in the ACA that may affect each dimension. The report then discusses workforce planning activities included in the ACA that may affect all three dimensions of supply.

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## Introduction

An adequate physician supply is important for the effective and efficient delivery of health care services and, therefore, for population health and the cost and quality of health care. Assessments of the adequacy of physician supply often focus on three dimensions of the physician population: its size; its composition (e.g., the distribution of primary care and specialty physicians); and its geographic distribution. Policies that aim to alter physician supply generally focus on both current and future supply along these three dimensions because physician training is a lengthy process; therefore, changes implemented to alter supply do not have immediate effects.<sup>1</sup>

Each of the three dimensions of physician supply is important for health care spending because physician clinical decisions affect approximately 90% of each health care dollar spent.<sup>2</sup> The size of the physician population partially determines the volume of health services provided and therefore costs, as physicians provide health care services that generally cannot be provided by non-physicians.<sup>3</sup> The composition may affect spending because, as some researchers have found, areas with more specialists have higher health care spending.<sup>4</sup> Similarly, the geographic distribution of the physician population can affect spending since in areas with too few physicians, there may be higher utilization of potentially costly emergency room services because more appropriate physician services are unavailable. In contrast, in areas with more physicians, individuals may receive unnecessary services, which can increase health care spending.<sup>5</sup>

The three dimensions of physician supply are also important for population health. Too few physicians—overall or in specific geographic areas—may result in delayed or foregone care that can worsen health conditions or lead to premature death because adequate and timely services were not obtained. Too many physicians can mean that additional health services are provided, which may increase the risk of adverse events or medical errors.<sup>6</sup> The composition of the physician population also affects population health. A number of studies have found that areas with more primary care physicians have better health outcomes, including, for example, all-cause mortality, life expectancy, and self-rated health.<sup>7</sup>

The federal government supports physician services and training, which may make the adequacy of the current and future physician supply of interest to Congress. Specifically, the federal

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<sup>1</sup> Training time to become a physician varies between 11 and 19 years and varies by specialty chosen. See Figure 1.1. (p. 8) in the Medicare Payment Advisory Commission's June 2009 Report to Congress: Improving Incentives in the Medicare Program, Chapter 1, at [http://www.medpac.gov/chapters/Jun09\\_Ch01.pdf](http://www.medpac.gov/chapters/Jun09_Ch01.pdf); hereafter *2009 MedPAC Report*.

<sup>2</sup> Sager, Alan, and Deborah Socolar, "Health Costs Absorb One-Quarter of Economic Growth, 2000–2005," Data Brief No. 5, Boston University School of Public Health (February 9, 2005); and Eisenberg, John, "Physician Utilization: The State of Research About Physicians' Practice Patterns," *Medical Care*, vol. 40, no. 11 (2002), pp. 1016-1035.

<sup>3</sup> As discussed below, factors such as the number of hours that physician work may also determine the amount of health services available.

<sup>4</sup> Peter J. Cunningham, "What Accounts for Differences in the Use of Hospital Emergency Departments Across U.S. Communities?" *Health Affairs*, vol. 25 (July 18, 2006), pp. w324-w336.

<sup>5</sup> Elliott Fisher, et al., *Health Care Spending, Quality, and Outcomes: More Isn't Always Better*, The Dartmouth Institute for Health Policy and Clinical Practice, A Dartmouth Atlas Project Topic Brief, Hanover, NH, February 27, 2009, [http://www.dartmouthatlas.org/downloads/reports/Spending\\_Brief\\_022709.pdf](http://www.dartmouthatlas.org/downloads/reports/Spending_Brief_022709.pdf).

<sup>6</sup> *Ibid.*

<sup>7</sup> See review in Barbara Starfield, Leiyu Shi, and James Macinko, "Contribution of Primary Care to Health Systems and Health," *The Milbank Quarterly*, vol. 83, no. 3 (2005), pp. 457-502.

government pays for physician services, primarily through the Medicare and Medicaid programs. The federal government also supports physician training through a number of programs in various departments and agencies.<sup>8</sup>

On March 23, 2010, President Obama signed the Patient Protection and Affordable Care Act (ACA, P.L. 111-148, as amended), which may affect the demand for physician services; therefore, the new law may increase congressional interest in physician supply.<sup>9</sup> The ACA may expand the demand for physician services by expanding insurance coverage to those previously uninsured and by expanding Medicaid eligibility to individuals who were previously ineligible.<sup>10</sup> The ACA may specifically increase the demand for primary care physicians through increased coverage of preventive services by Medicare, Medicaid, and private insurance. The ACA also (1) authorizes increased funding or program changes for a number of programs that support physician training, (2) includes provisions to increase support for primary care,; and (3) appropriates funds to expand programs that encourage physicians to practice in certain geographic areas.<sup>11</sup>

This report examines each dimension of physician supply, separately discussing current (and, where appropriate, future) concerns and changes included in the ACA that may affect each dimension. The report then discusses workforce planning activities included in the ACA that may affect all of these dimensions of supply. The **Appendix** presents relevant ACA provisions, summarizes them, and indicates which of the dimensions of physician supply each may affect.

## Size of the Physician Population

An appropriately sized physician population is necessary for an effective and efficient health care system. As noted above, too few physicians may mean delayed care, which can worsen health conditions and increase costs through greater hospital and emergency department use.<sup>12</sup> Too many

<sup>8</sup> For example, see Health Resources and Services Administration, Bureau of Health Professions at <http://bhpr.hrsa.gov>.

<sup>9</sup> Some provisions of the ACA were subsequently amended by the Health Care and Education Reconciliation Act of 2010 (HCERA, P.L. 111-152). The two laws are collectively referred to in this report as “ACA.”

<sup>10</sup> On June 28, 2012, the United States Supreme Court issued its decision in *National Federation of Independent Business v. Sebelius*, finding that the individual mandate in §5000A of the Internal Revenue Code (as added by § 1501 of the Patient Protection and Affordable Care Act (ACA)), is a constitutional exercise of Congress’s authority to levy taxes. However, the Court held that it was not a valid exercise of Congress’s power under the Commerce Clause or the Necessary and Proper Clause. With regard to the Medicaid expansion provision, the Court held that the federal government cannot terminate current Medicaid program federal matching funds if a state refuses to expand its Medicaid program to include non-elderly, non-pregnant adults under 133% of the federal poverty level. If a state accepts the new ACA Medicaid expansion funds, it must abide by the new expansion coverage rules, but, based on the Court’s opinion; it appears that a state can refuse to participate in the expansion without losing any of its current federal Medicaid matching funds. All other provisions of ACA, including the entire Health Care and Education Reconciliation Act (HCERA), remain intact. The Supreme Court’s decision—i.e., that states are not required to expand their Medicaid programs—may impact the need for physician services, because service use increases when people obtain Medicaid coverage, and the optional expansion may reduce the number of people who will be covered under Medicaid.

<sup>11</sup> Provisions in the Affordable Care Act are described in a series of CRS reports available at <http://www.crs.gov/Pages/subissue.aspx?cliid=3746&parentid=13>. Several reports track the ACA’s implementation and funding (see CRS Report R41664, *ACA: A Brief Overview of the Law, Implementation, and Legal Challenges*, coordinated by (name redacted); CRS Report R41301, *Appropriations and Fund Transfers in the Patient Protection and Affordable Care Act (ACA)*, by (name redacted); and CRS Report R41390, *Discretionary Spending in the Patient Protection and Affordable Care Act (ACA)*, coordinated by (name redacted)); both topics are beyond the scope of this report.

<sup>12</sup> Barbara Starfield, Leiyu Shi, and James Macinko, “Contribution of Primary Care to Health Systems and Health,” *The Milbank Quarterly*, vol. 83, no. 3 (2005), pp. 457-502.

physicians can mean that individuals receive unnecessary health services, which may increase the risk of adverse events and increase costs.<sup>13</sup>

This section provides an overview of how the physician population is measured, considerations in determining its appropriate size, and debate around the appropriateness of its current and future size. It concludes with a discussion of the ACA's potential effect on the size of the physician population, including a discussion of provisions in the law that aim to increase the number of physicians or to improve physician productivity.

## Measuring the Physician Population

The number of physicians in the United States may be measured in two ways: (1) absolute counts of practicing physicians and (2) ratios of physicians providing services to a specified population (e.g., per 10,000 or 100,000). For ratios, the population served may refer to the population receiving services at a given health care facility or the population residing in a specified geographic area.<sup>14</sup> According to both of these measures, the physician population has increased since 1970. Specifically, according to the American Medical Association (AMA) Physician Masterfile, the major source of data on the physician population,<sup>15</sup> there were 985,375 physicians in the United States in 2010.<sup>16</sup> This represents a 195% increase from 1970 (see **Table 1**). The AMA also calculates physician-to-population ratios and found that this ratio increased by 98% from 1970 to 2010 (from 161 per 100,000 to 319 per 100,000).<sup>17</sup> Despite the wide use of physician counts and physician-to-population ratios, some have criticized these measures because they do not take into account physicians' specialties or their geographic distribution, both of which may affect access to, and quality of, care.<sup>18</sup>

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<sup>13</sup> Elliott Fisher, et al., *Health Care Spending, Quality, and Outcomes: More Isn't Always Better*, The Dartmouth Institute for Health Policy and Clinical Practice, A Dartmouth Atlas Project Topic Brief, Hanover, NH, February 27, 2009, [http://www.dartmouthatlas.org/downloads/reports/Spending\\_Brief\\_022709.pdf](http://www.dartmouthatlas.org/downloads/reports/Spending_Brief_022709.pdf).

<sup>14</sup> There are other health professionals who contribute to the health care workforce; however, for purposes of this report, the focus is on physician supply. Potential substitution effects and the role of other professions in augmenting the health care workforce are discussed as appropriate.

<sup>15</sup> Despite being widely used and the major source of data on the physician population, these data have been criticized by some because, for example, they do not adequately track retired physicians and because they do not count hours worked by physicians. For example, see Diane R. Rittenhouse et al., "No Exit: An Evaluation of Measures of Physician Attrition," *Health Services Research*, vol. 39, no. 5 (October 2004), pp. 1571-1588, and Chiang-Hua Chang et al., "Primary Care Physician Workforce and Medicare Beneficiaries' Health Outcomes," *Journal of the American Medical Association*, vol. 305, no. 20 (May 25, 2011), pp. 2096-2105.

<sup>16</sup> The majority of these physicians provided patient care (752,572 or 76%). The remaining physicians were inactive (11%), in administration (1%), conducting research (1%), or teaching (1%). These percentages do not sum to 100% because of rounding or because some physicians are not classified or their professional activity is unknown. Derek R. Smart, *Physician Characteristics and Distribution in the US*, 2012 Edition (American Medical Association, 2012); hereafter, *Physician Characteristics and Distribution*.

<sup>17</sup> Ibid.

<sup>18</sup> Sean Nicholson, *Will the United States Have a Shortage of Physicians in 10 Years?* Robert Wood Johnson Foundation, November 2009.

**Table I. Measuring the U.S. Physician Population, 1970 to 2010**

Year	Total Physicians	Percent Change from Prior Decade	Physicians/100,000 Population	Percent Change from Prior Decade
1970	334,028	—	161	—
1980	469,679	41%	202	25%
1990	615,421	31%	244	21%
2000	813,770	32%	288	18%
2010	985,375	21%	319	11%
<i>Total Change 1970 to 2010</i>		<i>195%</i>	<i>—</i>	<i>98%</i>

**Source:** Adapted by CRS from Derek R. Smart, *Physician Characteristics and Distribution in the US*, 2012 Edition (American Medical Association, 2012).

## Determining the Appropriate Size of the Physician Population

When the volume of physician services available and the demand for physician services are equal, the size of the physician population is generally considered to be appropriate. Determining whether the size of the physician population is appropriate requires accurate measures of the number of physicians and the volume of services they provide, as well as demand for their services (see text box). The volume of physician services is based on the number of practicing physicians and their productivity. The number of physicians can be altered by changing the number of physicians trained, the number of physicians retiring, or both. Physician productivity is affected by factors such as the hours that physicians work, available technology, and the use of physician extenders.<sup>19</sup>

The demand for physician services is affected by the size, age, health, and insurance status of the population receiving services, among other factors.<sup>20</sup> Policies that support the development of an appropriately sized physician population rely on measuring all of these components accurately, which can be challenging. In addition, as demand-side factors are often less amenable to policy intervention,<sup>21</sup> many policies that aim to support the development of an appropriately sized physician population do so by targeting either

### Determinants of the Size of the Physician Population

**Volume of Physician Services:** Number of Physicians (e.g., number of medical schools and their class size, residency slots) × Productivity (e.g., hours worked, technology available, use of physician extenders)

**Demand for Physician Services:** A function of, for example, the age of the population, population health, insurance status, and patient preference.

**Appropriate Size of Physician Population:** Where Volume = Demand, the size of the physician population is appropriate.

**Source:** CRS Analysis of *The Physician Workforce: Projections and Research into Current Issues Affecting Supply and Demand*, U.S. Department of Health and Human Services, Health Resources and Services Administration, Bureau of Health Professions, December 2008.

<sup>19</sup> Physician extenders refer to health professionals whose services can substitute for, or augment, physician services. Such health professionals include physician assistants and nurse practitioners.

<sup>20</sup> U.S. Department of Health and Human Services, Health Resources and Services Administration, Bureau of Health Professions, *The Physician Workforce: Projections and Research into Current Issues Affecting Supply and Demand*, December 2008, <http://bhpr.hrsa.gov/healthworkforce/reports/physwffissues.pdf>; hereafter *HRSA Physician Workforce Report*.

<sup>21</sup> The ACA does include policy changes that may affect the volume of services by altering Medicare payment incentives to shift from rewarding the volume of care to the value of care. Should these policy changes achieve their stated goals, they may reduce the volume of services that Medicare beneficiaries require. See CRS Report R42347, *Health Care Quality: Enhancing Provider Accountability Through Payment Incentives and Public Reporting*, by (name redacted).

the number of physicians or their productivity. The ACA includes provisions taking both of these approaches, and these are discussed later in the report.

Experts debate whether the size of the current physician population is appropriate; that is, whether the volume of services made available is equal to demand for those services (see text box for description of expert groups).<sup>22</sup> The ACA and its potential to expand insurance coverage to a previously uninsured population adds to this debate. For example, the Association of American Medical Colleges (AAMC) and the U.S. Government Accountability Office (GAO) have both studied this issue. AAMC released a report in 2012 that compiled state workforce reports and found that 34 states documented current physician shortages or were anticipating future physician shortages.<sup>23</sup> In another report, the AAMC estimated that partially as a result of the passage of the ACA there were 13,700 too few physicians in 2010.<sup>24</sup> In contrast, in 2009, GAO<sup>25</sup> examined the physician population serving Medicare beneficiaries and concluded that approximately 97% of beneficiaries had access to physician services and that between 2000 and 2008, the number of Medicare beneficiaries using physician services and the number of services per beneficiary increased.<sup>26</sup> Some of the differences between AAMC and GAO estimates may result from differences in methodologies used to assess the adequacy of the physician population or because the GAO study focuses only on the Medicare population. Other experts have suggested that the current size of the physician population is appropriate, and maintain that concerns about access to care result instead from the inefficient composition and geographic distribution of the physician population.<sup>27</sup>

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<sup>22</sup> As discussed below, there is greater concern among experts about the specialty composition and geographic distribution of the current physician population.

<sup>23</sup> Association of American Medical Colleges, Center for Workforce Studies, *Recent Studies and Reports on Physician Shortages in the U.S.*, Washington, DC, October 2012, <https://www.aamc.org/download/100598/data/recentworkforcestudies.pdf>. A number of state studies use HRSA or AAMC projection methodology; therefore, concerns about the methodology used in these projections would also apply to a number of state studies. For discussion, see Sean Nicholson, *Will the United States Have a Shortage of Physicians in 10 Years?* Robert Wood Johnson Foundation, November 2009.

<sup>24</sup> *AAMC Supply Report* and Association of American Medical Colleges, "Physician Shortages to Worsen Without Increases in Residency Training," September 30, 2010, <http://www.aamc.org/newsroom/presskits/mdShortage1.pdf>. The Alliance for Health Reform also summarized a number of reports detailing health workforce shortages; see Alliance for Health Reform, *Health Care Workforce: Future Supply vs. Demand*, Washington, DC, April 2011, [http://www.allhealth.org/publications/Medicare/Health\\_Care\\_Workforce\\_104.pdf](http://www.allhealth.org/publications/Medicare/Health_Care_Workforce_104.pdf). The AAMC also updated its estimates to reflect more recent data; some of the shortfall found in 2010 is because of methodological changes. A number of estimates were made prior to the 2012 Supreme Court's *National Federation of Independent Business v. Sebelius* decision that makes it optional for states to expand Medicaid. Should states opt not to expand Medicaid, physician supply projections may overestimate the ACA's projected impact on the need for physicians.

<sup>25</sup> GAO, formerly the U.S. General Accounting Office, has conducted several studies on this topic. See discussion in U.S. Government Accountability Office, *Medicare Physician Services: Utilization Trends Indicate Sustained Beneficiary Access with High and Growing Levels of Service in Some Areas of the Nation*, 09-0559, August 28, 2009, <http://www.gao.gov/new.items/d09559.pdf>. The Medicaid population also faces a number of challenges accessing providers; however, these challenges may be less about the availability of providers and more about providers unwilling to accept Medicaid. See Peter J. Cunningham and Ann S. O'Malley, "Do Reimbursement Delays Discourage Medicaid Participation by Physicians?" *Health Affairs*, vol. 28, no. 1 (November 18, 2008), pp. w17–w28, for discussion.

<sup>26</sup> U.S. Government Accountability Office, *Medicare Physician Services: Utilization Trends Indicate Sustained Beneficiary Access with High and Growing Levels of Service in Some Areas of the Nation*, 09-0559, August 28, 2009, <http://www.gao.gov/new.items/d09559.pdf>.

<sup>27</sup> Sean Nicholson, *Will the United States Have a Shortage of Physicians in 10 Years?* Robert Wood Johnson Foundation, November 2009.



### Expert Groups That Evaluate Physician Supply

**American Association of Medical Colleges (AAMC):** Private, non-profit organization that represents U.S. accredited medical schools and some teaching hospitals. AAMC, through its Center for Workforce Studies, makes physician population projections and publishes studies that evaluate the physician workforce. See [www.aamc.org](http://www.aamc.org).

**Council on Graduate Medical Education (COGME):** Federal executive branch advisory council that provides ongoing assessment of physician workforce trends and training. Group does not make physician population projections, but will evaluate existing projects and may make recommendations about federal policies affecting the physician workforce. See <http://www.hrsa.gov/advisorycommittees/bhpradvisory/cogme/index.html>.

**Government Accountability Office (GAO):** Federal legislative branch agency that evaluates federal programs including those that finance health care and support the physician workforce. Agency may make recommendations regarding the effectiveness of federal programs. Agency does not make physician population projections, but may evaluate existing projections. See [www.gao.gov](http://www.gao.gov).

**Health Resources and Services Administration (HRSA):** Federal executive branch agency that administers health workforce programs including the National Center for Health Care Workforce Analysis that makes physician population projections and evaluates existing projections. See <http://bhpr.hrsa.gov/healthworkforce/index.html>.

**Medicare Payment Advisory Commission (MedPAC):** Federal legislative branch advisory commission that evaluates Medicare payment policy, including Medicare's financing of physician training. Agency does not make physician population projections, but may make recommendations about Medicare physician payment policy or Medicare's role in financing physician training. See [www.medpac.gov](http://www.medpac.gov).

**National Health Care Workforce Advisory Commission:** Federal executive branch advisory commission that evaluates and makes recommendations about the health care workforce. Commission uses data from the National Center for Health Care Workforce Analysis and evaluates health workforce programs across the federal government. See "ACA and Workforce Planning."

In general, over the past 30 years, concerns about the appropriateness of the size of the physician population have been cyclical. For example, in the 1980s and early 1990s, experts predicted that physician surpluses would emerge by 2000<sup>28</sup> based on the expectation that health reform would occur in 1993 and that the increased use of managed care organizations would restrict patients' access to physician services.<sup>29</sup> Instead, when these conditions did not occur, concerns about physician shortages resulted based on the aging of the U.S. population, the aging of the physician workforce, and advances in medical technology that increased the demand for physician services.

Experts also debate whether, and to what extent, the size of the future physician population will be appropriate. The Health Resources and Services Administration (HRSA) and AAMC both predict future physician shortages. Specifically, in 2006, HRSA predicted that there will be between 55,000 and 150,000 too few physicians by 2020,<sup>30</sup> while, in 2008, AAMC predicted that there will be nearly 124,400 too few physicians by 2025.<sup>31</sup> AAMC has since revised its estimates after the ACA to project a shortfall of 130,600 physicians in 2025.<sup>32</sup> Others have speculated that

<sup>28</sup> HRSA Physician Workforce Report.

<sup>29</sup> In particular, managed care is thought to limit access to specialty care.

<sup>30</sup> U.S. Department of Health and Human Services, Health Resources and Services Administration, Bureau of Health Professions, *Physician Supply and Demand: Projections to 2020*, October 2006. HRSA has not released new projections since the ACA was passed.

<sup>31</sup> Michael J. Dill and Edward S. Salsberg, *The Complexities of Physician Supply and Demand: Projections Through 2025*, Association of American Medical Colleges, Washington, DC, November 2008, [http://services.aamc.org/publications/showfile.cfm?file=version122.pdf&prd\\_id=244&prv\\_id=299&pdf\\_id=122](http://services.aamc.org/publications/showfile.cfm?file=version122.pdf&prd_id=244&prv_id=299&pdf_id=122); hereafter referred to as *AAMC Supply Report*.

<sup>32</sup> *AAMC Supply Report* and Association of American Medical Colleges, "Physician Shortages to Worsen Without Increases in Residency Training," September 30, 2010, <http://www.aamc.org/newsroom/presskits/mdShortage1.pdf>. The Alliance for Health Reform also summarized a number of reports detailing health workforce shortages; see Alliance for Health Reform, *Health Care Workforce: Future Supply vs. Demand*, Washington, DC, April 2011, (continued...)

the future supply of physicians may be adequate because of technological and practice changes that would create efficiencies and mean that fewer physicians would be needed. These changes include the increased use of electronic records, increased use of electronic communication between physicians and patients, and greater care coordination.<sup>33</sup> As with differences in estimates of the appropriateness of the size of the current physician population, differences in estimates of the appropriateness of the size of the future physician population may result from the models' assumptions and limitations. These limitations include both models' assumption that, in the base year, supply is appropriate, an assumption which is debated. Both sets of projections also draw conclusions about the future demand for physician services based on assumptions about changes in medical technology, changes in physician productivity, and the aging population.<sup>34</sup> Both HRSA and AAMC note that policy changes—such as the ACA—may affect the future demand for physician services, which may alter the direction or magnitude of their projections. However, predicting the timing, content, and effect of policy changes is difficult, which adds to the uncertainty of the projections.

## ACA and the Size of the Physician Population

The ACA may affect both the demand for physician services as well as the volume of physician services available, and therefore may influence determinations of the appropriate size of the physician population. The ACA contains a number of provisions aimed at increasing access to insurance coverage, which could, in turn, increase the demand for physician services.<sup>35</sup> HRSA notes that physician use varies by insurance status, with those who are insured using more services.<sup>36</sup> This increase in demand for physician services would affect models assessing the appropriateness of the current and future size of the physician population (discussed above). As noted above, AAMC, among others, predict that the ACA will increase the need for physician services; therefore, it will require additional physicians to provide these services.<sup>37</sup> For example, one study predicted that the ACA would require 8,000 more primary care physicians (discussed below) in 2025.<sup>38</sup>

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(...continued)

[http://www.allhealth.org/publications/Medicare/Health\\_Care\\_Workforce\\_104.pdf](http://www.allhealth.org/publications/Medicare/Health_Care_Workforce_104.pdf). A number of estimates were made prior to the 2012 Supreme Court decision in *National Federation of Independent Business v. Sebelius* that makes it optional for states to expand Medicaid. Should states opt not to expand Medicaid, physician supply projections may overestimate the ACA's projected impact on the need for physicians.

<sup>33</sup> Linda V. Green, Sergei Savin, and Yina Lu, "Primary Care Physician Shortages Could be Eliminated through Use of Teams, Nonphysicians, and Electronic Communication," *Health Affairs*, vol. 32, no. 1 (January 2013), pp. 11-18.

<sup>34</sup> *Ibid.*, and HRSA Physician Workforce Report.

<sup>35</sup> For more information about the ACA generally, see CRS Report R41664, *ACA: A Brief Overview of the Law, Implementation, and Legal Challenges*, coordinated by (name redacted).

<sup>36</sup> HRSA Physician Workforce Report.

<sup>37</sup> *AAMC Supply Report* and Association of American Medical Colleges, "Physician Shortages to Worsen Without Increases in Residency Training," September 30, 2010, <http://www.aamc.org/newsroom/presskits/mdShortage1.pdf>. The Alliance for Health Reform also summarized a number of reports detailing health workforce shortages; see Alliance for Health Reform, *Health Care Workforce: Future Supply vs. Demand*, Washington, DC, April 2011, [http://www.allhealth.org/publications/Medicare/Health\\_Care\\_Workforce\\_104.pdf](http://www.allhealth.org/publications/Medicare/Health_Care_Workforce_104.pdf). A number of estimates were made prior to the 2012 Supreme Court decision *National Federation of Independent Business v. Sebelius* that makes it optional for states to expand Medicaid. Should states opt not to expand Medicaid, physician supply projections may overestimate the ACA's impact on the need for physicians.

<sup>38</sup> Stephen M. Petterson et al., "Projecting US Primary Care Physician Workforce Needs: 2012-2025," *Annals of Family Medicine*, vol. 10, no. 6 (November/December 2012), pp. 503-509.

As mentioned previously, the ACA also includes a number of provisions that aim to increase the volume of physician services available. In general, these provisions may achieve this goal by targeting (1) methods to increase the number of physicians trained or (2) methods to increase physician productivity by providing incentives to coordinate care or by increasing the number of non-physician providers trained.<sup>39</sup> Coordinated care may increase the volume of physician services available by decreasing physicians' administrative duties and by increasing efficiencies in care delivery.<sup>40</sup> Increasing the number of non-physician providers trained may increase the volume of physician services available because non-physician providers may substitute for, or augment, physician services.<sup>41</sup>

## ACA Provisions Targeting the Number of Physicians Trained

The ACA includes three types of provisions that may increase the number of physicians trained, provisions that (1) modify federal Medicare payments for medical residency training, (2) authorize additional HRSA funding for medical residency training, and (3) authorize funding for additional medical residency training programs. The number of medical school graduates completing residency training determines the number of physicians because residency training is required to be a licensed physician able to practice independently.<sup>42</sup> Therefore, because the federal government is the major source of residency funding, increased federal payments for medical residency training may increase the number of physicians.<sup>43</sup> The Medicare program is the largest source of support for medical residency training, through Graduate Medical Education (GME) payments<sup>44</sup> to teaching hospitals for residents training in accredited training programs.<sup>45</sup>

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<sup>39</sup> The stated purpose of the ACA's Title V "Health Care Workforce" is to improve access to and the delivery of health care services for all individuals, particularly low income, underserved, uninsured, minority, health disparity, and rural populations. Title V includes four mechanisms to achieve this purpose, one of which is to "increase the supply of a qualified health care workforce." The provisions discussed in this report are not an exhaustive list of all ACA provisions that may influence physician supply. In addition, to avoid redundancy, provisions that include programs that may affect the composition or the geographic distribution of the physician workforce are discussed below. For further information on ACA workforce provisions, see CRS Report R41278, *Public Health, Workforce, Quality, and Related Provisions in PPACA: Summary and Timeline*, coordinated by (name redacted) and (name redacted).

<sup>40</sup> Advisory Committee on Training In Primary Care Medicine and Dentistry, *The Redesign of Primary Care with Implications for Training*, Health Resources and Services Administration, Eighth Annual Report to the Secretary of the U.S. Department of Health and Human Services and to the U.S. Congress, Rockville, MD, May 2010, <http://www.hrsa.gov/advisorycommittees/bhpradvisory/actpcmd/Reports/8threport.pdf>.

<sup>41</sup> HRSA Physician Workforce Report.

<sup>42</sup> Graduates of U.S. medical schools, Canadian medical schools, U.S. schools of osteopathic medicine, and international medical schools who meet certain requirements are eligible to apply for residency training. For additional information, see *2009 MedPAC Report* and U.S. Government Accountability Office, *Graduate Medical Education: Trends in Training and Student Debt*, 09-438R, May 4, 2009, <http://www.gao.gov/new.items/d09438r.pdf>; hereafter, *GAO GME Report*.

<sup>43</sup> This is debated by some because hospitals receive revenue from residents' work, and this revenue may exceed the cost of resident training. If this is true, hospitals should not require additional federal funds to train more residents, because training more residents would be in a hospital's financial interest without these additional funds. See Jerry Cromwell, Walter Adamache, and Edward R. Drozd, "BBA Impacts on Hospital Residents, Finances, and Medicare Subsidies," *Health Care Financing Review*, vol. 28, no. 1 (fall 2006), pp. 117-129.

<sup>44</sup> Medicare provides two types of GME payments to teaching hospitals: direct and indirect. Direct payments are for costs directly related to medical training, such as salary and administration. Indirect payments are made to hospitals to defray the hospital's increased costs due to the inefficiencies in patient care associated with medical training (see 2009 MedPAC report).

<sup>45</sup> To receive Medicare GME payments, a residency program must be accredited by either the American Osteopathic Association (AOA) or the Accreditation Council for Graduate Medical Education (ACGME).

Medicare makes approximately \$9.5 billion in payments to teaching hospitals annually, supporting about 90,000 residents and providing payments of more than \$100,000 per resident in 2009.<sup>46</sup> Medicaid, the Department of Veterans Affairs (VA), and HRSA also provide support or GME payments for medical residency training.<sup>47</sup>

Individual hospitals determine the types of training programs offered and receive Medicare payments based on the number of Medicare-approved residency training slots for residents in training and the size of the Medicare population the hospital serves. Medicare restricts the number of approved training slots (often called the Medicare GME Cap; see text box). Although the ACA does not remove this restriction,<sup>48</sup> it does contain two provisions that may increase the number of residents trained by redistributing unused Medicare-funded residency training slots from hospitals not using them, or from hospitals that have closed, to hospitals seeking to train additional residents.<sup>49</sup> Section 5503 of the ACA redistributes 65% of unused residency positions to hospitals that meet a number of criteria (e.g., are located in a state with a low resident-to-population ratio or a state that has a high proportion of its population living in Health Professional Shortage Areas [HPSAs]).<sup>50</sup> As 75% of these redistributed residency positions must be used in primary care or general surgery, this section may also affect the composition of the physician population. Section 5506 requires the Secretary of HHS to develop a procedure to redistribute residency slots from closed hospitals.<sup>51</sup>

#### The Medicare GME “Cap”

The Balanced Budget Act of 1997 (P.L. 105-33) restricted the number of residency slots the Medicare program would subsidize. This restriction, also referred to as a “cap,” is placed on each hospital that operates residency programs. Some believe that the cap limits the number of medical residents a hospital will train because hospitals at their cap must use non-Medicare sources of funding to support these residents. The evidence that it restricts the number of residents trained is mixed because the number of residency positions has grown since the cap was enacted; however, there is evidence that it slowed the growth of residency positions. There is stronger evidence that the cap affected the specialty composition of the physician population. Hospitals have generally created new positions at the fellowship level or positions in medical specialties because residents training in these fields are more likely to perform procedures that the hospitals can bill public or private insurance for performing. This may justify the hospital using its own revenue to support physician training.

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

<sup>46</sup> Medicare Payment Advisory Commission, *Graduate Medical Education Financing: Focusing on Educational Priorities*, Report to the Congress: Aligning Incentives in Medicare, Washington, DC, June 2010, [http://www.medpac.gov/documents/Jun10\\_EntireReport.pdf](http://www.medpac.gov/documents/Jun10_EntireReport.pdf).

<sup>47</sup> See 2009 MedPAC Report for more information.

<sup>48</sup> Some groups advocate an increase in Medicare funding for residency training; see for example, Association of American Medical Colleges, “Physician Shortages to Worsen Without Increases in Residency Training,” September 30, 2010, <http://www.aamc.org/newsroom/presskits/mdShortage1.pdf>, and American Osteopathic Association, *Physician Workforce and Graduate Medical Education*, Washington, DC, <http://www.osteopathic.org/inside-aoa/advocacy/Documents/talking-points-physician-workforce-and-graduate-medical-education.pdf>. Others, such as MedPAC and COGME, recommend changes to how Medicare GME is funded by linking payments to specific training goals or outcomes. The ACA does not include either of these changes.

<sup>49</sup> The ACA defines closed as a hospital that closed within two years of the ACA’s enactment (i.e., between March 23, 2008, and March 23, 2010).

<sup>50</sup> These areas are defined and discussed later in the report; see “Health Professional Shortage Areas and Medically Underserved Areas/Populations.”

<sup>51</sup> The Centers for Medicare and Medicaid Services, the agency that administers the Medicare program, issued regulations implementing these provisions; see *Federal Register*, August 3, 2010, (75 FR 46390-46432) and *Federal Register*, November 24, 2010 (75 FR 72133-72240).

The ACA also includes provisions that may increase the number of non-Medicare-funded residents, specifically including residents funded by HRSA and through the ACA's Prevention and Public Health Fund (PPHF). Section 5508 provides grants to establish or expand primary care residency training in community-based settings (called teaching health centers) and appropriates GME payments for residents trained in these settings.<sup>52</sup> In addition, Section 4002 establishes the PPHF to support investments in prevention and public health programs. This fund, which receives indefinite appropriations, received \$750 million in FY2010, of which \$167.3 million was used to fund an additional 889 primary care residents.<sup>53</sup>

### **ACA Provisions Targeting Physician Productivity**

The ACA includes two types of provisions to increase physician productivity and thereby increase the volume of physician services available. The first type encourages care coordination, while the second type expands the non-physician provider workforce that may augment or substitute for physician services.

The ACA's care coordination provisions encourage health care providers to join accountable care organizations<sup>54</sup> or to establish or expand medical homes, among other things. Medical homes, which provide integrated care to eligible patients, aim to better manage patients' chronic conditions by coordinating care across primary care physicians, specialists, and non-physician providers. The ACA includes many provisions to encourage care coordination including, among others:

- Section 3502 establishes a grant program to support care coordination through medical homes;<sup>55</sup>
- Section 2703 establishes a Medicaid option for states to permit Medicaid beneficiaries with chronic conditions to designate a medical home;<sup>56</sup>
- Section 3021 establishes a Center for Innovation within CMS to test a number of innovative physician payment approaches including the medical home;<sup>57</sup>
- Section 3022 establishes the Medicare Shared Savings Program to pilot Accountable Care Organizations (ACOs) in the Medicare program;<sup>58</sup>

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<sup>52</sup> As noted above, most residency training occurs in teaching hospitals. This section requires new training programs to train primary care physicians; therefore, it will likely also affect the specialty composition of the physician population. HRSA has awarded funds for FY2011 teaching health center GME payments (see <http://www.hrsa.gov/about/news/pressreleases/110125teachinghealthcenters.html>).

<sup>53</sup> These residents entered three-year primary care training programs in July of 2011 continuing through July 2015; therefore, these additional residents will complete their training in 2018 or earlier. U.S. Department of Health and Human Services, "HHS Awards \$320 Million to Expand the Primary Care Workforce," press release, September 27, 2010, <http://www.hhs.gov/news/press/2010pres/09/20100927e.html>. FY2010 was the only year to date where the Prevention and Public Health Fund was used to support medical residency training.

<sup>54</sup> For more information, see CRS Report R41474, *Accountable Care Organizations and the Medicare Shared Savings Program*, by (name redacted).

<sup>55</sup> See description in CRS Report R41278, *Public Health, Workforce, Quality, and Related Provisions in PPACA: Summary and Timeline*, coordinated by (name redacted) and (name redacted).

<sup>56</sup> CRS Report R41210, *Medicaid and the State Children's Health Insurance Program (CHIP) Provisions in ACA: Summary and Timeline*, by (name redacted) et al.

<sup>57</sup> CRS Report R41196, *Medicare Provisions in the Patient Protection and Affordable Care Act (PPACA): Summary and Timeline*, coordinated by (name redacted).

- Section 3023 creates a pilot program in Medicare to provide payment incentives—through payment bundling or other methods—for coordinated care for hospitalized Medicare beneficiaries; and
- Section 3024 requires a demonstration program, within Medicare, to test payment incentives and service delivery models that use home-based primary care teams designed to reduce costs and improve health outcomes for Medicare beneficiaries.

As noted above, the ACA also includes provisions to increase the number of non-physician providers trained<sup>59</sup> whose services may substitute for, or augment, physician services, thereby increasing the volume of physician services.<sup>60</sup> For example, Section 5301, in addition to providing support for primary care physician training, provides support for physician assistant training.<sup>61</sup> Other examples include Section 5509, which establishes a new program to support the clinical training of advanced practice nurses, and Section 10501(e), which authorizes a new program to support Family Nurse Practitioner training.

## Composition of the Physician Population

The composition of the physician population is an important determinant of access to care and health care costs. There are two main concerns about the composition of the physician population: (1) that the distribution of primary care and specialty physicians has resulted in primary care shortages and an oversupply of specialty physicians, and (2) that, despite excess specialists overall, there are shortages in certain specialties. In 2010, the physician population consisted of more than two-thirds specialists and less than one-third primary care physicians.<sup>62</sup> Some experts suggest this composition is not optimal, a suggestion that is generally consistent with research that examines the effects of the composition of the physician population on health.

Research suggests that primary care is correlated with improved health outcomes and decreased costs. For example, researchers have found that each additional primary care physician lowers the risk of death and that patients who have a regular primary care physician have lower overall health care costs.<sup>63</sup> Similarly, in more targeted studies of the Medicare population, the supply of primary care physicians was found to correlate with reduced mortality (although associations with

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(...continued)

<sup>58</sup> CRS Report R41474, *Accountable Care Organizations and the Medicare Shared Savings Program*, by (name redacted).

<sup>59</sup> CRS Report R41278, *Public Health, Workforce, Quality, and Related Provisions in PPACA: Summary and Timeline*, coordinated by (name redacted) and (name redacted).

<sup>60</sup> HRSA Physician Workforce Report.

<sup>61</sup> In 2010, HHS awarded \$30 million from the Prevention and Public Health Fund (PPHF) to support the training of an additional 700 physician assistants. U.S. Department of Health and Human Services, “HHS Awards \$320 Million to Expand the Primary Care Workforce,” press release, September 27, 2010, <http://www.hhs.gov/news/press/2010pres/09/20100927e.html>.

<sup>62</sup> *Physician Characteristics and Distribution*. According to these data, 31% of physicians were practicing in the specialties of family medicine, general practice (now family medicine), internal medicine, obstetrics and gynecology, or pediatrics.

<sup>63</sup> Council on Graduate Medical Education, *Twentieth Report*, Advancing Primary Care, Rockville, MD, December 2010; hereinafter, *COGME 20<sup>th</sup> Report*. Specifically, for each incremental primary care physician, there are 1.44 fewer deaths per 10,000 persons (COGME 20<sup>th</sup> Report, p. 4).

other health outcomes were weaker).<sup>64</sup> Internationally, those countries with more primary care physicians have better overall population health as measured by indicators such as infant mortality, child health, and all-cause mortality.<sup>65</sup>

In contrast, research on the effects of more specialists on health outcomes is less clear. For example, a meta-analysis comparing specialty to primary care found that while some studies concluded that specialists provide better care for certain diseases, others found no differences or better outcomes from primary care physicians.<sup>66</sup> Other studies have found that specialty supply has little effect on infant mortality or on all-cause mortality.<sup>67</sup> Researchers have suggested that the current distribution of specialists and primary care physicians may be linked with a number of adverse health outcomes, including higher mortality rates in areas with more specialists.<sup>68</sup>

With respect to shortages in certain specialties, several have been documented (e.g., in cardiology, dermatology, emergency medicine, and neurology), often by studies conducted by specialty professional associations. These associations may have an interest in publicizing shortages and minimizing oversupply,<sup>69</sup> therefore, determining which specialties are in shortage based only on these studies may be challenging. However, some specialties, such as general surgery, geriatrics,<sup>70</sup> the pediatric subspecialties,<sup>71</sup> and psychiatry,<sup>72</sup> have more widely acknowledged shortages<sup>73</sup> and have targeted federal programs to address these shortages.<sup>74</sup>

This section discusses primary care supply, as well as factors deterring entry into primary care practice. It then summarizes ACA provisions that aim to address these factors through a number of mechanisms. It concludes with an overview of ACA provisions targeting shortages in specialty areas.

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<sup>64</sup> Chiang-Hua Chang et al., “Primary Care Physician Workforce and Medicare Beneficiaries’ Health Outcomes,” *Journal of the American Medical Association*, vol. 305, no. 20 (May 25, 2011), pp. 2096-2105.

<sup>65</sup> Barbara Starfield, Leiyu Shi, and James Macinko, “Contribution of Primary Care to Health Systems and Health,” *The Milbank Quarterly*, vol. 83, no. 3 (2005), pp. 457-502.

<sup>66</sup> Gerald W. Smetana et al., “A Comparison of Outcomes Resulting From Generalist vs Specialist Care for a Single Discrete Medical Condition,” *Archive of Internal Medicine*, vol. 167 (January 8, 2007), pp. 10-20.

<sup>67</sup> Barbara Starfield, Lieyu Shi, and Atul Grover, et al., “The Effects of Specialist Supply on Populations’ Health: Assessing the Evidence,” *Health Affairs*, 2005, pp. w597-w5107.

<sup>68</sup> Barbara Starfield, Leiyu Shi, and James Macinko, “Contribution of Primary Care to Health Systems and Health,” *The Milbank Quarterly*, vol. 83, no. 3 (2005), pp. 457-502.

<sup>69</sup> Specifically, specialty societies may be reluctant to examine or publicize that their specialty is in oversupply for fear that it may result in declining interest in their specialty or declining hospital support for residency positions in their specialty. For a discussion of specific specialty studies and findings, see Center for Workforce Studies, *Recent Studies/Reports on the Inadequacy of U.S. Physician Supply*, Association of American Medical Colleges, Washington, DC, October 2012.

<sup>70</sup> Committee on the Future Health Care Workforce for Older Americans, Institute of Medicine, *Retooling for an Aging America: Building the Health Care Workforce*, Institute of Medicine, Washington, DC, April 14, 2008, <http://www.iom.edu/CMS/3809/40113/53452.aspx>.

<sup>71</sup> Note that pediatric subspecialties refer to a number of specialists and subspecialists that focus on children (e.g., pediatric cardiologists or pediatric surgeons).

<sup>72</sup> Institute of Medicine, *Improving the Quality of Health Care for Mental and Substance-Use Conditions: Quality Chasm Series*, Washington, DC, 2006, [http://books.nap.edu/openbook.php?record\\_id=11470](http://books.nap.edu/openbook.php?record_id=11470).

<sup>73</sup> See discussion in COGME 20<sup>th</sup> Report.

<sup>74</sup> See “ACA Provisions Targeting Shortages in Specialties.”

## Primary Care Supply and Factors Influencing Primary Care Supply<sup>75</sup>

As noted previously, the U.S. physician population presently is approximately one-third primary care physicians (see text box for a discussion of primary care definitions)<sup>76</sup> and two-thirds specialists, a distribution that experts suggest is not optimal. In 2010, the most recent year for which data on the physician population are available, there were 304,687 primary care physicians (31% of all physicians)<sup>77</sup> practicing in the United States, which HRSA has estimated is approximately 7,000 too few primary care physicians.<sup>78</sup> The Council on Graduate Medical Education (COGME) recommends that the percentage of U.S. primary care physicians be raised “to at least 40 percent.”<sup>79</sup> This rate would be more comparable to that of other industrialized nations such as Australia, Canada, and France, which have closer to a 50-50 split between primary care and specialty physicians.<sup>80</sup> COGME also recommends changing the composition to help avert predicted *future* primary care shortages.<sup>81</sup> Experts also suggest that the ACA’s focus on care coordination and preventive care will require additional primary physicians, which may worsen primary care shortages after the ACA is fully implemented. For example, one study suggests that the ACA’s insurance expansions would increase primary care shortages by an estimated 8,000 primary care physicians in 2025. This would be in addition to 43,000 more primary care physicians who are needed to care for a larger and older population.<sup>82</sup> In contrast, another study suggests that there may not be future primary care shortages.<sup>83</sup> Their analysis suggests that this shortage will not occur because the ACA encourages delivery system reforms to coordinate care;<sup>84</sup> and there may be increased use of non-physician providers and of electronic health records, which would lessen the needs for additional primary care physicians.<sup>85</sup>

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<sup>75</sup> This discussion was adapted from “Letter from The Council on Graduate Medical Education to The Honorable Kathleen Sebelius, Secretary of Health and Human Services,” May 5, 2009, <http://www.cogme.gov/cogmeletter.htm>. The COGME 20<sup>th</sup> Report reiterates and expands on these factors as deterrents from primary care practice.

<sup>76</sup> Although pediatricians are generally included in definitions of primary care physicians, recent studies have found that the total number of general pediatricians is adequate (or possibly in surplus), but state that there are concerns about the geographic distribution of pediatricians. *COGME 20<sup>th</sup> Report*.

<sup>77</sup> *Physician Characteristics and Distribution*.

<sup>78</sup> U.S. Department of Health and Human Services, Health Resources and Services Administration, Bureau of Health Professions, *Physician Supply and Demand: Projections to 2020*, October 2006.

<sup>79</sup> COGME 20<sup>th</sup> Report, p. 5.

<sup>80</sup> U.S. Congress, Senate Committee on Finance, *Witness Testimony Fitzhugh Mullan, MD, Workforce Issues in Health Care Reform: Assessing the Present and Preparing for the Future*, 111<sup>th</sup> Cong., 1<sup>st</sup> sess., March 12, 2009, <http://finance.senate.gov/hearings/testimony/2009test/031209fintest.pdf>.

<sup>81</sup> COGME 20<sup>th</sup> Report. For example, some researchers have predicted that in 2025 there will be between 35,000 and 44,000 too few primary care physicians to care for the adult population. See Jack M. Colwill, James M. Cultice, and Robin L. Kruse, “Will Generalist Physician Supply Meet Demands of An Increasing and Aging Population,” *Health Affairs*, vol. 27, no. 3 (April 28, 2008), pp. w232-w241.

<sup>82</sup> Stephen M. Petterson et al., “Projecting US Primary Care Physician Workforce Needs: 2012-2025,” *Annals of Family Medicine*, vol. 10, no. 6 (November/December 2012), pp. 503-509.

<sup>83</sup> Linda V. Green, Sergei Savin, and Yina Lu, “Primary Care Physician Shortages Could be Eliminated through Use of Teams, Nonphysicians, and Electronic Communication,” *Health Affairs*, vol. 32, no. 1 (January 2013), pp. 11-18.

<sup>84</sup> See discussion in “Care Coordination by Primary Care Physicians.”

<sup>85</sup> For electronic health records incentives see CRS Report R40161, *The Health Information Technology for Economic and Clinical Health (HITECH) Act*, by (name redacted).



Altering the composition of primary care physicians and specialists would require an increase in the number of primary care physicians. Experts have identified three main barriers to primary care entry and practice:

- The majority of medical school and residency training occurs in hospital settings, where there are fewer primary care role models and a greater orientation toward specialty care. Role models and exposure are important factors in specialty choice;<sup>86</sup> therefore, hospital-based training may influence medical students toward specialties. Prior research has found that medical students exposed to federal programs that promote primary care, such as those authorized by PHSA Title VII, during their training are more likely to enter primary care.<sup>87</sup>
- There are large and growing salary differences between primary care physicians and specialists. The average salary for a primary care physician was \$193,000 in 2009, while the average specialist salary was \$302,000.<sup>88</sup>
- Primary care physicians often have uncompensated care coordination duties and other administrative burdens that specialty physicians do not have. For example, in managed care, primary care physicians serve as gatekeepers determining access to specialists. Studies have also found that these responsibilities distract primary care physicians from providing patient care<sup>89</sup> and deter students from entering primary care specialties.<sup>90</sup>

### What Is Primary Care?

- GAO and COGME define primary care as family medicine, internal medicine, and pediatrics.
- HRSA uses different definitions of primary care. For the National Health Service Corps (NHSC)—the loan and scholarship program that places providers in shortage areas—it defines primary care as family medicine; general internal medicine; general pediatrics; geriatrics; obstetrics and gynecology; and psychiatry. However, for the primary care loan program, it defines primary care as family medicine; internal medicine; osteopathic general practice; pediatrics; combined medicine/pediatrics; and preventive medicine.
- CMS, for GME funds, and MedPAC define primary care as family medicine, geriatrics, internal medicine, obstetrics and gynecology, and pediatrics.

#### Sources:

GAO: U.S. Government Accountability Office, *Primary Care Professionals: Recent Supply Trends, Projections, and Valuation of Services*, 08-472T, February 12, 2008.

COGME: COGME 20<sup>th</sup> Report.

HRSA: NHSC definition at <http://nhsc.hrsa.gov/loanrepayment/pdf/2011nhscrlrguidance.pdf>, and primary care loans definition at <http://www.hrsa.gov/loanscholarships/loans/primarycare.html>.

CMS: Section 1886(h) of the Social Security Act.

MedPAC: 2009 MedPAC Report.

<sup>86</sup> GAO GME Report.

<sup>87</sup> COGME 20<sup>th</sup> Report.

<sup>88</sup> Medical Group Management Association, *Physician Compensation and Productivity Survey*, 2010 Report Based on 2009 Data, 2010, p. 3. These data are for physicians practicing in multispecialty practices. The average compensation for primary care physicians in single specialty practices is \$183,000, while the average compensation for specialty physicians in single specialty practice is \$385,000 in 2009. The 20<sup>th</sup> COGME report reports the average specialty compensation as \$340,000 using the Medical Group Management Association specialty average in 2008. See COGME 20<sup>th</sup> Report, p. 22.

<sup>89</sup> The Physician's Foundation, *The Physicians' Perspective: Medical Practice in 2008 Survey Summary and Analysis*, October 2008, [http://www.physiciansfoundations.org/usr\\_doc/PF\\_Survey\\_Report.pdf](http://www.physiciansfoundations.org/usr_doc/PF_Survey_Report.pdf).

<sup>90</sup> Dale A. Newton and Martha Grayson, "Trends in Career Choice by U.S. Medical School Graduates," *Journal of the American Medical Association*, vol. 290, no. 9 (September 3, 2003).

In general, policy options included in the ACA that aim to alter the composition of primary care and specialty physicians seek to do so by increasing primary care supply through mitigation of one or more of these three barriers.

## **ACA and the Composition of the Physician Population**

A number of provisions in the ACA may influence the composition of the physician population, and specifically primary care supply, by (1) authorizing programs that may increase exposure to primary care content in physician training, (2) requiring increased Medicare and Medicaid payments for primary care providers, and (3) providing incentives to coordinate care. In general, these provisions aim to remove or lessen some of the factors noted above that deter physicians from entering and practicing primary care.<sup>91</sup> In addition, the ACA includes provisions that provide support for training of specialists identified as being in shortage. This part summarizes these provisions.

### **ACA Provisions Targeting Primary Care Supply**

#### *Primary Care Content in Physician Training*

The ACA targets primary care content in physician training through changes to (1) PHSA Title VII programs that support physician training in primary care and (2) the Medicare GME program.

ACA Section 5301 reauthorizes PHSA Section 747, “Primary Care Training and Enhancement,” which provides grants or contracts to support medical students, residents, and faculty in primary care.<sup>92</sup> The ACA amends this program to increase support for primary care training programs; to provide traineeships to students, residents, and faculty; and to support the development of innovative academic units in primary care.<sup>93</sup> Under this program’s authority, HHS, through the PPHF, is supporting additional primary care resident training beginning in July of 2011 for five years (see “ACA Provisions Targeting the Number of Physicians Trained”).

In addition, the ACA authorizes a new program that may encourage physician training in community-based settings. Section 5508(a) authorizes grants to support the development or expansion of teaching health centers—community-based, ambulatory, patient care centers that operate a primary care residency program.<sup>94</sup> Section 5508(b) permits National Health Service Corps (NHSC) providers,<sup>95</sup> who often fulfill their service commitment in teaching health centers, to count teaching time toward their NHSC service requirement. Section 5508(c) appropriates GME payments for teaching health centers, which are in addition to GME payments received

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<sup>91</sup> In addition to the types of provisions noted above, the ACA encourages additional training of non-physician providers (see “ACA Provisions Targeting Physician Productivity”). Non-physician providers can increase the amount of primary care services available and lessen the need for primary care physicians.

<sup>92</sup> PHSA Section 747 had previously expired.

<sup>93</sup> The ACA also requires that 15% of the amount appropriated under this program be used for Physician Assistant training.

<sup>94</sup> These include community health centers, rural health clinics, and community mental health centers, among others.

<sup>95</sup> The NHSC and its role in altering the geographic distribution of physician supply are discussed below. For more information about the National Health Service Corps, see U.S. Department of Health and Human Services, Health Resources and Services Administration, “National Health Service Corps,” <http://nhsc.hrsa.gov/>.

from other sources (e.g., Medicare or the Children’s Hospital GME program). Although HRSA did not provide funding to operate teaching health centers in FY2011, FY2012, or the first six months of FY2013, it awarded GME funds to teaching health centers in FY2011 and FY2012, and intends to award funds in FY2013.<sup>96</sup>

The ACA also makes a number of changes to Medicare GME payments that may encourage primary care training. Section 5503 of the ACA redistributes 65% of unused residency positions to hospitals that meet a number of criteria and requires that 75% of these redistributed residency positions be used in primary care or general surgery. It further requires that hospitals receiving additional positions maintain their pre-redistribution level of primary care residents. The ACA requires changes to how the Medicare program counts time spent by residents in non-hospital (i.e., community-based) settings to increase payment for time spent in these settings, which may remove a barrier experts have identified as reducing primary care exposure in training.<sup>97</sup> Section 5504 amends Medicare GME payment rules to count resident time spent in non-hospital settings for direct and indirect GME payments, provided that the hospital incurs most of the costs of the residents’ stipends and other benefits while in the non-hospital setting. Section 5505 permits hospitals to count resident time spent at conferences and seminars in non-hospital settings for GME payments.

### ***Primary Care Physician Payment***

As noted above, primary care physicians, on average, earn less than specialty physicians, and these pay differentials may discourage entry into primary care practice. The ACA contains two provisions that require increased payments for certain primary care physicians providing specific primary care services to Medicare and Medicaid beneficiaries. Section 5501 establishes a new Medicare 10% bonus payment for physicians who meet specific requirements and provide certain primary care and general surgery services.<sup>98</sup> These new payments were effective January 1, 2011, and will remain in effect for five years. Section 1202 of HCERA requires increased Medicaid payments to primary care physicians in 2013 and 2014, to the generally higher Medicare payment rate.<sup>99</sup>

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<sup>96</sup> Department of Health & Human Services, Health Resources and Services Administration, *Justification of Estimations for Appropriations Committees, FY2013*, Rockville, MD; and U.S. Department of Health and Human Services, Health Resources and Services Administration, Active Grants for HRSA Program(s): Affordable Care Act Teaching Health Center (THC) Graduate Medical Education Payment Program (T91), [http://ersrs.hrsa.gov/ReportServer/Pages/ReportViewer.aspx?/HGDW\\_Reports/FindGrants/GRANT\\_FIND&ACTIVITY=T91&rs:Format=HTML4.0](http://ersrs.hrsa.gov/ReportServer/Pages/ReportViewer.aspx?/HGDW_Reports/FindGrants/GRANT_FIND&ACTIVITY=T91&rs:Format=HTML4.0).

U.S. Department of Health and Human Services, Health Resources and Services Administration, “HHS announces new Teaching Health Centers Graduate Medical Education Program,” press release, January 25, 2011, <http://www.hrsa.gov/about/news/pressreleases/110125teachinghealthcenters.html>.

<sup>97</sup> 2009 MedPAC Report and COGME 20<sup>th</sup> Report.

<sup>98</sup> For more information, see CRS Report R41196, *Medicare Provisions in the Patient Protection and Affordable Care Act (PPACA): Summary and Timeline*, coordinated by (name redacted).

<sup>99</sup> See discussion in CRS Report R41210, *Medicaid and the State Children’s Health Insurance Program (CHIP) Provisions in ACA: Summary and Timeline*, by (name redacted) et al.

### Care Coordination by Primary Care Physicians

As discussed above (see “ACA Provisions Targeting Physician Productivity”), the ACA includes a number of provisions to encourage care coordination, for example, through medical homes. Relevant the ACA provisions include Sections 3502, 2703, 3021, 3023, and 3024 and have been summarized previously (see “ACA Provisions Targeting Physician Productivity”). ACA Section 5405 may also facilitate care coordination by authorizing a new grant program to educate and support primary care providers about care coordination, chronic disease management, and preventive medicine. In addition, Section 3503 authorizes a new program to establish medication management programs that involve a multidisciplinary group of providers (including physicians) in order to improve the treatment of chronic disease and to reduce costs.

### ACA Provisions Targeting Shortages in Specialties

The ACA includes a number of provisions to increase the number of physicians practicing in specialties that have identified shortages. ACA Section 5203 authorizes loan repayments for pediatric medical, surgical, and mental health subspecialists (including psychiatrists) in return for providing care in a medically underserved or health professional shortage area (HPSA).<sup>100</sup> As noted previously, pediatric subspecialists are a group of specialists generally considered to be in shortage.<sup>101</sup> The ACA includes two provisions that may encourage training and practice in general surgery—a specialty in shortage because an increasing number of medical residents training in general surgery are pursuing subspecialty training in a surgical subspecialty.<sup>102</sup> Section 5501 establishes a new 10% Medicare bonus payment for general surgeons who perform certain surgeries in a HPSA.<sup>103</sup> Section 5503, discussed above, redistributes 65% of unused Medicare residency positions to hospitals that meet certain criteria, and requires that 75% of the redistributed residency positions be used in primary care or general surgery.<sup>104</sup> The ACA also includes provisions that authorize training in geriatrics and behavioral health, two areas where experts agree there are shortages.<sup>105</sup> Section 5305 authorizes grants to increase physician training in geriatrics, including grants for fellowship training, training in chronic care management, and short-term training in geriatric-related topics. Section 5306 authorizes grants for programs to increase the mental and behavioral health workforce, including psychiatrists. Grants may be used to support internship and residency training in child and adolescent psychiatry or behavioral pediatrics.

<sup>100</sup> Given this requirement, Section 5203 may also affect the geographic distribution of physicians. COGME, among others, has found shortages of pediatric subspecialists; see COGME 20<sup>th</sup> Report and Kevin O’Leary, Gerald Katz, and Fred Hollander, “The Shortage of Pediatric Subspecialists,” *Children’s Hospitals Today*, Winter 2003.

<sup>101</sup> COGME 20<sup>th</sup> Report.

<sup>102</sup> Edward Salsberg et al., “U.S. Residency Training Before and After the 1997 Balanced Budget Act,” *Journal of the American Medical Association*, vol. 300, no. 10 (September 10, 2008), pp. 1174-1180.

<sup>103</sup> For more information, see CRS Report R41196, *Medicare Provisions in the Patient Protection and Affordable Care Act (PPACA): Summary and Timeline*, coordinated by (name redacted).

<sup>104</sup> The Centers for Medicare and Medicaid Services, the agency that administers the Medicare program, issued regulations implementing these provisions; see *Federal Register*, August 3, 2010, (75 FR 46390-46432) and *Federal Register*, November 24, 2010 (75 FR 72133-72240).

<sup>105</sup> Committee on the Future Health Care Workforce for Older Americans, Institute of Medicine, *Retooling for an Aging America: Building the Health Care Workforce*, Institute of Medicine, Washington, DC, April 14, 2008, <http://www.iom.edu/CMS/3809/40113/53452.aspx> and Institute of Medicine, *Improving the Quality of Health Care for Mental and Substance-Use Conditions: Quality Chasm Series*, Washington, DC, 2006, [http://books.nap.edu/openbook.php?record\\_id=11470](http://books.nap.edu/openbook.php?record_id=11470).

## Geographic Distribution of the Physician Population

The geographic distribution of physicians is an important determinant of health care access, quality, and cost. Physicians are distributed differently across the United States; specifically, researchers have found large regional variations in physician supply, with some areas having a 50% surplus of physicians and others having a 10% deficit.<sup>106</sup> Experts suggest that both over- and undersupply may be problematic. In high-supply areas, the population may receive unnecessary and excess care,<sup>107</sup> whereas in low-supply areas, the population may receive little or no care because of long wait times or long travel distance to providers.<sup>108</sup> Rural areas, in particular, experience physician shortages; however, some urban areas, specifically areas with economically disadvantaged populations, may have shortages as well.<sup>109</sup>

This section discusses physician shortages in specific geographic areas. It begins with a discussion of Health Professional Shortage Areas (HPSAs) and Medically Underserved Populations/Areas (MUA/Ps). The federal government uses these designations to determine areas and populations that have health professional shortages (including physician shortages). Designated areas are eligible for a number of programs—some of which were amended or created by the ACA—that aim to increase the number of health professionals in a specific geographic area. Given the use of HPSA and MUA/Ps for guiding federal policies that seek to lessen geographic shortages of health professionals, it is necessary to understand this designation when discussing the geographic distribution of the physician population. The section also discusses some reasons why geographic areas may have physician shortages, and the ACA provisions that may affect the geographic distribution of the physician population. Although areas with an excess of physicians are of concern, federal policies tend to focus on increasing access in shortage areas, and in rural areas in particular.

### Health Professional Shortage Areas and Medically Underserved Areas/Populations

The federal government designates some areas as HPSAs or areas or populations as medically underserved (MUAs/MUPs) because these areas/populations have physician or other health provider shortages. These designations make an area eligible for federal programs that may lessen these shortages. This section discusses the definition of HPSAs and MUA/Ps and some of the federal programs for which these areas are eligible.

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<sup>106</sup> David C. Goodman and Elliot S. Fisher, “Physician Workforce Crisis? Wrong Diagnosis, Wrong Prescription,” *New England Journal of Medicine*, vol. 358, no. 16 (April 17, 2008), pp. 1658-1661.

<sup>107</sup> U.S. Government Accountability Office, *Medicare Physician Services: Utilization Trends Indicate Sustained Beneficiary Access with High and Growing Levels of Service in Some Areas of the Nation*, 09-559, August 28, 2009, <http://www.gao.gov/new.items/d09559.pdf>.

<sup>108</sup> Centers for Disease Control and Prevention, National Center for Health Statistics, *Health United States, 2007*, Figure 22, Data from the Area Resource File.

<sup>109</sup> See this report’s discussion of HPSAs and MUA/Ps, in the section titled “Health Professional Shortage Areas and Medically Underserved Areas/Populations.”

HPSAs are areas with provider shortages in primary medical care, dental, or mental health, and may be located in urban or rural areas. Specific population groups (e.g., populations with unusually high needs for health services, as indicated by measures such as the poverty rate and the infant mortality rate) and specific facilities (e.g., a community health center, or a facility operated by the Indian Health Service) may also be designated as HPSAs.<sup>110</sup> The HPSA designation is considered to be the most restrictive designation of physician undersupply,<sup>111</sup> specifically, an area may be designated a primary care HPSA if it has a full-time equivalent primary care physician ratio of at least 3,500 patients for each primary care physician or has a ratio of between 3,500 to 3,000 patients for each primary care physician and has a population with high health care needs. Given this restrictive definition, it is possible that areas, populations, or facilities may have physician shortages without being designated a HPSA. The federal government also designates areas and populations as being MUAs or MUPs. This designation takes into account both the services available in a given area and population characteristics, such as the economic, linguistic, and cultural barriers a population may face.

Policies that aim to change the geographic distribution of the physician population often do so by trying to reduce the number of HPSAs or MUA/Ps. As the number of primary care physicians is one of the criteria used to designate HPSAs and MUA/Ps, one way to reduce their number is to increase primary care supply.<sup>112</sup> In addition, the majority of physicians in underserved areas (and, in particular, in rural areas) are family medicine physicians who provide primary care to individuals of all ages. However, there are documented family medicine shortages,<sup>113</sup> and fewer medical school graduates are choosing to enter this field.<sup>114</sup> Given the relationship between the HPSA/MUA/P definition and primary care, policies and programs that encourage primary care, and in particular, family medicine, may be of greater benefit to areas with few physicians.

Areas designated as HPSAs are eligible for a number of federal programs that seek to bring providers to shortage areas and lessen the costs associated with providing medical care in a shortage area. For example, HPSAs are eligible for NHSC providers. The NHSC provides scholarships and loan repayments to health professionals (including physicians) in return for service in a HPSA for a specific period of time.<sup>115</sup> Physicians in HPSAs are also eligible for Medicare bonus payments,<sup>116</sup> and certain facilities in MUAs may be designated as federally qualified health centers (FQHCs) that are eligible for higher Medicare and Medicaid reimbursements.<sup>117</sup> Areas and populations designated as MUA/Ps may be eligible for, or given

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<sup>110</sup> See <http://bhpr.hrsa.gov/shortage/index.htm>.

<sup>111</sup> David C. Goodman, "Twenty-Year Trends in Regional Variation in the U.S. Physician Workforce," *Health Affairs*, October 7, 2004, pp. VAR 90-VAR96.

<sup>112</sup> The converse is also true, whereby policies that aim to affect primary care supply may also affect the geographic distribution of the physician population.

<sup>113</sup> See COGME 20<sup>th</sup> Report.

<sup>114</sup> Frederick Chen et al., "Which Medical Schools Produce Rural Physicians? A 15-Year Update," *Academic Medicine*, vol. 85, no. 4 (April 2010), pp. 594-598, and GAO GME Report. The number of medical students entering family medicine has increased since the ACA. See National Resident Matching Program, *Results and Data: 2012 Main Residency Match*, Washington, DC, April 2012, <http://www.nrmp.org/data/resultsanddata2012.pdf>.

<sup>115</sup> For more information about the National Health Service Corps, see U.S. Department of Health and Human Services, Health Resources and Services Administration, "National Health Service Corps," <http://nhsc.hrsa.gov/>.

<sup>116</sup> See <http://bhpr.hrsa.gov/shortage/>.

<sup>117</sup> Note: community health centers are automatically designated as federally qualified health centers (FQHCs). For more information about health centers and FQHCs, see CRS Report R42433, *Federal Health Centers*, by (name redacted).

preference in, certain federal programs, such as health workforce programs authorized by Title VII of the PHSA.<sup>118</sup>

## Why Geographic Shortages May Exist

Physician shortages in certain geographic areas may result from aspects of physician training. As discussed above, aspects of physician training may also influence specialty choice. This section discusses how the content of physician training may influence where physicians choose to practice. Specifically, the majority of medical training occurs in teaching hospitals, which are usually located in urban areas. The location of training may thereby influence the geographic distribution of physicians because students generally practice near their training site.<sup>119</sup> There is also evidence that student and resident educational experiences ultimately influence individuals' career choices;<sup>120</sup> therefore, training concentrated in teaching hospitals may discourage practicing in non-hospital settings. Researchers have found that medical residents who spend part of their training in community health centers—a type of FQHC—are more likely to practice in these settings after completing their residency.<sup>121</sup>

Some researchers have also suggested that medical students' racial and ethnic and geographic (i.e., rural, urban, or suburban) origin may influence where these students choose to practice after residency.<sup>122</sup> These researchers have suggested that medical students from underrepresented groups and those from rural areas are more likely to provide care to the medically underserved. They recommend that medical schools consider these characteristics in their admission policies and that educational programs be developed to recruit and retain students more likely to provide care to the underserved.<sup>123</sup>

Recent research has found that medical students are increasingly considering lifestyle factors, such as the amount of on-call time, when choosing where (and which specialty) to practice.<sup>124</sup> Physicians practicing in shortage areas may face lifestyle challenges not present in areas with more physicians. For example, physicians in shortage areas may be more isolated (either

<sup>118</sup> See <http://bhpr.hrsa.gov/shortage/>.

<sup>119</sup> Laurence Baker, "Efforts to Expand Physician Supply," *Health Services Research*, vol. 43, no. 4 (July 18, 2008), pp. 1121-1127.

<sup>120</sup> GAO GME Report.

<sup>121</sup> Carl G. Morris et al., "Training Family Physicians in Community Health Centers: A Health Workforce Solution," *Health Services Research*, vol. 40, no. 4 (April 2008), pp. 271-276.

<sup>122</sup> See, for example, Institute of Medicine, Committee on Institutional and Policy-Level Strategies, *In the Nation's Compelling Interest: Ensuring Diversity in the Health Care Workforce* (Washington, DC: National Academy Press, 2004). This study also notes that a student's racial, ethnic, and geographic origin may also influence the choice to pursue medical education; therefore, some suggest that programs need to focus on students prior to college to encourage them to consider a career in medicine.

<sup>123</sup> Ibid. Howard K. Rabinowitz et al., "Critical Factors for Designing Programs to Increase the Supply and Retention of Rural Primary Care Physicians," *Journal of the American Medical Association*, vol. 286, no. 9 (September 5, 2001), pp. 1041-1048.

<sup>124</sup> E. Ray Dorsey, David Jarjoura, and Gregory W. Rutecki, "Influence of Controllable Lifestyle on Recent Trends in Specialty Choice by US Medical Students," *Journal of the American Medical Association*, vol. 290, no. 9 (September 3, 2003), pp. 1173-1178; and Association of American Medical Colleges, Division of Medical Education, GQ Student, Survey Priorities in Medical Education: All Schools Summary Report Final, Association of American Medical Colleges, Washington, DC, 2010, [https://www.aamc.org/download/140716/data/2010\\_gq\\_all\\_schools.pdf](https://www.aamc.org/download/140716/data/2010_gq_all_schools.pdf). The majority of this research focuses on specialty choice; however, student preference for greater work/life balance would also extend to a preference to practice in settings where on-call hours can be spread across colleagues.

geographically or from colleagues to collaborate with), may care for a large population, and may feel the strain of always having to be available for emergencies (i.e., may have more on-call time). These lifestyle considerations make practicing in a shortage area less attractive to newer physicians, thereby contributing to the geographic maldistribution of the physician population.

## **ACA and the Geographic Distribution of the Physician Population**

The ACA includes provisions that may expand the number of NHSC providers available to serve in shortage areas, increase the diversity of the physician workforce, and increase physician training in shortage areas. It also includes provisions to revise the criteria used to designate HPSAs and MUPs, which may affect the geographic distribution of providers by changing the areas eligible for incentives such as the NHSC.

### **ACA Provisions Targeting the NHSC<sup>125</sup>**

The ACA authorizes program changes to the NHSC that may encourage NHSC providers to serve as faculty at teaching health centers, increase loan repayment amounts, and increase provider flexibility. As previously discussed, Section 10501(n) permits NHSC clinicians to count teaching time as part of their NHSC service requirement, increases loan repayment amounts, and permits NHSC clinicians to work-part time in exchange for an extended service requirement. Teaching time at NHSC sites may be important for teaching health centers (see “ACA Provisions Targeting the Number of Physicians Trained”) because many teaching health centers rely on NHSC clinicians who might be reluctant to participate in resident training if this time did not count toward their NHSC service requirement. Part-time service may make NHSC participation more attractive to younger providers who are interested in achieving work-life balance, which may help recruit or retain NHSC providers.<sup>126</sup> The ACA also increases amounts authorized for appropriation for the NHSC. Specifically, Section 5207 authorizes increased discretionary appropriations for the NHSC. In addition, Section 10503 requires that \$1.5 billion be transferred—between FY2011 and FY2015—from the Community Health Center Fund (created in this section of the ACA) to support the NHSC. These transferred funds were initially required to be used to increase program funding above the FY2008 appropriation level; however, this requirement was removed for FY2011 in P.L. 112-10.<sup>127</sup> Although funding in FY2011 and FY2012 was above the FY2008 appropriation, the Community Health Center Fund was used to replace discretionary appropriations to the NHSC, which were reduced in FY2011 and eliminated in FY2012.<sup>128</sup> Although FY2013 appropriations have not been finalized, under the six-month Continuing Resolution, no discretionary funds were appropriated to the NHSC.<sup>129</sup>

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<sup>125</sup> In addition to physicians, National Health Service Corps scholarships and loan repayments are available to other health professionals such as dentists, nurses, psychologists, and social workers.

<sup>126</sup> GAO GME Report and HRSA Physician Supply report.

<sup>127</sup> Section 10503 of ACA, P.L. 111-148, as amended. P.L. 112-10 removed this requirement for FY2011.

<sup>128</sup> The HHS FY2011 Operating Plan, required by P.L. 112-10, reduced NHSC discretionary funding by \$117 million (from \$141 million in FY2010 to \$25 million in FY2011). In FY2012 the NHSC received no discretionary appropriations, but received a \$295 million direct appropriation under the ACA.

<sup>129</sup> P.L. 112-175. The program will receive a \$300 million direct appropriation from the ACA in FY2013.



## ACA Provisions Targeting the Diversity of the Physician Workforce

The ACA includes provisions that authorize programs that aim to increase the diversity of the physician workforce. Prior research has found that the current physician population is less diverse than the U.S. population. In addition, research has found that individuals from racial and ethnic minorities are more likely to practice in underserved areas.<sup>130</sup> Consequently, the federal government supports programs to increase the racial and ethnic diversity of medical students and faculty.

Section 5401 reauthorizes the Centers of Excellence program funded in Section 736 of the PHSA. The program supports activities related to increasing the diversity of the health professions workforce, including efforts that encourage underrepresented minorities to enter health professional education and programs to assist these individuals during their studies. Section 5402 authorizes increased appropriations for scholarship, loan repayment, and fellowship programs that provide funding to students and faculty from disadvantaged backgrounds to pursue health professions education.

## ACA Provisions Targeting Rural Practice

The ACA includes provisions to encourage training in rural areas specifically, and in HPSAs or MUAs in general. The law also authorizes a new program to recruit medical students from rural areas and to provide training in rural settings in order to encourage rural practice. Prior research has found that medical students who have participated in similar programs are more likely to practice in rural areas after completing their training.<sup>131</sup>

The ACA authorizes programs that may connect physicians in HPSAs and MUAs, which may reduce isolation and increase contact with colleagues. As isolation and lack of colleagues are commonly cited barriers to practice in underserved and shortage areas, programs to reduce these barriers may affect the geographic distribution of physicians. Section 5403 amends the Area Health Education Center (AHEC) program. These centers aim to address workforce shortages by supporting physician recruitment and retention from medically underserved populations and those from rural and medically underserved areas. AHECs sponsor programs for students, faculty, and providers, including programs for medical students and medical residents. The ACA authorized an expansion of the AHEC program to include new grants to medical and nursing schools to develop these programs. The ACA also authorized increased appropriations for the AHEC program and noted that it is the sense of Congress that every state have an AHEC. In addition, Section 5403 authorizes new grants to provide continuing educational support to health providers in underserved communities. Such efforts may involve distance learning, conferences, and telehealth.

The content and location of training are important determinants of where physicians ultimately practice. Programs that encourage rural and community-based training may influence the geographic distribution of the physician population; therefore, the ACA includes a new program

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<sup>130</sup> Institute of Medicine, Committee on Institutional and Policy-Level Strategies, *In the Nation's Compelling Interest: Ensuring Diversity in the Health Care Workforce* (Washington, DC: National Academy Press, 2004).

<sup>131</sup> Howard K. Rabinowitz et al., "Critical Factors for Designing Programs to Increase the Supply and Retention of Rural Primary Care Physicians," *Journal of the American Medical Association*, vol. 286, no. 9 (September 5, 2001), pp. 1041-1048.

that trains students who are likely to practice in rural settings.<sup>132</sup> Section 10501(l) authorizes a new program to award grants to medical schools to recruit and provide focused training and experiences to students likely to practice medicine in underserved rural communities. The program aims to recruit students most likely to enter into rural practice<sup>133</sup> and includes rural-focused training experiences while in medical school. The ACA also authorizes teaching health centers, which may increase medical residency training in underserved areas (see “ACA Provisions Targeting the Number of Physicians Trained”).

### **ACA Provisions Amending HPSA and MUP Designation Criteria**

The ACA requires that the criteria used to designate HPSAs and MUPs be updated in response to concerns that these criteria were outdated and that some areas designated as HPSAs may no longer have shortages.<sup>134</sup> Section 5602 requires the HHS Secretary to establish new methodology for designating MUPs and HPSAs and to publish a final rule by July 1, 2011.<sup>135</sup> Although HHS has been working since 1998 to develop new methodology, it has not been implemented.<sup>136</sup>

## **ACA and Workforce Planning**

Some experts have argued that lack of workforce planning has contributed to current physician supply concerns and that federal programs supporting the physician workforce are not coordinated.<sup>137</sup> GAO has also noted that lack of data hamper efforts to evaluate programs funded under PHSA Title VII.<sup>138</sup> Such data may be necessary for comprehensive workforce planning.

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<sup>132</sup> 20<sup>th</sup> COGME Report.

<sup>133</sup> Individuals from a rural area are more likely to enter rural practice. For example, see Howard K. Rabinowitz, James J. Diamond, Fred W. Markham, et al., “Critical Factors for Designing Programs to Increase the Supply and Retention of Rural Primary Care Physicians,” *Journal of the American Medical Association*, vol. 286, no. 9 (September 5, 2001), pp. 1041-1048. This program was not funded in FY2011, FY2012, or the first six months of FY2013.

<sup>134</sup> U.S. Government Accountability Office: (1) *Health Care Shortage Areas: Designation Not A Useful Tool for Directing Resources to the Underserved*, GAO/HEHS-95-200, Washington, DC, September 8, 1995; (2) *Health Workforce: Ensuring Adequate Supply and Distribution Remains Challenging*, GAO-01-1042T, Washington, DC, August 1, 2001; and (3) *Health Professional Shortage Areas*, GAO-07-84 Washington, DC, October 2006.

<sup>135</sup> Section 5602 also includes interim deadlines, such as establishing a rulemaking committee and publishing an interim final rule. More information about this process can be found at <http://www.hrsa.gov/advisorycommittees/shortage/index.html>. The Committee released a report on October 1, 2011, but the committee’s report was not unanimous; therefore, the Secretary is not required to use the report when drafting the new rule. For report, see <http://www.hrsa.gov/advisorycommittees/shortage/nrmcfinalreport.pdf>. HRSA is currently drafting an interim final rule, but has not, as of the date of this report’s publication, released a final rule.

<sup>136</sup> In 1998, the Secretary published a proposal to revise the HPSA methodology (Department of Health and Human Services, “Designation of Medically Underserved Populations and Health Professional Shortage Areas; Proposed Rule,” 63 *Federal Register* 46583-46555, September 1, 1998). The proposal was subsequently withdrawn. In February 2008, HHS proposed a new rule (Department of Health and Human Services, “Designation of Medically Underserved Populations and Health Professional Shortage Areas; Proposed Rule,” 73 *Federal Register* 11232-11281, February 29, 2008). In response to extensive comments, in July 2008, the Secretary announced that HHS would issue a new notice of public rulemaking for further review and public comment prior to issuing a final rule.

<sup>137</sup> David C. Goodman, “Improving Accountability for the Public Investment in Health Profession Education: It’s Time to Try Health Workforce Planning,” *Journal of the American Medical Association*, vol. 300, no. 10 (September 10, 2008), pp. 1205-1207.

<sup>138</sup> U.S. Government Accountability Office, *Health Professions Education Programs: Action Still Needed to Measure Impact*, 06-55, February 28, 2006.

Concerns about lack of planning and coordination and lack of data to evaluate programs existed prior to the ACA, but the ACA may exacerbate these concerns because it expands federal support for the health care workforce. The ACA includes provisions to increase workforce planning and collect data needed to support these efforts.

The ACA includes provisions that may increase workforce planning at the federal and state levels. Section 5101 establishes the National Health Workforce Commission to evaluate and make recommendations about the health care workforce (including physicians). The commission was appointed by GAO in September of 2010 and is required to review health care workforce supply and demand and make recommendations on national priorities and policies. Commission members are required to make reports to Congress and to review reports from the state workforce development planning grants and from the National Center for Health Workforce Analysis (see below).<sup>139</sup> Section 5102 authorizes grants for states to undertake health care workforce development.<sup>140</sup>

The ACA also requires additional data collection on health workforce programs and establishes a federal center to undertake health workforce analysis to support the new commission. Section 5103 requires HHS to establish a National Center for Health Care Workforce Analysis<sup>141</sup> and to establish State and Regional Centers for Health Workforce Analysis. Section 5103 also requires longitudinal evaluations of individuals who have received support (education, training, or financial assistance) from grants awarded under PHSA Title VII. The section authorizes increased grant amounts for this purpose and requires PHSA Title VII advisory groups to develop performance measures and guidelines for longitudinal evaluations for the programs they advise.

## Concluding Observations

The current and future physician supply may be inadequate. Some experts suggest that there are too few physicians overall, too few primary care physicians specifically, and that physicians are inadequately distributed throughout the United States. The ACA may intensify some of these concerns; specifically, although the ACA includes a number of provisions that aim to alter physician supply, it is not yet known whether and how these provisions will affect physician supply. Many of the programs established by the ACA have not yet been implemented, and others may not have immediate effects. In addition, some the ACA programs are temporary, and many rely on discretionary funding.<sup>142</sup>

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<sup>139</sup> The Commission did not receive funding in FY2011, see Amy Goldstein, “Partisan Fights in Congress Stall Panel on Primary-Health-Care Shortage,” *Washington Post*, May 13, 2011, National Edition.

<sup>140</sup> In September of 2010, HHS announced that it had awarded grants to 26 states under this program. Grants were awarded for either workforce planning activities (e.g., data collection and analysis) or for implementing development plans to address previously identified workforce needs. See U.S. Department of Health and Human Services, “HHS Awards \$320 Million to Expand the Primary Care Workforce,” press release, September 27, 2010, <http://www.hhs.gov/news/press/2010pres/09/20100927e.html>. CRS Report R42051, *Budget Control Act: Potential Impact of Sequestration on Health Reform Spending*, by (name redacted)

<sup>141</sup> This center had existed previously within HRSA, but was renamed in accordance with this the ACA section.

<sup>142</sup> Ongoing efforts to reduce the budget deficit may also affect the ACA-authorized programs and their funding levels. For more information, see CRS Report R41965, *The Budget Control Act of 2011*, by (name redacted), (name redacted), and (name redacted); CRS Report R42051, *Budget Control Act: Potential Impact of Sequestration on Health Reform Spending*, by (name redacted); and CRS Report R42884, *The “Fiscal Cliff” and the American Taxpayer Relief Act of 2012*, coordinated by (name redacted).

## Appendix. ACA Provisions That May Affect Physician Supply

**Table A-I. Physician Supply and the ACA**

ACA Section Number	ACA Section Description	Section May Affect the Size of the Physician Population	Section May Affect the Composition of the Physician Population	Section May Affect the Geographic Distribution of the Physician Population
2703	Section permits state Medicaid programs to offer the option for Medicaid beneficiaries with chronic conditions to designate a medical home.	√	√	
3021	Section establishes a Center for Medicare and Medicaid Innovation within the Centers for Medicare & Medicaid Services (CMS) to test innovative physician payment approaches including the medical home.	√	√	
3022	Section establishes the Medicare Shared Savings Program to pilot Accountable Care Organizations in the Medicare program.	√	√	
3023	Section creates a pilot program in Medicare to provide payment incentives—through payment bundling or other methods—for coordinated care for hospitalized Medicare beneficiaries.	√	√	
3024	Section requires a demonstration program, within Medicare, to test payment incentives and service delivery models that use home-based primary care teams designed to reduce costs and improve health outcomes for Medicare beneficiaries.	√	√	
3502	Section requires the Secretary of the Department of Health and Human Services (HHS) to provide grants or contracts to establish care coordination through medical homes for Medicare beneficiaries.	√	√	
3503	Section authorizes grants for medication management programs that involve a multidisciplinary group of providers (including physicians) in order to improve the treatment of chronic disease and reduce costs.		√	
5101	Section establishes the National Health Workforce Commission to evaluate and make recommendations about the health care workforce (including physicians).	√	√	√
5102	Section authorizes grants for states to undertake health care workforce development.	√	√	√

ACA Section Number	ACA Section Description	Section May Affect the Size of the Physician Population	Section May Affect the Composition of the Physician Population	Section May Affect the Geographic Distribution of the Physician Population
5103	Section requires HHS to establish the National Center for Health Care Workforce Analysis and to establish State and Regional Centers for Health Workforce Analysis. The section also requires longitudinal evaluations of individuals who have received support (education, training, or financial assistance) from grants awarded under the authority of Title VII of the Public Health Service Act (PHSA).	√	√	√
5203	Section authorizes loan repayments for pediatric medical subspecialists and pediatric mental health subspecialists who provide care to a medically underserved or health professional shortage area (HPSA).		√	√
5207	Section permanently authorizes the National Health Service Corps (NHSC) program and authorizes discretionary appropriations for the program.			√
5301	Section authorizes the HHS Secretary to make grants to support primary care training including primary care residency training and programs to increase primary care content in medical school and residency training. Section also authorizes programs to support physician assistant training. <sup>a</sup>	√	√	
5305	Section authorizes grants or contracts for geriatric workforce development including support for fellowship training in geriatrics and support for training in chronic care management. Section also authorizes support for short-term training programs in geriatrics.		√	
5306	Section authorizes grants for internship and residency training programs in child and adolescent psychiatry and behavioral pediatrics that are establishing or expanding internships or other field placements.		√	
5401	Section authorizes the Center of Excellence programs that provide grants to support activities related to increasing the diversity of the health professions workforce, including efforts that encourage underrepresented minorities to enter health professional education and programs to assist these individuals during their studies.			√
5402	Section authorizes increased appropriations for scholarship, loan repayment, and fellowship programs that provide funding to students and faculty from disadvantaged backgrounds to pursue health professions education.			√

ACA Section Number	ACA Section Description	Section May Affect the Size of the Physician Population	Section May Affect the Composition of the Physician Population	Section May Affect the Geographic Distribution of the Physician Population
5403	Section amends the Area Health Education Program (AHEC) to authorize new grants to medical and nursing schools to develop new AHECs. AHECs aim to address workforce shortages by supporting physician recruitment and retention in rural and medically underserved areas. Section also authorizes grants to provide continuing education programs to support health providers in underserved communities.			√
5405	Section authorizes a new grant program to educate and support primary care providers about care coordination, chronic disease management, and preventive medicine.		√	
5501	Section requires the Medicare program to increase payments to primary care physicians that provide certain primary care procedures by 10%. The section also requires that the Medicare program provide a 10% bonus payment to general surgeons that perform certain surgeries in a HPSA. Both payment increases are effective between January 1, 2011 and January 1, 2016.		√	√
5503	Section requires CMS to redistribute 65% of unused Medicare-funded residency positions to hospitals that meet a number of criteria (e.g., are located in a state with a low resident-to-population ratio or a state that has a high proportions of its populations living in a HPSA). The section further requires that 75% of these redistributed residency positions be filled by residents training in primary care or general surgery,	√	√	√
5504	Section requires that CMS count resident time spent in community based settings for purpose of Medicare Graduate Medical Education (GME) payments.	√	√	
5505	Section requires that CMS permit hospital to count resident training time spent in conferences and seminars while in community-based settings for Medicare GME payments.	√	√	
5506	Section requires the Secretary of HHS to develop a procedure to redistribute residency slots from closed hospitals. <sup>b</sup>	√	√	√
5508	Section authorizes grants to establish or expand primary care residency training in community-based settings—such as federally qualified health centers (FQHCs)—called teaching health centers. Section also appropriates GME payments for residents trained in these settings.	√	√	√
5509	Section requires the HHS Secretary to establish a Medicare-funded graduate nurse education demonstration project to provide clinical training of advance practice nurses.	√		
5602	Section requires the HHS Secretary to establish new methodology for designating medically underserved populations (MUPs) and HPSAs.			√

ACA Section Number	ACA Section Description	Section May Affect the Size of the Physician Population	Section May Affect the Composition of the Physician Population	Section May Affect the Geographic Distribution of the Physician Population
10501(e)	Section requires the HHS Secretary to establish a demonstration program to train family nurse practitioners to serve as primary care providers at outpatient facilities such as FQHCs.	√	√	√
10501(l)	Section authorizes grants to medical schools to recruit and provide focused training and experiences to students likely to practice medicine in underserved rural communities.			√
10501(n)	Section permits NHSC providers to count teaching time in teaching health centers (see Sec. 5508 above) towards their NHSC service requirement. Section also increases annual loan repayment amounts and permits NHSC providers to work part-time in exchange for an extended service requirement.	√	√	√
10502	Section creates the multi-billion dollar Community Health Center Fund and transfers \$1.5 billion, to be appropriated from FY2011 to FY2015, to the NHSC.			√
1202 <sup>c</sup>	Section requires the Medicaid program to pay primary care physicians the generally higher Medicare payment rates for certain primary care services. This higher payment rate is effective 2013 and 2014.		√	

**Source:** CRS Analysis of the Patient Protection and Affordable Care Act (ACA, P.L. 111-148) as amended by the Health Care and Education Reconciliation Act (HCERA, P.L. 111-152). The two laws are collectively referred to in this table as “ACA.”

**Notes:** The table only includes section summaries that relate to physician supply. More complete section summaries can be found in the series of CRS reports related to the ACA at <http://www.crs.gov/Pages/subissue.aspx?cliid=3746&parentid=13>. HHS has promulgated regulations to implement a number of provisions in the table; however, the table does not list all regulations. Rather, regulations are only noted in this table if these regulations affect the three dimensions of physician supply.

- a. FY2010 funds appropriated by the Prevention and Public Health Fund (ACA Sec. 4002) were used to support additional primary care residency training and additional physician assistant training.
- b. The regulations promulgated to implement this section, 75 C.F.R. § 72129, may redistribute residency positions from closed hospitals in ways that may affect the composition and geographic distribution of the physician population.
- c. Section number refers to the HCERA.

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