

JOINT STATE GOVERNMENT COMMISSION

General Assembly of the Commonwealth of Pennsylvania

THE PHYSICIAN SHORTAGE IN PENNSYLVANIA

APRIL 2015



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Commonwealth of Pennsylvania Since 1937*

REPORT

The Physician Shortage in Pennsylvania

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JOINT STATE GOVERNMENT COMMISSION

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The Joint State Government Commission was created in 1937 as the primary and central non-partisan, bicameral research and policy development agency for the General Assembly of Pennsylvania.¹

A fourteen-member Executive Committee comprised of the leadership of both the House of Representatives and the Senate oversees the Commission. The seven Executive Committee members from the House of Representatives are the Speaker, the Majority and Minority Leaders, the Majority and Minority Whips, and the Majority and Minority Caucus Chairs. The seven Executive Committee members from the Senate are the President Pro Tempore, the Majority and Minority Leaders, the Majority and Minority Whips, and the Majority and Minority Caucus Chairs. By statute, the Executive Committee selects a chairman of the Commission from among the members of the General Assembly. Historically, the Executive Committee has also selected a Vice-Chair or Treasurer, or both, for the Commission.

The studies conducted by the Commission are authorized by statute or by a simple or joint resolution. In general, the Commission has the power to conduct investigations, study issues, and gather information as directed by the General Assembly. The Commission provides in-depth research on a variety of topics, crafts recommendations to improve public policy and statutory law, and works closely with legislators and their staff.

A Commission study may involve the appointment of a legislative task force, composed of a specified number of legislators from the House of Representatives or the Senate, or both, as set forth in the enabling statute or resolution. In addition to following the progress of a particular study, the principal role of a task force is to determine whether to authorize the publication of any report resulting from the study and the introduction of any proposed legislation contained in the report. However, task force authorization does not necessarily reflect endorsement of all the findings and recommendations contained in a report.

Some studies involve an appointed advisory committee of professionals or interested parties from across the Commonwealth with expertise in a particular topic; others are managed exclusively by Commission staff with the informal involvement of representatives of those entities that can provide insight and information regarding the particular topic. When a study involves an advisory committee, the Commission seeks consensus among the members.² Although an advisory committee member may

¹ Act of July 1, 1937, P.L.2460, No.459; 46 P.S. § 65; amended by the act of June 26, 1939, P.L.1084, No.380; the act of March 8, 1943, P.L.13, No.4; the act of May 15, 1956 (1955), P.L.1605, No.535; the act of December 8, 1959, P.L.1740, No.646; & the act of November 20, 1969, P.L.301, No.128.

² Consensus does not necessarily reflect unanimity among the advisory committee members on each individual policy or legislative recommendation. However, it does, at a minimum, reflect the views of a substantial majority of the advisory committee, gained after lengthy review and discussion.

represent a particular department, agency, association, or group, such representation does not necessarily reflect the endorsement of the department, agency, association, or group of all the findings and recommendations contained in a study report.

Over the years, nearly one thousand individuals from across the Commonwealth have served as members of the Commission's numerous advisory committees or have assisted the Commission with its studies. Members of advisory committees bring a wide range of knowledge and experience to deliberations involving a particular study. Individuals from countless backgrounds have contributed to the work of the Commission, such as attorneys, judges, professors and other educators, state and local officials, physicians and other health care professionals, business and community leaders, service providers, administrators and other professionals, law enforcement personnel, and concerned citizens. In addition, members of advisory committees donate their time to serve the public good; they are not compensated for their service as members. Consequently, the Commonwealth of Pennsylvania receives the financial benefit of such volunteerism, along with the expertise in developing statutory language and public policy recommendations to improve the law in Pennsylvania.

The Commission periodically reports its findings and recommendations, along with any proposed legislation, to the General Assembly. Certain studies have specific timelines for the publication of a report, as in the case of a discrete or timely topic; other studies, given their complex or considerable nature, are ongoing and involve the publication of periodic reports. Completion of a study, or a particular aspect of an ongoing study, generally results in the publication of a report setting forth background material, policy recommendations, and proposed legislation. However, the release of a report by the Commission does not necessarily reflect the endorsement by the members of the Executive Committee, or the Chair or Vice-Chair of the Commission, of all the findings, recommendations, or conclusions contained in the report. A report containing proposed legislation may also contain official comments, which may be used in determining the intent of the General Assembly.³

Since its inception, the Commission has published more than 350 reports on a sweeping range of topics, including administrative law and procedure; agriculture; athletics and sports; banks and banking; commerce and trade; the commercial code; crimes and offenses; decedents, estates, and fiduciaries; detectives and private police; domestic relations; education; elections; eminent domain; environmental resources; escheats; fish; forests, waters, and state parks; game; health and safety; historical sites and museums; insolvency and assignments; insurance; the judiciary and judicial procedure; labor; law and justice; the legislature; liquor; mechanics' liens; mental health; military affairs; mines and mining; municipalities; prisons and parole; procurement; state-licensed professions and occupations; public utilities; public welfare; real and personal property; state government; taxation and fiscal affairs; transportation; vehicles; and workers' compensation.

Following the completion of a report, subsequent action on the part of the Commission may be required, and, as necessary, the Commission will draft legislation and statutory amendments, update research, track legislation through the legislative process, attend hearings, and answer questions from legislators, legislative staff, interest groups, and constituents.

³ "The comments or report of the commission... which drafted a statute may be consulted in the construction or application of the original provisions of the statute if such comments or report were published or otherwise generally available prior to the consideration of the statute by the General Assembly." 1 Pa.C.S. § 1939.



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To the Members of the General Assembly of Pennsylvania:

This report is presented by the Joint State Government Commission in response to 2014 House Resolution No. 735, which directed Joint State Government Commission to study the issue of physician shortages, to establish an advisory committee to conduct a comprehensive study of physician shortages, to propose strategies for eliminating physician shortages, and to report to the House of Representatives with its findings and recommendations.

Physician shortages exist nationally and in Pennsylvania. Large numbers of aging physicians are nearing retirement. An aging population, longer lifespans, increased health care utilization, improved health care access, and a growing population all contribute to pressure on the health care system. Student debt and other educational limitations are negatively affecting the training of new physicians.

We hope this report will assist the Commonwealth in mounting a vigorous and effective response to a serious and growing physician shortage.

Respectfully submitted,

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INTRODUCTION

House Resolution No. 735 of 2014 directed the Joint State Government Commission (JSGC) to study the issue of physician shortages and to propose strategies for eliminating physician shortages. The resolution directed JSGC to establish an advisory committee to accomplish these goals.

The Advisory Committee consisted of members from across the Commonwealth and from many different disciplines. Advisory Committee members represented state agencies, medical organizations, universities, training centers, health systems, and health insurance companies. Advisory Committee members were physicians and non-physicians who were experts in their fields, including physician education, physician recruitment, and physician workforce studies.

The Advisory Committee met in person and via teleconference to discuss numerous issues that the members identified as relevant to physician shortages. Ultimately, the Advisory Committee came to consensus on a number of recommendations. Those recommendations, as well as relevant background information, are presented in this report, provided pursuant to 2014 House Resolution No. 735.

SUMMARY OF RECOMMENDATIONS

Recommendation 1: Improve physician workforce data collection and analysis.

The various measures of the physician workforce currently available do not provide a complete enough picture. They fail to convey specialty and geographic distribution issues. Better data and analysis would facilitate more effective workforce policies and programs.

Recommendation 2: Establish a state pipeline program to prepare students for medical careers.

Disparities in student preparation have led to health care shortages in certain areas and underrepresentation of certain populations in the physician workforce. A program designed to better prepare students could alleviate these issues.

Recommendation 3: Encourage medical schools to implement programs aimed at increasing Pennsylvania's physician supply.

Some medical schools in the Commonwealth have undertaken efforts to address the physician shortage. These efforts include admissions policies that favor students with specific backgrounds and educational programs that prepare students for careers in areas with unmet health care needs. By encouraging all the medical schools in the Commonwealth to implement similar measures, the physician shortage and health care access issues could be alleviated.

Recommendation 4: Increase the number of residency positions in order to train more physicians in Pennsylvania.

Physicians are more likely to practice where they complete their training, so training more physicians in Pennsylvania should increase the Commonwealth's physician supply.

Recommendation 5: Increase financial support for the Primary Health Care Practitioners Program within the Department of Health to make the Primary Care Loan Repayment Program a more appealing recruitment tool.

The federal government and all of the Commonwealth's neighboring states offer more attractive loan repayment incentives to physicians than Pennsylvania does, leading many to leave Pennsylvania. By offering more generous loan repayment incentives, Pennsylvania could improve retention of physicians trained in the state and attract physicians trained elsewhere.

Recommendation 6: Ensure that Pennsylvania fully utilizes the tools available to recruit international medical graduates.

International medical graduates increase the number of physicians in the workforce and add diversity to the medical profession and the communities in which they serve. Maximizing their recruitment will ensure Pennsylvania has an adequate supply of physicians and can help address cultural barriers in health care.

Other Considerations: The Advisory Committee supports the implementation of the Patient Centered Medical Home and telemedicine care delivery models.

Advancements in technology and dynamic approaches to health care delivery can lessen the impact of the physician shortage, reduce health care costs, improve health care quality, facilitate health care access, and provide many more benefits. The Patient Centered Medical Home and telemedicine are two examples of alternative care delivery models that show great potential.

THE PHYSICIAN WORKFORCE

An accurate description of the current physician workforce is crucial to the physician shortage discussion. This report relies on data from the Association of American Medical Colleges (AAMC), the US Department of Health and Human Services (HHS) Health Resources and Services Administration (HRSA), and the Pennsylvania Department of Health (DOH) Bureau of Health Planning to describe the national and state physician workforces. In addition to their own data collection efforts, these organizations utilize data from the US Census, the American Medical Association (AMA) Physician Masterfile, and many other sources in order to provide comprehensive analyses.

Data Sources

The Bureau of Health Planning works with the Pennsylvania Department of State Bureau of Professional and Occupational Affairs to collect information about physicians.⁴ The Bureau of Health Planning surveys physicians when they renew their licenses, which they must do every two years.⁵ The surveys provide information on the characteristics and distribution of the physician workforce in Pennsylvania.⁶ The Bureau of Health Planning periodically releases a report on the survey results and an analysis of the physician workforce in Pennsylvania. The most recent version, called the “2012 Pulse of Pennsylvania’s Physician and Physician Assistant Workforce,” was released in June 2014 and utilizes data from 2012.

In 1906, the AMA established its Physician Masterfile.⁷ The Physician Masterfile is composed of medical school enrollment data, residency program data, data from licensing jurisdictions, and survey data, and includes current and historical education, training, and professional certification information for more than 1.4 million physicians, residents, and medical students in the United States.⁸ The Physician Masterfile is commonly used by advocacy organizations, policy makers, professional organizations, and researchers.

The AAMC, a non-profit association that represents accredited US and Canadian medical schools, teaching hospitals and health systems, and academic and scientific societies, utilizes the AMA’s Physician Masterfile and collects its own data in order to produce various reports on the national medical education system and physician workforce.⁹ The reports include data on the

⁴ Pa. Dep’t of Health, Bureau of Health Planning, “2012 Pulse of Pennsylvania’s Physician and Physician Assistant Workforce,” vol. 5, June 2014, *available at* <http://www.portal.state.pa.us/portal/server.pt?open=18&objID=1422666&mode=2>, at p. vi.

⁵ *Id.*

⁶ *Id.*

⁷ Am. Med. Soc., “AMA Physician Masterfile,” *available at* <http://www.ama-assn.org/ama/pub/about-ama/physician-data-resources/physician-masterfile.page>.

⁸ *Id.*

⁹ Ass’n of Am. Med. Colls., “2013 State Physician Workforce Data Book,” Nov. 2013, at pp. i & 1; Ass’n of Am. Med. Colls., “About the AAMC,” *available at* <https://www.aamc.org/about/>.

physician supply, undergraduate medical education, graduate medical education, and retention rates, and are available to members and the public for use in research and advocacy.¹⁰

HRSA is the primary federal agency tasked with improving access to health care. It achieves this by strengthening the health care workforce, building healthy communities, and working towards better health equity.¹¹ Specifically, HRSA supports the training of health professionals, works to facilitate the distribution of providers to areas where they are needed most, and enables improvements in health care delivery.¹² HRSA designates Health Professional Shortage Areas (HPSAs), Medically Underserved Areas (MUAs), and Medically Underserved Populations (MUPs). The HRSA designations are used to determine eligibility for various federal, state, and local programs, including those discussed in this report. HRSA also calculates workforce projections using a number of different models, and prepares other reports on the physician workforce.

These data sources use two measures to describe physician supply.¹³ The first measure is the actual number of active physicians engaged in patient care, and the second is the full-time equivalent (FTE) physician, a measure that accounts for productivity, so that a physician who works half the time of a typical physician counts as 0.5 FTE.¹⁴

Measures of Physician Shortages

HPSAs

HPSA designation indicates that HRSA has determined an area to be a health professional shortage area based on general designation criteria and additional criteria specific to the type of designation.¹⁵ There are three types of HPSAs: primary care, dental, and mental health.¹⁶ Designation may be applied to a geographic area, a population group, or a facility.¹⁷ HPSA designations are reviewed each year to monitor the status of the designated areas.¹⁸

A primary care HPSA designation may be applied to a geographic area that meets specific criteria regarding the boundaries of the area and the ratio of population to the number of FTE

¹⁰ *Id.* at p. 1.

¹¹ Dep't of Health & Human Servs., Health Res. & Servs. Admin., "About HRSA," *available at* <http://www.hrsa.gov/about/index.html>.

¹² *Id.*

¹³ Dep't of Health & Human Servs., Health Res. & Servs. Admin., Bureau of Health Professions, "Physician Supply and Demand: Projections to 2020," Oct. 2006, *available at* <http://bhpr.hrsa.gov/healthworkforce/supplydemand/medicine/physician2020projections.pdf>, at p. 8.

¹⁴ *Id.*

¹⁵ Dep't of Health & Human Servs., Health Res. & Servs. Admin., "Health Professional Shortage Areas (HPSAs)," *available at* <http://bhpr.hrsa.gov/shortage/hpsas/designationcriteria/index.html>.

¹⁶ *Id.*

¹⁷ Dep't of Health & Human Servs., Health Res. & Servs. Admin., "Primary Medical Care HPSA Designation Overview," *available at* <http://bhpr.hrsa.gov/shortage/hpsas/designationcriteria/primarycarehpsaoverview.html>.

¹⁸ *Supra* note 15.

physicians in the area.¹⁹ Over-utilization, excessive distance, or inaccessibility of primary care professionals are also relevant factors.²⁰

A primary care HPSA designation may be applied to a population group that meets specific criteria regarding the geographic distribution of the population group, barriers that prevent the population group from using an area's primary care providers, and the ratio of population group members to the number of FTE physicians.²¹

A primary care HPSA designation may be applied to a facility that meets specific criteria regarding the type of facility, the number of individuals served, and the ratio of individuals served to the number of FTE physicians.²² Typically, facilities must be federal or state correctional institutions, or public or non-profit medical facilities.²³

Like primary care HPSA designations, mental health HPSA designations can be applied to geographic areas, population groups, or facilities.²⁴ Mental health HPSA criteria are similar to primary care HPSA criteria, although specific ratios vary, and psychiatrists replace primary care physicians as the relevant health care providers.²⁵ In addition, mental health hospitals and public or non-profit mental health facilities are added to the list of eligible facilities.²⁶

As of January 1, 2015, there were 6,066 primary care HPSAs and 4,044 mental health HPSAs nationwide.²⁷ There were 155 primary care HPSAs and 118 mental health HPSAs in Pennsylvania.²⁸ The following maps show the primary care and mental health HPSAs in Pennsylvania; the maps show designated geographic areas only, not facilities.

¹⁹ *Supra* note 17.

²⁰ *Id.*

²¹ *Id.*

²² *Id.*

²³ *Id.*

²⁴ Dep't of Health & Human Servs., Health Res. & Servs. Admin., "Mental Health HPSA Designation Overview," available at <http://bhpr.hrsa.gov/shortage/hpsas/designationcriteria/mentalhealthhpsaoverview.html>.

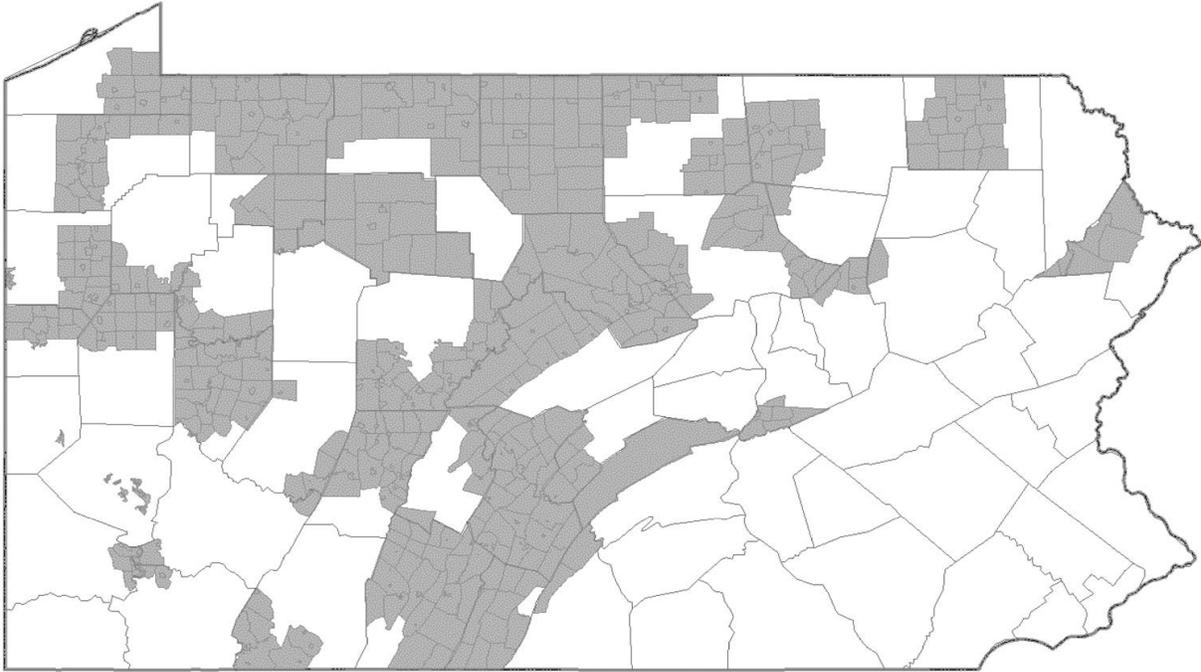
²⁵ *Id.*

²⁶ *Id.*

²⁷ Dep't of Health & Human Servs., Health Res. & Servs. Admin., Bureau of Clinician Recruitment & Serv., "Designated Health Professional Shortage Areas Statistics: As of January 1, 2015," Mar. 9, 2015, available at http://datawarehouse.hrsa.gov/HGDWReports/RT_App.aspx?rpt=HH, at p. 3.

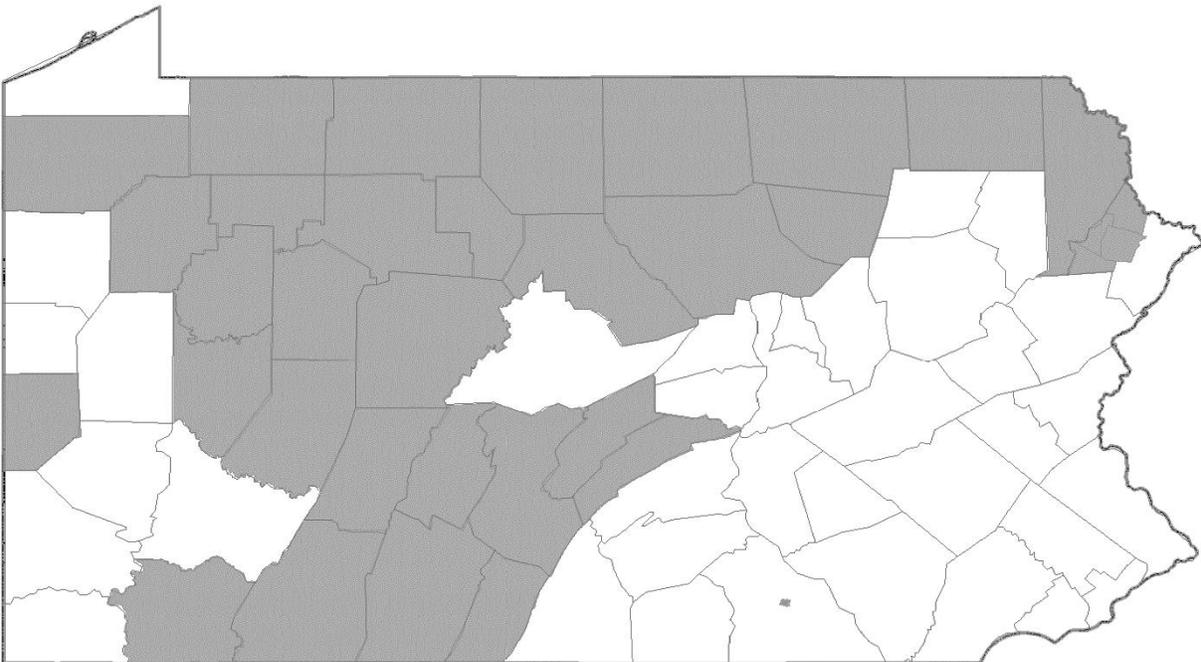
²⁸ *Id.* at pp. 5 & 14.

Primary Care HPSAs



Source: Dep't of Health & Human Servs., Health Res. & Servs. Admin., Data Warehouse, "Quick Maps," Mar. 18, 2015, available at <http://datawarehouse.hrsa.gov/Tools/MapToolQuick.aspx?mapName=HPSAPC>.

Mental Health HPSAs



Source: Dep't of Health & Human Servs., Health Res. & Servs. Admin., Data Warehouse, "Quick Maps," Mar. 18, 2015, available at <http://datawarehouse.hrsa.gov/Tools/MapToolQuick.aspx?mapName=HPSAMH>.

MUAs and MUPs

In addition to HPSA designations, HRSA applies the MUA or MUP designation to certain areas or populations that it finds to be medically underserved. HRSA uses four variables in order to determine if an area or population is underserved.²⁹ The variables considered are the ratio of primary care physicians per 1,000 people, the infant mortality rate, the percentage of the population with incomes below the poverty level, and the percentage of the population aged 65 or older.³⁰ The actual values of each of the four variables are converted to weighted values according to established criteria, and then the four weighted values are added to obtain the Index of Medical Underservice (IMU) score.

An area with an IMU score of 62.0 or lower qualifies for designation as an MUA.³¹ The definition of the area is critical.³² An area may be a whole county, groups of contiguous counties, or groups of minor civil divisions or census tracts.³³ Factors relevant in determining the area include travel time between population centers, neighborhoods with homogeneous socioeconomic and demographic characteristics, market patterns, or the composition of the area's population.³⁴

A population with an IMU score of 62.0 or lower qualifies for designation as an MUP.³⁵ Populations are candidates for designation if they face economic barriers, such as low income or Medicaid eligibility, or cultural or linguistic barriers to primary medical care.³⁶ The MUP designation uses the same IMU variables, but the area population is limited to only the members of the candidate population rather than the total population, and the number of FTE primary care physicians includes only the physicians serving the candidate population.³⁷

If a candidate population's IMU is not 62.0 or lower, it can still qualify for designation if there are unusual local conditions that act as barriers to access or that affect the availability of health services.³⁸ The local conditions must be documented, and the designation must be recommended by the Governor and the local officials where the candidate population resides.³⁹

As of March 9, 2015, there were 3,573 MUAs and 400 MUPs nationwide, and 142 MUAs and 12 MUPs in Pennsylvania.⁴⁰ The following map shows the MUAs and MUPs in Pennsylvania.

²⁹ Dep't of Health & Human Servs., Health Res. & Servs. Admin., "Medically Underserved Areas/Populations," June 1995, *available at* <http://www.hrsa.gov/shortage/mua/index.html>.

³⁰ *Id.*

³¹ *Id.*

³² *Id.*

³³ *Id.*

³⁴ *Id.*

³⁵ *Id.*

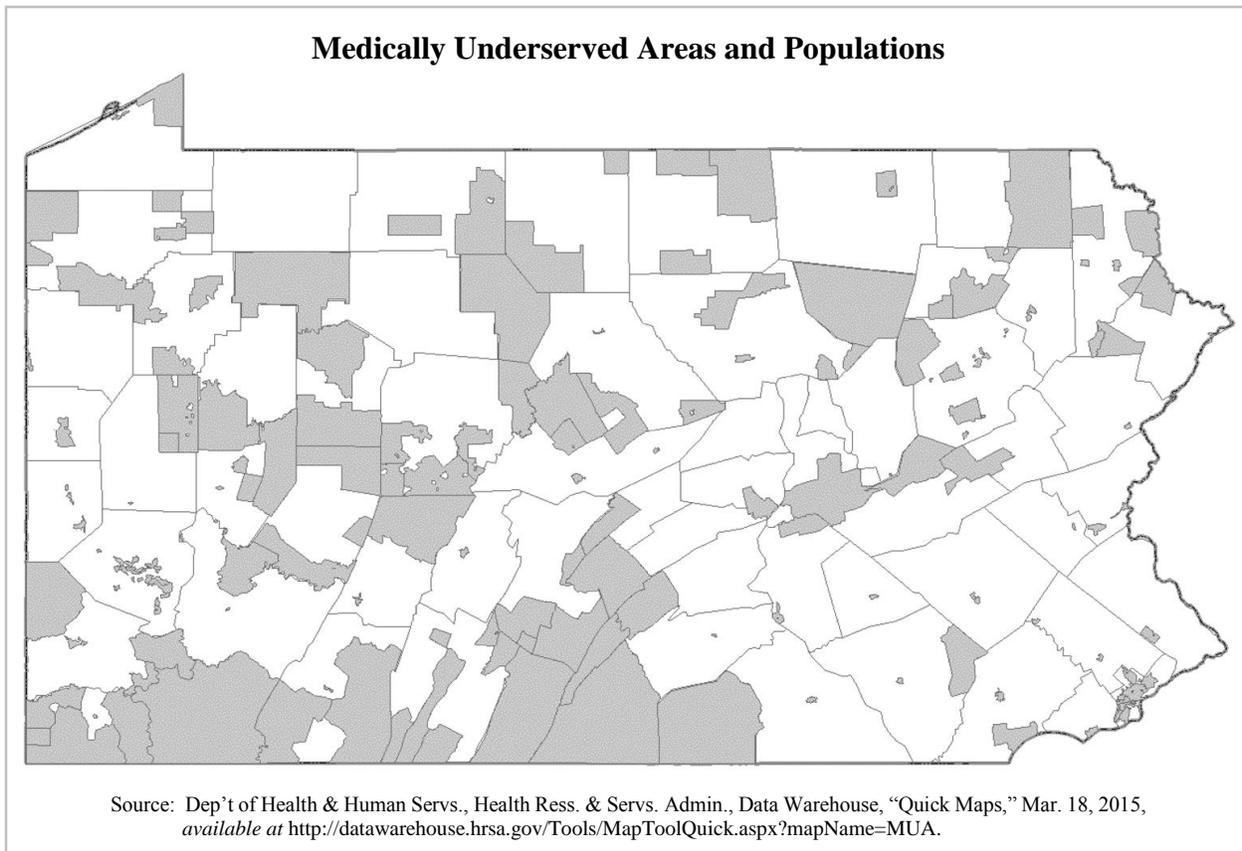
³⁶ *Id.*

³⁷ *Id.*

³⁸ *Id.*

³⁹ *Id.*

⁴⁰ Dep't of Health & Human Servs., Health Res. & Servs. Admin., "Medically Underserved Areas/Populations (MUA/P): State Summary of Designated MUA/P," Mar. 9, 2015, *available at* http://datawarehouse.hrsa.gov/HGDWReports/RT_App.aspx?rpt=MU, at p. 1.



Health Care Accessibility

Aside from HPSA, MUP, and MUA designations, Medicaid and Medicare acceptance and safety net services availability can be used to measure health care access. In Pennsylvania, 85 percent of physicians practicing direct patient care accept Medicaid, while 90 percent accept Medicare.⁴¹ In rural counties, as defined by the Center for Rural Pennsylvania,⁴² 92 percent of physicians practicing direct patient care accept Medicaid and 94 percent accept Medicare, whereas only 83 percent accept Medicaid and 90 percent accept Medicare in urban counties.⁴³ The acceptance rate also varies between primary care subspecialties, as indicated in the following table.⁴⁴

⁴¹ *Supra* note 4, at p. 18.

⁴² The Center for Rural Pennsylvania's definitions of rural and urban are based on population density, which is calculated by dividing the total population of an area by the total number of square land miles of that area. According to the 2010 Census, the population of Pennsylvania is 12,702,379 and the number of square miles of land in Pennsylvania is 44,743. Therefore, the population density is 284 persons per square mile. A county is rural when the number of persons per square mile within the county is less than 284, and counties that have 284 persons or more per square mile are considered urban. By this definition, Pennsylvania has 48 rural counties and 19 urban counties. In 2010, nearly 3.5 million residents, or 27 percent of the population, lived in a rural county. The Ctr. For Rural Pa., "Demographics: Rural Urban Definitions," available at http://www.rural.palegislature.us/demographics_rural_urban.html.

⁴³ *Supra* note 4, at p. 18.

⁴⁴ *Id.* at p. 19.

Specialty	Medicaid	Medicare
Family medicine	81%	96%
General practice	62	93
Internal medicine	81	96
Obstetrics and gynecology	82	96
Gynecology (only)	70	93
Pediatrics	90	31

Source: Pa. Dep't of Health, Bureau of Health Planning, "2012 Pulse of Pennsylvania's Physician and Physician Assistant Workforce," vol. 5, June 2014, at p. 19.

In 2012, 10 percent of noninstitutionalized Pennsylvanians were uninsured, with the highest uninsured rate among individuals aged 18 to 64.⁴⁵ Uninsured individuals may qualify for free or reduced-cost services at safety net facilities, such as free health clinics, Federally Qualified Health Centers (FQHCs), FQHC Look Alikes, and certified rural health clinics (RHCs).⁴⁶ Statewide, 8 percent of physicians practicing direct patient care provided services at safety net facilities, while 10 percent of physicians in rural counties and 7 percent in urban counties provided services at safety net facilities.⁴⁷ Furthermore, 12 percent of physicians practicing direct patient care in Pennsylvania volunteered their services, and the family medicine specialty group had the highest level of volunteerism at 19 percent.⁴⁸

Physician Workforce Statistics

According to the AAMC, there are 817,850 active physicians in the United States, which equates to 260.5 active physicians per 100,000 people.⁴⁹ Of those active physicians, 708,170, or 225.6 per 100,000, are engaged in patient care.⁵⁰ Of those active physicians engaged in patient care, 253,205, or 80.7 per 100,000, are engaged in primary care.⁵¹

In Pennsylvania, there are 38,565 active physicians, or 302.1 per 100,000 people.⁵² Of those active physicians, 32,294, or 253 per 100,000, are engaged in patient care.⁵³ Of those active physicians engaged in patient care, 10,916, or 85.5 per 100,000, are engaged in primary care.⁵⁴

⁴⁵ *Id.* at p. 21.

⁴⁶ *Id.*

⁴⁷ *Id.*

⁴⁸ *Id.*

⁴⁹ *Supra* note 9, at p. 9.

⁵⁰ *Id.* at p. 11.

⁵¹ *Id.* at p. 15.

⁵² *Id.* at p. 9.

⁵³ *Id.* at p. 11.

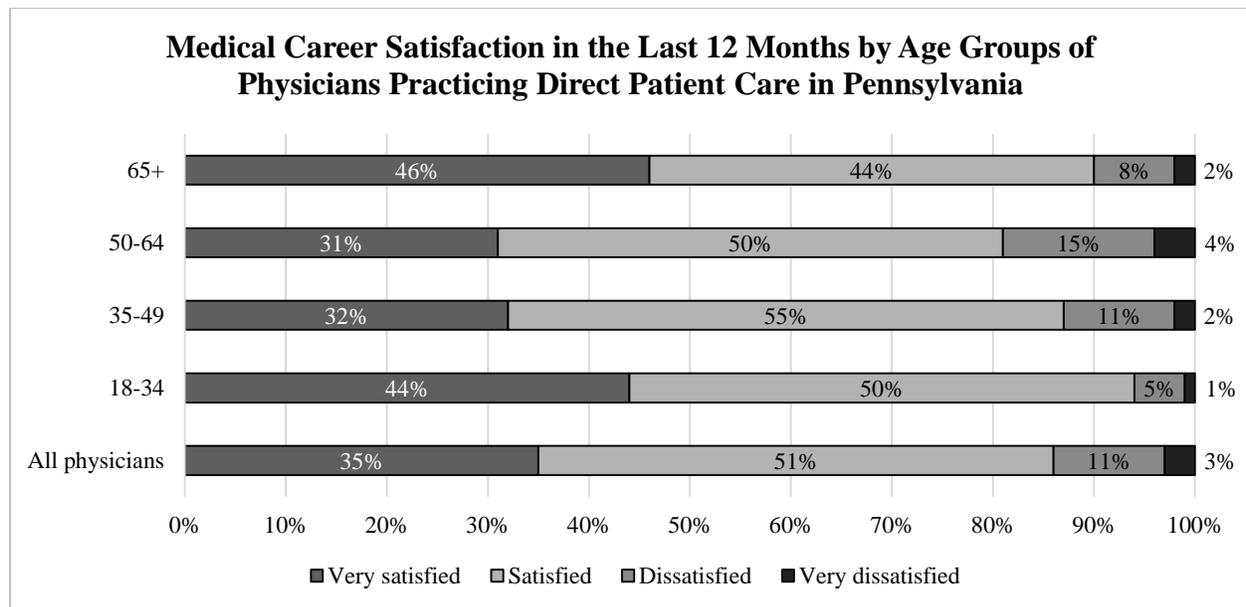
⁵⁴ *Id.* at p. 15.

Based on these figures, Pennsylvania ranks 8th in the number of active physicians, 10th in the number of patient care physicians, and 18th in the number of primary care physicians.⁵⁵

Physicians Leaving the Workforce

Physician demographics, and particularly physician age, are important factors to consider because physician age correlates with both the probability of retirement and the number of hours worked.⁵⁶ A growing proportion of physicians are nearing retirement age.⁵⁷ Nationally, 27.6 percent of active physicians are age 60 or older.⁵⁸ For all specialties, 42.6 percent are age 55 or older, and for family medicine/general practice, 43 percent are age 55 or older.⁵⁹ In Pennsylvania, 27.3 percent of active physicians are age 60 or older, for which Pennsylvania is ranked 21st, and 51 percent of practicing physicians in Pennsylvania are age 50 or older.⁶⁰

The Bureau of Health Planning collects professional satisfaction data in addition to general workforce data. These data help provide a better understanding of the possible reasons that physicians leave the workforce. The following figures convey the results of the Bureau of Health Planning’s surveys.⁶¹



Source: Pa. Dep’t of Health, Bureau of Health Planning, “2012 Pulse of Pennsylvania’s Physician and Physician Assistant Workforce,” vol. 5, June 2014, at p. 25.

⁵⁵ *Id.* at pp. 9, 11, & 15.

⁵⁶ *Supra* note 13, at p. 5; *see also* 2014 House Resolution No. 735.

⁵⁷ *Supra* note 13, at p. 5.

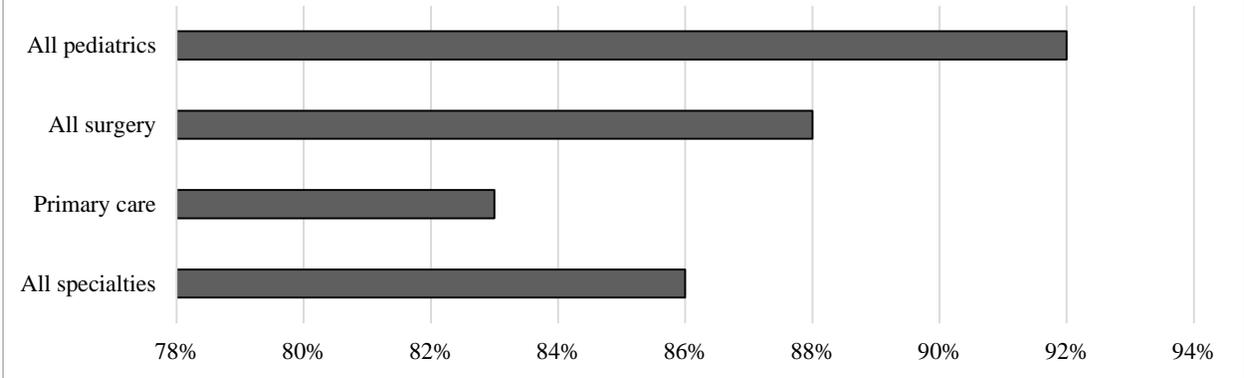
⁵⁸ *Supra* note 9, at p. 21.

⁵⁹ Ass’n of Am. Med. Colls., “2014 Physician Specialty Data Book,” Nov. 2014, *available at* https://members.aamc.org/eweb/upload/14-086%20Specialty%20Databook%202014_711.pdf, at p. 14.

⁶⁰ *Supra* note 9, at p. 21; *Supra* note 4, at p. 6.

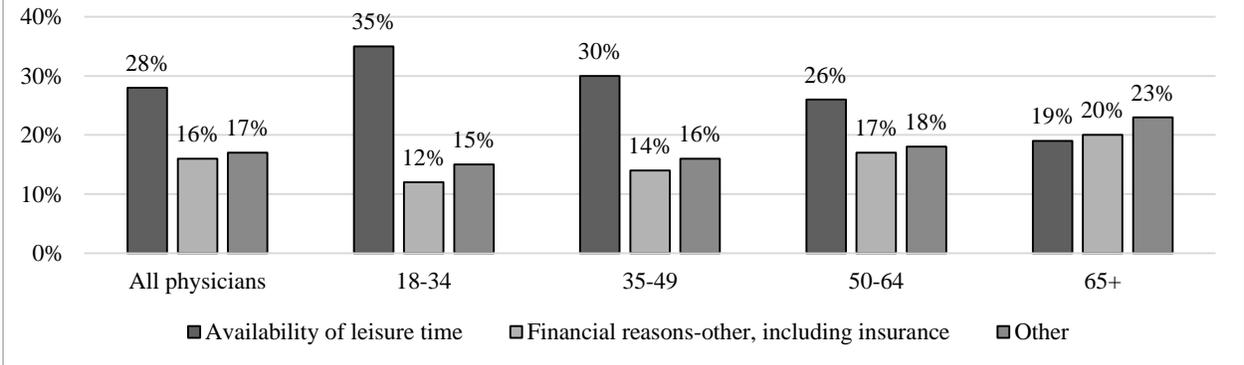
⁶¹ *Supra* note 4, at pp. 25-29.

Physicians Practicing Direct Patient Care in Pennsylvania Who Reported Being Satisfied or Very Satisfied with Their Medical Career in the Past 12 Months by Primary Specialty



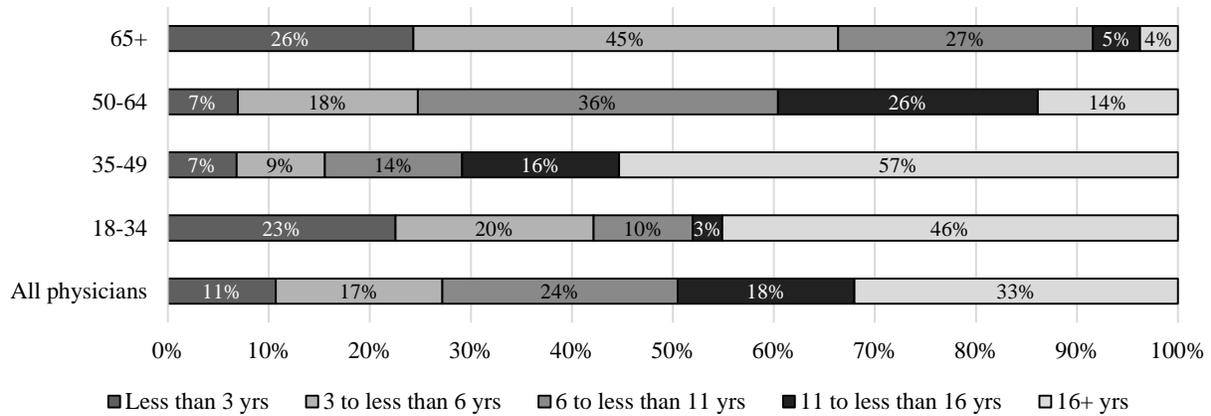
Source: Pa. Dep't of Health, Bureau of Health Planning, "2012 Pulse of Pennsylvania's Physician and Physician Assistant Workforce," vol. 5, June 2014, at p. 25.

Three Most Reported Greatest Sources of Professional Dissatisfaction of Physicians Practicing Direct Patient Care in Pennsylvania by Age Groups



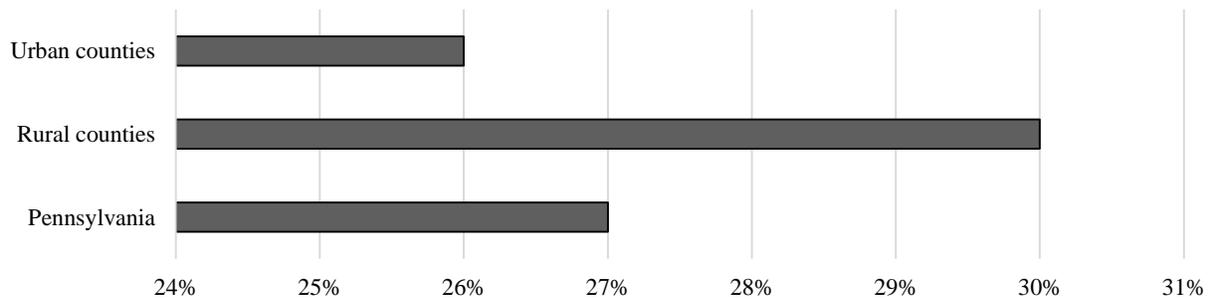
Source: Pa. Dep't of Health, Bureau of Health Planning, "2012 Pulse of Pennsylvania's Physician and Physician Assistant Workforce," vol. 5, June 2014, at p. 27.

Length of Time Physicians Anticipated Continuing to Practice Direct Patient Care in Pennsylvania by Age Groups



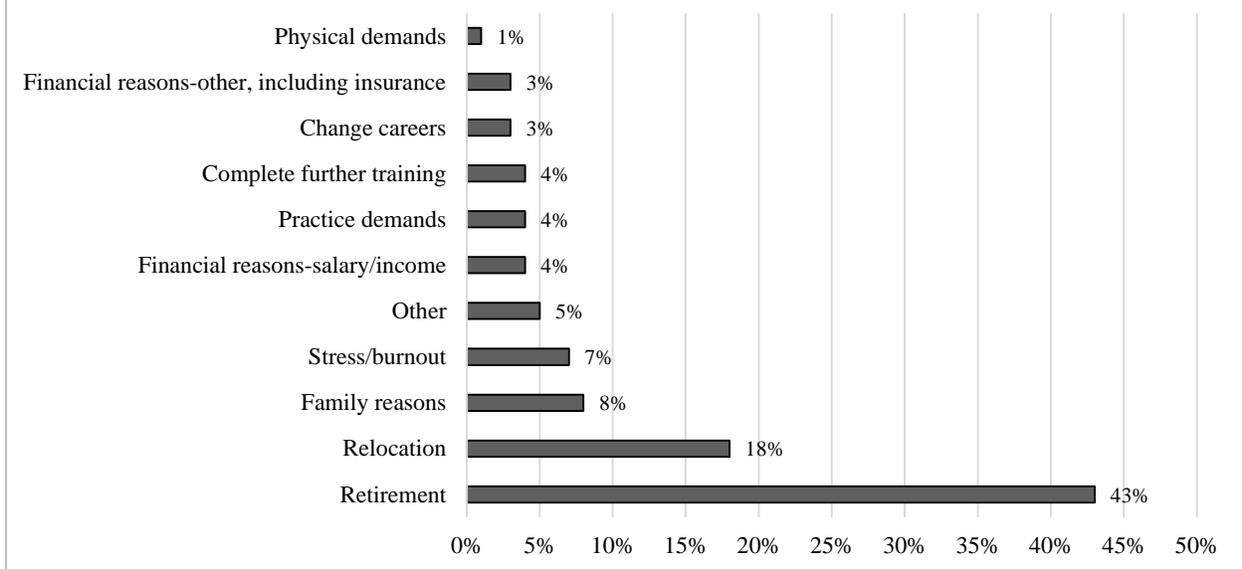
Source: Pa. Dep't of Health, Bureau of Health Planning, "2012 Pulse of Pennsylvania's Physician and Physician Assistant Workforce," vol. 5, June 2014, at p. 28.

Physicians Who Anticipated Leaving Direct Patient Care in Pennsylvania in Less than Six Years by Rural and Urban Counties



Source: Pa. Dep't of Health, Bureau of Health Planning, "2012 Pulse of Pennsylvania's Physician and Physician Assistant Workforce," vol. 5, June 2014, at p. 29.

Physicians Who Anticipated Leaving Direct Patient Care in Pennsylvania in Less than Six Years by Reason for Leaving



Source: Pa. Dep’t of Health, Bureau of Health Planning, “2012 Pulse of Pennsylvania’s Physician and Physician Assistant Workforce,” vol. 5, June 2014, at p. 29.

Physicians Entering the Workforce

The number of medical students, the location of the schools they attend, the number of residents, and retention rates are also important factors to consider in the physician shortage discussion, because they represent the opposite end of the physician career path. As older physicians leave the workforce, newly-trained physicians take their place. Furthermore, the locations of students’ medical educations and residencies correlate with their future practice locations.

Nationally, there were 102,498 medical students in academic year 2012-2013, or 32.7 per 100,000 people.⁶² From 2002 to 2012, the US population increased by 9.1 percent,⁶³ while the number of medical students increased by 27.8 percent.⁶⁴ In Pennsylvania, there were 7,949 medical students in academic year 2012-2013, or 62.3 per 100,000 people, placing Pennsylvania in the rank of 4th.⁶⁵ From 2002 to 2012, the Commonwealth’s population increased by 3.6

⁶² *Supra* note 9, at p. 25.

⁶³ Dep’t of Commerce, US Census Bureau, “Monthly Population Estimates for the United States: April 1, 2000 to December 1, 2010,” available at <https://www.census.gov/popest/data/state/totals/2009/tables/NA-EST2009-01.xls>; Dep’t of Commerce, US Census Bureau, “Monthly Population Estimates for the United States: April 1, 2010 to December 1, 2015,” available at <http://factfinder.census.gov/bkmk/table/1.0/en/PEP/2014/PEPMONTHN>.

⁶⁴ *Supra* note 9, at p. 29.

⁶⁵ *Id.* at p. 25.

percent,⁶⁶ and the number of medical students increased by 24.4 percent, placing Pennsylvania in the rank of 18th.⁶⁷

Students who matriculated into a medical school in their legal state of residence represented 61.3 percent of the first-year students nationally.⁶⁸ Students whose legal state of residence was Pennsylvania and who matriculated to a medical school in Pennsylvania represented 64.4 percent of the first-year students in the Commonwealth, placing Pennsylvania in the rank of 28th.⁶⁹

As of December 31, 2011, there were 114,048 residents and fellows in accredited programs nationwide, or 36.6 per 100,000 people.⁷⁰ From 2001 to 2011, the US population increased by 9.3 percent,⁷¹ while the number of residents and fellows in accredited programs increased by 16.3 percent.⁷²

As of December 31, 2011, there were 7,661 residents and fellows in accredited programs in Pennsylvania, or 60.1 per 100,000 people, placing Pennsylvania in the rank of 5th.⁷³ From 2001 to 2011, the Commonwealth's population increased by 3.6 percent,⁷⁴ while the number of residents and fellows in accredited programs increased by 15.6 percent, placing Pennsylvania in the rank of 35th.⁷⁵

Approximately 38.7 percent of active physicians practice in the state in which they completed their medical education,⁷⁶ and 47.7 percent of active physicians practice in the state in which they completed their residency.⁷⁷ Impressively, 66.6 percent of active physicians who completed their medical educations and residencies in the same state practice in that state as well.⁷⁸

Approximately 33.4 percent of active physicians who graduated from a medical school in Pennsylvania practice in Pennsylvania,⁷⁹ 41.7 percent of active physicians who completed their residency in Pennsylvania practice in Pennsylvania,⁸⁰ and 58.1 percent of active physicians who completed their medical education and residency in Pennsylvania practice in Pennsylvania.⁸¹

⁶⁶ Dep't of Commerce, US Census Bureau, "Intercensal Estimates of the Resident Population for the United States, Regions, States, and Puerto Rico: April 1, 2000 to July 1, 2010," *available at* <http://www.census.gov/popest/data/intercensal/state/tables/ST-EST00INT-01.xls>; Dep't of Commerce, US Census Bureau, "Annual Estimates of the Resident Population for the United States, Regions, States, and Puerto Rico: April 1, 2010 to July 1, 2014," *available at* <http://www.census.gov/popest/data/state/totals/2014/tables/NST-EST2014-01.xls>.

⁶⁷ *Supra* note 9, at p. 29.

⁶⁸ *Id.* at p. 31.

⁶⁹ *Id.*

⁷⁰ *Id.* at p. 37.

⁷¹ *Supra* note 63.

⁷² *Supra* note 9, at p. 37.

⁷³ *Id.*

⁷⁴ *Supra* note 66.

⁷⁵ *Supra* note 9, at p. 37.

⁷⁶ *Id.* at p. 49.

⁷⁷ *Id.* at p. 53.

⁷⁸ *Id.* at p. 55.

⁷⁹ *Id.* at p. 49.

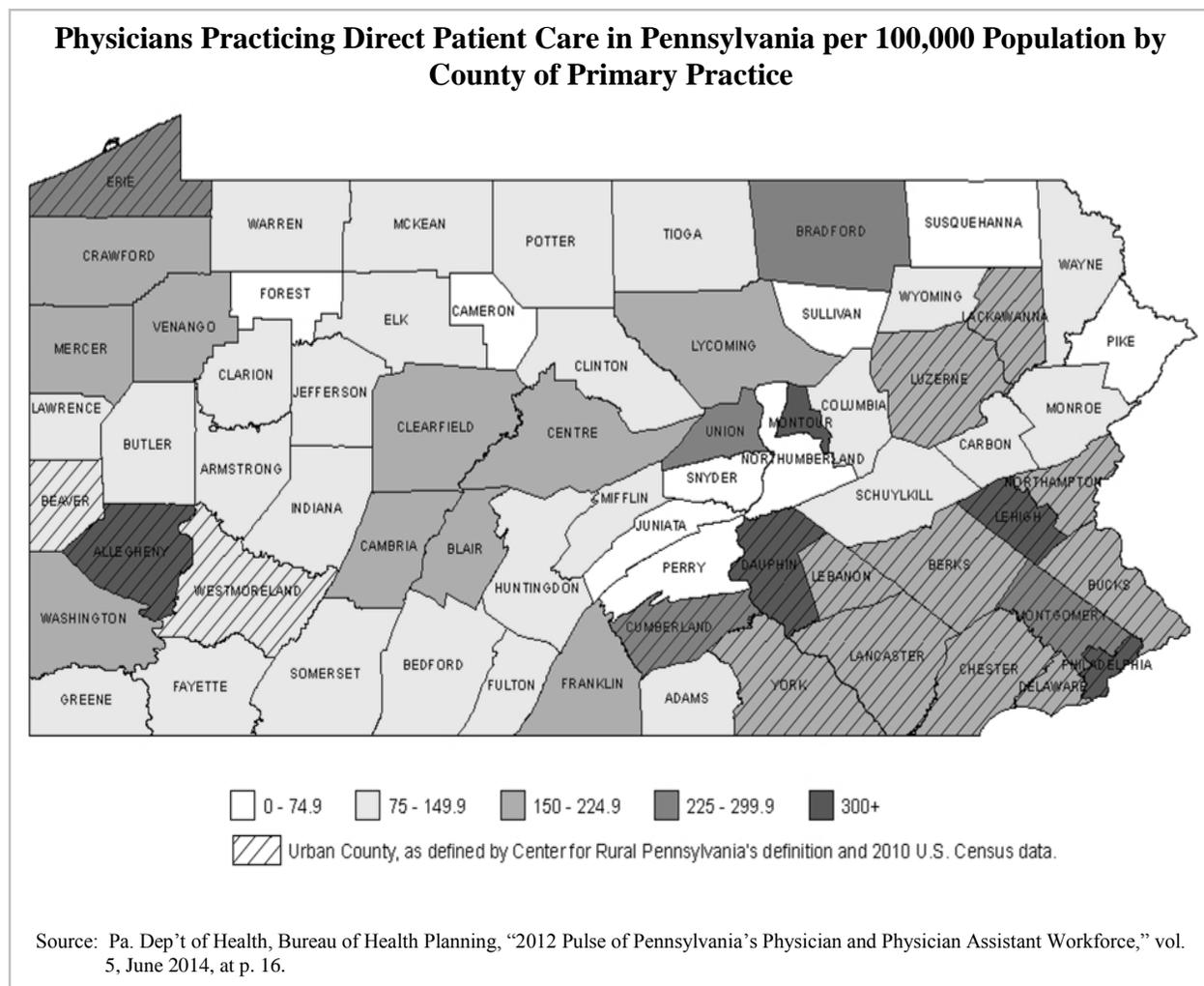
⁸⁰ *Id.* at p. 53.

⁸¹ *Id.* at p. 55.

These figures place Pennsylvania in the ranks of 32nd, 34th, and 37th, respectively.⁸² Based on these figures, it is clear that Pennsylvania’s retention rates are affected by the world-class medical training opportunities available in the Commonwealth because students are attracted to the medical schools and residency programs in Pennsylvania from across the country and around the globe.

Geographic Distribution

According to the report from the Bureau of Health Planning, 87 percent of Pennsylvanians live in urban counties, but 92 percent of physicians practice direct patient care in urban counties.⁸³ This statistic indicates a geographic maldistribution of physicians. The map below illustrates the geographic distribution of physicians in Pennsylvania.⁸⁴



⁸² *Id.* at pp. 49, 53, & 55.

⁸³ *Supra* note 4, at p. 16.

⁸⁴ *Id.*

Workforce Models

To better understand the physician workforce and to produce accurate projections of physician supply and requirements, HRSA developed the Physician Supply Model (PSM) and the Physician Requirements Model (PRM).⁸⁵ HRSA uses the PSM and PRM to produce national projections of the physician supply through 2020.⁸⁶

The PSM is an inventory model that tracks the supply of physicians by age, sex, country of medical education, type of degree, medical specialty, and primary activity (such as patient care or non-patient care).⁸⁷ The PSM projects the future supply of physicians based on the number of physicians in the preceding year, the number of new physicians, and attrition due to retirement, death, and disability.⁸⁸ The PSM bases specialty choice on the number of medical graduates entering different residency programs, historical trends of specialization as estimated through an analysis of the AMA Physician Masterfile, and data from the AAMC.⁸⁹ The PSM projects attrition by combining estimates of physician retirement rates with mortality rates for college-educated men and women in the United States.⁹⁰ The PSM also incorporates projected changes in average hours worked to account for physician productivity.⁹¹

The PRM estimates physician requirements based on utilization.⁹² The PRM projects requirements by taking into account current physician service use patterns and expected trends in demographics, insurance coverage, and patterns of care delivery.⁹³ Unfortunately, by relying on utilization to estimate demand, the PRM fails to account for unmet demand or overuse of services.

Growth and aging of the population are significant factors in the PRM projection. The US Census Bureau projects a rapid increase in the elderly population as the Baby Boom generation approaches age 65; by 2020, the population age 65 and older will have grown by 50 percent, compared to a growth of 9 percent for the population under 65.⁹⁴ This is significant because the elderly use physician services relatively more than the non-elderly do.⁹⁵

Insurance status and type are also important factors in the PRM projection. Insurance typically reduces the cost of obtaining physician services for individuals, and cost sharing and plan restrictiveness can affect access to certain specialties and practice settings.⁹⁶

⁸⁵ *Supra* note 13, at p. 2.

⁸⁶ *Id.* at p. 4.

⁸⁷ *Id.*

⁸⁸ *Id.*

⁸⁹ *Id.* at p. 6.

⁹⁰ *Id.* at pp. 6-7.

⁹¹ *Id.* at p. 8.

⁹² *Id.* at p. 18.

⁹³ *Id.*

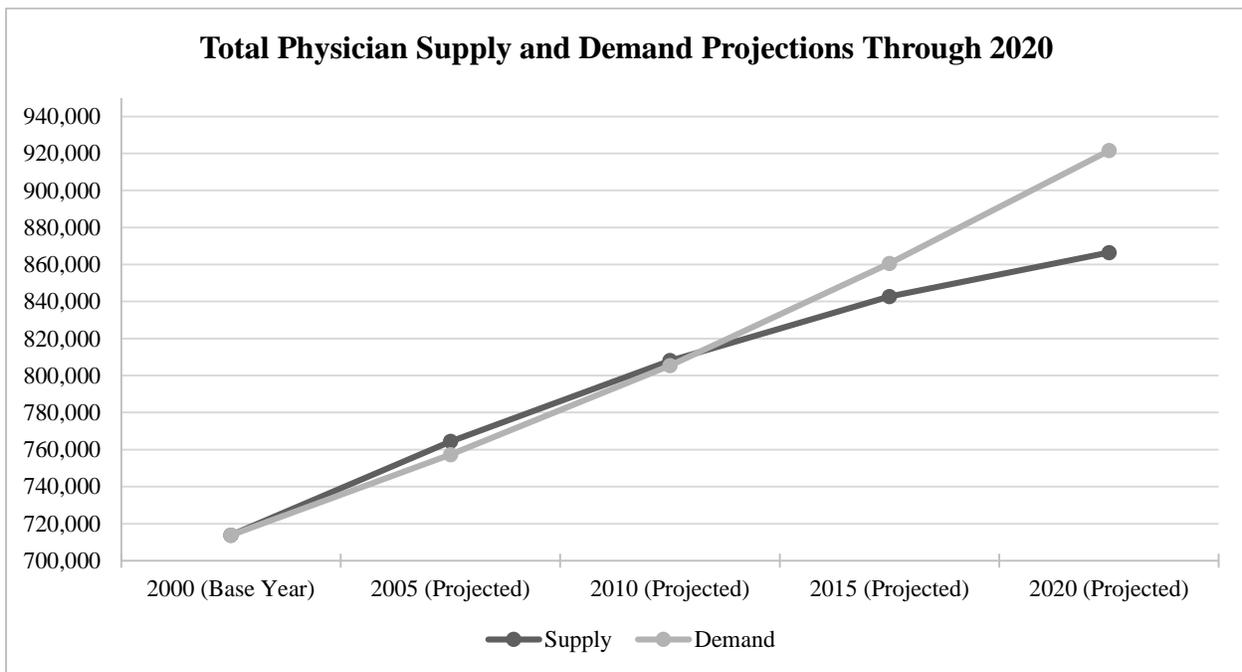
⁹⁴ *Id.* at p. 19.

⁹⁵ *Id.* at p. 20.

⁹⁶ *Id.*

HRSA acknowledges that additional economic factors, such as economic growth, may contribute to physician requirements.⁹⁷ It may be the case that with economic growth, health care “consumption” increases as individuals are better able to pay for services.⁹⁸ However, the effects of economic growth could be offset by increases in physician productivity or healthier lifestyles.⁹⁹ Other factors that could affect physician requirements include technological advancement and non-physician clinicians providing more care.

Using the PSM and PRM, and assuming the current demand and care delivery status quo continues, HRSA projects that the total supply of physicians, including residents, engaged in primary and non-primary patient care will increase 13 percent, from 713,800 to 866,400 physicians, between 2005 and 2020, while the requirement for physicians engaged in patient care will increase 22 percent, from 713,800 to 921,500 physicians, between 2005 and 2020.¹⁰⁰ This will result in a shortage of approximately 55,100 physicians.¹⁰¹ The following chart depicts the supply and demand through 2020, as projected by HRSA using the PSM and PRM.



Source: Dep’t of Health & Human Servs., Health Res. & Servs. Admin., Bureau of Health Professions, “Physician Supply and Demand: Projections to 2020,” Oct. 2006, available at <http://bhpr.hrsa.gov/healthworkforce/supplydemand/medicine/physician2020projections.pdf>, at pp. 15 & 25.

⁹⁷ *Id.* at p. 21.

⁹⁸ *Id.* at p. 22.

⁹⁹ *Id.*

¹⁰⁰ *Id.* at pp. 15 & 25.

¹⁰¹ *Id.*

HRSA also used the PSM and PRM to project physician requirements under alternative scenarios. One alternative scenario assumed a growing role of non-physician clinicians.¹⁰² Under that scenario, projected physician requirements by 2020 are 90,000 physicians less than the baseline projection.¹⁰³

In another scenario, HRSA assumed economic growth would result in an increased physician requirement by 2020 of 136,000 more physicians than the baseline projection.¹⁰⁴ Where HRSA assumed an increase in physician productivity, the projected physician requirement by 2020 was 137,000 physicians less than the baseline projection.¹⁰⁵ When the economic growth and increased physician productivity scenarios were combined, the projected physician requirement for 2020 fell by 20,000 from the baseline projection.¹⁰⁶

Additionally, HRSA calculated projections of the supply and demand of primary care physicians and non-primary care physicians through 2020.¹⁰⁷ Based on current utilization and delivery patterns, supply of primary care physicians is projected to grow by 8 percent, and demand for primary care physicians is projected to grow by 14 percent, resulting in a shortage of 20,400 primary care physicians by 2020.¹⁰⁸

If certified registered nurse practitioners and physician assistants are fully utilized, their rapidly growing numbers could reduce the physician shortage in 2020 to 6,400 FTE physicians.¹⁰⁹ However, this reduction assumes a reorganization of the primary care delivery model in which certified registered nurse practitioners and physician assistants deliver a greater proportion of the services than they do within the current care delivery model.¹¹⁰

Unfortunately, these national projections fail to convey the geographic variations in the physician supply.¹¹¹ HRSA notes that “[b]ecause the national supply of primary care physicians is growing at roughly the same rate as requirements, there will likely be little change in market pressures to improve the undersupply of primary care physicians in rural and other underserved communities.”¹¹² Furthermore, under the higher-demand alternative scenario, growth in demand for primary care physicians would exceed growth in supply.¹¹³

¹⁰² *Id.* at p. 27.

¹⁰³ *Id.*

¹⁰⁴ *Id.* at p. 28.

¹⁰⁵ *Id.*

¹⁰⁶ *Id.*

¹⁰⁷ Dep’t of Health & Human Servs., Health Res. & Servs. Admin., Bureau of Health Professions, Nat’l Ctr. for Health Workforce Analysis, “Projecting the Supply and Demand for Primary Care Practitioners Through 2020,” Nov. 2013, available at <http://bhpr.hrsa.gov/healthworkforce/supplydemand/usworkforce/primarycare/projectingprimarycare.pdf>, at p. 1.

¹⁰⁸ *Id.* at p. 2.

¹⁰⁹ *Supra* note 107, at p. 2.

¹¹⁰ *Id.* at p. 28

¹¹¹ *Supra* note 13, at p. 30; and *supra* note 107, at p. 3.

¹¹² *Supra* note 13, at p. 30.

¹¹³ *Id.*

At the state level, the Robert Graham Center projected the primary care physician workforce necessary to maintain Pennsylvania's current primary care utilization rates.¹¹⁴ The Robert Graham Center accounted for increased demand due to aging, population growth, and increasing insurance coverage.¹¹⁵ By 2030, Pennsylvania will require an additional 1,039 primary care physicians, which represents an increase of 11 percent over the current workforce, in order to maintain the status quo.¹¹⁶

The Specialty Workforce

A majority of the physician workforce data and analysis focuses on primary care. However, the specialty workforce is not immune to the issues faced by primary care. Between 2008 and 2013, while most specialties experienced growth in the number of active physicians, the specialties of anatomic/clinical pathology, general surgery, orthopedic surgery, preventive medicine, psychiatry, pulmonology, thoracic surgery, urology, and all experienced declines.¹¹⁷

In certain specialties, a majority of practitioners are age 55 or older.¹¹⁸ These specialties include allergy and immunology, anatomic/clinical pathology, cardiovascular surgery, neurology, orthopedic surgery, psychiatry, preventive medicine, pulmonology, and thoracic surgery.¹¹⁹

Between 2008 and 2013, the specialties of allergy and immunology, anatomic/clinical pathology, anesthesiology, family medicine/general practice, general surgery, infectious disease, internal medicine, internal medicine/pediatrics, neonatal-perinatal medicine, neurological surgery, obstetrics and gynecology, ophthalmology, otolaryngology, pediatrics, physical medicine and rehabilitation, preventive medicine, and radiology and diagnostic radiology all experienced declines in the number of residents and fellows in accredited programs.¹²⁰

There are several overlaps between the specialties with declining numbers, with a majority of practitioners approaching retirement, and with declining numbers of residents. This likely indicates worsening shortages in the future.

HRSA's national projections fail to convey projected inadequacies in certain specialties, such as cardiology, general surgery, pathology, ophthalmology, orthopedic surgery, other internal medicine subspecialties, otolaryngology, psychiatry, radiology, and urology, which will experience demand growing faster than supply.¹²¹

¹¹⁴ Robert Graham Ctr., "Pennsylvania: Projecting Primary Care Physician Workforce," Sept. 2013, *available at* http://www.graham-center.org/online/etc/medialib/graham/documents/tools-resources/penn-pdf.Par.0001.File.dat/Pennsylvania_final.pdf, at p. 1.

¹¹⁵ *Id.*

¹¹⁶ *Id.* at p. 2.

¹¹⁷ *Supra* note 59, at p. 23.

¹¹⁸ *Id.* at p. 13.

¹¹⁹ *Id.*

¹²⁰ *Id.* at p. 35.

¹²¹ *Supra* note 13, at p. 30; *see also* Dep't of Health & Human Servs., Health Res. & Servs. Admin., Bureau of Health Professions, Nat'l Ctr. for Health Workforce Analysis, "Projecting the Supply of Non-Primary Care Specialty and Subspecialty Clinicians: 2010-2025," *available at* <http://bhpr.hrsa.gov/healthworkforce/supplydemand/usworkforce/clinicalspecialties/clinicalspecialties.pdf>.

RECOMMENDATIONS

Over the course of the study conducted by JSGC pursuant to 2014 House Resolution No. 735, the Advisory Committee convened in person and via teleconference to discuss possible solutions to the physician shortage. As a result of these discussions, the Advisory Committee reached consensus on a number of recommendations, which are presented in this report. Relevant background information is also provided.

Recommendation 1: Improve physician workforce data collection and analysis

Many federal and state programs rely on the HRSA designations (HPSA, MUA, and MUP) to determine eligibility. Academic researchers often rely on HRSA designations and data from HRSA, the AMA, the AAMC, and the Bureau of Health Planning to study and discuss the matter of physician shortages. Therefore, these data sources are used in this report for the same reasons.

However, the HRSA designations are not complete measures of physician shortages. The AMA, the AAMC, and the Bureau of Health Planning rely on surveys, which are not always reliable methods of data collection. HRSA's projections are just that, projections based on models. Although these data sources are not perfect, they are the best tools available to measure and address physician shortages.

2014 House Resolution No. 735 specifically requested that the resulting report include a "comprehensive analysis of physician shortage and its impacts by region and specialty..."¹²⁵ However, data collection, academic research, and governmental support programs overwhelmingly focus on primary care rather than specialties. Furthermore, while the Bureau of Health Planning and others collect data on physicians in the workforce (*i.e.* the supply), analysis of the workforce demands is lacking, as is information about physician specialties.

To address these issues, the Advisory Committee recommends that an entity be established, either as an independent body or within an appropriate department or agency, to collect and analyze additional data. Data collection and analysis undertaken by this entity should be coordinated with existing data collection and analysis efforts.

¹²⁵ 2014 House Resolution No. 735.

Data to be collected and analyzed should include the following:

- The physician workforce, including the number of physicians, the geographic distribution, and the specialty distribution of physicians in the Commonwealth.
- The current and future demand for physicians, using both existing and proposed models of health care delivery.
- The demographics of the physician workforce, as well as of the populations served.
- The retention of trainees as they move through the pipeline, from kindergarten through residency training, by specialty, geographic location, practice setting, and the demographics of the populations they serve.
- Workforce programs in the Commonwealth, including their funding and their impacts on the physician workforce.

With this enhanced data, future recommendations can be made to enhance Pennsylvania's physician workforce and health care system in general.

Recommendation 2: Establish a state pipeline program to prepare students for medical careers

Growing the physician workforce is a slow process that can take more than twenty years. An average student attends primary and secondary school, earns a baccalaureate degree, earns a doctorate in allopathic or osteopathic medicine, and then completes several years of residency training, and possibly fellowship training as well. To enter medical school, students must be well prepared at the primary and secondary school levels, as well as the baccalaureate level. Unfortunately, many students are unprepared for careers in medicine. In particular, students from rural areas and racial/ethnic minority and disadvantaged students are more likely to be unprepared, and are therefore underrepresented in the medical profession.¹²⁶

To address physician shortages and underrepresentation issues, efforts have been made across the country to better prepare students. Pipeline programs, which target students early in their educational careers and support their progress towards becoming physicians, are one example. Pipeline programs come in many forms: some provide outreach to students in elementary schools, some are high schools dedicated to science education, and others focus on baccalaureate students preparing for medical school admissions. Research has shown that pipeline

¹²⁶ Nat'l Rural Health Ass'n, "Recruitment and Retention of a Quality Health Workforce in Rural Areas: A Series of Policy Papers on the Rural Health Careers Pipeline - Number 7: Rural Health Careers Pipeline: Kindergarten to 12th Grade Education," Feb. 2006, *available at* <http://www.ruralhealthweb.org/index.cfm?objectid=4078F53F-1185-6B66-88859D221D0B1406>.

programs “are associated with positive outcomes for racial/ethnic minority and disadvantaged students on several meaningful metrics, including academic performance and the likelihood of enrolling in a health professions school.”¹²⁷

In addition to increasing the number of qualified medical school applicants, pipeline programs can help address health care disparities based on geography, race, and socioeconomic status. For example, students from rural areas are more likely to practice in rural areas, and minority students are more likely to practice in underserved areas.¹²⁸

Therefore, the Advisory Committee recommends that Pennsylvania implement a pipeline program. To do this, the state should offer grants to encourage schools to establish medical profession tracks or programs, similar to existing arts programs and other “magnet school” programs. These tracks or programs may be located at existing schools, or at separate facilities, but the intent of grants would be to enhance the existing educational systems rather than establish new ones. The grants should be available to schools or communities with demonstrated health care, academic, or financial needs, such as schools in rural or low-income areas, or with high minority populations, as opposed to schools that already have the resources to implement such programs.

The Advisory Committee recommends that the programs be targeted at the upper grade levels, such as grades nine through twelve. The programs should have rigorous and selective admissions processes to ensure participants go on to practice medicine in Pennsylvania, and the programs may include a financial or service obligation on the part of the participants to encourage program completion and service in Pennsylvania.

The Advisory Committee recommends that the programs should focus on primary care, which the Advisory Committee defines as family medicine, general internal medicine, pediatrics, geriatrics, obstetrics/gynecology, and psychiatry.¹²⁹ The Advisory Committee also recommends that the programs should encourage family involvement.

The Advisory Committee recommends that program effectiveness should be monitored. Although the desired outcomes of increasing the physician supply and increasing physician diversity may take many years to achieve, incremental outcome and process evaluations should be utilized to ensure effectiveness. Incremental outcome measures may include participant test scores and course grades, program completion rates, baccalaureate matriculation and completion rates, and medical school matriculation and completion rates.

¹²⁷ Dep’t of Health & Human Servs., Health Res. & Servs. Admin., Bureau of Health Professions & Dep’t of Health & Human Servs., Office of Pub. Health & Sci., Office of Minority Health, “Pipeline Programs to Improve Racial and Ethnic Diversity in the Health Professions: An Inventory of Federal Programs, Assessment of Evaluation Approaches, and Critical Review of the Research Literature,” April 2009, at p. iii.

¹²⁸ *Supra* note 124; Obed Figueroa, MA, “The Significance of Recruiting Underrepresented Minorities in Medicine: An Examination of the Need for Effective Approaches Used in Admissions by Higher Education Institutions,” Med. Educ. Online, Sept. 4, 2014, available at <http://med-ed-online.net/index.php/meo/article/view/24891>.

¹²⁹ This definition is based on the Pennsylvania Primary Care Loan Repayment Program’s definition of “primary care.”

Process evaluations could include the programs' costs, the number of participants, the demographics of the participants, whether the participants are representative of target populations, reviews of the programs' curricula, and participant satisfaction. While "evaluations of health professions pipeline programs based solely on process measures have somewhat limited utility given the lack of a more robust base of evidence on the efficacy of specific processes and interventions to increase racial/ethnic minority participation in the health professions," process evaluations can provide accountability in the use of public funds.¹³⁰

Finally, the Advisory Committee recommends that the grants and the program evaluations be administered by an appropriate state agency or department. This will ensure fairness and uniformity, and will allow the grant award criteria to remain dynamic and responsive to the evolving health care market and workforce.

Recommendation 3: Encourage medical schools to implement programs aimed at increasing Pennsylvania's physician supply

According to the AAMC, the population of Pennsylvania during the 2012-2013 academic year was 12,763,536, and the number of students enrolled in Pennsylvania's medical schools was 7,949.¹³¹ Therefore, there were 62.3 medical students per 100,000 people, ranking Pennsylvania 4th in the nation.¹³² Furthermore, 47.7 percent of active physicians who graduated from medical school in Pennsylvania practiced in Pennsylvania.¹³³ This percentage of active physicians retained from medical school placed Pennsylvania 11th in the nation and above the national average of 38.7 percent.¹³⁴ However, a higher retention rate would increase the physician supply and could therefore help ease the physician shortage and maldistribution.

Several approaches exist to address retention rate. Studies have found a link between a medical student's background and the career path she takes, including the location where she chooses to practice.¹³⁵ For example, the Physician Shortage Area Program (PSAP) at the Sidney Kimmel Medical School at Thomas Jefferson University "is an admissions and educational program designed to increase the supply and retention of physicians in rural areas and small towns, especially in Pennsylvania and Delaware."¹³⁶ PSAP recruits students who grew up or spent a

¹³⁰ *Supra* note 124, at ch. 3, p. 4.

¹³¹ *Supra* note 9, at p. 25.

¹³² *Id.*

¹³³ *Id.* at p. 49; *see also supra* note 4, at p. 7.

¹³⁴ *Supra* note 9, at p. 49.

¹³⁵ Howard K. Rabinowitz, MD; James J. Diamond, PhD; Fred W. Markham, MD; & Nina P. Paynter, BS, "Critical Factors for Designing Programs to Increase the Supply and Retention of Rural Primary Care Physicians," *JAMA*, Sept. 5, 2001, *available at* <http://jama.jamanetwork.com/article.aspx?articleid=194154>; Howard K. Rabinowitz, MD; James J. Diamond, PhD; Fred W. Markham, MD; & Abbie J. Santana, MSPH, "The Relationship Between Entering Medical Students' Backgrounds and Career Plans and Their Rural Practice Outcomes Three Decades Later," *Academic Med.*, April 2012, *available at* http://journals.lww.com/academicmedicine/Fulltext/2012/04000/The_Relationship_Between_Entering_Medical.22.aspx.

¹³⁶ Thomas Jefferson Univ., Sidney Kimmel Med. Coll., "Physician Shortage Area Program," 2015, *available at* <http://www.jefferson.edu/university/jmc/psap.html>.

substantial portion of their life in a rural area or small town, and who intend to practice medicine in a rural area or small town.¹³⁷ In addition, priority is given to those planning to practice family medicine.¹³⁸ Students in the program are provided with faculty advisors in the Department of Family Medicine and receive a small amount of financial aid.¹³⁹ Students in the program complete their clerkships and internships in rural or small town locations, and after graduation, complete residencies in rural or small town locations as well.¹⁴⁰

Research conducted by PSAP administrators has found that growing up in rural areas, planning to practice in rural places at matriculation, and planning to practice family medicine at matriculation were predictive of rural practice outcomes.¹⁴¹ PSAP has used these findings to guide its policies, resulting in a retention rate of 79 percent after 11-16 years in practice.¹⁴² Another study of rural medical education programs that combined data from PSAP, the University of Minnesota Medical School Duluth, and the Rural Medical Education Program at the University of Illinois College of Medicine at Rockford, found that 63.1 percent of program graduates were practicing in a rural area, and 61.6 percent were practicing in their state of graduation.¹⁴³

While PSAP is clearly successful, a program like it may not work at every medical school, or may not fit within every medical school's mission. However, the Advisory Committee would like to encourage the medical schools in Pennsylvania to do more to address the physician shortage. To that end, the Advisory Committee recommends providing the medical schools with funding to implement, continue, or expand a program like PSAP, or another program aimed at increasing the physician supply.

The Advisory Committee initially considered adjusting the current state funding of medical schools to encourage such programs, but this method was ultimately abandoned due to the complexities of the current medical school funding model. Historically, medical schools received direct appropriations from the state. Between fiscal year 2006 and fiscal year 2010, direct appropriations were phased out. Instead, funds were appropriated to the Department of Public Welfare (now called the Department of Human Services) for "Academic Medical Centers," and

¹³⁷ *Id.*

¹³⁸ *Id.*

¹³⁹ Howard K. Rabinowitz, MD; James J. Diamond, PhD; Fred W. Markham, MD; & Nina P. Paynter, BS, "Critical Factors for Designing Programs to Increase the Supply and Retention of Rural Primary Care Physicians," *JAMA*, Sept. 5, 2001, *available at* <http://jama.jamanetwork.com/article.aspx?articleid=194154>.

¹⁴⁰ *Id.*

¹⁴¹ Howard K. Rabinowitz, MD; James J. Diamond, PhD; Fred W. Markham, MD; & Abbie J. Santana, MSPH, "The Relationship Between Entering Medical Students' Backgrounds and Career Plans and Their Rural Practice Outcomes Three Decades Later," *Academic Med.*, April 2012, *available at* http://journals.lww.com/academicmedicine/Fulltext/2012/04000/The_Relationship_Between_Entering_Medical.2.2.aspx, at p. 494.

¹⁴² *Supra* note 133.

¹⁴³ Howard K. Rabinowitz, MD; Stephen Petterson, PhD; James G. Boulger, PhD; Matthew L. Hunsaker, MD; James J. Diamond, PhD; Fred W. Markham, MD; Andrew Bazemore, MD, MPH; & Robert L. Phillips, MD, MSPH, "Medical School Rural Programs: A Comparison With International Medical Graduates in Addressing State-Level Rural Family Physician and Primary Care Supply," *Academic Med.*, April 2012, *available at* http://journals.lww.com/academicmedicine/Fulltext/2012/04000/Medical_School_Rural_Programs___A_Comparison_With.21.aspx, at p. 489.

eventually “Physician Practice Plans” as well. These funds were matched by federal funds and distributed to the medical schools. This has been the method of funding ever since.

Instead, the Advisory Committee recommends creating a new appropriation to DOH to supplement the current funding mechanism. DOH would administer the distribution of the funds to schools that meet appropriate guidelines for programs that are aimed at addressing the physician shortage.

Recommendation 4: Increase the number of residency positions in order to train more physicians in Pennsylvania

Aspiring physicians must earn high school diplomas, baccalaureate degrees, and then complete medical school, where they earn a doctorate in allopathic or osteopathic medicine. Medical school is commonly referred to as undergraduate medical education. After medical school, and in order to become licensed, physicians must complete graduate medical education (GME), which includes residency training, and can include fellowship programs as well. Graduates of international medical schools must complete a GME program in the United States to be eligible for licensure in the United States.

Most residency programs last from three to seven years.¹⁴⁴ During that time, residents care for patients under supervision of physician faculty members and participate in additional educational and research activities.¹⁴⁵ Hospitals, academic medical centers, health care systems, and other institutions sponsor residency programs.¹⁴⁶

Historically, the Accreditation Council for Graduate Medical Education (ACGME) or the American Osteopathic Association (AOA) accredited allopathic and osteopathic training programs, respectively; however, the AOA and the American Association of Colleges of Osteopathic Medicine (AACOM) recently joined the ACGME as member organizations.¹⁴⁷ As a result, all GME programs will be subject to a single accreditation system beginning July 1, 2015.¹⁴⁸

Applicants are matched with residency programs primarily through the National Resident Matching Program (NRMP) or the AOA Match Program, which is administered by National Matching Services, Inc.¹⁴⁹ The purpose of the matches is to provide a uniform and orderly process

¹⁴⁴ Accreditation Council for Graduate Med. Educ., “Fact Sheet,” 2015, *available at* <https://www.acgme.org/acgmeweb/tabid/276/About/Newsroom/FactSheet.aspx>.

¹⁴⁵ *Id.*

¹⁴⁶ *Id.*

¹⁴⁷ Am. Ass’n of Coll. Of Osteopathic Med., “American Osteopathic Association and American Association of Colleges of Osteopathic Medicine Join the Accreditation Council for Graduate Medical Education,” Jan. 14, 2015, *available at* http://www.aacom.org/news-and-events/news-detail/2015/01/14/2015-01-15_ACGME-AOA-AACOM.

¹⁴⁸ *Id.*

¹⁴⁹ Nat’l Resident Matching Program, “About the Main Residency Match,” 2015, *available at* <http://www.nrmp.org/residency/main-residency-match/>; Am. Osteopathic Ass’n, “AOA Match Program,” 2015, *available at* <http://www.osteopathic.org/inside-aoa/Education/students/match-program/Pages/default.aspx>.

for both applicants and programs to make their selections.¹⁵⁰ In the 2014 NRMP match, there were 26,678 available residency positions.¹⁵¹ Of the available positions, 25,687 were filled.¹⁵² Overall, there were 0.78 positions per active applicant.¹⁵³ However, match rates varied greatly by type of applicant.

Applicant Type	Active Applicants	% Matched
Seniors of U.S. Allopathic Medical Schools	17,374	94.4
Previous Graduates of U.S. Allopathic Medical Schools	1,662	48.0
Students/Graduates of Osteopathic Medical Schools	2,738	77.7
Students/Graduates of Canadian Medical Schools	14	42.9
Students/Graduates of Fifth Pathway Programs ¹⁵⁴	15	13.3
U.S. Citizen Students/Graduates of International Medical Schools	5,133	53.0
Non-U.S. Citizen Students/Graduates of International Medical Schools	7,334	49.5
All Applicants	34,270	75.0
Source: Nat'l Resident Matching Program, "Results and Data: 2014 Main Residency Match," April 2014, available at http://www.nrmp.org/wp-content/uploads/2014/04/Main-Match-Results-and-Data-2014.pdf , at p. 17.		

¹⁵⁰ *Id.*; Nat'l Matching Servs., Inc., "Overview of the Matching Program," 2015, available at <https://natmatch.com/aoairp/aboutoverview.html>.

¹⁵¹ Nat'l Resident Matching Program, "Results and Data: 2014 Main Residency Match," April 2014, available at <http://www.nrmp.org/wp-content/uploads/2014/04/Main-Match-Results-and-Data-2014.pdf>, at p. 17.

¹⁵² *Id.* at p. 22.

¹⁵³ *Id.* at p. 15.

¹⁵⁴ "The Fifth Pathway, created by the American Medical Association (AMA) in 1971, has allowed certain students who attended four years at an international medical school to complete their supervised clinical work at a U.S. medical school; to become eligible for entry to U.S. residency training; and ultimately obtain a license to practice in the United States. The AMA's Council on Medical Education no longer supports the Fifth Pathway as a mechanism for eligibility to enter the first year of ACGME-accredited graduate medical education programs. The last Fifth Pathway program class supported was the class that began in January 2009 and ended in December 2009." Educ. Comm'n for Foreign Med. Graduates, "Eligibility for Examination: Fifth Pathway Participants," ECFMG 2014 Info. Booklet, Sept. 12, 2013, available at <http://www.ecfmg.org/2014ib/fifth-pathway.html>.

In the 2014 AOA match, there were 2,459 available residency positions.¹⁵⁵ Of the available positions, 1,860 of those positions were filled.¹⁵⁶ However, both the NRMP and the AOA match allow unmatched applicants and programs with unfilled positions another opportunity to match.¹⁵⁷

In academic year 2007-2008, there were 107,851 residents in 8,490 programs nationwide, and 7,145 residents in 562 programs in Pennsylvania.¹⁵⁸ In academic year 2013-2014, there were 120,108 residents in 9,527 programs nationwide, and 7,937 residents in 610 programs in Pennsylvania.¹⁵⁹ Pennsylvania ranked 3rd for the number of programs and for the number of residents in both academic years 2007-2008 and 2013-2014.¹⁶⁰

Between academic years 2007-2008 and 2013-2014, the number of residents grew by 11.4 percent nationally (11.1 percent in Pennsylvania) and the number of programs grew by 12.2 percent nationally (8.5 percent in Pennsylvania).¹⁶¹ In that same timeframe, the US population grew by 12.1 percent and Pennsylvania's population grew by 4 percent.¹⁶²

GME Financing

GME is funded primarily by the federal government, although states, insurers, health care systems, and philanthropic organizations also support GME.¹⁶³ The federal sources of funding include Medicare, Medicaid, the Department of Veterans Affairs, HRSA Title VII health professions programs and other HRSA-managed grant programs, the Children's Hospital GME Program, and the Department of Defense.¹⁶⁴

Medicare

The single largest source of GME financing is Medicare.¹⁶⁵ Medicare pays for GME using two methods: direct graduate medical education (DGME) payments and indirect medical

¹⁵⁵ Nat'l Matching Servs., Inc., "Summary of Positions Offered and Filled by Program Type: Results of the 2014 Match," 2015, available at <https://natmatch.com/aoairp/stats/2014prgstats.html>.

¹⁵⁶ *Id.*

¹⁵⁷ Nat'l Resident Matching Program, "About the Main Residency Match," 2015, available at <http://www.nrmp.org/residency/main-residency-match/>; Nat'l Matching Servs., Inc., "Overview of the Matching Program," 2015, available at <https://natmatch.com/aoairp/aboutoverview.html>.

¹⁵⁸ Accreditation Council for Graduate Med. Educ., "Data Resource Book: Academic Year 2007-2008," 2008, available at http://www.acgme.org/acgmeweb/Portals/0/PFAssets/PublicationsBooks/2007_2008_ANA_ANA_Current_ACGME_DataBook.pdf, at pp. 34 & 79.

¹⁵⁹ Accreditation Council for Graduate Med. Educ., "Data Resource Book: Academic Year 2013-2014," 2014, available at http://www.acgme.org/acgmeweb/Portals/0/PFAssets/PublicationsBooks/2013-2014_ACGME_DATABOOK_DOCUMENT.pdf, at pp. 110 & 112.

¹⁶⁰ *Supra* note 155, at p. 34; *supra* note 156, at p. 110; *supra* note 155, at p. 79; *supra* note 156, at p. 112.

¹⁶¹ *Supra* note 155, at p. 79; *supra* note 156, at p. 112.

¹⁶² *Id.*

¹⁶³ Am. Coll. of Physicians, "Aligning GME Policy with the Nation's Health Care Workforce Needs," 2011, available at http://www.acponline.org/advocacy/where_we_stand/policy/gme_policy.pdf, at p. 4.

¹⁶⁴ *Id.*

¹⁶⁵ *Id.*

education (IME) payments.¹⁶⁶ Payments for DGME are intended to cover the direct expenses associated with residency training, such as resident and faculty salaries, fringe benefits, and supervisory, administrative, and overhead costs associated with a GME program.¹⁶⁷ Payments for DGME are calculated using the weighted resident count, the per-resident amount, and the Medicare bed-day ratio for each institution.¹⁶⁸

The weighted resident count is a three-year rolling average of an institution's number of FTE residents in accredited programs for the most recent three-year period.¹⁶⁹ Residents in their initial residency period (the minimum time required for board eligibility or five years, whichever is shorter) are weighted at 1.0 FTE, while residents or fellows no longer in their initial residency period are weighted at 0.5 FTE.¹⁷⁰ The number of residents that institutions can count for DGME calculation purposes was capped at the number of FTE residents training in the institution's most recent cost reporting period ending on or before December 31, 1996.¹⁷¹

The per-resident amount is calculated by dividing the institution's base year (generally 1984 or 1985) DGME costs by the weighted resident count during that base year, and adjusted for geographic differences and inflation.¹⁷² In general, institutions have two separate per-resident amounts, because in fiscal years 1994 and 1995, the per-resident amounts for primary care residents were updated, while the amounts for non-primary care residents were not.¹⁷³

Payments for IME represent the additional amount Medicare pays to compensate institutions for the expected increase in operating costs associated with GME.¹⁷⁴ An institution's Medicare reimbursement is increased by 5.5 percent for every increment of 0.1 in the resident-to-bed ratio.¹⁷⁵

In fiscal year 2009, Medicare expenses associated with GME nationwide were approximately \$9.75 billion, of which approximately \$3 billion were for DGME and \$6.7 billion were for IME.¹⁷⁶ For Pennsylvania, total Medicare expenses associated with GME were approximately \$884.8 million, of which approximately \$283.9 million were for DGME and \$600.9 million were for IME.¹⁷⁷

¹⁶⁶ *Id.*

¹⁶⁷ *Id.*

¹⁶⁸ Inst. of Med., "Graduate Medical Education That Meets the Nation's Health Needs," 2014, *available at* http://download.nap.edu/cart/download.cgi?&record_id=18754 at p. 3-8.

¹⁶⁹ *Id.*

¹⁷⁰ *Id.* at p. 3-9.

¹⁷¹ Dep't of Health & Human Servs., Ctrs. For Medicare & Medicaid Servs., "Direct Graduate Medical Education (DGME)," Dec. 31, 2014, *available at* <http://www.cms.gov/Medicare/Medicare-Fee-for-Service-Payment/AcuteInpatientPPS/dgme.html>.

¹⁷² *Supra* note 165, at p. 3-9.

¹⁷³ Robert Graham Ctr., "GME Tables: A Guide for Users," *available at* <http://www.graham-center.org/online/etc/medialib/graham/documents/data-tables/gme-table-faq.Par.0001.File.tmp/GMEtablesuserguide.pdf>, at p. 1.

¹⁷⁴ *Id.*

¹⁷⁵ *Supra* note 160, at p. 5.

¹⁷⁶ Robert Graham Ctr., "Graduate Medical Education for Teaching Hospitals in Fiscal Year 2009," May 21, 2012, *available at* http://www.graham-center.org/online/etc/medialib/graham/documents/data-tables/2009/gme-table-fy-2009-excel.Par.0001.File.tmp/GME_2009.xlsx.

¹⁷⁷ *Id.*

Medicaid

Medicaid is the second largest source of GME financing, contributing an estimated \$3.78 billion in 2009.¹⁷⁸ Although state Medicaid programs are not obligated to pay for GME, most state programs do provide for GME financing.¹⁷⁹ However, unlike Medicare, there are no federal guidelines for how Medicaid programs should make GME payments, so there is a great deal of variability between states.¹⁸⁰

In 2012, AAMC and an independent health workforce consultant surveyed state Medicaid programs to examine their policies for financing GME.¹⁸¹ The survey results indicated that 42 states and the District of Columbia provided GME payments through their Medicaid programs.¹⁸² Forty states and the District of Columbia made GME payments under their Medicaid fee-for-service programs, and 23 states and the District of Columbia made GME payments under their risk-based Medicaid managed care programs.¹⁸³

Twelve of the 40 states and the District of Columbia that made GME payments under fee-for-service programs calculated payments using a method similar to Medicare, while the other 28 states used some other method.¹⁸⁴ Of those 28, six states and the District of Columbia used a per-resident method based on the sponsoring facility's share of total Medicaid revenue, costs, or patient volume.¹⁸⁵ Another three states used a modified Medicare method, and three states used a method involving a lump-sum amount.¹⁸⁶ In addition, three states made Medicaid GME payments to sponsoring facilities from a state appropriation.¹⁸⁷

Fourteen of the states and District of Columbia that made GME payments under risk-based Medicaid managed care programs made payments explicitly and directly to the sponsoring facilities.¹⁸⁸ The most common reasons cited for continuing to pay directly for GME under managed care included the desire to use Medicaid funds to advance state policy goals, the desire to help train the next generation of physicians who will serve Medicaid recipients, and the view that GME is a public good.¹⁸⁹

¹⁷⁸ Ian Metzler; Karen Ganjawalla; Krista L. Kaups, MD, MSc, FACS; & John G. Meara, MD, FACS, "The Critical State of Graduate Medical Education Funding," Nov. 2012, *available at* <http://bulletin.facs.org/2012/11/critical-state-of-gme-funding/>; Ass'n of Am. Med. Colls., "Medicaid Graduate Medical Education Payments: A 50-State Survey," 2013, *available at* <https://members.aamc.org/eweb/upload/Medicaid%20Graduate%20Medical%20Education%20Payments%20A%2050-State%20Survey.pdf>, at p. 5.

¹⁷⁹ Ass'n of Am. Med. Colls., "Medicaid Graduate Medical Education Payments: A 50-State Survey," 2013, *available at* <https://members.aamc.org/eweb/upload/Medicaid%20Graduate%20Medical%20Education%20Payments%20A%2050-State%20Survey.pdf>, at p. 5.

¹⁸⁰ *Id.*

¹⁸¹ *Id.* at p. 6.

¹⁸² *Id.*

¹⁸³ *Id.* at p. 7.

¹⁸⁴ *Id.*

¹⁸⁵ *Id.*

¹⁸⁶ *Id.*

¹⁸⁷ *Id.*

¹⁸⁸ *Id.*

¹⁸⁹ *Id.*

Nine states made GME payments under risk-based Medicaid programs in their capitated payment rates to managed care organizations.¹⁹⁰ Five of those states required the managed care organizations to distribute the GME payments to the sponsoring facilities.¹⁹¹

Twenty-two states made Medicaid GME payments with the expectation of producing more physicians.¹⁹² Pennsylvania was not one of those states.¹⁹³

Pennsylvania reported providing GME payments under its Medicaid fee-for-service program but not its Medicaid managed care program.¹⁹⁴ Pennsylvania does not use the Medicare methodology to calculate GME payments and does not make GME payments directly to sponsoring institutions.¹⁹⁵ Pennsylvania paid approximately \$124.2 million for GME, placing it in the rank of 4th.¹⁹⁶ New York, which is ranked 1st, paid approximately \$1.8 billion for GME, more than ten times the amount paid by the next highest paying state, Michigan, which paid \$163.1 million.¹⁹⁷

Other Sources

Various other federal programs also provide GME financing. The Department of Veterans Affairs supports over 9,000 resident positions, and the Department of Defense supports approximately 3,000 residents.¹⁹⁸ HRSA administers several programs that support GME, including the Children's Hospital Medical Education Program, which provides approximately \$300 million to support GME costs.¹⁹⁹ Some grants issued under Title VII of the Public Health Service Act that are administered by HRSA are used to support GME programs in primary care and geriatrics.²⁰⁰

The Teaching Health Centers Graduate Medical Education (THCGME) program is a relatively new HRSA-administered program created by the Affordable Care Act that supports GME.²⁰¹ The THCGME program is a \$230 million, 5-year initiative intended to increase the number of primary care residents trained in community-based settings.²⁰² THCGME funding pays for direct and indirect GME expenses of training residents in new or expanded community-based primary care residency programs.²⁰³ THCGME-eligible clinical training sites include federally FQHCs and FQHC Look-Alikes, community mental health centers, RHCs, Indian Health Service

¹⁹⁰ *Id.* at p. 8.

¹⁹¹ *Id.*

¹⁹² *Id.*

¹⁹³ *Id.* at p. 20.

¹⁹⁴ *Id.* at p. 12.

¹⁹⁵ *Id.* at pp. 13 & 15.

¹⁹⁶ *Id.* at p. 22.

¹⁹⁷ *Id.* at p. 23.

¹⁹⁸ *Supra* note 160, at p. 5.

¹⁹⁹ *Id.*

²⁰⁰ *Id.*

²⁰¹ Dep't of Health & Human Servs., Health Res. & Servs. Admin., "Teaching Health Center Graduate Medical Education (THCGME)," *available at* <http://bhpr.hrsa.gov/grants/teachinghealthcenters/>.

²⁰² *Id.*

²⁰³ *Id.*

or tribal clinics, Title X (family planning) clinics, and primary care GME programs operated by GME consortia collaborating with health centers or hospitals.²⁰⁴ THCGME-eligible clinical training sites are located in a variety of settings, including urban, rural, and tribal communities, and serve diverse populations such as veterans and their families, minority communities, older adults, children, and adolescents.²⁰⁵

While states, insurers, health care systems, and philanthropic organizations support GME, identifying the methods and amounts of the support is much less clear than the federal programs.²⁰⁶ Many states include specific budget items supporting family medicine and other primary care residencies.²⁰⁷ In fact, “[a]ccording to the American Academy of Family Physicians, in the mid-1990s a State on average provided about \$3.6 million a year (or about \$21,000 for each State-funded residency position) to support family practice residencies.”²⁰⁸ New York, Minnesota, and Utah utilize an all-payer fund to support GME, in which they pool different combinations of Medicare funds, Medicaid funds, state appropriations, and even commercial insurer contributions.²⁰⁹ This approach allows for public scrutiny, brings attention to how the funds are used, and allows the states to respond to workforce needs.²¹⁰

Benefits of Residency Training Programs

Besides ensuring that the physician workforce is well trained and competent, residency programs provide a number of direct, indirect, and intangible benefits for the institutions and communities where they are located. For example, by sponsoring GME programs, institutions may become eligible for federal, state, or grant funds, such as Medicare DGME and IME funds, Medicaid GME funding, and Title VII grant funding.²¹¹ In addition, “[i]ndirect benefits, often in the form of secondary financial benefits from referrals that contribute to margins or spread fixed costs, as well as cost-avoidance through resident coverage of clinical services have been identified in peer-reviewed publications for more than 15 years.”²¹²

²⁰⁴ *Id.*

²⁰⁵ *Id.*

²⁰⁶ Dep’t of Health & Human Servs., Health Res. & Servs. Admin., “State and Managed Care Support for Graduate Medical Education: Innovations and Implications for Federal Policy,” July 2004, *available at* <http://www.hrsa.gov/advisorycommittees/bhwadvisory/cogme/Publications/managedcarerpt.pdf>, at p. 23.

²⁰⁷ *Id.* at p. 8.

²⁰⁸ *Id.*

²⁰⁹ *Id.* at pp. 12 & 20.

²¹⁰ *Id.* at p. 12.

²¹¹ Perry A. Pugno, MD, MPH, CPE; William Ross Gillanders, MD; & Stanley M. Kozakowski, MD, “The Direct, Indirect, and Intangible Benefits of Graduate Medical Education Programs to Their Sponsoring Institutions and Communities,” *J. of Graduate Med. Educ.*, June 2010, *available at* <http://www.jgme.org/doi/full/10.4300/JGME-D-09-00008.1>.

²¹² *Id.*

GME programs have a positive effect on the quality of care at their host institutions.²¹³ While numerous studies have supported the quality differences, one author eloquently stated the following:

By participating in the exchange of information inherent in teaching, physicians open themselves up to review by their peers, students, and themselves. Such scrutiny often leads to improved performance.²¹⁴

Another wrote:

Physicians learn when they teach. Students ask provocative questions. Physicians who teach engage in self-evaluations, self-assessment, critical reflection and self-improvement, all of which are key principles of total quality management.²¹⁵

GME programs disproportionately serve medically underserved populations.²¹⁶ In fact, more than 50 percent of safety net health care is provided by GME programs in university and community-based institutions.²¹⁷ Studies have found that many physicians who trained in safety net settings, such as FQHCs, RHCs, or critical access hospitals, went on to practice in these types of settings.²¹⁸

GME programs often provide continuing medical education programs for the sponsoring institution's medical staff, and educational support for the nursing and allied health trainees.²¹⁹ Without resident trainees, sponsoring institutions would have to hire at least four full-time physicians to provide the same amount of patient care coverage that the resident trainees provide.²²⁰

It is well documented that direct patient care services, such as ambulatory teaching clinics, help expand the referral base of the sponsoring institutions.²²¹ In addition, teaching clinics located in areas outside of the sponsoring institution's primary catchment area increase the institution's market share by attracting patients who might have gone elsewhere.²²² Indirect revenue contributions by GME programs can include hospital admissions, utilization of hospital-based services, or referrals to local consultants who use the services of the sponsoring institution.²²³ One

²¹³ *Id.*

²¹⁴ *Id.*

²¹⁵ *Id.*

²¹⁶ *Id.*

²¹⁷ *Id.*

²¹⁸ Robert L. Phillips, MD, MSPH; Stephen Petterson, PhD; & Andrew Bazemore, MD, MPH, "Do Residents Who Train in Safety Net Settings Return for Practice?," *Academic Med.*, Dec. 2013, *available at* http://journals.lww.com/academicmedicine/Fulltext/2013/12000/Do_Residents_Who_Train_in_Safety_Net_Settings.38.aspx.

²¹⁹ *Supra* note 208.

²²⁰ *Id.*

²²¹ *Id.*

²²² *Id.*

²²³ *Id.*

study found that for every \$1 billed by a family medicine teaching clinic's physician faculty and residents, \$6.40 were billed by the consultants and hospital diagnostic and therapeutic services of the sponsoring institution.²²⁴

Retaining GME program graduates can reduce recruitment costs for sponsoring institutions.²²⁵ Retaining program graduates provides sponsoring institutions with individuals of known quality who are "already familiar with the local health system's procedures, resources, and facilities."²²⁶ The opportunity to teach attracts physicians who want to work at the forefront of medicine, and participation in GME programs often leads to greater physician satisfaction with their work environment, reducing recruitment costs, improving retention rates, and reducing physician turnover.²²⁷

As discussed previously in this report, the location of a physician's residency training correlates with the location where the physician practices. Nationally, 47.7 percent of active physicians practice in the state in which they completed their residency, and 66.6 percent of active physicians who completed their medical educations and residencies in the same state practice in that state as well.²²⁸ In Pennsylvania, 41.7 percent of active physicians who completed their residency in Pennsylvania practice in Pennsylvania, and 58.1 percent of active physicians who completed their medical education and residency in Pennsylvania practice in Pennsylvania.²²⁹ These figures place Pennsylvania in the ranks of 34th and 37th, respectively.²³⁰

GME training programs clearly benefit the local communities and states where they are located. Program participants who stay in the community support the sponsoring institution, support local consultants, use local facilities, and provide access to care.²³¹ GME programs can provide specialty services that would not otherwise be available in the community.²³² GME programs can also bring continuing professional development opportunities to physicians in communities that may otherwise not have those opportunities.²³³

GME programs that are affiliated with academic health centers or university facilities benefit their sponsoring institutions by contributing to the teaching of medical students and other health professionals.²³⁴ Faculty members attract educational and research dollars via grants and contracts, enhance the institution's reputation, and contribute to the advancement of medicine.²³⁵

²²⁴ *Id.*

²²⁵ *Id.*

²²⁶ *Id.*

²²⁷ *Id.*

²²⁸ *Supra* note 9, at pp. 53 & 55.

²²⁹ *Id.*

²³⁰ *Id.* at pp. 49, 53, & 55.

²³¹ *Supra* note 208.

²³² *Id.*

²³³ *Id.*

²³⁴ *Id.*

²³⁵ *Id.*

Recommendation

The Advisory Committee recommends that Pennsylvania should provide funding to existing GME programs so that additional residency slots and training sites can be added. To receive funding, the existing programs must offer residency training in primary care and provide care to underserved communities in Pennsylvania.²³⁶ Ongoing funding should depend on documented success based on measured outcomes.

Once the improved data collection and analysis are implemented pursuant to Recommendation 1, funding should also depend on the needs of the state with regards to physician specialty and geographic distribution. Furthermore, the Advisory Committee suggests that the existing Medicaid GME funding policies be reviewed, and that the state should consider linking GME payments to goals such as the expansion of the physician workforce or serving underserved communities.

The Advisory Committee recommends funding for existing programs, as opposed to new programs, because of the difficult, expensive, and time-consuming process of establishing a new program. However, the Advisory Committee recognizes that some regions of the state lack existing GME programs, so new programs may be necessary to meet the needs of those regions. Therefore, state funding of GME programs should be dynamic and responsive to the state's needs. Although the Advisory Committee does not want to specify a particular GME program model in order to allow for innovation, the Advisory Committee finds the THCGME model very promising.

Recommendation 5: Increase financial support for the Primary Health Care Practitioners Program within the Department of Health to make the Primary Care Loan Repayment Program a more appealing recruitment tool

The cost of attending medical school is at a record high, and is increasing.²³⁷ Not surprisingly, education debt is also increasing.²³⁸ According to the AAMC, for the medical school class of 2013, the median in-state four-year cost of attendance across all schools was \$228,200.²³⁹ The medical school class of 2012 reported a median education debt of \$170,000, with 86 percent of the class having education debt.²⁴⁰ The median amount of education debt for medical school

²³⁶ "Primary care" is defined as Family Medicine, General Internal Medicine, Pediatrics, Geriatrics, Obstetrics/Gynecology, and Psychiatry. "Underserved communities" are defined as designated HPSAs, MUAs, MUPs, or sites that serve a minimum of 30% low-income patients in Pennsylvania. These definitions are based on the current Pennsylvania Primary Care Loan Repayment Program.

²³⁷ Ass'n of Am. Med. Colls., "Physician Education Debt and the Cost to Attend Medical School: 2012 Update," Feb. 2013, available at <https://www.aamc.org/download/328322/data/statedebtreport.pdf>, at p. 2.

²³⁸ *Id.* at p. 3.

²³⁹ *Id.* at p. 4.

²⁴⁰ *Id.* at p. 2.

graduates has increased 6.3 percent per year since 1992, compared to an increase of 2.5 percent in the Consumer Price Index.²⁴¹

To address the rising costs associated with becoming a physician, as well as the need for health care in underserved communities, many states and the federal government offer scholarships, loans, loan repayment, direct financial incentives, and resident support programs that include a service requirement for the recipients.²⁴² While these different programs share goals and a requirement for service in exchange for support, they differ in many ways.²⁴³

Scholarship programs obligate medical students early in their training, several years before the service component begins.²⁴⁴ Scholarship program participants are “expected to provide service, and hefty penalties are used to discourage participants from buying out their obligations should their career interests change.”²⁴⁵ Similarly, loan programs also target medical students early in their training, but offer program participants a choice of performing service or repaying the loan at standard rates.²⁴⁶

Loan repayment and direct financial incentive programs target physicians much later, near the completion of residency training, when the service component begins.²⁴⁷ They typically do not charge penalties to physicians who do not complete a period of service, although they often do require repayment of funds dispersed if a physician does not complete the service obligation.²⁴⁸ With loan repayment programs, physicians receive assistance repaying medical education debt they accrued as students.²⁴⁹ Financial incentive programs typically provide unrestricted funds.²⁵⁰ Resident support programs respond to the growing financial pressures on residents by providing assistance in the form of scholarships, loan repayment, and direct financial incentives.²⁵¹ The required service component begins one to two years after a commitment is signed, at the end of residency.²⁵²

Although there has been little research into the outcomes of these programs, there is support for their effectiveness.²⁵³ According to one study that compared all five types of programs, physicians serving in programs of all five types were far more likely to work in rural counties and counties with lower primary care physician to population ratios than physicians who were not

²⁴¹ *Id.* at p. 3.

²⁴² Donald E. Pathman, MD, MPH; Thomas R. Konrad, PhD; Tonya S. King, PhD; Donald H. Taylor, Jr., PhD; & Gary G. Koch, PhD, “Outcomes of States’ Scholarship, Loan Repayment, and Related Programs for Physicians,” *Medical Care*, June 2004, available at <http://dhss.alaska.gov/ahcc/Documents/meetings/200905/outcomesII.pdf>, at p. 560.

²⁴³ *Id.* at p. 561.

²⁴⁴ *Id.*

²⁴⁵ *Id.*

²⁴⁶ *Id.*

²⁴⁷ *Id.*

²⁴⁸ *Id.*

²⁴⁹ *Id.*

²⁵⁰ *Id.*

²⁵¹ *Id.*

²⁵² *Id.*

²⁵³ *Id.*

obligated to service.²⁵⁴ Obligated physicians reported that more of their patients were covered by Medicaid or were uninsured.²⁵⁵ Furthermore, “[e]ven in analyses run separately for rural and urban-situated physicians and in multivariate models adjusting for physicians’ rural versus urban location, specialty, and demographics, obligated physicians were still found to work in needier communities and with needier patients by all measures.”²⁵⁶

Additionally, physicians serving under an obligation “were more often satisfied with their work and practices and more often felt a sense of belonging to their communities than nonobligated physicians.”²⁵⁷ However, although satisfaction for physicians and families in the five types of programs were comparable, participants in scholarship programs felt more restricted by the practice sites available and were less likely to enroll in the programs if they had to do it all again.²⁵⁸ Similarly, when scholarship and loan “programs charged more than simple principal plus interest to buyout, most measures of physician satisfaction were lower, including fewer participants reporting, in retrospect, a definite willingness to commit to their programs again (36 percent vs. 65 percent, $P=0.04$).”²⁵⁹

Loan program participants were least likely to complete their service obligations (44.7 percent), followed by scholarship program participants (66.5 percent).²⁶⁰ The other three types of program participants were highly likely to complete their service obligations, with a mean of 93 percent.²⁶¹

Overall, the study found that “obligated physicians remained longer in their service practices than nonobligated physicians remained in their first jobs after training....”²⁶² Retention was shortest for resident support programs, followed by scholarship programs.²⁶³ The longest retention was among loan repayment program participants, “66 percent of whom remained in their service sites 8 years after starting work there.”²⁶⁴

The study concluded that loan repayment and direct financial incentive programs were the most successful, which the authors felt confirmed “the wisdom of recruiting physicians at the end of their training.”²⁶⁵ The authors also felt their study confirmed concerns related to scholarship programs; namely, that although penalties reduced buyout rates, they were also associated with lower satisfaction and shorter retention.²⁶⁶ Similarly, the Congressional Government Accounting Office and the National Health Service Corps (NHSC) have concluded that the federal loan repayment program under NHSC achieved better outcomes, such as higher service completion

²⁵⁴ *Id.* at p. 564.

²⁵⁵ *Id.*

²⁵⁶ *Id.*

²⁵⁷ *Id.*

²⁵⁸ *Id.* at p. 564-5.

²⁵⁹ *Id.* at p. 565.

²⁶⁰ *Id.* at p. 563.

²⁶¹ *Id.*

²⁶² *Id.* at p. 565.

²⁶³ *Id.*

²⁶⁴ *Id.*

²⁶⁵ *Id.* at p. 566.

²⁶⁶ *Id.*

rates, greater satisfaction, and longer retention, than the NHSC's scholarship program, all at a lower cost.²⁶⁷

The Advisory Committee chose to focus on loan repayment programs based on the evidence of effectiveness. Loan repayment programs exist in many states, including Pennsylvania, and at the federal level.

In 1970, the Emergency Health Personnel Act created the NHSC with the goal of providing health personnel to communities that are deemed "medically underserved."²⁶⁸ In 1987, the NHSC began offering a loan repayment program.²⁶⁹ The NHSC loan repayment program offers primary medical care clinicians up to \$50,000 to repay medical education loans in exchange for two years of service.²⁷⁰ The participants can renew their service commitments and continue to serve until all of their loans are paid off.²⁷¹

The participant must provide service at an approved site, which must be in a HPSA.²⁷² The amount available under the NHSC loan repayment program depends on the HPSA score of the service site. Eligible primary care disciplines include family medicine, obstetrics/gynecology, general internal medicine, geriatrics, general pediatrics, and general psychiatry.²⁷³ The program is also available to physician assistants, nurse practitioners, dentists, dental hygienists, and mental and behavioral health providers in certain disciplines.²⁷⁴

In 1992, Pennsylvania's General Assembly enacted Act 113, which created the Primary Health Care Practitioners Program within DOH, with the goal of increasing the availability of primary health care practitioners to rural and inner-city designated medically underserved areas.²⁷⁵ Specifically, the Secretary of Health was instructed to "implement a comprehensive program designed to increase the number of primary health care practitioners in rural and urban shortage areas..."²⁷⁶ Act 113 provided a non-exclusive list of activities to achieve that goal, which included:

- Reviewing and updating on a regular basis the designated medically underserved areas.
- Promoting the training of primary health care practitioners and service in designated medically underserved areas.

²⁶⁷ *Id.*

²⁶⁸ George M. Holmes, "Does the National Health Service Corps Improve Physician Supply in Underserved Locations?," *Eastern Econ. J.*, Fall 2004, available at http://college.holycross.edu/ej/Volume30/V30N4P563_581.pdf, at p. 563.

²⁶⁹ *Id.* at p. 564.

²⁷⁰ Dep't of Health & Human Servs., Health Res. & Servs. Admin., Nat'l Health Serv. Corps, "Loan Repayment Program," available at <http://nhsc.hrsa.gov/loanrepayment/index.html>.

²⁷¹ Dep't of Health & Human Servs., Health Res. & Servs. Admin., Nat'l Health Serv. Corps, "National Health Service Corps Loan Repayment Program," available at <http://nhsc.hrsa.gov/downloads/lrpatag glance.pdf>.

²⁷² *Id.*

²⁷³ *Id.*

²⁷⁴ *Id.*

²⁷⁵ Act of December 2, 1992 (P.L.741, No.113), at § 1302(a).

²⁷⁶ *Id.* at § 1302(b).

- Promoting the capacity of local communities to support primary health care practitioners.
- Promoting the recruitment and retention of primary health care practitioners in designated medically underserved areas.
- Providing to the General Assembly an annual report on the activities of the Department of Health.
- To the extent possible, maximizing Federal, local and private funding to achieve the purposes of this chapter.
- Creating an advisory committee to assist in carrying out the provisions of the act.²⁷⁷

Act 113 also established a loan repayment program.²⁷⁸ The loan repayment program under the act was open to physicians, dentists, nurse practitioners and nurse midwives, and physician assistants.²⁷⁹ The program required participants to practice as a primary care practitioner in a medically underserved area of the Commonwealth for a minimum of three years.²⁸⁰ The Act provided a repayment schedule for physicians in which participants would receive 15 percent of their award in year one, 20 percent in year two, 30 percent in year three, and 35 percent in year four, for a total of up to \$64,000.²⁸¹ Applications were accepted and awards were given on a rolling basis until annual funding was depleted in a non-competitive process.²⁸²

Over time, the loan repayment program under Act 113 became less popular, and therefore less successful.²⁸³ After consulting with representatives from Pennsylvania’s primary care safety net healthcare community, DOH created a new loan repayment program using the authority provided to it by Act 113, which allowed DOH to award grants “to promote the training, recruitment and retention of primary health care practitioners in designated medically underserved areas and to promote innovative methods for delivery of primary medical services in rural designated medically underserved areas.”²⁸⁴

The new loan repayment program was implemented in fiscal year 2014-2015.²⁸⁵ Applications were received in response to a formal request for applications, and awards were given in a competitive process based on consideration of community need, Pennsylvania residence,

²⁷⁷ *Id.*

²⁷⁸ *Id.* at § 1303.

²⁷⁹ *Id.* at § 1303(d)(1).

²⁸⁰ *Id.* at § 1303(d)(2).

²⁸¹ *Id.* at § 1303(e).

²⁸² Pa. Dep’t of Health, Bureau of Health Planning, “Pennsylvania Primary Care Loan Repayment Program (LRP),” Dec. 2014 (on file with JSGC).

²⁸³ *Id.*

²⁸⁴ *Supra* note 272, at § 1304.

²⁸⁵ *Supra* note 279.

graduation from Pennsylvania educational institutions, and experience and history of practicing in an underserved area.²⁸⁶

The list of eligible primary care physicians was expanded to include psychiatrists, and behavioral health disciplines were added to the list of eligible disciplines.²⁸⁷ Site eligibility was also expanded so that a site not in a HPSA can still participate if a minimum of 30 percent of its patients are low-income.²⁸⁸ The new program only required two years of service, instead of a minimum of three.²⁸⁹ Perhaps the most important change, though, was to the repayment amount. The new program offers up to \$100,000 instead of just \$64,000.²⁹⁰

Before these changes, many physicians left Pennsylvania for one of its neighboring states because they offered more appealing loan repayment programs. For example, Ohio offers up to \$120,000 for four years of service, at \$25,000 per year for the first two years, and if renewed, \$35,000 per year for the second two years.²⁹¹ Maryland offers up to \$100,000 for four years of service, at \$25,000 per year for two years, and if renewed, \$25,000 per year for the second two years.²⁹² Delaware offers up to \$100,000 for two years of service.²⁹³ New Jersey offers up to \$120,000 for four years of service, paid at 18 percent after year one, 26 percent after year two, 28 percent after year three, and 28 percent after year four.²⁹⁴

New York offers up to \$150,000 for five years of service.²⁹⁵ Unlike the other programs, which have eligibility limitations similar to Pennsylvania's new program, New York's program is available to physicians in any specialty if they can demonstrate that the specialty is in need in the underserved community, and general surgery and emergency medicine are included in the preferred disciplines.²⁹⁶

The Advisory Committee was pleased to see DOH addressing the problems with Pennsylvania's loan repayment program. The Advisory Committee recommends DOH continue to have the authority to manage the loan repayment program and make changes as necessary, as opposed to a statutory amendment approach. This will allow the program to remain responsive to the market, and stakeholders and experts can more easily inform its policies. However, the

²⁸⁶ Pa. Dep't of Health, "Primary Care Loan Repayment Program Fact Sheet: October 2014," Oct. 2014, *available at* <http://www.portal.state.pa.us/portal/server.pt?open=18&objID=1459731&mode=2>.

²⁸⁷ *Id.*

²⁸⁸ *Id.*

²⁸⁹ *Id.*

²⁹⁰ *Id.*

²⁹¹ Ohio Dep't of Health, "Ohio Physician Loan Repayment Program," Dec. 17, 2014, *available at* http://www.odh.ohio.gov/odhprograms/chss/pcrh_programs/recruitment/slrp.aspx.

²⁹² Md. Higher Educ. Comm'n, "Maryland Loan Assistance Repayment Program for Physicians (MLARP)," *available at* http://www.mhec.state.md.us/financialaid/ProgramDescriptions/prog_mlarp.asp.

²⁹³ Del. Health Care Comm'n, "Deleware State Loan Repayment Program: Program Guidance Manual - September 2014," Sept. 2014, *available at* <http://dhss.delaware.gov/dhcc/files/programguideline.pdf>, at p. 9.

²⁹⁴ Rutgers-Univ. of Med. & Dentistry of N.J., "Primary Care Loan Redemption Program of New Jersey: Loan Repayment Schedule," *available at* http://rbhs.rutgers.edu/lrpweb/loan_repayment/index.htm.

²⁹⁵ N.Y. Dep't of Health, "Doctors Across New York: Physician Loan Repayment Program & Physician Practice Support Program," *available at* http://www.health.ny.gov/professionals/doctors/graduate_medical_education/doctors_across_ny/docs/dany_brochure.pdf.

²⁹⁶ *Id.*

Advisory Committee recommends that DOH consider increasing the loan repayment amount beyond \$100,000 and the length of the service commitment to four years. The Advisory Committee also recommends that DOH consider revising the list of eligible providers, disciplines, and sites to ensure health care needs are being met throughout the Commonwealth. Implementation of Recommendation 1 would provide the data and analysis necessary to tailor the loan repayment program to meet the Commonwealth's needs.

Finally, the Advisory Committee recommends that the General Assembly provide increased financial support of DOH and the Primary Health Practitioner Program.²⁹⁷ More resources would allow DOH to better administer the loan repayment program and to offer more loan repayment awards.

Recommendation 6: Ensure that Pennsylvania fully utilizes the tools available to recruit international medical graduates

International medical graduates (IMGs), who completed medical school outside the United States, are eligible for licensure in the United States after passing an examination and completing an approved residency training program in the United States.²⁹⁸ The US Department of State has established a special visa program, the exchange visitor non-immigrant visa (J-1), for non-citizen IMGs approved to participate in work and study-based exchange visitor programs, such as residency training programs.²⁹⁹ After completing the residency training program, the terms of the J-1 visa require IMGs to return to their home countries to practice for at least two years before re-entering the United States.³⁰⁰ However, federal law allows state health agencies to recommend IMGs receive a waiver of the requirement to return home for two years.³⁰¹ This waiver program is called the Conrad State 30 program.³⁰²

The waiver program requires participating IMGs to agree to practice a minimum of 40 clinical hours in direct patient care per week, for a term of three years.³⁰³ The service sites must be located in a HPSA, MUA, or MUP.³⁰⁴ The sites must agree to serve patients with Medicare, Medicaid, and those who are uninsured or underinsured.³⁰⁵ The sites must also provide a

²⁹⁷ The governor's proposed budget for fiscal year 2015-2016 transferred the Loan Repayment Program to the Pennsylvania Higher Education Assistance Agency (PHEAA), and increased its funding to \$8.5 million. While that would be a boon to the Loan Repayment Program, the consequences of eliminating funding for the Primary Health Practitioner Program under the Department of Health are less clear. At the time of this writing, the budget is only a proposal; what ultimately is enacted may differ substantially. Pa. Office of the Budget, "2015-2016 Pennsylvania Executive Budget," Mar. 3, 2015, *available at* http://www.portal.state.pa.us/portal/server.pt/document/1481984/2015-16_budget_document_pdf, at pp. A1-17, E18-3, E18-5, E27-4, E27-13, & E27-14.

²⁹⁸ *Supra* note 4, at p. v.

²⁹⁹ Dep't of State, Bureau of Educ. And Cultural Affairs, "J-1 Visa Basics," *available at* <http://j1visa.state.gov/basics/>.

³⁰⁰ Pa. Dep't of Health, "J-1 Visa Waiver Program (Conrad State 30) Statement of Policy," Mar. 24, 2014, *available at* <http://www.portal.state.pa.us/portal/server.pt?open=18&objID=1405320&mode=2>.

³⁰¹ *Id.*

³⁰² *Id.*

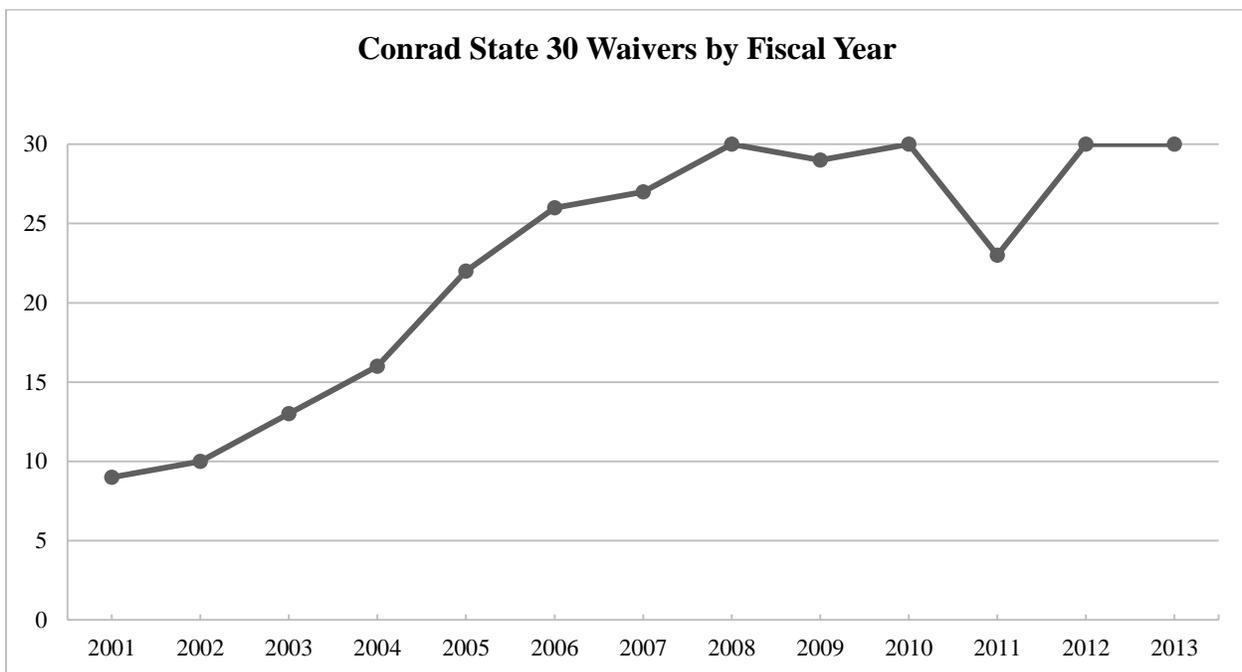
³⁰³ *Id.*

³⁰⁴ *Id.*

³⁰⁵ *Id.*

discounted or sliding fee scale based on federal poverty guidelines in order to ensure that no financial barriers to care exist for those who meet eligibility criteria.³⁰⁶

As the program's name, Conrad State 30, implies, each state is limited to 30 waivers per year. However, the Appalachian Regional Commission (ARC) also offers a J-1 visa waiver program for IMGs who agree to practice in underserved areas that are in the Appalachian region.³⁰⁷ According to ARC, 52 of Pennsylvania's 67 counties lie within the Appalachian region.³⁰⁸ Unlike the Conrad State 30 program, the ARC program is not limited to a certain number of waivers per year. The requirements of the ARC waiver program are similar to the Conrad State 30 program.³⁰⁹ The following chart shows the number of Conrad State 30 waivers Pennsylvania used from fiscal year 2001 through fiscal year 2013.



Source: 3RNet, "Conrad 30 State Totals from FY 2001 through FY 2013," available at https://www.3rnet.org/Portals/0/About/PDFs/J1_state_filled.pdf.

³⁰⁶ *Id.*

³⁰⁷ Pa. Dep't of Health, "J-1 Visa Waiver Program (Appalachian Regional Commission - ARC) Statement of Policy," Mar. 24, 2014, available at <http://www.portal.state.pa.us/portal/server.pt?open=18&objID=1405319&mode=2>.

³⁰⁸ Allegheny, Armstrong, Beaver, Bedford, Blair, Bradford, Butler, Cambria, Cameron, Carbon, Centre, Clarion, Clearfield, Clinton, Columbia, Crawford, Elk, Erie, Fayette, Forest, Fulton, Greene, Huntingdon, Indiana, Jefferson, Juniata, Lackawanna, Lawrence, Luzerne, Lycoming, McKean, Mercer, Mifflin, Monroe, Montour, Northumberland, Perry, Pike, Potter, Schuylkill, Snyder, Somerset, Sullivan, Susquehanna, Tioga, Union, Venango, Warren, Washington, Wayne, Westmoreland, and Wyoming. Appalachian Reg'l Comm'n, "Counties in Appalachia," available at <http://www.arc.gov/counties>.

³⁰⁹ *Supra* note 304.

The J-1 visa waiver programs are intended to increase access to health care in underserved communities, and to help in recruiting and retaining physicians in underserved areas.³¹⁰ According to the Bureau of Health Planning, 17 percent of physicians practicing direct patient care in Pennsylvania graduated from an international medical school.³¹¹ Furthermore, IMGs are an important addition to the physician workforce. They add cultural and academic diversity and increase the number of available physicians.

DOH is charged with the responsibility of administering the J-1 visa waiver programs in Pennsylvania. According to program policy guidelines, “DOH’s first priority for waiver placement is primary care physicians (family practice, general internal medicine, pediatrics, obstetrics-gynecology, and psychiatry) in out-patient ambulatory care sites.”³¹² However, “DOH recognizes the need for non-primary care specialists in many parts of the state and will consider requests for support of non-primary care specialists....”³¹³ Retention of program participants beyond their three-year commitments is a key objective of the programs.³¹⁴ To better ensure retention, DOH carefully evaluates participant and site applications.³¹⁵

DOH is accountable to numerous outside entities for Conrad State 30 and ARC J-1 Visa Waiver authorizations, and program performance is subject to occasional review by ARC, the General Accounting Office, the US Department of State, the US Department of Homeland Security, and the US Citizenship and Immigration Service.³¹⁶ For this reason, “DOH requires semi-annual verification of employment (or more frequently if requested) during the three-year term of the commitment.”³¹⁷

Evaluating applications, assessing site eligibility, filling all available Conrad State 30 and ARC slots, and tracking participants require financial resources and manpower. To ensure that DOH can effectively administer the programs, and to meet the programs’ goals, the Advisory Committee recommends increased financial support to DOH.

³¹⁰ Pa. Dep’t of Health, “Conrad State 30 J-1 Visa Waiver Program Fact Sheet,” *available at* <http://www.portal.state.pa.us/portal/server.pt?open=18&objID=1332606&mode=2>.

³¹¹ *Supra* note 4, at p. 13.

³¹² *Supra* note 307.

³¹³ *Id.*

³¹⁴ *Id.*

³¹⁵ *Id.*

³¹⁶ *Supra* note 304.

³¹⁷ *Id.*

**Other Considerations:
The Advisory Committee supports the
implementation of the Patient Centered Medical
Home and telemedicine care delivery models**

As discussed previously in this report, various workforce projections show differing levels of physician shortages for alternate care delivery models. For example, HRSA’s projection based on a greater role for nurse practitioners and physician assistants resulted in a much lower physician shortage.

Although changes in licensure were outside the scope of this study, the Advisory Committee discussed alternative care delivery models. Specifically, the Advisory Committee considered Patient Centered Medical Homes and telemedicine. While these are both very promising, they are only two options. The Advisory Committee also felt strongly that even without changing current licensure policies, health care providers could provide more care across the spectrum by practicing at the maximum level allowed by their licenses. However, the Advisory Committee ultimately decided not to make recommendations relating to alternative care delivery models because of the ongoing nature of other projects aimed at studying and implementing them.

Patient Centered Medical Homes

The Patient Centered Medical Home (PCMH) is not a building, house, hospital, or home health care service.³¹⁸ The PCMH “is best described as a model or philosophy of primary care that is patient-centered, comprehensive, team-based, coordinated, accessible, and focused on quality and safety.”³¹⁹

A PCMH should meet a majority of each patient’s physical and mental health care needs.³²⁰ This comprehensive care requires a team of providers, which may include physicians, advanced practice nurses, physician assistants, nurses, pharmacists, nutritionists, social workers, educators, and care coordinators.³²¹

Because PCMHs provide primary care that is relationship-based, they must collaborate with patients and their families to facilitate understanding and respect for the patient’s needs, culture, values, and preferences.³²² A PCMH should also coordinate care across the broader health care system, which includes specialty care, hospitals, outpatient facilities, nursing homes, home health care, and community services.³²³

³¹⁸ Am. Acad. of Pediatrics, Nat’l Ctr. for Med. Home Implementation, “Frequently Asked Questions,” *available at* <http://www.medicalhomeinfo.org/about/faq.aspx>.

³¹⁹ Patient-Centered Primary Care Collaborative, “Defining the Medical Home: A Patient-Centered Philosophy that Drives Primary Care Excellence,” 2014, *available at* <https://www.pcpc.org/about/medical-home>.

³²⁰ Dep’t of Health & Human Servs., Agency for Healthcare Research & Quality, Patient Centered Medical Home Resource Center, “Defining the PCMH,” *available at* <http://pcmh.ahrq.gov/page/defining-pcmh>.

³²¹ *Id.*

³²² *Id.*

³²³ *Id.*

The PCMH model provides more accessible services than traditional care delivery models.³²⁴ Improved accessibility may include shorter waiting times for urgent needs, extended office hours, 24-hour telephone or electronic access to a member of the care team, and alternative methods of communication, such as email.³²⁵

Finally, the PCMH model is committed to quality, safety, and improvement.³²⁶ The PCMH should use evidence-based medicine and clinical decision support tools to guide decisions.³²⁷ The PCMH should engage in performance measurement and improvement, measure and respond to patient experiences and satisfaction, and practice population health management.³²⁸ PCMHs should also share quality and safety data and improvement activity details publicly to contribute to system-wide quality improvement.³²⁹

The PCMH model has been endorsed by the American Academy of Pediatrics, the American College of Physicians, the American Academy of Family Physicians, and many other medical societies and organizations.³³⁰ Although PCMH implementation is still underway, studies examining PCMHs appear promising.³³¹

Pennsylvania has been leading the way in the field of PCMHs for many years and has many projects implementing and studying the model in progress.³³² The Centers for Medicare and Medicaid Services State Innovation Model (SIM) grant initiative provides financial and technical support to states to develop and implement “state-led, multi-payer health care payment and service delivery models that will improve health system performance, increase quality of care, and decrease costs for Medicare, Medicaid and Children’s Health Insurance Program (CHIP) beneficiaries—and for all residents of participating states.”³³³ Pennsylvania has been awarded SIM grant funds to further implement the PCMH model, among other innovations.³³⁴

Furthermore, Pennsylvania’s General Assembly recently addressed the matter of PCMHs. Act 198 of 2014 creates a Patient-Centered Medical Home Advisory Council and calls for the development of a plan to implement a statewide medical home model.³³⁵

³²⁴ *Id.*

³²⁵ *Id.*

³²⁶ *Id.*

³²⁷ *Id.*

³²⁸ *Id.*

³²⁹ *Id.*

³³⁰ Ass’n of Am. Med. Colls., “The Medical Home,” March 2008, *available at* <https://members.aamc.org/eweb/upload/The%20Medical%20Home.pdf>, at p. 3.

³³¹ *Id.*

³³² Am. Acad. of Pediatrics, Nat’l Ctr. for Med. Home Implementation, “Pennsylvania Medical Home Info,” *available at* http://www.medicalhomeinfo.org/state_pages/pennsylvania.aspx.

³³³ Dep’t of Health & Human Servs., Ctrs. For Medicare & Medicaid Servs., “State Innovation Models Initiative: General Information,” *available at* <http://innovation.cms.gov/initiatives/state-innovations/>.

³³⁴ *Id.*

³³⁵ Act of October 31, 2014 (P.L.2979, No.198).

Telemedicine

Telemedicine “is the use of electronic information and telecommunications technologies to support long-distance clinical health care, patient and professional health-related education, public health and health administration.”³³⁶ Technologies used in telemedicine include videoconferencing, store-and-forward imaging, streaming media, and terrestrial and wireless communications.³³⁷

Telemedicine is considered a cost-effective alternative to traditional medical care delivery.³³⁸ Telemedicine also offers the ability to improve access to care for rural communities and other underserved communities.³³⁹ Advisory Committee members noted that telemedicine is especially useful for specialists, and for providing continuity of care for patients who move or travel. Advisory Committee members also noted that telemedicine can be a recruiting tool in rural areas because inexperienced physicians appreciate the availability of more experienced physicians who can provide support and guidance.

Forty-three states and the District of Columbia cover telemedicine in their Medicaid programs.³⁴⁰ Twenty states and the District of Columbia require private insurance plans to cover telemedicine.³⁴¹ Pennsylvania covers telemedicine in its Medicaid program but does not require private insurers to cover telemedicine.³⁴² Parity of coverage is one of the barriers to further implementation. High-speed broadband connectivity and licensure issues are also major barriers telemedicine implementation.

The DOH and several other stakeholders have formed a telemedicine advisory committee tasked with developing a strategic plan to implement telemedicine in Pennsylvania, and these efforts are supported by a grant from the Mid-Atlantic Telehealth Resource Center.³⁴³ Additionally, Pennsylvania has been awarded SIM grant funds to further implement telemedicine, among other innovations.³⁴⁴

³³⁶ Dep’t of Health & Human Servs., Health Res. & Servs. Admin., “Telehealth,” *available at* <http://www.hrsa.gov/ruralhealth/about/telehealth/>.

³³⁷ *Id.*

³³⁸ Dep’t of Health & Human Servs., Ctrs. For Medicare & Medicaid Servs., “Telemedicine,” *available at* <http://www.medicaid.gov/Medicaid-CHIP-Program-Information/By-Topics/Delivery-Systems/Telemedicine.html>.

³³⁹ Fred D. Baldwin, “Access to Care: Overcoming the Rural Physician Shortage,” *Appalachian Reg’l Comm’n*, *available at* http://www.arc.gov/magazine/articles.asp?ARTICLE_ID=98.

³⁴⁰ Nat’l Conference of State Legislatures, “State Coverage for Telehealth Services,” January 2014, *available at* <http://www.ncsl.org/research/health/state-coverage-for-telehealth-services.aspx>.

³⁴¹ *Id.*

³⁴² Pa. Dep’t of Human Servs., “Medical Assistance Bulletin 09-12-31, 31-12-31, 33-12-30,” May 23, 2012, *available at* http://www.dpw.state.pa.us/cs/groups/webcontent/documents/bulletin_admin/d_005993.pdf.

³⁴³ Pa. Telehealth Roundtable, “Welcome,” *available at* <https://pennsylvaniatelehealth.wordpress.com/>; Mid-Atlantic Telehealth Resource Ctr., “Home,” 2014, *available at* <http://www.matrc.org/>.

³⁴⁴ *Supra* note 330.

LIST OF ABBREVIATIONS

Abbreviation	Definition
AACOM	American Association of Colleges of Osteopathic Medicine
AAMC	Association of American Medical Colleges
ACGME	Accreditation Council for Graduate Medical Education
AMA	American Medical Association
AOA	American Osteopathic Association
ARC	Appalachian Regional Commission
CHIP	Children's Health Insurance Program
DGME	Direct Graduate Medical Education
DOH	Pennsylvania Department of Health
FQHC	Federally Qualified Health Center
FTE	Full-Time Equivalent
GME	Graduate Medical Education
HHS	US Department of Health and Human Services
HPSA	Health Professional Shortage Area
HRSA	Health Resources and Services Administration
IME	Indirect Medical Education
IMG	International Medical Graduate
IMU	Index of Medical Underservice
J-1	Exchange Visitor Non-Immigrant Visa
MUA	Medically Underserved Area
MUP	Medically Underserved Population
NHSC	National Health Service Corps
NRMP	National Resident Matching Program
PCMH	Patient Centered Medical Home
PRM	Physician Requirements Model
PSAP	Physician Shortage Area Program
PSM	Physician Supply Model
RHC	Rural Health Clinic
SIM	State Innovation Model
THCGME	Teaching Health Centers Graduate Medical Education

SUPPLEMENTARY MATERIALS

PRINTER'S NO. 3230

THE GENERAL ASSEMBLY OF PENNSYLVANIA

HOUSE RESOLUTION

No. 735 Session of
2014

INTRODUCED BY CUTLER, SCHLOSSBERG, THOMAS, MUSTIO, O'NEILL,
HEFFLEY, DAVIS, MILLARD, PICKETT, YOUNGBLOOD, HARHART,
TOEPEL, O'BRIEN, GIBBONS, SWANGER, ROCK, READSHAW, GODSHALL,
BAKER, HICKERNELL, PARKER, GRELL, MCNEILL, MURT, WATSON,
DeLUCA, CLYMER, GINGRICH, COHEN AND DENLINGER, MARCH 25, 2014

REFERRED TO COMMITTEE ON HEALTH, MARCH 25, 2014

A RESOLUTION

1 Directing the Joint State Government Commission to study the
2 issue of physician shortages, to establish an advisory
3 committee to conduct a comprehensive study of physician
4 shortages, to propose strategies for eliminating physician
5 shortages, and to report to the House of Representatives with
6 its findings and recommendations.

7 WHEREAS, Research studies have found that physician shortages
8 have reached alarming proportions in the United States and
9 Pennsylvania in particular; and

10 WHEREAS, According to a 2012 Physicians Foundation survey
11 report nearly half the nation's 830,000 physicians are 50 years
12 of age or older and are seeing fewer patients than they did four
13 years ago; and

14 WHEREAS, In Pennsylvania, 52% of physicians are more than 50
15 years of age and less than 10% are under 35 years of age,
16 according to a report released by the Pennsylvania Department of
17 Health in 2010; and

18 WHEREAS, Pennsylvania is experiencing physician shortages for

1 a litany of reasons; and

2 WHEREAS, According to the Department of Health in 2010, 41%
3 of physicians who anticipated leaving direct patient care in
4 Pennsylvania within five years cited retirement as the reason;
5 and

6 WHEREAS, As the baby boomers grow older, they are creating a
7 greater need for physicians; and

8 WHEREAS, Medical school debts, which often average a quarter
9 of a million dollars, also contribute to physician shortages;
10 and

11 WHEREAS, Changing health care landscapes are expected to
12 further increase the need for physicians by adding newly insured
13 Pennsylvanians to this Commonwealth's health care system;
14 therefore be it

15 RESOLVED, That the House of Representatives direct the Joint
16 State Government Commission to establish an advisory committee
17 of approximately 25 members consisting of public officials and
18 experts on the issue of physician shortages and its impact; and
19 be it further

20 RESOLVED, That the Joint State Government Commission, working
21 with the advisory committee, conduct a thorough and
22 comprehensive analysis of physician shortage and its impacts by
23 region and specialty, at a minimum; and be it further

24 RESOLVED, That the Joint State Government Commission, working
25 with the advisory committee, study recent reports on the issue
26 of physician shortages, review other states' proposals to
27 address physician shortages and develop recommendations best
28 suited for Pennsylvania; and be it further

29 RESOLVED, That the final report include any recommendations
30 to implement necessary changes in State statutes and practices,

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1 policies and procedures relating to physician shortages; and be
2 it further

3 RESOLVED, That the Joint State Government Commission issue a
4 report to the House of Representatives with its findings and
5 recommendations not later than one year after the adoption of
6 this resolution.

PATIENT-CENTERED MEDICAL HOME ADVISORY COUNCIL ACT - ENACTMENT
Act of Oct. 31, 2014, P.L. 2979, No. 198 **Cl. 35**
An Act

Establishing the Patient-Centered Medical Home Advisory Council; providing powers and duties of the council, the Department of Human Services; and providing for development of a plan to implement a Statewide medical home model.

The General Assembly of the Commonwealth of Pennsylvania hereby enacts as follows:

Section 1. Short title.

This act shall be known and may be cited as the Patient-Centered Medical Home Advisory Council Act.

Section 2. Definitions.

The following words and phrases when used in this act shall have the meanings given to them in this section unless the context clearly indicates otherwise:

"Alternative therapy." The term includes, but is not limited to, chiropractic therapy, biofeedback, acupuncture or massage therapy.

"Council." The Patient-Centered Medical Home Advisory Council established by this act.

"Department." The Department of Human Services of the Commonwealth.

"Health care professional." A person who is licensed, certified or otherwise authorized or permitted by the law of this Commonwealth to administer health care in the ordinary course of business or in the practice of a profession.

"Patient-centered medical home." A team approach to providing health care that:

(1) is physician-led, led by a nurse practitioner practicing under a collaborative agreement as required by the act of May 22, 1951 (P.L.317, No.69), known as The Professional Nursing Law or led by a physician assistant practicing under the supervision and direction of a physician as required by the act of December 20, 1985 (P.L.457, No.112), known as the Medical Practice Act of 1985;

(2) originates in a primary care setting;

(3) fosters a partnership among the patient, the patient's provider and other health care professionals and, where appropriate, the patient's family;

(4) utilizes the partnership to access all medical-health-related services and nonmedical-health-related services needed by the patient to achieve maximum health potential; and

(5) maintains a centralized, comprehensive record of all health related services to promote continuity of care.

"Primary care." Health care that emphasizes a patient's general health needs and utilizes collaboration with other health care professionals and consultation or referral as appropriate to meet the needs identified.

"Primary care physician." Any of the following who provide primary care and meet certification standards:

(1) a physician who is a family or general practitioner;

(2) a pediatrician;

(3) an internist;

(4) an obstetrician; or

(5) a gynecologist.

"Secretary." The Secretary of Human Services of the Commonwealth.

"Telemedicine." The use of telecommunication and information technology in order to provide clinical health care at a distance.

Section 3. Patient-Centered Medical Home Advisory Council.

(a) Establishment.--The Patient-Centered Medical Home Advisory Council is established. The council shall advise the department on how Pennsylvania's Medicaid program can increase the quality of care while containing costs through the following patient-centered medical home model approaches:

(1) Coordinate and provide access to evidence-based health care services, emphasizing convenient, comprehensive primary care and including preventive, screening and well-child health services.

(2) Provide access to appropriate specialty care, mental health services, inpatient services and any evidence-based alternative therapies.

(3) Provide quality-driven and cost-effective health care.

(4) Provide access to medication and medication therapy management services, in accordance with section 935(c) of the Patient Protection and Affordable Care Act (Public Law 111-148, 42 U.S.C. § 299b-35(c)).

(5) Promote strong and effective medical management, including, but not limited to, planning treatment strategies, monitoring health outcomes and resource use, sharing information and organizing care to avoid duplication of services, including the use of electronic medical records. In sharing information, the protection of the privacy of individuals and of the individuals' information shall be priorities. In addition to any and all other Federal and State provisions for the confidentiality of health care information, any information-sharing required by a medical home system shall be subject to written consent of the patient.

(6) Provide comprehensive care management to patients to align and assist with treatment strategies, health outcomes, resource utilization and organization of care and address determinants of health impeding goals of care.

(7) Emphasize patient and provider accountability.

(8) Prioritize access to the continuum of health care services in the most appropriate setting and in the most cost-effective manner.

(9) Establish a baseline for medical home goals and establish performance measures that indicate a patient has an established and effective medical home. These goals and performance measures may include, but need not be limited to, childhood immunization rates, well-child care utilization rates, care management for chronic illnesses and emergency room utilization.

(b) Composition.--The secretary shall appoint the members of the council, in consultation with the President pro tempore of the Senate, the Majority Leader of the Senate, the Minority Leader of the Senate, the Speaker of the House of Representatives, the Majority Leader of the House of Representatives and the Minority Leader of the House of Representatives, which shall consist of the secretary or a designee and individuals representing the following interests:

- (1) Family physicians.
- (2) Obstetricians and gynecologists.
- (3) Nurse practitioners.
- (4) Internists.
- (5) Pediatricians.

- (6) Pharmacists.
- (7) Hospital and health systems.
- (8) Patient-centered medical homes.
- (9) Mental health care providers.
- (10) Community health centers.
- (11) Managed care organizations licensed to do business in the Commonwealth.
- (12) Physician assistants.

(c) Names.--Professional organizations representing the professions indicated in subsection (b) may submit names to the secretary for the purpose of being appointed to the council.

(d) Terms.--Each member of the council shall serve for a period of two years. Members may be reappointed by the secretary.

(e) Meetings.--The department shall establish and coordinate meetings of the council. The secretary, or the secretary's designee, shall serve as chairperson of the council.

(f) Expenses.--The members of the council shall not be paid, but shall be reimbursed for reasonable expenses.

Section 4. Duties of the council.

(a) Organizational model.--The council shall recommend to the department an organizational model for the patient-centered medical home system in this Commonwealth, including possible Medicaid pilot projects. The organizational model shall provide a strategy to coordinate health care services and provide for monitoring and data collection on patient-centered medical homes, for training and education to health care professionals and families and for transition of children to the adult medical care system. The organizational model may also include the use of telemedicine resources and may provide for partnering with pediatric and family practice residency programs to improve access to preventive care for children. The organizational structure shall also address the need to organize and provide health care to increase accessibility for patients, including using venues more accessible to patients and having hours of operation that are conducive to the population served.

(b) Standards.--

(1) The council shall recommend to the department standards and a process to certify patient-centered medical homes based on standards developed by a number of nongovernmental accrediting entities. The certification process and standards shall provide mechanisms to monitor performance and to evaluate, promote and improve the quality of health of, and health care delivered to, patients through a patient-centered medical home. The standards and process shall also include a mechanism for other ancillary service providers to become affiliated with a certified patient-centered medical home.

(2) The council shall recommend to the department education and training standards for health care professionals participating in the patient-centered medical home system.

(c) Reimbursement methodology.--The council shall recommend to the department a reimbursement methodology and incentives for participation in the patient-centered medical home system sufficient to ensure that providers enter and remain participating in the system and to promote wellness, prevention, chronic care management, immunizations, health care management and the use of electronic health records and other pertinent concerns. In developing the recommendations, the council shall consider the feasibility of all of the following:

(1) Reimbursement under the medical assistance program to promote wellness and prevention and to provide care coordination and chronic care management.

(2) Increasing to Medicare levels the reimbursement for certain wellness and prevention services, chronic care management and immunizations.

(3) Reducing the disparities between reimbursement for specialty services and primary care services.

(4) Increased funding for efforts to transform medical practices into patient-centered medical homes, including the use of electronic health records.

(5) Linking provider reimbursement rates to health care quality improvement measures established by the department.

(6) Providing reimbursement for medication reconciliation and medication therapy management service.

(d) Report.--The council shall provide an initial report of recommendations to the Governor, the Senate and the House of Representatives by December 31, 2015. Additional reports shall be provided on December 31 of odd-numbered years so long as the council is in existence.

Section 5. Expiration.

This act shall expire June 30, 2020.

Section 6. Effective date.

This act shall take effect immediately.

CHILDREN'S HEALTH CARE ACT
Act of Dec. 2, 1992, P.L. 741, No. 113
AN ACT

Cl. 40

Providing a comprehensive plan for health care for uninsured children; providing for medical education assistance; making appropriations; and making repeals.

Compiler's Note: Section 2 of Act 68 of 1998, which repealed sections 102, 701, 702, 703, 3101, 3102, 3103 and 3105, provided that all entities receiving grants under Act 113 on the effective date of section 2 of Act 68 shall continue to receive funds and provide services as required under Act 113 until notice is received from the Insurance Department.

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The General Assembly of the Commonwealth of Pennsylvania hereby enacts as follows:

CHAPTER 1
GENERAL PROVISIONS

Section 101. Short title.
This act shall be known and may be cited as the Children's Health Care Act.
Section 102. Legislative findings and intent. (102 repealed June 17, 1998, P.L.464, No.68)
Section 103. Definitions.

The following words and phrases when used in this act shall have the meanings given to them in this section unless the context clearly indicates otherwise:

"Child." A person under 13 years of age, except as provided for in section 701(d).

"Children's medical assistance." Medical assistance services to children as required under Title 14 of the Social Security Act (Public Law 74-271, 42 U.S.C. § 301 et seq.), including EPSDT services.

"Council." The Children's Health Advisory Council established in section 701(i).

"Department." The Department of Public Welfare of the Commonwealth.

"EPSDT." Early and periodic screening, diagnosis and treatment.

"Fund." The Children's Health Fund for health care for indigent children established by section 1296 of the act of March 4, 1971 (P.L.6, No.2), known as the Tax Reform Code of 1971.

"Genetic status." The presence of a physical condition in an individual which is a result of an inherited trait.

"Grantee." An entity selected by the management team to receive a grant under Chapter 7. The term includes an entity, and its subsidiary, which is established under 40 Pa.C.S. Ch. 61 (relating to hospital plan corporations) or 63 (relating to professional health services plan corporations); the act of May 17, 1921 (P.L.682, No.284), known as The Insurance Company Law of 1921; or the act of December 29, 1972 (P.L.1701, No.364), known as the Health Maintenance Organization Act.

"Group." A group for which a health insurance policy is written in this Commonwealth.

"Health maintenance organization" or "HMO." An entity organized and regulated under the act of December 29, 1972 (P.L.1701, No.364), known as the Health Maintenance Organization Act.

"Health service corporation." A professional health service corporation as defined in 40 Pa.C.S. § 6302 (relating to definitions).

"Hospital." An institution having an organized medical staff which is engaged primarily in providing to inpatients, by or under the supervision of physicians, diagnostic and therapeutic services for the care of injured, disabled, pregnant, diseased or sick or mentally ill persons. The term includes facilities for the diagnosis and treatment of disorders within the scope of specific medical specialties. The term does not include facilities caring exclusively for the mentally ill.

"Hospital plan corporation." A hospital plan corporation as defined in 40 Pa.C.S. § 6101 (relating to definitions).

"Insurer." Any insurance company, association, reciprocal, nonprofit hospital plan corporation, nonprofit professional health service plan, health maintenance organization, fraternal benefits society or a risk-bearing PPO or nonrisk-bearing PPO not governed and regulated under the Employee Retirement Income Security Act of 1974 (Public Law 93-406, 29 U.S.C. § 1001 et seq.).

"MAAC." The Medical Assistance Advisory Committee.

"Managed care organization." A health maintenance organization organized and regulated under the act of December 29, 1972 (P.L.1701, No.364), known as the Health Maintenance Organization Act, or a risk-assuming preferred provider organization or exclusive provider organization, organized and

regulated under the act of May 17, 1921 (P.L.682, No.284), known as The Insurance Company Law of 1921.

"Management team." The Children's Health Insurance Management Team established in section 701(f).

"MCH." Maternal and Child Health.

"Medical assistance." The State program of medical assistance established under the act of June 13, 1967 (P.L.31, No.21), known as the Public Welfare Code.

"Medicaid." The Federal medical assistance program established under Title XIX of the Social Security Act (Public Law 74-271, 42 U.S.C. § 1396 et seq.).

"Mid-level health professional." A physician assistant, certified registered nurse practitioner, nurse practitioner or a certified nurse midwife.

"Parent." A natural parent, stepparent, adoptive parent, guardian or custodian of a child.

"PPO." A preferred provider organization subject to the provisions of section 630 of act of May 17, 1921 (P.L.682, No.284), known as The Insurance Company Law of 1921.

"Preexisting condition." A disease or physical condition for which medical advice or treatment has been received prior to the effective date of coverage.

"Secretary." The Secretary of the Department of Health.

"Spenddown." A qualifying procedure for medical assistance set forth in 55 Pa. Code Ch. 181 (relating to income provisions for categorically needy NMP-MA and MNO-MA).

"Subgroup." An employer covered under a contract issued to a multiple employer trust or to an association.

"Terminate." Includes cancellation, nonrenewal and rescission.

"Waiting period." A period of time after the effective date of enrollment during which a health insurance plan excludes coverage for the diagnosis or treatment of one or more medical conditions.

"WIC." The Federal Supplemental Food Program for Women, Infants and Children.

Compiler's Note: The Department of Public Welfare, referred to in this section, was redesignated as the Department of Human Services by Act 132 of 2014.

CHAPTER 7 PRIMARY HEALTH CARE PROGRAMS

Section 701. Children's health care. (701 repealed June 17, 1998, P.L.464, No.68)

Section 702. Outreach. (702 repealed June 17, 1998, P.L.464, No.68)

Section 703. Payor of last resort. (703 repealed June 17, 1998, P.L.464, No.68)

CHAPTER 13 PRIMARY CARE TO MEDICALLY UNDERSERVED AREAS

Section 1301. Definitions.

The following words and phrases when used in this chapter shall have the meanings given to them in this section unless the context clearly indicates otherwise:

"Agency." The Pennsylvania Higher Education Assistance Agency.

"Designated medically underserved area." Any of the following:

(1) An area designated by the Secretary of Health as a primary health care practitioner shortage area using criteria which take into account the special barriers to the provision of health care services in a rural or inner-city area.

(2) An area designated by the United States Department of Health and Human Services as a medically underserved area, a medically underserved population or a health professional shortage area.

(3) An area designated by the United States Department of Health and Human Services as a health manpower shortage area.

"Primary health care practitioner." A health care professional providing medical services in any of the following practices: family practice, osteopathic general practice, general pediatrics, obstetrics, general internal medicine and general dentistry. The term includes physician assistants, certified registered nurse practitioners, nurse practitioners and certified nurse midwives.

"Secretary." The Secretary of Health of the Commonwealth. Section 1302. Primary health care practitioners.

(a) Establishment.--The secretary shall establish the Primary Health Care Practitioners Program within the Department of Health to increase the availability of primary health care practitioners to rural and inner-city designated medically underserved areas of this Commonwealth.

(b) Powers and duties.--The secretary shall implement a comprehensive program designed to increase the number of primary health care practitioners in rural and urban shortage areas, including, but not limited to, the following activities:

(1) Reviewing and updating on a regular basis the designated medically underserved areas.

(2) Promoting the training of primary health care practitioners and service in designated medically underserved areas.

(3) Promoting the capacity of local communities to support primary health care practitioners.

(4) Promoting the recruitment and retention of primary health care practitioners in designated medically underserved areas.

(5) Providing to the General Assembly an annual report on the activities of the Department of Health.

(6) To the extent possible, maximizing Federal, local and private funding to achieve the purposes of this chapter.

(7) Creating an advisory committee to assist in carrying out the provisions of this chapter.

(i) The advisory committee shall be comprised of the following:

(A) The secretary, who shall serve as chairperson.

(B) Two members of the Senate appointed by the President pro tempore of the Senate, one of whom shall be a member of the minority caucus.

(C) Two members of the House of Representatives appointed by the Speaker of the House of Representatives, one of whom shall be a member of the minority caucus.

(D) One representative of a rural hospital in a designated medically underserved area selected by the secretary.

(E) One representative of an urban hospital in a designated medically underserved area selected by the secretary.

(F) Two primary health care practitioners who are physicians selected by the secretary.

(G) Two primary health care practitioners who are midlevel health professionals selected by the secretary.

(ii) Legislative members shall serve so long as they remain in office. Hospital and primary health care practitioners shall serve for two-year terms. No member of the committee shall be eligible to receive assistance under this chapter.

Section 1303. Loan forgiveness for primary health care practitioners.

(a) Establishment.--The Department of Health shall, as part of the Primary Health Care Practitioners Program provided for in section 1302, establish a loan forgiveness program for primary health care practitioners serving in medically underserved designated shortage areas.

(b) Administration and purpose.--The Department of Health shall coordinate the administration of the program with the agency for providing repayment of student loans for primary health care practitioners serving in designated medically underserved areas.

(c) Repayment assistance.--The Department of Health, in coordination with the agency, may provide assistance for the repayment of a student loan for education at an institution of higher learning received by a primary health care practitioner. Repayment assistance may not be made for a loan that is in default at the time of the application or for a loan being repaid through any other loan repayment assistance program. Repayment shall be made by the agency to the lending institution on behalf of the loan recipient.

(d) Eligibility.--Consideration for loan repayment assistance shall be as follows:

(1) The applicant must be one of the following:

(i) An individual who:

(A) has a medical degree from an accredited medical school or osteopathic medical college;

(B) has completed an approved graduate training program in primary care medicine;

(C) is licensed to practice medicine in this Commonwealth; and

(D) is board eligible in a primary care specialty.

(ii) An individual who is licensed to practice general dentistry in this Commonwealth.

(iii) An individual who holds a nursing degree from an accredited nursing program and has completed a training program for nurse practitioners or nurse midwives.

(iv) An individual who has graduated from an accredited program for physician assistants.

(2) An applicant who is qualified under paragraph (1) must agree to serve in a designated medically underserved area of this Commonwealth as a primary health care practitioner for not less than three years.

(e) Benefits.--

(1) A physician or dentist who is eligible under subsection (d) shall be eligible to receive up to \$64,000 in loan exonerations based on the following schedule:

- (i) Year one, 15%.
- (ii) Year two, 20%.
- (iii) Year three, 30%.
- (iv) Year four, 35%.

(2) A nurse practitioner, physician assistant or nurse midwife who is eligible under subsection (d) shall be eligible to receive up to \$40,000 in loan exonerations based on the following repayment schedule:

- (i) Year one, 15%.
- (ii) Year two, 20%.
- (iii) Year three, 30%.
- (iv) Year four, 35%.

(f) Contracts.--A recipient of loan repayment assistance shall enter into a contract with the agency and the Department of Health, which shall be considered a contract with the Commonwealth. Priority shall be given to those applicants who agree to engage in primary health care practice a minimum of three years or more in a designated medically underserved area. Preference shall be given to residents of this Commonwealth, minority applicants and graduates of Pennsylvania institutions providing primary health care education. The contract shall include, but not be limited to, the following terms and conditions:

(1) An unlicensed applicant shall apply for a license to practice in this Commonwealth at the earliest practicable opportunity.

(2) Within six months after licensure and the completion of all requirements for the primary care specialty, an applicant shall engage in the practice of primary health care medicine in a designated medically underserved area approved by the Department of Health. The Department of Health shall provide applicants with a list of available designated medically underserved area sites and shall, to the extent possible, approve applicant selections in the order they are received.

(3) The applicant shall agree to serve not less than three full years in a designated medically underserved area at a repayment assistance schedule as provided in subsection (e).

(4) The primary health care practitioner shall agree to treat patients in the area eligible for medical assistance and Medicare.

(5) The primary health care practitioner shall agree to practice on a full-time basis in the designated medically underserved area.

(6) The primary health care practitioner shall permit the agency or the Department of Health to monitor the practice to determine compliance with the terms of the contract.

(7) The agency shall certify compliance with the terms of the contract for purposes of receipt by the primary health care practitioner of loan repayment awards for years subsequent to the initial year of the loan.

(8) The contract shall be renewable on an annual basis upon certification by the agency that the primary health care practitioner has complied with the terms of the contract.

(9) Upon the recipient's death or total or permanent disability, the agency shall nullify the service obligation of the recipient.

(10) If the recipient is convicted of, or pleads guilty or no contest to, a felony or misdemeanor or if the

appropriate licensing board has determined that the recipient has committed an act of gross negligence in the performance of service obligations or has suspended or revoked the license to practice, the agency shall have the authority to terminate the recipient's service in the program and demand repayment of the assistance rendered to date.

(11) Loan recipients who fail to begin or complete the obligations contracted for shall pay to the agency three times the amount of assistance received. Falsification or misrepresentation on an application or in verification of service shall be construed to be a default. Determination as to the time of breach of contract shall be made by the agency. Both the recipient and the agency shall make every effort to resolve conflicts in order to prevent a breach of contract.

(g) Contract enforcement.--The agency shall have the authority to seek garnishment of wages for the collection of damages provided for in subsection (f)(11).

Section 1304. Primary health care grants program.

The Department of Health shall, as part of the Primary Health Care Practitioners Program provided for in this chapter, establish a program for awarding demonstration grants to promote the training, recruitment and retention of primary health care practitioners in designated medically underserved areas and to promote innovative methods for delivery of primary medical services in rural designated medically underserved areas. The purpose of these grants may include, but need not be limited to, the following:

(1) Promoting health care professions to high school students.

(2) Encouraging local communities in designated medically underserved areas to support primary health care practitioners.

(3) Promoting specific programs for the education, recruitment and retention of family practitioners, particularly in designated medically underserved areas.

Such programs may include challenge grants to medical schools to promote medical education opportunities for primary health care professionals and assistance to communities to establish clinics, including mobile health clinics. In establishing priorities, the department shall give preference to programs which promote coordination of existing resources, particularly in rural areas.

CHAPTER 31 MISCELLANEOUS PROVISIONS

Section 3101. Limitation on expenditure of funds.--(3101 repealed June 17, 1998, P.L.464, No.68)

Section 3102. Severability.--(3102 repealed June 17, 1998, P.L.464, No.68)

Section 3103. Repeals.--(3103 repealed June 17, 1998, P.L.464, No.68)

Section 3104. Expiration (3104 repealed Dec. 18, 1996, P.L.1066, No.159).

Section 3105. Appropriations.--(3105 repealed June 17, 1998, P.L.464, No.68)

Section 3106. Effective date.

This act shall take effect as follows:

(1) Chapter 13 of this act shall take effect in 90 days.

(2) The remainder of this act shall take effect immediately.