I am pleased to testify on behalf of the AAMC (Association of American Medical Colleges) on physician workforce challenges and primary care access across the United States, including projected physician workforce shortages as well as policies and programs that seek to improve and diversify our health care workforce and ensure we have enough providers in underserved areas.

The AAMC is a not-for-profit association dedicated to transforming health through medical education, health care, medical research, and community collaborations. Its members are all 155 accredited U.S. and 17 accredited Canadian medical schools; more than 400 teaching hospitals and health systems, including Department of Veterans Affairs medical centers; and more than 70 academic societies. Through these institutions and organizations, the AAMC leads and serves America's medical schools and teaching hospitals and their more than 179,000 full-time faculty members, 92,000 medical students, 140,000 resident physicians, and 60,000 graduate students and postdoctoral researchers in the biomedical sciences.\(^1\)

### Key Findings from the Annual AAMC Physician Workforce Projections

Since 2008, the AAMC has produced reports of national physician workforce projections, including annual reports prepared by independent experts since 2015 leading up to The Complexities of Physician Supply and Demand: Projections from 2018-2033. We expect to release a 2021 update to this report in June.

The report’s microsimulation model projects the future supply of physicians based on the number and characteristics of the current physician workforce, new physicians trained each year, hours-worked patterns, and retirement patterns. The model projects demand for physicians based on current patterns of health care use, population growth and changing demographics, potential changes to delivery systems — including greater use of managed-care, retail clinics, and increased use of advanced practice registered nurses and physician assistants — and achieving certain population health goals to illustrate the potential impact of improved preventive care. The large projection ranges presented in the report and cited below are the result of comparing a multitude of scenarios and reflect the data challenges and uncertainties of projecting future workforce supply and demand.

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\(^1\) For background on physician education and training, see AAMC’s [The Road to Becoming a Doctor](#).
AAMC continues to project that physician demand will grow faster than supply, leading to a projected total physician shortage between 54,100 and 139,000 physicians by 2033. We also project:
  - A shortage of primary care physicians between 21,400 and 55,200 by 2033.
  - A shortage of non-primary care specialty physicians between 33,700 and 86,700 by 2033, including:
    - Between 17,100 and 28,700 for surgical specialties.
    - Between 9,300 and 17,800 for medical specialties.
    - Between 17,100 and 41,900 for the other specialties category.

Demographics — specifically, population growth and aging — continue to be the primary driver of increasing demand for physicians from 2018 to 2033. During this period, the U.S. population is projected to grow by 10.4% from about 327 million to 361 million. The U.S. population under age 18 is projected to grow by 3.9%, while the population aged 65 and over is projected to grow by 45.1% by 2033. Therefore, demand for physician specialties that predominantly care for older Americans will continue to increase. This projected increase in demand for physicians is on top of current stressors that we see driving demand today, such as increased behavioral health needs, substance use disorder, and of course, COVID-19.

On the supply side, a large portion of the physician workforce is nearing traditional retirement age, and supply projections are sensitive to the workforce decisions of older physicians. More than 2 of 5 currently active physicians will be 65 or older within the next decade. Shifts in retirement patterns over that time could have large implications for the supply of physicians to meet health care demands. Also, growing concerns about physician burnout suggest physicians may be more likely to accelerate, rather than delay, retirement.

While the AAMC annual report projects future shortages, the association also includes a separate “Health Care Utilization Equity” scenario that provides additional context to current physician shortage estimates. In 2018, the Health Resources and Services Administration (HRSA) estimated that the nation requires about 14,900 more primary care practitioners and 6,894 mental health practitioners to eliminate all federally designated Health Professional Shortage Areas (HPSAs). The HPSA designation identifies an area, population, or facility experiencing a shortage of primary care or mental health care services, but does not consider non-primary care physician specialty shortages also projected by HRSA, such as cardiology\(^2\), neurology\(^3\), and orthopedic surgery\(^4\).

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The “Health Care Utilization Equity” scenario finds that if underserved populations were to experience the same health care use patterns as populations with fewer barriers to access, the US would need an additional 74,100 to 145,500 physicians just to meet current demand. This analysis underscores the systematic differences in annual use of health care services by insured and uninsured individuals, individuals in urban and rural locations, and individuals of differing races and ethnicities. These estimates, which are separate from the 2033 shortage-projection ranges, help illuminate the magnitude of current barriers to care and provide an additional reference point when gauging the adequacy of physician workforce supply.

**APPROACHES TO ADDRESSING OR EVEN SOLVING PHYSICIAN WORKFORCE SHORTAGES AND CHALLENGES**

Addressing or solving the nation’s physician workforce shortages and challenges requires a multipronged private-public approach, including innovations such as team-based care and better use of technology in addition to increasing the overall number of physicians. Below are physician workforce policies, programs, and actions the AAMC, its member medical schools and teaching hospitals, our federal partners, and the nation can build on to improve access to health care for all and help address gaping health inequities.

**Overall Physician Shortages**

Over the last two decades, the worsening physician shortage has demonstrated the need to increase the number of physicians to help ensure access to care for people, including during the COVID-19 pandemic and into the future. Academic medicine has responded and, since 2002, the number of first-year students in medical schools has grown by nearly 35% as schools have expanded class sizes and 30 new schools have opened. While medical schools continue to increase enrollment, this will not be sufficient. To be licensed to practice independently, graduate physicians must undergo further, graduate medical education (GME).

Currently, Medicare caps the number of GME positions it supports at each teaching hospital. One key element of addressing the physician shortage is increasing Medicare support for GME, which will help boost access to high-quality care, particularly for underserved populations in rural communities and urban areas that have been disproportionately affected by the pandemic.

A broad bipartisan coalition of members of Congress worked together to provide 1,000 new Medicare-supported GME positions – the first increase of its kind in nearly 25 years – in the Consolidated Appropriations Act, 2021 (P.L. 116-260), which the AAMC estimates will add approximately 1,600 new physicians by 2033. This increase was an important initial investment, but more still needs to be done to help ensure everyone can access the primary and specialty care they need.

To meet this need, Sens. Robert Menendez (D-NJ) and John Boozman (R-AR) and Majority Leader Charles Schumer (D-NY) introduced the [AAMC-endorsed bipartisan Resident Physician](https://www.aamc.org/media/47726/download).
**Shortage Reduction Act of 2021** (S. 834), which would gradually raise the number of Medicare-supported GME positions by 2,000 per year for seven years, for a total of 14,000 new slots. Much like the year-end package, these positions would be targeted to hospitals with diverse needs, including hospitals in rural areas, hospitals serving patients from federally-designated HPSAs, hospitals in states with new medical schools or branch campuses, and hospitals already training over their caps. The legislation has broad stakeholder support and has been endorsed by over seventy members of the GME Advocacy Coalition representing the broad range of disciplines. Many of these stakeholder groups also recommend the bill’s inclusion in upcoming efforts to rebuild and improve the nation’s infrastructure.

The Opioid Workforce Act (S. 1483), introduced by Sens. Maggie Hassan (D-NH) and Susan Collins (R-ME) would similarly increase the number of Medicare-supported GME positions, but would target those positions to increase the number of residents training in addiction medicine, addiction psychiatry, and pain medicine. As the nation continues to fight the opioid epidemic, it is crucial that we increase access to physicians with focused expertise in treating substance use disorders.

GME programs administered by HRSA, including Children's Hospitals GME (CHGME), Teaching Health Center GME (THCGME), and the Rural Residency Program, help increase the number of residents training in children's hospitals, Federally Qualified Health Centers (FQHC), and rural areas, respectively. The AAMC continues to urge Congress to increase annual appropriations for these GME programs in FY 2022, including $485 million for CHGME. We also appreciate the $330 million in supplemental funding for THCGME included in the American Rescue Plan (P.L. 117-2).

**Primary Care**

While the country still faces primary care physician shortages, the AAMC is encouraged to see increases over the last several years in the number of residents matching to primary care residency programs, the number of primary care resident positions offered in the Match, and the percentage of primary care positions as a proportion of total matches.\(^6\) The National Residency Matching Program (NRMP)\(^7\) reports, “In 2020, primary care specialties offered record-high numbers of positions and had high position fill rates,” and “Family Medicine has experienced position increases every year since 2009. In 2020, Family Medicine offered 4,662 positions and filled 4,313 (92.5%).”\(^8\)

To help shape the physician workforce, and specifically primary care, the AAMC recommends doubling funding for the HRSA workforce development programs under Title VII and Title VIII of the Public Health Service Act. Under Title VII, the AAMC supports increased federal funding for the HRSA Title VII Primary Care Training and Enhancement (PCTE) and Medical Student Education programs. PCTE supports training programs for physicians and physician assistants to encourage practice in primary care, promote leadership in health care transformation, and

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\(^6\) Results and Data: 2020 Main Residency Match, Table 9, All Applicants Matched to PGY-1 Positions by Specialty, 2016 – 2020, NRMP, May 2020.

\(^7\) For additional background on NRMP and the Match see: https://www.nrmp.org/intro-to-main-residency-match/

\(^8\) Results and Data: 2020 Main Residency Match, NRMP, May 2020.
enhance teaching in community-based settings. In AY 2018-19, PCTE grantees trained over 13,000 individuals at nearly 1,000 sites, with 61% in medically underserved communities and 30% in rural areas.⁹

The HRSA Title VII Medical Student Education is a new program that supports the primary care pipeline by expanding training for medical students to become primary care clinicians, targeting institutions of higher education in states with the highest primary care workforce shortages. Through grants, the program develops partnerships among institutions, federally recognized tribes, and community-based organizations to train medical students to provide care that improves health outcomes for those living on tribal reservations or in rural and underserved communities. AAMC believes earlier intervention in the educational continuum is also necessary to support additional medical school applicants that are more likely to enter primary care.

Medical education costs can be a significant burden for individuals interested in medicine. While non-financial factors appear to have a greater impact on the specialty choice of medical students¹⁰, the AAMC is concerned about the impact these costs may have on the physician pipeline. Medical schools and their leadership across the country are committed to reducing this burden and have increased institutional aid, some committing to eliminate debt or tuition altogether in the hopes of increasing interest in primary care.¹¹ The AAMC also supports federal efforts to ensure financial stability of primary care providers, including the HRSA Title VII Primary Care Loan, which provides low interest loans to medical students planning to enter primary care. Additionally, the AAMC applauds the recent historic investment of $800 million in the National Health Service Corps (NHSC) under the American Rescue Plan (P.L. 117-2) to help recruit primary care providers to underserved communities through scholarship and loan repayment.

**Workforce Diversity**

A diverse health workforce contributes to culturally responsive care, helps to mitigate bias, and improves access and quality of care to reduce health disparities, such as those seen during COVID-19. It also improves primary care and access as underrepresented students are more likely to choose primary care specialties.

A common theme across several physician workforce challenges is the need to diversify the population of students entering medical school. According to the AAMC Medical School Enrollment Survey¹², virtually all medical schools have specific programs or policies designed to recruit a more diverse student body. The majority of respondents to that survey had established

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¹⁰ Physician Education Debt and the Cost to Attend Medical School: 2020 Update, Section Six: Debt and Specialty Choice, AAMC, October 2020. https://store.aamc.org/downloadable/download/sample/sample_id/368/
or expected to establish programs/policies geared toward minorities underrepresented in medicine, students from disadvantaged backgrounds, and students from underserved communities. Schools also reported a variety of approaches, with a focus on outreach at high schools and local four-year colleges and admission strategies such as holistic review. In addition to these efforts, AAMC believes earlier and greater intervention is necessary to diversify the physician workforce.

For myriad reasons, there has been minimal progress in increasing the number of physicians from diverse racial and ethnic backgrounds. We need more assertive efforts to cultivate a more diverse and culturally prepared workforce. We need to better understand how systemic barriers such as racism and inconsistent access to quality education, beginning with pre-K, negatively affect diversity in academic medicine. And we must design bolder interventions to address the growing absence of Black men and the near-invisibility of American Indians and Alaska Natives in medical school and the physician workforce, which are national crises.

The AAMC is committed to increasing significantly the number of diverse medical school applicants and matriculants, and last year launched a new strategic plan that will take a multitiered approach with sustained investment, collaboration, and attention over time to significantly increase the diversity of medical students. Our goal is to keep increasing the number of students from underrepresented groups until they are no longer underrepresented in medicine. While AAMC enrollment data show we are moving slowly in the right direction to recruit more students from underrepresented groups entering medical school, there is still much work to be done across academic medicine to ensure our diverse nation is reflected in a diverse physician workforce.

In 2020, the total number of first-year students identifying as Black or African American, Hispanic, Latino, or of Spanish origin, and American Indian or Alaska Native increased. However, this growth was concentrated at a small number of medical schools, reflecting the important contributions historically Black colleges and universities and Hispanic-serving institutions make to the diversity of the physician workforce. In recent years, the AAMC released two reports, Altering the Course: Black Males in Medicine\(^\text{13}\) (2015) and Reshaping the Journey: American Indians and Alaska Natives in Medicine\(^\text{14}\) (2018), to further explore why diversity efforts have not been more successful. As discussed in these reports, not all racial and ethnic groups saw notable increases in medical school applicants and matriculants. In particular, the reports demonstrated that the numbers of Black or African American medical school applicants and American Indian or Alaska Native medical school applicants had remained relatively stagnant. Even more concerning was the finding reported in the Altering the Course report that the number of Black or African American male medical school applicants and matriculants had actually decreased since 1978. While there have been some increases in the number of Black or African American male medical school applicants and matriculants in the six years since that report was published, Black or African American male students continue to be woefully underrepresented compared with other medical student groups.

\(^{13}\text{https://store.aamc.org/downloadable/download/sample/sample_id/84/}\)

\(^{14}\text{https://store.aamc.org/downloadable/download/sample/sample_id/243/}\)
The HRSA Title VII health professions and Title VIII nursing programs play an important role in improving the diversity of the health workforce and connecting students to health careers by enhancing recruitment, education, training, and mentorship opportunities. Inclusive and diverse education and training experiences expose students and providers to backgrounds and perspectives other than their own and heighten cultural awareness in health care, resulting in benefits for all patients and providers. Studies also show that underrepresented students are more likely to serve patients from those backgrounds.15

Title VII’s health professions diversity programs include:

- Health Careers Opportunity Program (HCOP), which invests in K-16 health outreach and education programs through partnerships between health professions schools and local community-based organizations;
- Centers of Excellence (COE) program, which provides grants for higher education mentorship and training programs for underrepresented health professions students and faculty;
- Faculty Loan Repayment, which provides loan repayment awards to retain minority health professions faculty in academic settings to serve as mentors to the next generation of providers; and
- Scholarships for Disadvantaged Students (SDS), which grants scholarships for health professions students from minority and/or socioeconomically disadvantaged backgrounds.

Studies have demonstrated the effectiveness of such pipeline programs in strengthening students’ academic records, improving test scores, and helping racial and ethnic minority and students who are economically disadvantaged pursue careers in the health professions.16 Title VII diversity pipeline programs reached over 10,000 students in the 2018-2019 academic year (AY), with HCOP reaching more than 4,000 disadvantaged trainees, SDS graduating nearly 1,400 students and COE reaching more than 5,600 health professionals; 56% of whom were located in medically underserved communities.17 This success is even more impressive considering that only 20 schools have HCOP grants and only 17 have COE grants — down from 80 HCOP programs and 34 COE programs in 2005 before the programs’ funding was cut substantially.

Title VIII’s Nursing Workforce Diversity Program increases nursing education opportunities for individuals from disadvantaged backgrounds, through stipends and scholarships, and a variety of pre-entry and advanced education preparation. In AY 2018-19, the program supported more than 11,000 students, with approximately 46% of the training sites located in underserved communities.18

18 Id.
The AAMC appreciates that Congress reauthorized the HRSA Title VII and Title VIII programs in the Coronavirus Aid, Relief, and Economic Security (CARES) Act (P.L. 116-136). However, increased funding is necessary for these programs to reach their full potential. For FY 2022, AAMC joined an alliance of over 90 national organizations, the Health Professions and Nursing Education Coalition (HPNEC), in recommending $1.51 billion for Title VII and Title VIII, which includes doubling funding for the HRSA diversity pipeline programs.

**Rural Access**

Access issues persist in rural communities. While 20% of the U.S. population lives in rural communities, only 11% of physicians practice in such areas. The Centers for Disease Control and Prevention (CDC) reports that Americans living in rural areas are more likely to die from health issues like cardiovascular disease, unintentional injury requiring emergency services, and chronic lung disease than city-dwellers. People living in rural communities also tend to be diagnosed with cancer at later stages and have worse outcomes.

We know that medical students who grow up in rural communities are much more likely to return to them, and physicians who train in rural areas are ten times more likely to practice full time in those communities. As previously discussed, many medical schools aim to identify potential candidates from rural communities and encourage them to take up medicine; however, in 2016 and 2017, students from rural backgrounds made up less than 5% of the incoming medical student body.

As Congress considers improving the nation’s health infrastructure, there is an opportunity to invest in the rural workforce pipeline. AAMC supports The Expanding Medical Education Act (H.R. 801), which would authorize grants to enhance current and establish new regional medical campuses (RMCs), thereby helping expose more future providers to rural and other underserved settings. RMCs are important settings for medical schools to expand their reach and help fulfill their unique missions. Approximately 30% of medical schools already have at least one branch campus. RMCs often have targeted missions, such as training future providers in primary care and in rural settings. The funds authorized in this bill would help with the construction of new branch campuses and assist current RMCs in enhancing their facilities, expanding their enrollment, recruiting new faculty, developing curriculum, and planning for accreditation.

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20 https://www.ncbi.nlm.nih.gov/pmc/articles/PMC5007145/
22 The Decline In Rural Medical Students: A Growing Gap In Geographic Diversity Threatens The Rural Physician Workforce, Health Affairs, December 2019, https://www.healthaffairs.org/doi/abs/10.1377/hlthaff.2019.00924 (Note - this study does not include osteopathic medical school matriculation and enrollment)
To facilitate new rural residency programs, the HRSA Office of Rural Health Policy provides technical assistance and start-up funding to rural hospitals under the Rural Residency Planning and Development (RRPD) programs. Specifically, the Rural Training Track required in the RRPD program places residents in rural locations for greater than 50 percent of their GME training and focuses on producing physicians who will practice in rural communities. In FY 2019, the RRPD program provided 27 rural health facilities with funding for graduate medical education. The AAMC supports increasing the $10.5 million federal investment in the HRSA RRPD.

The HRSA Title VII health professions programs have also proven to be successful in guiding students toward careers in rural and underserved areas. Area Health Education Centers (AHECs) specifically focus on recruiting and training future physicians in rural areas, as well as providing interdisciplinary health care delivery sites. In AY 2018-19, AHEC grantees partnered with community health centers, hospitals, and ambulatory practice sites to train future physicians, with 44 percent of the training sites located in rural areas. AHEC training sites focused on interprofessional networks that address social determinants of health and incorporate field placement programs for rural and medically underserved populations. With over 2,700 AHEC scholars in 2018-2019, 36 percent of the scholars came from rural backgrounds, and over half of the scholars received training in rural settings. The AAMC supports doubling AHECs in FY 22 as part of our recommendation for HRSA Title VII funding.

**Underserved Communities**

Additionally, public service loan repayment programs offered by HRSA, the National Institutes of Health, the Department of Education, the Department of Veterans Affairs, the Department of Defense, and the Indian Health Service are effective, targeted incentives for recruiting physicians and other health professionals to serve specific vulnerable populations. Increasing federal investment in these programs is a proven way to increase the supply of health professionals serving HPSAs, nonprofit facilities, and other underserved communities. For example, the Public Service Loan Forgiveness (PSLF) program administered by the Department of Education encourages physicians to pursue careers that benefit communities in need. In an annual AAMC survey of graduating medical students, over one-third of 2020 medical school graduates indicate an interest in pursuing PSLF. The AAMC supports preserving physician eligibility for PSLF to help vulnerable patients and nonprofit medical facilities that use the program as a provider recruitment incentive.

The NHSC in particular has played a significant role in recruiting primary care physicians to federally-designated HPSAs through scholarship and loan repayment options. With a field strength of 13,053 in 2019, including 2,418 physicians, more than 13 million patients relied on

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25 Id.
26 Id.
NHSC providers for health care.\textsuperscript{28} Despite the NHSC’s success, it still falls far short of fulfilling the health care needs of all HPSAs due to growing demand for health professionals across the country. Again, we are pleased Congress recognized the vital role the NHSC has in caring for our nation’s most vulnerable patients by providing the program with $800 million in supplemental funding in the American Rescue Plan. The AAMC supports continued growth for the NHSC in FY 2022 appropriations, and we urge Congress to provide a level of funding for the NHSC that would fulfill the needs of all current HPSAs.

Similar to the NHSC, the State Conrad 30 J-1 visa waiver program has been a highly successful program for underserved communities to recruit both primary care and specialty physicians after they complete their medical residency training. Conrad 30 allows physicians to remain in the U.S. in an underserved community after completing medical residency on a J-1 “exchange visitor” visa (the most common visa for GME), which otherwise requires physicians to return to their home country for at least 2 years. Over the last 15 years, the Conrad 30 program has brought more than 15,000 physicians to underserved areas—comparable to (if not more than) the NHSC, at no cost to the federal government.

As the 117th Congress considers immigration reform, the AAMC endorses the bipartisan Conrad State 30 and Physician Access Reauthorization Act (S.948 in the 116th Congress), which among other improvements would allow Conrad 30 to expand beyond 30 slots per state if certain nationwide thresholds are met. We applaud this bipartisan reauthorization proposal for recognizing immigrating physicians as a critical element of our nation’s health care infrastructure, and we support the expansion of Conrad 30 to help overcome hurdles that have stymied growth of the physician workforce.

**Physician Wellbeing**

Physicians and other health professionals dedicate their careers to keeping people healthy, but too often they do not receive the care they need to address their own well-being. AAMC data show that, like the overall U.S. physician population, a large percentage of medical school faculty have experienced higher levels of stress (particularly underrepresented minorities), and nearly a third of medical faculty face one or more symptoms of burnout.\textsuperscript{29} In addition to their detrimental effect on health professionals and their families, burnout, stress, and other behavioral health issues negatively affect patient care, patient experience, and overall health outcomes.

There are numerous systemic and other sources for the high levels of stress and burnout that have long plagued health professionals, and the COVID-19 pandemic is only exacerbating the problem. Yet, stigma, bias, and other barriers can hinder health professionals from seeking and receiving care for new or ongoing mental and behavioral health challenges.


\textsuperscript{29} https://www.aamc.org/system/files/reports/1/february2019burnoutamongusmedicalschoolfaculty.pdf
The AAMC has endorsed the Dr. Lorna Breen Health Care Provider Protection Act (S. 610), which would take steps to reverse these troubling trends through investments to prevent suicide, reduce burnout, and promote care for mental and behavioral health conditions among health care professionals. While the ability of any single educational intervention on its own to overcome pervasive systemic challenges is limited, we believe that the bill’s grants to help train health professionals in strategies to reduce stress and burnout would represent an important effort to raise awareness among health care professionals about the need to prioritize their well-being, particularly if teaching hospitals also are eligible for such awards. We also appreciate the inclusion of grants to promote use of mental and behavioral health care services among health professionals and the bill’s two studies to identify the factors contributing to such challenges and evidence-based best practices for reducing and preventing self-harm and burnout.

In addition to support for this important legislation, the AAMC is also part of the National Academies of Medicine’s Action Collaborative on Clinician Well-being and Resilience, which aims to expand our understanding of the factors affecting clinician well-being and promote evidence-based solutions to address clinician stress and burnout.

**CONCLUSION**

The AAMC appreciates the subcommittee’s attention to the important topic of physician workforce shortages and the challenges the country faces. We believe there must be a private-public, multipronged approach to bolstering the physician workforce and the diversity of the physician workforce. Academic medicine is committed to working to address the challenges and has made significant investment in both these areas. At the same time, we believe there must be a corresponding increase in the federal government’s investments for a variety of federal programs that are already working. The cost of inaction today will result in higher costs and a less healthy population tomorrow. We look forward to continuing to work with you and the Senate HELP Committee to achieve this goal. If you have any further questions please contact me or Matthew Shick, Senior Director, AAMC Government Relations, at mshick@aamc.org.