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# **Improving Access: A Recommendation Encouraging Primary Care Presence in Underserved Communities**

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## Abstract

Primary care (that is, internal medicine, family medicine, or pediatrics) is the cornerstone of healthcare in the United States due to its focus on general care, wellness checkups, immunizations, and other forms of preventative care, yet the number of primary care physicians is expected to drop substantially in the coming years, posing major threats to the country's healthcare system and the health outcomes of Americans. The presence of primary care physicians (PCPs) is associated with positive health outcomes, and higher life expectancy combined with lower medical spending; these are important measures of a country's health and its healthcare system's accessibility, affordability, and effectiveness. Due to a population that is both growing and growing older, as well as healthcare expansions from the coverage Affordable Care Act (ACA), the demand for healthcare in the United States is increasing while the number of PCPs per capita is decreasing. Even worse, Americans in vulnerable and underserved populations are disproportionately affected and may wait months to be seen by a PCP, refill their prescriptions, and receive other necessary services. To highlight the importance of PCPs, this paper recommends as a policy tuition forgiveness for US medical students who become PCPs and work in underserved communities for at least four years. This policy addresses the shortage of PCPs to increase their supply in areas which lack them.

## Introduction

The United States is facing a massive primary care shortage. Research demonstrates that where there are a sufficient number of primary care physicians (PCPs) per capita, there are better health outcomes than in areas without sufficient PCPs (Levine 5). PCPs are medical specialists in family medicine, internal medicine, or pediatrics; they serve as a patient's first point of contact to monitor health through annual checkups, address medical concerns, and make referrals to other medical professionals. Adults with a PCP are significantly more likely to fill prescriptions, receive more high-value care, such as cancer screenings, and have a yearly wellness visit (Levine 363). In areas where there are enough PCPs per capita, death rates for cancer, heart disease, stroke, and other illnesses drop, and life spans lengthen (Shi 5). Primary care presence helps achieve better patient health outcomes, decreases healthcare spending, and overall provides better public health for any community (Shi 5).

Inversely, when there is an insufficient ratio of PCPs to patients, health outcomes worsen and healthcare spending increases ("Career Options in Family Medicine"). Without access to a PCP, health issues may go undetected, which can increase medical risk and healthcare spending in the long term. This is demonstrated by the fact that an increase of one PCP per 10,000 people results in a 5% decrease in outpatient visits, 5.5% decrease in inpatient admissions, 10.9% decrease in ER visits, and 7.2% decrease in surgeries, saving millions of dollars in healthcare costs ("Career Options in Family Medicine"). Medically vulnerable populations (like racially minoritized communities) and geographically rural areas face some of the worst health outcomes due to limited access to healthcare (Braveman et al. 189). Individuals from these populations often experience long wait times to see a PCP, refill a prescription, receive a home visit, and obtain other necessary healthcare options. Communities with a high ratio of primary care have robust health outcomes with less long-term spending, lower hospitalization rates, and reports of patient satisfaction regarding their health (Brownlee et al. 2018). Data reveals that for every one PCP added per 10,000 people in a community, general measures of health outcomes increase anywhere from 0.66% to 10.8% (Shi 5). The issue of affordability and access to primary care disproportionately affects low-income and rural individuals. Compared to the universal healthcare coverage that other Organization for Economic Co-operation and Development (OECD) nations supply, the US uses private insurance, making access to affordable healthcare increasingly difficult for many Americans. For instance, one third of US adults claim that their family couldn't afford primary care in the past year, and one in four Americans say care was deferred despite serious medical conditions (Saad). With socioeconomic inequalities growing, more Americans are not consulting a healthcare provider due to cost; therefore, low-income households are more vulnerable to medical issues and more likely to avoid seeing a healthcare provider. Furthermore, the US

currently spends \$8.12 trillion a year—almost 20% of its GDP—on healthcare, yet Americans’ health outcomes and quality of life indexes are not improving (Wessel). To address the issues of affordability and access to PCPs, the US must shift its focus on primary care to improve health outcomes and decrease annual healthcare spending.

To quantify this issue, the US is projected to face a shortage of as many as 49,000 PCPs by 2030 if trends continue (Brownlee et al. 2018). That is, one out of every three Americans will go without recommended primary care, will not fill a prescription, or will not see a doctor when sick because of high medical costs (Gustafsson). To address the discrepancy of supply and demand for PCPs within the US, we examine several causes for the shortage of PCPs in underserved communities—a simultaneously growing and aging population, rising medical school costs, and the Affordable Care Act (ACA) coverage expansion. With these factors in mind, we offer a policy proposal to address PCP shortages in underserved communities: tuition forgiveness for medical students that become PCPs and pledge to serve in underserved communities for at least four years.

## Domestic Context

Why is there a shortage of PCPs in the United States? We examine three central causes to contextualize the shortage of PCPs currently and the projected shortage in the future: a simultaneously growing and aging population, rising medical school costs, and ACA coverage expansions. Historically, the demand for PCPs was lower than the demand today due to shorter patient lifespans and a smaller population. Since 1960, however, life expectancy has increased by almost 10 years (ironically due to better medical care and better living conditions), and thus there are significantly more Americans in need of primary care than in the past (Roser 787). Older populations remain in care for more years, meaning that there are far more high-risk patients than before. Furthermore, future trends estimate population growth by more than 10% before 2032, requiring more PCPs to care for a larger and older population (“New Findings Confirm Predictions on Physician Shortage”).

Other causes for the shortage of PCPs begin in medical school. Higher medical education costs have risen substantially throughout the last decade. For instance, the cost of one year at Harvard Medical School was \$38,6000 in 2007-2008, but a year at Harvard Medical School in 2020-2021 cost \$64,984 (“Harvard College and Grad/Professional Tuition”). Of course, the increase in tuition is not exclusive to Harvard Medical School or to medical schools as an institution. This trend can be seen throughout higher education institutions across the country and is expected to continue (National Center for Education Statistics). As medical school tuition rises, so does student loan debt. In 1978, the average medical school debt in the US was \$13,500; in 2016, the average was \$233,100 (Hanson). If the cost of tuition continues

to rise, it is projected that the average medical student will exceed \$300,000 in debt by 2024 (Hanson).

Research from the American Journal of Medicine asserts that medical students often practice specialist, in-hospital work in medical school, rather than outpatient work, and thus are more likely to continue in specialized fields; this indicates that an inherent bias toward specialization exists in the medical school curriculum (Levine 365). Possibly even more significantly, it is more financially viable for some medical students to go into specialized fields such as allergy, dermatology, or cardiology instead of primary care, because specializations are more highly paid (Association of Medical Colleges). To quantify the lifetime cost difference between the salary of a PCP and of a specialist: in 2019, the average pay for a primary care physician was \$213,270, while an anesthesiologist averaged \$261,730—a \$48,460 salary difference (“Physicians and Surgeons: Occupational Outlook Handbook”). For 30 years of work, the total lifetime cost difference between primary care and anesthesiology is \$1,453,800, and this does not take into account possible bonuses, raises, promotions, and other benefits that can increase earnings. The lifetime salary difference between primary care and specialized medical professions can therefore influence a medical student’s choice of field. Many medical students emerging into the workforce with hundreds of thousands of dollars in student debt believe that the most lucrative specialty is the best option for them to pay off their loans. However, the total lifetime cost difference between primary care and specialties is significant even without considering average medical school debt.

The rising cost of medical school together with the increasing amount of debt that medical school students face has been shown to influence their choice of medical specialty (Dezee et al. 191; Pisaniello et al. 11). A study examining the effect of financial remuneration, based on fourth-year US medical students’ choice of specialty, found that finances are a significant factor when choosing a certain medical field (Dezee et al. 191), while 82% of US medical students report that tuition rates and student debt highly influence their area of specialization (Jaret). Of Dezee et al.’s sample, 41% indicated that financial aspects were a prominent factor impacting their decision regarding primary care residency. An additional 41% of the sample would have considered applying to primary care residency had the annual salary been higher (Dezee et al. 191). A systematic review examining the effects of medical student debt on mental health highlight how US medical school students’ loans are associated with their specialty choice (Pisaniello et al. 12). Pisaniello et al. (9) found that each \$50,000 increase in medical loan debt was associated with increased self-reported financial stress and concerns over repaying debt. Furthermore, the presence of significant debt was associated with medical school students choosing higher-paying specialty choices (Pisaniello et al. 12).

Lastly, the Affordable Care Act (ACA) has expanded patient access to healthcare, providing funds and means to see primary care physicians to about 22 million Americans

(Bureau, US Census). A few key features of the ACA include waiving medical fees for annual check-ups; offering wider coverage for a variety of healthcare services; allowing people under 26 to remain on their parents' health insurance plans; better covering Medicaid; and preventing health insurance companies from denying coverage and charging more due to preexisting conditions (Secretary and Assistant Secretary for Public Affairs [ASPA]). Research on healthcare access has found that the ACA has reduced socioeconomic disparities and led to increased access to healthcare for young adults (Griffith et al. 1505; Sommers et al. 168). A study conducted by Griffith et al. examining the ACA's effects on different socioeconomic levels reports that the ACA has significantly helped decrease healthcare access disparities (1506). Griffiths et al. found that in states that expanded Medicaid under the ACA, the gap in insurance coverage between residents in poor households (with incomes less than \$25,000) and higher-income households (incomes more than \$75,000) fell by 46% between 2013 and 2015, while non-expansion states saw the coverage gap fall by 23% (1506). Socioeconomic-related gaps in access to a PCP and cost-avoidant refusal of care both declined as well. Sommers et al. analyzed the ACA's impact on healthcare for the young adult population and found increased gains in insurance and access. People aged 19-25 experienced significant increases in insurance coverage under the ACA (Sommers et al.). Consequently, there is an even greater demand for already scarce PCPs (Medicaid and CHIP Payment and Access Commission). While better coverage is beneficial for health outcomes, the lack of PCPs limits the benefits of ACA coverage.

These historical trends—population increases, rising medical school costs, and ACA coverage expansion—contribute to the shortage of PCPs. As a result, about 25% of Americans report having no PCP access (“About the ACA”); likewise, about 20% of Americans lack any form of health coverage, meaning they have no viable opportunity to see a PCP for a reasonable cost (“About the ACA”).

## International Context

Compared to other higher-income nations, the US falls short in healthcare accessibility. In 2019, the US had the lowest life expectancy, highest suicide rates, highest chronic disease burden, highest rate of obesity, highest rates of hospitalization from preventable causes, and the highest rate of avoidable deaths in comparison to Australia, Canada, France, Germany, the Netherlands, New Zealand, Norway, Sweden, Switzerland, and the United Kingdom (Commonwealth Fund). The US has the world's highest healthcare inequity, indicating that Americans face the most disproportional access to healthcare (Papanicolas et al. 1033). Given the absence of universal healthcare coverage, many Americans go without necessary healthcare for reasons of affordability. In the past year, 50% of US adults with low incomes

did not receive necessary medical assistance such as a doctor visit, recommended tests, treatment or follow-up care, or prescription medications (“Home: Commonwealth Fund”). Compare this percent with the 12-15% of adults with low incomes in Germany, the United Kingdom, Norway, and France who reported not receiving care due to cost (Doty). The US leads the world in healthcare spending per capita, including public and private spending, by a considerable margin; in 2018, the US spent about \$5,000 more per person on healthcare than any other OECD country in 2018, nearly as twice as much as the average OECD country (OECD). Despite this fact, its healthcare access and population health outcomes are far worse than those of other OECD countries.

Higher-income nations that have more PCPs and that emphasize primary care employ a tactic called gatekeeping—a cost-effective approach to healthcare spending. In this system, patients must first visit a PCP before they are able to access specialty care (Sripa et al. 294). In a systematic review of gatekeeping in relation to health outcomes and expenditure, it was determined that gatekeeping resulted in fewer hospitalizations, specialty use, and emergency room visits, and therefore led to lower healthcare costs. Patients also made more visits to their PCP, and women participants received significantly more preventative services, such as mammography screenings, clinical breast examinations, and cervical screenings (Sripa et al. 301). Research suggests an association between the gatekeeping system and better healthcare quality and decreased cost compared with a direct-access system. Gatekeeping acts as a cost saving mechanism—that is, if a country has enough PCPs to enact this model.

Due to US emphasis on specialty medical care, Americans are less likely to report access to primary care than people in other higher-income countries, which is concerning from both health and financial outcomes. Overall, specialized medical services are more expensive than primary care since they usually require more attention from medical professionals and invasive medical procedures. PCPs commonly assess whether they themselves can address a patient’s medical needs or if the patient needs to be referred to a specialist. Therefore, specialists who are not generally trained must take up the role of the general practitioner in some cases, causing risk of error. Research demonstrates that people are on balance healthier when they visit a PCP instead of a specialist for care (“As Out-Of-Pocket Health Costs Rise”). That Americans have better access to specialized care than primary care is significant in understanding the effectiveness of the American healthcare system.

## **Policy Recommendation: Tuition Forgiveness**

Based on the benefits of primary care presence in communities, historical trends, and international context, we recommend tuition forgiveness to address the shortage of PCPs today and in the future. We suggest that medical students who become PCPs and work in Health



Professional Shortage Area-designated communities (HPSA, defined as communities with a health practitioner-to-patient ratio of 1:3,500 or more, often rural or low-income communities) for at least four years should have their medical school tuition forgiven (“What is Shortage Designation?”). This solution addresses a significant factor that medical school students face when choosing their medical specialty: student debt. Since student debt plays a significant role for many medical students in deciding their specialty, when the opportunity cost of becoming a PCP rather than a specialist is decreased, more people will choose to become a general practitioner.

Thorough research and implementation supports the idea that tuition forgiveness programs can increase the supply of PCPs in underserved communities. The National Health Service Corps (NHSC), an organization that connects primary healthcare clinicians to people in the United States with limited access to healthcare is the best known of these programs, providing tuition forgiveness in exchange for two years of service in HPSA-designated communities (“NHSC Loan Repayment Program”). The NHSC demonstrates a high rate of retention in its area of service even after its pledge was completed (about 76%) according Pathman et al. this study found that the physician-to-population ratio grew at about twice the rate in areas where NHSC implemented tuition forgiveness programs compared to areas that did not. Moreover, their analysis on a loan subsidy program for students entering service in underserved communities showed that rates of retention in their area of service was 55% higher than students who were encouraged but not bound to serve in underserved communities. Similarly, a meta-analysis of incentive programs by Goodfellow et al. found that students who participated in tuition-incentive programs were about twice as likely as those who did not to serve in underserved communities and to retain positions in those communities.

The NHSC is a strong model for our proposed program, except for the fact that the required time to serve is two years rather than four. This proposal is easily scaled; to begin, legislature could selectively implement tuition forgiveness in areas that are most disproportionately affected by PCP shortages. Progressive application can thus replicate the success of smaller programs, and the program can be expanded where there is need for more widely available incentives. This may also prove to be more effective than large-scale nationwide programs, since it is targeted for underserved areas rather than making a blanket proposal.

Several medical schools have already started offering tuition coverage for students that become PCPs and work in underserved communities. The University of Arizona has adopted a scholarship program that will help address the shortage of PCPs in HPSA communities and has already seen beneficial results. As of 2019, the University of Arizona provides free tuition to medical students who pledge to practice primary care in HPSA designated communities in

Arizona for at least two years post-residency (Office of the Arizona Governors). Additionally, in 2018, New York University's Grossman School of Medicine announced it will award full tuition scholarships to current and future students regardless of merit or financial need ("Cost of Attendance"). The scholarship is not dependent on specialty choice, but can help students consider primary care without the burden of medical school debt influencing their decision. A year after the announcement of full-ride scholarships for students, the Grossman School of Medicine experienced a 47% increase in applications, indicating a strong relationship between financial incentives and preference in job selection (Berman). New York University also plans to open a new medical school on Long Island that provides free tuition and focuses on training PCPs (Communications, NYU). While these programs are new and their outcomes have yet to be studied, their visions are aligned with the proposal of tuition forgiveness for medical students that become PCPs and serve in underserved communities. Moreover, NHSC data demonstrates efficacy in increasing PCP supply that these new trial programs do not yet show.

Tuition forgiveness is not the only viable policy to address PCP shortages. For example, increasing payment incentives for physicians who work in underserved areas has been found to increase their rate of retention by approximately 11% for every \$10,000 added to their salary (Goodfellow et al. 1316). Increasing market incentives can thus be introduced at many stages in a medical student or physician's career, not just in medical school. Therefore, it may be effective to introduce incentives both before and after graduation from medical school to maximize the likelihood that medical students choose to pursue primary care, and that PCPs choose to work in underserved areas.

## Conclusion

Healthcare spending will continue to increase in the coming years, yet quality-of-life outcomes and cost effectiveness remain stagnant, with the US spending 50% to 200% more per capita than any other nation ("United States"). In times of normalcy and in times of need, such as the COVID-19 pandemic, PCPs are a necessary component of a healthy population. PCPs are essential because of their unique training to address the most common health issues Americans face, a role specialists cannot effectively fill alone. This policy proposal looks to address one of the most pressing matters that healthcare faces today and is projected to worsen in the future: access. In recommending tuition forgiveness for students who become PCPs and serve in underserved communities for at least four years we hope to address discrepancies in the healthcare market and combat the harshest PCP shortages.

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