



A photograph showing the lower half of several healthcare workers, likely physicians or nurses, wearing blue and green scrubs. They are holding stethoscopes around their necks or in their hands. The background is blurred, suggesting an outdoor or clinical setting.

BRIDGING THE GAP: Strategic Policy Interventions for the U.S. Primary Care Physician Shortage

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DISCLAIMERS

The author conducted this study as part of the program of professional education at the Frank Batten School of Leadership and Public Policy, University of Virginia. This paper is submitted in partial fulfillment of the course requirements for the Master of Public Policy degree. The judgments and conclusions are solely those of the author and are not necessarily endorsed by the Batten School, by the University of Virginia, or by any other agency.

HONOR PLEDGE

On my honor as a student, I have neither given nor received unauthorized aid on this assignment.



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Key Terms and Definitions

Primary care physician — A physician working in internal medicine, pediatrics, family medicine, obstetrics and gynecology, or geriatrics. This report uses the abbreviation PCP to refer specifically to primary care *physicians*, not generally primary care providers.

Centers for Medicare & Medicaid Services — The federal agency within the United States Department of Health and Human Services that administers the Medicare program and works in partnership with state governments to administer Medicaid and health insurance portability standards. CMS influences state-level healthcare and insurance regulations through their published standards and recommendations for Medicare and Medicaid.

Full practice authority — FPA allows nurse practitioners to practice independently, meaning they can diagnose, order and interpret tests, and prescribe medications without physician supervision, under the exclusive licensure authority of the state board of nursing.

Advanced practice registered nurse — An APRN is a registered nurse with advanced education and certification. This classification includes nurse practitioners, nurse anesthetists, nurse midwives, and clinical nurse specialists.

Electronic health records — EHR refers to a digital collection of patient health information that is stored and accessed electronically. It includes details such as medical history, diagnoses, medications, test results, and treatment plans. EHRs enable healthcare providers to retrieve and manage patient data efficiently, improving care coordination and decision-making.

Non-patient workload — The tasks and responsibilities of PCPs outside of direct patient interaction. Includes administrative paperwork (referrals, insurance claims), EHR updates, external communication for care coordination, and patient communications.

Graduate medical education — GME refers to the formal, hospital-sponsored or hospital-based training programs, including residency, fellowship, and subspecialty programs, that physicians undertake after earning their MD degree to specialize in a particular area of medicine

H-1B visa — a nonimmigrant visa that allows a US employer to temporarily hire a foreign worker for a specialty occupation. The visa is intended to help fill shortages in the US workforce.

H-1B visa cap — the annual limit on the number of H-1B visas that the U.S. government can issue each fiscal year, currently set at 65,000, with an additional 20,000 for those with a U.S. master's degree or higher. Some professions are exempt from this cap.



Executive Summary

The United States is facing an ongoing and worsening shortage of primary care physicians, with projections estimating the gap will be equivalent to 40,400 physicians by 2036. This shortage limits access to essential healthcare services, leading to delayed diagnoses, fragmented care, and higher healthcare costs. The Federal Group, a lobbying firm representing various healthcare stakeholders, seeks to advocate for a national policy solution to address this crisis.

This report evaluates four policy alternatives to mitigate the primary care shortage:

1. **Increasing visa availability for internationally trained medical graduates specializing in primary care.**
2. **Allowing full practice authority for advanced practice registered nurses to expand primary care capacity.**
3. **Integrating AI into electronic health records** to reduce physicians' non-patient workload.
4. **Encouraging team-based care models** through value-based reimbursement structures.

Each alternative was assessed based on implementation complexity, effectiveness, acceptability, and long-term scalability. While expanding APRN practice and AI-enhanced EHRs offer efficiency gains, and team-based care models improve care coordination, the most viable solution is **exempting IMGs in primary care from the H-1B visa cap**. This policy leverages an existing pool of qualified professionals, offers a stable capacity increase, and is highly feasible with both bipartisan support and acceptance within the medical community.

The recommended strategy involves amending the Nationality and Immigration Act to include this exemption. The Federal Group's lobbying efforts will focus on securing legislative sponsors, engaging key congressional committees, and building a coalition of healthcare advocates. Implementing this policy will provide an immediate and scalable solution to the PCP shortage, thus improving healthcare access and outcomes for millions of Americans.



Introduction



Problem Statement

The United States has an ongoing and worsening shortage of primary care physicians (PCPs), creating a gap between demand for primary care and the capacity to provide it.

“Primary care physicians” refers to the physicians practicing the five primary care specialties: internal medicine, pediatrics, family medicine, obstetrics and gynecology, and geriatrics. Projections based on current rates of utilization of care show that the shortage of PCPs is expected to reach 40,400 by 2036 (Association of American Medical Colleges, 2024). The shortage has a broad negative impact on access to medical care: with insufficient providers to meet the demand for care, check-ups and other types of early interventions are more difficult to obtain, leading to minor health issues going unnoticed until they transform into something more serious. Further, given the role of PCPs in coordinating care, patients without a regular physician are highly likely to experience fragmented care, leading to increased potential for missed diagnoses, medication errors, and other preventable consequences that negatively impact overall health outcomes.

Client Orientation

The Federal Group is a Washington D.C. based lobbying firm representing the interests of various healthcare professionals, including pharmaceutical producers, clinical laboratories, and several worker associations (nurse-midwives, physical therapists, pharmacists, etc.). As a private advocacy organization, their goal is to assist clients in reaching their goals and objectives in the public policy arena through analysis and advocacy.

The Federal Group presented the root issue — the shortage of physicians— not as the concern of one particular client, but as something that must be addressed because of its broader effects: the compounding negative impact of a lack of consistent primary care affects care provided in all areas of the healthcare ecosystem. Strengthening primary care in the United States is the key to achieving better overall health outcomes, greater equity in both health access and outcomes, and lower per capita health costs (Shi, 2012). The Federal Group is looking to advocate for a national-level policy change to counter the shortage and its adverse consequences on health outcomes in the interest of improving the capacity, quality, and impact of care provided by all of its clients.



Defining the Problem

Context

Historical and Global Perspective

Pressure on the system from a demand side has existed for decades due to an increasing demand for primary care, which stems primarily from an aging and expanding population. The supply of PCPs has suffered from decades of underinvestment in primary care training and a decreasing number of physicians specializing in primary care. This shortage was exacerbated by the passage of the Affordable Care Act, which created a spike in the demand for primary care due to the expansion of insured individuals but lacked a mechanism to adequately increase the number of PCPs. The shortage was again accelerated as a result of the COVID-19 pandemic and the unprecedented strain it placed on the healthcare workforce. During and directly after the pandemic, PCPs were subject to limits on services and decreased patient visits, which led to financial pressures on hospitals and layoffs (FAIR Health, 2020). Simultaneously, the increased care demands during COVID-19 exacerbated physician burnout, further contributing to the shortage (Gunja et al., 2022).

The U.S. faces a more severe primary care physician shortage compared to other developed countries, both in terms of the magnitude of the shortage and in terms of the consequences on access, continuity, and quality of care provided. The U.S. has one of the lowest rates of physician density in comparably wealthy countries and suffers from specialty maldistribution (a discrepancy between primary care fields and other medical specialties). Additionally, the U.S. trails other countries in the continuity of care; only 52% of primary care providers in the U.S. have arrangements for after-hours care, which is the fourth lowest among 10 developed countries surveyed (Gumas et al., 2024). The financial support for primary care in the U.S. is also less robust compared to other countries. The U.S. spends only 4.7% of its healthcare budget on primary care, which is significantly lower than the average of 14% in other developed countries (Gumas et al., 2024). Additionally, the earnings gap between primary care providers and specialists is the largest among developed nations. Compared to primary care, most other specialties offer higher salaries and more lucrative practice options, making them more attractive to medical students looking to maximize their income (McKenzie Alexander et al., 2024).

Graduate medical education (GME) contributes to the shortage of PCPs at a structural level because it incentivizes training in niche specialties rather than in primary care. This is due to a combination of financial and situational factors. First, there is a distinct funding disparity between primary care and other specialties. The majority of GME subsidies comes from Medicare, which primarily allocates funds to teaching hospitals that often prioritize subspecialties over primary care, leading to fewer primary care residency slots being offered (Kaufman et.al., 2021). Additionally, most GME programs are in large, academic hospitals that naturally have more complex cases and specialty training, and exposure is more prevalent than primary care roles



(McKenzie Alexander et al., 2024). This leads not only to less exposure to primary care practices and training opportunities, but also to a marked decrease in the interest in primary care. Finally, tuition fees for GME in the United States are among the highest in the world, which, when combined with the comparative lack of compensation for primary care, creates a dynamic of financial stress for students who might otherwise specialize in primary care.

Root Cause Analysis

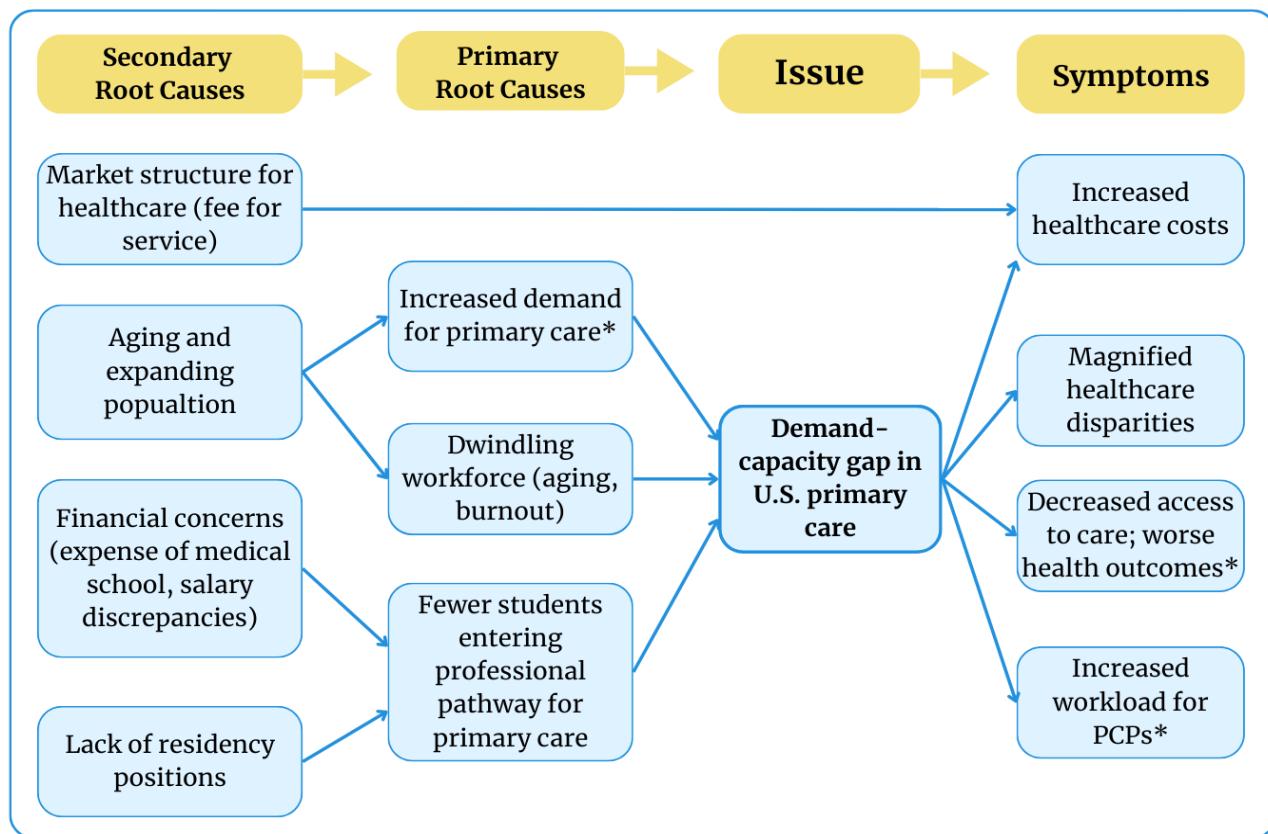


Figure 1

The symptoms marked with an asterisk in Figure 1 represent cyclical aspects of the issue: decreased access to care (due to low availability of providers, long wait times) and lower quality of care (from a lack of early diagnosis, fragmented coordination of care, medication errors, etc.), which subsequently contribute to an increased workload for PCPs and increased demand for primary care.

The direct causes of the shortage of primary care physicians in the United States can be analyzed in two distinct groups: factors influencing the demand of PCPs, and factors relating to the supply of PCPs.

Demand

The population of the United States is both growing and aging: the U.S. population is expected to grow by 8.4% by 2036, and the population aged 65 or older will increase by 34.1% in this same time period (Spoehr, 2024). This dynamic poses a strain on the medical system because older Americans tend to need more medical attention and require more access to physicians – primary and specialized. The increased demand for medical care is further compounded by the issues resulting from the shortage of primary care physicians. Insufficient provision of primary medical care due to a lack of access and decreased comprehensiveness of care results in increased negative health outcomes, exacerbated minor health issues, and inadequate preventative measures and general care. Subsequently, the American population presents with more health issues, necessitating more primary medical attention.

Supply

Current trends of students starting on the pathway to enter the health workforce as a PCP are far too low for both the current and projected levels of demand for primary care. The literature attributes this to financial dynamics and the logistics of medical education. The average salary for a PCP is lower than that for other, specialized physician positions, and, when adjusted for inflation, has actually decreased since 2001 (American Medical Association, 2023). This reality incentivizes medical students who come out of their education with an average of more than \$200,000 in debt to specialize in more lucrative physician positions as opposed to primary care (Murphy, 2024). Furthermore, there is an insufficient number of graduate medical education (GME) opportunities for PCPs due to a lack of funding for and regulatory limits on the expansion of these residency programs (Amezquita, et. al. 2020).

The existing pool of primary care physicians is also under a supply strain due to the elevated rate of departure in the PCP workforce. Physicians 65 and older represent 20% of the PCP workforce, meaning there is a pending exodus from the field that will further exacerbate the ongoing shortage (Doximity, 2024). Additionally, due to increased demand for medical care, PCPs have a patient load requiring 26.7 hours in a day (Porter et al., 2022). PCPs are also responsible for an extensive list of administrative tasks in addition to providing medical services to their patients, effectively almost doubling their workloads (Milbank Memorial Fund, 2024). This unsustainable workload has led to high reported levels of burnout and desire to leave the practice among PCPs.



Consequences

The shortage of PCPs has profound consequences on both access to care and subsequent health outcomes. The scarcity of PCPs makes it increasingly difficult for patients to find a provider, leading to longer wait times for appointments and delayed preventative care due to a lack of routine checkups (PRR, 2023). This situation forces patients to rely more heavily on emergency rooms for non-urgent issues, which not only drives up healthcare costs but also over crowds emergency facilities, exacerbating wait times for all patients, including those with genuine emergencies (Caliber Health, 2023).

The impact on health outcomes is equally alarming. Chronic disease management is significantly compromised due to the lack of regular primary care. Studies have consistently shown that a higher density of PCPs is correlated with improved health outcomes, including decreased rates of obesity and death, as well as increased life expectancy. For instance, every 10 additional primary care physicians per 100,000 people is associated with a 51.5 day increase in life expectancy and reduced mortality rates from cancer and cardiovascular and respiratory diseases (Basu et.al 2019; Duff-Brown, 2019). This underscores the critical role PCPs play in preventive care, early diagnosis, and coordinating care, all of which are essential for maintaining and improving population health.

The shortage has an outsize negative impact on rural populations and traditionally underserved communities because PCPs are even less likely to practice in low-income and rural areas. 65.5% of designated primary care Health Professional Shortage areas are in rural areas, impacting nearly 101 million Americans (HRSA, 2023). This results in longer travel distances and overall less availability of services, which mitigates the effectiveness of care and often leads to delayed or forgone care. The shortage in rural areas is associated with elevated mortality rates and poorer health outcomes due to the lack of timely and preventive care. Rural residents often miss out on preventive screenings, early detection, and treatment of diseases, as well as behavioral healthcare screenings (Koffi, 2024). Low-income communities often overlap with rural areas. These communities already face multiple healthcare challenges, including fewer healthcare facilities and limited access to specialists. The PCP shortage compounds these existing disparities by reducing access to essential healthcare services (PRR, 2023).

This dynamic perpetuates a cycle of delayed care access, disrupted service continuity, and increased reliance on more expensive care settings. It exacerbates health disparities, particularly for marginalized and vulnerable communities, by limiting their access to preventive care, early intervention, and coordinated care across different specialists and settings. The shortage of primary care physicians hampers efforts to address these health issues through health promotion, disease



prevention, and health maintenance, further widening the health disparities between these communities and their urban counterparts (Koffi, 2024).

Existing Solutions

In addressing the shortage of PCPs, the majority of advocacy efforts and research focus on expanding Medicare-supported residency positions and improving financial incentives.

The primary legislative proposal in the space, championed by the American Medical Association, is the Resident Physician Shortage Act, which reflects one of the major takeaways from the literature: constraints on residency underpin the shortage of PCPs. The act proposes to address the physician shortage by increasing the number of Medicare-supported GME positions by 14,000 (Lubell, 2024). This legislative effort aims to provide hospitals with greater flexibility to diversify and sustain training programs for primary care, which are often limited due to Medicare funding restrictions. Typically, non-targeted funding is allocated to more desirable specialties, leaving primary care underfunded. By expanding GME positions, there would be more opportunities and exposure for medical students to consider a career in primary care.

However, there are notable shortcomings to this approach. The timeline for seeing the benefits of this expansion is lengthy, taking approximately 7-10 years to produce a meaningful increase in the primary care workforce. Given the current and pressing nature of the physician shortage, this delay means that the issue and its consequences will persist in the short term. Additionally, even with the proposed increase, the number of new primary care physicians will likely still be insufficient to meet the growing demand.

Another major sector of the literature advocates for medical loan forgiveness programs for individuals choosing to specialize in primary care. The idea of narrow loan forgiveness programs is based on the fact that it raises the discounted present value of lifetime earnings of PCPs relative to specialists, which would be another way of reducing the income gap between specialties. These programs have shown positive results in specific contexts. For instance, the National Health Service Corps and other state-level loan repayment and forgiveness programs have been effective in encouraging primary care physicians to practice in high-need and rural areas (Davis et.al., 2023). These programs, which offer significant loan repayment amounts in exchange for service commitments, have led to a direct increase in the number of physicians serving in these underserved regions (Medical Society of Virginia, 2024).

However, the broader impact of these programs on the primary care workforce is more nuanced. While they can raise the discounted present value of lifetime earnings for PCPs relative to specialists, evidence suggests that this effect may be limited. While loan forgiveness programs can



influence students' choices of specialty, particularly for those with high debt burdens, they do not fundamentally reduce the income gap between primary care and other specialties (Davis et.al., 2023; Driessen, 2020). This means that the long-term attractiveness of primary care as a career choice may not be significantly enhanced as higher-paying specialties may still be more appealing despite the loan forgiveness incentive.

Generating a Solution: Criteria and Alternatives

Criteria

1. Implementation complexity

Can the alternative be implemented clearly and directly?

The criterion of implementation complexity analyzes how directly the policy can be implemented. This criterion considers the level of action (i.e., federal or state), the point of action (legislative or regulatory), and the breadth of room for autonomy and interpretation by healthcare professionals implementing the alternative. Highly complex implementation suggests that the impact of the policy may be diluted and presents a greater burden on the client. This criterion will be evaluated based on whether the implementation of the proposed policy has low, medium, or high complexity, with low complexity being best.

Implementation complexity is the most important criterion because an overly complex policy cannot be as effectively implemented, rendering the rest of the analysis (i.e., effectiveness, acceptability, and scalability) moot. Accordingly, relative implementation complexity will be prioritized in making tradeoffs; in the case of two otherwise similar alternatives, the one with the lower implementation complexity would be recommended. Additionally, an alternative with relatively lower effectiveness but also low implementation complexity would be preferable to an alternative with a bigger projected impact on capacity but more complex implementation.

2. Effectiveness

To what extent does the alternative bridge the gap between the capacity of primary care provision and the demand for it?

This criterion will be evaluated based on the capacity for primary care provision it generates, measured by primary care hours (one PCP equivalent = 50 hours per week of primary care services) (Medscape, 2023). This will be measured as a percent increase in capacity.

3. Acceptability

Is this alternative supported by medical stakeholders? By political stakeholders?

a. Medical

The criterion of acceptability within the medical community for policy analysis evaluates how likely the proposed policy is to be supported by healthcare professionals and organizations. It considers factors such as alignment with current medical practices and standards, the perceived benefits and drawbacks by medical practitioners, and the potential for the policy to be effectively integrated into existing healthcare systems.

b. Political

Political acceptability evaluates how likely the proposed policy is to gain support from key political stakeholders and the general public. It considers factors such as alignment with current



political agendas, the level of bipartisan support, previous voting records on similar policies, and the potential for opposition from influential groups

Both subsections of this criterion will be evaluated on whether support for the alternative is unlikely, uncertain, or likely—translating to a ranking on a low-medium-high scale.

4. Long-term scalability

Does the alternative have the capacity to maintain impact and scale up as the gap increases?

The accepted projections for the demand versus supply of PCPs indicate that the shortage is an ongoing and worsening problem, meaning that the capacity gap is expanding. As such, a policy solution with long-term efficacy is desirable. This criterion will be evaluated based on whether the potential for each alternative's scalability is low, medium, or high.

Alternatives

Alternative 1: Increase Visa Availability for IMGs in Primary Care

Overview

Increased access to H-1B work visas for internationally trained healthcare professionals, contingent on them working as primary care physicians, would increase the supply of PCPs in the U.S. This expansion in access is accomplished by exempting IMGs in primary care from the H-1B visa cap.

Description

IMGs represent an untapped resource for improving primary care capacity. Hiring IMGs has been shown to increase physician density without compromising the employment opportunities for U.S. medical graduates. Additionally, they are significantly more represented in primary care fields such as family medicine, internal medicine, and pediatrics (Nagarajan et al., 2020). However, barriers to obtaining visas prevent the full use of this population of medical professionals. In 2023, 16,684 applications for an H-1B visa in medicine and health were submitted, but only 5% were approved (USCIS, 2024).

The expansion of the Conrad 30 waiver program demonstrated that raising caps increases the number of physicians. The Conrad 30 program grants IMGs on J-1 visas waivers of the 2-year foreign residence requirement upon completion of the J-1 exchange visit. The program, designed on the contingency for working in rural areas, provided 5,000 additional doctors in the targeted areas by increasing the cap (Braga et al., 2024). The mechanism for this was the increase in the yearly federal cap of J-1 visa waivers (which allows those who entered the United States on a J-1 exchange visitor visa to bypass the mandatory two-year home-country physical presence requirement) per state from 20 to 30 in 2002 allowed each state to add 100 new IMGs to their stock



of doctors over the next decade, equivalent to more than 5,000 additional doctors across the country during that period (Braga et al., 2024). Using the Conrad 30 expansion as a parallel, exempting primary care IMGs from the H-1B visa cap could project a similar effect, making these paths to visa access contingent on choosing primary care (Duvivier et al., 2019).

Alternative 2: Allow FPA for APRNs

Overview

Advanced practice registered nurses (APRNs) are equipped to provide the full extent of primary care services, so granting them full practice authority would significantly expand the available primary care workforce.

Description

The term APRN includes nurse practitioners, nurse anesthetists, nurse midwives, and clinical nurse specialists. Currently, the restrictive scope of practice regulations constrains the ability of APRNs to practice commensurate with their level of education and experience (McElroy et al., 2022). Expanding the scope of practice for APRNs to allow them to practice at the top of their licenses increases the capacity of the existing supply of healthcare professionals for primary care provision. Under such a scope expansion, the gap between demand for primary care and current capacity to provide it will be diminished. Systematic review of primary research evidence indicates that nurse practitioners can provide comparable levels of primary care services to patients, and a number of randomized trials indicate that health outcomes for patients using APRNs for primary care have comparable health outcomes to patients using PCPs (Htay & Whitehead, 2021; Traczynski & Udalova, 2018). Additionally, removing regulatory barriers to APRN practice improves rates of healthcare utilization (Traczynski & Udalova, 2018).

The impact of allowing full practice authority (FPA) for APRNs has been observed on a smaller scale in rural areas, and briefly on a national level during the COVID-19 pandemic. Data from a range of hospitals revealed that in primary care where there is a shortage of physicians, FPA is associated with increased access to care and utilization of healthcare services, lower cost of care, and no decrease in quality of care (Yang et al., 2020; Xue et al., 2018). During the COVID pandemic, APRNs were granted an expansion of scope of practice through executive orders temporarily lifting the statutory limitations in place. A cross-sectional study using regression multivariable models used to determine the significance of the observed trends found that “full practice authority for APRNs benefits patients by promoting expanded access to care and increasing the resiliency of our healthcare system without compromising patient safety” (Martin et al., 2023).

Alternative 3: Use AI-integrated EHR to decrease non-patient workload

Overview

Modernizing the technology used for patient records — specifically, using AI within EHR — can decrease the non-patient workload for PCPs, thereby increasing the efficiency of their time by increasing the proportion of it that is spent on activities that require their expertise.

Description

Nearly one half of the average PCP's workday is dedicated to non-patient tasks, the majority of which consist of electronic health record (EHR) documentation (Arndt et al., 2017; Toscano et al., 2020). This clerical work (charting, updating patient records, entering required patient and billing information) presents a time-consuming and cumbersome process. Compounded for every step of the medical process for every patient, non-patient work decreases the time dedicated to patient care and contributes to physician burnout, both of which exacerbate the demand-capacity gap for primary care services.

Integrating artificial intelligence capabilities with EHR can streamline the process for PCPs by automating tasks like data entry, generating clinical documentation summaries, and transcription of clinical notes. A non-randomized clinical trial of AI-powered clinical documentation found family medicine, internal medicine and general pediatrics doctors and advanced practice practitioners reported spending less time on EHRs (Liu et al., 2024). Family physicians involved in a localized application of the AI tool Suki reported a 72% reduction in their documentation time per note (American Academy of Family Physicians, 2021). While very few experimental or quasi-experimental studies have been conducted on the efficacy of this type of technology due to its recency, current reports and trends indicate that it is well-received and utilized on small scales.

Similar to the 2009 HITECH Act that had a provision for financial incentives for hospitals and providers adopting EHR systems, the best mechanism for implementing the widespread use of AI-integrated EHR systems is a federal financial incentive. This could be either a stand-alone policy, or an update to the HITECH Act that re-ups the allocated money for EHR adoption, this time making it contingent on AI-EHR systems. To further encourage the widespread adoption of these systems, CMS could update their guidelines on AI to include design principles for effectively integrating the technology into EHR.

Alternative 4: Encourage team care models through value-based reimbursement structures

Overview

Team-based care (the provision of health services by a group of health-care professionals working collaboratively) can significantly address the demand-capacity gap in primary care by allowing a wider range of healthcare professionals and other clinician personnel to contribute to patient care,



thereby increasing the overall capacity of a practice to see more patients and manage complex cases.

Description

The team-based care model improves care coordination and continuity, thereby removing the additional, time-intensive burden of care management from the load of the PCP. In turn, this increases their capacity for patients and minimizes the demand-capacity gap. The impact of team care models on primary care capacity in the United States can be projected using the parallel examples of family medicine groups (FMG) in Quebec and the application of the models for managing chronic conditions. Among patients in Quebec using the FMG, the number of primary care visits per patient per year decreased by 11%, pointing to a decrease in redundancies as health outcomes were not negatively affected (Strumpf et.al., 2017). Qualitative research on team care models utilized in the state of Virginia for management of chronic conditions found that use of any team-based care model increased the capacity for care provision, as measured by time required to achieve comparable health outcomes (Goldberg et al., 2013; Chen et al., 2010).

A value-based reimbursement structure strongly incentivizes the adoption of a team-based care model because it ties provider payments to patient outcomes rather than rewarding individual services performed. A value-based system necessitates coordinated care across a range of healthcare professionals to manage patient health comprehensively (Patel et al., 2024). Shifting norms towards a team-based care model can be accomplished by changing reimbursement models in Medicare and Medicaid to a value-based reimbursement structure. This update to reimbursement structures could be accomplished through broadly revising Medicare and Medicaid provider payments and linking them to quality metrics.

Evaluation

Evaluation by Alternative

Alternative 1: Increase Visa Availability for IMGs in Primary Care

Implementation Complexity — Medium

In the short run, this alternative can be implemented by adding the exemption cap as an amendment to the DHS appropriations legislation. This is a fast method for passage but would not be permanent and has to be included every year until the longer-term strategy—amending legislation on the matter—is realized. Both the short- and long-term implementation strategies lead to an immediate increase in the availability of H-1B visas for IMGs (translating to an increase in internationally trained PCPs). The impact is not diluted or curtailed by additional actors.

Effectiveness — Medium

The number of unapproved H-1B visa applications for physicians indicates that there is an underutilized supply; exempting IMGs from the visa cap contingent on them specializing in primary care would contribute approximately 1,000 IMGs to primary care every year - **an increase in total primary care capacity of at least¹ 0.4% annually** (see Appendix A).

Acceptability — High

a. Medical — High

Medical associations and healthcare advocacy groups are strong proponents of increasing H-1B visas for IMGs, arguing that it is a critical step to mitigating the demand-capacity gap in primary care (Kehoe et.al. 2016; American Medical Association, 2024).

b. Political — Medium- high

There is broad bipartisan recognition of the physician shortage, and previously proposed legislation (e.g., the Healthcare Workforce Resilience Act, the International Medical Graduates Assistance Act of 2023, the Conrad State 30, and Physician Access Reauthorization Act) indicates Congressional support for the idea of addressing it through increased use of IMGs. While President Trump did take some action during his first term to increase barriers for H-1B visa applicants, he has since changed his stance, calling it “a great program” and calling himself “a believer in H-1B” in an interview for the New York Times (Hassan, 2025).

Long-term scalability — High

IMGs are a recurring resource, with patterns in immigration data pointing to U.S. employment being highly desirable among IMGs. The number of IMGs practicing in the

¹ This is a conservative estimate based on breakdowns of American healthcare workforce by specialty and occupation; it is likely that H-1B visa applicants have a higher proportion of IMGs who would work in primary care, meaning the capacity expansion would be higher.



U.S. has steadily increased over the past 50 years, rising from roughly 10% of actively practicing physicians in 1975 to almost 25% today (Salsberg & Forte, 2002; Chen et al., 2010). This, in conjunction with the number of unapproved H-1B applications, suggests a strong and sustained supply of IMGs trying to enter the United States. A common concern is that the H-1B visa only allows for six years of work; while visa holders can apply for renewal or for a green card, these are not guaranteed. However, cap-exempt visas are significantly easier to renew than regular H-1B visas, mitigating the impact of this dynamic (U.S. Citizenship and Immigration Services, 2021).

Alternative 2: Allow FPA for APRNs

Implementation Complexity — High

Nursing scope of practice laws fall within state jurisdiction, but the federal government can influence them through the regulations for Medicare and Medicaid. To encourage the adoption of FPA laws from a federal level, CMS would need to issue new regulations for Medicare and Medicaid scope of practice. Following this, states would then need to adopt similar regulations to fully implement the changes. While not guaranteed, states tend to mirror federal programs to some extent, meaning there is a reasonable possibility of significant state-level adoption. However, norms in healthcare provision—namely, widespread resistance among physicians against the idea of granting full practice authority—could pose significant challenges to the policy's success by preventing full implementation by the final actors.

Effectiveness — Medium

Implementing FPA increases the number of visits to APRNs for primary care (and decreases PCP visits), which increases primary care capacity by expanding available providers (Park et al., 2019; Xue et al., 2016). Based on the expanded scope of practice during COVID-19, we also see that primary care utilization is higher when APRNs are granted FPA (Stange, 2014). Based on these broader patterns and an analysis of data from localized scope expansions (see Appendix A), expanding scope of practice for APRNs would result in an **8% capacity increase** in primary care provision.

Acceptability — Medium

a. Medical — Low-Medium

Surveys and publications from the American Association of Nurse Practitioners highlight that nurses are strong proponents of FPA. However, most physicians are staunchly opposed, as are some of the biggest coalitions of healthcare professionals (e.g., AMA). Opposition stems from concerns about the training differential between APRNs and physicians, and with concern from physicians that it will limit their scope of practice.

b. Political — Medium

Implementing this initiative comes at no cost and may even reduce healthcare expenses, which is an attractive characteristic for policymakers (Appendix B). However, previous state-level efforts, such as in Mississippi, have failed. Additionally, the AMA is actively lobbying against this 'scope creep.' Surveys of U.S. voters indicate that the electorate feels it is important for a physician to be involved in their diagnoses and treatments (Albert Henry, 2024).

Long-term scalability — High

APRNs enter into the workforce faster than physicians due to less required training hours, allowing them to begin care provision more promptly (Brom et al., 2019). Additionally, the workforce of APRNs is projected to grow much faster than the average for all occupations; the Bureau of Labor Statistics projects an increase by 45% between 2022 and 2032, compared to the average of 3% for all occupations. Therefore, expanding scope of practice and increasing the utilization of APRNs represent a long-term solution as the shortage of PCPs worsens.

Alternative 3: Use AI-integrated EHR to decrease non-patient workload

Implementation Complexity — High

The implementation complexity of this alternative is significant due to several factors. Financial incentives require stakeholder buy-in, which cannot be mandated and therefore cannot ensure widespread adoption of the alternative. While a regulatory element could be included by getting CMS to update their guidelines on AI to incorporate design principles for effectively integrating the technology into EHRs, this still lacks enforceability. Additionally, the lack of norms and regulations surrounding AI, especially concerning patient security, means that this alternative would likely require significant groundwork legislation before its recommendation for widespread AI use is feasible. Because the implementation is so complex and lacks mechanisms for formal enforcement, it is unlikely that the alternative would be adopted widely enough to have the projected impact on primary care capacity.

Effectiveness — High

Integrating AI into EHR systems would **increase primary care capacity by roughly 16%** (see Appendix A) by decreasing the amount of time a PCP spends on clerical work.

Acceptability — Medium

a. Medical — Medium-high

Almost 2/3 of PCPs suffer from a high degree of burnout, with many of them citing heavy administrative and clerical burdens as one of the primary reasons (Bodenheimer & Smith, 2013; American Medical Association, 2023). AI-integrated EHR systems present a solution to this; responses from physicians using ambient AI scribes in a non-randomized, non-controlled setting indicate favorable perception, citing the technology's capability to reduce the burden of clerical work and improve the quality of care they are able to provide (Tierney et al., 2024). Most participants in surveys of medical professionals "believed AI would improve health care, predominantly with nonclinical, administrative, and patient assessment tasks" (Hoffman et al., 2024 p. 1). However, some medical professionals are concerned about a lack of human oversight (Banerjee et al., 2024).

b. Political — Low

The required funding (see Appendix B) for a financial incentive is unlikely to gain support from Congress in the context of an administration focused on cutting government spending. Additionally, because AI is unregulated and so untested, it is a divisive political topic, and there is no existing framework upon which to build the integration of EHRs.

Long-term scalability — Low

This alternative only helps with making the current supply of PCPs slightly more effective; its overall impact on capacity will eventually be overcome by the expanding gap in capacity due to the increasing shortage of primary care physicians.

Alternative 4: Encourage team care models through value-based reimbursement structures

Implementation Complexity — High

Care models are implemented at the discretion of individual healthcare facilities, and in the status quo, team-based models are unpopular because the current fee-for-service payment models are a barrier to their sustainable implementation. Switching to a value-based reimbursement model would then theoretically incentivize team-based care by prioritizing patient outcomes instead of the relative value of performing any given type of care. Because this is not enforceable and requires individual hospitals to make the change, the likelihood that the impact of the alternative would be diluted is very high.

Effectiveness — High

The breakdown of the time a PCP spends on various care activities throughout the day indicates that **24%** of it can be reallocated to non-physicians, giving the PCPs significantly increased capacity to dispense care.

Acceptability — High

a. Medical — High

As a result of the aforementioned high levels of burnout, most healthcare professionals view team care models favorably, as they are shown to increase efficiency and decrease individual burdens of care. Team care models also allow practitioners to focus more closely on their area of expertise by sharing responsibilities with other healthcare team members (Smith et al., 2018).

b. Political — High

Developments in Medicare and Medicaid indicate a high degree of acceptance of value-based reimbursement models: Medicare has shifted to value-based purchasing models and CMS is testing alternative payment models, including value-based payment. Surveys of members of Congress show that there is rare bipartisan agreement on the principle of value-based healthcare models (Lin et al., 2021).

Long-term scalability — Low

This alternative represents a one-time capacity increase; while the average ability of a PCP to provide care increases in a team care model, without more healthcare personnel, the aggregate capacity of the system will continue to increase over time. The long-term issue of the increasing PCP shortage therefore remains unaddressed.

Outcomes

	Alternative 1: Increase the number of IMGs in primary care	Alternative 2: Grant FPA to APRNs	Alternative 3: Use AI-integrated EHR to decrease non- patient workload	Alternative 4: Encourage team care models
Implementation Complexity	Low	Medium-high	High	High
Effectiveness	Medium (0.4% annual increase)	Medium (one time 8% increase)	High (one time 16.47% increase)	High (one-time 24% increase)
Acceptability	Medium	Medium	Medium	High
Scalability	High	High	Low	Low

Figure 2



Tradeoffs

Based on the aforementioned relative importance of the criteria and the two avenues to impact (immediate and scaled effect on capacity), there are two tradeoffs to consider:

1. Between effectiveness and implementation complexity: Low implementation complexity is the most important consideration; highly complex implementation means that the actual impact (i.e., effectiveness) of the alternative is significantly less certain. As such, there is a favorable tradeoff between an alternative with a greater projected capacity increase and a high implementation complexity for one with a smaller projected impact on capacity but lower implementation complexity
2. Between effectiveness and scalability: An alternative whose improvements to capacity can be scaled and replicated in the long term is ideal given the ongoing and worsening nature of the shortage. As such, an alternative with smaller immediate impact but the potential for scalability and repetition of impact is preferable to one with a larger immediate impact but no potential for future replication.

Both of these tradeoffs are made in the calculations that ultimately present Alternative 1 as the best option. This alternative's low implementation complexity makes it a more attractive option than Alternative 2, despite its slightly lower effectiveness, because the impact is more certain. Alternative 1's high potential for scalability makes it preferable to either Alternative 3 and 4; while the latter have higher one-time projections for effectiveness, the fact that Alternative 1's capacity increase can be repeated and scaled in the future tempers the initial discrepancy in impact on primary care capacity.

Recommendation and Implementation

Recommendation

The Federal Group should pursue Alternative 1: increase visa availability for IMGs in primary care. While this is not the most effective of the alternatives presented, its impact on primary care capacity is the most stable due to low implementation complexity and high long-term scalability, making it the most attractive option.

Implementation

Effectively leveraging the supply of IMGs without visas to address the gap in primary care capacity in the United States requires their exemption from the cap on H-1B visas. This can be accomplished by amending the Nationality and Immigration Act, which outlines the caps and exempt professions for this visa (U.S. Citizenship and Immigration Services, 2024). The Federal Group's role in this implementation is conducting a comprehensive lobbying effort for the passage of the amendment, as outlined in the steps below:

Generating Legislative Support

1. Legislation Draft

Produce a full version of the proposed legislation for circulation to potential sponsors, subcommittees, and relevant staff. See Appendix C for a potential draft of the legislation.

2. Initial Advocacy

Meet with members of Congress and their staff to discuss the bill and potential for sponsorship. Initial targets for these meetings should be based on existing relationships with members from past work, amicable voting records for legislation regarding less stringent visa requirements and/or addressing the PCP shortage, and membership in caucuses or working groups related to immigration and healthcare. Appendix D includes an initial list of these potentially amenable members and coalitions. Other important stakeholders to get support from include those on relevant committees (House Committee on Energy and Commerce and the Senate Committee on Health, Education, Labor, and Pensions) and legislative staff who specialize in healthcare policy to provide detailed briefings and answer technical questions.

a. Sponsor Identification

Secure sponsors in both the House and Senate (ideally bipartisan) from the aforementioned meetings.

This early advocacy is key, as it is where lobbying has the most influence and is the essential step to getting the bill onto the legislative agenda (Hall & Wayman, 1990; Butler & Miller, 2021).



3. Testimonies and Hearings:

Help arrange for healthcare experts, affected individuals, and advocates to testify at congressional hearings to provide firsthand accounts of the physician shortage and the potential impact of the legislation, including the data-driven quantifications of its projected impact. While testimony and hearings alone are unlikely to change a member's vote, they are key in encouraging further research and debate over the topic, and in framing the argument in terms favorable to the larger strategic advocacy plan (Moreland-Russell et al., 2015; Nyhan, 2010)

Stakeholder Engagement

1. Coalition Building

Identify other healthcare advocacy groups with a vested interest in addressing the PCP shortage, connect with groups of IMGs to hear their perspective on the issue of obtaining H-1B visas, and engage with physicians and hospitals. Frame the legislation in terms of its impact on their constituencies to emphasize the importance of their buy-in.

To demonstrate the breadth of support from the affected factions, the Federal Group should engage in strategic messaging, targeting both Congress and the general electorate:

2. Joint statements

Collaborate with the aforementioned coalition on statements or letters of support to demonstrate broad backing from the medical and international communities. These can influence undecided legislators and reinforce the importance of the issue (Junk, 2020).

3. Press releases

Issue press releases (in coordination with other advocacy groups) to communicate key messages and updates. This content is effective in shaping public opinion and generating media coverage, which both can indirectly influence congressional actions (Binns, 2024; Tucker et al., 2020).

Monitoring and Evaluation

While the ultimate measure of success of the campaign is the passage of the legislation exempting IMGs in primary care from the H-1B visa cap, the strategy can be monitored throughout its progress with the following metrics, taken from the Community Organizing Fellowship frameworks for campaign evaluation (Smith, 2022):

- Influence measures

Evaluate stakeholder engagement on the bases of changes in size of coalition membership, amount of advocacy material produced and circulated, assessment of whether previous neutral parties have lent support, etc. Examine public opinion on the issue, compared to baseline initial levels of support for the policy and/or concern for the primary care shortage. Assess the amount and tone of media coverage of the issue.



- Policy goal measures

Count the number of meetings conducted with targeted lawmakers and staff, key members pledging support for the policy, and willing sponsors and cosponsors. Measure perceived engagement from Congress based on attendance to relevant committee hearings and engagement with the legislation (proposed amendments, debate).

Challenges

The most likely roadblock to a successful lobbying campaign on this issue is the Congressional gridlock; patterns from the most recent Congresses indicate a falling quantity of legislation passed. While this legislative initiative should still be initially introduced and marketed as a standalone bill, the “plan B” for its passage would be to introduce it as an amendment to the FY26 Homeland Security Appropriations or FY26 Labor, Health, Human Services, and related agencies Appropriations. Amendments for visa cap adjustments on both of these bills have passed via voice vote in subcommittee markups in the past three Congresses (House Committee on Appropriations 2024; 2023; 2022).

Conclusion

As the foundation of healthcare for nearly every individual, the importance of primary care physicians cannot be overstated. The current shortage has a profound and worsening impact on the lives of Americans—delaying preventive care, increasing healthcare costs, and exacerbating health disparities. Without decisive action, these consequences will only intensify, further straining an already overburdened healthcare system.

Exempting primary care physicians from the H-1B visa cap presents a timely, effective, and scalable solution to this crisis. By leveraging the untapped potential of IMGs, this policy directly addresses the shortage with minimal implementation barriers. Unlike other alternatives, such as expanding the scope of practice for advanced practice registered nurses or integrating AI into electronic health records, this approach has a proven track record, strong support from medical stakeholders, and immediate potential to increase the supply of primary care providers.

With straightforward implementation and consistently positive long-term projections, this policy offers the most sustainable pathway to strengthening the U.S. primary care workforce. It balances effectiveness with feasibility, ensuring that capacity expands steadily over time without requiring structural overhauls or contentious new resources. By enacting this reform, policymakers can take a critical step toward improving healthcare access, reducing patient wait times, and enhancing health outcomes for thousands of Americans—now and in the future.

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APPENDIX A: Effectiveness Calculations

Alternative 1 – Increase visa availability for IMGs in primary care

- Percent of American medical/healthcare professionals that are PCPs:
 - 24.4 % of physicians in the U.S. are primary care physicians (Hoffer, 2024)
 - 990,000 physicians in the healthcare workforce (Smith & Blank, 2022)
 - Healthcare workforce is 9.8 million (Bureau, 2021)
 - So 241,560 PCP/ 9.8 million healthcare = **2.46% of medical workforce is PCP**
- Applied to the unfilled number of H-1B visa applications:
 - 95% of applications for visas in medicine and health in 2023 were not approved (15850 applications not approved)
 - IMGs tend to work mostly in the primary care specialties: about 62% of IMGs are in primary care— which is 2.54x the 24% of all US. physicians who work in a primary care specialty (Nagarajan et al., 2020)
 - So assume that an IMG applicant for a healthcare H-1B visa is 2.54 times as likely to be a PCP
 - Means there are approximately 990 IMGs who would work in primary care who did not get their visas approved in 2023
 - Percent of workforce that is PCP * unfilled H-1B healthcare visas * scale for increased likelihood of working in primary care on the basis of being an IMG
 - $.0246 * 15850 * (2.54) = 990.371$
- So this increases the capacity of primary care provision by $(990/241560) .4\%$ every year, just on the basis of those who already want to practice primary care

Alternative 2 – Allow FPA for APRNs

- Studies show comparable health and patient satisfaction outcomes, so can assume that the impact of an APRN providing primary care is directly comparable to that of a PCP providing it (Liu et al., 2020; American Association of Nurse Practitioners, 2023)
 - Some even report higher levels of patient satisfaction/ better perception of care quality (Martin et al., 2023)
- In Maryland: FPA increased the number of patients seen per week by NPs by 1,792 patients (Bae et al., 2022)
 - Geographic health care shortages decreased by nearly half
- Study on states with FPA saw an 8% increase in ‘total care days’ in primary care (Poghosyan et al., 2019)

Alternative 3 - Use AI-integrated EHR to decrease non-patient workload

- PCPs spend 5.9 hours of an 11.4 hour workday working on EHR



- Documentation, order entry, billing, and coding account for 44.2% of this time (Arndt et al., 2017)
- Small-scale implementation of AI in EHR shows decreases in the clerical burden; one application (Suki) reported a 72% reduction in their documentation time per note (American Academy of Family Physicians, 2021).
- $0.442 * 5.9 = 2.6078$ hours spent on EHR tasks that could be done with AI
- $.72 * 2.6078 = 1.878$ hours saved per day
- $1.878 / 11.4 = .1647 \rightarrow 16.47\%$ increase in capacity

Alternative 4 – Encourage team care models through value-based reimbursement structures

- National Ambulatory Care Survey made a breakdown of the time a PCP spends on care, by category:
- 60% of preventative care, 25% of chronic care, and 10% of acute care duties can be reallocated to non-clinicians
- Based on the time breakdown for each type of care, **24%** of a PCP's time would be saved by a team care model
- So, this is a 24% capacity increase

APPENDIX B: Costs

Alternative 1 – Increase visa availability for IMGs in primary care

The only costs associated with this alternative are those of the employer filing fees associated with the H-1B petition process (registration fees, filing fees, additional fees for premium processing when requested). Standard filing fees are \$460 (Malik, 2024); the net annual cost would therefore be less than \$500,000, making it an insignificant portion of national economic activity.

Alternative 2 – Allow FPA for APRNs

Expanding APRN scope of practice will not increase prices of healthcare for consumers (Bae et al., 2022). In Fact, multiple state-level studies show that states with FPA authority have lower outpatient costs, drug expenditures, and patient visit costs.

- Outpatient costs decrease by 17% (Torre & Drake, 2021)
- Prescription drug costs decrease by 10.9% (Torre & Drake, 2021)
- Patient visit costs are 6-16% higher in states with restricted scope of practice (Bay Area Council Economic Institute, 2019)

Using Texas as the model state, the potential economic impact that would be associated with greater use of APRNs was projected by the Perryman Group to be over \$16 billion in immediate savings that would increase over time (Perryman Group, 2012).

Alternative 3 - Use AI-integrated EHR to decrease non-patient workload

The cost for this alternative is dependent on the financial incentive/ level of subsidy deemed appropriate by Congress in terms of proportion of upfront cost to the healthcare organization, which is also highly variable. Estimates for integrating AI with EHR fall between \$400,000 and \$2 million depending on the capacity of existing structure and the intended functionality of the system (Madden & Bekker, n.d.).

Alternative 4 – Encourage team care models through value-based reimbursement structures

The actual mechanism of this alternative – CMS adopting value-based reimbursement strategies— is zero-cost, but the implementation of this in practice incurs costs for the necessary workforce training and process changes.

In the long term, however, value-based care models reduce costs for patients because of its emphasis on preventive care and efficient management of chronic conditions, which allows patients to avoid unnecessary treatments and hospitalizations, leading to lower overall healthcare costs. These cost savings also translate to the macro level of the entire healthcare system (*Value Based Care - Healthcare & Reimbursement*, n.d.).



APPENDIX C: Draft Legislation

Title: Primary Care Physician Immigration Enhancement Act

Section 1: Short Title This Act may be cited as the "Primary Care Physician Immigration Enhancement Act."

Section 2: Findings and Purpose (a) Findings:

1. The United States faces a critical shortage of primary care physicians.
2. International Medical Graduates (IMGs) represent a significant, underutilized resource for addressing this shortage.
3. Current H-1B visa caps limit the ability of IMGs to contribute to the U.S. healthcare system.

(b) Purpose: The purpose of this Act is to exempt primary care IMGs from the H-1B visa cap to increase the supply of primary care physicians in the United States.

Section 3: Amendment to the Immigration and Nationality Act (a) In General: Section 214(g) of the Immigration and Nationality Act (8 U.S.C. 1184(g)) is amended by adding at the end the following: "(13) The numerical limitations contained in paragraph (1)(A) shall not apply to nonimmigrants described in section 101(a)(15)(H)(i)(b) who are physicians practicing in primary care fields, including internal medicine, pediatrics, family medicine, obstetrics and gynecology, and geriatrics."

Section 4: Implementation and Enforcement (a) The Secretary of Homeland Security shall implement regulations to ensure the effective administration of this Act. (b) The Secretary of Health and Human Services shall monitor and report on the impact of this Act on the supply of primary care physicians.



APPENDIX D: Initial List of Potential Congressional Allies

Supporters of the Doctors in Our Borders Act (H.R.1201 - 119th Congress)

Cosponsors: Reps Mike Lawler (R-NY) and Yvette Clark (D-NY)

Supporters of the Train More Primary Care Doctors Act (H.R.958 - 119th Congress)

Cosponsors: Reps. Emanuel Cleaver II (D-MO) and Zach Nunn (R-IA)

Supporters of Resident Physician Shortage Reduction Act (S. 1302/H.R. 2389; 118th Congress)

Cosponsors: Reps. Terri Sewell (D-AL), Brian Fitzpatrick (R-PA)

Supporters of Conrad State 30 and Physician Access Reauthorization Act (H.R.4942 - 118th Congress)

Sponsor: Rep. Bradley Scott Schneider (D-IL)

Senate Finance Committee's Bipartisan Medicare GME Working Group

Notable Members: Sens. Bill Cassidy (R-LA), Catherine Cortez Masto (D-NV), John Cornyn (R-TX), and Michael Bennet (D-CO)

Problem Solvers Caucus

Co-chairs: Reps. Brian Fitzpatrick (R-PA) and Tom Suozzi (D-NY)

28 members endorsed the Conrad State 30 and Physician Access Reauthorization Act

Congressional Primary Care Caucus

Co-chairs: Reps. Joe Courtney (D-CT), David Rouzer (R-NC), Jen Kiggans (R-VA),

Lisa Blunt Rochester (D-DE)

