

# Is Primary Care in the United States on Life Support?

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## Abstract

This review examines the root causes of the primary care shortage in the US, which began well before the COVID-19 pandemic. With extended life expectancies, we are witnessing an increase in noncommunicable diseases, necessitating increased funding for training, case and care management, and partnerships with academic institutions, technology firms, health insurers, federal, state, and community stakeholders to ensure the future of primary healthcare services is vibrant and sustainable.

## Keywords

Primary Care Shortages, Chronic Disease Management, Chronic Diseases, Noncommunicable Diseases, Non-Physician Providers, Team-Based Primary Care, Rural and Urban Health Services, Medical School and Residency Training Programs, Telehealth, Artificial Intelligence, Provider Burnout, Health Insurance, Emergency Rooms, Global Health, General Practitioners, Nurse Practitioners, Physician Assistants, Medical Insurance, Primary Health Care, Primary Care Providers

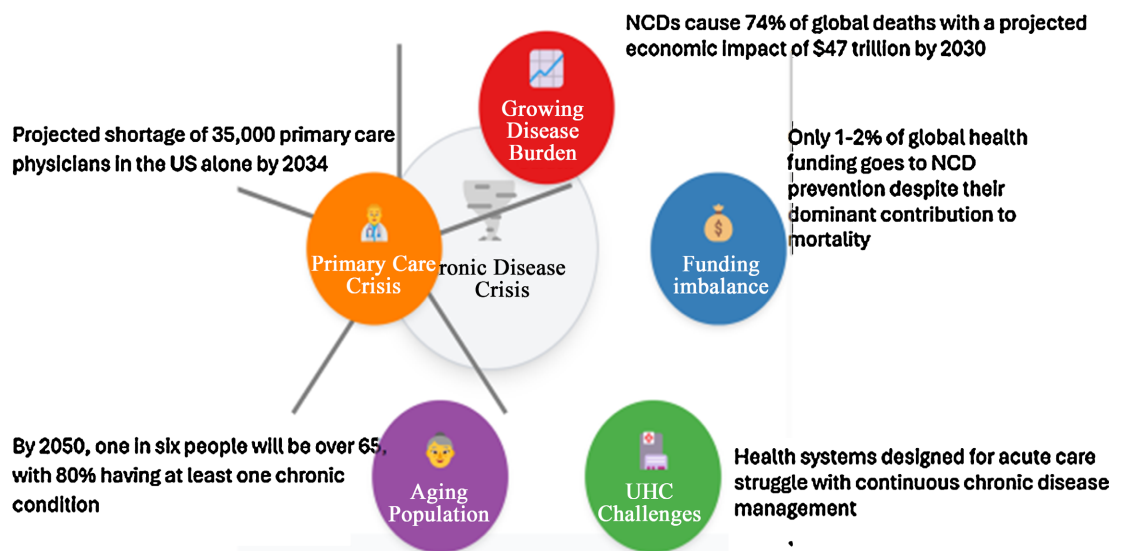
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## 1. Introduction

The vision of primary health care (PHC) as an essential link for providing comprehensive care (prevention, treatment, health promotion, and palliative care) is facing significant challenges, as noted in **Figure 1**. This is not exclusively a United States (US) issue, but a Global issue.

Over the next decade, aging populations and the increasing incidence of chronic diseases/noncommunicable diseases (NCDs) will be a major global health threat

## The Perfect Storm: Chronic Diseases as a Global Health Threat: The Creeping Pandemic



**Figure 1.** The perfect storm: chronic disease/noncommunicable diseases as a global health threat.

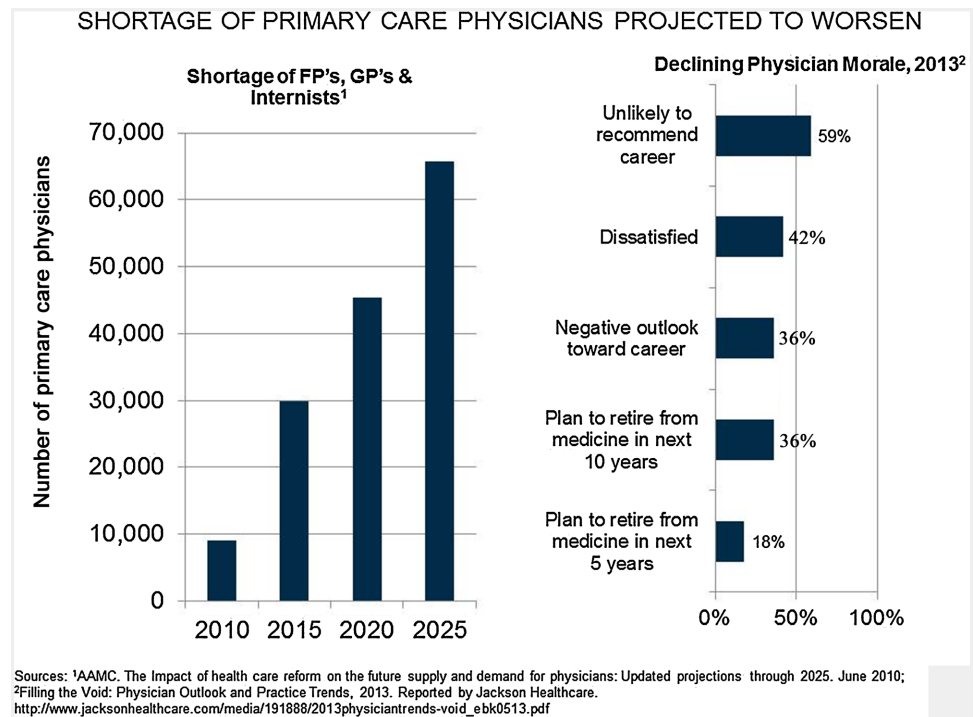
across all income levels. This demographic change will require a substantial redistribution of national budgets while testing the resilience of health infrastructure systems, which are already at a breaking point. The US spends more on healthcare than other high-income countries (HICs), yet its health outcomes and performance rank among the lowest [1]. In the US, barriers to affordable healthcare are due to disparities in access to insurance (uninsured, no gap coverage, high deductibles, and underinsured) and the rural vs. urban divide (characterized by fewer health care providers, lower per capita income, limited transportation, limited internet bandwidth, and higher prevalence of chronic diseases) [2] [3]. With the recent passage of the “One Big Beautiful Bill”, the savings of \$1.1 trillion will result in 11.8 million Americans becoming uninsured by 2034 [4].

Systems that utilize primary care as a pillar and foundation have better population health, improved health equity and quality, and lower healthcare expenditures [5]. Studies from researchers at Stanford and Harvard have shown that having primary care physicians (PCPs) increases life expectancy and reduces mortality from cardiovascular, cancer, and respiratory diseases [6] [7]. Without a robust primary care system, our healthcare will continue to be fragmented, inaccessible, and cost-prohibitive, setting up the scenario for the perfect storm. The purpose of this paper is to review the root cause analysis related to the shortage of Primary Healthcare Providers.

## 2. Background: Primary Care Shortages Worsen in the United States (US)

Sixty percent of Americans are afflicted with a noncommunicable disease (NCD), and mortality from cancer, heart disease, stroke, respiratory diseases, Alzheimer’s disease, diabetes, kidney disease, and chronic liver disease are on the rise [8]. Ninety-

three percent (\$4.5 trillion) of Medicare healthcare costs are for chronic diseases, *i.e.*, NCDs [8]. As seen in **Figure 2**, the US faces continued and worsening shortages with insufficient medical residents choosing primary care to replace retiring doctors. The existing health care system will not be able to survive in the setting of diminished primary care providers, increasing rates of chronic diseases, an aging population, and rising health care costs.



**Figure 2.** Projected shortage of primary care physicians in the United States.

### 3. Factors Contributing to the Challenges Facing Primary Health Care in the United States are

#### 3.1. Financial Pressures

Primary care physicians (PCPs) typically earn significantly less (30 to 50 percent less than their specialist colleagues), creating a strong disincentive for medical students to choose this path, especially when average medical school debt exceeds \$200,000. New physicians are drawn to higher-paying specialties to manage their loan repayments [9]. The fee-for-service payment model rewards procedures and tests rather than time spent with patients. PHC is particularly vulnerable among other specialties, as all primary care revenue is derived from in-person evaluation and management visits [10].

#### 3.2. Administrative Burden and Burnout

Primary care doctors spend approximately 2 hours on paperwork and electronic health records (EHRs) documentation for every 1 hour of direct patient care, leading to significant and rapid burnout [11]. Navigating multiple payers with differ-

ent rules and reimbursement rates also adds complexity to running a primary care practice [12] [13]. Primary care physicians report among the highest burnout rates in medicine, leading many to reduce their hours or retire early, which further decreases the pool of primary care physicians [14] [15].

### **3.3. Corporate Consolidation**

Independent practices are increasingly acquired by hospital systems and private equity firms, changing practice dynamics and reducing physician autonomy, causing many physicians to leave clinical practice [16]. When physicians practicing in any specialty are taken over by a hospital, charges invariably increase, while quality either stays the same or diminishes [17].

### **3.4. Competition from Urgent Care and Retail Clinics**

These alternatives address immediate concerns but fragment care and do not provide comprehensive primary care services. These centers have not bridged the challenges in reducing access for patients in rural and underserved areas [18].

### **3.5. Scope Creep by Non-Physician Providers (Physician Assistants, Nurse Practitioners)**

A recent survey from the American Medical Association shows that the scope of practice tops the list of 2024 legislative priorities for state and specialty medical associations, with 86% ranking it as their top legislative priority. “Expanding non-physician providers’ scope of practice can make patients less safe, especially when health professionals present themselves in a way that makes it difficult for patients to understand their role or training, experts said during a panel discussion at the 2024 AMA State Advocacy Summit” [19]. Generally, non-physician providers provide excellent care with well-defined problems, such as preventive care, acute minor illnesses, and management of defined problems such as hypertension and diabetes. The difference in education and training is apparent when patients have less well-defined problems and/or are more seriously ill. A recent study showed that in the Veterans Administration (VA) health system, Nurse Practitioners working without Physician supervision led to increased lengths of stay, higher costs, and more preventable hospital admissions [20].

### **3.6. The Internet and Artificial Intelligence (AI)**

In a digital world, with constraints of time, high insurance deductibles, and difficulty accessing PHS, surveys have found more than one-third (probably more) of Americans self-diagnose when encountering a health concern, and over two-thirds of American adults consult the internet for medical information [21].

Will artificial intelligence (AI)/large language models (LLMs) be the final nail in the coffin for primary care? The four tech giants, Google, Amazon, Microsoft, and Nvidia, are heavily invested in tackling healthcare issues through cloud computing and regenerative AI [22]. In the near future, AI will play a prominent role

in primary healthcare delivery by improving clinical decisions, diagnosis accuracy, and disease surveillance [23]. The reduction of the administrative burden by AI may help with provider burnout. Healthcare providers should have input on the design, development, and deployment of AI in medicine to ensure it is more helpful than harmful to patients, while providing safeguards for accuracy and privacy breaches [24] [25].

#### 4. Role of Physician Assistants (PAs) and Nurse Practitioners (NPs) in Primary Care

While PAs and NPs have helped address some primary care gaps and are a vital part of the solution to primary care shortages, they have not solved the growing void in the primary care workforce for several important reasons: many PAs and NPs are drawn to urban areas rather than filling the gap in underserved regions; a growing percentage of PAs and NPs are choosing specialty practice over primary care for better compensation, more manageable workloads, and defined hours; PAs and NPs face the similar administrative burdens and system pressures as physicians, leading to burnout and career changes; and as the population ages with increasing chronic disease burdens, the complexity of primary care has grown, requiring physician-level training for certain patients [26] [27]. Effective integration of these providers requires organizational changes that many practices struggle to implement efficiently with physician-led care and proper supervision [28].

#### 5. US Medical Schools Fail in the Training of Primary Care Physicians

Several key factors in medical education have undermined primary care training:

**Specialist-dominated faculty and culture:** Medical schools are typically affiliated with academic medical centers where specialists predominate in teaching roles, creating an environment that subtly or overtly values specialization over primary care [29]. Medical education often implicitly communicates that specialties requiring more competitive board scores are more prestigious, with primary care positioned lower in this hierarchy.

**Insufficient primary care exposure:** Medical students receive limited meaningful exposure to high-functioning primary care settings, particularly during their formative early years when career interests develop. Some very prominent medical schools do not even have departments of family medicine and do not require primary care experience [30]. For institutions with mandatory primary care clerkships, experience often comes after students have already begun developing specialty preferences [31].

**Misaligned curriculum focus:** Traditional curricula emphasize hospital-based, disease-focused care rather than longitudinal, community-based preventive care that forms the core of effective primary care. Few programs emphasize training in settings with the greatest primary care needs (underserved areas), leaving graduates underprepared for these environments. Students often receive insufficient training

in healthcare systems, population health management, team-based care, and practice efficiency—skills essential in modern primary care [32] [33].

## **6. Are There Any Global Models Where Robust Primary Care Serves as the Platform for Successful Healthcare Systems?**

Several countries have developed effective models to maintain robust primary care workforces [34]-[36]. Here are some successful approaches.

### **6.1. Portugal's National Health Service**

- Offers universal coverage with primary care as the foundation.
- Uses family health units with salaried multidisciplinary teams.
- Provides performance-based financial incentives.
- This resulted in 98% of the population having an assigned primary care physician.

### **6.2. Australia's Rural Workforce Initiatives**

- The Rural Clinical Schools Program requires medical students to complete rural rotations.
- Financial incentives increase with remoteness of practice location, and family physicians are paid as specialists.
- Immigration pathways for foreign-trained physicians willing to work in underserved areas.
- Telehealth infrastructure connecting rural practitioners with urban specialists.

### **6.3. Canada's Distributed Medical Education**

- Medical schools with specific rural training tracks.
- Northern Ontario School of Medicine focuses on training physicians for rural practice.
- Return-of-service agreements tie educational funding to practice commitments.
- Team-based Community Health Centers in underserved areas

### **6.4. Netherlands' Primary Care System**

- Gatekeeping model with mandatory registration with a primary care physician.
- Capitation-based payment system with additional fees for certain services.
- Evening/weekend cooperative coverage systems prevent burnout.
- Strong nurse practitioner integration.

### **6.5. Ecuador's Improved Health Care System**

- Health Care is a right in the Constitution.
- Use primary care as the platform.
- A public healthcare system that is free to everyone.
- Bring healthcare “to the people” with people being assigned a primary clinic in their district.

## **7. What Can Be Done in the US to Address the Primary Care Crisis and Build a More Robust Primary Health Care System?**

### **7.1. Universal Healthcare Coverage and Financial Reform**

To improve access to primary care services and an equitable healthcare system, insurance coverage needs to extend to ALL people in the US. The reality for the US is that legislative authorities (Congress) lack the fortitude to defy the power of the various lobbyists (Insurers, Hospitals), making health insurance a privilege vs. a right [37]. Coverage needs to be financially regulated, ensuring out-of-pocket expenses are affordable. Transitioning from a fee-for-service (FFS) to a value-based payment (VBP) model for primary care, rewards preventive care, and offers care management fees for maintaining patient panels [38]. Reimbursing for care and case management (utilizing a team approach, telemedicine, and a robust electronic medical record) will increase both physician and patient satisfaction and provide overall better care [39].

Value-based payment programs have not significantly increased the incomes of primary care physicians. Despite the potential benefits, such as improved patient care and reduced healthcare spending, participation in these models remains low. Financial barriers, workforce shortages, and imperfect performance measures are key factors preventing primary care practitioners from joining these programs [40]. Solutions to these challenges include increasing payments, boosting support for PCPs, and investing in primary care trainees. The success of any healthcare system is ensuring the quality, adequate financial compensation, and the number of primary care providers, which both the FFS and VBP have failed to address.

### **7.2. Administrative Simplification**

Reduce the paperwork burden on primary care practices by standardizing prior authorization processes across insurers, streamlining and reducing nonclinical documentation requirements, and creating unified quality metrics instead of multiple competing programs [41].

### **7.3. Create a Universal Electronic Medical Record (EMR)**

Studies show the US could save over \$81 billion with the implementation of a universal EMR [42]. Having an EMR improves healthcare delivery by decreasing administrative duties, standardizing data collection and chronic disease surveillance, reducing the risk of errors and duplication of work, and allowing primary care physicians to view notes, consultations, procedures, laboratory, and imaging studies without the burden of requesting medical records.

### **7.4. Telehealth Integration and Coverage**

With the COVID-19 pandemic and closure of primary care offices, successful practices quickly transitioned to telehealth. Through secure video visits, health monitoring, and digital communication tools, healthcare providers deliver more respon-

sive care that meets patient needs. This approach reduces travel time for patients, lowers healthcare costs, and helps doctors manage ongoing health conditions more effectively [43]. Insurers should ensure permanent coverage parity for virtual primary care services; support hybrid care models that combine virtual and in-person care to remove geographic disparities in telehealth coverage.

### **7.5. Health Insurance Companies**

Insurance companies have significant leverage to address the primary care physician shortage and crisis through several impactful strategies. Health insurance companies have developed sophisticated algorithms for patient utilization, clinical outcomes, and chronic disease management. Sharing claims data to identify care gaps, investing in health information exchanges that reduce duplicate work, streamlining technology solutions to reduce documentation time, and facilitating an approval process across insurers are ways to address the primary health care shortage [44].

### **7.6. Medical Schools**

Some medical schools have attempted to address these issues through dedicated primary care tracks, rural training programs, and community-based education initiatives, but these efforts remain insufficient compared to the scale of need. Early exposure to mandatory primary care clerkships is needed in medical school rotations. Every medical school needs a primary care track focusing on underserved areas, population health management, and team-based care [45]. There also needs to be training of medical school faculty on primary care bias and how to not play into the falsity that trainees who go into primary care are only doing because they could not get into other, more competitive specialties. Primary care bias and the falsity that trainees going into primary care do so because they cannot get into more competitive specialties will change with medical school faculty training [46].

### **7.7. Direct Investment in Workforce Development**

Funding medical school loan forgiveness programs for physicians committing to primary care, supporting residency programs focused on primary care (especially in rural and underserved areas), and investing in retention programs to keep physicians in primary care practice is critical [47]. These same commitments should apply to other members of the primary health care team, such as Physician Assistants, Nurse Practitioners, Nurses, Medical Assistants, Pharmacists, and Care Managers. Pipeline programs are important, as those who grew up in rural and underserved areas are more likely to serve in underserved areas later, but are less likely to afford and have the same opportunities for medical school or health careers as students from more affluent backgrounds. These modalities can bridge the urban-rural divide and improve the quality of care in underserved areas.

## 7.8. Emergency Departments (EDs) Serve as the Safety Net in Lieu of Access to Primary Care Services

As a result of the primary care crisis, more patients are utilizing Emergency Departments for low-acuity medical conditions. When patients lack access to high-quality primary care, minor health problems can become chronic diseases, care management becomes more difficult and less coordinated, visits to emergency departments rise, preventive care lags, and health care costs rise to unsustainable levels [48]. Emergency room providers are trained in acute medicine with limited training in chronic disease management and preventive care.

## 8. Conclusion

Primary care is the backbone of any successful health care system, but is in crisis in the US. It suffers from a public perception issue and a lack of funding and support. There is a narrow window of opportunity to address this crisis and allow primary care services to survive, but it will take leadership at the level of Medical Schools, Medical Insurance Companies, Hospitals, Communities and States, and the Federal Government to reverse the inevitable demise. Without legislative and financial support for universal healthcare coverage in the US, we will witness the end of primary care as a cornerstone of healthcare services and the collapse of the healthcare system. Implementing the above approaches will be vital to ensuring we can rebuild our healthcare system with a strong primary care backbone and improve care for all.

## Conflicts of Interest

The authors declare no conflicts of interest regarding the publication of this paper.

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