

Primary Care for America Workforce Shortage Toolkit



Primary Care for America

Table of Contents

A world without primary care physicians (PCPs) is coming, and your role in sharing this toolkit is crucial to reversing the PCP workforce shortage. By amplifying our messaging and raising awareness among policymakers, you help call attention to the shortage and its significant impact on patients and the healthcare system. Your support can make a transformative difference in securing the future of primary care - and ultimately create better health outcomes, lower health care costs and healthier communities.



3

**Workforce Shortage
Factsheet**

4

Social Media Content

6

**The Health of US Primary
Care: 2024 Scorecard Report**



A worsening crisis at the center of U.S. health care

Without enough primary care physicians (PCPs), the health system cannot work for patients



Primary care cannot keep up with health care demands

The primary care workforce is shrinking¹⁻⁴



Not enough new doctors are choosing primary care



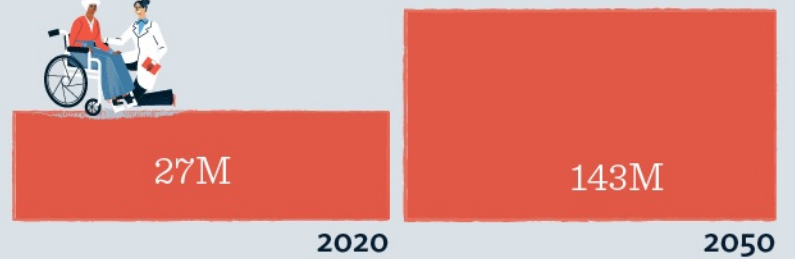
PCPs are leaving the workforce due to burnout, overwork, and retirement



Training opportunities in primary care are insufficient

The population is growing and aging¹

The number of people 50 and older with at least one chronic disease requiring ongoing management is expected to double



Sustained investment now can help meet this demand

40K+ more PCPs will need to enter the U.S. workforce by 2036⁵

Patients pay the price for primary care physician shortages



Reduced access to important disease screening and preventive services⁶⁻⁸



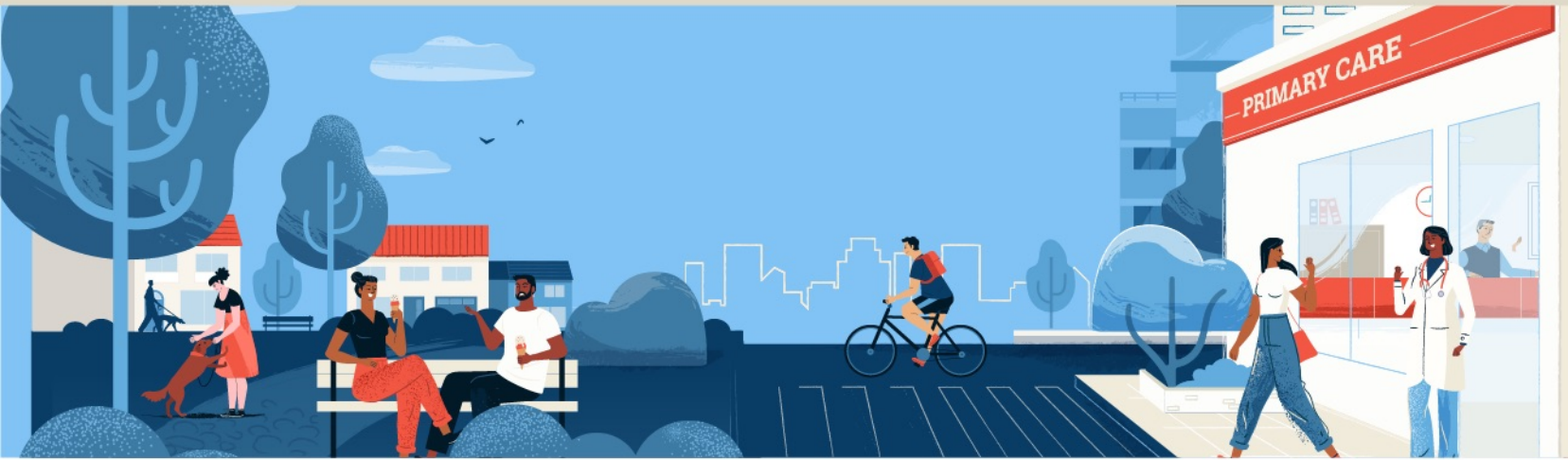
Lack of coordinated care critical to managing and preventing chronic disease⁶



Difficulty locating PCPs, causing care delays and lengthy wait times¹



Greater likelihood of emergency room visits⁸



It is not too late to reverse these trends and revitalize primary care



Expand the number of Medicare-funded Graduate Medical Education positions

Increasing the number of Medicare-supported GME positions can help alleviate shortages in rural and underserved areas by reducing medical student loan debt to encourage more medical students to pursue primary care careers.



Support payment models that value primary care services

Accelerating the transition to well-designed value-based payment models will encourage more health professionals to practice primary care and prioritize quality and outcomes over the number of services provided, helping lower health care costs and improving outcomes.



Support recruitment and retention programs

Program, like the National Health Service Corps, that recruit, train and retain, primary care physicians, as well as nurses, nurse practitioners, and physician assistants can help bridge the workforce gap.



Increase investment in the Teaching Health Center Graduate Medical Education Program

While most primary care takes place in the community setting (i.e., outside of hospitals), few medical students train in this setting. THCs provide those seeking to specialize in primary care with real-world experience to be successful.



Offer medical student debt assistance

Loan repayment or forgiveness can incentivize medical students to work in primary care settings.

Social Media Content

Below are draft copy options you can post across your social media channels.

To accompany the social media copy, we have curated a few infographic-styled social media graphics for you to choose from, which you can [download here](#).

We would love to engage with you, so please tag us on social media. You can find our handles by clicking the social media logos below.

1. Copy: The primary care workforce is facing a glaring shortage. Congress can help reverse the workforce shortage and create healthier communities while also lowering the cost of health care for Americans. Learn about actionable solutions to make #PrimaryCare a priority.

Link: <https://www.primarycareforamerica.org/workforce/>

2. Copy: There are not enough primary care physicians to meet the needs of our country's growing, aging and sicker population. Without action from Congress, patients will face barriers to care, and health costs will rise for all.

Link: <https://www.primarycareforamerica.org/workforce/>

3. Copy: Without better support, medical residents will continue to choose other specialties, deepening the primary care workforce deficit. We need Congress to invest in programs and initiatives that bolster a strong primary care workforce.

Link: <https://www.primarycareforamerica.org/workforce/>

4. Copy: Ensuring better access to #PrimaryCare is key to reducing the burden of chronic disease and improving the lives of patients, their communities and the country. Learn about solutions Congress can implement to address the PCP workforce shortage.

Link: <https://www.primarycareforamerica.org/workforce/>

5. Copy: Primary care physicians are indispensable to the U.S. health care system – but more doctors are leaving the workforce. Learn about ways Congress can invest in primary care to build a robust workforce and increase better access to care.

Link: <https://www.primarycareforamerica.org/workforce/>



No One Can See You Now: Five Reasons Why Access to Primary Care Is Getting Worse (and What Needs to Change)



BY YALDA JABBARPOUR, ANURADHA JETTY, HOON BYUN, ANAM SIDDIQI,
STEPHEN PETTERSON, AND JEONGYOUNG PARK, ROBERT GRAHAM CENTER



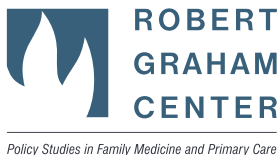
About the Milbank Memorial Fund

The Milbank Memorial Fund works to improve population health and health equity by collaborating with leaders and decision makers and connecting them with experience and sound evidence. Founded in 1905, the Milbank Memorial Fund advances its mission by identifying, informing, and inspiring current and future state health policy leaders to enhance their effectiveness; convening and supporting state health policy decision makers to advance strong primary care and sustainable health care costs; and publishing high-quality, evidence-based publications and *The Milbank Quarterly*, a peer-reviewed journal of population health and health policy. For more information, visit www.milbank.org.



About The Physicians Foundation

The Physicians Foundation is a nonprofit seeking to advance the work of practicing physicians and help them facilitate the delivery of high-quality health care to patients. As the US health care system continues to evolve, The Physicians Foundation is steadfast in strengthening the physician-patient relationship, supporting medical practices' sustainability and helping physicians navigate the changing health care system. The Physicians Foundation pursues its mission through research, education, and innovative grant making that improves physician well-being, strengthens physician leadership, addresses drivers of health, and lifts physician perspectives. For more information, visit www.physiciansfoundation.org.



About the Robert Graham Center

The American Academy of Family Physicians' Robert Graham Center aims to improve individual and population health care delivery through the generation or synthesis of evidence that brings a family medicine and primary care perspective to health policy deliberations from the local to international levels. The information and opinions contained in research from the AAFP's Robert Graham Center do not necessarily reflect the views or policies of the American Academy of Family Physicians. For more information, visit www.graham-center.org.

CONTENTS

Definitions and Acronyms	4
Executive Summary	5
Introduction: Access to Primary Care Is Worsening.....	8
Why No One Can See You Now	10
Reason 1: The primary care workforce is not growing fast enough to meet population needs.....	10
Figure 2. The Number of Primary Care Physicians per Capita Is Falling (2012–2021).....	10
Figure 3. The Number of Primary Care Clinicians (Physicians/NPs/PAs) per Capita Is Rising (2016–2021).....	11
Figure 4. The Share of All Clinicians (Physicians, NPs, and PAs) Working in Primary Care Remains Stagnant (2018–2021).....	11
Figure 5. Primary Care Clinician Density Is Highest in High-Need Areas (2016–2021).....	12
Reason 2: The number of trainees who enter and stay on the professional pathway to primary care is too low, and too few have community-based training.....	14
Figure 6. Growth in the Number of Primary Care Residents per Capita Is Not Keeping Pace with Other Specialties (2012–2021).....	14
Figure 7. Only 15% of Physicians Actually Entered Primary Care Practice in 2021.....	15
Figure 8. The Percentage of Primary Care Residents Trained in Community-based Settings Remained Low (2013–2021).....	16
Reason 3: The United States continues to underinvest in primary care.....	18
Figure 9. Primary Care Spending (Narrow Definition) Remains Low Across All Insurers (2012–2021).....	18
Reason 4: Technology has become an added burden to primary care.....	20
Figure 10. Nearly Half of Family Physicians Rate EHR Usability Poor or Fair in 2022.....	20
Figure 11. More Than One-Third of Family Physicians Are Not Satisfied with Their EHR in 2022	21
Reason 5: Primary care research to identify, implement, and track novel care delivery and payment solutions is lacking.....	22
Figure 12. Federal Research Investment in Primary Care Was Nearly Nonexistent (2017–2022).....	22
Policy Solutions.....	24
Conclusion.....	27
Notes.....	28
Acknowledgments.....	32
About the Authors	33

The Milbank Memorial Fund is an endowed operating foundation that engages in nonpartisan analysis, study, research, and communication on significant issues in health policy. In the Fund's own publications, in reports, films, or books it publishes with other organizations, and in articles it commissions for publication by other organizations, the Fund endeavors to maintain the highest standards for accuracy and fairness. Statements by individual authors, however, do not necessarily reflect opinions or factual determinations of the Fund.

© 2024 Milbank Memorial Fund. All rights reserved. This publication may be redistributed digitally for noncommercial purposes only as long as it remains wholly intact, including this copyright notice and disclaimer.

Milbank Memorial Fund
645 Madison Avenue
New York, NY 10022
www.milbank.org

DEFINITIONS AND ACRONYMS

ABFM – American Board of Family Medicine

AHRQ – Agency for Healthcare Research and Quality

CAHPS – Consumer Assessment of Healthcare Providers and Systems

Clinician – Includes doctors of osteopathy (DOs), medical doctors (MDs), nurse practitioners (NPs), and physician associates/physician assistants (PAs).

CMS – Centers for Medicare and Medicaid Services

Community-Based Training Broad – Any primary care resident who completed their training in a program that, according to the American Medical Association’s FRIEDA database, primarily trained outside of a hospital or a large academic center was considered community-trained.

Community-Based Training Narrow – Any primary care resident who trained in a Teaching Health Center or rural training track was considered community-trained.

EHR – Electronic health record

Graduate Medical Education (GME) – Commonly referred to as residency or fellowship training for physicians. Typically, a three- to nine-year training track for residents to specialize and practice independently after completing medical school!

Health Information Technology (HIT) – Electronic system that health care professionals and patients use to store, analyze, and share health information.

High-Quality Primary Care – The provision of whole-person, integrated, accessible, and equitable health care by interprofessional teams who are accountable for addressing the majority of an individual’s health and needs across settings and through sustained relationships with patients, families, and communities. (As defined by the 2021 NASEM report, *Implementing High-Quality Primary Care*.)

MEPS – Medical Expenditure Panel Survey

NASEM – National Academies of Sciences, Engineering, and Medicine

NIH – National Institutes of Health

Nurse Practitioner (NP) – Nurse with an advanced graduate degree and clinical training from a nationally accredited nurse practitioner program.

OECD – Organisation for Economic Co-operation and Development

Physician Associate/Physician Assistant (PA) – Individual with an accredited graduate degree program, clinician training hours, and certification from the PA-accrediting body.

Primary Care Clinician (PCC) – Clinicians practicing in the field of primary care.

Primary Care Physician (PCP) – Physicians practicing in the field of primary care. These include family physicians, general internists, general pediatricians, and geriatricians.

Primary Care Residents – Resident studying and practicing in the field of primary care.

Primary Care Spend – The proportion of total health care expenditures going to primary care.

Primary Care Spend Broad – Spending for office-based care from NPs, PAs, behavioral health clinicians, and obstetricians/gynecologists. Includes the narrow definition of primary care spend.

Primary Care Spend Narrow – Restricted to outpatient and office-based expenditures to PCPs only.

Social Deprivation Index (SDI) – A composite measure of area-level deprivation based on seven demographic characteristics collected in the American Community Survey and used to quantify the socioeconomic variation in health outcomes.

Usual Source of Care (USC) – A specific person (clinician) or place (doctor’s office, clinic, health center, or other place) that an individual goes to with a health issue or concern.

VA – United States Department of Veterans Affairs

Whole-Person Care – As defined by the NASEM committee on *Implementing High-Quality Primary Care*: “Whole-person health focuses on well-being rather than the absence of disease. It accounts for the mental, physical, emotional, and spiritual health and the social determinants of health of a person.”

EXECUTIVE SUMMARY

Primary care is in crisis. In 2023, the inaugural Primary Care Scorecard made clear the systemic lack of support for primary care in the United States, which is harming people's health and weakening the US health system.² It is no surprise that one year later, in the absence of a coordinated effort among policy leaders, we see news stories on the diminishing availability of primary care physicians and long wait times for primary care visits.³ Headlines such as "Primary Care Saves Lives. Here's Why It's Failing Americans"⁴ and "The Shrinking Number of Primary Care Physicians Is Reaching a Tipping Point"⁵ dominate the lay media's reporting on primary care. Despite the overwhelming evidence that access to primary care improves population health, reduces health disparities, and saves health care dollars, support for primary care continues to dwindle. As a result the average life expectancy in the United States continues to stagnate,⁶ and health disparities in preventive services and other basic primary care services persist, accounting for 60,000 excess deaths each year.⁷

Grounded in the recommendations of the 2021 National Academies of Sciences, Engineering, and Medicine (NASEM) report, *Implementing High-Quality Primary Care: Rebuilding the Foundations of Healthcare*,⁸ this year's Scorecard report assesses the health of primary care at the federal level using measures of access, financing, workforce/training, and research. This assessment identifies five reasons why primary care in the United States is inaccessible for so many Americans.

Reason 1: The primary care workforce is not growing fast enough to meet population needs.

- The number of primary care physicians (PCPs) per capita has declined over time from a high of 68.4 PCPs per 100,000 people in 2012 to 67.2 PCPs per 100,000 people in 2021.
- While the rate of total clinicians in primary care, inclusive of nurse practitioners (NPs) and physician assistants (PAs), has grown over the past several years, it is still insufficient to meet the demands of overall population growth,⁹ a rapidly aging population with higher levels of chronic disease,¹⁰ and workforce losses during the pandemic.¹¹ Compared to Canada, which boasts a primary care physician-only density of 133 per 100,000 people, the US primary care *total clinician* (physician, NP, and PA) density was only 105 per 100,000 people in 2021.¹²

Reason 2: The number of trainees who enter and stay on the professional pathway to primary care practice is too low, and too few primary care residents have community-based training.

- In 2021, 37% of all physicians in training (residents) began training in primary care, yet only 15% of all physicians were practicing primary care three to five years after residency. More than half of residents with the potential to enter primary care subspecialized or became hospitalists instead.
- In 2020, only 15% of primary care residents spent a majority of their time training in outpatient settings where a majority of the US population receives their care.¹³ Fewer than 5% of primary care residents spent a majority of their training with the most underserved communities in the United States.
- The number of medical residents per person in primary care has risen at a slower pace than all other specialties, increasing by only 21% compared to 26% in other specialties.

Reason 3: The US continues to underinvest in primary care.

- The investment in primary care as a share of total health care spending has dropped from 5.4% in 2012 to 4.7% in 2021.
- Medicaid and commercial insurer investment in primary care has decreased since 2012, and Medicare investment remains low. Since 2019, primary care investment has steadily declined for all payers; this decline is most pronounced in the Medicare population.

Reason 4: Technology has become a burden to primary care.

- Data limited to family physicians demonstrate that health care technologies do not serve primary care physicians adequately; more than 40% of family physicians report unfavorable scores in electronic health record (EHR) usability, and over 25% report overall dissatisfaction with their EHR.

Reason 5: Primary care research to identify, implement, and track novel care delivery and payment solutions is lacking.

- Since 2017, only around 0.3% of federal research funding (administered through the National Institutes of Health and the Agency for Healthcare Quality and Research, for example) per year has been invested in primary care research, limiting new information on primary care systems, payment and delivery models, and quality.
- Lack of adequate data about the primary care infrastructure hinders this Scorecard's capacity to fully track progress on the NASEM report objectives: (1) Pay for primary care teams to care for people, not doctors to deliver services; (2) Ensure that high-quality primary care is available to every individual and family in every community; (3) Train primary care teams where people live and work; (4) Design information technology that serves the patient, family, and the interprofessional care team; (5) Ensure that high-quality primary care is implemented in the United States.

Please see the accompanying [Scorecard data dashboard](#) for measure-specific maps and state profiles that can be used by federal and state researchers, policymakers, purchasers, and advocates to assess the health of primary care and progress on the NASEM recommendations. Top-performing states on key Scorecard measures include Alaska (workforce), Oregon (financing), and North Dakota (training).

There are bright spots where innovative primary care policy is being implemented, resulting in improved access to team-based care and new pathways for primary care clinicians. We describe some of these initiatives in this report and hear from essential primary care team members, such as community health workers and medical assistants, whose numbers and training we can't yet track due to data limitations.

Without policy solutions to the problems outlined in this report, however, access to primary care will continue to erode, as will the health of the nation. To ensure Americans can get primary care when and where they need it and can live longer, healthier, and more productive lives, policymakers will need to support the primary care workforce and pipeline with the systemic reforms outlined in the 2021 NASEM report.

INTRODUCTION: ACCESS TO PRIMARY CARE IS WORSENING

The state of access to primary care in the United States has crossed a line from which recovery will be difficult. A decade ago, the number of physicians entering the primary care workforce was not sufficient to replace the existing primary care workforce,¹⁴ and this phenomenon has only gotten worse due to retirement, burnout, and a reduction of clinical hours.¹⁵ The explosion of delivery models such as telehealth-only primary care, retail clinics, and urgent care has fragmented the primary care workforce into two distinct arms: one that provides traditional primary care that is based on a continuous patient-clinician relationship, and one that provides episodic and fragmented care.¹⁶⁻¹⁹ Furthermore, the US population is growing and aging, increasing the demands on an already overextended workforce.⁹ Health crises such as the opioid epidemic and the increasing behavioral health needs of the nation post-COVID have also left primary care in high demand but short on resources.²⁰

As a result of this mismatch between the supply of primary care and the demand for primary care, patients are suffering, and the nation is less healthy than a decade ago; life expectancy is lower,^{21,22} the gap in access to primary care between underserved and non-underserved areas is increasing,² and health issues like obesity, unmanaged behavioral health conditions, and maternal mortality are on the rise.²³⁻²⁶

For individual patients, fewer health care needs are being met,^{27,28} new patients are struggling to get appointments with primary care offices, and wait times to see a primary care clinician (for those who already have one) are nearly a month long.¹

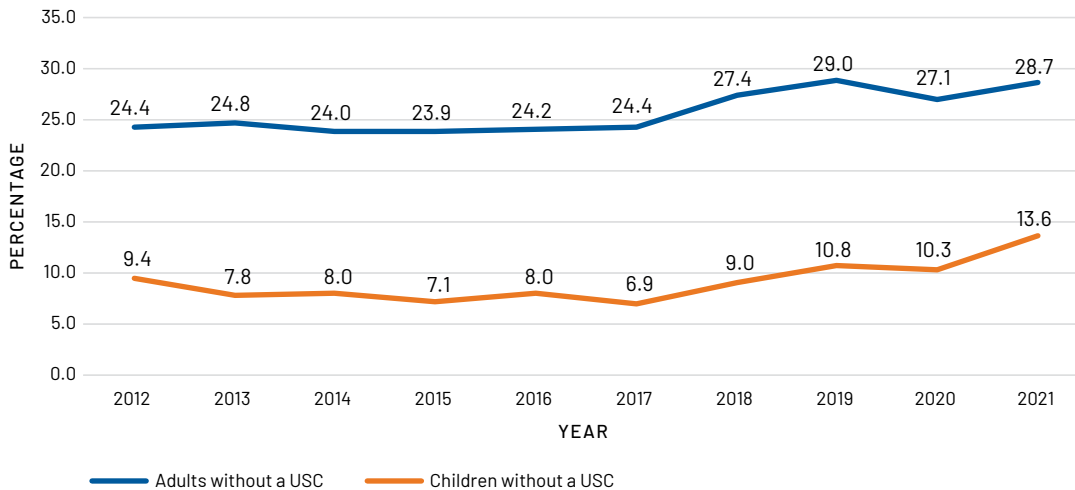
One marker of access is whether people have a familiar provider they can turn to when they are sick or in need of medical advice, also known as a “usual source of care.” A usual source of care improves health and reduces inequitable outcomes. People with a usual source of care have better access to care,²⁹ higher rates of preventive service use,³⁰ better control of their chronic diseases,³¹ and report higher levels of satisfaction with their care.³²

Over the past decade, however, the percentage of adults and children who report *not having* a usual source of care has been rising ([Figure 1](#)). There has been a 36% increase in the share of children and a 21% jump in the share of adults without a usual source of care from 2012 to 2021. Given multiple reports of children falling behind on their preventive care during the pandemic^{33,34} and the rising burden of mental health issues in children and adolescents since the pandemic,^{35,36} the drop in children reporting a usual source of care after the pandemic is cause for concern.

.....
My primary care doctor knows about my family, and I know about his family. He’s so important in my life. When he comes in the [examination room], he knows all the doctors I see, and all that I’m going through, and I appreciate that. He’s not walking in the room without knowing what’s going on; sometimes I don’t want to explain it again.

—Yunina Graham, patient, San Francisco
.....

Figure 1. The Percentage of the US Population Without a Usual Source of Care Is Rising (2012–2021)



Data Source: Analyses of Medical Expenditure Panel Survey data, 2012–2021.

Notes: Usual source of care (USC) ascertained whether that is a particular doctor’s office, clinic, health center, or other place where the individual usually goes when sick or in need of health advice. No usual source of care includes those who reported no usual source of care and those who indicated the emergency department as their usual source of care.

Beyond the data, the reality of poor primary care access is gaining public attention. In the last year, national news stories about the problem have proliferated. Headlines such as “Primary Care Saves Lives. Here’s Why It’s Failing Americans”⁴ and “The Shrinking Number of Primary Care Physicians Is Reaching a Tipping Point”⁵ point to the diminishing availability of primary care physicians and long wait times for primary care visits.

In response to our crumbling primary care infrastructure, a National Academies of Science, Engineering, and Medicine (NASEM) committee published a landmark report in 2021, *Implementing High-Quality Primary Care: Rebuilding the Foundation of Health Care*.⁸ The report offered 16 recommended actions to achieve five objectives: (1) Pay for primary care teams to care for people, not doctors to deliver services, (2) Ensure that high-quality primary care is available to every individual and family in every community, (3) Train primary care teams where people live and work, (4) Design information technology that serves patients, their families, and the interprofessional primary care team, and (5) Ensure that high-quality primary care is implemented in the United States. Fortunately, and perhaps as a result of the NASEM report, more federal and state policymakers are paying attention to primary care. We see a new focus on primary care at the US Department of Health and Human Services³⁷ and more states tracking primary care spending or setting primary care targets to increase primary care investment and strengthening access to team-based care.³⁸ Yet, the work needed to meet the objectives outlined in the NASEM report is far from complete.

The NASEM report authors recommended the development of a primary care scorecard to track progress toward meeting its objectives, leading to the first scorecard report and dashboard in 2023. Using the NASEM report objectives as a framework and examining trends in the primary care workforce, primary care training, and investment in primary care services and primary care research, this year’s Scorecard identifies five factors contributing to the country’s worsening access to primary care. This year, we also offer more robust state-specific performance data in the Scorecard data dashboard. While this report profiles some initiatives where primary care policy is being done right, it underscores the need to implement the NASEM policy solutions that will address the primary care access crisis at the scale needed.

I liked my primary care doctor but because I had to wait so long to get an appointment with her, when I was sick, I would go to urgent care. I would only see her for my yearly check-up. During COVID, I got several messages from my doctor that said she was limiting services and adding fees for things like timely prescription refills to keep herself in business. Eventually, I got a letter from her practice saying she was going into concierge medicine. You could get same-day appointments, longer appointments that started on time, and reach her by phone, email, or text. But it was \$2,000 a year to join the program, so I opted out and don’t currently have a primary care doctor.

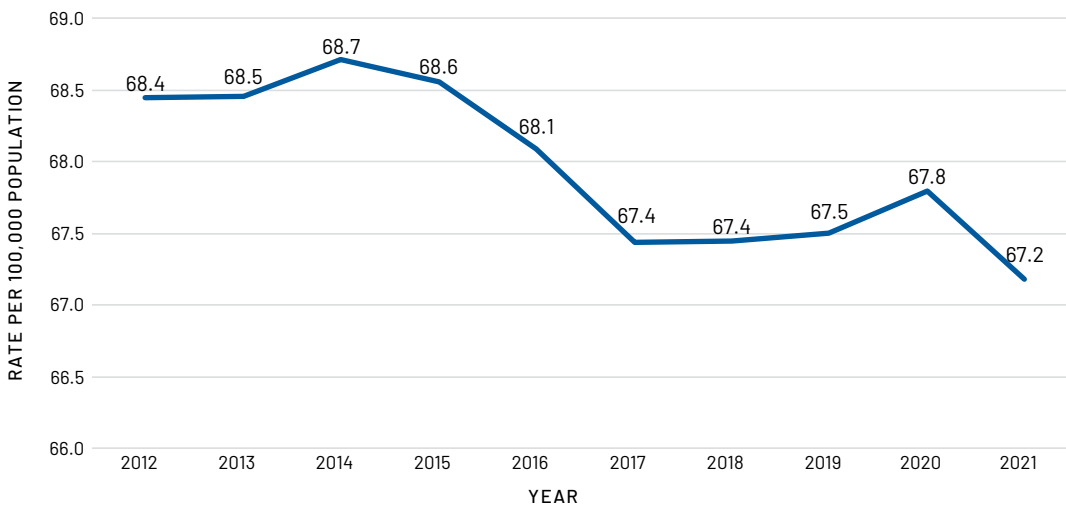
—Jennifer Dunham,
New York City

WHY NO ONE CAN SEE YOU NOW

Reason 1: The primary care workforce is not growing fast enough to meet population needs.

With primary care access diminishing, it is reasonable to start by asking if there is a sufficient supply of primary care clinicians in the United States. Despite the rise in demand for primary care – with chronic disease and mental illness incidence increasing over the past several years¹⁵ – the number of primary care physicians per capita is falling (Figure 2).

Figure 2. The Number of Primary Care Physicians per Capita Is Falling (2012–2021)



Data Source: Analyses of American Medical Association Masterfile (2012–2021), Centers for Medicare and Medicaid Services Physician and Other Practitioners data (2012–2021), and the American Community Survey Five-Year Summary Files (2012–2021).

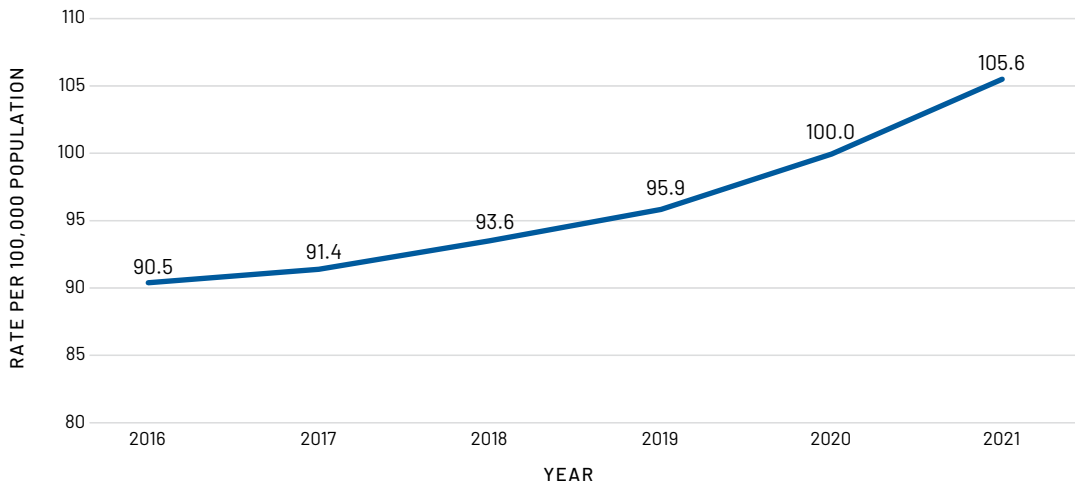
Notes: Primary care specialties included family medicine, general practices, internal medicine, geriatrics, pediatrics, and osteopathy.

Although the number of primary care physicians per capita is dropping, the number of NPs and PAs working in primary care is on the rise. As a result, the total number of primary care clinicians per capita is increasing (Figure 3), yet this clinician mix is evidently insufficient to meet demands. The patient population is growing, is aging, and has a higher chronic disease burden. Physicians tend to see more patients overall than NPs and PAs, and they also tend to see more complex patients on average.^{39,40} Therefore, while NPs and PAs are essential to the primary care team, they play different roles and have different skill sets than physicians, so they are not a one-to-one replacement when determining workforce sufficiency.

Even though the rise in total primary care clinicians is promising, the relative size of the workforce is still abysmal compared to other nations with better health outcomes. In the United States, the average primary care *physician* density per 100,000 population in 2021 was 67.2. When adding in nurse practitioners and physician assistants, the overall density of *primary care clinicians* rises to 105.6 per 100,000. By contrast, Switzerland, which has some of the best indicators of population health status of all the OECD countries,¹² has a primary care *physician* density of 114 per 100,000 population.⁴¹

Despite the rise in demand for primary care – with chronic disease and mental illness incidence increasing over the past several years – the number of primary care physicians per capita is falling.

Figure 3. The Number of Primary Care Clinicians (Physicians/NPs/PAs) per Capita Is Rising (2016–2021)

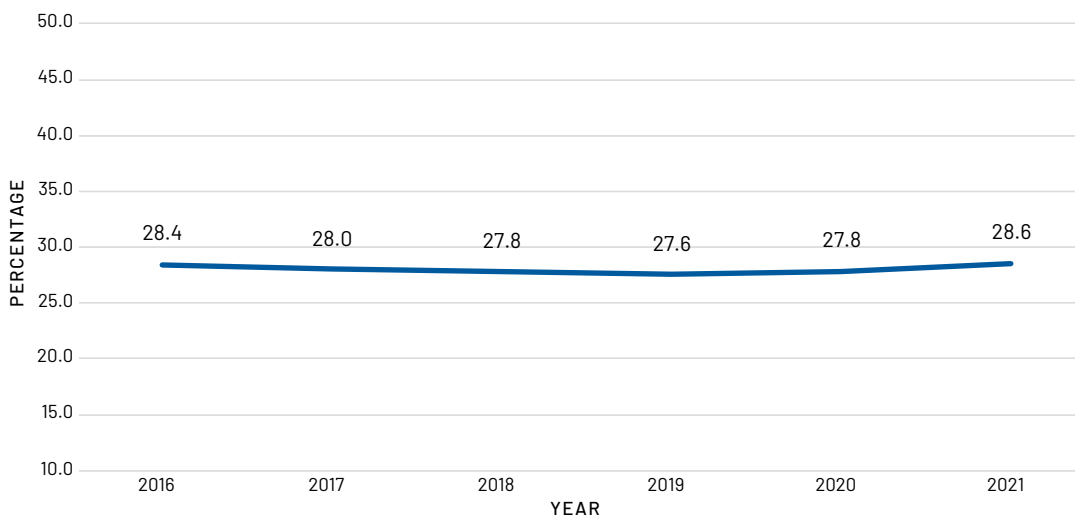


Data Source: Analyses of American Medical Association Masterfile (2012–2021), Centers for Medicare and Medicaid Services Medicare Provider Enrollment, Chain, and Ownership System data (2016–2021), National Plan and Provider Enumeration System data (2016–2021), Centers for Medicare and Medicaid Services Physician and Other Practitioners data (2012–2021), and the American Community Survey Five-Year Summary Files (2012–2021).

Notes: Primary care specialties included family medicine, general practices, internal medicine, geriatrics, pediatrics, and osteopathy. Estimates of nurse practitioners and physician assistants working in primary care were calculated and are included in this figure. (See Appendix for detailed methodology.)

In addition, although the absolute number of clinicians of all specialties is growing overall in the US (see Appendix), the share of the clinician workforce in primary care has remained stagnant (Figure 4). The percentage of the total clinician workforce in primary care has hovered around 28% over the past several years.

Figure 4. The Share of All Clinicians (Physicians, NPs, and PAs) Working in Primary Care Remains Stagnant (2018–2021)



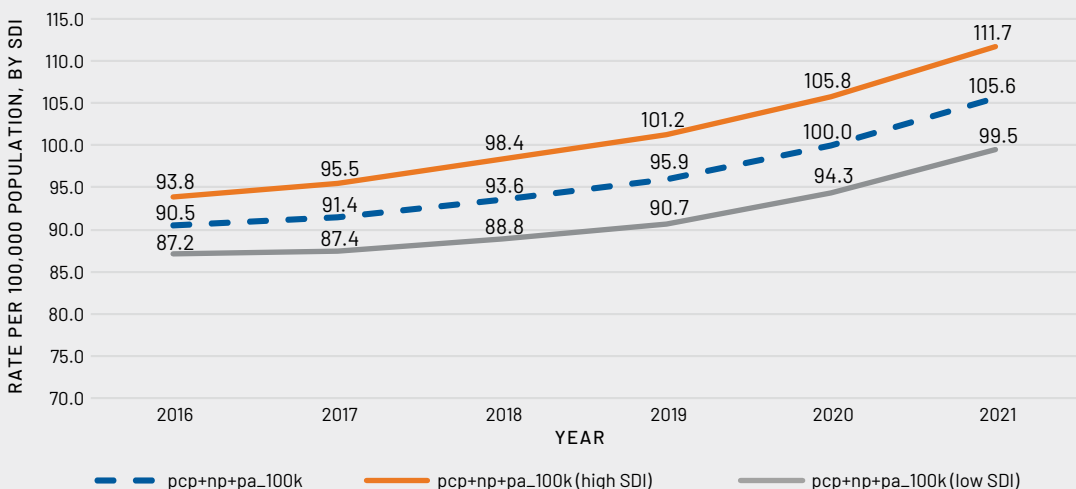
Data Source: Analyses of Centers for Medicare and Medicaid Services Medicare Provider Enrollment, Chain, and Ownership System data, National Plan and Provider Enumeration System data, and Centers for Medicare and Medicaid Services Physician and Other Practitioners data, 2016–2021.

Notes: Primary care specialties included family medicine, general practice, internal medicine, geriatrics, pediatrics, and osteopathy. Estimates of nurse practitioners and physician assistants working in primary care were derived and are included in this figure. (See Appendix for detailed methodology.)

Primary Care Workforce Distribution by Social Need

In a country as large and demographically diverse as the United States, the distribution of primary care clinicians is perhaps a more important indicator to follow than average density or number of primary care clinicians per capita in the total population. It is well known that the social drivers of health such as housing, transportation, income, and educational attainment impact the health status of individuals. Specifically, people in areas of high social disadvantage have higher chronic disease rates and worse health than those in areas of less social disadvantage.^{42,10} Arguably, primary care should be more prevalent in areas of high disadvantage given the higher disease burden. Using a validated index of social drivers of health known as the Social Deprivation Index (SDI),⁴³ we compared primary care density in areas of high social need with those of lower social need.

Figure 5. Primary Care Clinician Density Is Highest in High-Need Areas (2016–2021)



Data Source: Analyses of American Medical Association Masterfile (2012–2021), Centers for Medicare and Medicaid Services Medicare Provider Enrollment, Chain, and Ownership System data (2016–2021), National Plan and Provider Enumeration System data (2016–2021), Centers for Medicare and Medicaid Services Physician and Other Practitioners data (2012–2021), Robert Graham Center Social Deprivation Index (2012–2021), and the American Community Survey Five-Year Summary Files (2012–2021).

Notes: Primary care specialties included family medicine, general practices, internal medicine, geriatrics, pediatrics, and osteopathy. Estimates of nurse practitioners and physician assistants working in primary care were derived and are included in this figure. (See Appendix for detailed methodology.)

Abbreviations: NP, nurse practitioner; PA, physician assistant; PCP, primary care physician; SDI, Social Deprivation Index

The finding for this measure is unexpected but hopeful. In 2021, the overall density of primary care in areas with a higher-than-median (most disadvantaged) SDI was 111.7 per 100,000 and the PCP density in areas with a lower-than-median (least disadvantaged) SDI was 99.5 per 100,000 (Figure 3). Likewise, within states, many disadvantaged areas had higher primary care clinician density and less disadvantaged areas had lower primary care clinician density (Figure 4). This finding may be attributed, in part, to the success of the community health center movement, which aims to place clinicians in areas of highest social need.^{44–47} Still, this promising finding needs to be tempered by the reality that even this higher density of primary care clinicians may not meet patient demands given that people living in high-need areas tend to have higher levels of medical need.⁴⁸

What Is the Social Deprivation Index?

The 2023 Primary Care Scorecard used county-level medically underserved area (MUA) designations to identify areas of higher and lower socioeconomic need. This year, we shifted to using a more frequently updated and broader composite measure of area-level disadvantage called the Social Deprivation Index (SDI). The SDI is based on seven demographic characteristics collected in the American Community Survey, including “percent living in poverty, percent with less than 12 years of education, percent single-parent households, the percentage living in rented housing units, the percentage living in the overcrowded housing unit, percent of households without a car, and percentage nonemployed adults under 65 years of age.” For more information see <https://www.graham-center.org/maps-data-tools/social-deprivation-index.html>.

Alaska

As of 2021, Alaska ranks highest in workforce equity. Alaska ranks second behind Idaho (38.2%) for having 36.2% of their clinician workforce in primary care overall (compared to 28.6% nationally) and first for primary care clinician (physicians, NPs, and PAs) density in the most disadvantaged areas, with 269 clinicians per 100,000 people (compared to 111.7 clinicians per 100,000 people nationally). Compared to the national averages of 66.8 physicians and 44.9 NPs/PAs per 100,000 people in areas of highest disadvantage, Alaska's PCP density is 138 physicians and 131 NPs/PAs per 100,000 population.

Community Health Centers Are Modeling Comprehensive Primary Care

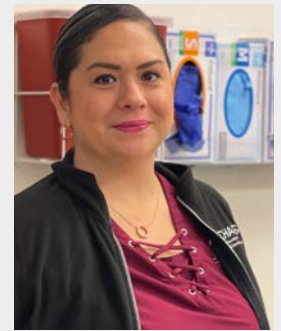
By Christine Haran

This Scorecard's findings suggest there are more primary care clinicians in areas of high socioeconomic need than in low-need areas, which may reflect the impact of federally qualified health centers like the Community Health and Social Services Center, or CHASS, in Detroit, Michigan. CHASS CEO Felix M. Valbuena Jr., MD, explains that community health centers, which offer affordable care to 1 in 11 people in the United States, holistically satisfy the often-complex needs of their communities because of the comprehensive array of services they provide to patients.

"It's not just having the primary care provider managing patients' chronic disease, making sure they get cancer screenings, and that the kids get their immunizations, but also being able to take care of their oral health, their behavioral health," Dr. Valbuena says. "It's about having community health workers or pregnancy doulas support them and having outreach and enrollment workers help them navigate their insurance."



Felix M. Valbuena Jr., MD



Jessica Andrade

Certified medical assistants (MAs) are critical member of the CHASS team as well. CHASS MA Jessica Andrade, a former patient, explains that MAs manage immunization schedules and injections, take vitals, perform EKGs, and more.

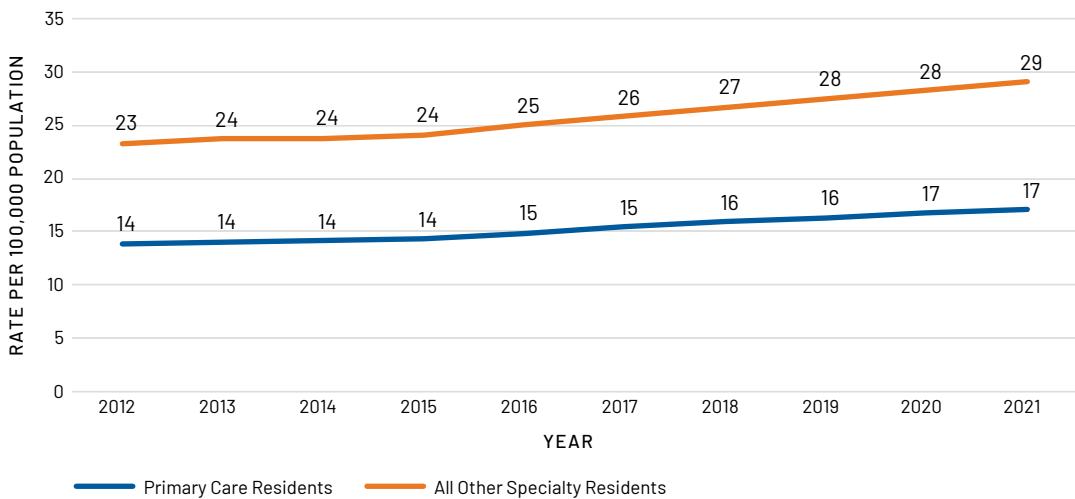
Despite all that their teams do, community health centers have low profit margins to work within and are subject to congressional renewals of funding, which creates financial uncertainty for a prospective workforce. In addition, while health centers like CHASS partner with state medical schools to provide primary care residencies, they do not receive any graduate medical education funding.

Nevertheless, the teams at community health centers provide patients with high-quality outcomes at lower costs. "As payment moves from volume to value," Dr. Valbuena says, "I think that community health centers represent the model of primary health care for the nation."

Reason 2: The number of trainees who enter and stay on the professional pathway to primary care is too low, and too few have community-based training.

A look at primary care training in the US suggests that workforce supply is likely to worsen in the near future. While the number of medical residents for all other specialties has risen from 23 residents per 100,000 to 29 residents per 100,000 people in the past decade – representing a 26% increase – the number for primary care has grown from 14 to 17 residents per 100,000 people, representing a 21% increase (Figure 6). We were unable to track the training of PAs and NPs because of lack of data on their individual training pathways.

Figure 6. Growth in the Number of Primary Care Residents per Capita Is Not Keeping Pace with Other Specialties (2012–2021)



Data Source: Analyses of Accredited Council of Graduate Medical Education program-level data to get counts for medical residents and Area Health Resource File for the population data, 2012–2021.

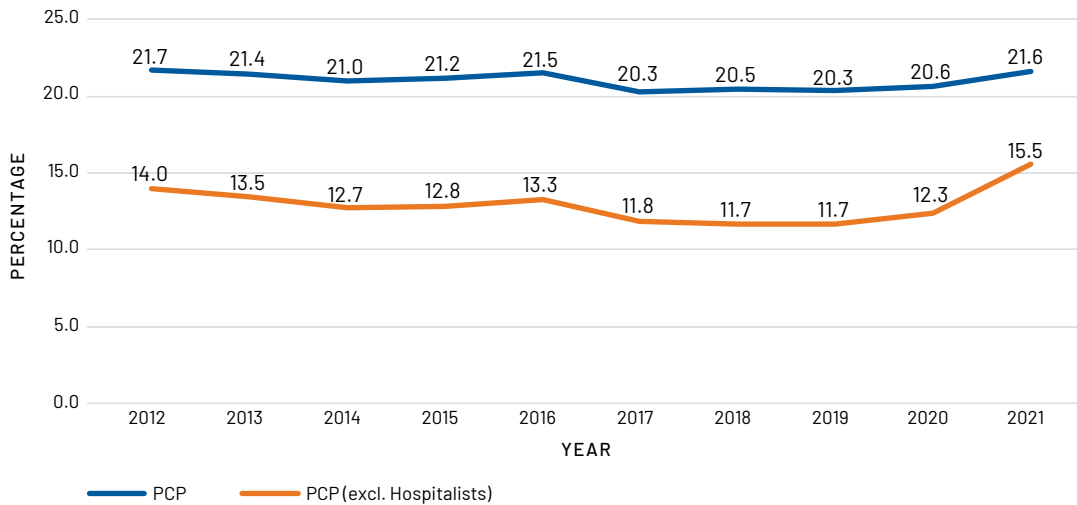
Notes: Primary care specialties included family medicine, internal medicine, geriatrics, and pediatrics.

Moreover, only a small proportion of primary care residents end up practicing primary care three to five years after residency. In fact, nearly 90% of internal medicine residents subspecialize or go into hospitalist-only medicine.⁹⁹ In addition, the number of pediatric residents who subspecialize is on the rise.¹⁰⁰ By filtering out primary care physicians working in hospitals, we find, for the first time, the true share of primary care residents who ultimately practice outpatient primary care ranges from 11.7% to 15.5% (Figure 7). There is speculation that the jump in percentage of residents entering primary care outpatient practice in 2021 is a response to the pandemic and a reluctance to practice hospital-only medicine.^{49,50} As we recalibrate to a postpandemic state, the erosion in outpatient practice seen between 2012 and 2020 is likely to continue.

Today, approximately 34% of all physicians currently practice outpatient primary care.⁵¹ If only 15% of all residents are entering outpatient primary care medicine, we have a shortage that is even worse than that predicted a decade ago (before researchers were unable to exclude hospitalists from their calculations).⁵²

Only a small proportion of primary care residents end up practicing primary care three to five years after residency. In fact, nearly 90% of internal medicine residents subspecialize or go into hospitalist-only medicine.

Figure 7. Only 15% of Physicians Actually Entered Primary Care Practice in 2021



Data Source: Analyses of the 2023 American Medical Association Historical Residency File, the 2023 American Medical Association Masterfile, and the 2012–2021 Centers for Medicare and Medicaid Services Physician and Other Practitioners data.

Notes: Primary care specialties included family medicine, general practices, internal medicine, geriatrics, pediatrics. Specialty for doctors of osteopathy (DOs) are not always included in the American Medical Association Masterfile, so these data may be an underestimation of the true workforce. (See limitations in Appendix for more details.)

To reduce the hemorrhaging of primary care residents to specialty or hospital-only care, NASEM reiterated the recommendations of the Institute of Medicine in 1989⁵³ to train more residents in the community, outside the hospital setting. Currently, most residency training occurs in the hospital setting, whereas most primary care is delivered in community settings.¹³

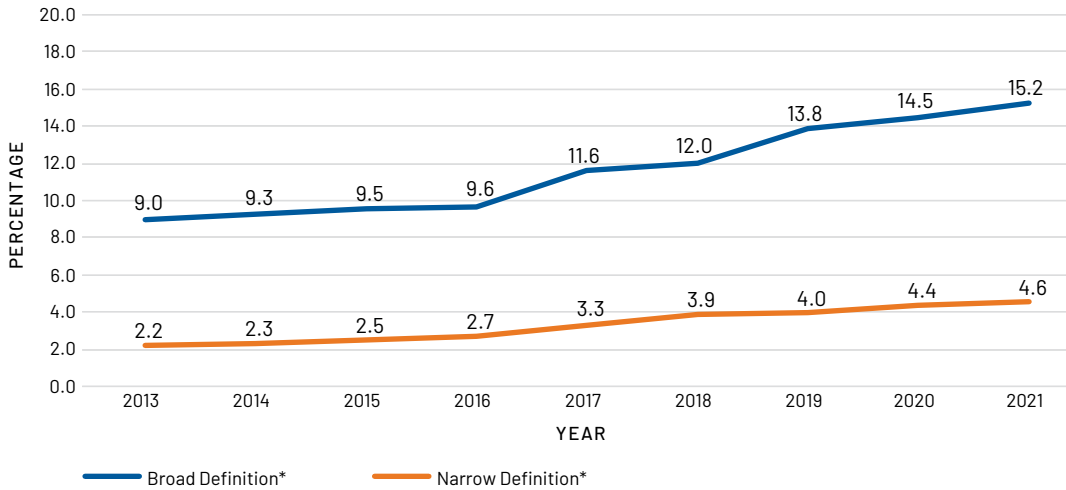
Training in the community can be defined in many ways. To classify a primary care resident as “community-trained,” we used two definitions. In the broader definition, any primary care resident who completed their training in a program that, according to the American Medical Association’s FRIEDA database, primarily trained *outside of a hospital or large academic center* was considered community-trained. In the narrow definition, any primary care resident who trained in a Teaching Health Center (THC) or rural training track was considered community-trained. The Teaching Health Center Graduate Medical Education (THCGME) Program has a stated mission of “training physicians and dentists in community-based settings with a focus on rural and underserved communities.” Similarly, rural training tracks offer a significant amount of their training in rural communities, as opposed to large urban academic centers and hospitals where most residents are trained. Both programs not only focus on training in the community, but also on training in the most medically vulnerable communities in the United States.

We found that between 2013 and 2021, the percentage of primary care residents being trained in a community-based setting has risen but remained low for both definitions of *community-based*. When using the broad definition, 15% of all primary care residents trained in the community in 2021. When using a narrow definition, only 4.6% of primary care residents trained in the community – specifically in underserved communities – that year. Notably, these percentages are representative of all primary care residents. Specialty-specific numbers are likely to be vastly different as primary care specialties such as family medicine tend to be more outpatient and community-based as opposed to internal medicine, which has a larger focus on hospital settings.⁵⁴

.....
Currently, most residency training occurs in the hospital setting, whereas most primary care is delivered in community settings.

Given that traditional graduate medical education funds are disbursed to hospitals and not outpatient centers, it is no surprise that most primary care resident training occurs in hospitals, where a minority of the US population seeks care. Programs that do actually train residents in the community, such as the Teaching Health Center program, have unstable and low levels of funding,⁵⁵ unlike traditional Medicare GME, which provides hospitals with nearly \$24 billion yearly.^{55,56} Not surprisingly, THC graduates, who train in underserved, outpatient settings, also work in underserved communities at higher rates than traditional GME graduates.⁵⁷

Figure 8. The Percentage of Primary Care Residents Trained in Community-based Settings Remained Low (2013–2021)



Data Source: Analyses of Accredited Council of Graduate Medical Education program-level data for numbers of medical residents; FREIDA American Medical Association Residency and Fellowship Program Database; a rural residency program list from the RTT Collaborative; and Health Resources and Services Administration Teaching Health Center Graduate Medical Education program dashboards to identify community-based training programs, 2013–2021.

*Notes: Community-based training was identified if (1) the majority of training did not take place in a university academic medical center or a hospital with a medical school affiliation (broad) or (2) it utilized programs with rural training track or a Health Resources and Services Administration Teaching Health Center Graduate Medical Education grant (narrow).

New Pathway Programs Are Widening the Circle of Medical Students

By Christine Haran

Data clearly show the impact a health care provider of the same race, and one who speaks the same language, has on patient-reported satisfaction and health outcomes.¹ Moreover, clinicians of color are more likely to work in low-income, medically underserved communities in rural or urban areas. But there are many barriers to the creation of a diverse health care workforce,² such as lack of exposure to medical careers, the cost of a medical education, and sometimes a lack of academic preparation, particularly for doctoral degrees.

Sunita Mutha, MD, director of the Health Workforce Center at the University of California, San Francisco, explains that even for students of color who work through the obstacles and get into medical school, staying can be a challenge. The creation of affinity groups or cohorts, Dr. Mutha says, can create a sense of community and provide mentorship. However, it still can be difficult to find role models. “Even in medical schools where the percentage of students of color has increased, you may have no or very few faculty of color,” she says.

That’s one reason why medical schools such as the University of California–Davis are investing in new pathway programs to recruit and retain medical students from underrepresented communities and prepare them for primary care residencies. “If not enough residency graduates are entering primary care, then we should look at who’s going into residency,” says Tonya Fancher, MD, vice chair of workforce diversity and associate dean of workforce innovation and education quality improvement at UC Davis. “And ultimately that goes back to who gets into medical school.”

For its pathway programs, UC Davis has reengineered admissions to be mission-driven, enabling them to recruit nontraditional students. With Dr. Fancher’s guidance, UC Davis created Accelerated Competency-based Education in Primary Care (ACE-PC), a three-year primary care program designed to mitigate student debt and provide extra supports, as well as a regional program with Oregon Health and Sciences University that helps fill workforce gaps in rural, tribal, and urban areas. She is currently developing a program to recruit from community colleges, whose graduates are more likely to be students of color, as well as more likely to practice family medicine.

More than 30 medical schools participating in the Consortium of Accelerated Medical Pathway Programs (CAMPP) have developed three-year or other accelerated curricula that lead to an MD degree. Catherine Coe, MD, a family medicine assistant professor at the University of North Carolina (UNC) Medical School, is on the CAMPP board of directors and is the former director of UNC’s Fully Integrated Readiness for Service Training (FIRST) program, which offers a three-year medical school curriculum to UNC medical students who agree to serve for three years in underserved or rural parts of the state after their residency. Clinicians who go to medical school and do their residencies in North Carolina have a 62% chance of practicing in the state.

Dr. Coe, who observes that fewer medical students are coming directly out of undergraduate programs but instead may be coming from other careers, suggests that the United States move toward a competency-based medical education framework, which can allow for shorter (or longer) pathways to residency as needed and can ensure that clinicians are patient-centered in their approach.

Notes:

1. Cooper LA, Roter DL, Johnson RL, et al. Patient-centered communication, ratings of care, and concordance of patient and physician race. *Ann Intern Med.* 2003;139(11):907-15. doi:10.7326/0003-4819-139-11-200312020-00009.
2. Toretzky C, Munitha S, Coffman J. Breaking barriers for underrepresented minorities in the health professions. Healthforce Center at UCSF. July 30, 2018. <https://healthforce.ucsf.edu/publications/breaking-barriers-underrepresented-minorities-health-professions>.

North Dakota

As of 2021, North Dakota is the highest-ranked state for training measures. Although North Dakota has fewer primary care residents per population, at 14.1 per 100,000 people, than the national average of 17 per 100,000 people, the state has a larger share of new physicians entering primary care (including hospitalists)(36.4%) annually than the nation (21.6%). North Dakota has also maintained a high rate of physicians, PAs, and NPs working in primary care at 26.6%, 44.2%, and 39.4%, respectively. These rates are similar or higher than the national averages of 26.6% PCPs, 29.7% PAs, and 34% NPs. Additionally, 27% of residents in North Dakota are trained in the community (using the narrow definition) compared to 2% nationally.

Reason 3: The United States continues to underinvest in primary care.

Primary care is not an attractive choice for trainees who see high levels of burnout,⁵⁸ poor relative compensation,⁵⁹ and unsustainable workloads.^{58,60} To attract more people to primary care, and retain them, a larger financial commitment is required. Unfortunately, primary care spend, or the proportion of total health care expenditures going to primary care, remains unsustainably low.

Although investment varies by payer and state, we found low levels of investment (4.7%) persisted in 2021 when using the narrow definition of primary care spend (primary care physicians only)(Figure 9). Primary care investment by commercial payers and Medicaid dropped over the past decade, while Medicare’s investment in primary care was stagnant but low. Between 2019 and 2021, we find that primary care investment has decreased for all payers, and this decrease has been the most drastic for Medicare, which had a 15% drop. This rapid decline between 2019 and 2021 may have to do with decreased utilization of office-based visits during the pandemic,⁶¹ but it is a trend worth watching.

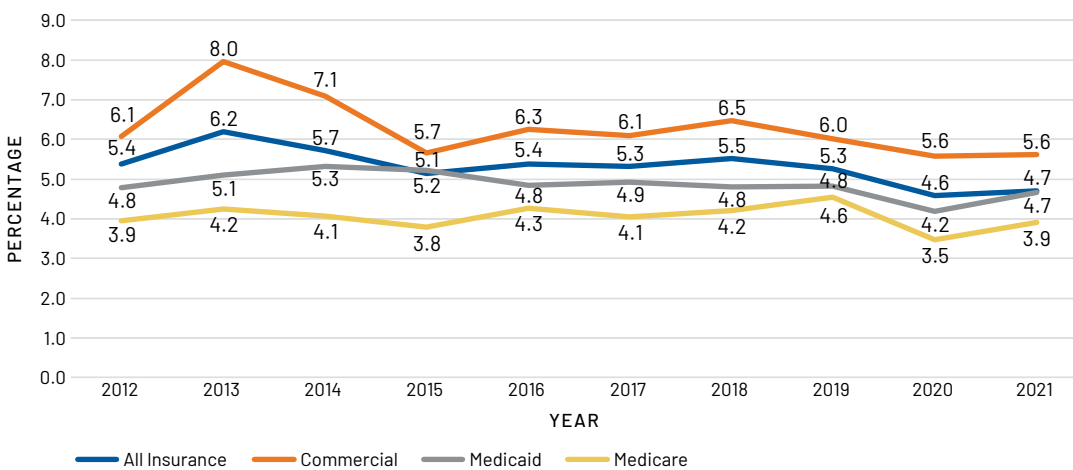
Using the broad definition of primary care spend (PCPs and office-based spending for NPs, PAs, OB/GYNs, and behavioral health specialists), 13.5% of total spending was invested in primary care in 2021. It seems that higher spend using the broad definition is driven by spending for behavioral health services (see Appendix). Notably, this behavioral health spend is not necessarily for behavioral health integrated with primary care, which would improve access and reduce fragmentation. Instead, it includes all visits billed to behavioral health (physician and nonphysician) specialists.

Primary care physicians provide the most office visits and the most comprehensive set of health care services of any specialty,⁶² which in turn lowers total health care costs and improves utilization of health care services.⁶³ It should come as no surprise that access to primary care is limited when we are spending, on average, only 5% of total health care expenditures on these services.

Oregon

As of 2021, Oregon is the highest-ranked state for overall primary care spend, with 7.7% of all health care spending going to primary care, compared to the national average of 4.7%. The state is also highest ranked in primary care spending for commercial payers (9.1%) and Medicaid (9.2%), compared to the national averages of 5.6% and 4.7%, respectively. Oregon’s Medicare primary care spend is slightly lower at 7.3%, but still higher than the national average of 3.9%.

Figure 9. Primary Care Spending (Narrow Definition) Remains Low Across All Insurers (2012-2021)



Data Source: Analyses of Medical Expenditure Panel Survey data, 2012–2021.

Notes: The primary care narrow definition is restricted to primary care physicians only. Primary care specialties included family medicine, general practices, internal medicine, geriatrics, pediatrics, and osteopathy.

In addition, without appropriate investment in primary care, advances that could improve access are stalled. Team-based care,⁶⁴⁻⁶⁶ the use of technology,^{67,68} and most recently, the incorporation of artificial intelligence into the primary care workflow⁶⁹⁻⁷³ all have the potential to expand access. Yet, these advances in care delivery all require upfront investments in infrastructure and payment models that compensate primary care teams for providing comprehensive care rather than compensating only doctors for providing specific services.



Community Health Workers: Key Primary Care Team Members

**Brea Burke, Lead Community Health Worker, Healing Hands Health, Tennessee;
Consultant, Impact, University of Pennsylvania**

What led you to this line of work?

A lifetime of doing it! I was raised by a full-time pastor and a nurse, so helping the community is what we did. After my college closed, I became one of the telephone operators at the local hospital. I was the point of contact for people at the very beginning. I was trying to find resources like transportation to the hospital so they could see their family member. I got close to case management, so when they decided to start the community health worker (CHW) program in our area in 2019, I became the very first community health worker in my region of northeast Tennessee and southwest Virginia.

How do you work with the primary care teams?

In my current position, I am the lead community health worker at a community-based organization that provides primary care and dental care to the uninsured and Medicaid patients. They have a social determinants of health form that people fill out when they come in. Based on that form, we get our referrals. Or the doctor or nursing staff will pick up on cues from their patients.

Working together as a team is so important. It's important for me to be able to talk to the doctor, knowing that they respect my role. Some of my clients have said, I feel like the doctor isn't listening to me. I need to be able to go back and say, "My client really feels like you're not hearing their problems." At Impact, we help train the whole staff on what CHWs do, how they do it – and how you need to be in a partnership.

How would you define your role?

I think a community health worker is a trusted member of the community who knows the people of the community and the resources available to them. They are very well versed on social determinants of health usually because they've been there, done that.

When we start working with a client, the doctor might say, "I've given them their blood pressure medication and they're not compliant." Our job is to find out why they're not able to comply. Not to force them to take the medicine, but to figure out those other things to help them get to the point where their medicine's important to them. It could be food, housing, transportation, or the fact that they're taking care of their mother, or their kid has expensive medications.

What is your day-to-day work like?

Every day for us looks so different. On Monday, I had a client that was in a horrible situation, so I spent the entire day with one client. Today, I've seen five different clients and got to meet all their needs and get them connected to the resources they needed. When I started at my organization, the director of operations, who is phenomenal, didn't really understand our work. She could not ever understand why I was never there when she went to my office. I explained: It's my job. I'm with my clients. We are going to appointments with them, helping them fill out paperwork, and then giving them a road map to succeed once we close them out as clients. Until then, we're walking through the trenches with them.

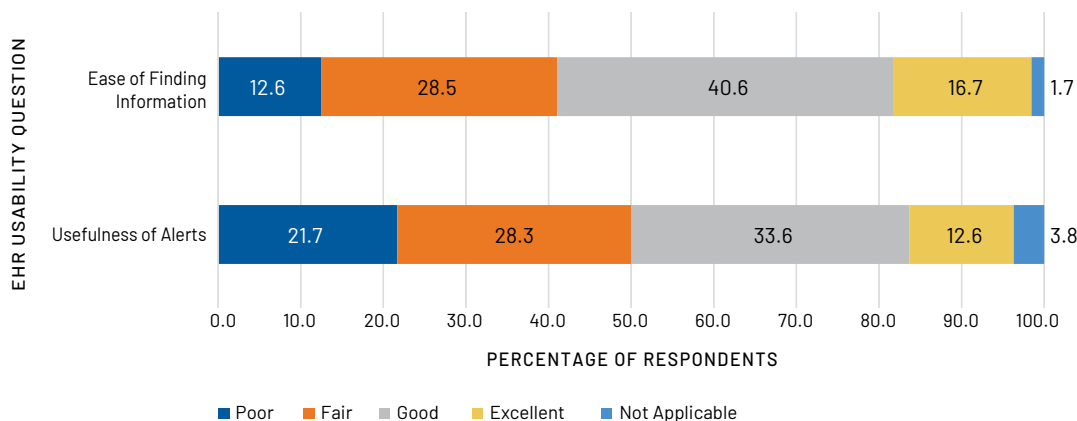
Reason 4: Technology has become an added burden to primary care.

Technology has the potential to expand primary care access and strengthen primary care delivery. Patient portals can allow for asynchronous care, and the electronic health record (EHR) can make population health management more accessible for primary care clinicians. Telehealth can expand access to populations who have limited transportation, time off from work, or child care. Furthermore, EHR interoperability can improve care coordination across clinical settings and partnerships with public health and community-based organizations to foster comprehensive, whole-person care. Yet, if not designed, implemented, or supported adequately – and if the entire team is not involved in managing it – technology can worsen administrative burden for primary care clinicians, further fragmenting care and burning out an already overburdened workforce. In fact, recent data from the American Board of Family Medicine (ABFM) show that 16% of family physicians report spending four or more hours per day outside of patient care on EHRs.⁷⁴

Poor “usability” may account for some of the time spent. In 2022 over 40% of family physicians gave a poor or fair rating to the “ease of finding relevant information” in their EHR (Figure 10). And half of those surveyed gave those same low scores when rating the usefulness of alerts from their EHR (Figure 10). Not surprisingly, one-quarter of family physicians were dissatisfied with their EHR (Figure 11). Although HIT has the potential to improve access for patients, these data suggest that HIT is currently a contributor to the access problem.

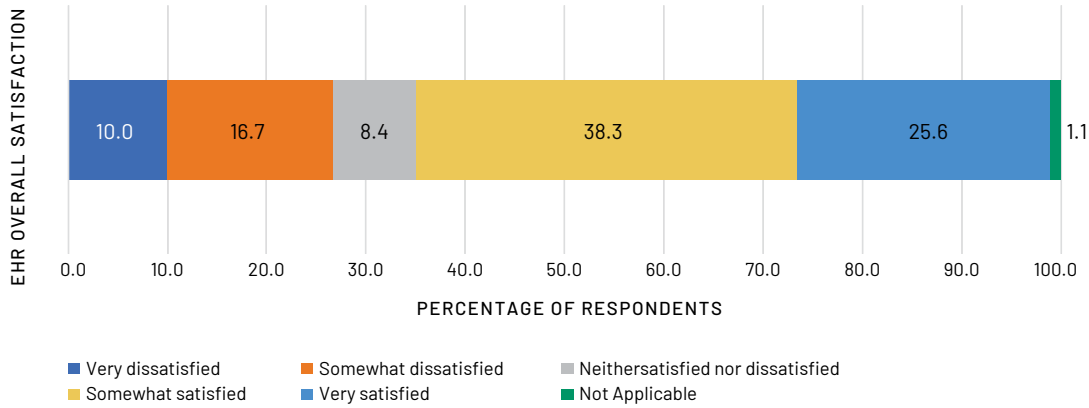
If not designed, implemented, or supported adequately – and if the entire team is not involved in managing it – technology can worsen administrative burden for primary care clinicians, further fragmenting care and burning out an already overburdened workforce.

Figure 10. Nearly Half of Family Physicians Rate EHR Usability Poor or Fair in 2022



Data Source: American Board of Family Medicine recertification exam, 2022
 Notes: A total of 2,117 respondents completed the EHR usability questions.⁷⁴

Figure 11. More Than One-Third of Family Physicians Are Not Satisfied with Their EHR in 2022



Data Source: American Board of Family Medicine recertification exam, 2022
Notes: A total of 4,261 respondents completed the EHR satisfaction questions.²⁴

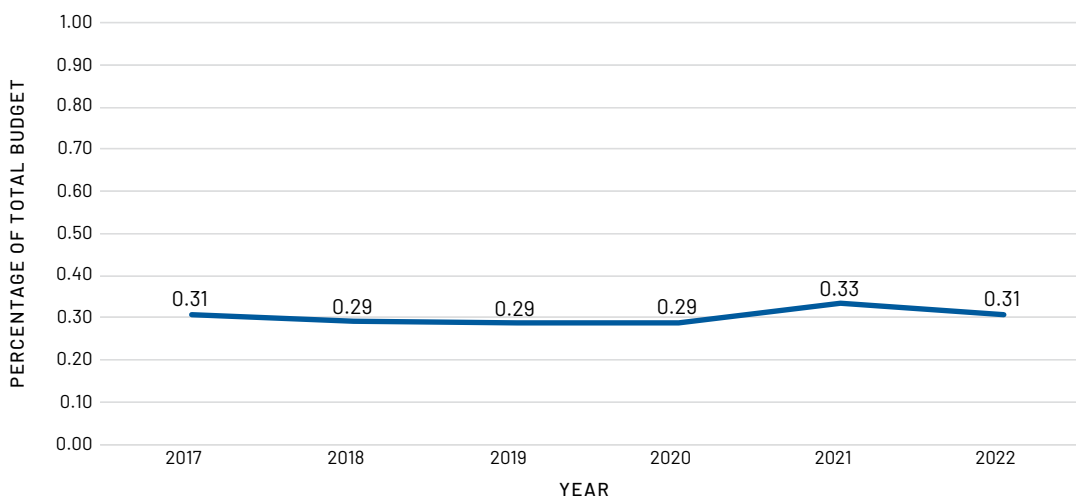
This data could help explain why patients report access to primary clinicians is diminishing; increased workload requirements are reducing the size of patient panels that clinical teams are able to effectively manage.

Reason 5: Primary care research to identify, implement, and track novel care delivery and payment solutions is lacking.

One of the major NASEM committee recommendations centered on tracking the nation’s progress toward strengthening primary care. An initial step toward establishing accountability is conducting research to understand what is happening in primary care and what is needed: who is delivering primary care, how they are delivering primary care, what impact it’s having on health, and where gaps exist, including disparities in access and outcomes. Yet, over the past decade, federal agencies responsible for research (including the National Institutes of Health, the Centers for Disease Control and Prevention, the Agency for Healthcare Research and Quality, and the Food and Drug Administration) have devoted only 0.3% of their yearly budget to studying primary care (Figure 12).

Over the past decade, federal agencies responsible for research (including the National Institutes of Health, the Centers for Disease Control and Prevention, the Agency for Healthcare Research and Quality, and the Food and Drug Administration) have devoted only 0.3% of their yearly budget to studying primary care.

Figure 12. Federal Research Investment in Primary Care Was Nearly Nonexistent (2017–2022)



Data Source: NIH RePORTER, 2017–2022.

Notes: Federal investment includes spending from the National Institutes of Health (NIH), the Centers for Disease Control and Prevention, the Agency for Healthcare Research and Quality, and the Food and Drug Administration. Funding given to family medicine departments was used as a proxy for funding to primary care.

Not only is funding well under 1%, but the data sources available to track primary care are incomplete, complicated to use, expensive, and inconsistent in what data are reported year after year. Two clear examples are the data gaps around health technology in primary care and our inability to monitor progress toward hybrid payment that combines fee-for-service payment with per-patient payment (as called for in the NASEM report). Another is the dearth of timely information around current practice location and specialty of NPs and PAs, as well as information about where they trained. (The limitations of all the data sets explored for the 2023 and 2024 Scorecard are listed in the Appendix.)

METHODS NOTE: DATA LIMITATIONS

As noted in the report, the data sources available to track primary care are incomplete. We outline here the data needs that we have identified while preparing the Scorecard.

Workforce and Access Data

- **A “minimum data system” for the nonphysician workforce in primary care, in particular, for NPs and PAs.** This should include current specialty of practice, current address, and clinical hours worked (in full-time equivalents). The development of such a measure will require collaboration across state boards and across each professional organization.
- **An up-to-date data set for physicians of all specialties with current address of practice, current specialty, and clinical hours worked (in full-time equivalents).** These data are already collected by state boards during licensing and renewals of licensing, but need to be harmonized between states and released to the public as in a “minimum data system.”
- **A more robust data set that collects information about multidisciplinary or interdisciplinary health care provider team composition, services provided, and the demographics of patients.** These data are already collected by boards such as the American Board of Family Medicine but need to be expanded to other specialties and harmonized into a “detailed data system.”
- **National data on wait times for primary care clinicians, including initial and follow-up appointments.** Each health system collects these data separately, but no national repository exists. At a minimum, hospital systems that receive federal funding (i.e., GME dollars) should be required to report this type of data into a national registry.
- **Patient-level data on primary care access and experience.** Data from Consumer Assessment of Healthcare Providers and Systems (CAHPS) surveys or equivalent should be harmonized at a national level and made publicly available.
- **Clinician-level data on practice experience and measures of workforce well-being.** These data should be collected at a national level for any health system that uses federal or state (Medicare/Medicaid) dollars.

Training Data

- **Data on the clinical settings where nonphysicians train.** The specialty of the training locations, the address of each training location, and hours worked in each setting should be collected and made publicly available.
- **Longitudinal data on Teaching Health Center programs.** Data such as years in service and number of residents trained in each year should be made publicly available on the Health Resources and Services Administration (HRSA) website.
- **Data on training outcomes.** Data such as percentage of residents working in areas of disadvantage and the percentage of residents working in outpatient settings should be collected by institutions that receive federal funding (CMS, Department of Veterans Affairs [VA]) and reported annually; this can be derived entirely from existing data without any additional burden for teaching hospitals.

Payment Data

- **A national All Payer Claims Database (APCD) with harmonized metrics for reporting that includes non-fee-for-service payments.** Several states have APCDs, but each state is collecting data in different ways and each payer is reporting data differently. The Agency for Healthcare Research and Quality is supporting a process that will offer recommendations for a national standard on how to calculate primary care spending.

Health Information Technology (HIT) Data

- Longitudinal data on HIT that include:
 1. Both patient- and provider-level perspectives
 2. State-level estimates of usability for patients and clinicians
 3. Primary care-specific data or ability to sort by any specialty
- **Experiential value-added measures.** These data include how HIT works, if it generates useful information, and ease of access.
- **Information about the costs of using HIT.** Data on both monetary and nonmonetary expenditures for the primary care offices should be collected and reported.

POLICY SOLUTIONS

The 2021 NASEM report, *Implementing High-Quality Primary Care*, made 16 policy recommendations to strengthen primary care in the United States, organized under five objectives:

- 1. Payment:** Pay for primary care teams to care for people, not doctors to deliver services
- 2. Access:** Ensure that high-quality primary care is available to every individual and family in every community
- 3. Workforce:** Train primary care teams where people live and work
- 4. Digital Health:** Design information technology that serves the patient, family, and interprofessional care team
- 5. Accountability:** Ensure that high-quality primary care is delivered in the United States

Each of the reasons identified in this report to explain why patients are having difficulty accessing primary care could be addressed by implementing policy solutions recommended in the NASEM report. In this section, we discuss how those solutions could ameliorate the identified problems and offer examples of recent supportive federal and state policy activity.

Reason 1: The primary care workforce is not growing fast enough to meet population needs.

Reason 2: The number of trainees who enter and stay on the professional pathway to primary care practice is too low, and too few primary care residents have community-based training.

Relevant NASEM report recommendations:

Action 3.1: Health care organizations should strive to diversify the primary care workforce and customize teams to meet the needs of the populations they serve. Government agencies should expand educational pipeline models and improve economic incentives.

Action 3.2: CMS, the VA, HRSA, and states should redeploy or augment Title VII, Title VIII, and GME funding to support interprofessional training in community-based primary care practice environments.

Private and public sector attention to how well the racial and ethnic composition of the health care workforce reflects the communities they serve could not only improve patient experience⁷⁷ and outcomes⁷⁸ but also the size and retention of the primary care trainee pipeline. More strategic and accountable deployment of current and additional federal and state workforce funding to support community-based primary care practices would also have a profound effect on the size of the current primary care workforce and number of trainees who enter and stay on the primary care pathway.

In 2022, Congress authorized an additional \$174 million in funding to support primary care training in community health centers (CHCs) through the Teaching Health Center (THC) program.⁷⁹ This pales in comparison to the \$16 billion that Medicare spends annually, without special authorization, on hospital-based Medicare GME programs.⁸⁰ Congress and Medicare have the opportunity to improve the public's understanding of what kind of workforce it is getting for its GME funding.

As of the publication of this report, the THC program, a more accountable pool of training funds, has yet to be reauthorized; neither has the National Health Service Corps, the federal health care professional loan forgiveness program.

With increasing concerns about the status of the health care workforce in general, and the primary care workforce in particular, some state legislatures are turning their attention to the issue.⁸¹

Reason 3: The United States continues to underinvest in primary care

Relevant NASEM report recommendations:

Action 1.1: Payers should evaluate and disseminate payment models based on their ability to promote the delivery of high-quality primary care, not short-term cost savings.

Action 1.2: Payers using fee-for-service models for primary care should shift toward hybrid reimbursement models, making them the default over time. For risk-bearing contracts, payers should ensure that sufficient resources and incentives flow to primary care.

Action 1.3: CMS should increase the overall portion of health care spending for primary care by improving the Medicare fee schedule and restoring the RUC [Relative Value Scale Update Committee] to its advisory nature.

Action 1.4: States should facilitate multi-payer collaboration and increase the portion of health care spending for primary care.

Action 2.2: HHS should create new health centers, rural health clinics, and Indian Health Service facilities in shortage areas.

Action 2.3: CMS should revise access standards for primary care for Medicaid beneficiaries and provide resources to state Medicaid agencies for these changes.

The United States is underinvesting in primary care, and Medicare's fee schedule – which lists fees for services – is the chief culprit. With input from the American Medical Association's Relative Value Scale Update Committee (RUC), it undervalues primary care services relative to specialty services and pays on a per visit basis, discouraging nonvisit services like emails and phone calls as well as care from other members of the primary care team.⁸² Reimbursing primary care practices with hybrid payments, in which a portion of their revenues is covered predictably and prospectively based on the number of patients in their practice, promotes team-based care and less reliance on in-person visits, which would improve patient access and make the practice of primary care more professionally rewarding.⁸³

Reforming how and how much Medicare pays for primary care will ultimately depend on congressional action. CMS, in the meantime, continues to make incremental supportive changes to the fee schedule, and the Center for Medicare and Medicaid Innovation (CMMI) has introduced two new payment models, Making Care Primary (MCP)⁸⁴ and Advancing All-Payer Health Equity and Development (AHEAD),⁸⁵ that are consistent with these payment recommendations. In March 2022, the Primary Care Collaborative launched the Better Health – NOW campaign focused on implementing the NASEM payment recommendations and expects to see a new optional primary care payment model introduced by CMMI in 2024.⁸⁶

Even though over half of Medicare beneficiaries received their benefits from a Medicare Advantage plan in 2023,⁸⁷ very little is known about how or how much these plans pay for or promote primary care. CMS is investigating greater public access to Medicare Advantage plans' data.⁸⁸

In addition, a congressional commitment to increasing the number of community health centers – which now serve 1 in 11 people in the country⁸⁹ – would likely bolster the primary care workforce and the government's investment in primary care. As of the publication of this report, Congress had not reauthorized the CHC program at existing or expanded levels. At the state level, to date 22 states have passed legislation measuring primary care spending in Medicaid and/or commercial insurance or mandating an increase.⁹⁰ A network of public and private sector officials has been convened to organize and advance this work.

Medicaid is the country's largest payer by population and second largest by payment.⁹¹ Although precise levels vary by state, Medicaid consistently pays for primary care at rates that are 66% or less of Medicare's already low rates.⁹² Massachusetts' new 1115 Medicaid waiver implements per capita primary care payments; this is one of several important and much-needed efforts to integrate CHCs into these advanced payment models. In 2023, several states asked for section 1115 authority to pay for health-related social needs as a Medicaid benefit; CMCS conditioned its approval on these states increasing their primary care fee schedules – an appropriate and important use of its waiver approval authority.⁹³

In 2023, CMCS released interim comprehensive regulations regarding access to care, including primary care, for Medicaid beneficiaries enrolled in fee-for-service and managed care programs.⁹⁴ These regulations are consistent with NASEM recommendations, and compliance will likely result in increased primary care investment.

Reason 4: Technology has become an added burden to primary care

Relevant NASEM report recommendations:

Action 2.4: CMS should permanently support COVID-era rule revisions.

Action 4.1: The Office of the National Coordinator (ONC) for Health Information Technology and CMS should develop the next phase of digital health certification standards that support relationship-based, continuous, and person-centered care; simplify the user experience; ensure equitable access and use; and hold vendors accountable.

Action 4.2: ONC and CMS should adopt a comprehensive aggregate patient data system that is usable by any certified digital health tool for patients, families, clinicians, and care team members.

Efforts to promote the use of telehealth, and other rule changes, made providing services to Medicare beneficiaries less burdensome for primary care providers during the public health emergency.⁹⁵ Yet, as discussed in this report, HIT has emerged as a time-consuming burden that often leads to less access for patients and increased provider discontent.

While Medicare has retained some of the Covid-era rule changes regarding telehealth, state and federal officials have not been active in digital health oversight, leaving it to the private sector to attempt to develop industry standards and management innovations to address these issues.⁹⁶

Reason 5: Primary care research to identify, implement, and track novel care delivery and payment solutions is lacking

Relevant NASEM report recommendations:

Action 5.1: The HHS secretary should establish a Secretary’s Council on Primary Care to coordinate primary care policy, ensure adequate budgetary resources for such work, report to Congress and the public on progress, and hear guidance and recommendations from a Primary Care Advisory Committee that represents key primary care stakeholders.

Action 5.2: HHS should form an Office of Primary Care Research at NIH and prioritize funding of primary care research at AHRQ.

Action 5.3: Primary care professional societies, consumer groups, and philanthropies should assemble, regularly compile, and disseminate a “High-quality primary care implementation scorecard” to improve accountability and implementation.

Coordinated federal administration attention to the status of primary care would lead to more effective public policies to address the issues that this report identifies as limiting access to primary care: payment and investment, workforce supply and training, technology, and research funding.

After an 18-month process, an issue brief released in the fall of 2023 by the US Department of Health and Human Services summarized the many current activities across HHS – some of them discussed earlier – to strengthen primary care.⁹⁷ The brief did not, however, commit to further actions or, more importantly, to a much-needed department-wide coordinating and accountability structure and process.

A new NASEM Standing Committee on Primary Care was created in 2023 to advise HHS on these efforts and may help keep HHS accountable for progress in primary care, as well as serve as a private sector advisor and partner.⁹⁸

CONCLUSION

Primary care is the foundation of a high-performing health system, yet fewer and fewer Americans report that they are seeing a clinician on a regular basis. This loss of a trusted source for routine care negatively affects the opportunity for all Americans to live long and healthy lives.

This year’s Scorecard identifies five reasons why access to primary care is declining. There is clear evidence to show what needs to be done to improve access to primary care – and some promising policy activity. Private and public sector leaders, however, must prioritize and accelerate their efforts if the trends identified here and their bleak consequences are to be reversed.

NOTES

1. Save graduate medical education. American Medical Association website. <https://www.ama-assn.org/education/gme-funding/save-graduate-medical-education>. Published December 5, 2023. Accessed December 8, 2023.
2. Jabbarpour Y, Petterson S, Jetty A, Byun H. The health of US primary care: a baseline scorecard tracking support for high-quality primary care. The Milbank Memorial Fund and The Physicians Foundation. <https://www.milbank.org/publications/health-of-us-primary-care-a-baseline-scorecard>. Published February 2023. Accessed January 30, 2024.
3. Heath S. Average patient appointment wait time is 26 days in 2022. Patient Engagement HIT website. <https://patientengagementhit.com/news/average-patient-appointment-wait-time-is-26-days-in-2022>. Published September 15, 2022. Accessed November 7, 2023.
4. Sellers FS. Primary care saves lives. Here's why it's failing Americans. *Washington Post*. November 9, 2023. <https://www.washingtonpost.com/health/2023/10/17/primary-care-saves-lives>. Accessed December 13, 2023.
5. Rosenthal E. The shrinking number of primary care physicians is reaching a tipping point. KFF Health News. <https://kffhealthnews.org/news/article/lack-of-primary-care-tipping-point>. Published September 8, 2023. Accessed December 13, 2023.
6. Arias E, Tejada-Vera B, Kochanek KD, Ahmad FB. Provisional life expectancy estimates for 2021. Centers for Disease Control and Prevention. <https://www.cdc.gov/nchs/data/vsrr/vsrr023.pdf>. Published August 2022. Accessed January 30, 2024.
7. Ndugga N, Artiga S. Disparities in health and health care: 5 key questions and answers. KFF. <https://www.kff.org/racial-equity-and-health-policy/issue-brief/disparities-in-health-and-health-care-5-key-question-and-answers>. Published April 21, 2023. Accessed November 7, 2023.
8. Implementing high-quality primary care: rebuilding the foundation of health care. The National Academies of Sciences, Engineering, and Medicine. <https://www.nationalacademies.org/our-work/implementing-high-quality-primary-care>. Published 2021. Accessed August 2, 2022.
9. 2017 projected age groups and sex composition of the population: main projections series for the United States, 2017–2060. U.S. Census Bureau, Population Division. <https://www.census.gov/data/tables/2017/demo/popproj/2017-summary-tables.html>. Published 2017. Accessed January 30, 2024.
10. Ansah JP, Chiu CT. Projecting the chronic disease burden among the adult population in the United States using a multi-state population model. *Front Public Health*. 2023;10:1082183. doi:10.3389/fpubh.2022.1082183.
11. Shanafelt TD, Dyrbye LN, West CP, et al. Career plans of US physicians after the first 2 years of the COVID-19 pandemic. *Mayo Clinic Proceedings*. 2023;98(11):1629–1640. doi:10.1016/j.mayocp.2023.07.006.
12. Healthcare resources: physicians—overall. OECD.Stat. <https://stats.oecd.org/Index.aspx?QueryId=74634>. Accessed January 30, 2024.
13. Green LA, Fryer GE, Yawn BP, Lanier D, Dovey SM. The ecology of medical care revisited. *N Engl J Med*. 2001;344(26):2021–2025. doi:10.1056/NEJM200106283442611.
14. Petterson SM, Liaw WR, Tran C, Bazemore AW. Estimating the residency expansion required to avoid projected primary care physician shortages by 2035. *Ann Fam Med*. 2015;13(2):107. doi:10.1370/afm.1760.
15. Huffstetler A, Greiner A, Siddiqi A, et al. Health is primary: charting a path to equity and sustainability. Primary Care Collaborative and the Robert Graham Center. <https://www.graham-center.org/content/dam/rgc/documents/publications-reports/reports/pcc-evidence-report-2023.pdf>. Published 2023. Accessed January 30, 2024.
16. Abara NO, Huang N, Raji MA, Kuo YF. Effect of retail clinic use on continuity of care among Medicare beneficiaries. *J Am Board Fam Med*. 2019;32(4):531–538. doi:10.3122/jabfm.2019.04.180349.
17. Vogel S. Primary care providers say field is ‘crumbling.’ *Healthcare Dive*. <https://www.healthcaredive.com/news/primary-care-providers-say-field-is-crumbling/688518>. Published July 20, 2023. Accessed September 6, 2023.
18. Silberstein R. WellNow sites close as COVID-19 dollars dry up. *Times Union*. June 2, 2023. <https://www.timesunion.com/news/article/wellnow-sites-close-covid-19-dollars-dry-18129738.php?IPID=Times-Union-HP-spotlight>. Accessed September 6, 2023.
19. Reed M, Huang J, Somers M, et al. Telemedicine versus in-person primary care: treatment and follow-up visits. *Ann Intern Med*. 2023;176(10):1349–1357. doi:10.7326/M23-1335.
20. Panchal N, Saunders H, Rudowitz R, Cox C. The implications of COVID-19 for mental health and substance use. KFF. <https://www.kff.org/mental-health/issue-brief/the-implications-of-covid-19-for-mental-health-and-substance-use>. Published March 20, 2023. Accessed October 27, 2023.
21. Simmons-Duffin S. “Live free and die?” The sad state of U.S. life expectancy. *NPR*. March 25, 2023. <https://www.npr.org/sections/health-shots/2023/03/25/1164819944/live-free-and-die-the-sad-state-of-u-s-life-expectancy>. Accessed October 23, 2023.
22. Woolf SH, Masters RK, Aron LY. Changes in life expectancy between 2019 and 2020 in the US and 21 peer countries. *JAMA Netw Open*. 2022;5(4):e227067. doi:10.1001/jamanetworkopen.2022.7067.
23. Gunja MZ, Gumas ED, Williams RD II. The U.S. maternal mortality crisis continues to worsen: an international comparison. The Commonwealth Fund. Published December 1, 2022. Accessed January 30, 2024. doi:10.26099/8vem-fc65.
24. Fleszar LG, Bryant AS, Johnson CO, et al. Trends in state-level maternal mortality by racial and ethnic group in the United States. *JAMA*. 2023;330(1):52–61. doi:10.1001/jama.2023.9043.
25. Obesity is a common, serious, and costly disease. Centers for Disease Control and Prevention website. <https://www.cdc.gov/obesity/data/adult.html>. Published July 20, 2022. Accessed October 27, 2023.

26. Substance Abuse and Mental Health Services Administration. Tables 8.28, 8.30, and 8.32 PE – 2020 National Survey on Drug Use and Health: Detailed Tables. <https://www.samhsa.gov/data/sites/default/files/reports/rpt35323/NSDUHDetailedTabs2020v25/NSDUHDetailedTabs2020v25/NSDUHDetTabs8-28,30,32pe2020.pdf>. Published 2020. Accessed January 30, 2024.
27. Ganguli I, Shi Z, Orav EJ, Rao A, Ray KN, Mehrotra A. Declining use of primary care among commercially insured adults in the United States, 2008–2016. *Ann Intern Med*. 2020;172(4):240–247. doi:10.7326/M19-1834.
28. Nothelle SK, Boyd C, Sheehan O, Wolff JL. Factors associated with loss of usual source of care among older adults. *Ann Fam Med*. 2018;16(6):538–545. doi:10.1370/afm.2283.
29. DeVoe JE, Tillotson CJ, Wallace LS, Angier H, Carlson MJ, Gold R. Parent and child usual source of care and children’s receipt of health care services. *Ann Fam Med*. 2011;9(6):504–513. doi:10.1370/afm.1300.
30. Kim MY, Kim JH, Choi IK, Hwang IH, Kim SY. Effects of having usual source of care on preventive services and chronic disease control: a systematic review. *Korean J Fam Med*. 2012;33(6):336–345. doi:10.4082/kjfm.2012.33.6.336.
31. Spatz ES, Ross JS, Desai MM, Canavan ME, Krumholz HM. Beyond insurance coverage: usual source of care in the treatment of hypertension and hypercholesterolemia. Data from the 2003–2006 National Health and Nutrition Examination Survey. *Am Heart J*. 2010;160(1):115–121. doi:10.1016/j.ahj.2010.04.013.
32. Finney Rutten LJ, Agunwamba AA, Beckjord E, Hesse BW, Moser RP, Arora NK. The relation between having a usual source of care and ratings of care quality: does patient-centered communication play a role? *J Health Commun*. 2015;20(7):759–765. doi:10.1080/10810730.2015.1018592.
33. Nguyen K, Nguyen K, Lekshmi D, Corlin L, Niska R. Delays in children’s preventive health services during the COVID-19 pandemic. *Fam Med*. 2022;54(5):350–361. doi:10.22454/FamMed.2022.922801.
34. Teasdale CA, Borrell LN, Shen Y, et al. Missed routine pediatric care and vaccinations in US children during the first year of the COVID-19 pandemic. *Prev Med*. 2022;158:107025. doi:10.1016/j.ypmed.2022.107025.
35. New CDC data illuminate youth mental health threats during the COVID-19 pandemic. Centers for Disease Control and Prevention website. <https://www.cdc.gov/media/releases/2022/p0331-youth-mental-health-covid-19.html>. Published September 9, 2022. Accessed November 6, 2023.
36. Chavira DA, Ponting C, Ramos G. The impact of COVID-19 on child and adolescent mental health and treatment considerations. *Behav Res Ther*. 2022;157:104169. doi:10.1016/j.brat.2022.104169.
37. Levine R, Valdez RB, Brooks-LaSure C, et al. The U.S. Department of Health and Human Services is taking action to strengthen primary care. US Department of Health and Human Services website. <https://www.hhs.gov/blog/2023/11/07/us-department-health-and-human-services-taking-action-strengthen-primary-care.html>. Published November 7, 2023. Accessed January 16, 2024.
38. State primary care investment hub. Primary Care Collaborative. <https://thepcc.org/primary-care-investment>. Accessed January 24, 2024.
39. Rotenstein LS, Apathy N, Edgman-Levitan S, Landon B. Comparison of work patterns between physicians and advanced practice practitioners in primary care and specialty practice settings. *JAMA Netw Open*. 2023;6(6):e2318061. doi:10.1001/jamanetworkopen.2023.18061.
40. Cody R, Gysin S, Merlo C, Gemperli A, Essig S. Complexity as a factor for task allocation among general practitioners and nurse practitioners: a narrative review. *BMC Fam Pract*. 2020;21:38. doi:10.1186/s12875-020-1089-2.
41. Healthcare personnel statistics—physicians. Eurostat. https://ec.europa.eu/eurostat/statistics-explained/index.php?title=Healthcare_personnel_statistics_-_physicians. Accessed October 23, 2023.
42. Cockerham WC, Hamby BW, Oates GR. The social determinants of chronic disease. *Am J Prev Med*. 2017;52(1 Suppl 1):S5–S12. doi:10.1016/j.amepre.2016.09.010.
43. The Robert Graham Center. Social Deprivation Index (SDI). <https://www.graham-center.org/content/brand/rgc/maps-data-tools/social-deprivation-index.html>. Published 2023. Accessed November 6, 2023.
44. Cole M, Jolliffe M, So-Armah C, Gottlieb B. Power and participation: how community health centers address the determinants of the social determinants of health. *NEJM Catalyt*. 2022;3(1). doi:10.1056/CAT.21.0303.
45. Sharac J, Corallo B, Tolbert J, Shin P, Rosenbaum S. Changes in community health center patients and services during the COVID-19 pandemic. KFF. <https://www.kff.org/medicaid/issue-brief/changes-in-community-health-center-patients-and-services-during-the-covid-19-pandemic>. Published December 21, 2022. Accessed November 6, 2023.
46. Lewis C, Getachew Y, Abrams MK, Doty MM. Changes at community health centers, and how patients are benefiting. The Commonwealth Fund. Published August 20, 2019. doi:10.26099/2yrd-pa13.
47. Saloner B, Wilk AS, Levin J. Community health centers and access to care among underserved populations: a synthesis review. *Med Care Res Rev*. 2020;77(1):3–18. doi:10.1177/1077558719848283.
48. Olutunde MO, Mse E, Wanzala MN, Wamukoya EK. The influence of socio-economic deprivation on multimorbidity: a systematic review. *European Journal of Physical Education and Sport Science*. 2021;6(12). doi:10.46827/ejpe.v6i12.3656.
49. Price S. Training up: COVID-19 changed the way students, residents learn medicine. Texas Medical Association. <https://www.texmed.org/Template.aspx?id=57870>. Published October 2021. Accessed January 16, 2024.
50. St-Pierre F, Petrosyan R, Gupta A, et al. Impact of the COVID-19 pandemic on internal medicine training in the United States: results from a national survey. *BMC Health Serv Res*. 2023;23(1):1285. doi:10.1186/s12913-023-10237-9.
51. Analysis done at the Robert Graham Center using AMA Masterfile 2012–2020 and CMS and other Supplier, 2012–2020.

52. Chen C, Petterson S, Phillips RL, Mullan F, Bazemore A, O'Donnell SD. Toward graduate medical education (GME) accountability: measuring the outcomes of GME institutions. *Acad Med*. 2013;88(9):1267-1280. doi:10.1097/ACM.0b013e31829a3ce9.
53. Institute of Medicine. *Primary Care Physicians: Financing Their Graduate Medical Education in Ambulatory Settings*. Washington, DC: The National Academies Press; 1989. doi:10.17226/1487.
54. Internal medicine vs. family medicine. American College of Physicians website. <https://www.acponline.org/about-acp/about-internal-medicine/career-paths/medical-student-career-path/internal-medicine-vs-family-medicine>. Accessed August 29, 2022.
55. Congressional Research Service. Medicare graduate medical education payments: an overview. <https://crsreports.congress.gov/product/pdf/IF/IF10960>. Updated September 2022. Accessed January 31, 2024.
56. Association of American Medical Colleges. Medicaid graduate medical education payments: results from the 2022 50-state survey. <https://store.aamc.org/medicaid-graduate-medical-education-payments-results-from-the-2022-50-state-survey.html>. Published 2023. Accessed December 8, 2023.
57. Davis CS, Roy T, Peterson LE, Bazemore AW. Evaluating the Teaching Health Center graduate medical education model at 10 years: practice-based outcomes and opportunities. *J Grad Med Educ*. 2022;14(5):599-605. doi:10.4300/JGME-D-22-00187.1.
58. Enoch L, Chibnall JT, Schindler DL, Slavin SJ. Association of medical student burnout with residency specialty choice. *Med Educ*. 2013;47(2):173-181. doi:10.1111/medu.12083.
59. McDonald C, Henderson A, Barlow P, Keith J. Assessing factors for choosing a primary care specialty in medical students: a longitudinal study. *Med Educ Online*. 2021;26(1):1890901. doi:10.1080/10872981.2021.1890901.
60. Kim BY, Yoon I, Han SJ, et al. Specialty impact on residents' perceived quality of life, stress, and job satisfaction: a comparative study. *Ann Surg Treat Res*. 2023;105(4):188-197. doi:10.4174/astr.2023.105.4.188.
61. Alexander GC, Tajanlangit M, Heyward J, Mansour O, Qato DM, Stafford RS. Use and content of primary care office-based vs telemedicine care visits during the COVID-19 pandemic in the US. *JAMA Netw Open*. 2020;3(10):e2021476. doi:10.1001/jamanetworkopen.2020.21476.
62. Moore M, Gibbons C, Cheng N, Coffman M, Petterson S, Bazemore A. Complexity of ambulatory care visits of patients with diabetes as reflected by diagnoses per visit. *Primary Care Diabetes*. 2016;10(4):281-286. doi:10.1016/j.pcd.2015.11.006.
63. Bazemore A, Petterson S, Peterson LE, Phillips RL. More comprehensive care among family physicians is associated with lower costs and fewer hospitalizations. *Ann Fam Med*. 2015;13(3):206-213. doi:10.1370/afm.1787.
64. Angstman KB, Horn JL, Bernard ME, et al. Family medicine panel size with care teams: impact on quality. *J Am Board Fam Med*. 2016;29(4):444-451. doi:10.3122/jabfm.2016.04.150364.
65. Altschuler J, Margolius D, Bodenheimer T, Grumbach K. Estimating a reasonable patient panel size for primary care physicians with team-based task delegation. *Ann Fam Med*. 2012;10(5):396-400. doi:10.1370/afm.1400.
66. Hopkins KD, Sinsky C. Taking team-based care to the next level. *Fam Pract Manag*. 2022;29(3):25-31.
67. Gujral K, Scott JY, Ambady L, et al. A primary care telehealth pilot program to improve access: associations with patients' health care utilization and costs. *Telemed J E Health*. 2022;28(5):643-653. doi:10.1089/tmj.2021.0284
68. Cannedy S, Leung L, Wyte-Lake T, et al. Primary care team perspectives on the suitability of telehealth modality (phone vs video) at the Veterans Health Administration. *J Prim Care Community Health*. 2023;14:21501319231172897. doi:10.1177/21501319231172897.
69. Lin SY, Mahoney MR, Sinsky CA. Ten ways artificial intelligence will transform primary care. *J Gen Intern Med*. 2019;34(8):1626-1630. doi:10.1007/s11606-019-05035-1.
70. US Government Accountability Office. Artificial intelligence in health care: benefits and challenges of machine learning technologies for medical diagnostics. <https://www.gao.gov/products/gao-22-104629>. Published November 10, 2022. Accessed November 6, 2023.
71. Nundy S, Hodgkins ML. The application of AI to augment physicians and reduce burnout. *Health Affairs Forefront*. September 18, 2018. doi:10.1377/forefront.20180914.711688.
72. Dai T, Abramoff MD. Incorporating artificial intelligence into healthcare workflows: models and insights. In: *Tutorials in Operations Research: Advancing the Frontiers of OR/MS: From Methodologies to Applications*. INFORMS TutORials in Operations Research. INFORMS; 2023:133-155. doi:10.1287/educ.2023.0257.
73. Yang Z, Silcox C, Sendak M, et al. Advancing primary care with artificial intelligence and machine learning. *Healthcare*. 2022;10(1):100594. doi:10.1016/j.hjdsi.2021.100594.
74. Hendrix N, Bazemore A, Holmgren AJ, et al. Variation in family physicians' experiences across different electronic health record platforms: a descriptive study. *J Gen Intern Med*. 2023:1-8. doi:10.1007/s11606-023-08169-5.
75. State Primary Care Investment Initiatives. Primary Care Collaborative website. <https://thepcc.org/primary-care-investment/legislation>. Accessed January 31, 2024.
76. HHS is taking action to strengthen primary care. US Department of Health and Human Services Issue Brief. <https://www.hhs.gov/sites/default/files/primary-care-issue-brief.pdf>. Published November 7, 2023. Accessed January 31, 2024.
77. Takeshita J, Wang S, Loren AW, et al. Association of racial/ethnic and gender concordance between patients and physicians with patient experience ratings. *JAMA Netw Open*. 2020;3(11):e2024583. doi:10.1001/jamanetworkopen.2020.24583.
78. Greenwood BN, Hardeman RR, Huang L, et al. Physician-patient racial concordance and disparities in birthing mortality for newborns. *Proc Natl Acad Sci*. 2020;117(35):21194-21200. doi:10.1073/pnas.1913405117.

79. Hawes E, Rains J, Chen C, et al. Training the primary care workforce to deliver team-based care in underserved areas: the Teaching Health Center program. The Milbank Memorial Fund. <https://www.milbank.org/publications/training-the-primary-care-workforce-to-deliver-team-based-care-in-underserved-areas-the-teaching-health-center-program>. Published June 2023. Accessed February 5, 2024.
80. Congressional Research Service. Medicare graduate medical education payments: an overview. <https://crsreports.congress.gov/product/pdf/IF/IF10960>. Published September 29, 2022. Accessed February 5, 2024.
81. Healthcare workforce resources. National Conference of State Legislatures website. <https://www.ncsl.org/health/health-care-workforce-resources>. Published January 27, 2024. Accessed February 5, 2024.
82. Calsyn M, Twomey M. Rethinking the RUC: reforming how Medicare pays for doctors' services. Center for American Progress. <https://www.americanprogress.org/article/rethinking-the-ruc>. Published July 13, 2018. Accessed February 5, 2024.
83. National Academies of Sciences, Engineering, and Medicine. Implementing high-quality primary care: rebuilding the foundation of health care. <https://www.nationalacademies.org/our-work/implementing-high-quality-primary-care>. Published 2021. Accessed August 2, 2022.
84. Making Care Primary (MCP) Model. Centers for Medicare and Medicaid Services website. <https://www.cms.gov/priorities/innovation/innovation-models/making-care-primary>. Accessed February 5, 2024.
85. States Advancing All-Payer Health Equity Approaches and Development (AHEAD) Model. Centers for Medicare and Medicaid Services website. <https://www.cms.gov/priorities/innovation/innovation-models/ahead>. Accessed February 5, 2024.
86. Better Health Now. Primary Care Collaborative website. <https://thepcc.org/better-health-now>. Accessed February 5, 2024.
87. Ochieng N, Fuglesten Biniek J, Freed M, et al. Medicare Advantage in 2023: enrollment update and key trends. KFF. <https://www.kff.org/medicare/issue-brief/medicare-advantage-in-2023-enrollment-update-and-key-trends>. Published August 9, 2023. Accessed February 5, 2024.
88. Centers for Medicare and Medicaid Services. Medicare program; request for information on Medicare Advantage data. <https://www.govinfo.gov/content/pkg/FR-2024-01-30/pdf/2024-01832.pdf>. Published January 30, 2024. Accessed February 5, 2024.
89. Health center program: impact and growth. Health Resources and Services Administration website. <https://bphc.hrsa.gov/about-health-centers/health-center-program-impact-growth>. Published August 2023. Accessed February 5, 2024.
90. State primary care investment initiatives. Primary Care Collaborative website. <https://thepcc.org/primary-care-investment/legislation>. Accessed February 5, 2024.
91. Vanka P. Total Medicaid enrollment, 1966–2022. Statista. <https://www.statista.com/statistics/245347/total-medicare-enrollment-since-1966>. Published January 12, 2024. Accessed February 5, 2024.
92. Zuckerman S, Skopec L, Aarons J. Medicaid physician fees remained substantially below fees paid by Medicare in 2019. *Health Aff (Millwood)*. 2021;40(2). doi:10.1377/hlthaff.2020.00611.
93. Guth M. Section 1115 waiver watch: approvals to address health-related social needs. KFF. <https://www.kff.org/medicaid/issue-brief/section-1115-waiver-watch-approvals-to-address-health-related-social-needs>. Published November 15, 2022. Accessed February 5, 2024.
94. US Centers for Medicare and Medicaid Services. Summary of CMS's Access-Related Notices of Proposed Rulemaking: Ensuring Access to Medicaid Services (CMS 2442-P) and Medicaid and Children's Health Insurance Program (CHIP) Managed Care Access, Finance, and Quality (CMS-2439-P). <https://www.cms.gov/newsroom/fact-sheets/summary-cms-access-related-notices-proposed-rulemaking-ensuring-access-medicare-services-cms-2442-p>. Published April 27, 2023. Accessed February 5, 2024.
95. Bipartisan Policy Center. The future of telehealth after COVID-19—new opportunities and challenges. <https://bipartisanpolicy.org/download/?file=/wp-content/uploads/2022/09/BPC-The-Future-of-Telehealth-After-COVID-19-October-2022.pdf>. Published October 2022. Accessed February 5, 2024.
96. Telehealth policy changes after the COVID-19 public health emergency. Health Resources and Services Administration website. <https://telehealth.hhs.gov/providers/telehealth-policy/policy-changes-after-the-covid-19-public-health-emergency>. Published December 19, 2023. Accessed February 5, 2024.
97. Department of Health and Human Services. HHS is taking action to strengthen primary care. <https://www.hhs.gov/sites/default/files/primary-care-issue-brief.pdf>. Published November 7, 2023. Accessed February 5, 2024.
98. Standing committee on primary care. National Academies of Sciences, Engineering, and Medicine website. <https://www.nationalacademies.org/our-work/standing-committee-on-primary-care>. Accessed February 5, 2024.
99. Paralkar N, LaVine N, Ryan S, et al. Career Plans of Internal Medicine Residents From 2019 to 2021. *JAMA Intern Med*. 2023;183(10):1166–1167. doi:10.1001/jamainternmed.2023.2873.
100. The American Board of Pediatrics. Yearly Growth in Pediatric Fellows by Subspecialty by Demographics and Program Characteristics | The American Board of Pediatrics. ABP. <https://www.abp.org/dashboards/yearly-growth-pediatric-fellows-subspecialty-demographics-and-program-characteristics>. Published October 26, 2023. Accessed November 6, 2023.

ACKNOWLEDGMENTS

The authors are deeply grateful to the study's subject matter experts, members of the Scorecard national advisory committee, and members of the American Academy of Family Physicians, all of whom generously shared their time, diverse perspectives, and valuable insights into the national Scorecard measures, operationalization, and computation. They also thank Milbank Memorial Fund Communications Director Christine Haran for her editorial support.

Scorecard advisory committee members:

- Bijal Balasubramanian
- Rebecca Etz
- Margaret Flinter
- Ripley Hollister
- Corinne Lewis
- Sunita Mutha
- Barbra Rabson
- Diane Rittenhouse
- Michelle Roett
- Eric Schneider
- Judith Steinberg
- Efrain Talamantes

Our acknowledgment of these leaders' contributions does not imply that any of these individuals endorse the contents or conclusions of this report.

ABOUT THE AUTHORS

Yalda Jabbarpour

Yalda Jabbarpour, MD, is a family physician and director of the Robert Graham Center. In this role, she oversees a team of researchers who create and curate the evidence to support primary care. She conducts research on the primary care workforce, payment for primary care, scope of practice for family physicians, factors contributing to primary care burnout, and the integration of public health and primary care. Dr. Jabbarpour has authored the Primary Care Collaborative's evidence report on primary care for the last four years. She first came to the Robert Graham Center as a Robert L. Phillips Health Policy fellow in 2015 and served as the medical director of the center from 2018 to 2022. Dr. Jabbarpour also sees patients clinically at the MedStar Family Medicine Center at Spring Valley in Washington, DC. She received her undergraduate degree at the University of California, Los Angeles, attended medical school at the Georgetown University School of Medicine, and completed her residency in family medicine at the Georgetown University/Providence Hospital family medicine residency.

Jeongyoung Park

Jeongyoung Park, PhD, joined the Robert Graham Center in February 2023 and currently serves as research director. Her research interests include health policy issues with special emphasis on primary care, such as health care delivery and payment system changes, and its impact on health workforce and patient outcomes. She received her PhD in health policy and management (with a concentration in economics) at the University of North Carolina at Chapel Hill, and completed a two-year postdoctoral fellowship in the Health Services Research unit at the University of Pennsylvania. She received her MPH from Seoul National University Graduate School of Public Health and her BSN from Seoul National University College of Nursing, both in Seoul, Korea.

Anuradha Jetty

Anuradha Jetty, MPH, is the senior epidemiologist at the Robert Graham Center. Her work involves secondary data analysis of national surveys, including the Medical Expenditure Panel Survey, National Health Interview Survey, Behavioral Risk Factor Surveillance System, National Survey of Children's Health, American Community Survey, and National Ambulatory Medical Care Survey. Her research focuses on access to care, the physician workforce, cost sharing, social determinants of health, child health, and racial health disparities. Ms. Jetty has authored some of the most-cited papers on high-deductible health plans and health service use, the usual source of care, and patient-provider racial concordance. Ms. Jetty joined the Robert Graham Center in 2014 as a research associate and served as the health services researcher from 2018 to 2021. Ms. Jetty completed her bachelor of homeopathy medicine and surgery at Osmania University in Hyderabad, India. She received her graduate degree in public health (epidemiology) from George Mason University.

Hoon Byun

Hoon Byun, DrPH, serves as an economist at the Robert Graham Center as a member of a multidisciplinary team of researchers that addresses topics relevant to family medicine and primary care. His research interests include the composition of the primary care workforce, graduate medical education and training, scope of practice, and quantifying physician effort, among others. Dr. Byun holds a bachelor's degree in economics from the College of William & Mary, a master's degree in economics from the University of Virginia, and a doctorate in public health from the Johns Hopkins Bloomberg School of Public Health.

Anam Siddiqi

Anam Siddiqi, MPH, is the research project manager at the Robert Graham Center, where she oversees the management and coordination of several major projects. Ms. Siddiqi also conducts research on the primary care workforce, access to care, payment reform, and the gender wage gap in primary care, with a specialty in qualitative research. Her other research interests include racial and gender health disparities, social determinants of health, and community health. She also supports the Robert Graham Center's social and digital media marketing and public relations efforts. Ms. Siddiqi received her MPH in health policy analysis and evaluation from the University of Maryland, College Park. Prior to joining the Robert Graham Center in 2022, Ms. Siddiqi was a health communications specialist who supported various clients such as the National Institutes of Health and the United States Environmental Protection Agency.

Stephen Petterson

Stephen Petterson, PhD, is a health service researcher and the former director of the Robert Graham Center. He has been a research professor at George Washington University, working with the Mullan Institute, since 2021. His work covers a wide range of topics, including the primary care workforce, medical education, social determinants of health, primary care and mental health, and creating "measures that matter" for primary care providers. Previously, as a sociologist and social statistician, he was on faculty at the University of Virginia and was a researcher at the Southeastern Rural Mental Health Research Center. Dr. Petterson has taught courses in graduate and undergraduate statistics, welfare policy, and problems of urban life and sociology of work. He earned a PhD in sociology from the University of Wisconsin and an undergraduate degree in sociology and anthropology from Haverford College.