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Strengthening California's Primary Care Team Workforce: Data and Recommendations for Action

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About the Foundation

The California Health Care Foundation is an independent, nonprofit philanthropy that works to improve the health care system so that all Californians have the care they need. We focus especially on making sure the system works for Californians with low incomes and for communities who have traditionally faced the greatest barriers to care. We partner with leaders across the health care safety net to ensure they have the data and resources to make care more just and to drive improvement in a complex system.

CHCF informs policymakers and industry leaders, invests in ideas and innovations, and connects with changemakers to create a more responsive, patient-centered health care system.

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Primary Care Practices

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Contents

About This Report

In 2024–25, the California Health Care Foundation partnered with the authors to assess California's primary care team workforce. Drawing on the published literature, interviews with primary care practice representatives, an original supply-and-demand analysis, and expert input, this report presents policy recommendations to strengthen and sustain an interprofessional primary care team workforce statewide.

Introduction

Importance of Optimizing the Team-Based Primary Care Workforce

Primary care is the foundation of the health care system and is ideally the first point of contact for individuals and families who need continuous, comprehensive, and coordinated services that address a wide range of health needs. The National Academies of Sciences, Engineering, and Medicine have affirmed that primary care is the only health care component in which increased supply is consistently linked to better population health and more equitable outcomes.[1]

California has made remarkable progress in achieving near-universal health insurance coverage.[2] Yet access to primary care remains elusive for millions. Over 11.4 million Californians — more than one-quarter of the state's population — live in federally designated Primary Care Health Professional Shortage Area.[3] This access gap stems from a workforce both undersized and unevenly distributed across the state.[4] Compounding the issue, primary care practices have long been underresourced, struggling to meet the growing medical, behavioral, and social needs of their communities. At the same time, the scope of recommended services in primary care has expanded dramatically. Research shows that it would take a single physician 26.7 hours per day to deliver all recommended care for an average patient panel — a clearly unsustainable model.[5]

The path forward lies in interdisciplinary primary care teams (see box to the right).[6] When care responsibilities are shared across a well-supported team, the work becomes manageable, and the quality of care improves.[7] Experts widely agree that the future of primary care depends on these collaborative models, which are better equipped to respond to the complex and evolving needs of patients and communities.[8]

This report provides an evidence-based, practice-informed overview of California's interprofessional primary care workforce. It offers action-oriented policy recommendations for strengthening the primary care team workforce over the next five years. These recommendations are directed toward state policymakers, government agencies, health care purchasers, payers, and providers; academic institutions that train the workforce; and advocacy organizations committed to improving health care access and quality.

Importantly, this work must proceed despite current fiscal and political headwinds. Federal support for primary care is uncertain, and recent state budget constraints resulting in cuts to Medi-Cal have made clear that California cannot wait for external rescue. Building a robust primary care workforce is infrastructure work — it requires long-term investment,

Primary Care Team Members in This Report

Clinicians include:

- Physicians
  - Doctors of medicine (MDs) and doctors of osteopathic medicine (DOs)
- Advanced practice providers
  - Nurse practitioners (NPs) and physician assistants (PAs)
- Nurses
  - Registered nurses (RNs) and licensed vocational nurses (LVNs)
- Behavioral health clinicians
  - Licensed clinical social workers (LCSWs), licensed marriage and family therapists (LMFTs), licensed professional clinical counselors (LPCCs), and licensed psychologists
- Pharmacists

Clinical support staff include:

- Medical assistants (MAs)
- Community health workers (CHWs)

strategic coordination, and urgent action. Even in a constrained environment, these policy recommendations remain a priority. They lay the foundation for a more resilient, responsive, and equitable health care system, one that can adapt nimbly to future challenges and deliver high-quality care to all Californians.

Advantages of Team-Based Primary Care

Team-based care — in which an interdisciplinary group of people is responsible for the health of a panel of patients — is widely endorsed by experts as the gold standard of modern primary care. Innovative primary care practices across a wide variety of settings have experimented with team-based care and have found many advantages, including the following:

- Team-based care is a cost-effective model that allows clinical tasks to be shared across qualified team members.
- Teams can bolster proactive care and population management. While some team members care for patients during visits, others can respond to patient messages and conduct proactive outreach to address the unmet chronic and preventive service needs of their patient population.
- Team-based care improves both clinician and staff experience and can reduce burnout. Teams can provide high-quality and comprehensive care, such as colocated behavioral health services.
- Racial, ethnic, and language diversity on primary care teams supports patient-provider concordance, which can enhance communication, trust, and care quality for a broad range of patients.
- Teams can work together to deliver the functions of primary care, as described in the following section.

Primary Care's Unique Attributes

Primary care is the provision of health care services by clinicians accountable for addressing a large majority of personal health care needs, including physical, behavioral, and social needs. Ideally, these services are integrated and accessible, and are provided by primary care teams that develop sustained, trusting partnerships with patients over time. Primary care clinicians include physicians trained in generalist specialties such as family medicine, pediatrics, general internal medicine, and geriatrics, and nurse practitioners trained in family, gerontological, and pediatric care.

Primary care clinicians typically work closely with one or more members of a team that can include nurses, physician assistants, medical assistants, community health workers, behavioral health counselors, social workers, and clinical pharmacists. Primary care is typically the first point of health care access for a person experiencing new symptoms or concerns. Primary care includes preventive services, acute care, and ongoing management of chronic and comorbid physical and behavioral health conditions. Ideally, primary care also plays an important role in coordinating care for patients across the health system. Primary care happens in a variety of settings, including private practices, community health centers, and large health systems, and even in visits to a patient's home. To optimize health, primary care is ideally located in the neighborhoods where people live, providing a more holistic view of the patient's experience by fostering the primary care team's awareness and ability to help address and mitigate the impact of local social, physical, and structural determinants of health.

Sources: Barbara Starfield, *Primary Care: Balancing Health Needs, Services, and Technology* (Oxford University Press, 1998); and Diane Rittenhouse et al., *Primary Care's Essential Role in Advancing Health Equity for California*, CHCF, March 2023.

Primary Care Team Roles Versus Functions

The responsibility of the primary care team is to work together with the best expertise available to address all the preventive, chronic, and acute care needs of a population. In this report, "primary care functions" are the activities that, when done by a primary care practice, result in improved health for patients and communities. Table 1 presents a synthesized set of primary care team functions, developed by comparing and harmonizing several expert definitions of high-performing primary care.

Table 1. Primary Care Team Functions

PRIMARY CARE TEAM FUNCTIONS	DEFINITION OF FUNCTION
Population-based prevention and chronic care management	Proactively identify gaps in care and support patients to receive and adhere to evidence-based care plans
Care management for complex patients	Provide additional clinical or nursing support for patients with multiple chronic conditions, including patients at risk for hospitalization or readmission
Care coordination and referral management	Provide administrative support to help patients access specialty care and community resources while ensuring exchange of information between clinicians
Medication management beyond routine care	Provide medication titration/treat-to-target services; improve medication adherence; review medications for dangerous interactions or errors
Behavioral health integration beyond routine primary care	Integrate care for mental, behavioral, and psychosocial issues into primary care, including systematic screening and treatment for depression and anxiety
Screening for substance use disorders	Systematically screen for substance use disorders, including alcohol abuse
Treatment for substance use disorders	Offer medication-assisted treatment for substance use disorders along with counseling or behavioral therapy
Linkages to community-based social services to support health-related social needs	Understand the community's or patients' health-related social needs and foster relationships with resources to offer support (e.g., insurance navigation, food banks, or transportation)
Communication management	Manage patient portal communication if applicable, triage patient-initiated questions and requests, and maintain a system for communicating test results
Patient education and self-management support	Support patients in being partners in their care through education, goal setting, and action planning

PRIMARY CARE TEAM FUNCTIONS	DEFINITION OF FUNCTION
Quality improvement	Make ongoing, team-based effort to review measures of clinical and operational effectiveness, and use an established strategy (e.g., the Lean Model for Quality improvement[9]) to test and spread new ideas for change; at its best, this effort includes patient advisers
Enhanced access	Provide services outside prescheduled, in-person visits during work hours (e.g., telehealth or remote services, after-hours care, and same-day appointments)
Oral health care services	Ask about oral health risk factors and look for signs that indicate risk of or active oral disease; may offer services ranging from fluoride varnish for children to cleanings, tooth extractions, and fillings
Electronic health record and information technology support	Maintain data expertise to support quality improvement, population health management, and planned care, including new technology development such as AI

Sources: Coleman, Katie, et al. 2016. *Redefining Primary Care for the 21st Century*. Publication No. 16(17)-0022-EF. Rockville, MD: Agency for Healthcare Research and Quality. Cited in Meyers, David, et al. 2018. "Workforce Configurations to Provide High-Quality, Comprehensive Primary Care: A Mixed-Method Exploration of Staffing for Four Types of Primary Care Practices," Journal of General Internal Medicine 33: 1774–79; Smith, Jeanene, et al. 2023. *Care Teams Implementation Guide. In Building the Foundation Implementation Guide Series*, edited by Katie Coleman and Ariel Singer. Oakland, CA: Kaiser Permanente; Pollack, Amie A., et al. 2025. *Primary Care Investment Guide*. Primary Care Collaborative; Purchaser Business Group on Health. 2022. *Advanced Primary Care: Defining a Shared Standard*; Center for Accelerating Care Transformation. Improving Primary Care. *The Primary Care Team Guide*

Ensuring that primary care team members are well-prepared to address the entire set of primary care functions is critical. That said, depending on the skills and training of the team members at a particular practice, different team members can deliver specific primary care functions.

Primary Care Team Workforce in California: The State of the State

Over two years, the authors of this report investigated many aspects of the primary care workforce in California, along with studying the literature and best practices in the field. They gathered qualitative data by (1) interviewing 18 high-performing primary care practices in diverse settings across California and (2) consulting with educators and experts in the field through individual discussions and advisory board meetings (see Appendix A on page 48). The authors developed case studies on innovative approaches that primary care practices are using to implement high-quality team-based care in unique ways. These approaches include using AI, outsourcing care team functions, optimizing care delivery to improve health for seniors, and delivering culturally concordant care. The authors also completed a supply-and-demand analysis for primary care team members for whom data were available to assess the adequacy of the supply of primary care team members between 2025 and 2035; see the technical appendix. The following sections discuss the key findings from this work.

The primary care workforce is changing — and we lack the data to fully understand it.

Primary care teams across the state include a growing array of team roles that extend well beyond the clinician–medical assistant (MA) dyad to include community health workers (CHWs), pharmacists, behavioral health clinicians, and others. These teams are structured in new and ever-changing ways, with team members not only working alongside one another in the practice, but also with people employed centrally within larger organizations and

even within external entities such as independent practice associations or health plan. These varied structures have significant implications for team cohesion and communication. Yet comprehensive data are not available to accurately assess the size or adequacy of the current primary care workforce or to monitor changes over time. These significant data gaps make it difficult to make informed decisions and invest strategically in workforce development.

Primary care teams are not one-size-fits-all across practice types.

There is no universal blueprint for primary care teams. Their composition and function vary widely across settings — from large integrated health systems to small independent practices, academic clinics, and Federally Qualified Health Centers (FQHCs). Factors such as patient needs, practice size, geographic context, and organizational ownership all influence team design. These differences affect not only who is on the team but how roles are defined and functions are distributed.[10] For example, complex medication management for patients needing five or more regular prescriptions might be handled by physicians, advanced practice providers, nurses, or clinical pharmacists, depending on the setting. Team member responsibilities are also shaped by licensing policies, contractual arrangements such as union agreements, and the individual competence and trust of team members.[11]

Payment policies are key to determining primary care team size, composition, and functions.

Payment adequacy and structure play a central role — not just in determining what teams can afford to do but in how they are built and organized. Inadequate or narrowly structured reimbursement often forces practices to design teams around what is financially sustainable rather than what patients truly need. For example, fee-for-service models reward visit volume with individual clinicians over other important primary care functions

Spotlight on Care for Older Adults

California's population is aging rapidly,* and the primary care workforce of the future will need to care for a growing number of older adults. Primary care has long been designed to care for people "from cradle to grave," but given the enhanced need for care coordination, advanced care planning, and other services relative to older adults, programs and practices organized specifically to optimize care for this population are on the rise.

Some national programs are setting standards of care for older adults. Medicare and Medicaid have a Program of All-Inclusive Care for the Elderly (PACE), focused on caring for older adults in their communities rather than in inpatient care facilities.† California has its own PACE program (CalPACE),‡ and 31 PACE programs serve 22,000 older adults in 27 California counties. PACE programs provide comprehensive clinical and social services, many of which go beyond the bounds of traditional primary care. Examples of expansive services include physical therapy, durable medical equipment, home care, meal provision, and social programming. PACE programs are subject to extensive regulatory requirements and oversight. West Health published a toolkit for supporting organizations hoping to start a new PACE program, including navigating regulations.§

Another standard-setting program is the Age-Friendly Health Systems Recognition program, developed by the John A. Hartford Foundation and the Institute for Healthcare Improvement. This program is centered around the "4Ms: Medication, Mobility, what Matters, and Mentation."** In California, 53 outpatient practices have earned Level 1, "Participant recognition for committing to putting the 4Ms into practice," and 45 outpatient practices have earned Level 2, "Committed to Care Excellence recognition by reporting the number of older adults reached with the 3Ms over three months."††

Health systems are also testing new models of care for older adults with complex medical needs. One example is Grove Intensive Geriatric Primary Care in Santa Rosa. Grove is a Level 2 Age-Friendly Health System practice. Funded by Sutter, Grove started as a pilot program with a focus on avoiding unnecessary hospital care and on adapting care plans to patient preferences. The practice recruits patients in their last five to 10 years of life and uses end-of-life measures as part of its value demonstration (e.g., more deaths at home rather than in the hospital).

Grove uses a unique team care model and a schedule that prioritizes access to the care team. To serve 600 patients, the practice has 2.6 full-time equivalent (FTE) clinicians, 1.5 FTE licensed clinical social workers (providing clinic management, case management, medical social work, and therapy), and 4.0 FTE medical assistants responsible for panels of patients. Grove keeps a clinician on call 24/7 and reserves time in the schedule every day for same-day appointments. It offers virtual and home-based care and coordinates with specialists and families. Patients appreciate having this level of care, and Grove frequently has a wait list for accepting new patients.

Care that is responsive to the needs of older adults can reduce unnecessary hospital admissions and specialty care while meaningfully improving quality of life. However, practices like Grove require a large and highly qualified staff, supportive infrastructure, and tailored workforce training. A clinician and social worker team at Grove are developing an online curriculum to help teams deliver accessible care for older adults. They plan to use this curriculum and a fellowship program to spread the Grove model within Sutter. Other health systems would likely be interested in this training; two other practices that participated in interviews expressed a desire to offer targeted training on geriatric medicine to their care teams.

* *California's Master Plan for Aging* (PDF), California Department of Aging, January 2021.
† "Program of All-Inclusive Care for the Elderly," California Department of Health Care Services, accessed October 29, 2024.
‡ "CalPACE," California PACE Association, accessed October 29, 2024.
§ "Fast PACE Start-Up and Expansion Guide," West Health, March 14, 2024.
** "Age-Friendly Health Systems," Institute for Healthcare Improvement, accessed October 29, 2024.
†† "Age-Friendly Health Systems Recognized Health Care Sites," Institute for Healthcare Improvement, accessed October 29, 2024.

such as coordination or population management. This discourages the use of nurses, pharmacists, or social workers for proactive care, care management, or patient education. In contrast, capitated or hybrid value-based payment models can give practices the flexibility to deploy staff across a full range of primary care functions, from outreach to behavioral health integration. As California pursues payment reforms, it must consider how payment structures — when inadequate or misaligned — can distort the composition and sustainability of primary care teams, constraining their ability to meet patient and community needs.

California primary care practices face a large and persistent gap between aspirational workforce models and the realities of day-to-day operations.

A seminal study by Meyers and others in 2018 provides a detailed analysis of the team-based workforce needed to deliver high-quality, comprehensive primary care.[12] Using data from 73 exemplary practices, site visits, and expert input, the Meyers team developed staffing models tailored to diverse populations, including older adults, people with complex social needs, and rural communities. Building on this framework, the authors of this report interviewed a wide range of primary care practices across California and found that, universally, practices fell short of the recommended staffing levels and lacked the full range of team members needed to deliver comprehensive care

as envisioned. This shortfall was evident across all practice types — from large health systems and academic clinics to independent practices and FQHCs — where teams reported managing larger patient panels with fewer staff than recommended by the Meyers team. Recruitment and retention challenges were widespread, exacerbated by primary care jobs often paying less and being more complex than other jobs in health care. Available data show that many doctors of medicine (MDs), doctors of osteopathic medicine (DOs), physician assistants (PAs), and nurse practitioners (NPs) trained in primary care either do not provide direct patient care or practice in non–primary care settings such as hospitals (see the technical appendix).

Despite improvements resulting from California's major investments in the health workforce, primary care shortages and inequities persist.

California has significantly expanded its efforts to strengthen the health workforce, responding to long-standing gaps in access to care across the state. Since 2019 the state has followed a strategic blueprint developed by the California Future Health Workforce Commission, which calls for a $6 billion investment over 10 years.[13] In the 2023–24 fiscal year alone, California funded roughly 60 programs to recruit, train, and retain health care workers across fields such as nursing, behavioral health, allied health, and public health, with primary care included as a key focus area.[14] More than half of these programs are administered by the California Department of Health Care Access and Information (HCAI), with others managed across multiple state agencies and higher education institutions.[15] Although the state has made progress, primary care workforce shortages and maldistribution persist.

- **Primary care team members are unevenly distributed across the state.** More than one-quarter of Californians live in federally designated Primary Care Health Professional Shortage Areas, with regions such as the Inland Empire, Northern/Sierra, and San Joaquin Valley experiencing long-standing and persistent shortfalls.
- **The workforce is aging, and younger clinicians are less likely to enter primary care than in the past.** A significant portion of licensed primary care professionals are nearing retirement age, and available data show that younger clinicians — particularly NPs and PAs — are increasingly choosing non–primary care specialties.
- **Licensed team members do not reflect California's racial, ethnic, or linguistic diversity.** Although unlicensed roles such as MAs and CHWs tend to be more representative of California's population, licensed professionals — especially physicians, pharmacists, and behavioral health clinicians — remain disproportionately White and English speaking. People who are Latino/x, Black, and Asian are underrepresented in many licensed roles, and linguistic diversity is limited. This lack of concordance could undermine trust, communication, and quality of care.

Training for primary care team members remains siloed by discipline, with insufficient focus on primary care and interprofessional education.

Formal education for primary care roles is often discipline specific, offering limited opportunities for interprofessional learning. Due to the current practice landscape, many students graduate without exposure to high-functioning, team-based care environments or the kind of collaborative, community-oriented practice essential to the future of high-quality primary care. At the same time, the high cost of health professions education creates financial barriers for those pursuing careers in primary care, where lower compensation amplifies the burden of educational debt.

Innovators are developing creative delivery models that will affect the primary care team workforce, but California has no organized way to share their insights or scale best practices.

Across California, innovative, team-based primary care delivery models are emerging that will reshape the workforce in ways that are still unfolding. A variety of practice settings are experimenting with new approaches — integrating specialists into primary care teams, including using AI, outsourcing care team functions, optimizing care delivery to improve health for seniors, delivering culturally concordant care, and expanding primary care in the community (see the appendices). The best of these innovations engage a wide array of team members to deliver accessible, continuous, comprehensive, and coordinated primary care to a broad spectrum of patients, rather than offering fragmented solutions to narrow challenges (such as urgent care centers or vendor-based telehealth services) to improve access. Technical assistance infrastructure that helps primary care practices share and learn from one another would enable insights and innovations to positively affect more people and communities.

Optimizing the Primary Care Team Workforce in California: Policy Recommendations

Ensuring a sufficient and well-trained interprofessional primary care workforce depends on the coordinated actions of state policymakers, government agencies, health care purchasers and payers, health systems, academic institutions that educate and train the primary care workforce, and advocacy organizations committed to improving health care access and quality. This report presents six recommendations directed toward these key decisionmakers to optimize the team-based primary care workforce across the state. While some recommendations reflect California's long-standing priorities, others introduce new strategies and partnerships. What's new is not just the content but the consolidation of these efforts into a single cohesive, action-ready framework — each recommendation is paired with timely next steps to guide implementation.

Together, the six recommendations form a comprehensive plan to strengthen California's primary care workforce, with (1) improved data collection and reporting, (2) modernized payment models, (3) targeted pipeline development to enhance geographic distribution and workforce diversity, (4) consistent and relevant training, (5) supportive infrastructure for team-based care, and (6) effective retention strategies. Each recommendation includes a clear rationale, an illustrative "bright spot" showcasing an exemplary practice or policy, and "opportunities for action" offering concrete, timely steps for progress.

- **Recommendation 1.** Increase the availability of comprehensive workforce data for all members of the primary care team, including data on key demographic characteristics, time spent providing patient care, and rates at which new graduates work in primary care practices.
- **Recommendation 2.** Bolster primary care payment to ensure it is adequate, appropriately structured, and specifically allocated to support high-quality, team-based primary care.
- **Recommendation 3.** Continue to implement evidence-based policies to ensure California has sufficient numbers of primary care team members overall, to improve the geographic distribution of primary care team members, and to reflect the racial/ethnic and linguistic diversity of California's population.
- **Recommendation 4.** Ensure that all members of the primary care team receive high-quality education and training in interprofessional, team-based primary care.

- **Recommendation 5.** Establish a statewide technical assistance infrastructure to support the creation and maintenance of high-quality, team-based care structures and culture in all primary care practice settings.
- **Recommendation 6.** Support the retention of primary care team members through policies to reduce administrative burden, promote career ladders, and safeguard primary care practice models with high retention rates.

To support these recommendations and promote accountability, the authors endorse a three-part implementation approach that builds on existing efforts in California and draws inspiration from successful models across the nation (see the section "A Unified Effort to Advance Primary Care Policy Leadership and Accountability in California" on page 46.)

Table 2. Policy Recommendations and Actions to Strengthen Primary Care Teams in California

PROBLEM	RECOMMENDATION	EXAMPLES OF OPPORTUNITIES FOR ACTION
Lack of comprehensive, consistent data on California's primary care workforce, especially for unlicensed team members such as MAs and CHWs, limits evidence-based planning and investment.	**Recommendation 1.** Increase the availability of comprehensive workforce data for all members of the primary care team, including data on key demographic characteristics, time spent providing patient care, and rates at which new graduates work in primary care practices.	▸ Explore the feasibility of expanding ongoing data collection activities to include MAs, CHWs, and other unlicensed staff. ▸ Revise survey questions to better identify clinicians working in primary care. ▸ Require programs such as Song-Brown to track and report graduates working in primary care. ▸ Use claims data to complement self-reported licensure renewal survey data. ▸ Enhance dissemination of workforce data and visualizations via HCAI's Research and Data Center.
Primary care payment remains inadequate, and misaligned, limiting the ability of practices to build and sustain interprofessional teams.	**Recommendation 2.** Bolster primary care payment to ensure it is adequate, appropriately structured, and specifically allocated to support high-quality, team-based primary care.	▸ Increase California's investment in primary care in alignment with the California Office of Health Care Affordability's 15% target. ▸ Maintain Medi-Cal payment rates to primary care. ▸ Simplify and align value-based payment models across payers. ▸ Allow same-day billing for physical and behavioral health visits at FQHCs. ▸ Increase reimbursement for CHWs and pharmacists in primary care. ▸ Develop and test mechanisms to ensure additional investments reach full-scope primary care practices.

PROBLEM	RECOMMENDATION	EXAMPLES OF OPPORTUNITIES FOR ACTION
Persistent workforce shortages, uneven geographic distribution, and lack of diversity continue to limit access and equity in primary care.	**Recommendation 3.** Continue to implement evidence-based policies to ensure California has sufficient numbers of primary care team members overall, to improve the geographic distribution of primary care team members, and to reflect the racial/ethnic and linguistic diversity of California's population.	▸ Sustain and expand CalMedForce and Song-Brown funding for training in primary care specialties. ▸ Invest in programs that enable students to complete their education more quickly. ▸ Expand pipeline and apprenticeship programs for rural and underserved regions. ▸ Provide scholarships and loan repayment for primary care service in shortage areas, especially rural areas. ▸ Invest in pathway programs for students from historically excluded groups. ▸ Prioritize funding for programs that enhance linguistic and cultural concordance, such as the UCLA International Medical Graduate Program and the Licensed Physicians from Mexico Pilot Program.
Education and training for team-based primary care remain siloed, with inconsistent interprofessional learning and limited exposure to high-functioning primary care teams.	**Recommendation 4.** Ensure that all members of the primary care team receive high-quality education and training in interprofessional, team-based primary care.	▸ Integrate strong primary care education into all relevant health profession programs. ▸ Expand access to clinical placements in primary care settings. ▸ Support and retain primary care faculty with reimbursement enhancements, tax incentives, and competitive compensation. ▸ Fund and implement postgraduate residencies for RNs, NPs, PAs, and pharmacists. ▸ Develop and fund interprofessional education demonstration projects to foster and scale innovation.
Established practices lack structured support to implement and sustain high-quality team-based care, and existing technical assistance efforts are fragmented.	**Recommendation 5.** Establish a statewide technical assistance infrastructure to support the creation and maintenance of high-quality, team-based care structures and culture in all primary care practice settings.	▸ Develop a business model for a statewide primary care extension service to align technical assistance across initiatives. ▸ Explore state-based funding mechanisms, including allocating future penalties and undertakings or developing a trust.
High turnover and burnout threaten primary care team stability, driven by administrative burden, limited career advancement, and fragile independent practices.	**Recommendation 6.** Support the retention of primary care team members through policies to reduce administrative burden, promote career ladders, and safeguard primary care practice models with high retention rates.	▸ Reduce administrative burden by simplifying reporting and aligning payer requirements. ▸ Promote data interoperability and leverage AI tools to reduce documentation workload. ▸ Fund career ladders and upskilling for MAs, LVNs, RNs, and CHWs. ▸ Support independent and clinician-owned practices — which tend to retain staff better than health system–owned practices. ▸ Leverage health plans to scale retention innovations.

Source: Authors' analysis and recommendations, 2026.

Policy Recommendations

Recommendation 1.

Increase the availability of comprehensive workforce data for all members of the primary care team, including data on key demographic characteristics, time spent providing patient care, and rates at which new graduates work in primary care practices.

Policymakers and government agencies in California need comprehensive data for all members of the primary care team to effectively allocate resources for primary care workforce development. Colleges and universities that educate and train the primary care team workforce also need comprehensive primary care workforce data to make sound decisions about the numbers and types of primary care providers to educate. In addition, comprehensive data help health care purchasers, payers, and systems better understand the labor market for primary care team members and can inform their strategic investments in workforce development.

Although licensing boards and HCAI have made great strides in expanding the collection of health workforce data in recent years through licensing renewal surveys (see the following Bright Spot on page 18), these efforts are limited to licensed professions. They do not capture MAs or other members of primary care teams (Table 3).

Table 3. Types of Workforce Data Collected by the California State Government

	DATA ELEMENTS					
PROFESSION	Demographics (Age, Gender, Race/Ethnicity)	Languages Spoken Well Enough to Serve Clients	Geographic Location of Clinical Practice (Primary and Secondary)	Time Spent Providing Patient Care (Including Telehealth)	Primary Care Specialty	Practice in a Primary Care Setting
Doctor of medicine (MD)	X	X	X	X	X	
Doctor of osteopathic medicine (DO)	X	X	X	X	X	
Nurse practitioner (NP)	X	X	X	X	X	
Physician assistant (PA)	X	X	X	X	X	
Registered nurse (RN)	X	X	X	X	X	
Licensed vocational nurse (LVN)	X	X	X	X	X	
Medical assistant (MA)						

	DATA ELEMENTS					
PROFESSION	Demographics (Age, Gender, Race/Ethnicity)	Languages Spoken Well Enough to Serve Clients	Geographic Location of Clinical Practice (Primary and Secondary)	Time Spent Providing Patient Care (Including Telehealth)	Primary Care Specialty	Practice in a Primary Care Setting
Community health worker (CHW)						
Licensed clinical social worker (LCSW)	X	X	X	X		
Licensed marriage and family therapist (LMFT), licensed professional clinical counselor (LPCC)	X	X	X	X		
Licensed psychologist	X	X	X	X		
Pharmacist	X	X	X	X		

Source: *HCAI Health Workforce License Renewal Survey* (PDF), HCAI, 2023.

Collecting and analyzing data on MAs and community health workers/*promotores* (CHW/Ps) is especially important because they play key roles on primary care teams. A study of exemplary primary care practices nationwide found that MAs outnumber physicians, NPs, and PAs in the primary care practices studied and perform a range of functions, including assisting with patient visits, care coordination and referral management, and patient self-management.[16] A review of 30 studies of CHW/Ps in primary care practices revealed that they play major roles in the provision of clinical services, connection to community resources, and health education and coaching.[17]

Despite the important contributions of MAs, CHW/Ps, and other types of unlicensed primary care team members, little is known about their supply, distribution, and characteristics in primary care practices. The California state government does not collect data on unlicensed members of the primary care team. The only national sources of data — the US Census Bureau's American Community Survey and the Bureau of Labor Statistics' Occupational Employment and Wage Survey — do not distinguish between MAs and CHW/Ps working in primary care practices from those working in other settings. In addition, MAs and CHW/Ps work in positions that have a variety of job titles, which compounds the difficulty in enumerating them. Collecting data on MAs and CHW/Ps by mechanisms other than surveys of the general population or employers is difficult because they are not required to be licensed or certified, so there is no mechanism to routinely contact them to gather information.

There are also opportunities to improve the licensure renewal survey. The survey questionnaire is not

optimized to identify licensed professionals who practice in primary care settings. Although the survey includes a question on whether respondents' area of practice is a primary care specialty (such as family medicine, internal medicine, pediatrics, or geriatrics for MDs, DOs, and PAs or adult, health, family health, or pediatrics/child health for NPs), an MD, DO, PA, or NP who indicates that their main area of practice is a primary care specialty does not necessarily provide full-scope primary care in an outpatient setting. For example, NPs trained as family NPs may work in specialty practices. The licensure renewal survey also contains a question about practice settings, but the response options do not adequately distinguish between primary care and non–primary care settings. For example, respondents may indicate that they work in an academic institution, government institution, or a private group practice but not whether they provide primary care in those settings. These limitations are especially important for PAs and NPs because growing numbers of them are choosing to work in specialty care, such as cardiology or orthopedics, and because they are more likely than physicians to transition to specialty practice over the course of their careers.[18] In addition, the response options prevent identification of registered nurses (RNs), licensed vocational nurses (LVNs), and pharmacists whose primary practice location is a primary care practice rather than an outpatient specialty practice.

Limitations in the availability of data on trainees in primary care professions and graduates of these programs also restrict knowledge of California's primary care workforce and make it difficult to conduct evidence-based planning and assessment of workforce policies and programs. Data on the percentages of graduates from graduate medical education (GME) programs in primary care specialties and NP and PA education programs who go on to provide primary care are not routinely collected for all graduates, which prevents accurate estimation of the number of new primary care physicians, PAs, and NPs entering the workforce. Data on the settings in which residents and students are trained are also not routinely collected. Such information would provide insights into the extent to which residents and students are trained in primary care practices and exposed to interdisciplinary primary care teams. Ideally, graduates of educational programs for primary care team members would be tracked over time to assess where they practice and whether they remain in primary care, but achieving this goal is difficult, in part due to privacy concerns.

The release of California's all-payer claims database, the Health Care Payments Database,[19] creates a new opportunity to augment self-reported data from primary care clinicians with data about the services they provide. Analysis of claims data can help refine estimates of the number of MDs, DOs, NPs, and PAs who provide primary care in California and the amount of patient care they provide. Claims data can also shed light on the extent to which clinicians in primary care specialties are providing a full scope of primary care services. Claims data could also provide information about services provided by CHW/Ps and other unlicensed primary care team members if payment or reporting requirements are structured such that claims data capture the work these team members do when they "touch" a patient, such as providing case management or health education. Due to the major role that Federally Qualified Health Centers (FQHCs) and other licensed primary care clinics play in the provision of primary care to Medi-Cal enrollees and uninsured Californians, analysis of sources of data on staffing in these settings can also provide important insights into the primary care workforce. Licensed clinics in California are required to submit data on utilization and staffing to HCAI annually. Metrics include staffing levels for RNs, LVNs, MAs, and master's level behavioral health clinicians.[20] FQHCs and FQHC Look-Alikes are also required to report data to the federal Health Resources and Services Administration's Health Center Program

Uniform Data System regarding staffing levels and numbers of trainees in a wide range of occupations represented on primary care teams.[21]

Note that collection and analysis of data alone is insufficient for improving understanding of California's primary care workforce and addressing its needs. Data must be accessible to policymakers and leaders of colleges and universities that educate the primary care team workforce, as well as to health care purchasers, payers, and health care systems. HCAI's website contains data visualizations of licensure renewal survey data for some key health workforce topics, such as race/ethnicity and languages spoken, but does not yet feature visualizations for other equally compelling topics, such as specialty distribution and practice setting.

In addition, HCAI's ability to share data from the licensure renewal survey is constrained by A.B. 133, the legislation that mandated the licensure renewal survey. A.B. 133 prohibits HCAI from releasing licensee-level data to researchers. As a consequence, researchers must rely on HCAI staff to analyze data and release aggregated findings. This restriction reflects a legitimate need to protect the privacy of licensees but slows the pace at which findings can be released and limits opportunities to conduct innovative research on licensed primary care clinicians in California. In contrast, HCAI has established procedures for releasing confidential person-level data on inpatient discharges, emergency department visits, and health insurance claims.[22]

Bright Spot

California Assembly Bill 133 (2021) established the California Health Workforce Research and Data Center (RDC) within HCAI to serve as a central source of information about California's health workforce and health professions education.[23] RDC collaborates with the California Employment Development Department, licensing boards, and higher education institutions to collect data on the supply, labor force participation, specialty distribution, geographic distribution, and demographic characteristics of California's health care workers. These data are used to forecast demand for health care workers and to assess the capacity of higher education institutions in California to produce enough health care workers to meet Californians' needs.[24] Since 2023, HCAI has submitted an annual report[25] to the state legislature on RDC's work and has also produced several data visualizations and data sets on the race/ethnicity, languages spoken, and educational pathways of California's health care workers. HCAI has also contracted with a vendor to generate projections of supply and demand for nursing and behavioral health professionals and plans to generate similar projections for California's primary care workforce.[26]

One of RDC's most important activities is partnering with boards that license health professionals to administer a mandatory survey to licensees in conjunction with their licensure renewal, which typically occurs every two years. A standardized survey was developed to collect data on multiple demographic, education, and labor force participation characteristics specified in California Business and Professions Code Section 502.[27] The use of a standardized survey facilitates direct comparisons across professions, which sheds light on similarities and differences. Licensing boards began administering the standardized survey in July 2022 and forwarding the data to RDC for analysis. Although there are opportunities to improve the survey, it represents a big step forward in collecting the data needed to characterize the primary care workforce in California, identify gaps in the supply and geographic distribution of primary care clinicians, and assess concordance with the linguistic and racial/ethnic characteristics of California's population.

Opportunities for Action

Collecting and publishing comprehensive data on the primary care team workforce is an essential prerequisite for monitoring impact and making adjustments to policies such as payment (Recommendation 2), workforce development (Recommendation 3), and level and type of resources to support practice culture (Recommendation 5). Specific opportunities for action on data include the following.

Improve Licensure Renewal Surveys

HCAI and licensing boards can make the following enhancements to the collection and analysis of data from licensure renewal surveys completed by primary care team members under existing statutory authority:[28]

- Revise licensing surveys for all relevant health professionals to facilitate identification of members of primary care teams. Specifically:
  - Modify the response options to the survey question about primary practice settings to distinguish clinicians who work in primary care practices in academic institutions, government institutions, hospital outpatient departments, and private group practices from those who work in specialty care practices in these types of settings (e.g., offices of specialist physicians or infusion centers).
  - For physicians, NPs, and PAs, add a question about whether providing primary care is their main professional activity.

Examine Other Sources of Data

- HCAI could augment the collection of labor force participation data, currently achieved through licensure renewal surveys, by analyzing claims and encounter data, which provide more details on the volume and types of services provided by primary care team members and the extent to which clinicians in primary care specialties provide primary care services.
- HCAI could partner with the California Department of Health Care Services (DHCS) to assess how claims data could be improved to support the collection of health workforce data, especially data on the provision of primary care services (e.g., case management, health education) by CHW/Ps, MAs, and other unlicensed members of the primary care team. HCAI or researchers could analyze HCAI's data on licensed primary care clinics or the US Health Resources and Services Administration's data on FQHCs and FQHC Look-Alikes to assess staffing levels and the mix of primary care team members in clinics that primarily serve Medi-Cal enrollees and uninsured Californians.

Explore the Feasibility of Creating New Sources of Data

- HCAI could partner with philanthropy to assess the feasibility of collecting and analyzing data on the supply, geographic distribution, and demographic characteristics of MAs, CHW/Ps, and other unlicensed members of primary care teams and to assess trends in supply and demand for these types of team members. Topics for consideration could include designing data collection methods, budget and staffing requirements, and securing statutory authority.

Augment Accountability Reporting

- As part of its plan to analyze data to better understand the capacity and throughput of health professions education programs in California and the demographic characteristics of graduates, HCAI could routinely analyze and report data from existing sources (e.g., Accreditation Council for Graduate Medical Education, American Association of Colleges of Osteopathic Medicine, Association of American Medical Colleges, Board of Registered Nursing, Integrated Postsecondary Education Data Systems) on the number of graduates of GME programs for primary care specialties and the

number of graduates from degree programs for other primary care team members.[29]

- The Song-Brown Family Nurse Practitioner and Physician Assistant Program could require grantees to report the proportion of their graduates working in primary care five years after graduation. Song-Brown already requires GME programs that participate in its primary care residency program to report this information, as does CalMedForce, another state program that provides grants to GME programs in primary care specialties. Collecting information on graduates of NP and PA programs that receive Song-Brown funding would (1) provide additional details on graduates' impact on the primary care workforce and (2) facilitate comparison of their contributions to the GME programs' Song-Brown funds.

Improve Dissemination of Data

- To help policymakers, educators, employers, and the media better understand California's primary care workforce and to inform decisions about investments in primary care workforce development, HCAI could expand the dissemination of data on California's primary care workforce and graduates of educational programs for primary care team members via additional data visualizations and downloadable data sets.
- Legislation could be enacted that would amend Business and Professions Code Section 502 to permit HCAI to develop policies and procedures to make confidential, licensee-level data available to researchers in a manner that protects licensees' privacy.

Recommendation 2.

Bolster primary care payment to ensure it is adequate, appropriately structured, and specifically allocated to support high-quality, team-based primary care.

Bolstering primary care payment is fundamental to any attempt to build and sustain a robust interprofessional workforce in primary care. As the National Academies note in a recent report, "to build and sustain interprofessional primary care teams . . . the nation must first address the insufficient way that primary care is paid for." Specifically, the National Academies highlight the importance of addressing labor economics, including the implications of low pay for primary care physicians relative to specialists and limited care team salaries and staffing due to tight financial margins in primary care.[30] California has done more than many states to try to address these issues, including a recent policy change to increase Medi-Cal reimbursement rates for primary care to 87.5% of Medicare as of January 2024,[31] and to establish a $25 per hour minimum wage for health care workers through Senate Bill 525, among others. And yet interviewees repeatedly elevated that reimbursement was insufficient to fund the hiring and retention of licensed and unlicensed team members who could support the full functions of primary care, especially in small practices (see Table 1 on page 7). Even in today's cost constrained environment where new health care investment is unlikely, California must prioritize primary care payment to enhance population health and health equity.

In California's complex payment environment, there are no simple, single-point solutions to bolster primary care payment. Fostering robust and sustainable primary care teams will require a multifaceted approach to financing that ensures (1) overall investment in primary care is adequate, (2) funding is appropriately structured to ensure all the functions of primary care are valued, and (3) dollars are allocated in a way that explicitly supports high-quality, team-based primary care.

Adequate Overall Investment in Primary Care

The overall investment in primary care is insufficient. California invests 7% of its health care dollars in primary care, in contrast to the 14% average primary care investment across Organisation for Economic Co-operation and Development countries.[32] This underinvestment strains the primary care workforce, which provides 35% of health care visits and is the usual point of entry to the health care system.[33] Low primary care investment is particularly detrimental for marginalized communities, which face disproportionate access challenges and health risks due to social and environmental factors. Research from CHCF confirms a significant direct relationship between primary care spending and quality outcomes, suggesting that more substantial, targeted investments are required to bridge the many known health equity gaps across the state. Ambitious targets, such as the California Office of Health Care Affordability's goal of increasing primary care spending to 15% by 2034, are therefore not just aspirational but critical to ensuring health and well-being for all Californians.[34]

Public reporting on California's primary care spending will begin in 2026, based on thoughtful work by the Office of Health Care Affordability (PDF) and others to define primary care providers, services, and settings.[35] Ongoing, transparent reporting on primary care spending is key to creating functional investment in primary care.

Another important part of ensuring adequate spending is preserving or increasing reimbursement rates for primary care. This will be an especially important focus for Medi-Cal, given that the 2025 Budget Reconciliation Act includes a projected $1 trillion in federal Medicaid cuts over 10 years, along with cuts in subsidies that will reduce participation in health insurance exchanges.[36] In this challenging financial environment, it is worth noting that primary care is the only health care component for which an increased supply is associated with better population health and more equitable outcomes.[37]

Appropriately Structured Reimbursement

In addition to adequate funding, the payment structure itself must evolve from solely rewarding a high volume of patient encounters to enabling value-based care supported by the team. Much has been written about the value of transitioning away from fee-for-service reimbursement, often based on relative value units, toward hybrid or capitated payment models — or even single payer approaches for primary care.[38] In all these models, the aim is the same: to build a payment structure that supports all team-based activities needed to manage patient populations, including collaborative meetings, proactive patient outreach, and integrated care planning, in addition to in-person visits.[39] To advance the interprofessional workforce, the National Academies advocate for enhanced fee-for-service payment plus a prospective payment component sufficient to cover the full array of primary care functions and related administrative activities.[40] This approach explicitly moves away from narrow value-based pay approaches focused on improving a single disease metric to comprehensive payment reform that builds and sustains primary care capacity.

A prospective payment mechanism supports team-based care by creating flexibility for the practice to adjust its staffing and workflows to achieve better clinical outcomes. This flexibility means that, for example, nurses, pharmacists, community health workers, and others can be more fully utilized to manage chronic illness care, including supporting self-management, or reconciling medications, providing meaningful clinical care for the patient outside of interactions with physicians, NPs, and PAs. If the prospective payment is more than the fee-for-service payment, it also gives primary care practices additional resources to attract new team members and build infrastructure to do the

non-claims-based work of coordinating referrals, looking at data to identify gaps in care, or supporting patient self-management skills. Like the National Academies of Sciences, Engineering, and Medicine guidance, California's Office of Health Care Affordability emphasizes the importance of prospective payment models. But it goes further, describing 10 standards for payer-provider contracting that include additional, more specific guidance about investing in accurate, actionable data and a call to invest in strategies to address inequities in access and health outcomes.[41]

Even so, the uptake of value-based pay models in primary care has been slow due to the significant complexity of contracting, lack of additional funds, and enhanced infrastructure and data requirements needed to participate that many practices simply do not have.[42] In California, where 10% of primary care visits are delivered in small practices with fewer than three full-time providers, ensuring additional dollars are brought to the table and simplifying value-based pay contracting requirements — including aligning requirements across multiple payers when possible — are important to move the aspirations of value-based pay from theory to practice.[43]

A recent instructive example of how contracting and payment complexities limit the participation of primary care practices in value-based pay arrangements is the low uptake of California's Alternative Payment Model 2.0 (APM) demonstration among FQHCs. Most FQHCs opted out of the first wave of APM 2.0 due to a lack of confidence that they would receive additional — or in some cases, even equivalent — revenue. This uncertainty was furthered by site-specific patient assignment requirements and care provision thresholds. Taken together, the details of the program design had a significant impact on the cost-benefit analysis for practices, especially smaller practices. As of fall 2025, only two FQHCs are participating in APM 2.0, and the California Department of Health Care Services has paused further implementation.

Intentionally Allocating Funds to Support Teams

In addition to adequate funding and flexible primary care reimbursement to cover nonbillable services, it is important for the future of the interprofessional workforce that payment changes are explicitly tailored to support primary care teamwork and taskwork, including the following:

- Removing administrative roadblocks to payment for team-based care, such as the prohibition against reimbursement for medical and mental health services on the same day in FQHCs in California, one of only three states with this limitation. Prohibiting same-day billing leads to challenges in implementing evidence-based, integrated behavioral health care.[44]
- In the context of a hybrid payment model, broadening the types of providers who can receive robust fee-for-service reimbursement to include those whose contributions are evidence-based. Progress on this front, such as including CHWs and doulas as billable providers under CalAIM, is exciting. However, low reimbursement rates and the inability of specific practice settings such as FQHCs to draw on this funding leave critical functions, such as screening and referral for social needs, unfunded and underdeveloped. In addition, California should extend the requirement that health plans reimburse pharmacists for services within their scope of practice, which is currently limited to pharmacists who practice in pharmacies, to include pharmacists who are embedded in primary care practices and who can use their expertise in medication management to support patients with complex medication regimens for chronic conditions.[45]
- Ensuring primary care payments flow to frontline primary care practices. In California's delegated

health care landscape, funds for primary care often flow through independent practice associations, accountable care organizations, and large corporate health system administrators before reaching the place where care teams interact with patients. Health plans sometimes invest in narrow solutions, such as vendor-based telehealth services, to address challenges such as access barriers rather than investing those dollars in full-scope primary care practices. In addition, new health care start-ups and for-profit consolidation can fragment primary care investment by diverting funds to shareholders and investors.[46] Ensuring that additional primary care investment does indeed bolster the foundation of primary care is both challenging and increasingly important.

- Crafting career ladders, compensation, and quality incentives to reward team-based care. For example, few pay-for-performance schemes are directed toward team performance rather than individual clinician performance.[47] Including team members as an explicit part of improving care outcomes — and paying them accordingly — is one way of recognizing and remunerating team members who provide important clinical care. These incentives can also reinforce efforts such as ensuring competitive pay and building career ladders for roles such as NPs and RNs, who often make more in inpatient settings than in primary care, and MAs, who often weigh lower-stress, higher-pay job opportunities outside of health care.[48]

Bright Spot

California's largest public purchasers are the California Department of Health Care Services, Covered California, and CalPERS (California Public Employees' Retirement System). Together, they insure 18 million Californians and have worked to align and strengthen their contract provisions related to primary care investment (PDF), including reporting on and increasing primary care spending and increasing adoption of value-based payment models. This alignment significantly advances primary care investment by creating shared priorities for payers, including Medi-Cal managed care plans and commercial payers. Multipayer alignment has the added benefit of streamlining the administrative requirements for primary care practices to report on care quality and to receive payment. The California Advanced Primary Care Initiative, a collaboration between the Integrated Healthcare Association (IHA) and California Quality Collaborative (CQC), aligns with these priorities. IHA and CQC convened a coalition of large commercial health care payers who signed a memorandum of understanding demonstrating their commitment to shared standards and goals for primary care investment. Current signatories include Aetna, Blue Shield of California, and Health Net. The memorandum includes commitments to (1) report on primary care investments using standard measurements; (2) move toward adoption of a value-based payment model, including use of the Advanced Primary Care Measure Set for performance-based payments; (3) increase primary care investment without increasing the total costs of care; and (4) explore opportunities to support primary care practice transformation. These multipayer collaborations and commitments to alignment represent a big step toward adequately funding the work of primary care teams.

Opportunities for Action

Significant and ongoing federal and state budget dynamics have led to a $16 billion reduction in state revenue.[49] Simultaneously, due to H.R. 1, up to 3.4 million Californians are at risk of losing Medi-Cal coverage, and the insurance marketplace, Covered California, is projected to become more expensive.[50] In this resource-constrained context, new investments in reimbursement are unlikely. However, the evidence on primary care and team-based care is clear, and enhanced investment in primary care undergirds all the recommendations in this report. As the National Academies of Sciences, Engineering, and Medicine state: "The

accurate valuation of, and payment for primary care can enable effective recruitment, training, and the scalable transformation of the primary care workforce."[51] California must prioritize bolstering primary care payment — even without federal investment — to enhance population health and health equity. Opportunities for action include the following:

Adequacy of Investment in Primary Care

- Payers and health plans should work toward achieving the 15% target for primary care spending by 2034 recommended by the California Office of Health Care Affordability (OHCA), even amid ongoing cost containment pressures. It is essential that health plans leverage every available tool to direct payments toward high-quality, team-based primary care. A critical step is reassessing and reallocating existing expenditures — particularly those tied to low-value areas such as excessive administrative overhead.[52] To guide this shift, a multistakeholder group of purchasers and plans is developing a road map of high-impact strategies for increasing primary care investment. Public and private funders should support efforts to evaluate the extent to which these strategies are adopted and proven effective in strengthening primary care delivery.
- California should maintain already low Medi-Cal payment rates to primary care, even in the face of program cuts. California voters want and need a viable Medi-Cal program, as evidenced by their support of Proposition 35 in 2024.[53] And with more than 14.9 million Californians enrolled in Medi-Cal, its financial well-being is critical for the future of primary care.[54]

Appropriately Structured Reimbursement

- Payers and health plans should simplify value-based payment approaches to account for the variety of primary care models in California, including small practices, safety-net practices, and those with limited capacity or infrastructure. Aligning across payers, plans, and independent practice associations; codeveloping model contracts with practices; prospectively investing in data infrastructure; and providing technical assistance would facilitate participation and reduce costs for primary care practices. A good place to start for future efforts would be with OHCA's APM implementation guidance.
- As public reporting on primary care spending begins, payers and health plans should continue to review and refine how they pay for primary care to ensure all functions of primary care are reimbursed. OHCA's methodology on primary care spending could help identify gaps in the availability and use of certain codes.

Intentionally Allocating Funds to Support Teams

- California should prioritize previous recommendations to address known barriers to team-based care by (1) enabling reimbursement for same-day mental and physical health visits in FQHCs; (2) increasing CHW fee-for-service reimbursement rates and enabling all provider types, including FQHCs, to use them; and (3) requiring health plans to reimburse pharmacists working in primary care practices for services within their scope of practice.
- OHCA should develop and test mechanisms to ensure any new primary care investments flow directly to practices offering full-scope primary care. Cross-state learning could help identify best practices.
- Health systems should enhance salaries for critical roles such as MAs and design pay-for-performance programs that reward the team, rather than individuals, for achieving improved health outcomes.

Recommendation 3.

Continue to implement evidence-based policies to (1) ensure California has sufficient numbers of primary care team members overall, (2) improve the geographic distribution of primary care team members, and (3) reflect the racial/ethnic and linguistic diversity of California's population.

Overall Supply of Primary Care Team Members

Limitations in data collection regarding primary care team members in California make it difficult to assess whether the state will have enough workers to meet future demand for primary care (see Recommendation 1 on page 15).

California has had a long-standing shortage of primary care clinicians, and the analyses conducted for this report suggest this shortage will persist unless action is taken (see the technical appendix). One reason is that some physicians, PAs, and NPs in primary care specialties do not devote the majority of their time to providing primary care services. (See Table 4.) Only two-thirds of physicians, PAs, and NPs in primary care specialties provide patient care in outpatient settings 20 or more hours per week.

Table 4. Primary Care Clinicians in California by Hours Providing Primary Care, 2024

PROFESSION	# OF ACTIVE LICENSES	# OF ACTIVE LICENSES, PRACTICE IN SETTING OTHER THAN INPATIENT, ED, OR URGENT CARE SETTING (% OF ACTIVE LICENSES)	# PROVIDING PATIENT CARE ≥1 HOUR/WEEK, NOT PRACTICING IN INPATIENT, ED, OR URGENT CARE SETTING (% OF ACTIVE LICENSES)	# PROVIDING PATIENT CARE ≥20 HOURS/WEEK, NOT PRACTICING IN INPATIENT, ED, OR URGENT CARE SETTING (% OF ACTIVE LICENSES)
Primary care physicians (MDs)	43,402	35,054 (81%)	34,009 (78%)	28,122 (65%)
Primary care physicians (DOs)	5,892	4,488 (76%)	4,442 (75%)	4,078 (69%)
Primary care PAs	4,610	4,328 (94%)	4,276 (93%)	3,880 (84%)
Primary care NPs	13,427	11,861 (88%)	11,569 (86%)	9,854 (73%)
Total	**67,331**	**55,731 (82%)**	**54,296 (81%)**	**45,934 (68%)**

Source: Custom data request, California Department of Health Care Access and Information, received November 8, 2024.

In addition, 15% of primary care physicians who provide patient care 20 or more hours per week are age 65 and older.[55] Over the coming decade, many of them will leave the workforce or reduce their work hours, and the number of newly licensed primary care physicians entering California's workforce will not be adequate to replace all who leave or reduce their hours unless the number of new licensees that provides primary care services increases substantially. Only 34% of MDs with active California licenses in 2024 were in primary care specialties (i.e., family medicine, general internal medicine, general pediatrics, geriatrics) and only 51% of DOs with active California licenses.[56] The best estimate from projections of supply and demand for primary care physicians generated for this report suggests that California will have a shortage of 7,229 primary care physicians in 2035.

In contrast, the analyses suggest that California will have enough primary care NPs and PAs to maintain current ratios to population, largely because NPs and PAs tend to be younger than primary care physicians. The best estimate from projections of supply and demand for primary care physicians generated for this report suggests that California will have 4,265 more NPs and PAs providing primary care in 2035 than the number needed to meet demand. However, this finding should be interpreted with caution because the estimated supplies of primary care NPs and PAs may be inflated due to data limitations, especially the inability to distinguish between (1) NPs and PAs who report that their specialty is primary care and work in a primary care practice and (2) those who report that their specialty is primary care and work in specialty care practices. In addition, younger NPs and PAs are less likely to practice in primary care specialties than older NPs and PAs. Thirty-three percent of NPs under age 35 report that they are in primary care specialties versus 44% of NPs age 65 and older, and 23% of PAs under age 35 are in primary care specialties versus 52% of PAs age 65 and older.[57] PAs and NPs also change the specialties in which they practice throughout their careers; PAs and NPs who begin their careers in primary care practices may move to specialty practices later in their careers.[58]

Conclusions about the adequacy of supply cannot be drawn for other primary care team members due to the limitations of existing data collection efforts (see Recommendation 1 on page 15). For example, response options for California's licensure renewal survey do not distinguish RNs who work in primary care practices from those who work in specialty outpatient practices. Response options for behavioral health clinicians do not adequately distinguish between those working in primary care practices and those working in specialty behavioral health settings. However, available data do indicate that 16% of licensed marriage and family therapists and 22% of licensed psychologists who provide patient care 20 or more hours per week are age 65 and older, raising concerns about the future availability of these types of behavioral health professionals to participate in primary care teams.[59] In addition, California does not collect data on unlicensed primary care team members.

Geographic Distribution of Primary Care Team Members

California's primary care workforce is not evenly distributed across the state. More than one-quarter of California's population lives in a federally designated Primary Care Health Professional Shortage Area (HPSA). Regions with high or low supplies of one type of primary care clinician usually have a similar supply of other types of primary care clinicians, with the exception of PAs. See Figure 1 and Figure 2 on the next page. Access to primary care physicians is especially challenging in the Northern/Sierra region because it has the lowest concentrations of primary care clinicians and the oldest primary care physician workforce. This region also has low supplies of nurses (RNs and LVNs), pharmacists, and behavioral health professionals per capita relative to other regions of California. The Inland Empire and San Joaquin Valley regions have shortages of primary care clinicians, pharmacists, and behavioral health professionals.[60] The Central Coast has low supplies of primary care clinicians, nurses, and pharmacists. In regions where supplies of RNs, pharmacists, and behavioral health professionals are limited, primary care practices have difficulty implementing team-based care.

Figure 1. Distribution of Primary Care MDs and DOs per 100k Population

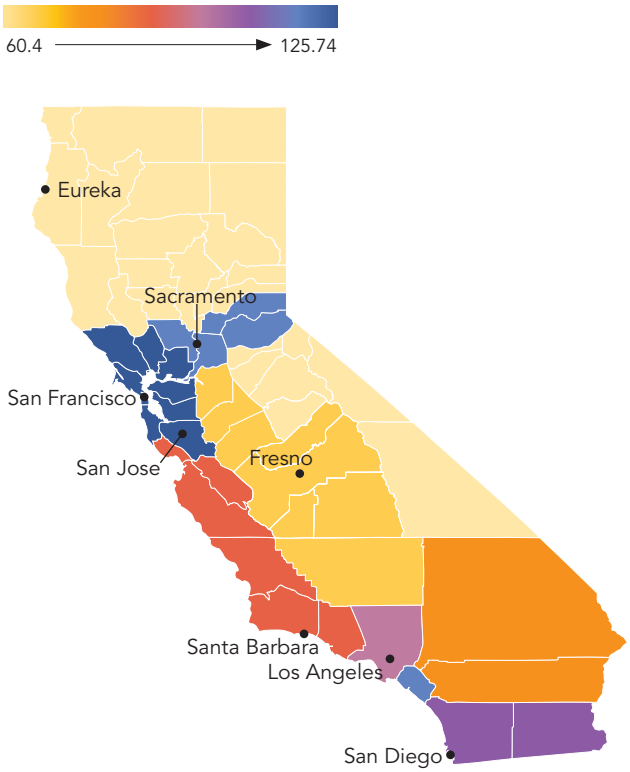
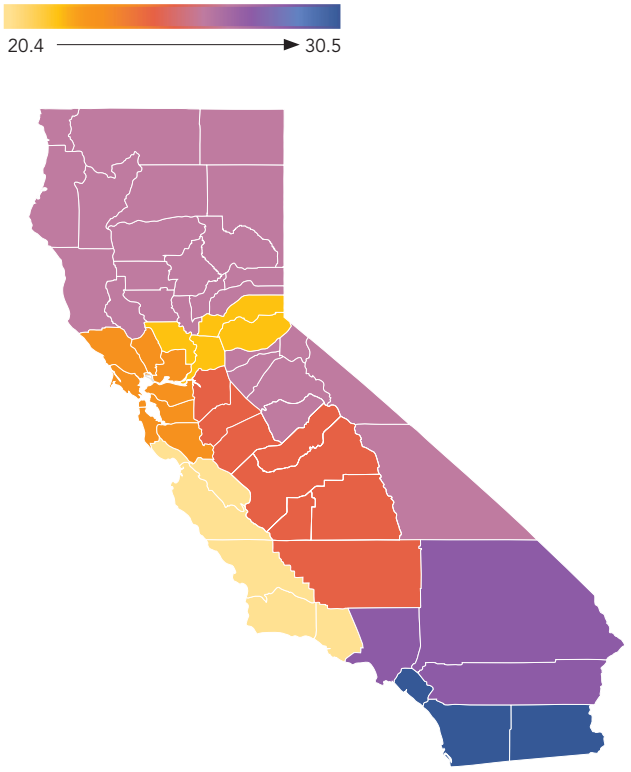


Figure 2. Distribution of Primary Care Nurse Practitioners per 100k Population



Sources: Custom data request, California Department of Health Care Access and Information, received November 8, 2024; State of California, Department of Finance, E-1 Population Estimates for Cities, Counties and the State with Annual Percent Change — January 1, 2024 and 2025. Sacramento, California, May 2025.

Racial/Ethnic and Linguistic Diversity of Primary Care Team Members

California's MAs and CHW/Ps are racially, ethnically, and linguistically diverse, but licensed primary care team members do not reflect the diversity of California's population. Latinos/x are underrepresented across all licensed primary care team members relative to their share of the state's population (40%), and their underrepresentation is most pronounced among physicians and pharmacists (12% of primary care MDs, 6% of primary care DOs, and 4% of pharmacists). Black people are underrepresented among physicians, RNs, psychologists, and pharmacists. Asian people are underrepresented among licensed behavioral health clinicians.[61] Increasing the numbers of licensed primary care clinicians from these and other historically and systematically excluded racial/ethnic groups would increase opportunities for racial/ethnic concordance between health professionals and patients, which has been shown to increase trust and satisfaction and, in some cases, improve care.

Increasing the number of primary care clinicians who speaks a language other than English is also important because linguistic concordance with patients decreases miscommunication and dependence on interpreters and translation.[62] The percentage of primary care clinicians who speak a language other than English ranges widely across professions. For example, the percentages of RNs, pharmacists, and behavioral health professionals who speak Spanish are lower than the percentage of California's population age five years and older that speaks Spanish.

People who speak Asian languages, such as Cantonese, Mandarin, and Korean, are underrepresented among behavioral health professionals.[63]

Educational Debt

Educational debt is an important barrier to increasing the number of primary care team members, especially because team members from historically excluded racial/ethnic groups tend to have higher rates of poverty and educational debt compared to people who are White.[64] Primary care team members often carry substantial educational debt, with physicians facing the highest burden — 71% of medical students in 2024 graduated with debt, and the median amount was $205,000.[65] Although other team members typically owe less, many still struggle financially when debt is high relative to earnings. Rising education costs lead some to forgo advanced training or to pursue better-paying positions in specialty care. Upcoming changes under H.R. 1 — the 2025 budget reconciliation act — may worsen this situation by capping federal loans, eliminating Grad PLUS loans, and limiting repayment options.[66] Private loans may fill the gap, but with higher interest rates and less flexible terms.

Bright Spots

- California funds two programs that provide grants to training programs for primary care physicians and advanced practice providers: (1) CalMedForce funds GME programs in primary care specialties, and (2) the Song-Brown program funds GME programs in primary care specialties as well as PA, NP, and RN education programs. Funding from these two programs yielded 1,013 new primary care GME positions in California from 2019 to 2023.[67] Both CalMedForce and Song-Brown's scoring criteria for applications for GME training grants include the percentage of graduates over the previous five years who remain in primary care (as opposed to enrolling in a subspecialty fellowship program or practicing as a hospitalist or in another non–primary care role).[68] This criterion ensures that CalMedForce and Song-Brown prioritize funding primary care GME programs that have a strong track record of training physicians who provide primary care. CalMedForce and Song-Brown's scoring criteria also include the locations in which primary care clinicians are trained so they can prioritize funding GME, NP, and PA programs that provide training in underserved areas or clinics that provide care to underserved populations. CalMedForce scores applications in part based on whether applicants are located in a federally designated Primary Care HPSA or a state-designated Primary Care Shortage Area and whether they are located in a rural area.[69] The Song-Brown program scores applications in part based on whether applicants are in an "area of unmet need," which encompasses HPSAs, Primary Care Shortage Areas, federally designated Medically Underserved Areas and Populations, and sites that provide care to underserved populations (such as FQHCs) but does not give additional points to training programs located in rural areas of California. (See Table 5.)[70]
- HCAI also provides financial assistance to health professionals in exchange for practicing in an underserved area or caring for an underserved population for a specified period following graduation. Scholarship programs are available to students pursuing education in the following occupations that are part of the primary care team: CHW/Ps, MAs, LVNs, RNs, NPs, PAs, pharmacists, marriage and family therapists, professional clinical counselors, and social workers.[71] Loan repayment programs are available to people in these occupations and to primary care physicians and psychologists.[72] Most of these programs do not prioritize providing scholarships to students from rural areas or providing loan repayment to clinicians who practice in rural underserved areas.

- These state programs are complemented by programs at health professions schools that recruit students interested in practicing in underserved areas of California. For example, the University of California's Rural Program in Medical Education (PRIME) at UC Davis and San Joaquin Valley PRIME at UC San Francisco seek to prepare students committed to practicing in areas of the state with chronic shortages of primary care physicians. Established in 2011, San Joaquin Valley PRIME focuses on nine counties in California's agricultural heartland.[73] Rural PRIME, launched in 2007, strives to increase the number of physicians practicing in rural areas of Northern and Central California.[74] UC Davis also operates Reimagining Education to Advance Central California Health, which enrolls students committed to practicing in rural or urban areas of the San Joaquin Valley.[75] Medical students enrolled in these programs receive additional education on topics pertinent to practice in their target areas, such as pesticide exposure, and complete their clinical education (i.e., clerkships) in these areas of the state. Other PRIME programs focus on preparing students to care for Medi-Cal enrollees, people who are uninsured, and other underserved populations in urban areas or for racial/ethnic groups with poor health outcomes and poor access to care. Although students enrolled in PRIME programs are not required to become primary care physicians, over 50% of PRIME graduates have done so.[76]

- Health plans are also investing in health workforce development. For example, since 2018, L.A. Care's Elevating the Safety Net program has committed $17.6 million to fund full scholarships for 48 medical students, 24 at Charles Drew University of Medicine and Science and 24 at the David Geffen School of Medicine at UCLA.[77] Full scholarships are awarded to students committed to caring for underserved populations; many of these students grew up in underserved communities and are from racial/ethnic groups historically and systematically excluded from the medical profession. Full scholarships greatly benefit students from families with low incomes by reducing their need to take out student loans, which may in turn increase the likelihood that they will pursue careers in primary care.

  In April 2025, Health Net and Centene announced a $9 million initiative to expand and strengthen California's physician workforce.[78] Physicians for a Healthy California received $3 million to develop a physician pathway project that will support young people, starting as early as pre-K, in becoming doctors. Health Net and Centene also awarded $5.5 million to Charles Drew University for scholarships for medical students, financial assistance for medical residents, and other resources for recruiting and retaining physicians. CHCF's 2025 report *Investing in Community Health: How Local Health Plans Strengthen California's Health Workforce* further examines local health plans' significant investments in health workforce development.

Table 5. Funding Priorities for California Programs That Support Primary Care Workforce Development

PROGRAM	INTENTION	PRIMARY CARE DISCIPLINES	COMMUNITY PRIMARY CARE SETTINGS	UNDER-SERVED AREAS	RURAL AREAS
Advanced Practice Healthcare Scholarship Program	Funds scholarships to increase and diversify the health care workforce practicing in underserved communities	No	Somewhat	Yes	Yes in 2025–26 because funded by the County Medical Services Program
California State Loan Repayment Program	Funds loan repayment assistance for health care professionals who practice in federally designated California Health Professional Shortage Areas	Yes; physicians, NPs, PAs, pharmacists, behavioral health clinicians	Yes	Yes	No
CalMedForce (Prop 56)	Fund residency and fellowship programs accredited by the Accreditation Council for Graduate Medical Education (ACGME)	Yes; physicians only	No	Yes	Yes, multiple rural counties
CalMedForce+ (Prop 35)	Fund ACGME-accredited residency and fellowship programs	Somewhat; physicians only	No	Yes	Yes, multiple rural counties
County Medical Services Program (CMSP) Loan Repayment Program	Funds loan repayment for health care professionals who provide primary care or dental services at an approved site located in one of the 35 CMSP counties	Yes; physicians, NPs, PAs	No	Yes	Yes, rural counties that participate in CMSP
Health Careers Exploration Program	Fund conferences, workshops, or career exploration activities, exposing students to health careers	Somewhat; extra points for promoting primary care, behavioral health, or caring for older adults	No	Yes	Yes
Song-Brown Health Care Workforce Training Programs	Fund ACGME-accredited residency and fellowship programs, CNM, NP, and PA programs	Limited to primary care professionals: MD, NP, PA, RN	Yes, physicians No, NP, PA, RN	Yes	No
Steven M. Thompson Physician Corps Loan Repayment Program	Funds loan repayment assistance for primary care physicians in medically underserved areas of California	Yes; physicians	No	Yes	No

Sources: California Department of Health Care Access and Information (HCAI), Advanced Practice Healthcare Scholarship Program Grant Guide for Fiscal Year 2025-2026; HCAI, California State Loan Repayment Program Grant Guide for Fiscal Year 2025-2026; HCAI, County Medical Services Program Loan Repayment Program Grant Guide for Fiscal Year 2025-2026; HCAI, Health Careers Exploration Program Grant Guide 2025; HCAI, Song-Brown Family Nurse Practitioner and Physician Assistant Training Programs Grant Guide for Fiscal Year 2025-2026; HCAI, Song-Brown Primary Care Residency Training Programs Grant Guide for Fiscal Year 2025-2026; HCAI, Song-Brown Registered Nurse Education Programs Grant Guide for Fiscal Year 2025-2026; HCAI, Steven M. Thompson Physician Corps Loan Repayment Program Grant Guide for Fiscal Year 2025-2026; Physicians for a Healthy California, CalMedForce and CalMedForce+ Fiscal Year 2025-26 Grant Application Guidelines.

Opportunities for Action

Concurrent with improving the availability of workforce data (Recommendation 1), bolstering primary care payment (Recommendation 2), expanding specialized training in primary care and interprofessional education (IPE) for all members of the primary care team (Recommendation 4), and enhancing workforce retention (Recommendation 6), California must implement policies to ensure an adequate and appropriately distributed workforce. Opportunities for action include the following:

General

- The California legislature and state government agencies can sustain and expand investments in a full continuum of synergistic, evidence-based policies and programs to ensure that California will have enough primary care team members to meet demand, improve their geographic distribution, and increase their racial/ethnic and linguistic diversity (Figure 3, on page 33, illustrates this continuum).[79] It is important that these policy and program investments be sustained over time and combine short-term solutions with longer-term investments.
- State government investments in primary care workforce development should continue to prioritize funding educational institutions with a strong track record of producing health professionals consistent with state goals regarding diversity, geographic distribution, and representation in primary care. Institutions with a history of producing diverse primary care clinicians who practice in underserved areas, especially rural areas, are likely to be more successful in producing such graduates in the future.
- HCAI, Physicians for a Healthy California, and other entities that fund training for primary care team members can improve the collection, analysis, and reporting of data on graduates of the training programs they fund and on scholarship and loan repayment recipients. Such data can facilitate evaluation of these programs, and the evaluation findings can be used to refine the programs to maximize their impact.
- Purchasers, health plans, and philanthropic foundations should augment state government investments in primary care workforce development.

Supply

- To expand the supply of primary care team members, entities that fund primary care workforce development in California can prioritize funding for the following:
  - Dual-enrollment programs that allow students to take courses at two institutions at the same time — such as high school and community college or community college and four-year college, so future primary care team members can complete their education more quickly
  - Apprenticeships and similar programs for MAs or other unlicensed primary care team members that enable people to enter the primary care workforce and earn as they learn
  - Accelerated education programs, such as three-year medical school programs and advanced standing programs for people with bachelor's degrees in social work, that allow primary care professionals to complete their education and training faster and join the workforce sooner[80]
  - NP and PA education programs and GME programs in primary care specialties with strong track records of producing graduates who provide primary care

Geographic Distribution

- To improve the geographic distribution of primary care team members, state agencies and primary care education and training programs could continue to prioritize the following:

- Expanding the capacity of primary care education and training programs in rural and urban underserved communities, with an emphasis on expanding teaching health centers, which are well-positioned to provide community-based primary care GME and IPE in rural and underserved communities

- Place-based strategies that encompass pipeline programs, holistic admissions, and training tracks within health professions schools and which focus on recruiting students from underserved areas, especially rural areas; training them in those regions; and providing academic, financial, and social support and career planning to encourage them to provide primary care in those regions after completing their education

- Scholarships for health professions students from areas of the state with low supplies of primary care team members, especially prioritizing rural areas, to reduce the debt burden associated with health professions education and increase the likelihood they will pursue careers in primary care

- Loan repayment programs for primary care team members who practice in communities with low supplies of primary care team members, especially prioritizing rural areas

- To further encourage service in rural communities, primary care workforce development programs administered by HCAI could additionally prioritize rurality by scoring applications based on whether a training program, health professional, or health professions student is located in a rural Medical Service Study Area, zip code, or other identifier of geolocation. This would serve to increase the score for applicants from rural underserved areas compared to applicants in other underserved areas. In some cases, authorizing statutes may need to be amended to permit consideration of rural location.

Racial/Ethnic and Linguistic Diversity

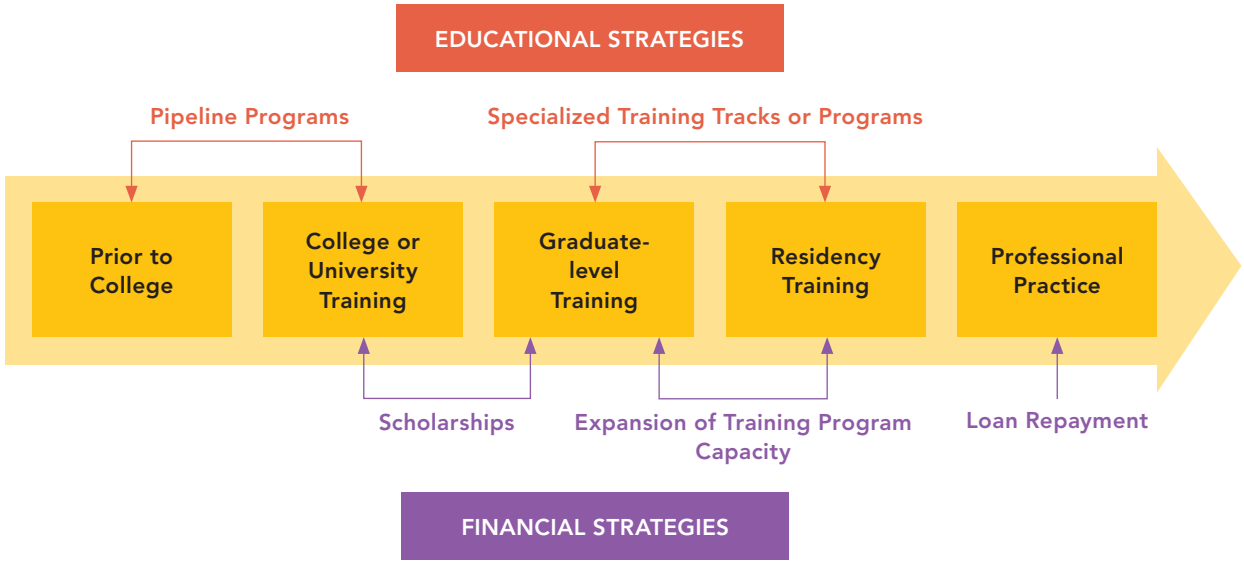
- To increase the racial/ethnic and linguistic diversity of primary care team members, entities that fund primary care workforce development can prioritize funding the following:

  - Health professions pipeline and pathway programs (including postbaccalaureate programs) that recruit, prepare, and mentor students from historically and systematically excluded communities (especially rural communities) and cultural backgrounds for careers in primary care; these programs should encompass financial support, social support, mentoring, and intensive training opportunities in primary care practices.

    - Scholarships for students from racial/ethnic groups historically and systematically excluded from the health professions; this aid can reduce their debt burden and increase the potential that they will pursue careers in primary care.

  - Programs that enable physicians from Spanish-speaking countries to provide culturally and linguistically concordant care to Spanish speakers, including UCLA's International Medical Graduate Program and the Licensed Physicians from Mexico Pilot Program. (A case study of how a primary care practice participating in the Licensed Physicians from Mexico Pilot Program is able to provide culturally concordant care can be found in the box "Spotlight on Culturally Concordant Care" on the next page).

Figure 3. Educational Strategies for Workforce Development



Source: Diane Rittenhouse et al., *Health Workforce Strategies for California: A Review of the Evidence*, California Health Care Foundation, April 2021, 5, figure 1.

Spotlight on Culturally Concordant Care

Nearly 40% of California's population — and almost 50% of its Medi-Cal recipients — identify as Latino/x. But despite being the state's largest racial/ethnic group, Latinos/x make up only 6% of its physicians, resulting in a major shortage of health care providers who can address the cultural and linguistic needs of Latino/x patients.[*] As of 2021, California was home to the largest share of people with limited English proficiency (LEP) in the nation — 25%, or 6.4 million people — and nationally, most people with LEP (63%) are Latino/x and Spanish-speaking adults.[†] People with LEP are more likely to be uninsured, have lower incomes, and have lower educational attainment than their English-proficient peers, despite being about as likely to live in a household with a full-time worker. These issues, compounded by disparities based on race/ethnicity and citizenship status, may explain why Latino/x Californians have poorer access to high-quality health care and experience worse health outcomes compared with their White counterparts.[‡]

The Licensed Physicians from Mexico Pilot Program (Assembly Bill 1045) was passed in 2002 to help address the shortage of Spanish-speaking and culturally responsive primary care physicians in California, while expanding access to high-quality care for Latino/x populations.[**] After significant opposition, the program is now running and allows up to 30 licensed physicians and up to 30 licensed dentists from Mexico to provide medical care in underserved areas at four nonprofit community health centers in the state. The program provides those qualified with three-year, nonrenewable licenses.[††]

One key partner in this effort is the San Benito Health Foundation, a rural Federally Qualified Health Center in Hollister, California, where nearly 70% of the population is Latino/x.[††] The foundation has employed five physicians from the program. This collaboration has enabled the San Benito Health Foundation to provide culturally congruent care to its patient base, 90% of whom prefer to communicate in Spanish.

Although the Licensed Physicians from Mexico Pilot Program has received positive feedback from patients and

providers, its future is uncertain.[***] A team from UC Davis is evaluating the program and will recommend to the legislature whether the program should be continued, expanded, altered, or terminated. California lawmakers would have to pass new legislation to expand the program beyond the initial 30 physicians and 30 dentists.

[*] "Health Equity Roadmap Initiative: Listening Tour — Latino/x Session 1," California Department of Health Care Services, accessed November 8, 2024.
[†] Sweta Haldar et al., "Overview of Health Coverage and Care for Individuals with Limited English Proficiency (LEP)," *KFF*, July 7, 2023.
[‡] *Health Disparities by Race and Ethnicity in California Almanac — 2024 Edition*, California Health Care Foundation, 2024.
[**] A.B. 1045, 2001–2 Leg., Reg. Sess. (Cal. 2002).
[††] "Licensed Physicians from Mexico Pilot Program (LPMPP), Assembly Bill 1045," UC Davis Health Center for Reducing Health Disparities, accessed November 25, 2024.
[‡‡] "Hollister, CA – Profile data," Census Reporter, accessed November 25, 2024.
[***] Melissa Gomez, "California Imports Doctors from Mexico to Fill Gaping Holes in Farmworker Healthcare," *Los Angeles Times*, November 8, 2023.

Recommendation 4.

Ensure that all members of the primary care team receive high-quality education and training in interprofessional, team-based primary care.

Team-based primary care requires specialized training in primary care for all members of the team as well as a breakdown of traditional educational silos to facilitate interprofessional education (IPE). However, the current training and education landscape presents several persistent challenges that make this ideal difficult to achieve.

Primary Care Curriculum and Clinical Training

Primary care education and accreditation standards vary widely across primary care team members. For example:

- Physicians must complete clinical training in primary care settings during medical school. Those who specialize in primary care go on to complete a three-year GME, or residency, training program in family medicine, internal medicine, or pediatrics — ideally with an emphasis on continuity of care in a community-based (nonhospital) setting — followed by board certification.
- NP training for students who specialize in adult/gerontology, family care, and pediatrics must include training in outpatient primary care settings. However, there are no established standards for the quality or content of the curriculum that must be covered in the training, so the primary care requirements are sometimes met through inappropriate placements, such as aesthetics, urgent care, or emergency medicine. NPs are not required to complete a residency program.
- RN training programs have no accreditation requirement for training in outpatient primary care settings. RNs are trained on primary care principles such as chronic disease but are not necessarily trained to manage chronic disease as a collaborative team member in a primary care practice.
- Pharmacists complete up to four years of postgraduate education, and although pharmacy schools must incorporate training in ambulatory settings for accreditation, primary care is not specified. Ambulatory care residencies are common for pharmacists. They are typically offered by large health systems and are one or two years long. Pharmacists may choose to become board-certified in one of 15 specialties.
- CHW/P training programs often provide limited exposure to working in primary care teams. Many of these programs are geared toward employment in community-based organizations rather than primary care settings, resulting in gaps in essential competencies needed for

integration into clinical environments. For example, trainees may not receive instruction in key skills, such as documentation in electronic health records (EHRs), critical to effective delivery of primary care.

Financial and structural challenges make it difficult to implement robust primary care education and training for all primary care team members. First, programs will not train students for jobs that do not exist in the marketplace. For example, most primary care practices cannot afford to hire RNs or clinical pharmacists because traditional reimbursement models don't support their services. This discourages schools and training programs from preparing learners to pursue careers in primary care. Second, access to clinical training placements in primary care is limited.[81] As medical schools expand across California, so does competition for clinical placements in the limited number of primary care practices, especially in areas with primary care shortages. NP programs face similar challenges in securing primary care clinical placements for their students. Moreover, although primary care is shifting from a physician-centric model toward team-based care, the transition is slow, which means there are too few primary care practices that have fully implemented the team-based model available to train students.

Finally, a shortage persists of qualified educators for many members of the primary care team. For instance, the California State University and California Community Colleges systems face significant challenges in recruiting nursing faculty, as they are typically paid less than nurses employed by health care systems — effectively requiring them to take a pay cut to teach. This financial disparity hampers the faculty retention essential for maintaining high-quality education. At the same time, community-based primary care preceptors often contend with high patient volumes, limiting their ability to provide meaningful, hands-on instruction to trainees. These pressures highlight the ongoing struggle to balance clinical productivity — necessary for the financial viability of practices — with the need to dedicate time and resources to educating the next generation of primary care team members.

Interprofessional Education

IPE for students and residents is vital to preparing future health professionals for team-based primary care. Despite growing momentum to integrate IPE into health professional training, its implementation at the prelicensure and resident levels remains inconsistent across institutions that traditionally train individual team members in silos (e.g., schools of medicine, nursing, pharmacy, and social work). Inconsistencies in IPE include the types of learners, the duration of programs, and instructional settings such as classrooms, clinics, or virtual platforms. Despite inclusion of IPE in accreditation standards for educational institutions, several key challenges hinder the effective delivery of IPE: aligning curricula and schedules across professions; securing space for large, interdisciplinary cohorts; and building partnerships between programs, especially those not situated on medical campuses. Faculty availability and training also limit the capacity to provide IPE, and core curricular demands linked to licensing exams often overshadow team-based care content. Opportunities for clinic-based IPE, which are essential for modeling primary care teamwork and applying interprofessional skills in real-world settings, are constrained in part due to space limitations and supervisory structures. Funding shortages, varied interpretations of accreditation standards, and lack of dedicated institutional leadership further contribute to disparities in IPE quality and reach. Ultimately, cultivating strong champions and infrastructure for primary care IPE is key to ensuring learners are equipped to deliver integrated, team-based primary care that meets the complex needs of patients and communities.

Bright Spot

Practicing as part of a primary care team requires RNs to manage chronic conditions over time, understand their role within the care team to ensure appropriate delegation and communication, and adapt to the unique pace of the primary care setting — faster in terms of patient volume but slower in diagnostic turnaround compared with hospitals. Because RNs graduate as generalists and don't specialize until they begin working, the first year on the job represents a critical phase of transition and frequent turnover. The California Registered Nurse Specialty Apprenticeship Program is a unique 12-month transition-to-practice initiative offered through HealthImpact, California's nursing workforce center and action coalition. Launched in 2022, the program serves new graduate RNs with less than six months of experience, as well as experienced RNs transitioning into ambulatory care specialties such as school health nursing, public health nursing, and both primary and specialty care nursing. This effort aligns with recommendations from *The Future of Nursing 2020–2030* report, which identifies structured transition-to-practice programs as a critical priority for supporting new RNs entering the workforce. The apprenticeship program integrates online synchronous workshops, real-world clinical practice, and 260 hours of supplemental instruction, along with individualized mentoring, coaching, and professional development. In this way, it provides crucial support during the transition-to-practice period, benefiting both the new RN and the clinical site by bridging the gap between academic preparation and real-world nursing practice as part of an integrated primary care team.

Opportunities for Action

Concurrent with shifting primary care payment (Recommendation 2) and practice culture (Recommendation 5), it is critical to develop specialized training in primary care and IPE for all members of the primary care team. Opportunities for action include the following:

Primary Care Curriculum and Clinical Training

- Education and training institutions should ensure that robust primary care education is integrated into programs for all professions that contribute to primary care teams. This requires that primary care be prioritized in strategic planning across these institutions. Wherever feasible, educational leadership, along with key stakeholders, should actively incentivize the development, sharing, and delivery of both required and elective primary care curricula.
- Accreditation bodies can shore up standards to require didactic curricula and clinical training specific to primary care; NP program audits can be improved to ensure high-quality primary care curricula.
- State government and educational institutions can explore policy options for partnering with primary care practices to expand access to primary care clinical placements for all members of the primary care team. Options might include recognizing or certifying primary care teaching practices, providing financial incentives, or making coaches available to facilitate clinical teaching and training in team-based primary care.
- Educational institutions and policymakers can support primary care faculty and preceptors to attract and retain high-quality educators while offsetting lower salaries and lower clinical productivity due to teaching. Approaches to consider include providing reimbursement enhancements such as special billing codes for visits that include teaching, providing tax incentives to primary care teaching practices, and improving faculty compensation so it is more competitive with clinical practice.
- State agencies and primary care education and training programs can fund and implement postgraduate primary care residencies for RNs, NPs, PAs, and pharmacists. These residencies would offer nonphysician clinicians the same structured

transition-to-practice support that physicians receive, helping to build confidence and clinical competence in community-based primary care settings. By equipping these professionals to serve effectively in rural and underserved areas, such programs can significantly improve workforce retention and strengthen the primary care infrastructure.

- Education and training programs can develop robust pipelines for all members of the primary care team. Transitioning nurses from hospital or specialty care settings into community-based primary care NP roles is more challenging than recruiting and supporting NP students who already have a demonstrated interest in primary care. This approach increases the likelihood of long-term retention in primary care practices.

Interprofessional Education

- Educational institutions, state agencies, and other stakeholders can:
  - Fund demonstration projects to foster innovation related to IPE.
  - Provide financial support to help innovative institutions package and disseminate IPE curricula and training materials to increase access to evidence-based IPE for educational institutions across California.
  - Offer individual scholarships and other financial support for IPE faculty development to mitigate barriers related to insufficient faculty with the time and training to teach and oversee IPE.
  - Fund IPE-focused learning collaboratives to disseminate best practices and lessons learned and to cultivate peer learning and innovation among academic and training institutions and primary care sites.
  - Educational institutions, state agencies, and other stakeholders can develop and promote initiatives to train practice coaches using evidence-based approaches, increasing primary care practices' access to trained professional practice coaches who can help optimize team-based care.
  - HCAI, Physicians for a Healthy California, and other influential GME stakeholders can create explicit incentives to train a broader range of interprofessional primary care team members together at the same training sites. Implementing true team-based primary care in residency clinics is particularly challenging, but it gives all team members the opportunity for exposure to new ways of working early in training.

Recommendation 5.

Establish a statewide technical assistance infrastructure to support the creation and maintenance of high-quality, team-based care structures and culture in all primary care practice settings.

Public and private payers can support the establishment of a sustainable statewide technical assistance infrastructure to enable high-quality, team-based care in all primary care practice settings.

In addition to updating training for students and residents, established primary care practices can benefit from evidence-based technical assistance and support. In fact, significant changes to existing workflows and communication patterns may be needed to move from a traditional, hierarchical practice to a team-based structure in which staff share accountability for patient care.[82] The interprofessional workforce benefits when additional time, attention, and technical assistance are devoted to improving both the structure and culture of teams,[83] including the following evidence-based activities:

Define roles and tasks and create training, workflows, and protocols to enable everyone to succeed.

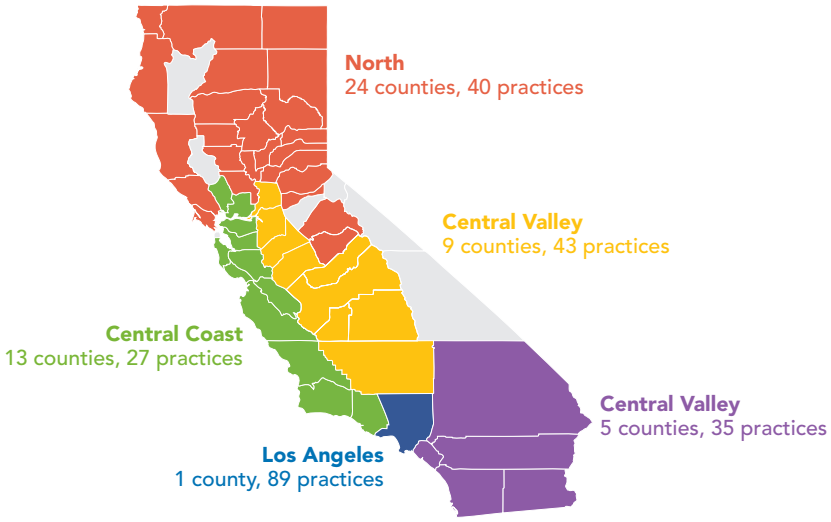
For practice staff to move beyond being a caring group of individuals to functioning as a team, they must clarify the roles and tasks for which they and their teammates are responsible, determine how and when to partner together, and develop the knowledge, skills, and abilities to perform their work well. Because daily tasks in a primary care practice can often be done by multiple people,[84] there are financial and operational benefits for explicit role and task negotiation in a given clinical context. For example, some teams have protocols that the MA always takes the blood pressure as patients are roomed, rather than the nurse or physician at other times during the visit, or that the care coordinator talks to patients about referrals rather than the physician or nurse. Evidence shows that high-performing teams have clearly defined roles, training and skill checks to reinforce those roles, well-established workflows, and standing orders and protocols to support those workflows.[85]

Build teamwork by working together differently.

Effective teams work together to accomplish their daily work and regularly think about how they can work better together.[86] Moving beyond taskwork to developing teamwork requires relational, behavioral, and leadership support.[87] Together, these components create a team culture, which is critical for high-performing teams.[88] In fact, in the authors' interviews with practices, more than half noted a positive team culture as a driving force in their practice's success. Necessary ingredients for improving teamwork include the following:

- **Time and training for effective meetings.** Ideally, teams come together frequently in meetings to organize themselves, share ideas, and reflect on data. Although making time for meetings is challenging in fee-for-service environments, high-performing teams have a cadence of daily huddles, weekly quality improvement meetings, and larger monthly or quarterly staff gatherings.[89] Meeting management skills are critical for making good use of the time available.[90]
- **Training for improved communication skills, conflict resolution, and power sharing.** Such trainings can be developed in-house or procured externally; long-standing recognition of the importance of these skills has led to several high-quality, publicly available resources.[91] In addition to developing individual skill sets, time and space must be made for attending to relational dynamics such as trust building, respectful interactions, and heedful interrelating.[92] Honoring these interpersonal skills as central to teamwork, taking time to sharpen them, and jumping in early when challenges arise can significantly improve an organization's culture.
- **Leadership commitment to team-based care.** This includes articulating shared goals and responsibilities for the care team and aligning reporting relationships and onboarding practices to reinforce the team structure.
- **Creative solutions to retaining skilled care team members.** Examples include developing career ladders to support professional growth and crafting team-based incentives (e.g., quality bonuses are distributed to the whole team rather than to physicians only).
- **A formal quality improvement approach, including reliable, population-based data.** High-performing practices enable teams to identify and solve their own problems with support from timely and accurate data and a clear approach to continuous quality improvement. Many practices struggle with the necessary data infrastructure to produce action-ready reports, to share information with health care and community partners, and to partner with plans, independent practice associations, and others on value-based pay activities. New California technical specifications for quality measures are

Figure 4. Number of Participating Practices, Counties, and Regions Served in Three Current Primary Care Efforts



Source: California Health Extension Service Application to the Agency for Healthcare Research and Quality, December 2024.

a positive step toward aligning and clarifying the quality improvement targets.[93]

- **Help patients know and recognize their care team.** The literature shows that the benefits of team-based care are realized when the team functions as a unit that both staff and patients recognize as a distinct entity (e.g., "I work on the red team" or "I see Dr. X's team").[94] Steps that teams can take to help patients recognize them as a unit include working together regularly in the same area; introducing team members to patients during the visit, sometimes called warm handoffs; creating letters, posters, or other visual aids with team names and faces; and maintaining stable staffing.[95] To reinforce the partnership, patients should be scheduled with their care team and be connected with them when they email or call with clinical questions.

The above-mentioned evidence-based activities show what primary care practices can do to better build teams, but this work is impossible in the context of day-to-day demands without additional support. California has a track record of offering high-quality, creative technical assistance for practices, including the following:

- Learning collaboratives to cultivate peer learning and innovation across primary care sites and to disseminate best practices and lessons learned
- Practice coaches using evidence-based approaches to optimize team-based care
- Project ECHO–like approaches to facilitate real-time, virtual learning
- Asynchronous learning opportunities through public domain tools and resources and self-paced virtual courses

Unfortunately, many past efforts have been small pilot programs, brief or limited to specific geographies, payers, or practice types. This variation has limited cross-program learning and created competing priorities that inhibit working at scale across the state.

Bright Spot

Today, several large-scale efforts to strengthen primary care teams are underway in California, the largest of which includes the Equity and Practice Transformation Payments Program, the Population Health Management Initiative, and the CalHIVE Behavioral Health Integration Improvement Collaborative. Together, these local initiatives are injecting team-based care expertise and millions of dollars into 234 health care delivery organizations serving more than 3.5 million Medi-Cal members in 113 independent, 12 tribal, and 94 community health center organizations across the state (Figure 4). All three efforts are slated to end in 2026. Though final results are not yet in, initial findings for all three programs show promising improvements in practice capacity and quality outcomes for patients.

Opportunities for Action

Efforts to create an organized, ongoing state-based infrastructure to support primary care practice improvement have been discussed in federal and state policy arenas for some time, most recently by the Agency for Healthcare Research and Quality in its Healthcare Extension Service notice.[96] Though federal support for this program was terminated before it began, many states have successfully created such an organized approach on their own.[97] For California to strengthen primary care and the interprofessional workforce, it may need to learn from these states and do the same. Public purchasers are already working together to align on important quality goals. Private purchasers and commercial payers are also important partners. The extension service could function across multiple entities in the state and work across siloed efforts to:

- Build team-based care per the aforementioned guidance
- Share best practices for improving prioritized, consensus measures from the Healthcare Effectiveness Data and Information Set
- Build needed data infrastructure to work within practices on population-based measurement and across health care and community settings
- Align and prioritize payment and measurement goals
- Create a transparent, data-driven way to learn and improve

In tandem with bolstering primary care payment (Recommendation 2), and developing specialized training in primary care and IPE for all members of the primary care team (Recommendation 4). Opportunities for action include the following:

- Public and private funders can invest in developing a business model for a statewide primary care extension service — a proposal for which was designed in 2024 by more than 50 entities including DHCS, payers, community groups, and entities across California that implement and evaluate large-scale technical assistance for primary care practices. The initial health extension service proposal includes thinking about the structure, governance, and evaluation of such an effort in California that could be adapted to fit today's financial landscape.
- As part of the business case development, potential funding mechanisms to support the extension service should be explored, including:
  - **Allocating future penalties and undertakings.** The California Department of Managed Health Care (DMHC), the state's larger health plan regulator, has the authority to levy penalties against the health plans under its jurisdiction.[98] These are penalties for noncompliance, and by law, DMHC can direct funds from penalties toward activities related to the health care workforce. DMHC also oversees health care mergers and acquisitions. When DMHC determines there could be a negative impact of a merger or acquisition on Californians, it

has the power to require an "undertaking" to compensate for potential future harms. Past undertakings have been used to support behavioral health integration, telehealth, and health information exchange. For example, in 2021, DMHC allocated $10 million over five years from the Centene and Magellan acquisition to the Purchaser Business Group on Health to develop and scale the CalHIVE program, providing technical assistance on behavioral health integration to primary care practices.[99] A future undertaking could be used to fund the Statewide Primary Care Extension Center or regional primary care improvement efforts.

- **Designating public benefit dollars.** When nonprofit health care entities in California become for-profit entities through transfer, purchase, or merger, they are required to distribute property assets to another nonprofit before dissolution. Typically, these assets are put into a new nonprofit foundation termed a "health conversion foundation" or a "health legacy foundation."[100] California's attorney general could require a future conversion foundation to focus on primary care transformation, or they could direct the transfer of assets property to an existing nonprofit entity with this charge.

- **Developing a trust.** Following on the model of Massachusetts' PC4You Program, California could develop a state-regulated trust to distribute financial resources collected from purchasers, provider organizations, or other health care entities.[101] Funds could be transferred directly to practices, as in Massachusetts, to purchase technical assistance services or pooled through an intermediary organization that could provide extension services to practices. Maryland's Primary Care Program, which provides practice transformation supports and services through a statewide Project Management Office with funds levied from plans and hospitals, is a relevant example of this approach.[102]

- **Encouraging health plan spending on activities related to the primary care workforce.** For example:

  - Under the California Department of Health Care Services' community reinvestment provisions, Medicaid managed care plans (MCPs) — including local plans — must allocate a share of annual net income to one of five categories, with the required share increasing if quality standards are not met.[103] Three of the currently approved categories directly support the primary care improvement goals discussed here: health care workforce, well-being for priority populations, and improved health. MCPs should consider how their current workforce investments benefit the primary care team and can consider increasing their relative allocation toward primary care moving forward.

  - In addition to setting a benchmark for plans to spend more of their total spending on primary care, the OHCA Board adopted a statewide total health care spending target of 3.5% starting in 2025 and decreasing to 3% by 2029.[104] The state could consider offsetting the requirement of plans to meet the spending targets for investing in the primary care workforce, effectively creating an incentive for plans to make such investments.

Recommendation 6.

Support the retention of primary care team members through policies to reduce administrative burden, promote career ladders, and safeguard primary care practice models with high retention rates.

Burnout is a problem across the health care field, with turnover rates accelerated by the COVID-19 pandemic.[105] Primary care has been disproportionately affected, experiencing higher rates of turnover as workers are drawn to other clinical settings that offer higher pay, more flexible work schedules, and lighter workloads.[106] For some staff, particularly MAs, the combination of heavy workloads and low pay can drive them to leave health care altogether. These pressures are especially acute in rural areas, where staffing shortages are more pronounced.

Turnover in primary care is costly — turnover related to primary care physician burnout alone results in about $260 million in excess health care expenditures annually.[107] Primary care turnover can also lead to increased use of specialty, urgent, and emergency department care, which negatively affects health outcomes and patient access.[108]

Although team-based care can be a means to improve retention, primary care teams are also particularly vulnerable to the effects of turnover due to the interdisciplinary and collaborative nature of teams; disruptions such as staff departures can fragment a team and undermine continuity of care.[109] As one physician leader noted in an interview, "The devastation of turnover within primary care is huge because these teams are delicate."

Stable, well-supported primary care teams are essential for delivering high-quality, coordinated care. However, many practices struggle to retain the stable staffing necessary for a high-functioning team. As Californians continue to build the primary care workforce pipeline, it is equally important to focus on retaining well-trained, experienced team members in the field. Retention is not only critical for maintaining continuity of care for patients but also for providing invaluable mentorship to the next generation of the primary care workforce. Policymakers, purchasers, payers, and health systems should strive to tackle the following leading barriers to retention.

Administrative Burden Drives Burnout

Administrative burden, particularly related to documentation and reporting, is a well-known driver of burnout among primary care clinicians.[110] The use of EHRs, though an essential part of modern care delivery, is a prominent contributor.[111] Research shows that most physicians find that EHRs take valuable time away from patients, resulting in insufficient time to address patient concerns, and that EHRs interfere with work-life balance.[112] Much of this burden stems from billing- and insurance-related requirements, which are embedded in EHR workflows and represent the largest component of administrative health care costs. Streamlining these processes could substantially reduce administrative burden, alleviate burnout, and strengthen workforce retention.

Structural and Career Barriers Limit Retention

Retention challenges in primary care affect the entire care team. Vital staff often leave the field to pursue other opportunities due to limited pathways for advancement.[113] Without career ladders or structured upskilling opportunities, primary care loses valuable institutional knowledge and disrupts care continuity.

Independent and clinician-owned practices are often better at retaining staff due to their ability to foster strong practice cultures, which prioritize factors that support job satisfaction, including relationships with colleagues, a sense of control, and a sense of efficacy.[114] However, current payment

and delivery system models, including accountable care organizations and value-based payment models, favor larger practices and health systems and provide incentives to consolidate, further marginalizing independent and clinician-owned practices.[115] Some practices struggling with retention have turned to outsourcing as a way to manage rising operating costs and reduce administrative burden that contributes to burnout. While not a universal solution, outsourcing reflects how practices are adapting under cost and staffing pressures to preserve workforce stability and patient access. (See the box "Spotlight on Outsourcing" on page 44.)

Bright Spot

Given the persistent staffing challenges in rural California, it is critical to invest in tailored retention efforts. For Dr. Kelvin Vu, the chief clinical officer of a rural FQHC, retention of primary care clinicians and team members is the top priority.

Based on Dr. Vu's belief that the key to retention goes beyond basic compensation, his approach focuses on ensuring that clinicians joining his rural practice make the connections and have the support system needed to stay in rural practice. For example, the practice offers regular childcare and comprehensive sick care for children to ensure clinicians can meet their family responsibilities while remaining present at work.

Dr. Vu also recognizes that the fight against burnout includes the entire care team. He places particular emphasis on retaining MAs, viewing them as essential to both the clinic's operations and to the recruitment and retention of clinicians. To support MAs, the practice ensures competitive pay, provides standardized and comprehensive training that connects their work to the clinic's mission, and empowers staff to work at the top of their licenses to enhance job satisfaction.

Opportunities for Action

Many retention strategies focus on important and effective practice-level changes such as addressing cultural shifts in the health professions, including prioritizing workforce well-being and work-life balance or implementing team trainings and regular huddles and debriefings. However, this section highlights broader opportunities for policymakers, health systems, and payers to support retention without putting additional burden on practices. These actions are intended to complement other recommendations in this report — namely, improving primary care payment structures (Recommendation 2), enhancing training and education for all members of the primary care team (Recommendation 4), and strengthening team-based care through statewide technical assistance (Recommendation 5). Specific opportunities for action include the following.

Reduce Administrative Burden

- Policymakers and payers should reduce administrative burden and ensure that new policies do not introduce additional reporting requirements that will further strain practices. Efforts to streamline costly billing and insurance-related processes can meaningfully improve workforce retention.[116]
- Health systems, payers, and policymakers should promote data interoperability — extending beyond EHRs — by using application programming interfaces and cloud-based services.[117] In addition, early evidence suggests that advancements in AI can help synthesize systemwide data and ease the burden of scribing and manual EHR documentation.[118] (Please refer to *AI and the Future Primary Care Workforce* case study for more details.)
- Payers and purchasers should simplify quality reporting by aligning and standardizing performance measures across payers.[119] When payers opt to use unique or proprietary measures, they should bear the cost of implementation. Standardized performance measures can also be particularly helpful for independent primary

care practices in the state, where limited staff and resources make reporting more burdensome than in larger organizations. Progress is being made with the Payment Model Demonstration Project, the California Quality Collaborative, the Integrated Healthcare Association's measure set for advanced primary care (PDF), and the adoption of standardized contract provisions by California's largest public purchasers.[120]

Promote and Scale Career Ladders and Support High-Retention Practice Models

- **Invest in career ladder programs and upskilling initiatives.** Health systems, policymakers, and payers should invest in career ladder programs and upskilling initiatives that support advancement in the primary care setting.[121] This includes funding training pathways that help MAs transition into nursing roles and supporting LVNs and RNs in expanding their clinical and leadership skills.
- **Provide mentorship and cross-training.** In addition to formal advancement, health systems can enhance retention by offering targeted mentoring and training that expands the capacity of existing team members. For example, training MAs in basic health coaching or information management can increase their impact on patient care and improve job satisfaction. A key principle in these efforts is promoting work at the top of one's license or training. As the CEO of one high-performing independent practice noted, "The secret sauce to high retention is not salary . . . it is how can we best utilize [staff] in a primary care setting. If they get bored or are not utilized to the max, they leave." Empowering staff to fully apply their skills and grow within their roles is essential to building a stable, motivated, and resilient primary care workforce.
- **Support and replicate high-retention practice models.** Evidence suggests that independent and clinician-owned practices are better at retaining staff compared to health system–owned practices.[122] To help counter the trend of current payment reform initiatives that marginalize independent and clinician-owned practices, policymakers and payers can fund and facilitate technical assistance for key aspects of high-quality primary care (Recommendation 5), such as implementing innovative care models, advancing EHR interoperability, strengthening data collection and analysis, and training for team-based care.[123] The *Strengthening Independent Primary Care Practice in California* explainer brief from CHCF highlights additional strategies to sustain independent primary care practices and, in turn, preserve their retention advantages. These strategies include reducing administrative burden by aligning processes and requirements across payers.[124]
- **Leverage health plans to scale retention innovations.** Associations and health plans can also play a key role in disseminating best practices for retention across practices, helping smaller and independent practices adopt proven strategies more easily. One California health plan has even

Spotlight on Outsourcing

Primary care practices across the United States are struggling to retain staff amid rising costs, wage competition, and widespread burnout. A June 2024 Medical Group Management Association poll revealed that 92% of medical group leaders reported increased operating expenses in 2024 compared with 2023, with rising salaries and wages cited as the primary cause.* The rising cost of labor was especially pronounced among California practices that opted to raise wages ahead of the state-mandated wage increases (Senate Bill 525), originally set to take effect in July 2024 but postponed until October 2024. As labor costs continue to rise, particularly with the health care minimum wage set to reach $25 per hour, some practices have turned to outsourcing.

Outsourcing can reduce operational costs and strain by enabling practices to contract with employees outside California, where minimum wage requirements are lower. In addition, outsourcing draws on economies of scale, further lowering expenses. It can also lower recruitment costs and time — issues that pose a considerable challenge to primary care, which continues to see some of the highest rates of physician and staff turnover across broad specialty categories.[†] One county health system noted that it takes the system 230 days to hire a replacement for a provider who has left and that recruiting agencies can charge upward of $30,000 per recruited provider.

Many practices have started by outsourcing work typically done by nonmedical staff, such as billing, call center coordination, referrals, bookkeeping, accounting, scheduling, and information technology tasks. In fact, as of 2020, most US hospitals outsource at least one business function, with higher rates of outsourcing expected to be seen among smaller provider types. For example, 86% of hospitals outsource cybersecurity services.[‡]

One example of effective outsourcing in a primary care practice is West County Health Centers in western Sonoma County. West County Health Centers is a Federally Qualified Health Center that has found success outsourcing a number of tasks, including some finance tasks, referrals, and call center work. Before outsourcing the call center, the practice simply could not hire enough staff to keep it running properly, and callers abandoned 45% of calls before they reached an agent, a rate that has since fallen to 1%. In addition to higher performance, the practice has also seen cost savings as the offshore call center staff work at much lower rates, about $12 per hour. However, it took the practice about 18 months to transition to this high-functioning system. The practice was intentional about teasing out cultural differences to improve patient experience and align with the practice's mission. For example, the practice asked that the call center staff refer to patients by their preferred name and to avoid gendered honorific titles to align with the practice's commitment to providing gender-expansive services.

Some practices have taken it a step further and started to outsource tasks done by medical staff, including medical assistants and telehealth providers. Though West County Health Centers acknowledges that this is riskier than outsourcing nonclinical tasks, the practice experimented with opening access to virtual care providers to expand access for patients in rural areas and to increase flexibility for the providers, offering sabbatical options and flexible hours to help reduce burnout and turnover. Even while experimenting with other virtual models of care, West County is intentional about ensuring that relationship-based care is at the center of its model — that providers and teams working in person and on-site are focused on doing what only they can do, while getting support from others outside the clinic walls.

Outsourcing enables West County Health Centers to stay competitive by nimbly responding to changes in pay, regulations, and staffing. However, not all practices have been able to outsource with such ease. One county health system cited organizational red tape, such as prescriptive job descriptions, that greatly limits outsourcing. As the health care minimum wage increases, more practices will likely seek outsourcing opportunities among other activities to minimize labor costs, but size and organization structure may limit the viability of outsourcing to smaller, more autonomous practices.

[*] "Nearly All Medical Groups Still Feeling the Squeeze of Rising Operating Expenses," Medical Group Management Association, June 26, 2024.
[†] Amelia M. Bond et al., "Physician Turnover in the United States," *Annals of Internal Medicine* 176, no. 7 (2023): 896–903.
[‡] Leonard L. Berry et al., "The High Stakes of Outsourcing in Health Care," *Mayo Clinic Proceedings* 96, no. 11 (2021): 2879–90.

taken it a step further, directly funding workforce well-being. Health Plan of San Mateo has supported retention through provider sabbatical grants, offering clinicians paid time for rest and renewal without penalizing practices financially. Such payer-driven innovations demonstrate how health plans can play a direct role in sustaining workforce stability.

A Unified Effort to Advance Primary Care Policy Leadership and Accountability in California

To successfully implement the workforce policy recommendations described in this report, California will need stronger systems for accountability, coordination, and the measurement of long-term impact. Without a dedicated infrastructure, even well-designed initiatives may be inconsistently applied or lose momentum over time.

Achieving meaningful statewide implementation will require a unified effort across sectors. State policymakers; government agencies; health care purchasers, payers, and providers; colleges and universities that educate the primary care workforce; and organizations that advocate for improved health care access and quality must work together to build a resilient, equitable primary care system. Their collective leadership, collaboration, and sustained commitment are essential to driving progress and ensuring that reforms benefit all Californians.

To support this shared mission and elevate primary care policy, the authors endorse a three-part approach that builds on existing efforts in California and draws inspiration from national and state-level models. This approach aligns with priorities described in CHCF's 2024 report, *Advancing Health Equity Through Primary Care Policy*, and incorporates guidance from the National Academies of Sciences, Engineering, and Medicine, which underscores the critical role of leadership and accountability in advancing primary care.[125]

- First, HCAI has launched a statewide primary care scorecard initiative to track key policy indicators — such as access, equity, and workforce capacity — offering a data-driven foundation for reform accountability.[126] This tool can empower all stakeholders to monitor progress and identify areas for collective action.
- Second, a statewide primary care taskforce composed of diverse stakeholders, including those just mentioned, could translate scorecard insights into coordinated policy action. This model draws from successful initiatives in Massachusetts, New Mexico, and Virginia.[127] The National Academies of Sciences, Engineering, and Medicine has also advanced this kind of infrastructure by establishing a Standing Committee on Primary Care to provide ongoing guidance on federal priorities.[128]
- Third, California could establish a new, dedicated office for primary care within state government with a mandate to provide long-term leadership, align cross-agency priorities, and reduce fragmentation. This new office would serve as a central hub for collaboration among all partners committed to strengthening primary care. To be maximally effective, it would require consistent resources and robust staffing.

Although these ideas are inspired by proven approaches across the US, the specific details will need to be developed beyond this report. What's clear is that California's success depends on the active, aligned participation of all sectors. Together, we can lead the way in building a more equitable, coordinated, and sustainable primary care system for every Californian.

Conclusion

Health care in California stands at a critical juncture. Amid competing priorities and cuts in federal support, the state must continue to invest in the development of a nimble primary care infrastructure capable of providing high-quality primary care for all residents into the future. Primary care

teams are key to this vision, yet they remain underresourced, siloed in training, and constrained by payment models that discourage team-based care.

The six policy recommendations described in this report provide a cohesive framework to strengthen the infrastructure needed for high-quality, comprehensive, integrated, continuous, and team-based primary care: expand and improve workforce data, transition to adequate and appropriate payment systems, bolster workforce pipelines, enhance education and interprofessional training for all team members, establish statewide technical assistance, and invest in strategies that retain and support the talented people already part of these invaluable teams. At the same time, California must also strengthen leadership and accountability to sustain momentum and ensure that reforms translate into tangible improvements for patients and providers. By aligning data, financing, education, infrastructure, and oversight, the state has the opportunity to create a sustainable primary care workforce equipped to meet the needs of Californians.

The future of health in California depends on bold, collective action today to advance high-quality primary care. By implementing policies that strengthen and sustain the full primary care team, while anticipating new innovations and challenges — from the use of AI to the expansion of care beyond clinic walls into communities — the state can achieve its vision of a healthier and more just future for all Californians.

Spotlight on AI in Primary Care

Artificial intelligence is reshaping California's health care landscape, particularly in primary care settings where administrative burdens have long contributed to clinician burnout and workforce shortages. Learn more about the role of AI on the primary care team in the case study published in 2024.

Appendix A. Study Methods

Study Methods

This appendix describes the methods used by the authors from Mathematica, Research to Practice, and the Center for Accelerating Care Transformation to inform this report, including the following:

- Pragmatic literature review
- Qualitative interviews with primary care practices
- Qualitative interviews with key informants on select topics
- Advisory board meetings and reactor panels

Pragmatic Literature Review

The authors conducted a pragmatic literature review focused on questions from the proposal initially submitted to CHCF:

- What is the team composition of high-performing primary care practices? How are tasks divided among team members?
- How do (1) patient and community characteristics and (2) practice characteristics affect whether and how primary care functions are prioritized and deployed by interprofessional primary care teams?
- How does payment shape primary care core functions and staffing?
- How are high-performing primary care practices drawing on community resources and partnerships?
- How are high-performing primary care practices using outsourcing, centralized resources, or remote resources (e.g., telehealth to leverage geographically dispersed staff)?
- What policy barriers hinder the delivery of the core functions of high-performing primary care?

The authors used pragmatic literature methods developed by the Center for Accelerating Care Transformation, which are based on existing methods for rapid evidence scans.[129] Search strategies involved starting with systematic reviews and digging deeper on topics of interest. Because this work was designed to build on findings in Meyers et al.'s 2018 manuscript, the authors limited the search to articles published since 2018.[130] The authors used keyword searches in PubMed, including filters and "similar to" features, and searched the reference lists of identified studies. Titles and abstracts were measured against prespecified inclusion criteria. Title and abstract review was conducted by two team members, resulting in 113 articles. Twenty-two of these articles were removed after full-text review. The authors included four articles published before 2018 and seven reports not published in academic journals, which the authors determined to be of particular interest.[131] In total, the authors abstracted 24 data elements from 102 articles and white papers.

The authors used the findings from the pragmatic literature review to inform this report, including the recommendations and case studies.

Primary Care Practice Interviews

Interview Guide Development

The interview guide was designed to capture primary care clinic staffing-to-patient ratios and to delineate whether and how practices were performing tasks in a consensus set of primary care team functions.

The authors developed their list of expanded care team functions by cross-walking and then adjudicating several definitions of high-performing primary care.[132] After reviewing each of these lists of primary care functions, the authors mapped all areas of overlap and developed definitions to explain what specific activities were included in each function.

In the interviews, the authors also asked about changes in the past five years and successes and challenges with primary care team staffing. The full interview guide, including the functions the authors asked about, is included in Appendix B on page 52.

The interview protocol was grounded in a consensus set of functions for primary care practices.

Practice Identification and Recruitment

The 18 participating primary care practices were selected based on recommendations from associations, health plans, and other public and private entities that work across primary care in California. These groups were asked to recommend primary care practices that were both delivering high-quality clinical care and working creatively with care teams. From dozens of recommendations, the authors selected a subset that varied in their geography, organizational structure, and patient population to get a snapshot of the current climate and context of primary care in California. From a list of 85 recommended practices, the authors reached out to 24 and ultimately interviewed 18. Practices and their key characteristics are described in Table A1.

Interviews and Notetaking

The authors conducted the interviews virtually between June and October 2024. Interviews were recorded and lasted about 60 minutes each. Two researchers were present for each interview; one conducted the interviews, and one supported and took detailed structured notes in a Google form that mirrored the interview guide. Notes were reviewed by the interviewer and notetaker for accuracy.

Table A1. Characteristics of Participating Practices (*N* = 18)

PATIENT POPULATION	REGION*
Health system–owned practices	
Index	Greater Sacramento
Index	Northern California
Socially complex	Bay Area
Socially complex	Bay Area
Socially complex	Bay Area
Socially complex	San Joaquin Valley
FQHCs	
Socially complex	Bay Area
Socially complex	Bay Area
Socially complex	Los Angeles
Socially complex	Los Angeles
Socially complex	San Diego
Socially complex	San Diego
Independent/physician-owned practices	
Index	Central Coast
Index	Greater Sacramento
Index	Los Angeles
Index	Los Angeles
Index	San Joaquin Valley
Index	Southern California

* Regions are defined in line with California Economic Strategy Panel Regions.

Note: Practice names have been removed for anonymity.

Source: Primary care practices that participated in study interviews (June–October 2024).

Interviewees were offered a $150 gift card incentive for participating (one per practice).

Analysis and Synthesis

Core Care Team Staffing

To understand how practices staffed their core care teams, the authors asked them to share the number of patients at a specific site; the number of full-time equivalent (FTE) primary care providers — including MDs, DOs, NPs, and PAs — serving those patients; and the number of FTE medical assistants and nurses working with those providers day to day. Then, to contextualize and understand their findings, the authors compared the staffing ratios from the interviews to Meyers et al.'s paper on primary care team configuration models.[133] See Table A2 for the results of the team interviews compared with the models recommended by Meyers et al.

Table A2. Average Number of FTE Core Team Staff per 10,000 Patients from Optimizing Primary Care Team Interviews Versus Ideal Primary Care Models from Meyers et al.

	OPCT	MEYERS	% DIFFERENCE
Socially complex patient population			
Primary care provider	7.6	10.0	-24
Nurse	5.0	2.5	+100
Medical assistant	7.4	10.0	-26
General/index patient population			
Primary care provider	5.8	8.0	-27
Nurse	0.8	1.5	-48
Medical assistant	9.1	9.0	+1

* Note: Medical assistant data are missing for two Optimizing Primary Care Team (OPCT) practices.

Source: Authors' analysis of staffing data reported by 18 primary care practices interviewed June–October 2024; comparison benchmarks from Meyers et al. (2018).

Primary Care Team Functions

The authors asked practices if they were performing each of the primary care teams functions, and if so, how: in their practice, centralized in their organization, or in the community by way of a referral or partnership arrangement. The aim was to understand what activities practices were prioritizing in an increasingly crowded landscape of expectations for primary care. Table A3 shows the variation among practices in whether they performed the function and how, with darker colors representing greater adoption or penetration.

Key Informant Interviews

In addition to practice interviews, the authors conducted 11 interviews with experts on various topics of interest, to inform the case studies. Case study topics were selected in partnership with CHCF. The authors recruited interviewees for case studies by soliciting recommendations from CHCF, advisory board members, and other professional contacts and asking for an email introduction. The authors also asked interviewees for recommendations of additional people to interview. Interviews were conducted virtually using a simple interview guide and notes template (see Appendix B on page 52). Interviews were recorded and lasted 60 minutes each. Interviewees were offered a $150 gift card incentive to thank them for their time.

Table A3. Primary Care Team Functions Endorsed by Teams (*N* = 18)

PRIMARY CARE TEAM FUNCTION	FUNCTION PRESENT IN PRACTICE ONLY	FUNCTION PRESENT IN PRACTICE WITH OR WITHOUT OTHER SUPPORT	FUNCTION PRESENT IN ORGANIZATION ONLY
Population-based prevention and chronic care management	8	17	0
Care coordination/referral management	9	14	2
Patient education and self-management support	9	14	2
Screening for substance use disorders	9	14	1
Enhanced access	8	14	2
Communication management	7	14	3
Quality improvement	3	14	0
Linkages to community-based social services to support health related social needs	3	14	1
Care management for complex patients	5	12	3
Medication management beyond routine care	5	10	3
Behavioral health integration beyond routine primary care	5	10	3
Medication-assisted treatment	5	6	1
EHR/information technology support	2	5	9
Oral health care services	1	5	3

Source: Authors' analysis of structured interview data from 18 primary care practices (June–October 2024).
Note: Darker colors represent greater adoption or penetration.

Appendix B. Primary Care Practice Interview Guide

Introduction

Roles and Functions

For the purposes of this interview, we will define your primary care practice as those people who work within a particular brick-and-mortar site.

- Can you tell me the name of the practice and your title or role?
- How many full-time equivalents (FTEs) of physicians and advanced practice providers are in this practice?
- Do you know the size of the practice's patient population?

One way to think about primary care practices is that each physician or advanced practice provider FTE is surrounded by a core team — for example, of medical assistants or nurses — that partners to address most of the concerns for most of that clinician's patients most of the time. Some practices have expanded team members that help as needed. Sometimes the expanded team members are shared across multiple clinicians. Sometimes the expanded team members even sit outside the walls of the practice or are employed by different organizations.

- Does this resonate with you?
- Who is on your/the core team (per 1.0 FTE provider)?
- What are the FTEs of those people?

Table B1. Core Team FTE Staffing

ROLE	FTE	LICENSURE OR CREDENTIAL
Physician/advanced practice provider	1.0	

Now we are going to run through a list of activities that possibly take place in your primary care practice and then talk about who is responsible for which activities.

- Here is a list of activities sometimes performed by expanded team members in primary care practices. We could obviously spend the whole hour discussing this list, but we are looking for a relatively quick overview. Can we quickly run through this list, and you can tell us (yes/no) if your practice does or does not perform these activities? And if so, where or how the activity is staffed?

Table B2. Primary Care Expanded Care Team Activities

EXPANDED CARE TEAM ACTIVITIES	DEFINITION	WHERE? IN PRACTICE = PP IN ORG. = PO IN COMMUNITY = PC NOT PRESENT = NP
Population-based prevention and chronic care management	Proactively identify gaps in care and support patients to receive and adhere to evidence-based care plans	
Care management for complex patients	Provide additional clinical or nursing support for patients with multiple chronic conditions, including patients at risk for hospitalization or readmission	
Care coordination and referral management	Provide administrative support to help patients access specialty care and community resources while ensuring exchange of information between clinicians	
Medication management beyond routine care	Provide medication titration/treat-to-target services, improve medication adherence, review medications for dangerous interactions or errors	
Behavioral health integration beyond routine primary care	Integrate care for mental, behavioral, and psychosocial issues into primary care, including systematic screening and treatment for depression and anxiety	
Screening for substance use disorders	Systematically screen for substance use disorders	
Treatment for substance use disorders	Offer Medication Assisted Treatment for substance use disorders in combination with counseling/behavioral therapy	
Linkages to community-based social services to support health-related social needs	Understand the community's or patients' health-related social needs and foster relationships with resources to offer support (e.g., insurance navigation, food banks, or transportation)	
Communication management	Manage patient portal communication if applicable, triage patient-initiated questions and requests, and maintain a system for communicating test results	
Patient education and self-management support	Support patients in being partners in their care through education, goal setting, and action planning	
Quality improvement	Make ongoing, team-based effort to review measures of clinical and operational effectiveness, and use an established strategy (e.g., the Lean Model for Quality Improvement)[134] to test and spread new ideas for change; at its best, this effort includes patient advisers	

EXPANDED CARE TEAM ACTIVITIES	DEFINITION	WHERE? IN PRACTICE = PP IN ORG. = PO IN COMMUNITY = PC NOT PRESENT = NP
Enhanced access	Provide services outside prescheduled, in-person visits during work hours (e.g., telehealth or remote services, after-hours care, and same-day appointments)	
Oral health care services	Ask about oral health risk factors and look for signs that indicate risk of or active oral disease; may offer services ranging from fluoride varnish for children to cleanings, tooth extractions, and fillings	
EHR and information technology support	Maintain data expertise to support QI, Pop Health, planned care, new technology development like AI	

- Off the top of your head, are there other activities you prioritize in your practice that are not on this list (e.g., home-based care, e-consultations with specialists, medical interpretation, palliative care integration, other community-based partnerships)?

Thank you for going through that exercise. Zooming out a little bit:

- Are there any activities on this list that your practice is not performing that you wish you could perform?
- Has anything notable changed in your practice's activities or priorities over the past five years or so? Please describe — probe why and what motivated the change (prompt: offsite or virtual staff, equity [e.g., including patient advisers or peers or stratifying data by race/ethnicity], technology, centralization of services? Additional services?)
- What's working well or is challenging about your current primary care team model?
    - Probe: What are the biggest challenges you face in terms of hiring, training, and retaining staff (e.g., turnover, reimbursement, labor environment, part-time staff)?
    - Probe: What, if anything, are you doing to support team functioning (huddles, training, career ladders)?
- OPTIONAL if time: What's next/on the horizon for your primary care team (either positive or negative)?

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