

California's Primary Care Workforce: Current Supply, Characteristics, and Pipeline of Trainees

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EXECUTIVE SUMMARY:

Introduction

Health care stakeholders are concerned that the supply, distribution, and demographic characteristics of primary care clinicians in California are not adequate to meet the state's needs. In recent years, this concern has stemmed largely from the expansion of Californians' access to health insurance under the Affordable Care Act (ACA). The expansion of eligibility for Medi-Cal and the establishment of Covered California, the state's health insurance exchange, have resulted in a large increase in the number of Californians with health insurance. Although the fate of the ACA is uncertain, other sources of concern about primary care clinician supply in California persist, including population growth, aging of the population, expanding burden of chronic disease, and the needs of low-income people and racial/ethnic groups that have been historically underserved by the health professions.

This report presents the most current information on the supply of MDs, DOs, NPs and PAs who provide primary care in California. In the absence of a uniform dataset on the four professions, data from multiple sources were aggregated and analyzed to examine the supply and employment patterns of primary care clinicians and the

pipeline of trainees in California. The report finds that previously identified deficits in California's primary care workforce persist and will be exacerbated in the coming decade because large percentages of MDs and NPs are reaching retirement age.

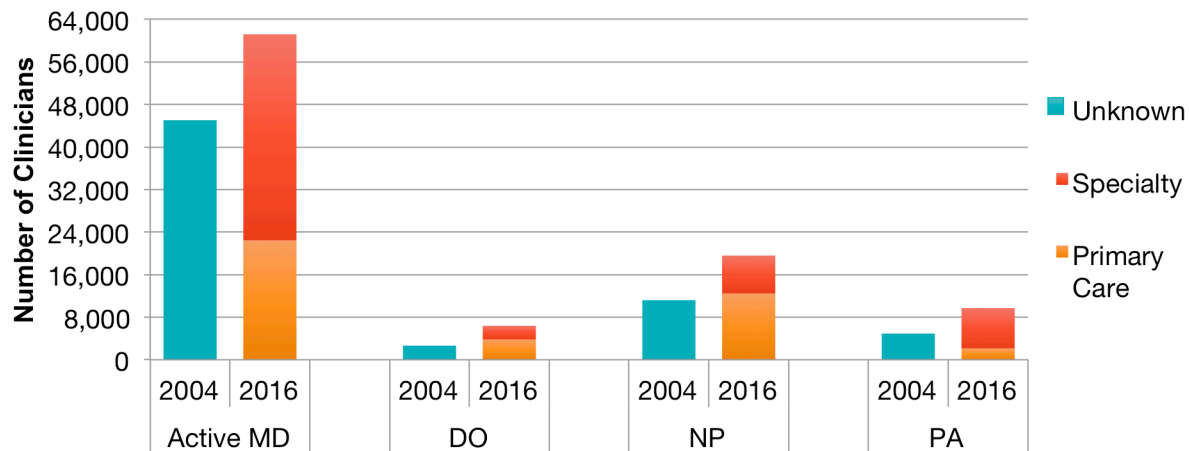
Forthcoming reports in this series will forecast the future supply and demand for primary care clinicians and assess primary care workforce development initiatives in other states. Collectively, these reports will enable stakeholders to assess the adequacy of the current primary care workforce, anticipate future gaps in the primary care workforce, and identify effective policies for addressing these needs.

Key Points: Supply and Characteristics of Clinicians

Supply

- Rates of growth have varied widely across the four professions and between primary care and specialist clinicians.
 - Growth in the DO, NP, and PA workforces in California outpaced the rate of growth of the MD workforce from 2004 to 2016. (MD 36%, DO 141%, NP 75%, PA 98%).
- While MDs make up the greatest number of licensed clinicians, only a fraction of them provide primary care (36%). Among MDs practicing more than 20 hours per week, the same proportion are in primary care.
 - The percentage of PAs in California who provide primary care is also small (22%).
 - In contrast to MDs and PAs, approximately 60% of DOs and 50% of NPs provide primary care.

Growth in the MD, DO, NP, and PA Workforce from 2004 to 2016



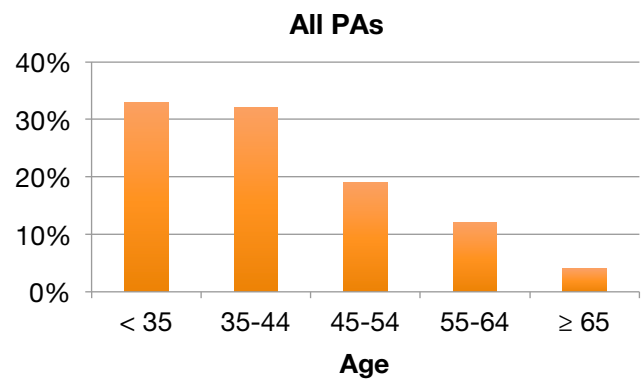
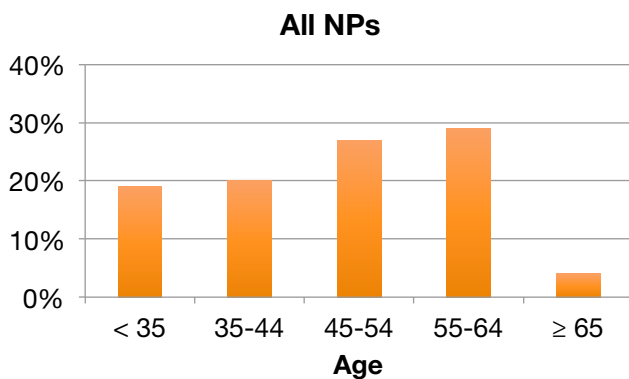
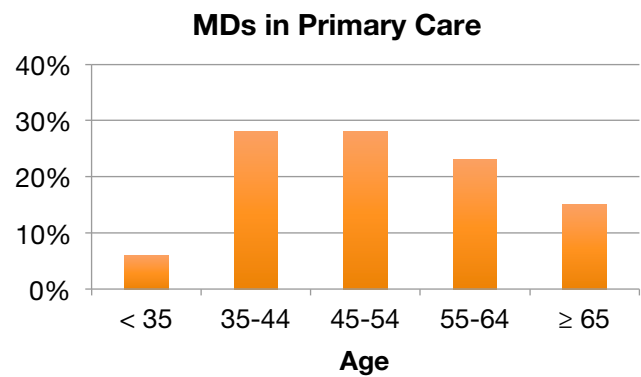
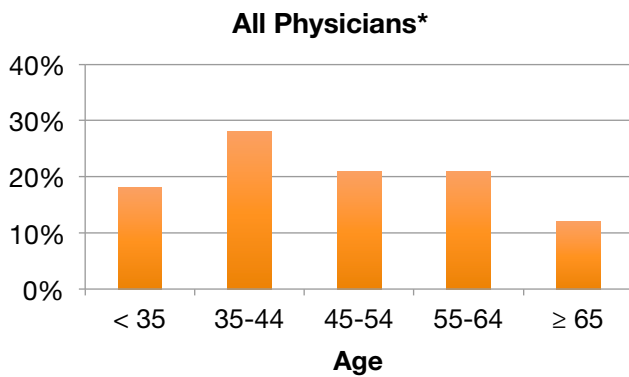
Source: California Department of Consumer Affairs, 2016; special request, private tabulation. Medical Board of California, Survey of Licensees, May 2015; private tabulation of active MDs. Medical Board of California, Survey of Licensees, May 2015; private tabulation of primary care and specialty practice in 2016. American Osteopathic Association, Osteopathic Medical Profession Report, 2014. J. Spetz, E. Fraher, Y Li, T Bates. How Many Nurse Practitioners Provide Primary Care? National Commission on Certification of Physician Assistants, Profile Data 2016, special request, private tabulation. See technical appendix for additional detail.

- The ratio of primary care physicians to population in California is similar to the national ratio, but the ratios of NPs and PAs to population are lower (35% lower for NPs and 16% lower for PAs). Together, these dynamics contribute to the structural shortage of primary care clinicians.
 - The low ratios of NPs and PAs to population in California may represent an opportunity to expand employment of NPs and PAs in the state.
 - Only two regions of California (Greater Bay Area and Sacramento Area) have ratios of primary care physicians per population above the minimum ratio recommended by the Council on Graduate Medical Education (60 primary care physicians per 100,000 population), indicating that the primary care physician supply in most regions of California is not adequate to serve the population.
 - Two regions (Inland Empire and the San Joaquin Valley) have ratios of primary care physicians to population that are below the ratio of primary care physicians to beneficiaries that the California law requires managed care plans to meet (50 primary care physicians per 100,000 population).
- ### Geographic Distribution
- The distribution of primary care clinicians varies widely by region in California.
 - NPs and PAs constitute a larger share of the primary care workforce in rural regions of California than in urban regions.

Demographic Characteristics

- One third of physicians and NPs in California are age 55 years or older, raising concerns about reductions in the capacity of the workforce in coming years due to retirement or decreased patient care hours.

- The aging of the family physician workforce is especially worrisome. Nearly half of family physicians (44%) are age 55 years or older.
- Conversely, only 16% of PAs are age 55 years or older.

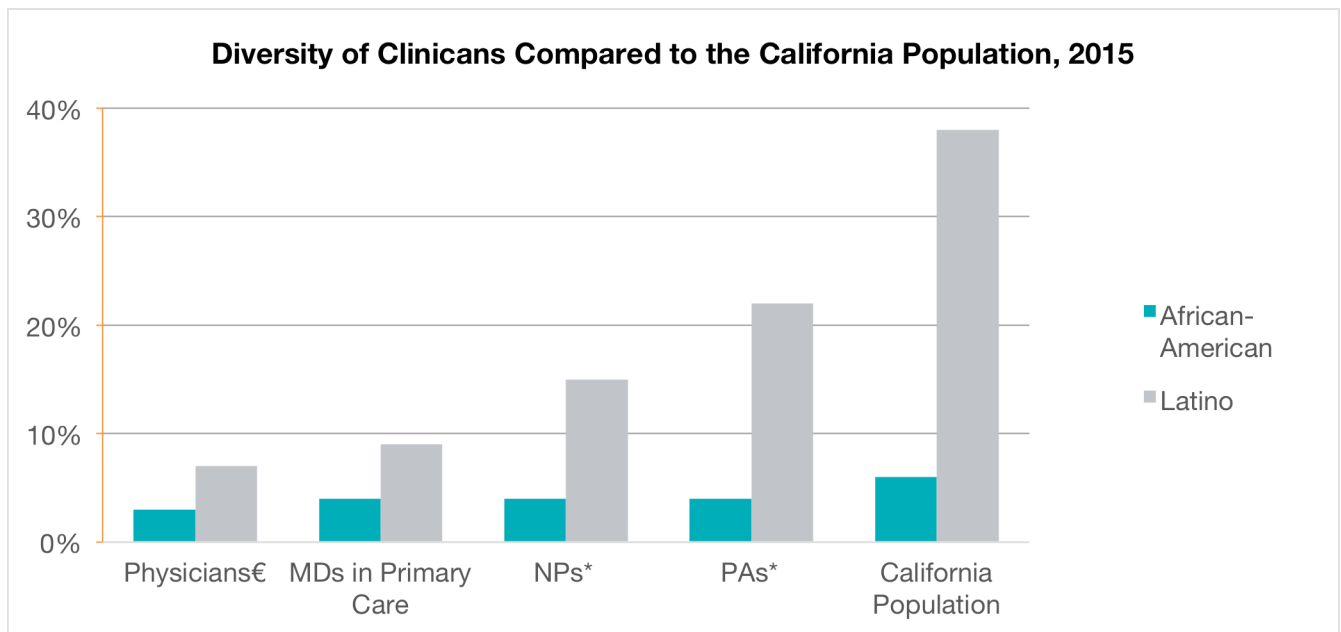


Source: American Community Survey, Public Use Microdata Sample, 2015, private tabulation. Medical Board of California, Survey of Licensees, May 2015. May not sum to 100% due to rounding.

*Includes allopathic and osteopathic physicians and surgeons

- A smaller percentage of physicians in California are female (34%) relative to their NP (92%) and PA (64%) counterparts.
- There are wide disparities between the diversity of the California population and the diversity of all medical clinicians.
 - The California population is 44% African

American or Latino, while only 13% of primary care physicians, 19% of all NPs, and 26% of all PAs are African American or Latino.



Source: American Community Survey, Public Use Microdata Sample, 2015, private tabulation. Medical Board of California, Survey of Licensees, May 2015; private tabulation. Geriatricians included with General Internists and General Practitioners included with Family Physicians for the purposes of these calculations. Proportions may not sum to 100% due to rounding. MBC estimates do not include non-respondents (12% for this question in the survey).

€ Includes allopathic and osteopathic physicians and surgeons.

* Includes all PAs and NPs in primary care and other specialties

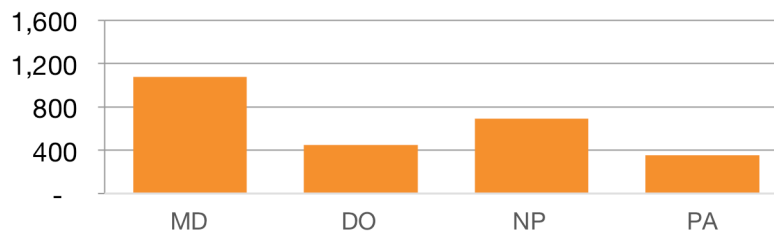
Practice Settings

- National trends over the past three decades indicate that the percentage of physicians in solo practice has decreased
 - 25% of primary care MDs in California are in solo practice.

- Family Physicians are more likely to be in solo practice than General Internists (26%), General Pediatricians (15%), and Obstetrician/Gynecologists (28%).
- 14% of primary care physicians in California are members of the Permanente Medical Group, including: 13% of Family Physicians, 16% of General Internists, 11% of General

- Pediatricians, and 17% of Obstetrician/Gynecologists in the state.
- 9% of primary care physicians in California practice in federally qualified health centers, other community clinics, and public clinics
- Within California, employed primary care physicians earn less in hospitals and outpatient care centers compared to their counterparts in ambulatory health care services and physicians' offices.

Graduates of Training Programs that Prepare Primary Care Clinicians, 2015



Sources: Ass. U.S. Medical School and Sex, 2015; American Association of Colleges of Osteopathic Medicine, Graduates by College & Gender 2015; Physician Assistant Education Association Program Surveys 2015, private tabulation; American Association of Colleges of Nursing, Research and Data Services, 2016, private tabulation.

including: 12% of Family Physicians, 5% of General Internists, 11% of General Pediatricians, and 3% of Obstetrician/Gynecologists in the state.

- PAs are more likely than NPs to practice in physician offices (32% versus 17%), while NPs are more likely than PAs to work in hospitals (39% versus 34%).

- Conversely, NPs and PAs earn the most in hospital settings and earn less in ambulatory health care services and physicians' offices.

Earnings

- Earnings data are available only for primary care clinicians who are employees. This is an important limitation for physicians because a substantial proportion of them are in solo practices or small partnerships.
- Earnings for all primary care physicians in California are slightly higher than the national mean, except for Obstetrician/Gynecologists.
 - Earnings for PAs and NPs are also slightly higher than the national average.

Primary Care Trainees – Training Programs

- In 2015, there were 2,575 graduates of MD, DO, PA, and NP training programs, including 1,080 MDs, 448 DOs, 692 NPs, and 355 PAs.
 - MD, DO, and PA graduates are predicted to increase with the opening of 2 new medical schools (1 MD and 1 DO) and 4 PA schools in California.
- In 2016, primary care residency programs in California filled 1,582 first year (PGY-1) positions. 24% of these positions were in family medicine, 52% in internal medicine, 6% in obstetrics/gynecology, 17% in pediatrics, and 1% in combined internal medicine/pediatrics residency programs.

- Several new primary care residency programs have opened since 2010, including several teaching health centers. Some programs have increased the number of residents they train.
- The number of medical residents in primary care overstates the number of primary care physicians in training because substantial proportions of residents in general internal medicine and general pediatrics go on to pursue subspecialty training or to practice as hospitalists.
- Primary care specialties are among the least popular specialty choices for graduating seniors from allopathic (MD) medical schools in the U.S.
- Only 38% of graduating seniors from osteopathic (DO) medical schools in the U.S. plan to practice in a primary care specialty.
- Family medicine and internal medicine are among the most desirable specialties for California PA students.

Geographic Distribution of Trainees

- Training programs for MDs, DOs, NPs, and PAs are clustered in Los Angeles, San Diego, and the Greater Bay Area.

Demographic Characteristics of Trainees

- In 2015, the percentage of female MD graduates (49%) was higher than the percentage of females among practicing MDs (36%), indicating that percentage of women in the MD workforce is increasing.
 - PA and NP graduates are predominately female (70% of PAs and 86% of NPs).
- Across all four professions, whites (39%-52%) constituted the largest percentage of graduates followed by Asians (25%-36%).
- Latinos remain highly underrepresented among graduates in all four professions—they make up 3% of DOs, 7% of MDs, 9% of NPs, and 14% of PAs despite accounting for 38% of the California population.

Trainees' Interest in Primary Care

Retention of Trainees

- 74% of persons enrolled in MD granting medical schools in California are Californians and 26% moved to California from another location to attend medical schools. (Similar data are not available for other professions.)
- California exceeds the national average for retention of medical school and residency program graduates within the state for clinical practice.
 - California retains 63% of medical school graduates and 70% of residency program graduates compared to national averages of 39% and 47%, respectively. (Similar data are not available for NPs and PAs).

Data Limitations

- Existing sources of data on the primary care clinician workforce in California have some major limitations.
 - Analysts must rely on multiple sources of data that do not always define terms consistently and are not always available for the same time periods.
 - Prior to 2016, the Medical Board was the only licensing board to collect workforce data from licensees at the time of licensure

renewal. This limits the ability to use data from California licensing boards to compare findings across primary care professions.

- The availability of data on practicing professionals from other sources varies substantially across the primary care professions.
- New data collection efforts will provide additional information on DOs and NPs.
 - Licensure renewal survey launched by Osteopathic Medical Board of California in 2016
 - Sample survey of NPs to be completed in 2017
 - The Board of Registered Nursing and the Physician Assistant Board are implementing legislation that requires them to collect demographic and practice data, including: location, specialty, hours worked, type of practice, race/ethnicity, gender, languages spoken, and educational background.

Conclusion

The supply of primary care physicians in California is insufficient to meet the population's needs. Only 36% of MDs provide primary care. A larger percentage of DOs provide primary care, but their numbers are so small relative to MDs that they do not fully compensate for the shortage of primary care MDs. Primary care physicians are poorly distributed across the state with smaller ratios to population

in rural areas than in urban areas. In addition, one-third of California's primary care MDs are age 55 or older, which will likely exacerbate the shortage of primary care physicians because older physicians provide fewer hours of patient care than younger physicians and many will retire within the next 10 years.

The number of residency positions in primary care has also expanded, but not all primary care residents will go on to provide primary care or stay in California following graduation. Thus, the numbers of new graduates will not be sufficient to replace all primary care physicians who are expected to retire within the next decade.

NPs and PAs mitigate some of the primary care physician shortage in California, particularly in regions with low ratios of primary care clinicians to population. Their numbers are also growing more rapidly than the number of MDs.

However, the numbers of NPs and PAs remain much smaller than the number of MDs. In addition, one-third of NPs are age 55 or older, which means that many NPs will retire or reduce their work hours within the next 10 years. Furthermore, the ratios of NPs and PAs to population in California are lower than national ratios, suggesting that NPs and PAs are not being utilized as extensively in California as in the nation overall. The extent to which the growth in numbers of NPs and PAs in California leads to an increase in the number providing primary care will depend on the signals they receive from the labor market.

Estimating the primary care clinician supply, distribution, and demographic characteristics is severely hindered by a paucity of standardized data across professions. Future workforce planning would improve substantially if California invested more resources in the collection and analysis of standardized, comprehensive data on the primary care workforce.



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