

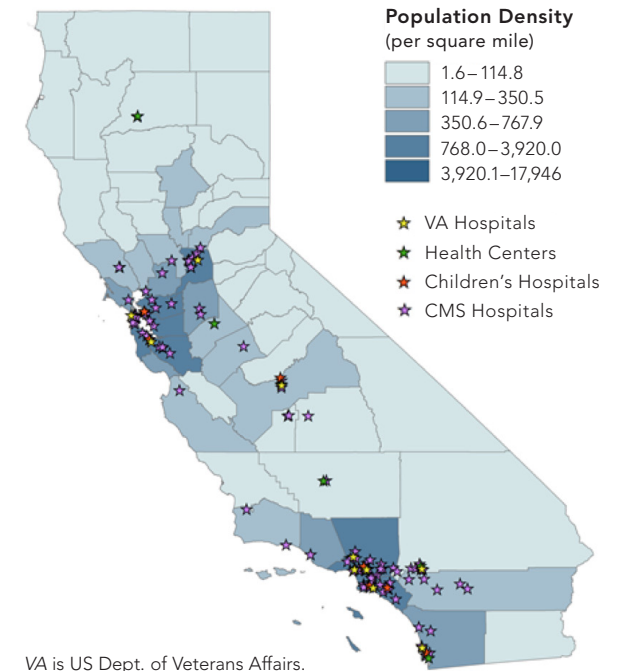
## GRADUATE MEDICAL EDUCATION FUNDING IN CALIFORNIA

# Geographic Distribution of Residencies

California currently has a shortage of physicians, and future projections indicate that this shortage will get worse as California's population continues to grow. In addition to an overall shortage, California has an uneven geographic distribution of available physicians (see Figure 2, page 2). Research indicates that most physicians practice within 100 miles of where they train.<sup>1</sup> One way to combat both the overall shortage and the geographic maldistribution is to increase the number of physicians trained in California, thoughtfully planning the expansion of current training programs as well as the establishment of new ones. Training new physicians in areas of demonstrated need increases the likelihood that those physicians will remain in that area of need.

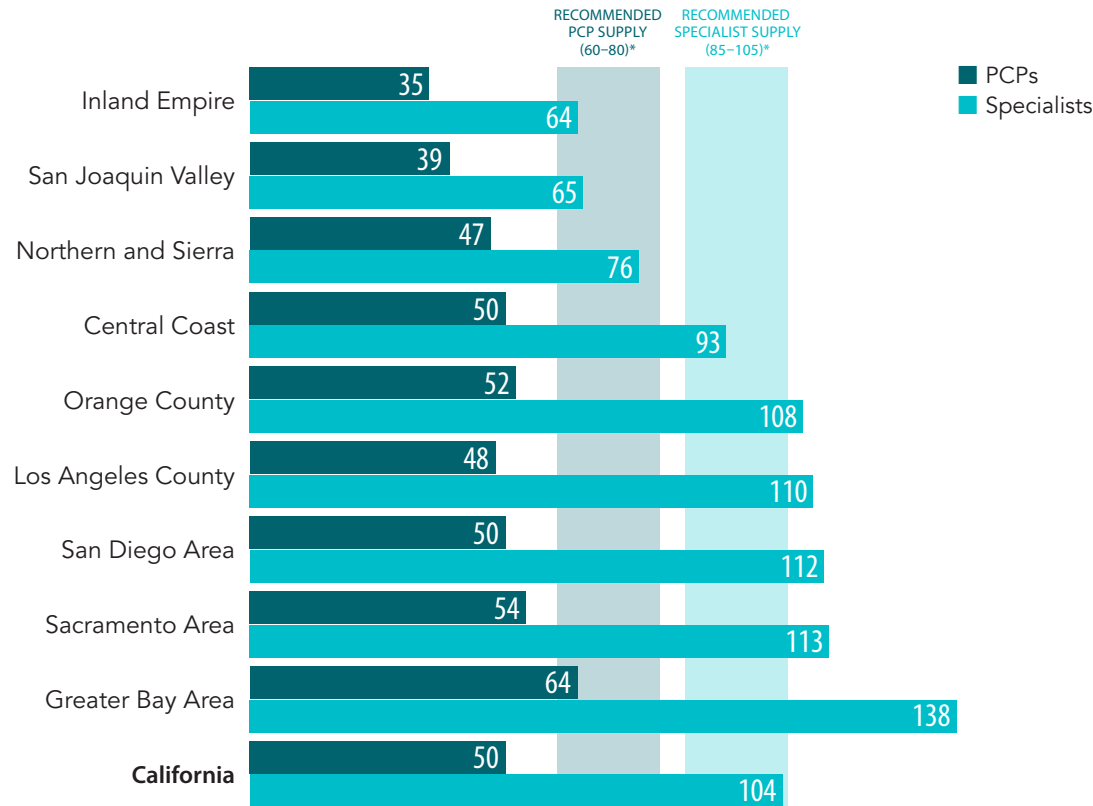
Most of the graduate medical education (GME) programs in California are located along the coast and in the Central Valley, corresponding with the majority of California's population (Figure 1). This is not surprising, as areas of higher population provide plentiful and more diverse training opportunities.

Figure 1. California Teaching Hospital Locations, by County and Population Density, 2015



Sources (Figure 1): Centers for Medicare & Medicaid Services (CMS) Teaching Hospitals identified in 2015 CMS Hospital Cost Report Data; Children's Hospitals and Teaching Health Centers identified in Health Resource & Services Administration Data Warehouse (fiscal year 2015); VA teaching hospitals identified in VA Health Services Training Report Data Cube (academic year 2016).

Figure 2. Primary Care Physicians and Specialists per 100,000 Population, by California Region, 2015



\*The Council on Graduate Medical Education (COGME), part of the US Department of Health and Human Services, studies physician workforce trends and needs. COGME ratios include doctors of osteopathic medicine (DOs) and are shown as ranges in the chart above.

Notes: Data include active MDs working 20 or more hours in patient care per week, excluding residents and fellows. There is a slight difference in regional per population estimates of physicians since not all respondents provided geographic information.

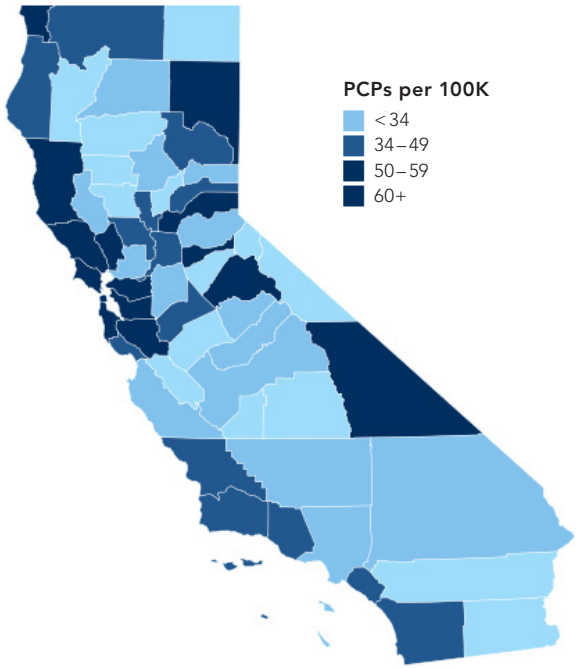
Source: Janet Coffman, Igor Geyn, and Margaret Fix, *California Physicians: Who They Are, Where They Practice*, August 2017, California Health Care Foundation, [www.chcf.org](http://www.chcf.org).

## Primary Care

California's physician shortage is particularly acute in the area of primary care, which encompasses the specialties of family medicine, pediatrics, internal medicine, geriatrics, hospice/palliative care, and sometimes obstetrics/gynecology. In 2012, the most recent year for which data are available, 23.3% of physicians completing GME in California specialized in primary care.<sup>2</sup> Just over a third of these primary care graduates trained at public University of California (UC) hospitals, another third trained at private hospitals, and the rest trained in either public hospitals or private universities. Although GME trainees may be based at a particular institution (e.g., a UC hospital) they typically rotate through a variety of practice settings during their training (e.g., community clinics, Veterans Affairs [VA] hospitals) to increase the types of experiences they have and patients they see.

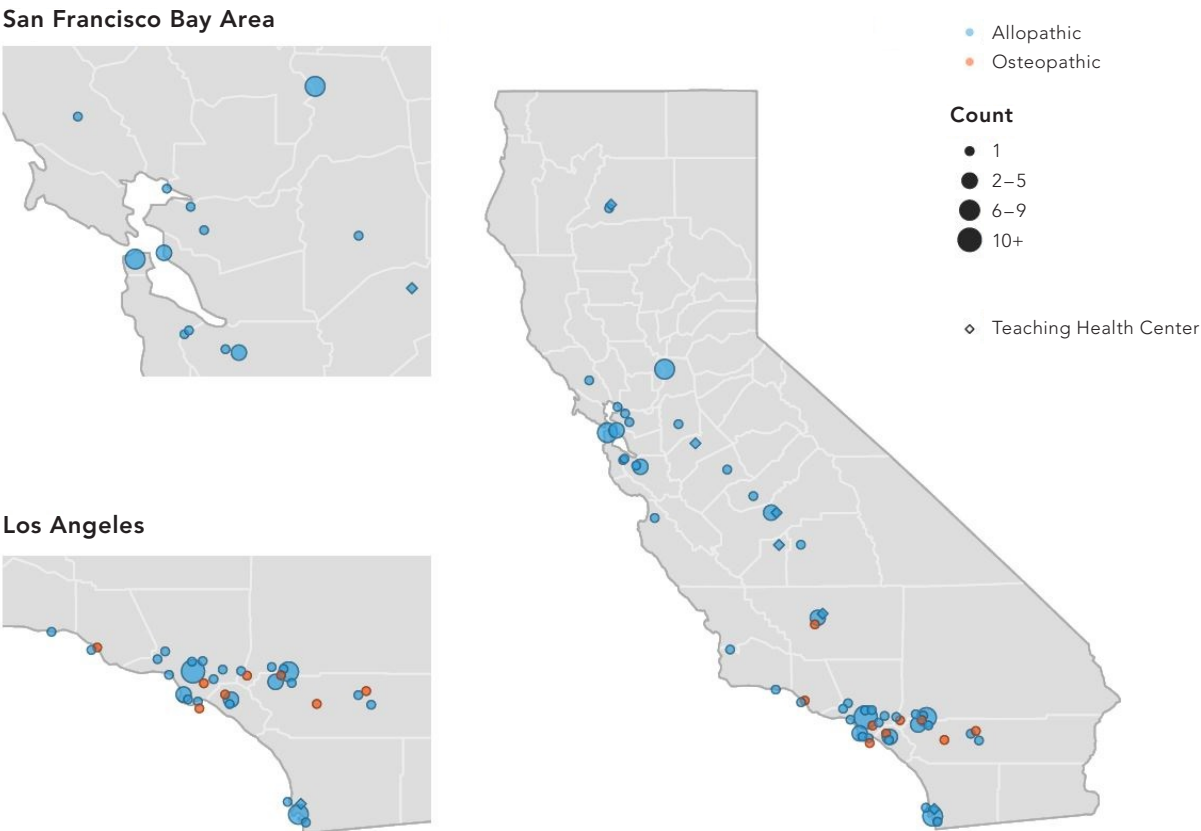
Many primary care residency programs are distributed throughout California in areas of primary care physician shortage (see Figures 3 and 4, page 3). Some of these programs are federally-designated Teaching Health Centers, medical residency programs centered in community-based clinics rather than hospitals. Unfortunately, the six Teaching Health Centers in California are currently graduating between 2 and 12 family medicine physicians annually, not enough to keep up with the growing need within their communities.

Figure 3. Supply of Primary Care Physicians\* (PCPs) by California County, 2015



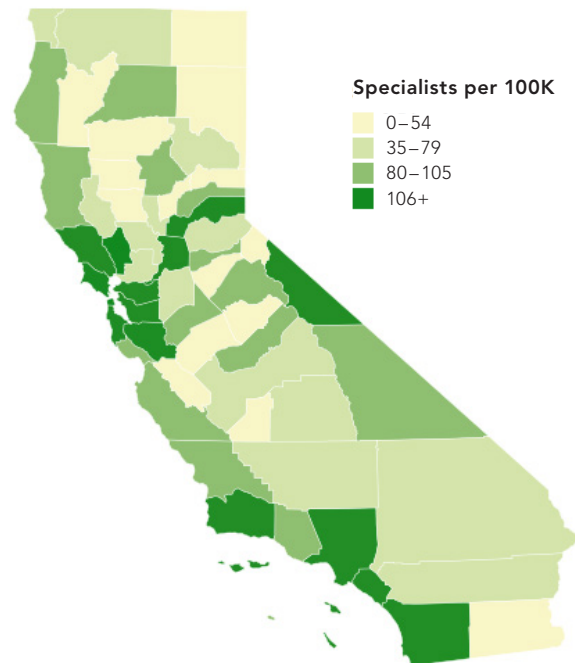
\*Physicians providing 20 or more hours of patient care per week.  
Sources: Survey of Licensees (private tabulation), Medical Board of California, 2015; Annual Estimates of the Resident Population by Sex, Age, Race, and Hispanic Origin for the United States and States: April 1, 2010 to July 1, 2015, US Census Bureau, June 2015.

Figure 4. Primary Care Residencies, by California County, 2017



Source: Janet Coffman, Igor Geyn, and Kristine Himmerick, *California's Primary Care Workforce: Current Supply, Characteristics, and Pipeline of Trainees*, Healthforce Center at UCSF, February 16, 2017, page 47, [healthforce.ucsf.edu](https://healthforce.ucsf.edu) (PDF).

Figure 5. Supply of Specialty Care Physicians\* by California County, 2015



Sources: Survey of Licensees (private tabulation), Medical Board of California, 2015; Annual Estimates of the Resident Population by Sex, Age, Race, and Hispanic Origin for the United States and States: April 1, 2010 to July 1, 2015, US Census Bureau, June 2015.

## Non-Primary Care

Non-primary care constitutes all other specialties (e.g., anesthesiology and dermatology) not included within primary care. Some of these specialties (e.g., psychiatry and general surgery) are in short supply.<sup>3</sup> Similar to primary care, non-primary care GME programs are clustered around the San Francisco Bay Area and the Los Angeles/San Diego regions, with some programs in the Central Valley (see Figure 5). Although this geographic distribution can seem too clustered for some specialties (e.g., emergency medicine and psychiatry), many specialties (e.g., transplant surgery) are better suited to areas of high population density, where there is an adequate number of cases for training. Because of the wide spectrum of non-primary care specialties, it is much more difficult to determine where these GME programs should be located based on geography alone. Rather, a better indicator would be a specific institution's capacity, from the size and characteristics of the patient population to the availability of appropriate faculty.

## Expanding GME to Address Physician Shortages

**Expansion of current programs.** One way to increase the number of physicians trained in California is to expand existing training programs. Many existing primary care programs are located in areas that have a shortage of physicians per population density and could be expanded to increase the

local physician supply. There are many more primary care GME training programs than non-primary care programs in areas of lower physician-to-population ratio. Expanding some of these sites to include non-primary care GME training programs might also make sense. Unfortunately, the Medicare GME program (the largest funder of GME training) does not allow expansion of existing programs, so subsidies would need to come from other sources, such as the Department of Veterans Affairs, the Health Resources and Services Administration, Medi-Cal, California's Song-Brown program, California's Proposition 56 funding, or the University of California or some other health care institution's budget.

**Creation of new programs.** Another way to increase the number of physicians trained in California is to establish new GME training programs. Any new program requires sufficient infrastructure and training capacity. New programs (especially in primary care) could be established in additional areas of unmet need. If a new program is created in a hospital that has never received Medicare GME dollars (Medicare naive), then it could qualify for new Medicare funding.

As thought is given to expanding GME programs to more rural areas, consideration needs to be given to each facility's ability to meet the needs of a GME program, particularly with regards to capacity within the community. One way to alleviate the pressures on a single facility is to form a consortium, sharing the training and financial responsibilities among several members.<sup>4</sup>

## The Authors

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## About the Foundation

The California Health Care Foundation is dedicated to advancing meaningful, measurable improvements in the way the health care delivery system provides care to the people of California, particularly those with low incomes and those whose needs are not well served by the status quo. We work to ensure that people have access to the care they need, when they need it, at a price they can afford.

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.

For more information, visit [www.chcf.org](http://www.chcf.org).

### ABOUT THIS SERIES

Graduate medical education (GME) — also known as residency and/or fellowship — is the final training that physicians undergo after graduation from allopathic or osteopathic medical school, domestically or internationally. GME, and how it is funded, determines the number and specialty types of practicing physicians in the workforce.

See the entire *Graduate Medical Education Funding in California* series at [www.chcf.org](http://www.chcf.org).

## Endnotes

1. Ernest Blake Fagan et al., “Family Medicine Graduate Proximity to Their Site of Training: Policy Options for Improving the Distribution of Primary Care Access,” *Family Medicine* 47, no. 2 (February 2015): 124–30.
2. AMA Masterfile Historical Data.
3. Sheri Porter, “Significant Primary Care, Overall Physician Shortage Predicted by 2025,” American Academy of Family Physicians, March 3, 2015, [www.aafp.org](http://www.aafp.org).
4. For an example of how communities form a consortium to support GME, please see the case study on the Valley Consortium for Medical Education in the *Guide to Graduate Medical Education Funding*, [www.chcf.org](http://www.chcf.org).