

STRATEGY: STRENGTHEN THE CAPACITY, EFFECTIVENESS, WELL-BEING, AND RETENTION OF THE HEALTH WORKFORCE.**Recommendation 3.1: Maximize the role of nurse practitioners as part of the care team to help fill gaps in primary care.****Main Takeaway**

The estimated total costs of this three-part recommendation are \$460 million over 10 years. Implementation of the education expansion component is estimated to cost \$454 million and would increase the total number of nurse practitioners (NPs) in California to 44,000 by 2028 — approximately 7,000 more NPs than without this recommendation (a per-NP cost of approximately \$65,000). Of these NPs, approximately 14,360 would work in primary care. This growth in the primary care NP workforce complements the recommendation related to increasing the number of primary care physician residencies, and together these recommendations would fill the projected shortage of primary care clinicians. The implementation of the three parts of this recommendation would result in approximately 17,000 NPs working in primary care, with more NPs working in rural communities. Full practice authority for NPs would result in cost savings to Californians from reduced avoidable emergency department stays and hospitalizations, and the lower costs of retail clinic use and primary care, totaling \$7.2 billion or more by 2028.

(Excerpt from impact assessment conducted by Healthforce Center at UCSF.)

Context

Nurse practitioners (NPs) are registered nurses who have completed additional education to prepare them to deliver a broad range of services, including the diagnosis and treatment of acute and chronic illnesses. These advance practice nurses are well prepared to help fill care gaps arising from shortages of primary care providers in California. Expanding education programs in underserved areas, increasing the diversity of the nurse practitioner workforce, and ensuring that nurse practitioners feel empowered to fully use their skills are necessary to meet both current and future primary care needs.¹

NPs play a key role in providing primary and specialty services, but their capacity is limited by supply, role/function, and practice restrictions. As of 2018, over 20,000 NPs are licensed and live in California.² More than three-quarters are employed in advance practice nursing positions, and others are employed in managed, faculty, and registered nurse positions. While there are no projections of the demand for NPs, forecasts of demand for primary care and behavioral health clinicians indicate that there are now and will continue to be significant shortages of physicians.³ NPs are well prepared to help meet the health care needs of Californians in these areas.

California is 1 of 28 states — and the only western state — that restricts NPs by requiring that they practice and prescribe with physician oversight. A large body of research has linked such restrictions to lower supply of NPs, lower supply specifically in rural regions, poorer access to care for state residents, lower use of primary care services, greater rates of hospitalizations and emergency department visits, and migration of qualified NPs to states with full practice

1. Joanne Spetz and Ulrike Muench, "California Nurse Practitioners Are Positioned to Fill the Primary Care Gap, but They Face Barriers to Practice," *Health Affairs* 37, no. 9 (Sept. 2018), doi:10.1377/hlthaff.2018.0435.
2. Micah Weinberg and Patrick Kallerman, *Full Practice Authority for Nurse Practitioners Increases Access and Controls Cost*, Bay Area Council Economic Institute, 2014, www.bayareaeconomy.org/files/pdf/BACEL_NP_Report.pdf (PDF); and Micah Weinberg and Patrick Kallerman, *Full Practice Authority for Nurse Practitioners Increases Access and Controls Cost: Technical Appendix*, April 2014, <https://canpweb.org/canp/assets/File/Bay%20Area%20Council%20Report%204-30-14/BAC%20NP%20Full%20Report%204-30-14.pdf> (PDF).
3. Joanne Spetz, Janet Coffman, and Igor Geyn, *California's Primary Care Workforce: Forecasted Supply, Demand, and Pipeline of Trainees, 2016-2030*, Healthforce Center at UCSF, August 15, 2017, <https://healthforce.ucsf.edu/publications/californias-primary-care-workforce-forecasted-supply-demand-and-pipeline-trainees-2016>; and Janet Coffman et al., *California's Current and Future Behavioral Health Workforce*, Healthforce Center at UCSF, February 12, 2018, <https://healthforce.ucsf.edu/sites/healthforce.ucsf.edu/files/publication-pdf/California%E2%80%99s%20Current%20and%20Future%20Behavioral%20Health%20Workforce.pdf> (PDF).

authority.⁴ Although proponents of scope of practice restrictions argue that physician oversight is necessary to ensure quality of care, dozens of studies demonstrate both that the quality of NP care is comparable to that of physician care, and that there is no difference in the quality of care when there are no physician oversight requirements. Finally, several studies have found that full practice authority for NPs is associated with lower costs of care.

California is projected to have a shortage of 4,103 FTE primary care clinicians in 2030. The most severe shortages are projected for the Central Valley and Central Coast, Southern Border, and LA/Orange/Inland Empire regions. It is estimated that up to 75% of primary care services could be provided by NPs and physician assistants (PAs). NPs and PAs are more likely to work in rural communities than are physicians.⁵

Rationale

Increasing the number of Californians trained as NPs, assuring they are working to the full extent of their training, and removing restrictions to full practice authority for NPs would help address California's workforce shortages. Increased deployment of NPs via full NP practice authority and expanded NP supply could expand access to health care and help relieve the physician shortage.⁶ This could occur through (1) the elimination of physician supervision time, thus freeing up more time for physicians to provide direct patient care; (2) NP provision of primary care services to panels of patients; (3) increased population access to primary care, which would reduce the need for hospitalization and the companion physician care that otherwise would be needed; and (4) a greater supply of NPs, based on research that finds NP supply grows more rapidly when there are not practice restrictions.

Proposed Action

Based on the concerns and recommendations discussed by the subcommittee, the following three actions are proposed to optimize NP capacity in California to meet priority access and care needs.

1. Increase the number and diversity of NPs capable of delivering culturally competent care who practice in rural and urban underserved areas.

Increase the number of NPs trained per year by increasing California's educational capacity. This would require additional outreach, scholarships, and loan repayment funds to recruit and retain NP candidates, particularly those from underserved California communities and underrepresented backgrounds.

An analysis conducted by Healthforce Center at UCSF reported that the number of new NP graduates would need to increase from approximately 1,000 per year in 2017 to approximately 1,900 per year by 2023, combined with growth in the primary care physician workforce as proposed in other recommendations, to meet care needs by 2030. Over the past three years, the number of graduates from California NP education programs increased at an annual rate of approximately 3%. To reach the target of 1,900 per year by 2023, graduations would need to increase 20% per year for three years starting in 2020, after which program growth could resume at 3% per year. This program growth would be achieved primarily through supplemental funding to public university nursing programs to launch and expand programs, prioritized for campuses in regions with the largest projected primary care shortages.

2. Increase the number of NPs who practice to the full extent of their training, expertise, and current legal scope.

Offer challenge grants to safety-net organizations interested in developing delivery system transformation initiatives to test and implement care models that maximize the skill set of all care team members. Participating organizations would be required to have NPs as part of the care team and to operate multiple care delivery sites. Selected safety-net organizations would receive \$250,000–\$500,000 per year to offset participation costs and

4. For a summary of literature examining the relationship between access to scope of practice regulations for NPs and access to care, quality of care, and productivity and the cost of care, see Joanne Spetz, *California's Nurse Practitioners: How Scope of Practice Laws Impact Care*, California Health Care Foundation, September 6, 2018, www.chcf.org/publication/californias-nurse-practitioners/.

5. Spetz, Coffman, and Geyn, *California's Primary Care Workforce*.

6. Spetz, *California's Nurse Practitioners*.

would be supported via a learning community structure to facilitate rapid-cycle process improvement and the sharing of best practices. Three to five sites from a variety of settings and areas around the state would be selected. A three-year commitment would be required of participating sites.

3. Enact policy and regulatory changes to enable a path to full practice authority for NPs in California.

- This component requires a statutory change that would:
 - Establish standards for competencies and experience to support full practice authority using established national standards for NP practice. Full practice authority would require NPs to have appropriate education and training for area of specialty practice and participate in the same credentialing, quality, performance monitoring, and peer review requirements as physicians.
 - Enact a supervised transitional period or experiential requirement prior to practicing with full practice authority. Allow both physicians and experienced NPs to be supervisors.
- Enact statewide and local monitoring and evaluation of impact on access, quality, cost, outcomes, and NP supply. It is anticipated that the Board of Registered Nursing would play a key role in this activity.

Estimated Costs

This recommendation has three components. Costs for components 1 and 2 are displayed below. Component 3 does not require a fiscal outlay.

Increase the number and diversity of NPs: Twenty-three California educational institutions offer NP programs approved by the Board of Registered Nursing.⁷ Total tuition costs for a master’s degree NP program range from \$22,000 to \$110,000 per student.⁸ These programs graduate approximately 1,000 new NPs per year; in the 2016–17 academic year, 61% of new enrollments in all types of master’s degrees nursing programs were in private institutions.⁹

The recommendation is to increase NP graduation rates from 1,000 per year in 2017 to approximately 1,900 per year by 2023. To reach the target, graduations would need to increase 20% per year for three years starting in 2020, after which program growth could resume at the current rate of 3% per year. Program growth would be achieved in four ways:

1. Program expansion grants to public universities that now offer NP programs. These grants would prioritize campuses in regions with the largest primary care shortages. The estimated cost to California State University (CSU) campuses is \$40,000 per student for the two-year program, and the estimated cost to University of California (UC) campuses is \$100,000 per student for a two-year program.
2. Program establishment grants to public universities that now offer bachelor’s or master’s degree programs in nursing but not NP programs. There are five such campuses: Channel Islands, Chico, East Bay, Northridge, and Sacramento. These grants would prioritize campuses in regions with the largest primary care shortages. The estimated cost for these programs would be \$55,000 per student for the two-year program if the initial cohort size is 15–20 students.
3. Supplemental funding to CSU campuses to enable them to pay clinical preceptors/facilities who serve their NP education programs. It has been reported that physicians request payment to accept students into their facilities, and one nursing leader estimated the potential expense at up to \$20,000 per student. CSU campuses do not have sufficient funds to make such payments, so they have difficulty securing clinical placements in some regions.
4. Stipends to students from underrepresented minority and language groups, and first-generation-to-college students, to offset lost income. These would be provided at \$36,000 per student per year.

7. “Advanced Practice Programs: Nurse Practitioner Programs,” California Board of Registered Nursing, n.d., www.rn.ca.gov/education/apprograms.shtml#np.

8. Informal communications among directors of California NP education programs (in both public and private universities) and Commission staff.

9. *2016-2017 Annual School Report: Data Summary and Historical Trend Analysis*, California Board of Registered Nursing, April 2, 2018, www.rn.ca.gov/forms/reports.shtml#school.

This fiscal estimate assumes current NP programs can absorb enrollment increases. Note that the estimates are the cost of program operation not including offsets from tuition received by programs. Thus the actual costs would be lower than reported. Key informants did not have information about how much income their department receives from tuition paid to the university.

Cost — Increase Number and Diversity of NPs	Year 1	Years 2–9 (annual)	Total
Program expansion, 2020–23, CSU, 238 students	\$9,520,000	\$9,520,000	\$95,200,000
Program expansion, 2020–23, UC, 115 students	\$11,500,000	\$11,500,000	\$115,000,000
Program establishment, 2020–23, CSU, 96 students	\$5,280,000	\$3,840,000	\$39,840,000
Supplemental clinical preceptor recruitment funds, 334 students	\$6,680,000	\$6,680,000	\$66,800,000
Student stipends to increase enrollment (100 students in year 1, 200 afterward)	\$7,200,000	\$14,400,000	\$136,800,000
Total	\$40,180,000	\$45,940,000	\$453,640,000

Cost — Increase NPs Practicing at Full Extent of Current Scope	Year 1	Years 2–4 (annual)	Total
Planning for grant period	\$250,000		\$250,000
Five sites at \$250–\$500K per year for three years		\$1,250,000–\$2,500,000	\$3,750,000–\$7,500,000
Learning community / technical support	\$50,000	\$100,000	\$350,000
Evaluation and dissemination	\$75,000	\$150,000	\$525,000
Total	\$375,000	\$1,500,000–\$2,750,000	\$4,875,000–\$8,625,000

Anticipated Challenges

Legislative efforts have been undertaken to expand full practice authority in California but failed to pass.¹⁰ Nationally, nine states have modified their practice authority regulations to remove physician oversight requirements since 2011; these changes were made with support of public health systems, AARP, and other stakeholders. Similar legislative efforts in California include SB 493, which established a new category of pharmacists: advanced practice pharmacists (APPs). SB 493 successfully expanded the APP scope of practice and authorized APPs to provide clinical services independent of physician oversight.¹¹ Prescriptive authority has been an ongoing source of controversy among scope of practice stakeholders. Most NPs consider the lack of full authority to prescribe medication as a major barrier to delivering care efficiently.¹² Opponents have raised concerns over the authorization of a new category of direct prescribers, given that excessive prescribing of controlled substances is a major public health problem. The California Psychiatric Association has raised concerns over the ability of NPs to prescribe powerful antipsychotics and psychotropic medications to patients.¹³

10. Senate Committee on Business, Professions, and Economic Development, Senator Curren D. Price Jr., Chair.

11. Assembly Committee on Health.

12. John K. Iglehart, “Expanding the Role of Advanced Nurse Practitioners — Risks and Rewards,” *New England Journal of Medicine* 368 (May 16, 2013): 1935–41, doi:10.1056/NEJMp1301084.

13. Senate Committee on Business, Professions, and Economic Development, Senator Curren D. Price Jr., Chair.

Impact Summary

Expanding nurse practitioner education to increase the supply of primary care providers: Growth in the number of NP graduations is projected to result in California having 44,000 certified NPs in 2028, producing 14,360 primary care NP FTEs in 2028. Together with a recommendation on increasing primary care physician residencies, this would eliminate the shortage of primary care clinicians in California projected by Healthforce Center at UCSF. The primary care residency recommendation details the impact on access to care of implementation of both recommendations.

Promoting the full utilization of NP skills within current scope of practice regulations: The impact of this element of the recommendation cannot be estimated because there is no existing literature to support an impact model.

Reforming scope of practice regulations: Removing scope of practice restrictions would increase the growth rate of NP supply by 25%. Between 2010 and 2017, California's NP supply grew 39%; with full practice authority the growth rate would have been 49%, and the state would have 1,500 NPs more than it does today. If full practice authority is achieved by 2020:

- The share of NPs working in primary care would increase by about four percentage points above baseline projections, increasing the number of primary care NPs from a baseline of 8,513 in 2020 to 9,169. By 2028, the number of NPs in primary care would reach 15,466, which is about 1,100 more than the baseline forecast based on education growth alone. If combined with education expansion, there would be 17,000 primary care NPs.
- The share of NPs in rural areas would rise between 60% and 350%, drawing 132 to 550 additional NPs to rural California in 2020, above the 220 projected based on education expansion alone. By 2028, full practice authority would lead to 223 to 928 more NPs in rural areas than education expansion alone (371).
- Full practice authority would increase the share of Californians receiving annual adult checkups by 5%. It would increase the share of adults rating their health care as excellent by 8.6%.
- There would be nearly 50,000 fewer revisits to emergency departments for ambulatory sensitive conditions, resulting in cost savings of more than \$58 million per year. If full practice authority is achieved in 2020, total cost savings would be \$522 million by 2028.
- There would be a decrease in avoidable hospitalizations of dual-eligible Californians of nearly 64,000, saving \$512 million per year, totaling \$4.6 billion by 2028.
- There would be a decrease in hospitalization of dual-eligible nursing home residents of approximately 18,000, saving more than \$202 million per year and totaling \$1.8 billion between 2020 and 2028.
- Cost savings would arise from reduced retail clinic costs at approximately \$35 million per year, totaling \$315 million by 2028.
- There also would be lower costs of well-child visits (3%–16% reduction), and lower malpractice payments by physicians (up to 31%). Baseline costs for these items were not available for computations of total cost savings to California.

The estimated total cost of this three-part recommendation is \$460 million.

(Excerpt from impact assessment conducted by Healthforce Center at UCSF.)

STRATEGY: STRENGTHEN THE CAPACITY, EFFECTIVENESS, WELL-BEING, AND RETENTION OF THE HEALTH WORKFORCE.**Recommendation 3.3: Develop a psychiatric nurse practitioner program that recruits from and trains providers to serve in underserved rural and urban communities.****Main Takeaway**

A psychiatric-mental health nurse practitioner (PMH-NP) program would prepare 300 advance practice RNs to practice as PMH-NPs. Over five years, these PMH-NPs would treat approximately 377,600 patients with mental health conditions. PMH-NPs would be able to address gaps in access because compared to physicians, NPs are more likely to serve rural and underserved populations. The total program cost is \$24.6 million over five years or \$82,000 per student, of which \$36,000 is a stipend and \$46,000 is education and marketing costs. Program costs and increased mental health treatment would be partially offset by decreased overall health care utilization for many of the 377,600 patients with mental health conditions treated by these providers. This is a nine-month program, and demand is dependent on the existing nurse workforce finding it attractive.

(Excerpt from impact assessment conducted by Health Management Associates.)

Context

Nearly 17% of Californians have mental health needs; 1 in 20 suffers from serious mental illness.¹ Over 50% of people with mental illness receive no care. In addition, the Healthforce Center at UCSF projected a 34% decrease in the number of psychiatrists in California between 2016 and 2028.² As the number of psychiatric medication prescribers declines, psychiatric-mental health nurse practitioners (PMH-NPs) are a potential solution to meet this need.³

Rationale

Advanced practice registered nurses (APRNs) specializing in psychiatric-mental health can help address the gap in mental health services. These registered nurses with advanced degrees train as nurse practitioners (NPs) who can diagnose and treat mental health and substance abuse problems and can provide counseling, crisis intervention, family and couples therapy, and prescription medications. In California, NPs are supervised by physicians through standardized agreements; however, PMH-NPs are not required to be supervised by psychiatrists.⁴

Prior efforts have demonstrated effective utilization of psychiatric NPs and how they fill a critical need. For example:

- In 2016, the Department of Health and Human Services Substance Abuse and Mental Health Services Administration launched a training program for nurse practitioners to prescribe buprenorphine in response to the opioid crisis.⁵ Previously only physicians could prescribe this treatment for opioid addiction.
- Psychiatric nurse practitioners have been effectively utilized in meeting the needs of vulnerable patients in New Hampshire, where incremental legislative change resulted in full practice authority through significant change to the Nurse Practice Act in 2005.⁶

1. Wendy Holt and Neal Adams, *Mental Health Care in California: Painting a Picture*, California Health Care Foundation, July 16, 2013, www.chcf.org/publication/mental-health-care-in-california-painting-a-picture/.

2. Janet Coffman et al., *California's Current and Future Behavioral Health Workforce*, Healthforce Center at UCSF, February 12, 2018, <https://healthforce.ucsf.edu/publications/california-s-current-and-future-behavioral-health-workforce>.

3. Ibid.

4. Joanne Spetz, *California's Nurse Practitioners: How Scope of Practice Laws Impact Care*, California Health Care Foundation, September 6, 2018, www.chcf.org/publication/californias-nurse-practitioners/.

5. "HHS to Launch Buprenorphine Training for Nurse Practitioners, Physician Assistants," press release, American Hospital Association, November 18, 2016, www.aha.org/news/headline/2016-11-18-hhs-launch-buprenorphine-training-nurse-practitioners-physician-assistants.

6. Alexander De Nesnera and Diane E. Allen, "Expanding the Role of Psychiatric Mental Health Nurse Practitioners in a State Psychiatric System: The New Hampshire Experience," *Psychiatric Services* 67, no. 5 (May 1, 2016): 482–84, doi:10.1176/appi.ps.201500486.

Experience with other programs suggests that incentives for participants, such as stipends to offset lost income during enrollment, can help sustain demand for the program. Clinical site placements and supervision may be achieved by partnering with large organizations (e.g., VA, prisons, large FQHCs) to secure adequate clinical training opportunities.

Proposed Action

UC schools of nursing propose to combine resources to prepare approximately 300 additional APRNs over the next five years. Three UC schools of nursing (UCSF, UCLA and UC Davis) would prepare NPs with the additional post-masters' training to practice also as PMH-NPs. UCSF is a nationally recognized leader in the preparation of PMH-NPs and currently has an in-person program with similar courses. A steering committee of psych-mental health faculty experts developed this collaborative program, which would employ online resources of the UCLA Extension Service. The nine-month (three quarters), 28-unit (part-time) program would include online and classroom instruction. Additionally, 500 hours of supervised clinical training would be required in facilities such as hospitals, Federally Qualified Health Centers (FQHCs), prisons/jails, schools and university student health centers, Veterans Administration facilities, or drug and alcohol treatment centers, in urban and rural communities. The program is intended to be self-supporting and would be incorporated into ongoing operational and financial plans of the schools of nursing within the proposed five-year project period. An assessment of program results and sustainability will inform future enrollment level and resource requirement decisions.

Estimated Cost

Building on existing resources, the plan requires additional investments. Costs include one-time planning and program development costs, followed by ongoing operational expenses and student stipend support.

- Estimated development costs (including course development, online platform, clinical site development) — \$1.6 million.
- Ongoing annual operational costs (including instruction and marketing) — \$2.9 million annually (including inflation at 3%), \$12.2 million over five years.
- Recommended student aid: stipend of \$36,000 per year to each student (64 students in year 1, assuming attrition in years 2–5) to incentivize student enrollment by offsetting lost income during enrollment — \$10.8 million total over five years. Stipends are critical to achieving impact goals since target students are qualified, working NPs who would incur expenses and lost income during enrollment and may not earn additional compensation after program completion.

Program and Stipend Expenses	Year 1	Years 2–5 (annual)	Total
Planning and development	\$1,200,000	\$100,000	\$1,600,000
Operations and marketing	\$400,000	\$2,950,000	\$12,200,000
Stipends to incentivize enrollment	\$2,300,000	\$2,125,000	\$10,800,000
Total	\$3,900,000	\$5,175,000	\$24,600,000

Impact Summary

Over five years, establishing a psychiatric-mental health nurse practitioner (PMH-NP) program would cost \$24.6 million and prepare 300 advance practice registered nurses (APRNs) to also practice as PMH-NPs. The program would cost \$82,000 per student, of which \$36,000 is a stipend and \$46,000 is for education and marketing costs. A portion of the program cost and subsequent expenditures on new mental health treatment are anticipated to be offset by decreased overall health care utilization and increased economic productivity. This is a nine-month program, and demand is dependent on the existing nurse workforce finding it attractive.

Over five years, these PMH-NPs would treat approximately 377,600 patients with mental health conditions. PMH-NPs would be able to address gaps in access because compared to physicians, NPs are more likely to serve rural and underserved populations. PMH-NPs have demonstrated similar prescribing compared to psychiatrists and a whole-person approach to treatment; as a result this program would generate health and economic returns by providing quality behavioral health treatment access to underserved populations. People with mental health conditions tend to have higher overall health care costs and are more likely to have chronic health conditions. Behavioral health treatment is associated with medical cost savings of 20%–30%. Overall, treatment of depression is associated with gains in health returns and economic returns with a benefit-to-cost ratio of 5.3 to 1, and similar treatment of anxiety is associated with a benefit-to-cost ratio of 4.0 to 1. Medical savings accrue from decreases in inpatient length of stay and emergency department visits, along with the potential for a reduced cost-per-service compared to care by MDs. In addition, the overall economy benefits from decreased absenteeism and increased productive work time for those receiving appropriate behavioral health treatment.

(Excerpt from impact assessment conducted by Health Management Associates.)