

# Regional Forecasts of the Registered Nurse Workforce in California

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## Abstract

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Regional projections of the supply and demand for registered nurses (RNs) indicate wide variation in current and projected RN supply, with the lowest supply in the Central Valley and Sierra and the Central Coast regions. In 2026, all regions of California, except the Central Coast, are estimated to have shortages of RNs, but these will resolve before 2032. However, in 2037, the Central Coast is projected to have supply that will be notably lower than national benchmarks for demand.

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## Contents

|                                   |          |   |           |
|-----------------------------------|----------|---|-----------|
| <b>Abstract</b>                   | <b>2</b> | Calculating FTEs  | 12        |
| <b>Acknowledgements</b>           | <b>2</b> | Supply Projection Results   | 14        |
| <b>Contents</b>                   | <b>2</b> | <b>The Demand for RNs</b>   | <b>16</b> |
| <b>Key Findings</b>               | <b>3</b> | Forecasts based on RNs per capita                                   | 16        |
| <b>Background</b>                 | <b>4</b> | Forecasts based on vacancy-adjusted and age-adjusted RNs per capita | 17        |
| <b>Definition of the Regions</b>  | <b>4</b> | Demand Projection Results   | 17        |
| <b>Modeling the Supply of RNs</b> | <b>5</b> | <b>Comparing Supply and Demand for RNs</b>                          | <b>19</b> |
| Method of calculating RN supply   | 6        | Additional factors that affect regional RN shortages                | 21        |
| Current supply of nurses          | 6        | <b>Policy Implications</b>  | <b>22</b> |
| Inflows of nurses                 | 7        | <b>References</b>   | <b>23</b> |
| Outflows of nurses                | 11       |   |           |

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## Key Findings

- The current supply of RNs varies widely by region. The ratio of full-time equivalent (FTE) RNs per 100,000 population ranges between 738 and 1,095 per 100,000; the national median is approximately 947 per 100,000.
- By 2037, all regions are projected to have RN FTE supply exceeding the current national median ratio, except the Central Coast, which will remain below the national median ratio.
- In the Central Valley and Sierra, current demand for RNs is notably lower than the national median benchmark. This suggests that demand for RNs – and the health care infrastructure as a whole – may be falling short of population need.
- By 2037, the projections indicate that no regions will have a shortfall of supply relative to demand. However, the Central Coast region is projected to continue to have a shortfall relative to the national median benchmark.

## Background

Nursing shortages in California have been reported for nearly a decade, particularly in rural communities and for registered nurses (RNs) with experience in specialized clinical fields such as perioperative care, labor and delivery, intensive care, and emergency care. Nationwide, it has been reported that the supply of RNs decreased by more than 100,000 between 2020 and 2021 (Auerbach et al., 2022), and in 2023, the U.S. Health Services and Resources Administration (HRSA) estimated that there was a shortage of 320,000 RNs, leaving nearly 10% of the current demand unfilled (HRSA, 2023). However, it also was reported that the national RN workforce grew 5.3% between 2019 and 2023 (HRSA, 2024a), and the total number of full-time equivalent (FTE) RNs was 6% higher in 2023 than in 2019 (Auerbach et al., 2024). Together, these data suggest that the COVID-19 pandemic's effect on RN employment and graduations was temporary. The size of the RN workforce has been projected to increase by nearly 1.2 million FTEs by 2035, reaching 4.56 million FTEs, which is close to pre-pandemic forecasts and more than 1 million greater than the HRSA projection of 3.39 million FTEs (Auerbach et al., 2024).

Different projections of California's future RN supply have been published, with HRSA projecting a loss of 0.4% between 2023 and 2028 (HRSA, 2025) and the California Department of Health Care Access and Information (HCAI) projecting an increase of 45.2% between 2023 and 2028 (HCAI, 2024a). The different results of these models demonstrate the variation that can result from different data sources and assumptions about factors that affect RN supply and demand. HCAI more recently presented estimates that there was a statewide shortage of approximately 2% in 2022 (~6,000 RNs) and that the shortage was projected to increase to 16% by 2033 (~60,000 RNs). However, the HCAI projection models rely on data collected by that agency and, as presented, do not appear to use up-to-date estimates of nursing enrollments and new licenses issued to RNs from other states and countries, leading to an underestimate of future supply.

This report provides forecasts of RN supply and demand for each of eight regions of California, based on a statewide projection model developed for the California Board of Registered Nursing (BRN). The projections are inclusive of all RNs, including those with advanced practice credentials (i.e., nurse practitioners, nurse anesthetists, and nurse midwives). The data used to construct the model were derived from the 2024 BRN Survey of Registered Nurses (Chu & Spetz, in press), the 2024-2025 BRN Annual Schools Report (Blash, Quan, & Spetz, in press), and BRN records from 2025 and 2026. The supply forecast is compared with several benchmarks of demand, including national ratios of RNs per capita, estimates that adjust for population aging and current vacancies, and projections published by the California Employment Development Department (EDD, 2025).

## Definition of the Regions

The eight regions of California are composed of counties that have interconnected economies and labor markets. These regional definitions have been used for BRN surveys since the mid-2000s and were derived from regions defined by the California Economic Strategy Panel in 1998 (California Economic Strategy Panel, 2006).

- Northern Counties: Butte, Colusa, Del Norte, Glenn, Humboldt, Lake, Lassen, Mendocino, Modoc, Nevada, Plumas, Shasta, Sierra, Siskiyou, Tehama, Trinity
- Sacramento: El Dorado, Placer, Sacramento, Sutter, Yolo, Yuba
- San Francisco Bay Area: Alameda, Contra Costa, Marin, Napa, San Francisco, San Mateo, Santa Clara, Santa Cruz, Solano, Sonoma
- Central Valley & Sierra: Alpine, Amador, Calaveras, Fresno, Inyo, Kern, Kings, Madera, Mariposa, Merced, Mono, San Joaquin, Stanislaus, Tulare, Tuolumne
- Central Coast: Monterey, San Benito, Santa Barbara, San Luis Obispo
- Los Angeles Core: Los Angeles, Orange, Ventura
- Southern Border: Imperial, San Diego

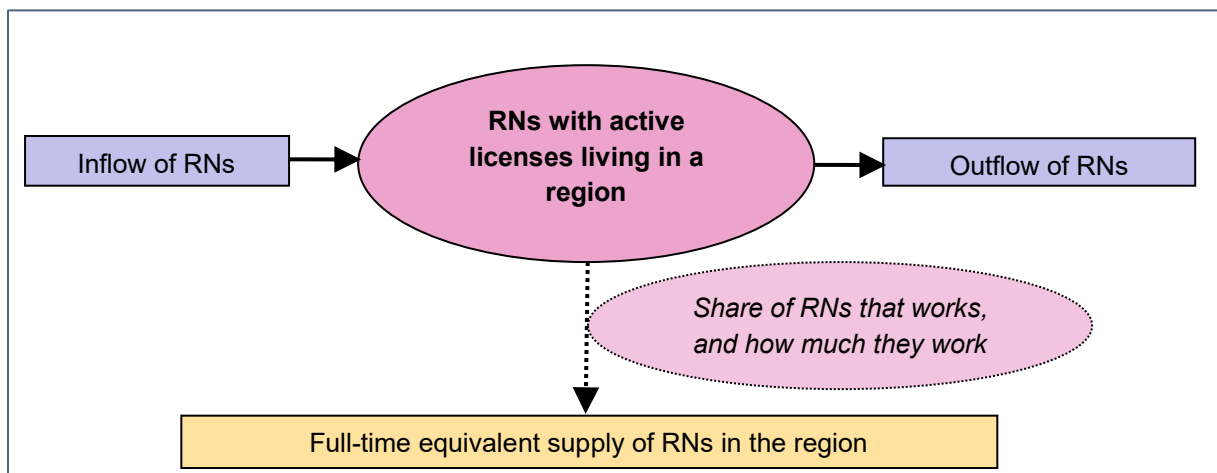
## Modeling the Supply of RNs

The RN workforce constantly changes with the entrance of newly graduated nurses; migration of nurses from other regions, states, and countries; retirements; temporary departures from nursing work; and fluctuations in the number of hours that nurses choose to work. These factors can be grouped into three categories:

- 1) Inflows of nurses: Additions to the number of RNs in the region
  - a) Graduates from regional nursing programs
  - b) Graduates of nursing programs in other states and regions who obtain their first RN license in California and move to the region
  - c) Internationally educated nurses who immigrate to the region and obtain their RN license
  - d) Inter-regional and interstate migration of RNs
  - e) Changes from inactive or lapsed to active license status
- 2) Outflows of nurses: The loss of RNs from the region
  - a) Migration out of region (to another region, state, or country)
  - b) Movements from active to inactive or lapsed license status
- 3) Labor force participation factors: Decisions to work, and how much to work
  - a) Percentage of RNs with active licenses that work in a nursing job
  - b) Average number of hours worked per week by RNs working in nursing

The inflows are added to the number of RNs living in the region with active licenses, which is called the “stock” of nurses available to work, and the outflows are subtracted from the stock. Estimates of the labor supply of RNs are derived from the stock of RNs potentially available to work and how much they choose to work in nursing. This number is expressed as full-time equivalent (FTE) employment in order to account for differences in the work commitments of those employed full-time and part-time. Figure 1 illustrates this model of the supply of RNs, commonly called a “stock-and-flow model.”

**Figure 1. A model of the supply of RNs**



## Method of calculating RN supply

The total supply of employed RNs is determined by the age distribution of the stock of RNs, as well as of each inflow and outflow component. In the supply model, the number of RNs with active licenses who reside in the region is divided into 13 age categories: under 25, 25-29, 30-34, 35-39, 40-44, 45-49, 50-54, 55-59, 60-64, 65-69, 70-74, 75-79, and 80 and older. The model assumes that nurses are evenly distributed within each 5-year age group. Therefore, in each year, 20% of the RNs in each age group – or 1 in 5 RNs – moves into the next (older) age group, until they reach the oldest age group.

For each year of the model, the inflow estimates are added to each age group and the outflow estimates are subtracted from each age group, resulting in an estimate of the new stock of RNs for the subsequent year. For each age category, the basic formula is:

Forecasted Supply of RNs next year

$$= \text{Current supply of RNs in current year} + \text{Estimated total inflows} - \text{Estimated total outflows.}$$

Employment rates and hours worked per week in nursing are then applied to the estimated stock of RNs in each age group, resulting in an estimated FTE supply. This calculation is iterated through 2035 to obtain yearly forecasts of the region's RN supply.

## Current supply of nurses

According to the BRN licensure records, there were 566,339 nurses with California licenses in 2026, of whom 451,640 had California addresses (Table 1). Between 2024 and 2026, the total number of licenses increased 7.5% (39,642 RNs), and the number with California addresses increased 8.8% (36,350).

**Table 1. California RN Licenses, by Age Group, 2024 and 2026**

| Age Group | All Licenses |         |        | California Addresses |         |        |
|-----------|--------------|---------|--------|----------------------|---------|--------|
|           | 2024         | 2026    | Change | 2024                 | 2026    | Change |
| Under 25  | 6,662        | 9,903   | 48.6%  | 5,907                | 8,914   | 50.9%  |
| 25-29     | 46,392       | 49,624  | 7.0%   | 32,433               | 38,250  | 17.9%  |
| 30-34     | 72,647       | 75,761  | 4.3%   | 52,755               | 57,478  | 9.0%   |
| 35-39     | 79,740       | 87,854  | 10.2%  | 61,292               | 68,001  | 10.9%  |
| 40-44     | 66,962       | 77,623  | 15.9%  | 53,414               | 61,621  | 15.4%  |
| 45-49     | 56,224       | 60,507  | 7.6%   | 44,965               | 48,172  | 7.1%   |
| 50-54     | 57,710       | 58,876  | 2.0%   | 46,769               | 47,478  | 1.5%   |
| 55-59     | 43,634       | 48,798  | 11.8%  | 35,091               | 39,238  | 11.8%  |
| 60-64     | 39,288       | 38,127  | -3.0%  | 32,269               | 31,043  | -3.8%  |
| 65-69     | 32,945       | 31,421  | -4.6%  | 28,491               | 26,769  | -6.0%  |
| 70-74     | 16,792       | 18,663  | 11.1%  | 14,905               | 16,421  | 10.2%  |
| 75-79     | 5,755        | 6,897   | 19.8%  | 5,196                | 6,151   | 18.4%  |
| 80+       | 1,946        | 2,285   | 17.4%  | 1,803                | 2,104   | 16.7%  |
| Total     | 526,697      | 566,339 | 7.5%   | 415,290              | 451,640 | 8.8%   |

Source: California Board of Registered Nursing Licensure Records, February 25, 2024, and March 9, 2026.

The total number of California RNs per region, and number per age group, are presented in Table 2. The last row of the table presents the number of RNs per 100,000 population, which vary notably across regions. In 2026, the lowest RN-to-population ratio was in the Central Coast region (714), followed by the Central Valley and Sierra region (766). The highest RN-to-population ratio was in the Sacramento region (1,073), followed by the Inland Empire (941).

**Table 2. California RN Licenses, by Age Group and County, and RNs per 100,000 population, 2026**

| Age Group       | Northern Counties | Sacramento | SF Bay Area | Central Valley/Sierra | Central Coast | Los Angeles Core | Inland Empire | San Diego & Imperial |
|-----------------|-------------------|------------|-------------|-----------------------|---------------|------------------|---------------|----------------------|
| Under 25        | 125               | 741        | 1,640       | 1,000                 | 160           | 3,167            | 1,336         | 745                  |
| 25-29           | 620               | 2,905      | 7,111       | 4,165                 | 751           | 14,137           | 5,054         | 3,507                |
| 30-34           | 1,127             | 4,285      | 10,970      | 6,057                 | 1,338         | 20,605           | 7,583         | 5,513                |
| 35-39           | 1,665             | 5,590      | 14,032      | 7,469                 | 1,662         | 22,879           | 8,248         | 6,456                |
| 40-44           | 1,762             | 5,558      | 12,941      | 6,938                 | 1,593         | 19,282           | 7,468         | 6,079                |
| 45-49           | 1,376             | 4,545      | 10,612      | 5,233                 | 1,269         | 14,744           | 5,855         | 4,538                |
| 50-54           | 1,111             | 4,359      | 10,602      | 5,092                 | 1,123         | 15,151           | 5,844         | 4,196                |
| 55-59           | 1,114             | 3,403      | 8,594       | 3,938                 | 1,036         | 12,993           | 4,810         | 3,350                |
| 60-64           | 1,074             | 2,491      | 6,793       | 3,197                 | 1,000         | 9,905            | 3,806         | 2,777                |
| 65-69           | 1,012             | 1,960      | 5,721       | 2,621                 | 976           | 8,882            | 3,082         | 2,515                |
| 70-74           | 693               | 1,241      | 3,710       | 1,384                 | 664           | 5,436            | 1,780         | 1,513                |
| 75-79           | 269               | 444        | 1,441       | 515                   | 262           | 2,077            | 620           | 523                  |
| 80+             | 83                | 130        | 502         | 162                   | 78            | 786              | 205           | 158                  |
| Total           | 12,031            | 37,652     | 94,669      | 47,771                | 11,912        | 150,044          | 55,691        | 41,870               |
| RNs per 100,000 | 861.1             | 1,073.2    | 877.6       | 766.0                 | 714.0         | 873.9            | 940.9         | 910.4                |

Sources: California Board of Registered Nursing Records, March 9, 2026; California Department of Finance, Population Estimates, 2026

## Inflows of nurses

### Graduates from California nursing programs

According to the BRN Annual School Report, there were 16,483 new graduates from California RN programs in the 2024-2025 academic year, which was a 17.8% increase from 13,988 graduates in 2022-2023. Table 3 presents the numbers of new enrollments and graduates from the past 10 Annual Schools Reports. We used the enrollment data to project future numbers of RN graduates. Some California RN programs have satellite campuses in other regions than the home campus. Enrollments for satellites were reallocated to their region.

**Table 3. Statewide RN Program Enrollments and Graduations, 2015-2016 to 2024-2025**

| Survey year | Number of new student enrollments | Growth in new student enrollments | Number of graduates | Growth in graduates |
|-------------|-----------------------------------|-----------------------------------|---------------------|---------------------|
| 2015-2016   | 13,190                            | -1.0%                             | 11,191              | 0.7%                |
| 2016-2017   | 13,599                            | 3.1%                              | 11,302              | 1.0%                |
| 2017-2018   | 14,139                            | 4.0%                              | 11,890              | 5.2%                |
| 2018-2019   | 15,150                            | 7.2%                              | 11,857              | -0.3%               |
| 2019-2020   | 15,002                            | -1.0%                             | 12,714              | 7.2%                |
| 2020-2021   | 14,004                            | -6.7%                             | 12,304              | -3.2%               |
| 2021-2022   | 16,436                            | 17.4%                             | 13,371              | 8.7%                |
| 2022-2023   | 17,651                            | 7.4%                              | 13,988              | 4.6%                |
| 2023-2024   | 18,418                            | 4.3%                              | 15,110              | 8.0%                |
| 2024-2025   | 19,450                            | 5.6%                              | 16,483              | 9.1%                |

Note: The large increase in enrollments between 2020-21 and 2021-22 is in part due to one program not reporting data in 2019-20 and 2020-21; that school's enrollment was estimated at its 2018-19 level for those years, but their 2021-22 data suggest that they were expanding in the intervening years.

Source: Blash, L, Quan, A, Spetz, J. 2024-2025 Annual School Report: Data Summary and Historical Trend Analysis, A Presentation for Pre-Licensure Nursing Programs in California. Sacramento, CA: California Board of Registered Nursing.

From the 2020-2021 through 2024-2025 school years, graduates averaged 91.1% of the number of student enrollments two years prior. This rate was used to estimate the number of future graduates. Actual enrollments after 2024-2025 are not yet known, so we used estimates from the BRN Annual School Survey, which asks schools to estimate future enrollment for the next two academic years (through 2026-2027). These estimates were multiplied by 91.1% to obtain the forecasted number of graduates through 2028-2029. Graduations after that are assumed to remain stable to provide a conservative estimate of long-term graduation growth. Actual and projected numbers of graduates from 2021-2022 through 2026-2027, and cumulative growth rates, are presented in Table 4. The highest rate of graduation growth was in the Central Coast region (78.5%), and the lowest rate was in the Los Angeles region (22.9%); growth was between 32% and 40% in all other regions.

**Table 4. Actual and Projected RN Program Graduations, and Growth Rates, 2023-2024 to 2026-2027**

| Survey year       | Northern Counties | Sacramento | San Francisco Bay Area | Central Valley & Sierra | Central Coast | Los Angeles Core | Inland Empire | San Diego & Imperial |
|-------------------|-------------------|------------|------------------------|-------------------------|---------------|------------------|---------------|----------------------|
| 2023-24           | 402               | 784        | 2,324                  | 1,529                   | 254           | 6,254            | 2,501         | 1,062                |
| 2024-25           | 450               | 834        | 2,458                  | 1,748                   | 303           | 6,962            | 2,625         | 1,103                |
| 2025-26*          | 473               | 900        | 2,763                  | 1,826                   | 300           | 5,099            | 4,557         | 1,084                |
| 2026-27*          | 493               | 993        | 2,763                  | 2,023                   | 343           | 5,418            | 4,827         | 1,093                |
| 2027-28*          | 551               | 1,063      | 3,036                  | 1,956                   | 411           | 7,394            | 3,344         | 1,320                |
| 2028-29*          | 545               | 1,069      | 3,251                  | 2,018                   | 453           | 7,683            | 3,393         | 1,404                |
| Cumulative growth | 35.5%             | 36.4%      | 39.9%                  | 32.0%                   | 78.5%         | 22.9%            | 35.7%         | 32.2%                |

\* Estimated based on past graduation rates, actual enrollments, and projection enrollments; adjusted for satellite campuses. Source: Calculated from Blash, L, Quan, A, & Spetz, J. 2024-2025 Annual School Report: Data Summary and Historical Trend Analysis, A Presentation for Pre-Licensure Nursing Programs in California. Sacramento, CA: California Board of Registered Nursing. Data adjusted to account for satellite campuses.

### International nursing graduates

BRN records report that 987 internationally-educated nurses passed the National Council Licensure Examination for RNs (NCLEX-RN) in 2025 and received initial licensure as RNs in California, which was more than a 50% decrease from 2,037 in 2023. Among newly-licensed international graduates, 803 had a California residence. In the supply model, the number of 2025 international graduates was used to identify the number of immigrant RNs that moved to each region (Table 5). Because there were few internationally educated nurses newly licensed in some regions, the statewide age distribution was applied to all regions (Table 6).

**Table 5. Internationally Educated RNs, 2025**

| Year | Northern Counties | Sacramento | SF Bay Area | Central Valley/Sierra | Central Coast | Los Angeles Core | Inland Empire | San Diego & Imperial |
|------|-------------------|------------|-------------|-----------------------|---------------|------------------|---------------|----------------------|
| 2025 | 3                 | 62         | 219         | 122                   | 3             | 256              | 89            | 51                   |

Source: California Board of Registered Nursing licensing records, 2023.

**Table 6. Age Distribution of Internationally Educated RNs Residing in California, 2025**

| Age group      | Percentage | Age group   | Percentage |
|----------------|------------|-------------|------------|
| Under 25 years | 6.5%       | 45-49 years | 10.1%      |
| 25-29 years    | 14.9%      | 50-54 years | 5.6%       |
| 30-34 years    | 15.3%      | 55-59 years | 3.5%       |
| 35-39 years    | 25.8%      | 60-64 years | 0.7%       |
| 40-44 years    | 17.4%      | 65+ years   | 0.1%       |

Source: California Board of Registered Nursing licensing records, 2023.

### Interstate migration of RNs

Nurses can migrate to California before or after they have received a California license. Rates of migration into California were calculated for each of these two components. First, licensing files from 2024 and 2026 were used to identify nurses who had California licenses in both years, but who lived outside California in 2024 and lived in California in 2026. Over the two-year period, the difference was 8,884, which is similar to the number between 2022 and 2024 (8,293). This figure was divided by two to get an estimate of one-year change for each region and age group. These numbers were then divided by the total number of licensed RNs in each region and age group to obtain a rate of in-migration of already-licensed RNs. Table 7 presents the rates for each region and age group.

**Table 7. Annual Rate of Already-Licensed RNs Moving to California from Other States, 2024-2026**

| Age Group | Northern Counties | Sacramento | SF Bay Area | Central Valley/Sierra | Central Coast | Los Angeles Core | Inland Empire | San Diego & Imperial |
|-----------|-------------------|------------|-------------|-----------------------|---------------|------------------|---------------|----------------------|
| Under 25  | 0.0%              | 0.1%       | 0.2%        | 0.1%                  | 0.9%          | 0.2%             | 0.3%          | 0.6%                 |
| 25-29     | 0.8%              | 1.2%       | 2.4%        | 0.6%                  | 1.4%          | 1.3%             | 0.5%          | 4.8%                 |
| 30-34     | 1.2%              | 2.5%       | 3.0%        | 1.0%                  | 1.7%          | 1.5%             | 0.8%          | 4.0%                 |
| 35-39     | 1.2%              | 2.4%       | 2.6%        | 1.2%                  | 1.5%          | 1.1%             | 0.9%          | 2.4%                 |
| 40-44     | 1.1%              | 1.3%       | 1.3%        | 0.9%                  | 0.5%          | 0.6%             | 0.6%          | 1.2%                 |
| 45-49     | 0.9%              | 0.8%       | 0.8%        | 0.6%                  | 0.9%          | 0.5%             | 0.6%          | 0.9%                 |
| 50-54     | 1.0%              | 0.6%       | 0.7%        | 0.4%                  | 0.9%          | 0.4%             | 0.5%          | 0.7%                 |
| 55-59     | 1.0%              | 0.4%       | 0.5%        | 0.4%                  | 0.7%          | 0.3%             | 0.3%          | 0.7%                 |
| 60-64     | 0.7%              | 0.6%       | 0.5%        | 0.3%                  | 0.3%          | 0.2%             | 0.4%          | 0.6%                 |
| 65-69     | 0.5%              | 0.3%       | 0.3%        | 0.2%                  | 0.3%          | 0.2%             | 0.3%          | 0.3%                 |
| 70-74     | 0.1%              | 0.1%       | 0.2%        | 0.0%                  | 0.1%          | 0.2%             | 0.2%          | 0.2%                 |
| 75-79     | 0.2%              | 0.1%       | 0.1%        | 0.1%                  | 0.0%          | 0.1%             | 0.4%          | 0.2%                 |
| 80+       | 1.2%              | 0.8%       | 0.0%        | 0.0%                  | 0.0%          | 0.0%             | 0.0%          | 0.0%                 |

Source: California Board of Registered Nursing licensing files, 2024 and 2026.

Second, California Board of Registered Nursing records were used to count the number of RNs in 2025 who had requested endorsement of their out-of-state license to California and had a California address, by age group. These data were divided by the total number of RNs in each region and age group to obtain a rate of in-migration of newly-licensed RNs. Table 8 presents the rates for each region and age group.

**Table 8. Rate of RNs Endorsing Licenses to California from Other States**

| Age Group | Northern Counties | Sacramento | SF Bay Area | Central Valley/Sierra | Central Coast | Los Angeles Core | Inland Empire | San Diego & Imperial |
|-----------|-------------------|------------|-------------|-----------------------|---------------|------------------|---------------|----------------------|
| Under 25  | 1.3%              | 2.8%       | 1.9%        | 1.7%                  | 5.9%          | 1.4%             | 0.9%          | 4.4%                 |
| 25-29     | 1.2%              | 1.8%       | 1.7%        | 1.4%                  | 2.0%          | 0.8%             | 1.1%          | 2.6%                 |
| 30-34     | 1.1%              | 1.3%       | 0.9%        | 0.9%                  | 0.7%          | 0.6%             | 0.4%          | 1.2%                 |
| 35-39     | 0.5%              | 0.5%       | 0.7%        | 0.8%                  | 1.3%          | 0.6%             | 0.6%          | 0.7%                 |
| 40-44     | 0.3%              | 0.5%       | 0.4%        | 0.3%                  | 0.2%          | 0.4%             | 0.5%          | 0.4%                 |
| 45-49     | 0.5%              | 0.3%       | 0.5%        | 0.2%                  | 0.4%          | 0.3%             | 0.3%          | 0.4%                 |
| 50-54     | 0.6%              | 0.1%       | 0.3%        | 0.2%                  | 0.1%          | 0.2%             | 0.2%          | 0.1%                 |
| 55-59     | 0.6%              | 0.0%       | 0.2%        | 0.2%                  | 0.4%          | 0.1%             | 0.1%          | 0.2%                 |
| 60-64     | 0.1%              | 0.1%       | 0.0%        | 0.0%                  | 0.0%          | 0.1%             | 0.2%          | 0.0%                 |
| 65-69     | 0.0%              | 0.0%       | 0.0%        | 0.0%                  | 0.0%          | 0.0%             | 0.0%          | 0.1%                 |
| 70-74     | 0.2%              | 0.3%       | 0.1%        | 0.0%                  | 0.0%          | 0.0%             | 0.1%          | 0.1%                 |
| 75-79     | 0.0%              | 0.0%       | 0.0%        | 0.0%                  | 0.0%          | 0.0%             | 0.0%          | 0.0%                 |
| 80+       | 0.5%              | 0.6%       | 0.5%        | 0.5%                  | 0.6%          | 0.4%             | 0.4%          | 0.7%                 |

Source: California Board of Registered Nursing licensing records, 2025.

### Changes from inactive or lapsed to active license status

Data were obtained from the BRN on the number of RNs with California addresses, by age category, changing from lapsed or inactive status to active license status in 2025. The number that transitioned from inactive to active status and had a California county in their address record was 1,177, and the number that reactivated a delinquent license and had a California county on record was 786. Table 9 presents the rates.

**Table 9. Rate of RNs Reactivating Their Licenses from Inactive or Delinquent Status**

| Age Group | Northern Counties | Sacramento | SF Bay Area | Central Valley/Sierra | Central Coast | Los Angeles Core | Inland Empire | San Diego & Imperial |
|-----------|-------------------|------------|-------------|-----------------------|---------------|------------------|---------------|----------------------|
| Under 25  | 0.0%              | 0.0%       | 0.0%        | 0.0%                  | 0.0%          | 0.0%             | 0.0%          | 0.0%                 |
| 25-29     | 0.2%              | 0.1%       | 0.0%        | 0.0%                  | 0.1%          | 0.1%             | 0.1%          | 0.1%                 |
| 30-34     | 0.4%              | 0.0%       | 0.1%        | 0.1%                  | 0.1%          | 0.1%             | 0.2%          | 0.1%                 |
| 35-39     | 0.4%              | 0.2%       | 0.1%        | 0.1%                  | 0.2%          | 0.2%             | 0.2%          | 0.2%                 |
| 40-44     | 0.5%              | 0.2%       | 0.2%        | 0.2%                  | 0.1%          | 0.2%             | 0.2%          | 0.2%                 |
| 45-49     | 0.4%              | 0.2%       | 0.1%        | 0.3%                  | 0.2%          | 0.3%             | 0.3%          | 0.2%                 |
| 50-54     | 0.3%              | 0.1%       | 0.2%        | 0.3%                  | 0.3%          | 0.3%             | 0.2%          | 0.3%                 |
| 55-59     | 0.4%              | 0.3%       | 0.3%        | 0.3%                  | 0.5%          | 0.3%             | 0.3%          | 0.4%                 |
| 60-64     | 0.7%              | 0.6%       | 0.5%        | 0.3%                  | 0.1%          | 0.3%             | 0.3%          | 0.3%                 |
| 65-69     | 1.0%              | 0.5%       | 0.6%        | 0.6%                  | 0.5%          | 0.6%             | 0.9%          | 0.5%                 |
| 70-74     | 1.9%              | 1.2%       | 1.2%        | 1.2%                  | 0.8%          | 1.0%             | 1.2%          | 1.1%                 |
| 75-79     | 3.0%              | 2.3%       | 1.7%        | 1.7%                  | 1.5%          | 1.1%             | 1.9%          | 0.8%                 |
| 80+       | 2.4%              | 3.8%       | 0.4%        | 1.2%                  | 0.0%          | 1.8%             | 1.0%          | 1.9%                 |

Source: California Board of Registered Nursing licensing records, 2025.

### Inter-regional movements of RNs

The movement of RNs from region to region within California was determined by counting the number of RNs who were licensed in both 2024 and 2026 and changed their county of residence. These numbers were tabulated by region and age group, and then divided by the total number of nurses to obtain rates for each region and age group. The rates of RNs remaining in their region are presented in Table 10.

**Table 10. Rate of RNs Staying in Their Region of Residence**

| Age Group | Northern Counties | Sacramento | SF Bay Area | Central Valley/Sierra | Central Coast | Los Angeles Core | Inland Empire | San Diego & Imperial |
|-----------|-------------------|------------|-------------|-----------------------|---------------|------------------|---------------|----------------------|
| Under 25  | 96.9%             | 92.2%      | 95.3%       | 95.2%                 | 87.3%         | 97.7%            | 95.1%         | 96.0%                |
| 25-29     | 90.1%             | 94.3%      | 95.7%       | 94.4%                 | 89.6%         | 95.6%            | 94.2%         | 93.8%                |
| 30-34     | 92.8%             | 96.0%      | 95.9%       | 94.9%                 | 93.2%         | 95.6%            | 95.3%         | 94.9%                |
| 35-39     | 94.3%             | 97.8%      | 96.8%       | 96.6%                 | 95.9%         | 96.8%            | 96.6%         | 96.5%                |
| 40-44     | 97.2%             | 98.2%      | 97.8%       | 97.1%                 | 96.9%         | 97.6%            | 97.9%         | 97.9%                |
| 45-49     | 98.0%             | 98.9%      | 98.4%       | 98.1%                 | 98.4%         | 98.3%            | 98.2%         | 97.7%                |
| 50-54     | 97.8%             | 98.9%      | 98.5%       | 98.3%                 | 96.7%         | 98.6%            | 98.5%         | 98.2%                |
| 55-59     | 97.3%             | 97.9%      | 98.5%       | 98.0%                 | 96.5%         | 98.5%            | 98.3%         | 98.3%                |
| 60-64     | 97.9%             | 98.2%      | 98.1%       | 98.5%                 | 97.2%         | 98.5%            | 98.4%         | 98.7%                |
| 65-69     | 98.1%             | 98.0%      | 98.0%       | 98.4%                 | 97.6%         | 98.8%            | 98.7%         | 98.9%                |
| 70-74     | 98.3%             | 98.1%      | 98.8%       | 98.5%                 | 98.9%         | 99.2%            | 98.6%         | 98.5%                |
| 75-79     | 98.8%             | 98.8%      | 99.2%       | 99.1%                 | 99.4%         | 98.9%            | 98.7%         | 99.7%                |
| 80+       | 93.6%             | 98.7%      | 99.2%       | 100.0%                | 100.0%        | 98.9%            | 98.3%         | 98.8%                |

Source: California Board of Registered Nursing licensing files, 2024 and 2026.

In addition, some new graduates moved to regions other than where they were educated. To estimate this rate, multiple data points were examined. First, the number of new licensees between 2024 and 2026 was calculated for each region and age group, and divided by two to obtain annual counts, as described above. Then, the numbers of new graduates, new internationally educated licensees, endorsements from other states, and reactivations were subtracted. The remaining numbers capture numbers moving from their graduation location to a different region, changes from one age group to another (i.e., graduating at age 24 and obtaining a license at age 25), and differences across years in licensing rates (i.e., measurement error). Because most new graduates are under 30 years old, regional differences were used to estimate the rates at which younger graduates move to a new region when they obtain their license. Table 11 presents the rates for each region, which were applied to graduates under 30 years of age. Positive values indicate that new graduates are moving into the region, while negative values indicate that new graduates are leaving it.

**Table 11. Rate of New Graduates Under 30 Years of Age Moving to a New Location**

| Age Group | Northern Counties | Sacramento | SF Bay Area | Central Valley/Sierra | Central Coast | Los Angeles Core | Inland Empire | San Diego & Imperial |
|-----------|-------------------|------------|-------------|-----------------------|---------------|------------------|---------------|----------------------|
| Under 30  | -21.3%            | 37.9%      | 14.7%       | 12.8%                 | 21.6%         | -1.8%            | -4.9%         | 11.5%                |

Source: Calculated from California Board of Registered Nursing licensing files, 2024 and 2026; California Board of Registered Nursing licensing records, 2025; Blash, L, Quan, A., Spetz, J. 2024-2025 Annual School Report: Data Summary and Historical Trend Analysis, A Presentation for Pre-Licensure Nursing Programs in California. Sacramento, CA: California Board of Registered Nursing.

## Outflows of nurses

### Migration out of region (to another region, state, or country)

Estimates of migration out of California were developed by comparing BRN licensing records from 2024 and 2026. Nurses who had California licenses in both years but who lived in California in 2024 and resided outside California in 2026 were counted by region and age group and divided by two to get an estimate of one-year out-migration. The number of RNs moving to other states was divided by the total number of RNs in each region and age group to obtain estimates of out-migration as a percentage of the current workforce. Table 12 presents the rates.

**Table 12. Rate of RNs Moving to Other States**

| Age Group | Northern Counties | Sacramento | SF Bay Area | Central Valley/Sierra | Central Coast | Los Angeles Core | Inland Empire | San Diego & Imperial |
|-----------|-------------------|------------|-------------|-----------------------|---------------|------------------|---------------|----------------------|
| Under 25  | 0.4%              | 0.5%       | 0.6%        | 0.3%                  | 0.9%          | 0.3%             | 0.3%          | 1.0%                 |
| 25-29     | 1.1%              | 0.5%       | 0.6%        | 0.5%                  | 1.0%          | 0.6%             | 0.5%          | 1.3%                 |
| 30-34     | 0.9%              | 0.5%       | 0.9%        | 0.7%                  | 0.7%          | 0.7%             | 0.6%          | 1.7%                 |
| 35-39     | 0.8%              | 0.5%       | 0.7%        | 0.5%                  | 0.9%          | 0.6%             | 0.5%          | 1.4%                 |
| 40-44     | 0.7%              | 0.3%       | 0.6%        | 0.4%                  | 0.8%          | 0.5%             | 0.5%          | 0.9%                 |
| 45-49     | 0.7%              | 0.4%       | 0.4%        | 0.3%                  | 0.5%          | 0.6%             | 0.5%          | 0.7%                 |
| 50-54     | 1.0%              | 0.6%       | 0.6%        | 0.7%                  | 0.7%          | 0.5%             | 0.5%          | 1.0%                 |
| 55-59     | 0.7%              | 0.6%       | 0.6%        | 0.6%                  | 1.1%          | 0.6%             | 0.5%          | 1.0%                 |
| 60-64     | 1.1%              | 1.2%       | 0.6%        | 0.7%                  | 0.8%          | 0.7%             | 1.0%          | 1.1%                 |
| 65-69     | 0.5%              | 0.9%       | 0.7%        | 0.6%                  | 0.9%          | 0.6%             | 0.6%          | 0.8%                 |
| 70-74     | 0.3%              | 0.6%       | 0.4%        | 0.4%                  | 0.3%          | 0.3%             | 0.3%          | 0.3%                 |
| 75-79     | 0.2%              | 0.1%       | 0.2%        | 0.3%                  | 0.6%          | 0.4%             | 0.3%          | 0.1%                 |
| 80+       | 0.0%              | 0.0%       | 0.2%        | 0.0%                  | 0.0%          | 0.2%             | 0.5%          | 0.0%                 |

Source: California Board of Registered Nursing licensing files, 2024 and 2026.

### Movements from active to inactive or lapsed license status

Estimates of the rate at which actively licensed RNs allow their licenses to lapse are very important to the model because they measure the loss of nurses due to relocation, change in employment plans, retirement, and death. The model does not distinguish among these reasons for allowing a license to lapse. BRN licensing records from 2024 were compared with those from 2026. Nurses who had California licenses and residences in 2024 but were not in the license file in 2026 were counted as an estimate of the number of lapsed licenses over a two-year period for each region and age group. These numbers were divided by 2 to estimate annual counts and divided by the total RN population to obtain rates. Table 13 presents these estimated rates.

**Table 13. Rate of RNs Allowing Their Licenses to Lapse**

| Age Group | Northern Counties | Sacramento | SF Bay Area | Central Valley/Sierra | Central Coast | Los Angeles Core | Inland Empire | San Diego & Imperial |
|-----------|-------------------|------------|-------------|-----------------------|---------------|------------------|---------------|----------------------|
| Under 25  | 1.6%              | 0.7%       | 1.0%        | 0.7%                  | 2.5%          | 0.6%             | 0.6%          | 1.6%                 |
| 25-29     | 1.0%              | 0.6%       | 1.0%        | 0.7%                  | 1.3%          | 1.0%             | 0.9%          | 2.2%                 |
| 30-34     | 1.3%              | 0.7%       | 0.9%        | 0.7%                  | 1.1%          | 0.8%             | 1.0%          | 2.0%                 |
| 35-39     | 0.8%              | 0.6%       | 0.7%        | 0.6%                  | 1.1%          | 0.7%             | 0.7%          | 1.3%                 |
| 40-44     | 0.6%              | 0.6%       | 0.5%        | 0.6%                  | 1.0%          | 0.6%             | 0.6%          | 1.1%                 |
| 45-49     | 0.6%              | 0.4%       | 0.6%        | 0.7%                  | 0.8%          | 0.6%             | 0.6%          | 0.8%                 |
| 50-54     | 1.3%              | 0.7%       | 0.7%        | 1.0%                  | 0.9%          | 0.7%             | 0.6%          | 0.9%                 |
| 55-59     | 1.5%              | 1.3%       | 1.3%        | 1.2%                  | 1.9%          | 1.1%             | 1.2%          | 1.7%                 |
| 60-64     | 4.7%              | 4.9%       | 4.1%        | 3.6%                  | 4.8%          | 3.4%             | 4.2%          | 4.7%                 |
| 65-69     | 9.6%              | 10.2%      | 9.8%        | 8.2%                  | 9.1%          | 8.4%             | 9.3%          | 10.6%                |
| 70-74     | 10.2%             | 10.1%      | 10.5%       | 11.0%                 | 10.0%         | 8.9%             | 10.6%         | 10.7%                |
| 75-79     | 10.0%             | 10.1%      | 11.4%       | 11.5%                 | 13.4%         | 10.5%            | 10.5%         | 12.5%                |
| 80+       | 15.1%             | 18.1%      | 13.1%       | 15.4%                 | 10.9%         | 14.9%            | 13.2%         | 14.9%                |

Source: California Board of Registered Nursing licensing files, 2024 and 2026.

### Calculating FTEs

In the 2024 Survey of Registered Nurses, estimated statewide employment rates ranged from a high of 96% for RNs 45-49 years old to a low of 20.4% for RNs aged 80 years or older. Employment rates were calculated for each region and age group. For some region-age cells, the number of observations was very small and, thus, the estimate differed notably from the average for the age group. For these cells, the average of other regions was used. Table 14 presents the employment rates, with asterisks indicating the estimates that are averages rather than the computed values.

Data from the 2024 Survey of Registered Nurses were used to estimate the average usual hours worked per week by RNs who resided in California and were employed in nursing for each age category. Estimated hours per week were divided by 40 to obtain the average FTE for each age category. The data used for this calculation are presented in Table 15. As in Table 14, asterisks indicate estimates that are averages rather than the computed values.

**Table 14. RN Employment Rates**

| Age Group | Northern Counties | Sacramento | SF Bay Area | Central Valley/Sierra | Central Coast | Los Angeles Core | Inland Empire | San Diego & Imperial |
|-----------|-------------------|------------|-------------|-----------------------|---------------|------------------|---------------|----------------------|
| Under 25  | 100.0%            | 75.0%      | 77.8%       | 100.0%                | 88.9%*        | 100.0%           | 72.7%         | 84.1%                |
| 25-29     | 79.1%             | 81.2%      | 90.5%       | 91.0%                 | 81.0%         | 94.2%            | 96.6%         | 92.9%                |
| 30-34     | 92.7%             | 84.9%      | 87.3%       | 90.0%                 | 94.3%         | 94.6%            | 96.4%         | 83.1%                |
| 35-39     | 94.6%             | 91.9%      | 85.5%       | 81.8%                 | 96.7%         | 91.2%            | 86.8%         | 86.7%                |
| 40-44     | 91.7%             | 96.1%      | 94.4%       | 94.0%                 | 87.7%         | 93.1%            | 88.1%         | 84.0%                |
| 45-49     | 95.5%             | 97.6%      | 90.2%       | 92.5%                 | 96.3%         | 100.0%           | 96.4%         | 96.4%                |
| 50-54     | 93.6%             | 95.2%      | 94.1%       | 93.9%                 | 95.5%         | 94.2%            | 87.5%         | 98.2%                |
| 55-59     | 88.2%             | 96.3%      | 91.3%       | 91.4%                 | 87.5%         | 81.7%            | 87.9%         | 84.8%                |
| 60-64     | 83.3%             | 74.4%      | 75.8%       | 77.4%                 | 81.7%         | 93.1%            | 85.9%         | 81.6%                |
| 65-69     | 60.6%             | 51.2%      | 59.1%       | 60.7%*                | 65.5%         | 68.2%            | 59.4%         | 70.3%                |
| 70-74     | 46.0%             | 44.9%*     | 55.0%       | 50.8%                 | 57.1%         | 43.2%            | 43.6%         | 44.9%*               |
| 75-79     | 50.0%             | 33.3%      | 40.0%       | 32.9%*                | 42.9%         | 24.0%            | 20.0%         | 16.7%                |
| 80+       | 20.4%*            | 20.4%*     | 20.4%*      | 20.4%*                | 20.4%*        | 20.4%*           | 20.0%*        | 20.4%*               |

\* Average of the age group rather than the estimated value.

Source: Chu, Lela & Joanne Spetz. In press. California Board of Registered Nursing 2024 Survey of Registered Nurses. Sacramento, CA: California Board of Registered Nursing.

**Table 15. Average Hours Worked per Week by RNs**

| Age Group | Northern Counties | Sacramento | SF Bay Area | Central Valley/Sierra | Central Coast | Los Angeles Core | Inland Empire | San Diego & Imperial |
|-----------|-------------------|------------|-------------|-----------------------|---------------|------------------|---------------|----------------------|
| Under 25  | 37.3              | 36.0       | 31.5        | 36.0                  | 36.6*         | 36.3             | 33.1          | 44.1                 |
| 25-29     | 38.7              | 38.2       | 37.6        | 37.5                  | 37.4          | 35.3             | 40.4          | 37.4                 |
| 30-34     | 34.9              | 37.8       | 36.9        | 33.7                  | 36.4          | 38.1             | 36.4          | 37.0                 |
| 35-39     | 36.4              | 33.9       | 35.9        | 35.6                  | 36.9          | 36.6             | 38.6          | 39.6                 |
| 40-44     | 37.0              | 36.0       | 35.0        | 35.2                  | 33.7          | 36.4             | 37.4          | 35.0                 |
| 45-49     | 39.6              | 36.0       | 36.1        | 35.7                  | 38.3          | 36.6             | 38.6          | 35.6                 |
| 50-54     | 36.5              | 37.7       | 36.6        | 38.7                  | 38.4          | 38.4             | 38.2          | 38.7                 |
| 55-59     | 35.2              | 37.5       | 34.5        | 37.0                  | 40.0          | 39.4             | 36.7          | 37.6                 |
| 60-64     | 33.4              | 36.5       | 37.7        | 34.5                  | 36.0          | 36.5             | 38.2          | 34.0                 |
| 65-69     | 28.0              | 35.5       | 31.1        | 31.1                  | 26.3          | 35.5             | 33.1          | 31.3                 |
| 70-74     | 24.9              | 16.3       | 21.8        | 33.4                  | 29.2          | 17.0             | 27.7          | 33.8                 |
| 75-79     | 28.5              | 18.0       | 19.1*       | 25.5                  | 17.7          | 17.2             | 15.0          | 19.1*                |
| 80+       | 19.3*             | 19.3*      | 19.3*       | 19.3*                 | 19.3*         | 19.3*            | 19.3*         | 19.3*                |

\* Average of the age group rather than the estimated value.

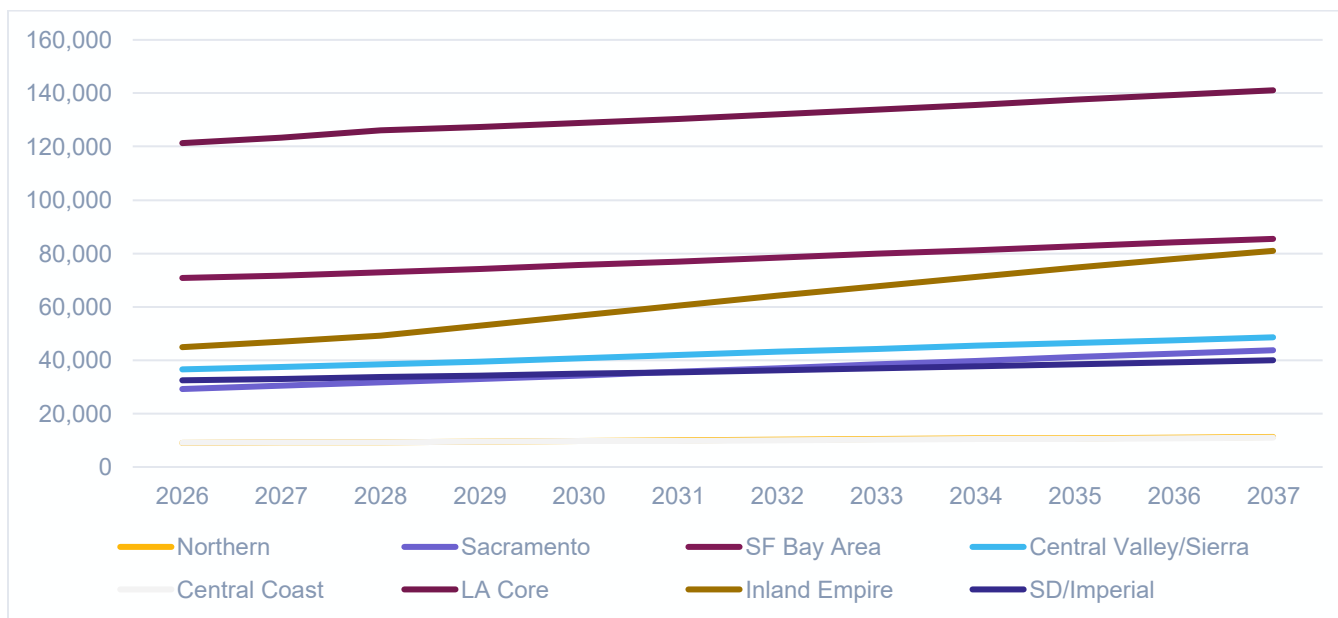
Source: Chu, Lela & Joanne Spetz. In press. California Board of Registered Nursing 2024 Survey of Registered Nurses. Sacramento, CA: California Board of Registered Nursing.

## Supply Projection Results

Figure 2 and Table 16 present the projected FTE supply of RNs in California from 2026 through 2037. Both indicate that the RN workforce is expected to grow in all regions of California, ranging from a 16.3% increase in the Los Angeles region to an 80.3% increase in the Inland Empire region.

Figure 3 presents projected FTE RNs per 100,000 population by region, based on population projections from the California Department of Finance. In 2026, FTEs per 100,000 population ranged from a low of 738 in the Central Coast to a high of 1,095 in the Sacramento region. All of the ratios, except for the Central Coast, are lower than the national median of 947 FTE RNs per 100,000. By 2037, the ratios are projected to range from 856 RN FTEs per 100,000 population in the Central Coast region to 1,654 RN FTEs per 100,000 population in the Inland Empire region.

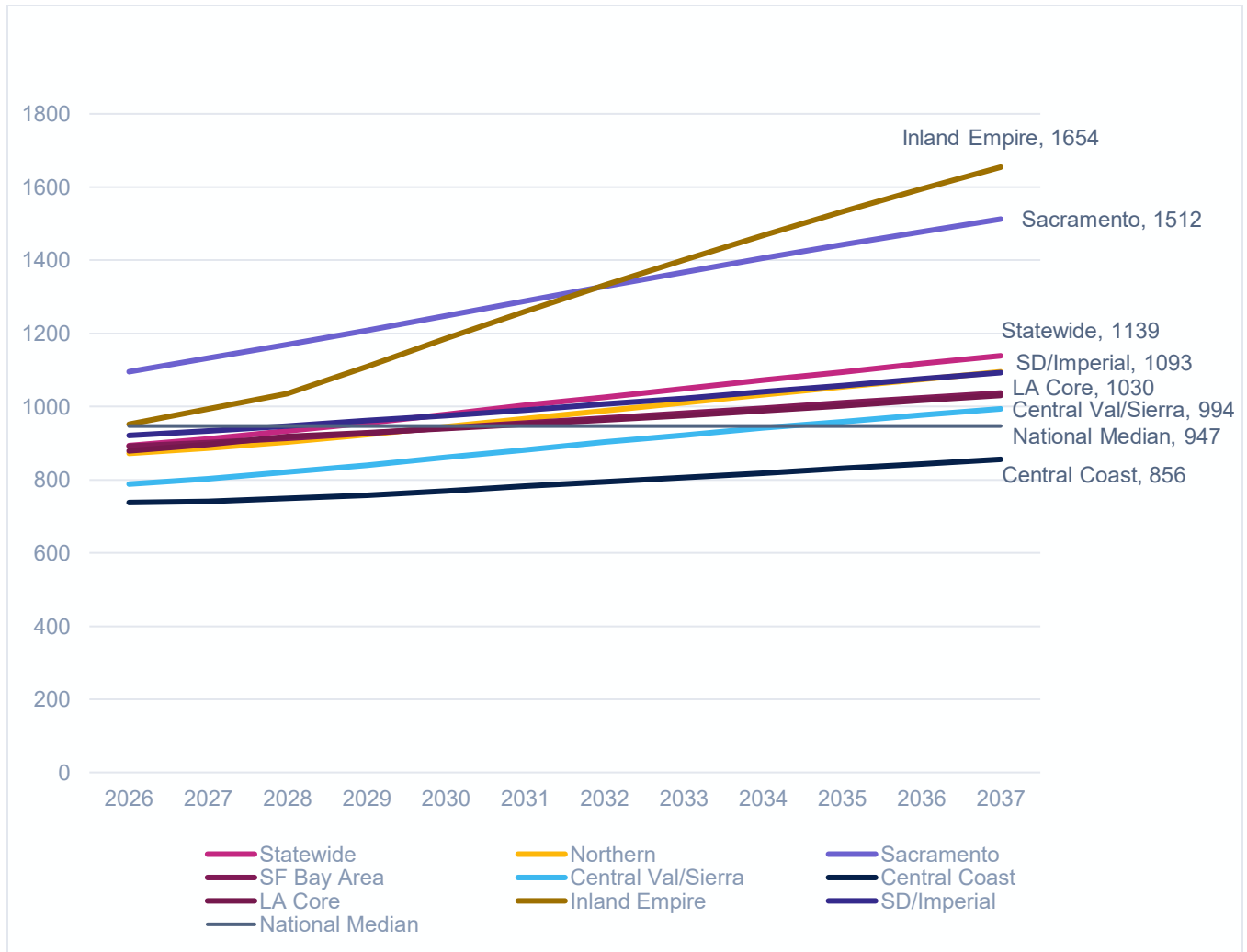
**Figure 2. Projected FTE RN Supply, 2026-2037**



**Table 16. Projected FTE RN Supply, 2026-2037**

| Year   | Northern Counties | Sacramento | SF Bay Area | Central Valley/Sierra | Central Coast | Los Angeles Core | Inland Empire | San Diego & Imperial |
|--------|-------------------|------------|-------------|-----------------------|---------------|------------------|---------------|----------------------|
| 2026   | 9,024             | 29,215     | 70,819      | 36,570                | 9,102         | 121,331          | 44,897        | 32,479               |
| 2027   | 9,156             | 30,420     | 71,768      | 37,404                | 9,181         | 123,382          | 47,023        | 33,005               |
| 2028   | 9,333             | 31,663     | 72,858      | 38,423                | 9,313         | 126,117          | 49,228        | 33,599               |
| 2029   | 9,533             | 32,959     | 74,227      | 39,494                | 9,449         | 127,288          | 52,939        | 34,208               |
| 2030   | 9,751             | 34,336     | 75,611      | 40,723                | 9,632         | 128,837          | 56,783        | 34,860               |
| 2031   | 9,971             | 35,707     | 77,011      | 41,927                | 9,820         | 130,470          | 60,538        | 35,545               |
| 2032   | 10,191            | 37,072     | 78,420      | 43,104                | 10,011        | 132,167          | 64,195        | 36,257               |
| 2033   | 10,410            | 38,428     | 79,833      | 44,254                | 10,206        | 133,912          | 67,753        | 36,987               |
| 2034   | 10,627            | 39,774     | 81,246      | 45,378                | 10,403        | 135,692          | 71,209        | 37,730               |
| 2035   | 10,842            | 41,109     | 82,656      | 46,473                | 10,600        | 137,493          | 74,562        | 38,481               |
| 2036   | 11,054            | 42,430     | 84,057      | 47,541                | 10,796        | 139,304          | 77,813        | 39,235               |
| 2037   | 11,262            | 43,736     | 85,449      | 48,582                | 10,992        | 141,116          | 80,963        | 39,989               |
| Growth | 24.8%             | 49.7%      | 20.7%       | 32.8%                 | 20.8%         | 16.3%            | 80.3%         | 23.1%                |

**Figure 3. Projected FTE RNs per 100,000 Population, 2026-2037**



## The Demand for RNs

The demand for RNs can be measured and forecasted in many ways, reflecting disparate notions of what demand is or should be. Many policymakers and health planners consider population needs as the primary factor in determining demand for health care workers. For example, the World Health Organization has established a benchmark that countries need a minimum of 2.3 health care professionals per 1,000 population in order to achieve the goal of 80% of newborn deliveries being attended by a skilled birth attendant (WHO, 2016). Similarly, demand for RNs could be defined as a specific number of nurses per capita.

It is important to recognize, however, that demand based on population needs is not the same thing as demand based on economic factors. Nurses and other health professionals are not free, and the cost of employing them must be weighed against cost of other necessary resources. A nurse employer might want to hire more nurses but may not have sufficient income from its patient care services to afford more nurses. An employer might have resources that could be used to hire more nurses but decide that investment in a new electronic health record will produce more value for patients. In this context, demand for nurses is derived from economic forces, which may not be aligned with population needs (Scheffler, et al., 2012).

For this report, different measures of demand (or need) were considered. The approaches used were:

- Fixed benchmarks based on U.S. RN-to-population ratios;
- Benchmarks based on current RN-to-population ratios in each region, adjusted for current hospital vacancy rates and for future population growth and aging;
- Regional demand projections for 2030 published by the California Employment Development Department (EDD, 2022).

### Forecasts based on RNs per capita

The number of employed RNs per 100,000 population is a frequently-used benchmark to measure demand for RNs. For decades, California has had one of the lowest ratios of employed RNs per capita in the U.S., usually ranking in the bottom 10 nationwide. This low RN-per-capita ratio does not necessarily mean that the supply of RNs is inadequate or that quality is lower; for example, California's population may be healthier than average or its health system might rely less on hospital care (where most RNs are employed). California is the only state that has had minimum RN staffing ratios in hospitals over the past 20 years, which makes it unlikely that the low ratio of RNs per capita reflects low hospital staffing ratios.

Data from the 2022 National Sample Survey of Registered Nurses were used to estimate the number of full-time-equivalent RNs per 100,000 population in each state (HRSA, 2024b). The national median was 947 FTEs per 100,000 population, and the national 25<sup>th</sup> percentile was 825 FTEs per 100,000 population. The same report estimated that California has 766 FTEs per 100,000 population, ranking 42<sup>nd</sup> nationally.

Data on the current and forecasted population of each region (California Department of Finance, 2026) were used to calculate the number of RNs that would be needed to maintain current RN-to-population ratios, reach the 25<sup>th</sup> percentile ratio, and reach the national median ratio.

The main shortcoming of targeting a fixed number of RNs per population, such as a national median, is that the target may not reflect the unique population and health care system of the state or region. An additional shortcoming is that fixed nurse-to-population ratios do not account for increased demand for health care services resulting from an increase in the number of persons with insurance coverage or an aging population.

## Forecasts based on vacancy-adjusted and age-adjusted RNs per capita

A second approach to forecasting demand for RNs involves using current employment patterns as a baseline measure of economically driven demand and projecting future demand based on this standard. However, current employment might be lower than desired if there is a shortage of nurses. The vacancy rate can be used as a measure of unmet demand; the number of people currently employed plus the number of vacancies is thus a reasonable estimate of current demand for RNs.

Projections of future demand can be based on population projections. However, population numbers do not reflect changes in demand that might arise due to changes in population needs. One of the most important drivers of growth in health care utilization is age; people generally demand more health care services as they grow older. This second approach to demand projection uses data on hospital utilization by age group as a proxy for overall differences in health care use by age.

To calculate baseline demand, current RN FTEs were adjusted by the vacancy rate using data from the Hospital Association of Southern California's Health Care Workforce Report. This quarterly report surveys hospitals statewide and can be used to calculate regional vacancy rates. An alternative source of vacancy data is the Employment Development Department's Online Job Vacancy Statistics Dashboard (EDD, 2026). In February 2026, the Dashboard reported 16,917 RN job postings, a notable decrease from 20,058 in November, 2024. EDD estimated there were 345,600 RN jobs in 2023; this would imply a 4.9% vacancy rate (16,917 divided by 345,600). This is the same as the 4.9% vacancy rate reported by the Hospital Association of Southern California for the fourth quarter of 2025. For this report, the Hospital Association vacancy rate was used. Each region's current RN FTEs were multiplied by the region's vacancy rate to obtain current demand.

To calculate growth in demand, the first step was to obtain the total number of hospital patient discharges in 2024 (the most recent data available) from short-term, acute-care hospitals in each region (HCAI, 2025). In order to estimate the total number of patient days per age group (10-year ranges), these data were multiplied by the average length of stay per age group, as reported by Hospital National Inpatient Statistics (AHRQ, 2024). To calculate the rate of hospital utilization per age group, the total number of patient days per age group was divided by the estimated population of each age group in the region. Age-specific population estimates and forecasts were sourced from the California Department of Finance (2026). These rates of patient days per age group were then applied to the population projections to forecast total patient days by age group.

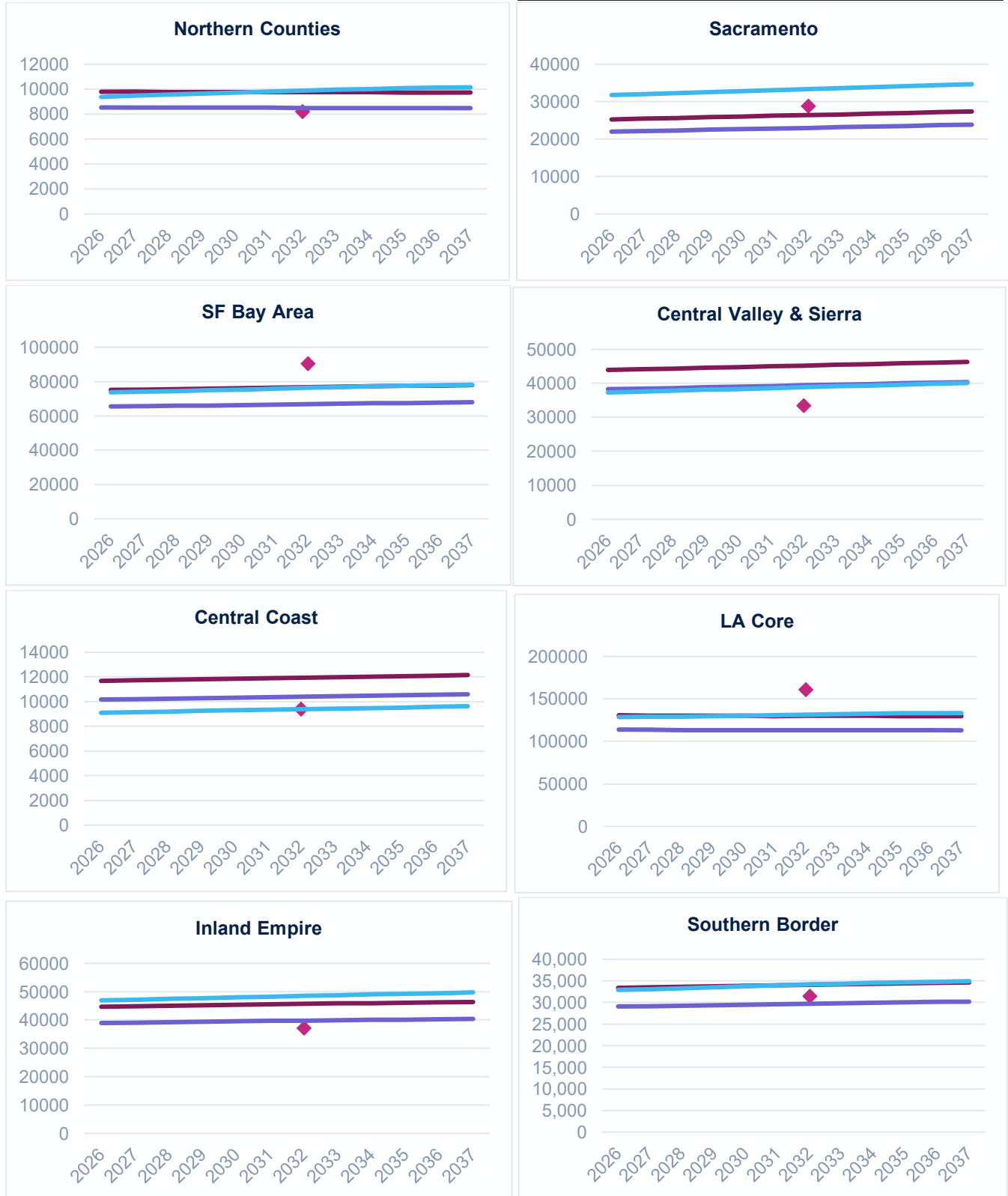
## Demand Projection Results

Figure 4 presents the projected FTE demand of RNs for each region of California from 2026 through 2037, for projections based on fixed FTE-to-population ratios and vacancy- and age-adjusted ratios, and the 2032 projection published by the California EDD. There is notable variation across regions regarding which demand projection is higher and how they compare to the EDD projection for 2032. The vacancy and age-adjusted projections reflect current levels of demand, but gaps between these projections and the national benchmarks may indicate that demand is falling short of need. In the Northern Counties, the vacancy and age-adjusted projection is slightly higher than the EDD projection for 2032, is above the national 25<sup>th</sup> percentile, and is similar to the national median. In contrast, in Sacramento, the vacancy and age-adjusted projection is higher than the national median and higher than the EDD projection. For the San Francisco Bay Area and Los Angeles Core regions, the EDD projections are notably higher than any of the other projections. In the Northern Counties, San Francisco Bay Area, Los Angeles Core, and Southern Border regions, the vacancy and age-adjusted projections are nearly identical to the national medians. For the Central Coast, the vacancy and age-adjusted projection is lower than all other projections. For the Sacramento and Inland Empire regions, the vacancy and age-adjusted projections are higher than the national median and the EDD projections.

**Figure 4. Projected RN Demand, 2024-2035**

**Legend**

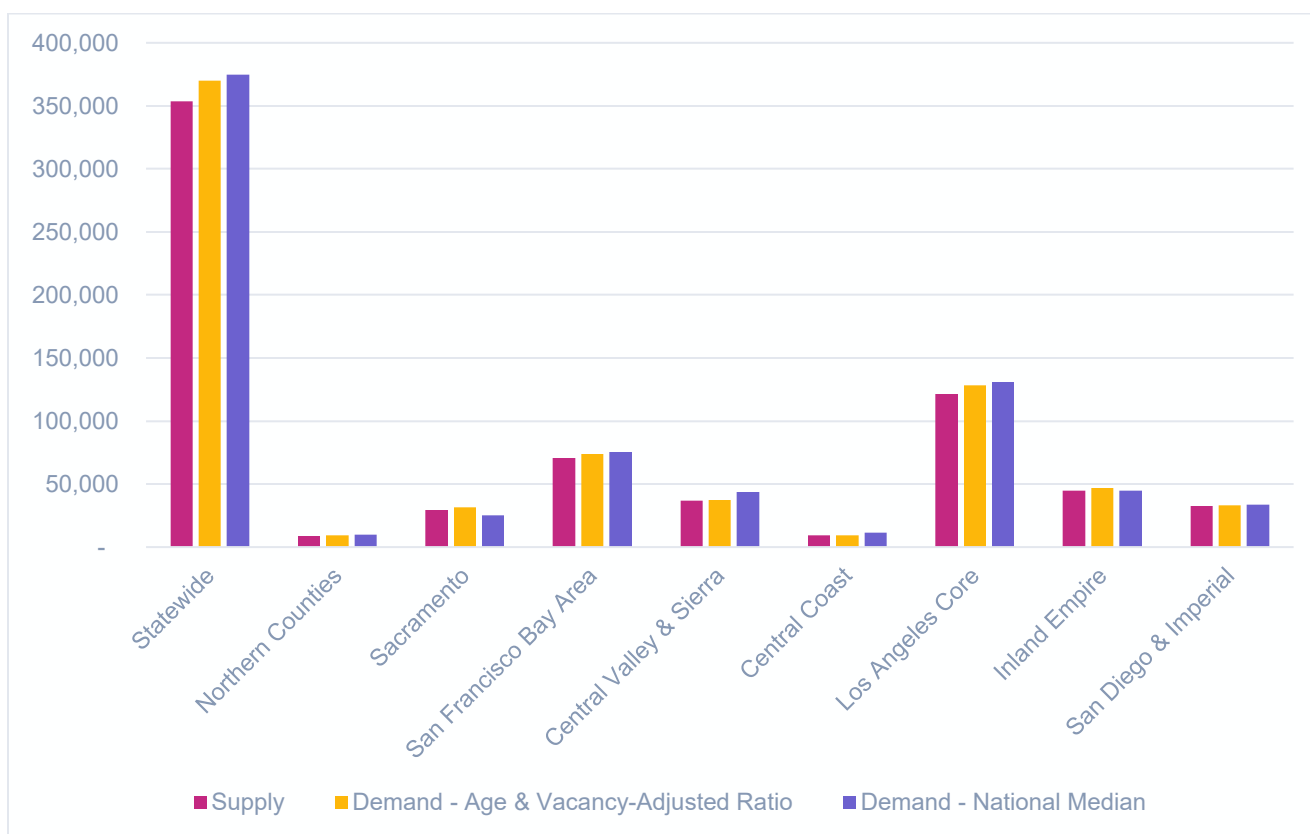
- National 25<sup>th</sup> percentile
- National median
- Vacancy and age adjusted
- ◆ EDD



## Comparing Supply and Demand for RNs

Figures 5, 6, and 7 and Tables 17, 18, and 19 present the projections of FTE RN supply and the forecasts of FTE RN demand based on vacancy and age-adjusted ratios as well as the national median for 2026, 2032, and 2037. In 2026, all regions of California, except the Central Coast, have a shortage of RNs compared with the age and vacancy-adjusted demand estimate, ranging from 1.4% in the San Diego and Imperial County region to 8.1% in the Sacramento region. In the Central Coast, supply and demand were estimated to be perfectly balanced, according to the age and vacancy-adjusted demand estimate, but supply falls short of the national median. The Inland Empire and Sacramento regions are estimated to have supply higher than the national median in 2026, but all other regions have a shortage relative to the national median.

**Figure 5. Estimated RN FTE Supply and Demand, 2026**



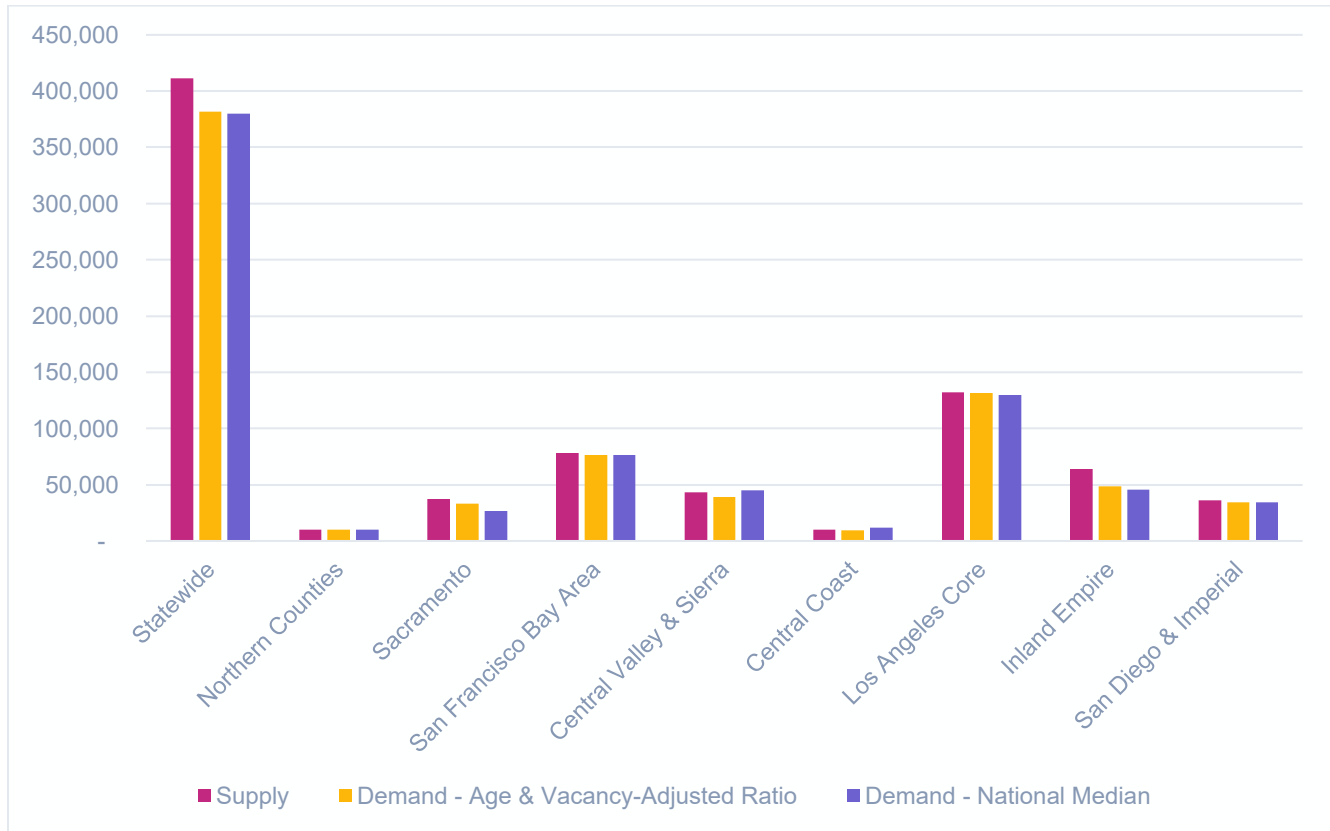
**Table 17. Projected RN FTE Supply and Demand, 2026**

|                                 | Northern Counties | Sacramento | SF Bay Area | Central Valley/Sierra | Central Coast | Los Angeles Core | Inland Empire | San Diego & Imperial |
|---------------------------------|-------------------|------------|-------------|-----------------------|---------------|------------------|---------------|----------------------|
| Supply                          | 9,024             | 29,215     | 70,819      | 36,570                | 9,102         | 121,331          | 44,897        | 32,479               |
| Demand: Vacancy & Age-Adj Ratio | 9,380             | 31,792     | 73,792      | 37,309                | 9,099         | 128,569          | 46,924        | 32,932               |
| Gap                             | -3.8%             | -8.1%      | -4.0%       | -2.0%                 | 0.0%          | -5.6%            | -4.3%         | -1.4%                |
| Demand: National Median         | 9,798             | 25,257     | 75,194      | 43,932                | 11,683        | 130,707          | 44,670        | 33,392               |
| Gap                             | -7.9%             | 15.7%      | -5.8%       | -16.8%                | -22.1%        | -7.2%            | 0.5%          | -2.7%                |

Note: Negative gaps indicate shortage; positive gaps indicate surplus.

By 2032, shortages are projected to have ended in all regions for the vacancy and age-adjusted demand estimate. However, shortages relative to the national median benchmark persist for the Central Valley and Sierra and the Central Coast regions.

**Figure 6. Projected RN FTE Supply and Demand, 2032**



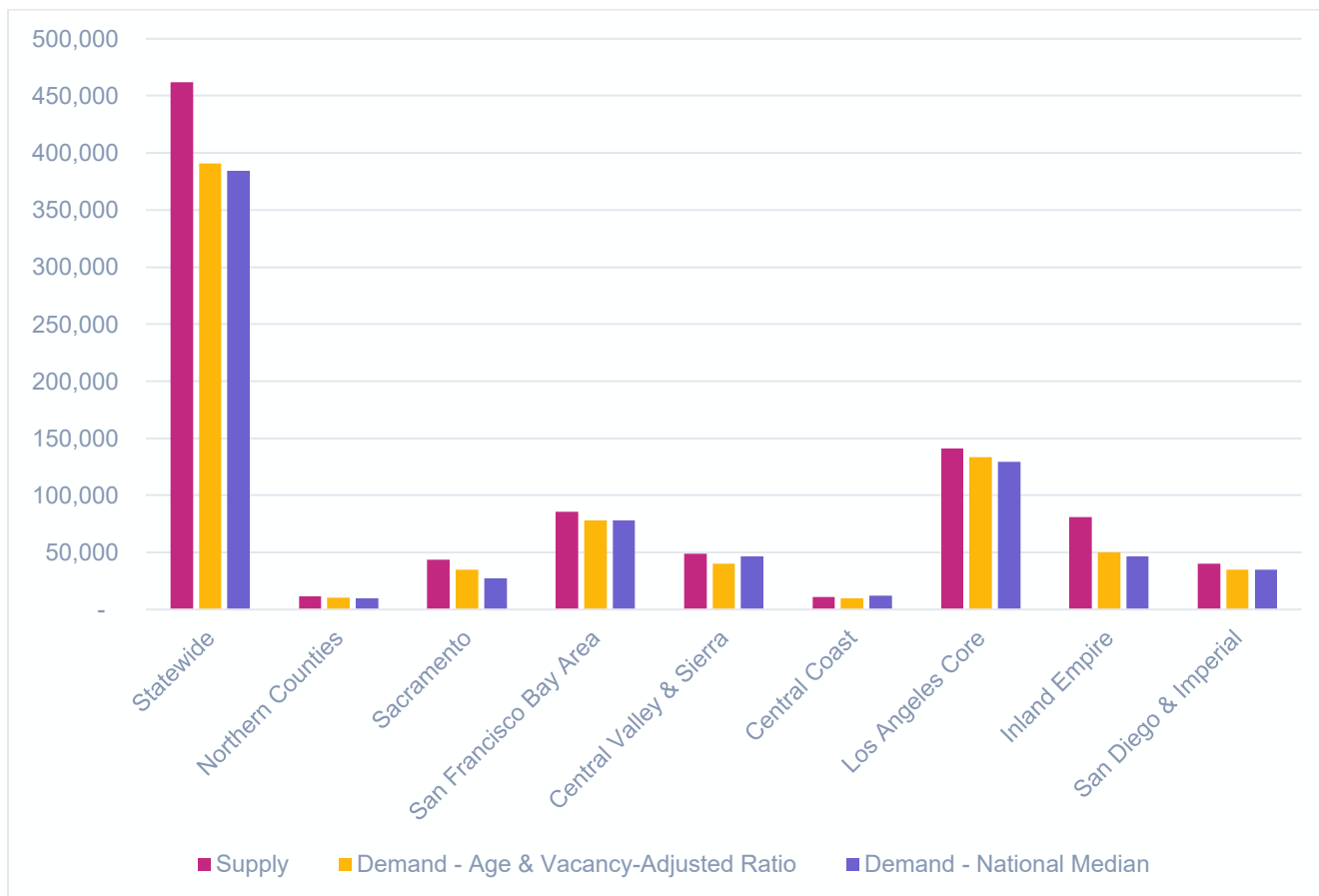
**Table 18. Projected RN FTE Supply and Demand, 2032**

|                                 | Northern Counties | Sacramento | SF Bay Area | Central Valley/Sierra | Central Coast | Los Angeles Core | Inland Empire | San Diego & Imperial |
|---------------------------------|-------------------|------------|-------------|-----------------------|---------------|------------------|---------------|----------------------|
| Supply                          | 10,191            | 37,072     | 78,420      | 43,104                | 10,011        | 132,167          | 64,195        | 36,257               |
| Demand: Vacancy & Age-Adj Ratio | 9,896             | 33,377     | 76,343      | 38,849                | 9,397         | 131,351          | 48,495        | 34,174               |
| Gap                             | 3.0%              | 11.1%      | 2.7%        | 11.0%                 | 6.5%          | 0.6%             | 32.4%         | 6.1%                 |
| Demand: National Median         | 9,762             | 26,422     | 76,640      | 45,230                | 11,939        | 129,899          | 45,669        | 34,114               |
| Gap                             | 4.4%              | 40.3%      | 2.3%        | -4.7%                 | -16.1%        | 1.7%             | 40.6%         | 6.3%                 |

Note: Negative gaps indicate shortage; positive gaps indicate surplus.

In 2037, the projections indicate that no regions will have a shortfall of supply relative to the vacancy and age-adjusted demand projections. However, the Central Coast region is projected to continue to have a shortfall relative to the national median benchmark.

**Figure 7. Projected RN FTE Supply and Demand, 2037**



**Table 19. Projected RN FTE Supply and Demand, 2037**

|                                 | Northern Counties | Sacramento | SF Bay Area | Central Valley/Sierra | Central Coast | Los Angeles Core | Inland Empire | San Diego & Imperial |
|---------------------------------|-------------------|------------|-------------|-----------------------|---------------|------------------|---------------|----------------------|
| Supply                          | 11,262            | 43,736     | 85,449      | 48,582                | 10,992        | 141,116          | 80,963        | 39,989               |
| Demand: Vacancy & Age-Adj Ratio | 10,151            | 34,672     | 78,192      | 40,090                | 9,632         | 133,202          | 49,743        | 34,936               |
| Gap                             | 10.9%             | 26.1%      | 9.3%        | 21.2%                 | 14.1%         | 5.9%             | 62.8%         | 14.5%                |
| Demand: National Median         | 9,737             | 27,382     | 78,015      | 46,292                | 12,163        | 129,661          | 46,339        | 34,650               |
| Gap                             | 15.7%             | 59.7%      | 9.5%        | 4.9%                  | -9.6%         | 8.8%             | 74.7%         | 15.4%                |

Note: Negative gaps indicate shortage; positive gaps indicate surplus.

### Additional factors that affect regional RN shortages

The projected movement of new graduates across regions before licensure has a significant influence on projections of regional shortages. The Inland Empire region is estimated to lose 4.9% of its younger new graduates to other regions and states each year, and the Northern Counties are estimated to lose 21.3%. These losses contribute to long-term projections of slower supply growth. Conversely, the Sacramento and the Central

Coast regions are estimated to receive a large proportion of new graduates from other regions, which contributes to projected rapid supply growth in these regions. Still, that growth is not enough to mitigate projected shortages in the Central Coast. Future analyses should examine the counties to which new graduates locate in detail in order to develop more stable projections of regional movements of new graduates.

Some RNs travel across regions for work, which could result in fewer or more nurses working in each region. It is likely that some of the shortfall in the Los Angeles Core region is filled by RNs who live in the Inland Empire, for example. Commuting patterns will depend on the proximity of regional borders, as well as on relative wages between regions. If there is a shortage of RNs in a region, wages are likely to grow more rapidly, which can induce RNs from neighboring regions to commute or relocate.

Another factor that may affect the supply of RNs is that some are also advanced practice RNs – nurse practitioners (NPs), certified nurse-midwives (CNMs), and nurse anesthetists (CRNAs). Both the supply and demand projections are based on RN-to-population ratios that include all categories of RNs. Future analyses could disaggregate these types of nurses, although it should be noted that some advanced practice RNs work in “regular” RN roles.

## Policy Implications

Prior statewide forecasts have projected that a shortage exists now but that it will abate over the next few years. The forecasts presented in this report are consistent with prior projections. Robust growth in the number of new graduates from California RN education programs, increases in the number of licensed RNs living in California, and reductions in migration out of California contribute to the trend toward a stable labor market. These regional projections indicate that nearly all regions of California face a shortage of RNs in 2026, but the degree of shortage varies widely, as does the projected growth of RN supply. In addition, gaps between the vacancy and age-adjusted projections and the national median benchmarks suggest that demand for RNs – and perhaps health care infrastructure as a whole – is below population need in some regions. This is particularly true for the Central Valley and Central Coast regions, where the projected ratio of RNs per 100,000 population is lower than every other region.

These projections could change if any of the variables in the model change. The most important changes that could change the projections are increases or decreases in: (1) the number of graduates from RN education programs, (2) inter-regional and inter-state migration, including of new graduates, and/or (3) employment rates of RNs. These factors, and any other potential influences on regional nursing supply, such as the limited pool of faculty, limited availability of clinical education placements, and faculty salaries that are not competitive with clinical practice positions, should be monitored continuously.

Regional health care and education leaders should track the employment paths of recent nursing graduates as they develop specialized skills to fill the roles of experienced nurses who will retire in the near future. Moreover, they should monitor new student enrollments in nursing programs, as well as the degree to which employers are reliant on contract personnel and commuters, to determine whether and to what extent local RN education programs should expand.

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