

Nursing

Inland Empire/Desert Region (Riverside and San Bernardino counties combined)

Summary

- The knowledge, skills, and abilities provided by the community college *nursing* programs lead to two distinct, middle-skill occupations, collectively referred to as the *nursing occupational group* in this report.
- Employment for the *nursing occupational group* is expected to **increase by 14% between 2019 and 2024**. A total of **3,418 annual job openings** will be available each year over the five-year timeframe.
- The **entry-level, 25th percentile, hourly wages** for both occupations in this group are between **\$22.08 and \$41.11 per hour, above the \$21.78 per hour self-sustainable hourly wage** estimate for a single adult with one child in the region.
- There were **690 credentials issued** from regional community college *nursing* programs over the last three academic years.
- The Centers of Excellence **recommends** creating new or expanding existing registered nursing and licensed vocational nursing programs to meet the regional need for more workers.

Introduction

This report provides data on programs and occupations related to *nursing*; the related California Community College programs are:

- Nursing (TOP 1230.00)
- Registered Nursing (1230.10)
- Licensed Vocational Nursing (1230.20)

The ***nursing program*** prepares students for employment through the instruction of the principles and techniques for assisting the individual, sick or well, in the performance of those activities contributing to health or recovery. The ***registered nursing program*** prepares students for employment through instruction leading to licensure by the Board of Registered Nursing. The program includes nursing care in specialty areas. The ***licensed vocational nursing program*** prepares students for employment through instruction leading to vocational nurse licensure by the Board of Vocational Nursing and Psychiatric Technicians. (Taxonomy of Programs, 2012).

The knowledge, skills, and abilities trained by these programs lead to the following occupations. These two occupations are collectively referred to as the *nursing occupational group* in this report:

- Registered Nurses (SOC 29-1141)
- Licensed Vocational Nurses (29-2061)

A section detailing the impact of COVID-19 on nursing job postings is available starting on page [six](#).

Job Opportunities

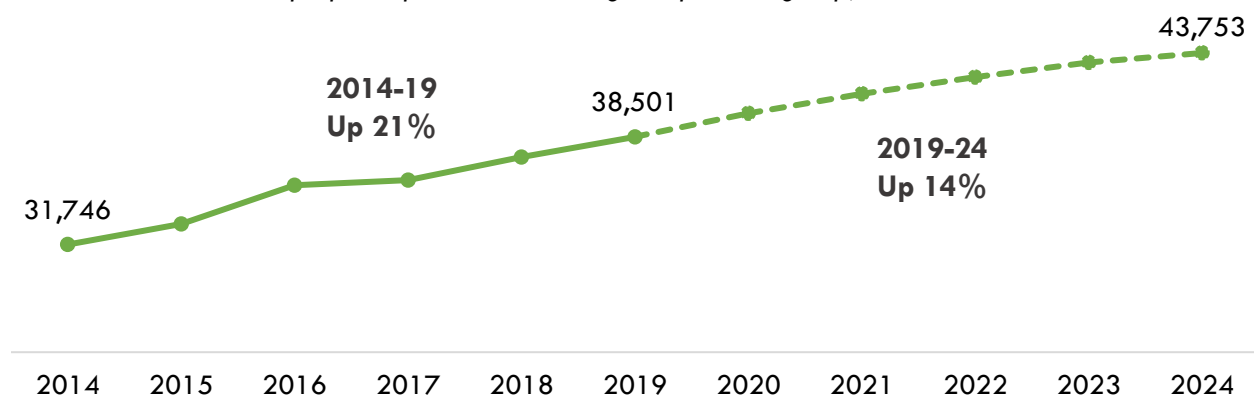
In 2019, there were 38,501 jobs in the *nursing occupational group* in the Inland Empire/Desert region (IEDR). This occupational group is projected to increase employment by 14% through 2024. Employers are expected to have 17,088 job openings over the next five years to fill new jobs and backfill jobs that workers are permanently vacating (includes occupational transfers and retirements). Exhibit 1 displays five-year projected job growth, and Exhibit 2 displays historical (2014 to 2019) and projected (2019-2024) jobs for the *nursing occupational group*.

Exhibit 1: Five-year projections for each occupation in the nursing occupational group

Occupation	2019 Jobs	2024 Jobs	5-Yr % Change (New Jobs)	5-Yr Openings (New + Replacement Jobs)	Annual Openings (New + Replacement Jobs)	% of workers age 55+
Registered Nurses	30,565	34,823	14%	12,898	2,580	26%
Licensed Vocational Nurses	7,937	8,930	13%	4,190	838	23%
Total	38,501	43,753	14%	17,088	3,418	25%

Source: EMSI 2020.3

Exhibit 2: Historical and projected jobs for the nursing occupational group, 2014 – 2024



Source: EMSI 2020.3

Job Postings

Exhibit 3 displays the number of job ads posted during the last 12 months, along with the regional and statewide average time to fill for the *nursing occupational group*. On average, local employers fill online job postings for the *nursing occupational group* within 30 days. This regional average is five days shorter than the statewide average of 35 days, indicating that it is easier for local employers to fill open positions than other employers in California as a whole.

Exhibit 3: Job ads and time to fill, Aug 2019 – July 2020

Occupation	Job Ads	Regional Average Time to Fill (Days)	California Average Time to Fill (Days)
Registered Nurses	20,781	29	34
Licensed Vocational Nurses	2,586	34	39
Total	23,367	30	35

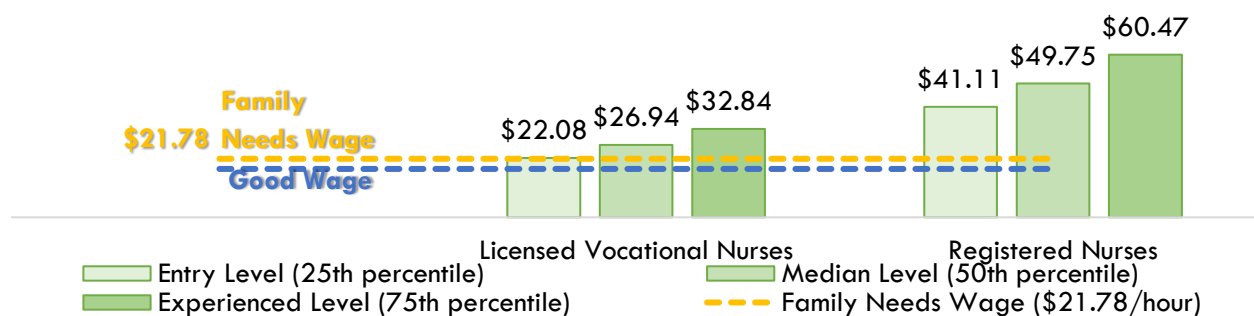
Source: Burning Glass – Labor Insights

Earnings and Benefits

Community colleges should ensure their training programs lead to employment opportunities that provide a self-sustainable level of income. The Brookings Institute, *Advancing Opportunity in California's Inland Empire* report found that a "good job" wage in the region is above the \$18.00 per hour, or \$37,440 per year (Shearer, Shah & Gootman, p. 25). The Family Needs Calculator estimates that a self-sustainable wage for a single adult with one school-age child is \$21.78 per hour (Pearce & Manzer, 2019).

Entry-level wages for the *nursing occupational group* are above the Family Needs Calculator self-sustainability rate. These wages also surpass the Brookings Institute's "good job" wage at the entry-level. Exhibit 4 displays the hourly earnings for each occupation in the IEDR.

Exhibit 4: Hourly earnings for the nursing occupational group



Source: EMSI 2020.3

According to occupational guides developed by the California Labor Market Information Division, benefits for the *nursing occupational group* generally include medical, dental, and life insurance, as well as other benefits (Detailed Occupational Guides, 2020).

Employers, Skills, Education, and Work Experience

Exhibit 5 displays the employers posting the most job ads for the *nursing occupational group* during the last 12 months in the IEDR. Exhibit 5 displays the employers who posted more than 100 advertisements for *registered nurses* and more than 20 advertisements for *licensed vocational nurses* over the last 12 months.

Exhibit 5: Employers posting the most job ads for nursing occupations, Aug 2019 – July 2020

Occupation	Employers
Registered Nurses (n=12,332)	<ul style="list-style-type: none"> Anthem Blue Cross Prime Healthcare Services Kaiser Permanente Loma Linda University Medical Center DaVita Incorporated Desert Regional Medical Center Doctors Hospitals of Riverside Kindred Healthcare Incorporated John F Kennedy Memorial Hospital The Gypsy Nurse San Bernardino County St. Joseph Health System Redlands Community Hospital Chino Valley Medical Center Hi-Desert Medical Center Mission Regional Medical Center St. Mary Medical Center Montclair Hospital Medical Center Riverside University Health System Desert Valley Hospital
Licensed Vocational Nurses (n=2,075)	<ul style="list-style-type: none"> Aveanna Healthcare Loma Linda University Medical Center AccentCare HCR ManorCare Dignity Health Brookdale Senior Living Allied Professional Nursing Care Valley Star Behavioral Health Ensign Services Kaiser Permanente

Source: Burning Glass – Labor Insights

Exhibit 6 displays a sample of specialized and employability skills that employers are seeking when looking for workers to fill positions in the *nursing occupational group*. Specialized skills are occupation-specific skills that employers are requesting for industry or job competency. Employability skills are foundational skills that transcend industries and occupations; this category is often referred to as "soft skills." The skills requested in job postings may be utilized as a helpful guide for curriculum development.

Exhibit 6: Sample of in-demand skills from employer job ads, Aug 2019 – July 2020

Occupation	Specialized Skills	Employability Skills
Registered Nurses (n=14,977)	<ul style="list-style-type: none"> Advanced Cardiac Life Support (ACLS) Patient Care Acute Care Telemetry Critical Care Nursing 	<ul style="list-style-type: none"> Communication Skills Planning Teamwork/Collaboration Problem Solving English Computer Literacy
Licensed Vocational Nurses (n=2,154)	<ul style="list-style-type: none"> Patient Care Cardiopulmonary Resuscitation (CPR) Treatment Planning Home Health Acute Care Medication Administration 	<ul style="list-style-type: none"> Communication Skills Physical Abilities Teamwork/Collaboration English Organizational Skills Problem Solving

Source: Burning Glass – Labor Insights

Exhibit 7 displays the entry-level education typically required to enter each occupation according to the Bureau of Labor Statistics (BLS), educational attainment for incumbent workers with "some college, no degree" and an "associate degree" according to the U.S. Census (2016-17) and the real-time minimum advertised education requirement from employer job ads. It is worth noting that despite having a typical entry-level education requirement of a bachelor's degree, the majority of job postings for *registered nurses* in the region are seeking a candidate with an associate degree.

Exhibit 7: Typical entry-level education, educational attainment, and minimum advertised education requirements for the nursing occupational group, Aug 2019 – July 2020

Occupation	Typical Entry-Level Education Requirement	CC-Level Educational Attainment*	Real-Time Minimum Advertised Education Requirement			
			Number of Job Ads	High school diploma or vocational training	Associate degree	Bachelor's degree or higher
Registered Nurses	Bachelor's degree	37%	16,644	4%	67%	29%
Licensed Vocational Nurses	Postsecondary nondegree award	70%	257	85%	15%	-

Source: EMSI 2020.3, Burning Glass – Labor Insights

*Percentage of incumbent workers with a Community College Credential or Some Postsecondary Coursework

Exhibit 8 displays the work experience typically required to enter each occupation and the real-time work experience requirements from employer job ads. Most employers were looking for a candidate with zero to two years of work experience.

Exhibit 8: Work experience required and real-time work experience requirements, Aug 2019 – July 2020

Occupation	Work Experience Typically Required	Real-Time Work Experience			
		Number of Job Ads	0 – 2 years	3 – 5 years	6+ years
Registered Nurses	None	13,551	79%	19%	2%
Licensed Vocational Nurses	None	1,621	89%	10%	1%

Source: EMSI 2020.3, Burning Glass – Labor Insights

The Impact of COVID-19 on Job Advertisements

This section will detail the impact of the COVID-19 pandemic and California's stay home mandate, issued March 19th, 2020, on online job ads for the *nursing occupational group*. This analysis compares the one-year timeframe before the mandatory stay home order, March 2019 to February 2020, referred to as the Pre-COVID-19 timeframe, to the five complete months following that order, March 2020 to July 2020, referred to as the COVID-19 timeframe. The differences in advertisement rates, job titles, employers, skills, certifications, and salary are provided below.

Job Advertisements

There were 20,733 job ads posted for the *nursing occupational group* during the Pre-COVID-19 timeframe and 9,949 job ads posted for the *nursing occupational group* in the COVID-19 timeframe. The number of job advertisements per month for the *nursing occupational group* increased by 15% from 1,728 job ads per month during the Pre-COVID-19 timeframe to 1,990 online job ads per month during the COVID-19 timeframe.

Job Titles

The job titles included in employer job advertisements have not changed substantially between the two timeframes. One notable change is the increase in job posting frequency for *Intensive Care Unit (ICU) Registered Nurses*. During the Pre-COVID-19 timeframe, this job title accounted for 5% of job nursing advertisements while it accounts for 8% of online job ads during the COVID-19 timeframe.

Employers

The employers posting the most job advertisements for the *nursing occupational group* have not changed much between the two timeframes. However, it is worth noting that employers that host travel nursing

services, such as NurseFly, Nomad Health, and Next Travel Nursing, have increased their total number of job advertisements as well as increased their share of job advertisements.

Skills

Exhibit 9 displays the specialized skills that have had the largest increase in job posting frequency. Due to the differences in job counts between the periods analyzed, the skills are displayed as a percentage of the total nursing job postings that contain them. For example, the skill, critical care nursing, increased job posting frequency from 11.1% to 21.8% of job postings during the COVID-19 timeframe despite being mentioned in 77 fewer job postings. The frequency of employability skills mentioned in job advertisements has remained relatively stable when comparing the timeframes.

Exhibit 9: Specialized skills with the largest increase in job posting frequency

Specialized Skills	Pre-COVID-19 Timeframe	COVID-19 Timeframe	Change in Frequency
Pediatrics	12.0%	22.9%	10.8%
Critical Care Nursing	11.1%	21.8%	10.7%
Oncology	9.9%	20.3%	10.4%
Catheterization Laboratory (CATH LAB)	9.5%	19.7%	10.2%
Telemetry	17.9%	28.0%	10.1%
Hospital Experience	11.3%	20.4%	9.2%
Advanced Cardiac Life Support (ACLS)	45.4%	53.9%	8.5%
Acute Care	30.7%	37.0%	6.3%
Trauma	5.4%	8.3%	2.9%
Biotechnology	0.9%	2.6%	1.7%

Source: Burning Glass – Labor Insights

Education Requirements

Exhibit 10, on the next page, displays the minimum advertised education requirements for the *nursing occupational group* during the two timeframes. The percentage of employers seeking candidates with a bachelor's degree has decreased by 8.3% from the Pre-COVID-19 timeframe while the percentage of associate degrees has increased by 7.8% during the COVID-19 timeframe.

Exhibit 10: Advertised educational requirements for the nursing occupational group

Timeframe	Real-Time Minimum Advertised Education Requirement			
	Number of Job Ads	High school diploma or vocational training	Associate degree	Bachelor's degree
Pre-COVID-19 Timeframe	14,812	5%	61%	34%
COVID-19 Timeframe	7,108	6%	69%	25%

Source: Burning Glass – Labor Insights

Certifications

The certifications displayed below have had the largest increase in job posting frequency. The increase in demand for these certifications may reflect a direct impact of COVID-19 on nursing. Critical care nurses may be in higher demand to care for patients critically ill with COVID-19, while the increase in demand for LVNs and LPNs may reflect a desire for nurses with the minimum qualifications to fill in other nursing roles.

Exhibit 11: Certifications with the largest change in advertisement frequency

Certifications	Pre-COVID-19 Timeframe	COVID-19 Timeframe	Change in Frequency
Critical Care Registered Nurse (CCRN)	9.5%	18.7%	9.1%
Advanced Cardiac Life Support (ACLS) Certification	37.9%	43.9%	6.0%
Licensed Vocational Nurse (LVN)	9.2%	12.7%	3.4%
Licensed Practical Nurse (LPN)	3.7%	5.6%	2.0%

Source: Burning Glass – Labor Insights

Salary

Exhibit 12 displays advertised salary data from the Pre-COVID-19 and the COVID-19 timeframes. Advertised salaries for the *nursing occupational group* have increased by \$10,000 on average following the COVID-19 pandemic. Please note that salary figures are prorated to reflect full-time, annual wage status.

Exhibit 12: Real-time salary information from employer job advertisements

Timeframe	Real-Time Salary Information					
	Number of job postings	Less than \$35,000	\$35,000 to \$49,999	\$50,000 to \$74,999	More than \$75,000	Average Annual Salary
Pre-COVID-19 Timeframe	3,591	28%	10%	15%	47%	\$74,000
COVID-19 Timeframe	1,408	19%	11%	14%	55%	\$84,000

Source: Burning Glass – Labor Insights

Student Completions and Program Outcomes

Exhibits 13 and 14 display annual average completion data for the California Community College registered nursing and licensed vocational nursing programs, respectively, based on the most recent three academic years. According to MIS DataMart, there were no recorded completions during this timeframe for the nursing program coded at 1230.00.

Exhibit 13: 2016-19, Annual average community college credentials and enrollments for the registered nursing program in the IEDR

1230.10 – Registered Nursing	Associate of Science (A.S.)	Certificate requiring 60+ semester units	CCC Annual Average Credentials, Academic Years 2016-19
Chaffey	56	-	56
Copper Mountain	25	-	25
Desert	48	-	48
Mt. San Jacinto	44	-	44
Riverside	177	-	177
San Bernardino	86	-	86
Victor Valley	58	30	88
Total	494	30	524

Source: MIS Data Mart

Exhibit 14: 2016-19, Annual average community college credentials and enrollments for the licensed vocational nursing program in the IEDR

1230.20 – Licensed Vocational Nursing	Associate of Science (A.S.)	Certificate requiring 30 to <60 semester units	Certificate requiring 60+ semester units	CCC Annual Average Credentials, Academic Years 2016-19
Chaffey	22	-	23	45
Copper Mountain	11	11	-	22
Desert	11	22	-	33
Palo Verde	-	5	-	5
Riverside	27	33	-	60
Total	71	72	23	166

Source: MIS Data Mart

California program outcome data may provide a useful insight into the likelihood of success for the proposed program. Community college student outcome information based on the selected TOP codes and region is provided in Exhibits 15, 16, and 17. The outcome methodology is available in the appendix section of this report.

Exhibit 15: 1230.00 – Nursing strong workforce program outcomes

Strong Workforce Program Metrics: 1230.00 – Nursing Academic Year 2017-18, unless noted otherwise	Inland Empire/Desert Region	California
Unduplicated count of enrolled students (2018-19)	930	6,694
Completed 9+ career education units in one year (2018-19)	56%	43%
Perkins Economically disadvantaged students (2018-19)	89%	85%
Students who attained a noncredit workforce milestone in a year (2018-19)	-	26%
Students who earned a degree, certificate, or attained apprenticeship (2018-19)	-	83
Transferred to a four-year institution (transfers)	46	538
Job closely related to the field of study (2016-17)	91%	95%
Median annual earnings (all exiters)	\$50,884	\$43,304
Median change in earnings (all exiters)	109%	77%
Attained a living wage (completers and skills-builders)	78%	67%

Sources: LaunchBoard Community College Pipeline and Strong Workforce Program Metrics

Exhibit 16: 1230.10 – Registered nursing strong workforce program outcomes

Strong Workforce Program Metrics: 1230.10 – Registered Nursing Academic Year 2017-18, unless noted otherwise	Inland Empire/Desert Region	California
Unduplicated count of enrolled students (2018-19)	1,708	20,080
Completed 9+ career education units in one year (2018-19)	71%	60%
Perkins Economically disadvantaged students (2018-19)	90%	85%
Students who attained a noncredit workforce milestone in a year (2018-19)	7%	27%
Students who earned a degree, certificate, or attained apprenticeship (2018-19)	507	4,839
Transferred to a four-year institution (transfers)	173	2,237
Job closely related to the field of study (2016-17)	98%	96%
Median annual earnings (all exiters)	\$59,288	\$57,912
Median change in earnings (all exiters)	107%	96%
Attained a living wage (completers and skills-builders)	86%	73%

Sources: LaunchBoard Community College Pipeline and Strong Workforce Program Metrics

Exhibit 17: 1230.20 – Licensed vocational nursing strong workforce program outcomes

Strong Workforce Program Metrics: 1230.20 – Licensed Vocational Nursing Academic Year 2016 -17, unless noted otherwise	Inland Empire/Desert Region	California
Unduplicated count of enrolled students (2018-19)	654	3,920
Completed 9+ career education units in one year (2018-19)	57%	49%
Perkins Economically disadvantaged students (2018-19)	94%	85%
Students who attained a noncredit workforce milestone in a year (2018-19)	-	321%
Students who earned a degree, certificate, or attained apprenticeship (2018-19)	112	784
Transferred to a four-year institution (transfers)	16	171
Job closely related to the field of study (2016-17)	100%	90%
Median annual earnings (all exiters)	\$34,512	\$35,220
Median change in earnings (all exiters)	48%	54%
Attained a living wage (completers and skills-builders)	76%	60%

Sources: LaunchBoard Community College Pipeline and Strong Workforce Program Metrics

Recommendation

Nursing community college programs lead to two occupations, collectively referred to as the *nursing occupational group*. These two nursing occupations are projected to have 3,418 combined annual job openings over the next five years in the Inland Empire Desert region (IEDR). The *registered nurses* occupation will have 2,580 annual job openings, and the *licensed vocational nurses* occupation will have 838 yearly job openings. The entry-level, 25th percentile wages for the *nursing occupational group* are between \$22.08 and \$41.1 per hour, exceeding the \$21.78 per hour self-sustainable wage estimate for a single adult with one child. Although the typical entry-level education requirement for a *registered nurse* is a bachelor's degree, the majority of employers in online job ads are seeking a candidate with an associate degree or less. *Licensed vocational nurses* require vocational training or a postsecondary nondegree award to enter employment.

Nursing programs (TOPs 1230.10 and 1230.20) awarded an annual average of 690 credentials over the last three academic years. Registered nursing programs (1230.10) issued 524 annual average awards and licensed vocational nursing (1230.20) issued 166 annual average awards.



The Centers of Excellence recommends creating new or expanding existing nursing programs to meet the regional need for more workers. It should be noted that students will be competing for these jobs with incumbent workers, and an unknown supply of qualified workers that may travel from other areas for jobs. Colleges should meet with relevant employers to understand their demand for more workers and the specific skills, licensing, and credentials needed for gainful employment in these nursing fields.

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August 2020

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Appendix: Occupation definitions, sample job titles, five-year projections for nursing occupations

Occupation Definitions (SOC) code), Education and Training Requirement, Community College Educational Attainment

Registered Nurses (29-1141)

Assess patient health problems and needs, develop and implement nursing care plans, and maintain medical records. Administer nursing care to ill, injured, convalescent, or disabled patients. May advise patients on health maintenance and disease prevention or provide case management. Licensing or registration required.

Sample job titles: Charge Nurse, Director of Nursing (DON), Emergency Department RN (Emergency Department Registered Nurse), Oncology RN (Oncology Registered Nurse), Operating Room Registered Nurse (OR RN), Public Health Nurse (PHN), Registered Nurse (RN), School Nurse, Staff Nurse, Staff RN (Staff Registered Nurse)

Entry-Level Educational Requirement: Bachelor's degree

Training Requirement: None

Incumbent workers with a Community College Award or Some Postsecondary Coursework: 37%

Licensed Practical and Licensed Vocational Nurses (29-2061)

Care for ill, injured, or convalescing patients or persons with disabilities in hospitals, nursing homes, clinics, private homes, group homes, and similar institutions. May work under the supervision of a registered nurse. Licensing required.

Sample job titles: Charge Nurse; Clinic Licensed Practical Nurse (CLINIC LPN); Clinic Nurse; Licensed Practical Nurse (LPN); Licensed Practical Nurse, Clinic Nurse (LPN, Clinic Nurse); Licensed Vocational Nurse (LVN); Office Nurse; Pediatric Licensed Practical Nurse (PEDIATRIC LPN); Private Duty Nurse; Triage Licensed Practical Nurse (TRIAGE LPN)

Entry-Level Educational Requirement: Postsecondary nondegree award

Training Requirement: None

Incumbent workers with a Community College Award or Some Postsecondary Coursework: 70%

Appendix: Program Completion and Outcome Methodology

Exhibit 10 displays the average annual California Community College (CCC) credentials conferred during the three academic years between 2016 and 2019, from the California Community Colleges Chancellor's Office Management Information Systems (MIS) Data Mart. Credentials are the combined total of associate degrees and certificates issued during the timeframe, divided by three in this case to calculate an annual average. This is done to minimize the effect of atypical variation that might be present in a single year.

Community college student outcome information is from LaunchBoard and based on the selected TOP code and region. These metrics are based on records submitted to the California Community Colleges Chancellor's Office Management Information Systems (MIS) by community colleges, which come from self-reported student information from CCC Apply and the National Student Clearinghouse. Employment and earnings metrics are sourced from records provided by California's Employment Development Department's Unemployment Insurance database. When available, outcomes for completers are reported to demonstrate the impact that earning a degree or certificate can have on employment and earnings. For more information on the types of students included for each metric, please see the web link for LaunchBoard's Strong Workforce Program Metrics Data Element Dictionary in the References section (LaunchBoard, 2020a). Finally, employment in a job closely related to the field of study comes from self-reported student responses on the CTE Employment Outcomes Survey (CTEOS), administered by Santa Rosa Junior College (LaunchBoard, 2020a).

Job postings data is limited to the information provided by employers and the ability of artificial intelligence search engines to identify this information. Additionally, preliminary calculations by Georgetown Center on Education and the Workforce found that "just 30 to 40 percent of openings for candidates with some college or an associate degree, and only 40 to 60 percent of openings for high school diploma holders appear online" (Carnevale et al., 2014).

Table 1: 2019 to 2024 job growth, wages, education, training, and work experience required for the nursing occupational group, IEDR

Occupation (SOC)	2019 Jobs	5-Yr Change	5-Yr % Change	Annual Openings (New + Replacement Jobs)	Entry-Experienced Hourly Wage Range (25 th to 75 th percentile)	Median Hourly Wage (50 th percentile)	Average Annual Earnings	Typical Entry-Level Education & On-The-Job Training Required	Work Experience Required
Registered Nurses (29-1141)	30,565	4,258	14%	2,580	\$41.11 to \$60.47	\$49.75	\$105,300	Bachelor's degree & None	None
Licensed Vocational Nurses (29-2061)	7,937	993	13%	838	\$22.08 to \$32.84	\$26.94	\$58,300	Postsecondary nondegree award & None	None
Total	38,501	5,252	14%	3,418	-	-	-	-	-

Source: EMSI 2020.3