

Labor Market Analysis for Program Review
 1230.10/Registered Nursing
 (Registered Nursing Associate in Science Degree)
 Orange County Center of Excellence, November 2022



Program reviews are conducted by individual colleges to periodically review curriculum of their existing programs, and in the case of career technical education programs, ensure continued alignment with regional labor market needs. Because a program review evaluates an existing program, rather than establishing a new program, additional supply will not be added; therefore the endorsement criteria included in this report is determined slightly differently than it is for a new program that requires regional recommendation.

Summary

Program LMI Endorsement	Endorsed: All LMI Criteria Met <input checked="" type="checkbox"/>	Endorsed: Some LMI Criteria Met <input type="checkbox"/>	Not LMI Endorsed <input type="checkbox"/>
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Program LMI Endorsement Criteria

	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>
Supply Gap:	<i>Comments:</i> there is projected to be 7,701 annual job openings throughout Los Angeles and Orange counties for <i>registered nurses</i> which is more than the 5,397 awards conferred by educational institutions.	
Living Wage: (Entry-Level, 25 th)	<i>Comments:</i> Entry-level wages for registered nurses are \$45.87, which is above the OC living wage of \$20.63.	
Education:	<i>Comments:</i> The typical entry-level education for <i>registered nurses</i> is a bachelor's degree. However, one-third of workers in the field have completed some college or an associate degree as their highest level of education.	

Emerging Occupation(s)

Yes <input type="checkbox"/>	No <input checked="" type="checkbox"/>
<i>Comments:</i> N/A	

The Orange County Center of Excellence for Labor Market Research (OC COE) prepared this report for an Orange County community college's program review to analyze regional labor market information related to one middle-skill occupation:

- Registered Nurses (29-1141)

Based on the available data there appears be a supply gap for *registered nurses*. Additionally, entry-level wages are above the living wage and typical education requirements for align with a community college education. **Therefore, due to all of the regional labor market criteria being met, the COE endorses this proposed program.**

Exhibit 1 lists the occupational demand, supply, typical entry-level education, and educational attainment for the occupations included in this report.

Exhibit 1: Labor Market Endorsement Summary

Occupation (SOC)	Demand (Annual Openings)	Supply (CC and Non-CC)	Entry-Level Hourly Earnings (25 th Percentile)	Typical Entry-Level Education	Community College Educational Attainment
Registered Nurses (29-1141)	7,701	5,397	OC: \$45.87	Bachelor's Degree	34%

Demand:

- The number of jobs related to *registered nurses* are projected to increase 6% through 2026, equating to 7,701 annual job openings.
- Hourly entry-level wages for *registered nurses* are \$45.87 in Orange County, which is above the living wage of \$20.63.
- There were 95,972 online job postings for *registered nurses* over the past 12 months. The highest number of postings were for registered nurses, ICU registered nurses, and telemetry registered nurses.
- The typical entry-level education for *registered nurses* is a bachelor's degree.
- Approximately 34% of workers in the field have completed some college or an associate degree as their highest level of educational attainment.

Supply:

- There was an average of 1,713 awards conferred by 22 community colleges in Los Angeles and Orange counties from 2018 to 2021.
- Non-community college institutions conferred an average of 3,684 awards from 2017 to 2020.
- Orange County community college students that exited registered nursing programs in the 2018-2019 academic year had a median annual wage of \$50,440 after exiting the program and 62% attained the regional living wage.
- Throughout Orange County, 96% of registered nursing students that exited their program in 2017-18 reported that they are working in a job closely related to their field of study.

Demand

Occupational Projections:

Exhibit 2 shows the annual percent change in jobs for *registered nurses* from 2016 through 2026. Employment for *registered nurses* declined 4% from 2019 to 2020 due to the COVID-19 pandemic, which is less than the 7% decline across all occupations during that period. Employment for *registered nurses* increased from 2020 to 2021 and is projected to increase each year through 2026.

Exhibit 2: Annual Percent Change in Jobs for Registered Nurses, 2016-2026

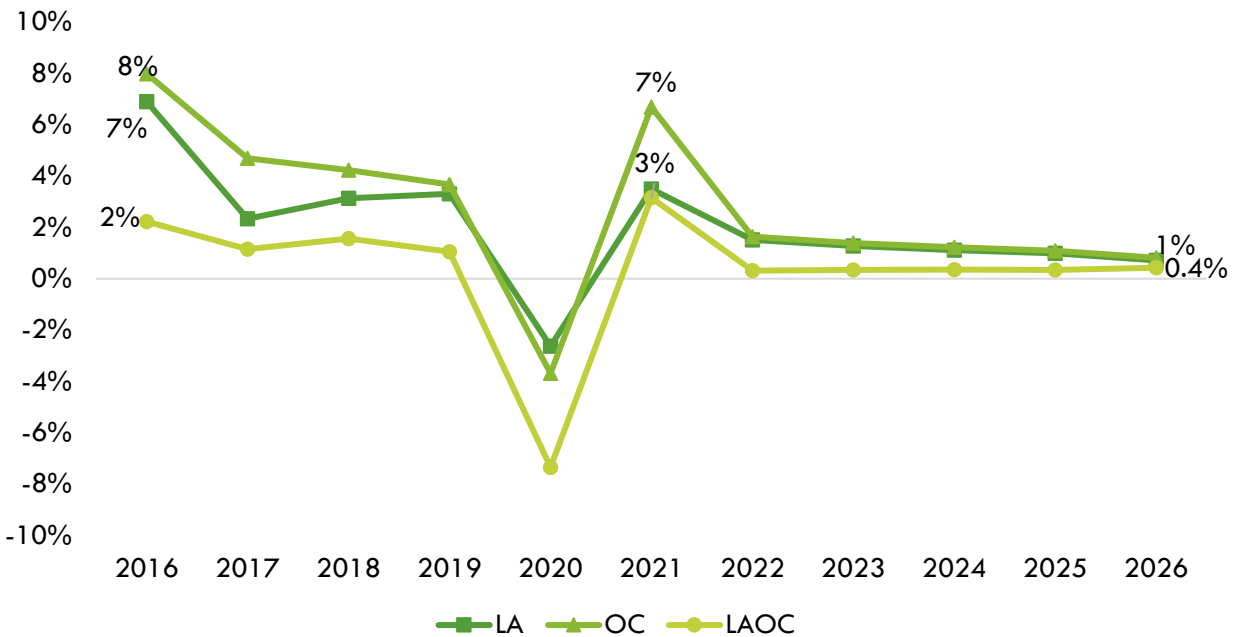


Exhibit 3 shows the five-year occupational demand projections for *registered nurses*. In Los Angeles/Orange County, the number of jobs related for *registered nurses* is projected to increase by 6% through 2026. There is projected to be 7,701 jobs available annually.

Exhibit 3: Occupational Demand in Los Angeles and Orange Counties¹

Geography	2021 Jobs	2026 Jobs	2021-2026 Change	2021-2026 % Change	Annual Openings
Los Angeles	92,463	97,765	5,302	6%	5,996
Orange	25,780	27,409	1,629	6%	1,705
Total	118,243	125,174	6,931	6%	7,701

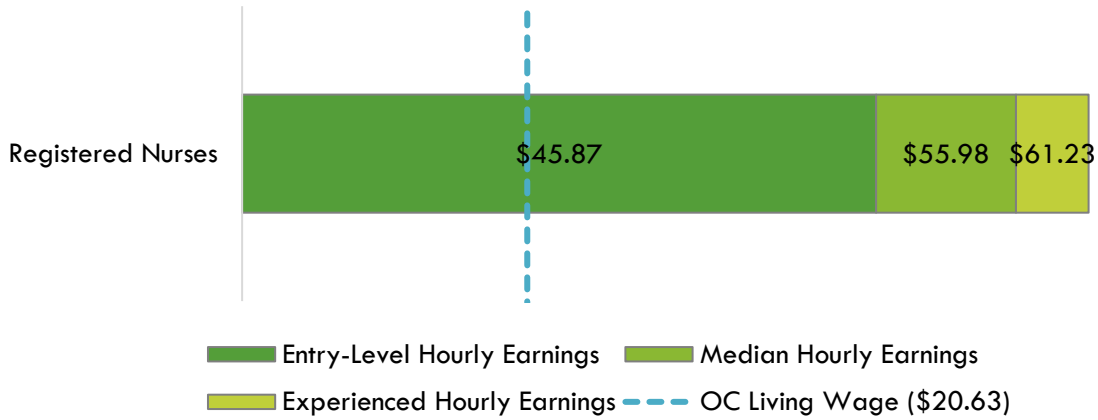
Wages:

The labor market endorsement in this report considers the entry-level hourly wages for *registered nurses* in Orange County as they relate to the county's living wage. Los Angeles County wages are included below in order to provide a complete analysis of the LA/OC region.

The typical entry-level hourly wages for *registered nurses* are \$45.87, which is above the living wage for one adult (\$20.63 in Orange County). Orange County's average wages are lower than the average statewide wage of \$59.41 for *registered nurses*. Exhibit 4 shows the wage range for *registered nurses* in Orange County and how it compares to the regional living wage.

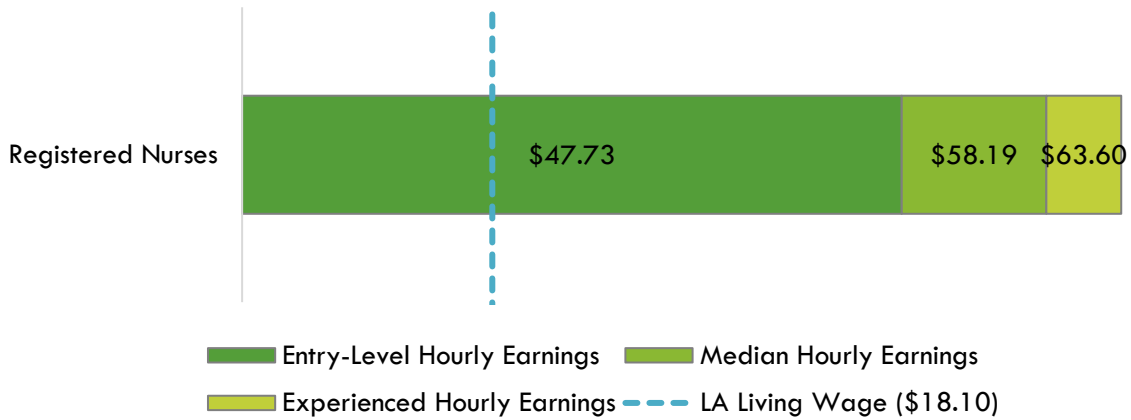
¹ Five-year change represents new job additions to the workforce. Annual openings include new jobs and replacement jobs that result from retirements and separations.

Exhibit 4: Wages by Occupation in Orange County



The typical entry-level hourly wages for *registered nurses* are \$47.73, which is above the living wage for one adult (\$18.10 in Los Angeles County). Los Angeles County’s average wages are lower than the average statewide wage of \$59.41 for *registered nurses*. Exhibit 5 shows the wage range for *registered nurses* in Los Angeles County and how it compares to the regional living wage.

Exhibit 5: Wages by Occupation in Los Angeles County



Job Postings:

There were 95,972 online job postings related to *registered nurses* listed in the past 12 months.

Exhibit 6: Number of Job Postings by Occupation (n=95,972)

Occupation	Job Postings	Percentage of Job Postings
Registered Nurses	95,972	100%

The top employers in the region, by number of job postings, are shown in Exhibit 7.

Exhibit 7: Top Employers by Number of Job Postings (n=95,972)

Employer	Job Postings	Percentage of Job Postings
PIH Health	4,271	4%
Cedars-Sinai	2,741	3%
Providence	2,321	2%
MLK Jr Community Hospital	2,221	2%
Kindred Healthcare	2,125	2%
Aya Healthcare	2,110	2%
Healthcare Employment Network	1,998	2%
Accountable Healthcare Staffing	1,364	1%
Kaiser Permanente	1,283	1%
Anthem Blue Cross	1,174	1%

The top specialized, soft, and computer skills listed by those most frequently mentioned in job postings (denoted in parentheses) are shown in Exhibit 8.

Exhibit 8: Top Skills by Number of Job Postings (n=95,972)

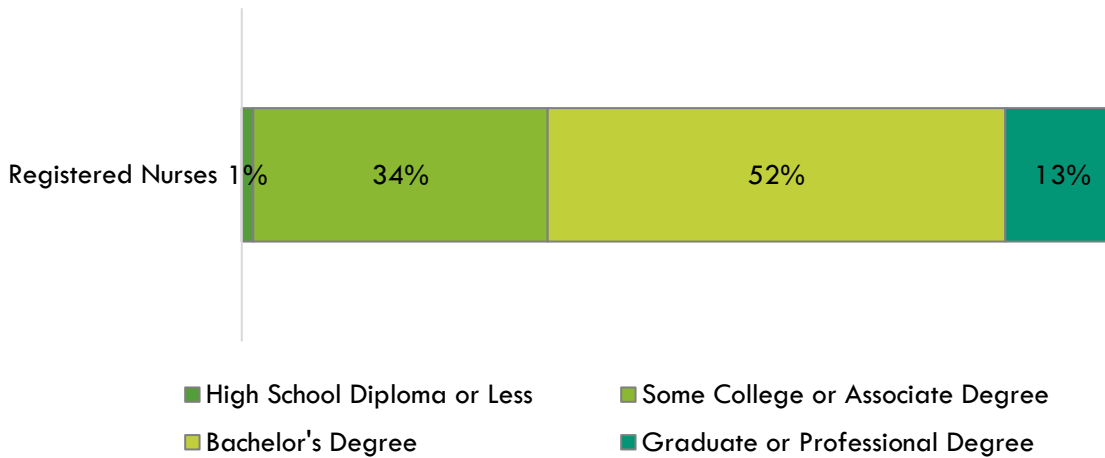
Top Specialized Skills	Top Soft Skills	Top Computer Skills
Nursing (51,077)	Communications (24,658)	Microsoft Excel (2,703)
Nursing Care (19,365)	Planning (15,376)	Microsoft Outlook (2,556)
Acute Care (15,540)	Leadership (14,790)	Microsoft Office (2,419)
Nursing Process (15,458)	Management (12,844)	eClinicalWorks (ECW) (1,901)
Intensive Care Unit (13,417)	Coordinating (11,494)	Microsoft Word (1,816)
Discharge Planning (10,690)	Teaching (10,178)	Microsoft PowerPoint (935)
Telemetry (10,198)	Computer Literacy (10,075)	Patient Management Software (666)
Emergency Departments (9,654)	Customer Service (9,921)	Software Systems (485)
Medical Surgical Nursing (9,631)	Problem Solving (9,230)	Microsoft Access (387)
Cardiopulmonary Resuscitation (CPR) (9,465)	Interpersonal Communications (8,266)	Medical Software (342)

Educational Attainment:

The Bureau of Labor Statistics (BLS) lists a bachelor's degree as the typical entry-level education for *registered nurses*. The national-level educational attainment data indicates 34% of workers in the field have completed some college or an associate degree as their highest level of education. Exhibit 9 shows the educational attainment for *registered nurses*.

Of the 36% of the cumulative job postings for *registered nurses* that listed a minimum education requirement in Los Angeles/Orange County, 43% (15,152) requested a high school diploma or an associate degree and 57% (19,784) requested a bachelor's, master's, or doctoral degree.

Exhibit 9: National-level Educational Attainment for Occupations



Educational Supply

Community College Supply:

Exhibit 10 shows the three-year average number of awards conferred by community colleges in the related TOP codes: Nursing (1230.00) and Registered Nursing (1230.10). The colleges with the most completions in the region are: Saddleback, Pasadena, and Glendale. Over the past 12 months, there were no other related program recommendation requests from regional community colleges.

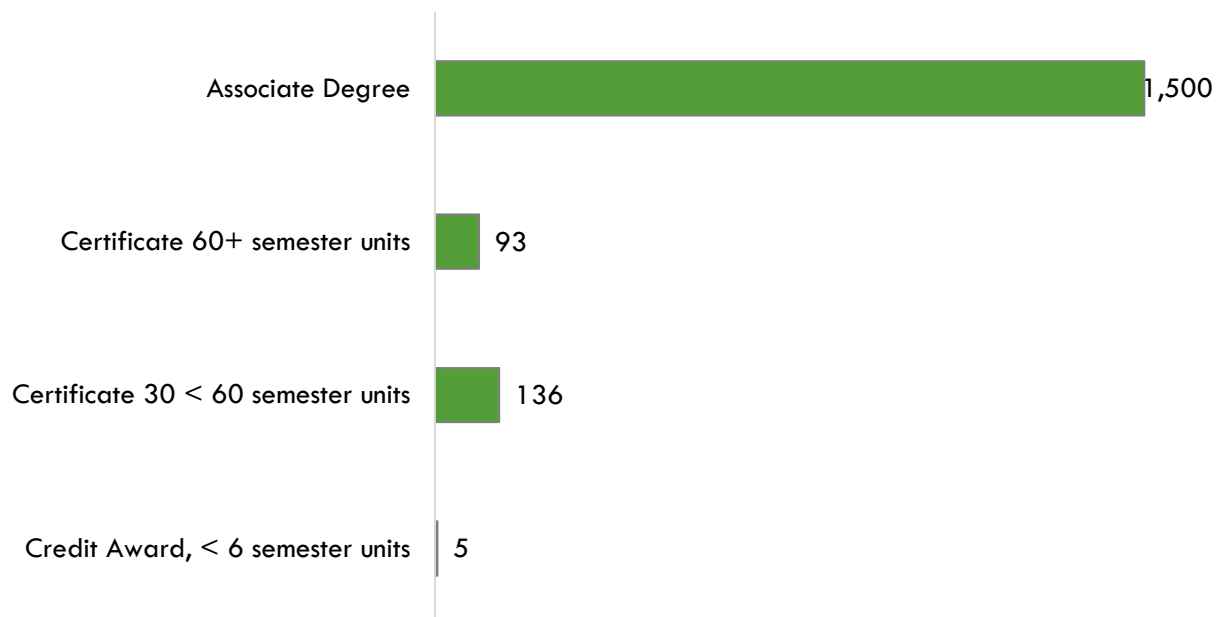
Exhibit 10: Regional Community College Awards (Certificates and Degrees), 2018-2021

TOP Code	Program	College	2018-2019 Awards	2019-2020 Awards	2020-2021 Awards	3-Year Award Average
1230.00	Nursing	Glendale	14	0	0	5
		Long Beach	95	71	73	80
		LA Subtotal	109	71	73	85
		-	-	-	-	
		OC Subtotal	-	-	-	-
Supply Subtotal/Average			109	71	73	85
1230.10	Registered Nursing	Cerritos	80	71	55	69
		Citrus	30	38	31	33
		Compton	55	66	64	62
		East LA	68	57	55	60
		El Camino	86	64	72	74
		Glendale	84	171	176	144
		LA City	81	63	81	75
		LA Harbor	67	48	67	61
		LA Pierce	58	62	48	56
		LA Southwest	44	43	43	43

TOP Code	Program	College	2018-2019 Awards	2019-2020 Awards	2020-2021 Awards	3-Year Award Average
		LA Trade	71	68	76	72
		LA Valley	68	73	59	67
		Long Beach	5	17	11	10
		Mt San Antonio	105	53	110	89
		Pasadena	174	169	122	155
		Rio Hondo	80	77	56	71
		Santa Monica	55	28	106	63
		LA Subtotal	1,211	1,168	1,232	1,204
		Cypress	102	86	61	83
		Golden West	82	85	85	84
		Saddleback	203	181	178	187
		Santa Ana	91	98	84	91
		OC Subtotal	478	450	408	445
		Supply Subtotal/Average	1,689	1,618	1,640	1,649
		Supply Total/Average	1,798	1,689	1,713	1,734

Exhibit 11 shows the annual average community college awards by type from 2018-19 through 2020-21. The majority (87%) of the awards are for associate degrees.

Exhibit 11: Annual Average Community College Awards by Type, 2018-2021



Community College Student Outcomes:

Exhibit 12 shows the Strong Workforce Program (SWP) metrics for registered nursing programs in North Orange County Community College District (NOCCCD), the Orange County Region, and California. Of the 1,838 registered nursing students in the 2019-20 academic year, 13% (238) attended an NOCCCD college.

NOCCCD students that exited registered nursing programs in the 2018-19 academic year had higher median annual earnings (\$60,456) compared to all registered nursing students in Orange County (\$50,440) and throughout the state (\$57,518). A higher percentage of NOCCCD registered nursing students attained the living wage (70%) when compared to all registered nursing students in Orange County (62%).

Exhibit 12: Registered Nursing (1230.10) Strong Workforce Program Metrics, 2019-20²

SWP Metric	NOCCCD	OC Region	California
SWP Students	238	1,838	20,011
SWP Students Who Earned 9 or More Career Education Units in the District in a Single Year	71%	46%	57%
SWP Students Who Completed a Noncredit CTE or Workforce Preparation Course	0%	0%	34%
SWP Students Who Earned a Degree or Certificate or Attained Apprenticeship Journey Status	84	357	4,736
SWP Students Who Transferred to a Four-Year Postsecondary Institution (2018-19)	61	288	2,568
SWP Students with a Job Closely Related to Their Field of Study (2017-18)	94%	96%	95%
Median Annual Earnings for SWP Exiting Students (2018-19)	\$60,456 (\$29.07)	\$50,440 (\$24.25)	\$57,518 (\$27.65)
Median Change in Earnings for SWP Exiting Students (2018-19)	13%	26%	54%
SWP Exiting Students Who Attained the Living Wage (2018-19)	70%	62%	71%

Non-Community College Supply:

For a comprehensive regional supply analysis, it is also important to consider the supply from other institutions in the region that provide training programs for *registered nurses*. Exhibit 13 shows the annual and three-year average number of awards conferred by these institutions in the related Classification of Instructional Programs (CIP) Code: Registered Nursing/Registered Nurse (51.3801). Due to different data collection periods, the most recent three-year period of available data is from 2017 to 2020. Between 2017 and 2020, these institutions conferred an average of 3,684 awards annually in related training programs.

² All SWP metrics are for 2019-20 unless otherwise noted.

Exhibit 13: Regional Non-Community College Awards, 2017-2020

CIP Code	Program	College	2017-2018 Awards	2018-2019 Awards	2019-2020 Awards	3-Year Award Average
51.3801	Registered Nursing/ Registered Nurse	American Career College-Los Angeles	58	60	66	61
		American University of Health Sciences	55	74	55	61
		Angeles College	12	15	25	17
		Azusa Pacific University	508	495	597	533
		Biola University	39	39	59	46
		Brandman University	8	7	11	9
		California Career College	0	56	17	24
		California State University-Dominguez Hills	143	127	130	133
		California State University-Fullerton	215	282	295	264
		California State University-Long Beach	217	203	236	219
		California State University-Los Angeles	177	165	171	171
		California State University-Northridge	119	53	90	87
		Career Care Institute	0	0	16	5
		Career Networks Institute	123	103	115	114
		Casa Loma College-Van Nuys	0	0	0	0
		Charles R Drew University of Medicine and Science	3	17	5	8
		Concordia University-Irvine	86	125	105	105
		Glendale Career College	0	100	84	61
		Homestead Schools	16	12	9	12

CIP Code	Program	College	2017-2018 Awards	2018-2019 Awards	2019-2020 Awards	3-Year Award Average
		Los Angeles College of Nursing and Allied Health	85	110	98	98
		Medical Allied Career Center	0	0	0	0
		Mount Saint Mary's University	312	286	287	295
		Pacific College	30	31	12	24
		Stanbridge University	46	62	86	65
		Vanguard University of Southern California	0	0	24	8
		West Coast University-Los Angeles	527	587	651	588
		West Coast University-Orange	586	684	759	676
		Supply Subtotal/Average	3,365	3,693	4,003	3,684
		Supply Total/Average	3,365	3,693	4,003	3,684

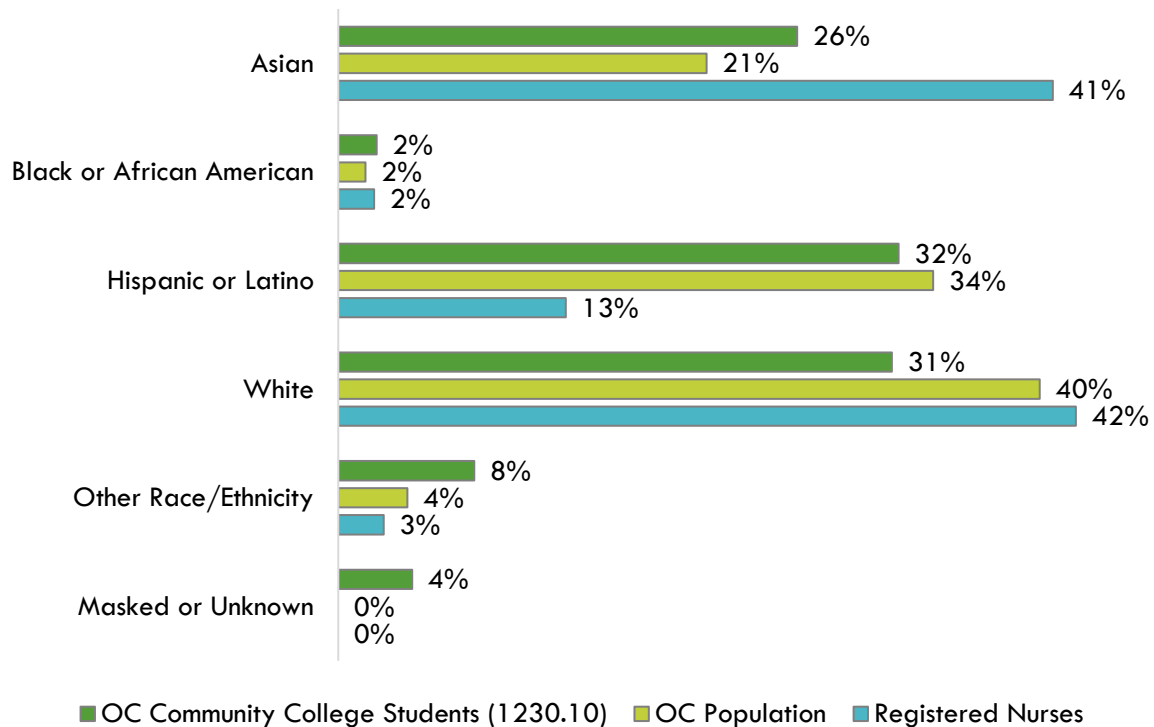
Regional Demographics

This section analyzes demographic data for Orange County community college students enrolled in registered nursing programs compared to the OC population, as well occupational data, for the purpose of identifying potential diversity and equity issues that can be addressed by community college programs.

Ethnicity:

Exhibit 14 shows the ethnicity of Orange County community college students enrolled in registered nursing programs compared to the overall Orange County population, as well as *registered nurses*. Over 80% of *registered nurses* are White (42%) or Asian (41%). Notably, 32% of community college registered nursing students are Hispanic or Latino, which is similar to the population (34%) but significantly higher than *registered nurses* (13%).

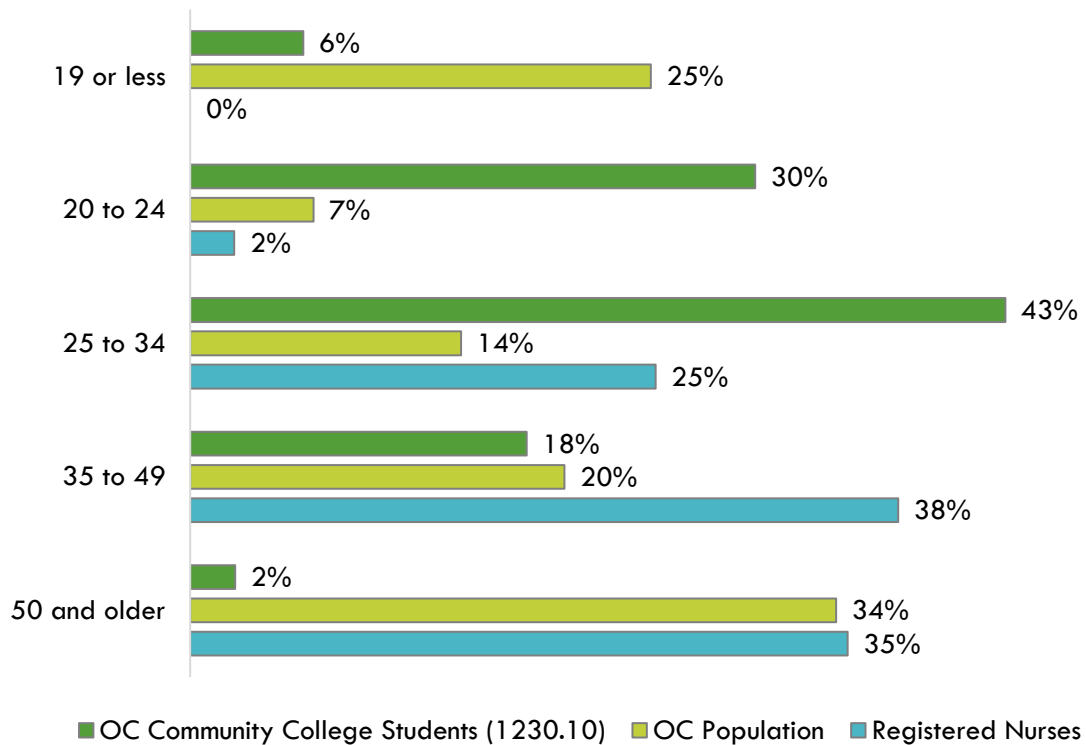
Exhibit 14: Program and County Demographics by Ethnicity



Age:

Exhibit 14 shows the age of Orange County community college students enrolled in registered nursing programs compared to the overall Orange County population, as well as *registered nurses*. The plurality (43%) of Orange County community college students are 25 to 34, which is significantly higher than both the population (14%) and *registered nurses* (25%). Conversely, 35% of *registered nurses* are 50 and older, which is nearly identical to the population (34%), but significantly higher than Orange County community college students (2%).

Exhibit 14: Program and County Demographics by Age

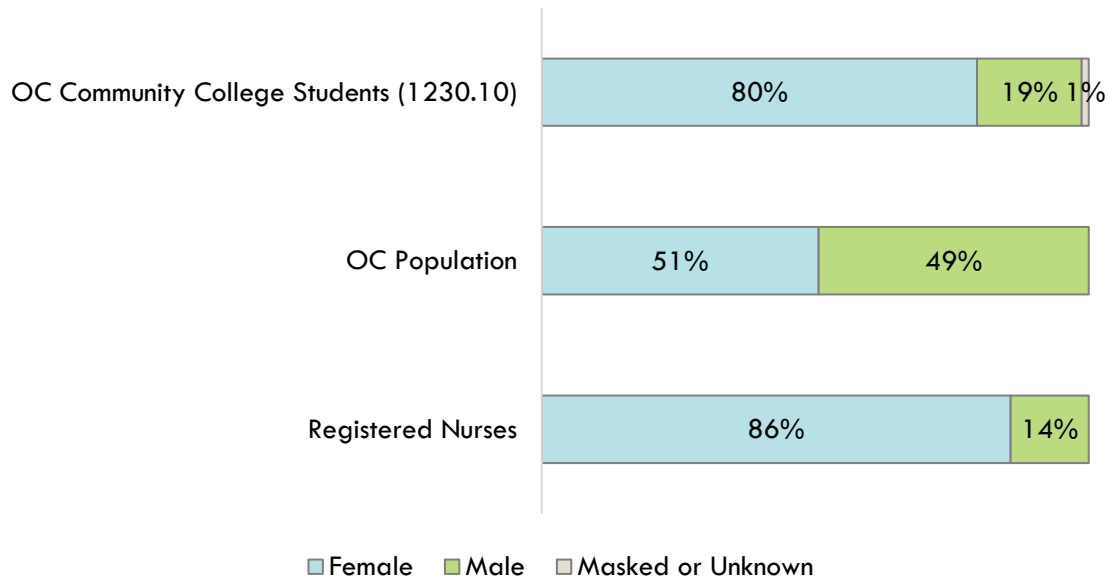


Sex:

Exhibit 15 shows the sex of Orange County community college students enrolled in registered nursing programs compared to the overall Orange County population as well as *registered nurses*.

Though the population is split nearly evenly between men and women, 80% of Orange County registered nursing community college students and 86% of *registered nurses* are women.

Exhibit 15: Program and County Demographics by Sex



Appendix A: Methodology A

The OC COE prepared this report by analyzing data from occupations and education programs. Occupational data is derived from Lightcast, a labor market analytics firm that consolidates data from the California Employment Development Department (EDD), U.S. Bureau of Labor Statistics (BLS) and other government agencies. Program supply data is drawn from two systems: Taxonomy of Programs (TOP) and Classification of Instructional Programs (CIP).

Using a TOP-SOC crosswalk, the OC COE identified middle-skill jobs for which programs within these TOP codes train. Middle-skill jobs include:

- All occupations that require an educational requirement of some college, associate degree or apprenticeship;
- All occupations that require a bachelor's degree, but also have more than one-third of their existing labor force with an educational attainment of some college or associate degree; or
- All occupations that require a high school diploma or equivalent or no formal education, but also require short- to long-term on-the-job training where multiple community colleges have existing programs.

The OC COE determined labor market supply for an occupation or SOC code by analyzing the number of program completers or awards in a related TOP or CIP code. The COE developed a “supply table” with this information, which is the source of the program supply data for this report. TOP code data comes from the California Community Colleges Chancellor's Office MIS Data Mart (datamart.cccco.edu) and CIP code data comes from the Integrated Postsecondary Education Data System (nces.ed.gov/ipeds/use-the-data), also known as IPEDS. TOP is a system of numerical codes used at the state level to collect and report information on California community college programs and courses throughout the state that have similar outcomes. CIP codes are a taxonomy of academic disciplines at institutions of higher education in the United States and Canada. Institutions outside of the California Community College system do not use TOP codes in their reporting systems.

Data included in this analysis represent the labor market demand for relevant positions most closely related to the proposed program as expressed by the requesting college in consultation with the OC COE. Traditional labor market information was used to show current and projected employment based on data trends, as well as annual average awards granted by regional community colleges. Real-time labor market information captures job post advertisements for occupations relevant to the field of study which can signal demand and show what employers are looking for in potential employees, but is not a perfect measure of the quantity of open positions.

All representations have been produced from primary research and/or secondary review of publicly and/or privately available data and/or research reports. The most recent data available at the time of the analysis was examined; however, data sets are updated regularly and may not be consistent with previous reports. Efforts have been made to qualify and validate the accuracy of the data and findings; however, neither the Centers of Excellence for Labor Market Research (COE), COE host district, nor California Community Colleges Chancellor's Office are responsible for the applications or decisions made by individuals and/or organizations based on this study or its recommendations.

Appendix B: Data Sources

Data Type	Source
Occupational Projections, Wages, and Job Postings	<p>Traditional labor market information data is sourced from Lightcast, a labor market analytics firm. Lightcast occupational employment data are based on final Lightcast industry data and final Lightcast staffing patterns. Wage estimates are based on Occupational Employment Statistics and the American Community Survey. For more information, see https://lightcast.io/</p>
Living Wage	<p>The living wage is derived from the Insight Center’s California Family Needs Calculator, which measures the income necessary for an individual of family to afford basic expenses. The data assesses the cost of housing, food, child care, health care, transportation, and taxes. For more information, see: https://insightccd.org/family-needs-calculator/</p> <p>The living wage for one adult in Orange County is \$20.63 per hour (\$42,910.40 annually). This figure is used by the CCCCCO to calculate the percentage of students that attained the regional living wage.</p>
Typical Education and Training Requirements, and Educational Attainment	<p>The Bureau of Labor Statistics (BLS) provides information about education and training requirements for hundreds of occupations. BLS uses a system to assign categories for entry-level education, work experience in a related occupation, and typical on-the-job training to each occupation for which BLS publishes projections data. For more information, see https://www.bls.gov/emp/documentation/education/tech.htm</p>
Emerging Occupation Descriptions, Additional Education Requirements, and Employer Preferences	<p>The O*NET database includes information on skills, abilities, knowledges, work activities, and interests associated with occupations. For more information, see https://www.onetonline.org/help/online/</p>
Educational Supply	<p>The CCCCCO Data Mart provides information about students, courses, student services, outcomes and faculty and staff. For more information, see: https://datamart.cccco.edu</p> <p>The National Center for Education Statistics (NCES) Integrated Postsecondary Integrated Data System (IPEDS) collects data on the number of postsecondary awards earned (completions). For more information, see https://nces.ed.gov/ipeds/use-the-data/survey-components/7/completions</p>
Student Metrics and Demographics	<p>LaunchBoard, a statewide data system supported by the California Community Colleges Chancellor's Office and hosted by Cal-PASS Plus, provides data on progress, success, employment, and earnings outcomes for California community college students. For more information, see: https://www.calpassplus.org/LaunchBoard/Home.aspx</p>

Data Type	Source
Population and Occupation Demographics	<p>The Census Bureau's American Community Survey (ACS) is the premier source for detailed population and housing information. For more information, see: https://www.census.gov/programs-surveys/acs</p> <p>Data is sourced from IPUMS USA, a database providing access to ACS and other Census Bureau data products. For more information, see: https://usa.ipums.org/usa/about.shtml</p>

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