

Labor Market Analysis for Noncredit Program Recommendation: 1221.00/Pharmacy Technician

(Pharmacy Technician - Entry Level - Certificate of Completion)

Orange County Center of Excellence, August 2023



C·O·E

CENTERS OF EXCELLENCE
FOR LABOR MARKET RESEARCH

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 2,201 annual job openings throughout Los Angeles and Orange counties for these pharmacy technician occupations, which is more than the 673 awards conferred by educational institutions.	
Living Wage: (Entry-Level, 25 th)	Yes <input type="checkbox"/>	No <input checked="" type="checkbox"/>
	<i>Comments:</i> All annual job openings for these pharmacy technician occupations have entry-level hourly wages below the OC living wage of \$20.63.	
Education:	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>
	<i>Comments:</i> The typical entry-level education for these pharmacy technician occupations is a high school diploma or equivalent. However, more than 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 to determine whether there is a supply gap in the Los Angeles/Orange County regional labor market related to two middle-skill occupations:

- Pharmacy Technicians (29-2052)
- Pharmacy Aides (31-9095)

Based on the available data there appears to be a supply gap for these pharmacy technician occupations, and typical education requirements align with a community college education. However, typical entry-level hourly wages are below the living wage. **Therefore, due to some 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
Pharmacy Technicians (29-2052)	LA: 1,084	LA: 580			
	OC: 380	OC: 93	OC: \$19.87	High school diploma or equivalent	52%
	TTL: 1,464	TTL: 673			
Pharmacy Aides (31-9095)	LA: 546	LA: Accounted for above			
	OC: 191	OC: Accounted for above	OC: \$16.46	High school diploma or equivalent	40%
	TTL: 737	TTL: Accounted for above			
Total	2,201	673	N/A	N/A	N/A

Demand:

- The number of jobs related to these pharmacy technician occupations are projected to increase 3% through 2027, equating to 2,201 annual job openings.
- Hourly entry-level wages for these pharmacy technician occupations range from \$16.46 to \$19.87 in Orange County; all annual job openings have entry-level wages below the living wage.
- There were 5,226 online job postings for these pharmacy technician occupations over the past 12 months. The highest number of postings were for pharmacy technicians, pharmacy clerks, and pharmacy assistants.
- The typical entry-level education for these pharmacy technician occupations is a high school diploma.
- Between 40% and 52% 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 129 awards conferred by six community colleges in Los Angeles and Orange Counties from 2019 to 2022.
- Non-community college institutions conferred an average of 544 awards from 2019 to 2021.
- Orange County community college students that exited pharmacy technician programs in the 2019-2020 academic year had a median annual wage of \$32,256 after exiting the program and 27% attained the regional living wage.
- Throughout Orange County, 67% of pharmacy technician students that exited their program in 2018-19 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 these pharmacy technician occupations from 2017 through 2027. Though there was a 7% decline in employment in these occupations from 2019 to 2020 due to the COVID-19 Pandemic, employment in these pharmacy technician occupations increased 2% in Orange County during the same period. These pharmacy technician occupations are projected to grow at a similar rate when compared to all occupations through 2027.

Exhibit 2: Annual Percent Change in Jobs for Pharmacy Technician Occupations, 2017-2027

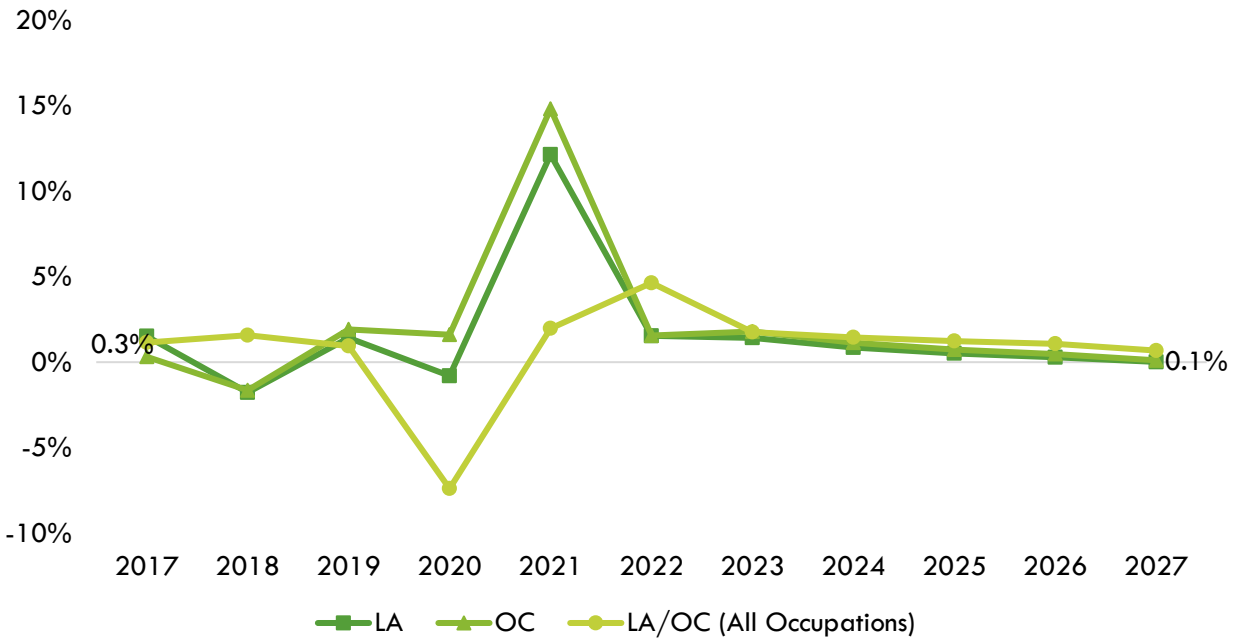


Exhibit 3 shows the five-year occupational demand projections for these pharmacy technician occupations. In Los Angeles/Orange County, the number of jobs related to these occupations is projected to increase by 3% through 2027. There is projected to be 2,201 jobs available annually.

Exhibit 3: Occupational Demand in Los Angeles and Orange Counties¹

Geography	2022 Jobs	2027 Jobs	2022-2027 Change	2022-2027 % Change	Annual Openings
Los Angeles	13,870	14,302	432	3%	1,630
Orange	4,749	4,954	205	4%	571
Total	18,619	19,256	637	3%	2,201

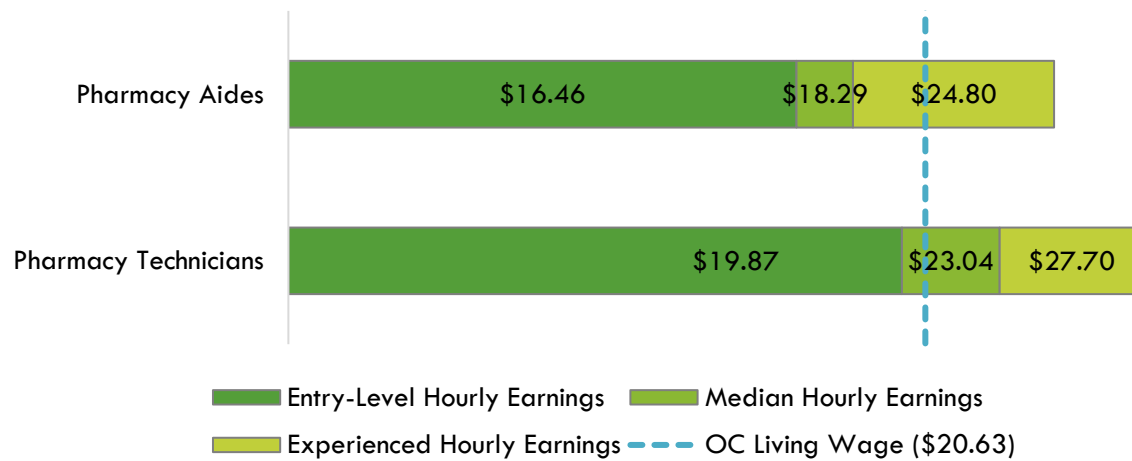
¹ Five-year change represents new job additions to the workforce. Annual openings include new jobs and replacement jobs that result from retirements and separations.

Wages:

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

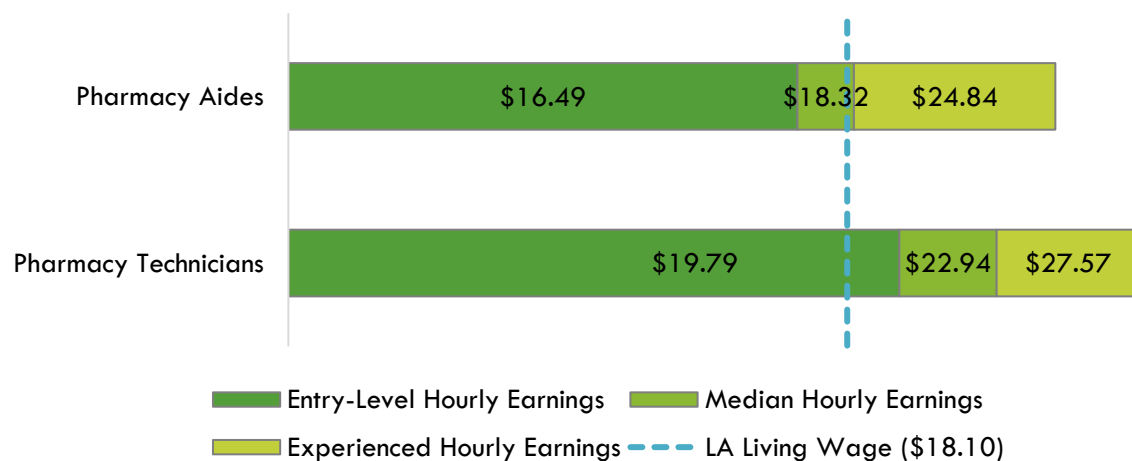
All annual openings for these pharmacy technician occupations have entry-level wages below the living wage for one adult (\$20.63 in Orange County). Typical entry-level hourly wages range between \$16.46 and \$19.87. Orange County's average wages are below the average statewide wage of \$24.55 for these occupations. Exhibit 4 shows the wage range for each of these pharmacy technician occupations in Orange County and how they compare to the regional living wage, sorted from lowest to highest entry-level wage.

Exhibit 4: Wages by Occupation in Orange County



The majority (67%) of annual openings for these pharmacy technician occupations have entry-level wages above the living wage for one adult (\$18.10 in Los Angeles County). Typical entry-level hourly wages are in a range between \$16.49 and \$19.79. Los Angeles County's average wages are below the average statewide wage of \$24.55 for these occupations. Exhibit 5 shows the wage range for each of these pharmacy technician occupations in Los Angeles County how they compare to the regional living wage, sorted from lowest to highest entry-level wage.

Exhibit 5: Wages by Occupation in Los Angeles County



Job Postings:

Important Online Job Postings Data Note: Online job postings data is sourced from Lightcast, a labor market analytics firm that scrapes, collects, and organizes data from online job boards such as LinkedIn, Indeed, Glassdoor, Monster, GovernmentJobs.com, and thousands more. Lightcast uses natural language processing (NLP) to determine the related company, industry, occupation, and other information for each job posting. However, NLP has limitations that include understanding contextual words of phrases; determining differences in words that can be used as nouns, verbs, and/or adjectives; and misspellings or grammatical errors.² For these reasons, job postings could be assigned to the wrong employer, industry, or occupation within Lightcast's database.

Additionally, there are several limitations when analyzing job postings. A single job posting may not represent a single job opening, as employers may be creating a pool of candidates for future openings or hiring for multiple positions with a single posting. Additionally, not all jobs are posted online, and jobs may be filled through other methods such as internal promotion, word-of-mouth advertising, physical job boards, or a variety of other channels.

There were 5,226 online job postings related to these pharmacy technician occupations listed in the past 12 months. Exhibit 6 shows the number of job postings by occupation. The vast majority (91%) of job postings were for pharmacy technicians.

Exhibit 6: Number of Job Postings by Occupation (n=5,226)

Occupation	Job Postings	Percentage of Job Postings
Pharmacy Technicians	4,736	91%
Pharmacy Aides	490	9%
Total Postings	5,226	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=5,226)

Employer	Job Postings	Percentage of Job Postings
CVS Health	559	11%
Walgreens Boots Alliance	411	8%
Kaiser Permanente	301	6%
Cedars-Sinai	279	5%
RPh on the Go	180	3%
Walmart	175	3%
Albertsons	147	3%
University of California	99	2%
Providence	95	2%
Rite Aid	87	2%

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

² K. R. Chowdhary, Fundamentals of Artificial Intelligence (Basingstoke: Springer Nature, 2020), <https://link.springer.com/book/10.1007/978-81-322-3972-7>.

Exhibit 8: Top Skills by Number of Job Postings (n=5,226)

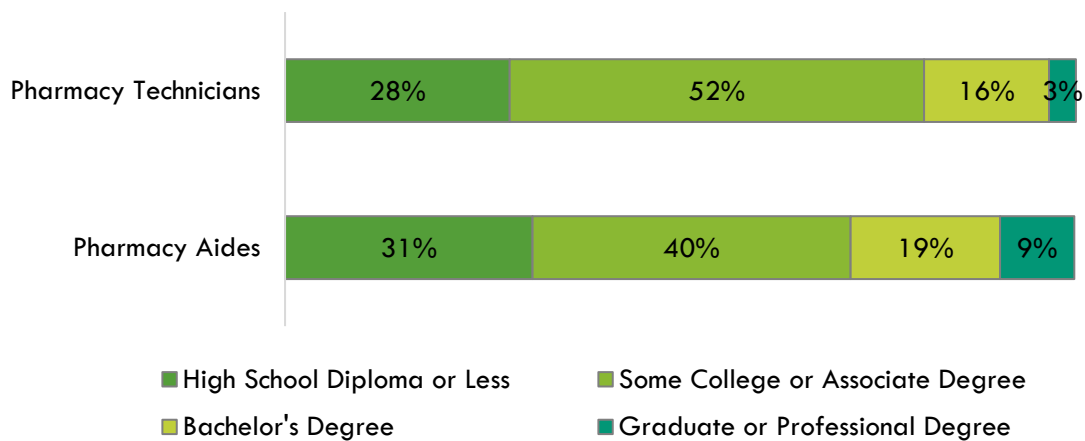
Top Specialized Skills	Top Soft Skills	Top Computer Skills
Medical Prescription (2,536)	Customer Service (2,187)	Pyxis MedStation (181)
Pharmaceuticals (1,287)	Communications (1,547)	Microsoft Excel (124)
Pharmacy Experience (1,154)	Packaging And Labeling (944)	Microsoft Office (103)
Pharmacist Assistance (1,007)	English Language (928)	Epic EMR (82)
Inventory Management (768)	Mathematics (791)	Microsoft Word (65)
Workflow Management (748)	Writing (683)	Microsoft PowerPoint (59)
Medication Dispensation (709)	Clerical Works (635)	Microsoft Outlook (55)
Billing (643)	Ethical Standards and Conduct (572)	Microsoft Windows (49)
Inventory Control (640)	Transcribing (560)	QS/1 (41)
Merchandising (616)	Operations (532)	Salesforce (34)

Educational Attainment:

The Bureau of Labor Statistics (BLS) lists a high school diploma or equivalent as the typical entry-level education for these pharmacy technician occupations. The national-level educational attainment data indicates between 40% and 52% 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 each occupation, sorted by highest community college educational attainment to lowest.

Of the 50% of the cumulative job postings for these pharmacy technician occupations that listed a minimum education requirement in Los Angeles/Orange County, 96% (2,494) requested a high school diploma or an associate degree and 4% (104) requested a bachelor's, master's, or doctoral degree.

Exhibit 9: National-level Educational Attainment for Occupations



Educational Supply

Community College Supply:

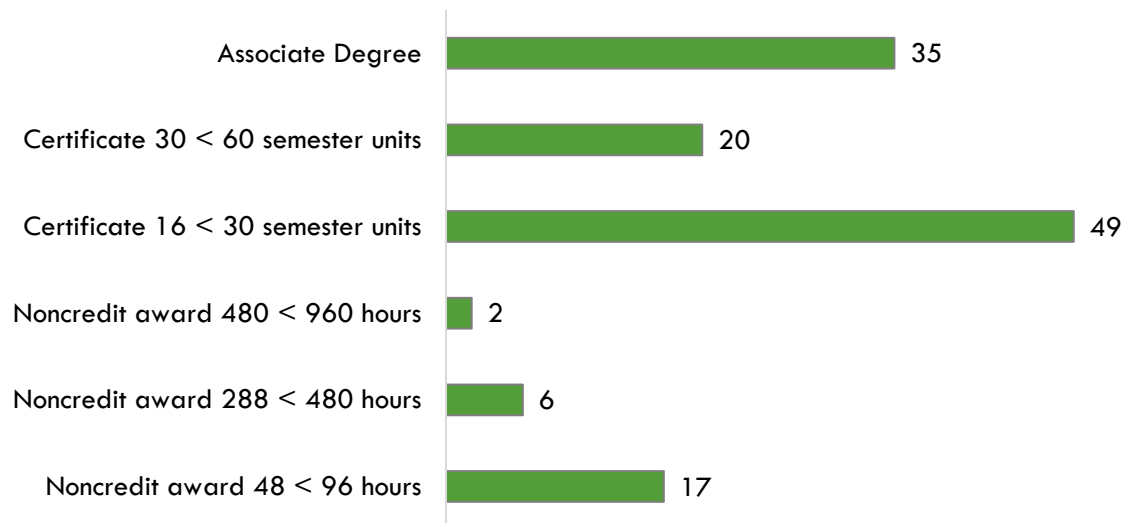
Exhibit 10 shows the three-year average number of awards conferred by community colleges in the related TOP code: Pharmacy Technology (1221.00). The college with the most completions in the region is Santa Ana. Over the past 12 months, there were no other related program recommendation requests.

Exhibit 10: Regional Community College Awards (Certificates and Degrees), 2019-2022

TOP Code	Program	College	2019-2020 Awards	2020-2021 Awards	2021-2022 Awards	3-Year Award Average
1221.00	Pharmacy Technology	Cerritos	38	27	33	33
		East LA	24	8	20	18
		LA Mission	22	24	24	23
		West LA	5	9	14	10
		LA Subtotal	89	68	91	84
		North Orange Adult	6	0	16	7
		Santa Ana	61	22	31	38
		OC Subtotal	67	22	47	45
		Supply Total/Average			156	90

Exhibit 11 shows the annual average community college awards by type from 2019-20 to 2021-22. The plurality of the awards are for certificates between 16 and less than 30 semester units, followed by associate degrees.

Exhibit 11: Annual Average Community College Awards by Type, 2019-2022



Community College Student Outcomes:

Exhibit 12 shows the Strong Workforce Program (SWP) metrics for pharmacy technician programs in the Orange County Region, and California. Currently, Coast Community College District (CCCD) colleges do not offer pharmacy technician programs. Therefore, outcomes data is not available for CCCD (as denoted by “N/A” in Exhibit 12).

Orange County students that exited pharmacy technician programs in the 2019-20 academic year had similar median annual earnings (\$32,256) compared to all pharmacy technician students in Orange County (\$31,782). A similar percentage of Orange County pharmacy technician students were employed in their field of study (67%) when compared to all pharmacy technician students in Orange County (72%).

Exhibit 12: Pharmacy Technician (1221.00) Strong Workforce Program Metrics, 2020-21³

SWP Metric	CCCD	OC Region	California
SWP Students	N/A	698	2,027
SWP Students Who Earned 9 or More Career Education Units in the District in a Single Year	N/A	8%	22%
SWP Students Who Completed a Noncredit CTE or Workforce Preparation Course	N/A	80%	81%
SWP Students Who Earned a Degree or Certificate or Attained Apprenticeship Journey Status	N/A	19	123
SWP Students Who Transferred to a Four-Year Postsecondary Institution (2019-20)	N/A	0	47
SWP Students with a Job Closely Related to Their Field of Study (2018-19)	N/A	67%	72%
Median Annual Earnings for SWP Exiting Students (2019-20)	N/A	\$32,256	\$31,782
Median Change in Earnings for SWP Exiting Students (2019-20)	N/A	15%	18%
SWP Exiting Students Who Attained the Living Wage (2019-20)	N/A	27%	34%

³ All SWP metrics are for 2020-21 unless otherwise noted.

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 these pharmacy technician occupations. 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: Pharmacy Technician/Assistant (51.0805).

Due to different data collection periods, the most recent two-year period of available data is from 2019 to 2021. Between 2019 and 2021, non-community colleges in the region conferred an average of 544 awards annually in related training programs.

Exhibit 13: Regional Non-Community College Awards, 2019-2021

CIP Code	Program	College	2019-2020 Awards	2020-2021 Awards	2-Year Award Average
51.0805	Pharmacy Technician/Assistant	ABC Adult School	1	26	14
		American Career College-Anaheim	28	35	32
		American Career College-Los Angeles	67	62	64
		American College of Healthcare and Technology	6	9	8
		American University of Health Sciences	0	0	0
		Baldwin Park Adult & Community Education	14	13	14
		CBD College	22	14	18
		Concorde Career College-Garden Grove	0	0	0
		Downey Adult School	71	71	71
		Galaxy Medical College	12	8	10
		Hacienda La Puente Adult Education	16	29	22
		High Desert Medical College	22	49	36
		North-West College-Anaheim	10	16	13
		North-West College-Glendale	16	12	14
		North-West College-Long Beach	32	40	36
		North-West College-Pomona	9	10	10
		North-West College-Van Nuys	28	9	18
		North-West College-West Covina	33	28	30
		Platt College-Anaheim	0	6	3

CIP Code	Program	College	2019-2020 Awards	2020-2021 Awards	2-Year Award Average
		San Joaquin Valley College-Lancaster	36	24	30
		UEI College-Gardena	32	43	38
		United Education Institute-Encino	36	26	31
		United Education Institute-West Covina	19	28	24
		University of Antelope Valley	6	5	6
		Valley College of Medical Careers	1	4	2
Supply Total/Average			517	567	544

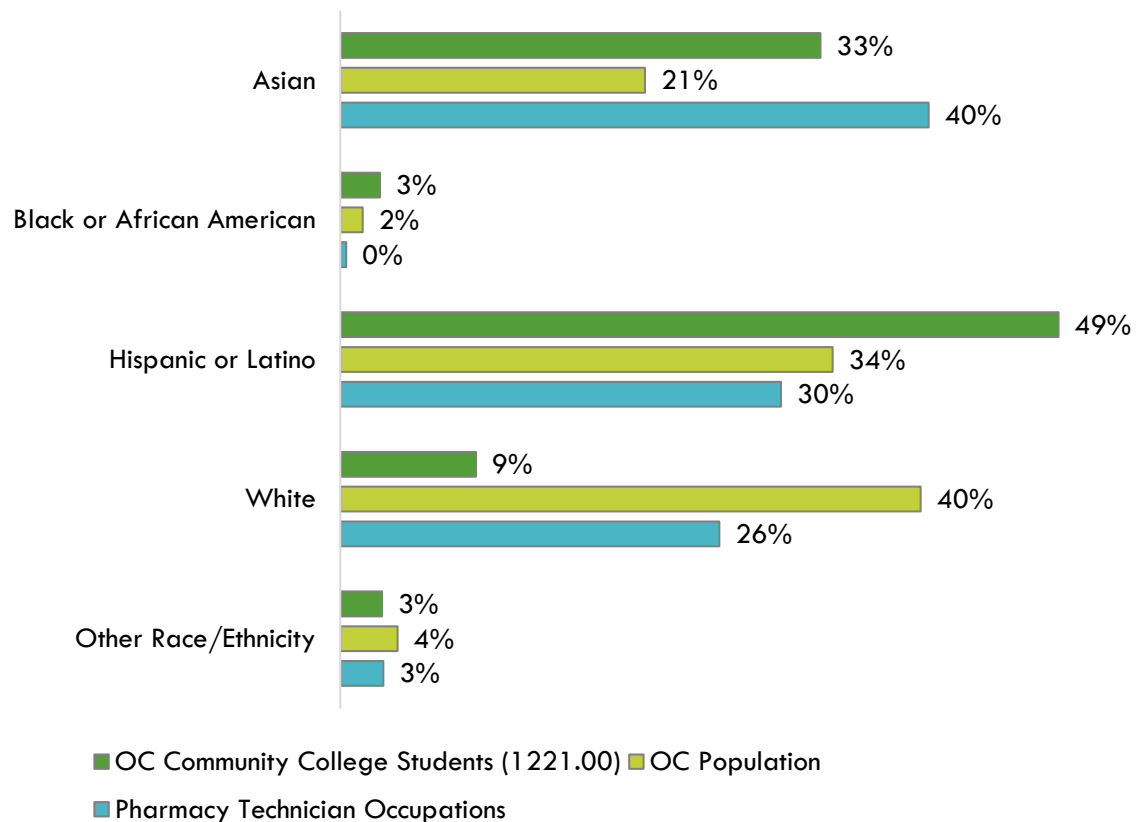
Regional Demographics

This section analyzes demographic data for Orange County community college students enrolled in pharmacy technician 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 pharmacy technician programs compared to the overall Orange County population, as well as the two pharmacy technician occupations included in this report. Notably, 40% of workers in these pharmacy technician occupations are Asian, which is slightly higher than community college pharmacy technician students, and significantly higher than the population (21%). Conversely, 49% of community college pharmacy technician students are Hispanic or Latino, which is significantly higher than the population (34%), and these pharmacy technician occupations (30%).

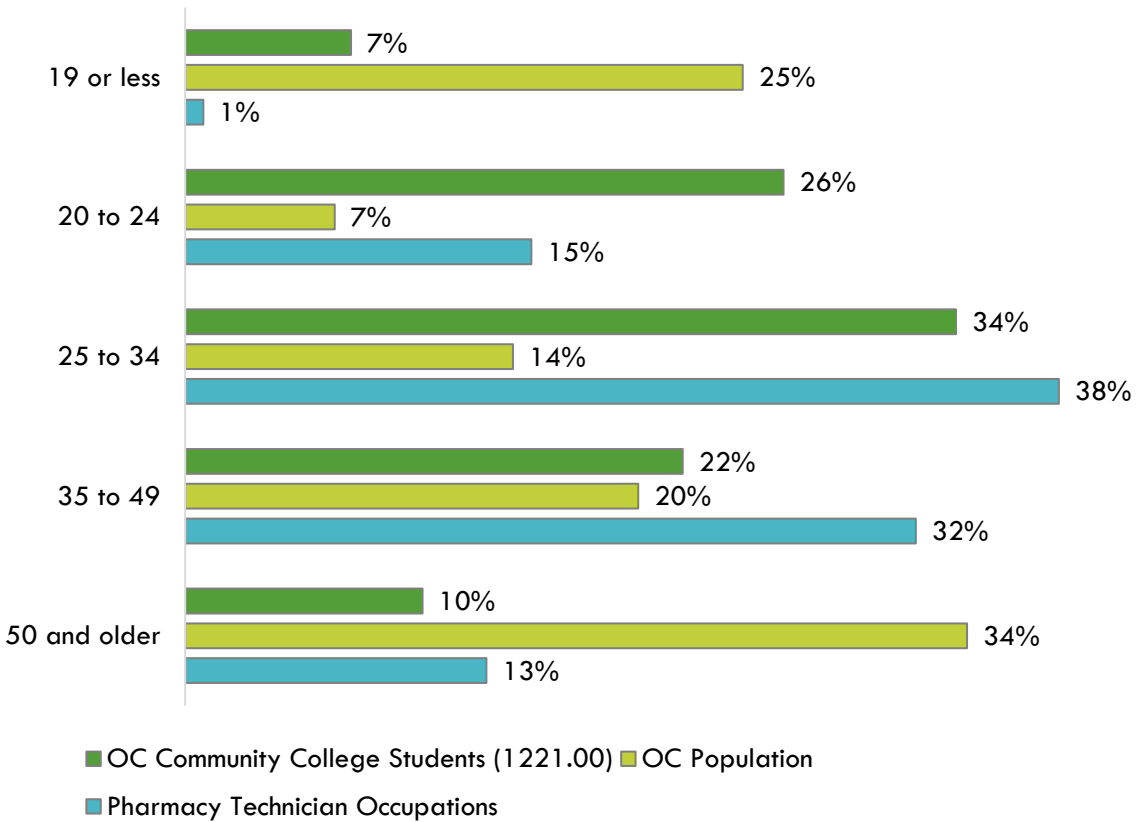
Exhibit 14: Program and County Demographics by Ethnicity



Age:

Exhibit 15 shows the age of Orange County community college students enrolled in pharmacy technician programs compared to the overall Orange County population. The plurality (38%) of workers in these pharmacy technician programs are 25 to 34, which is slightly higher than community college pharmacy technician students (34%), and significantly higher than the population (14%).

Exhibit 15: Program and County Demographics by Age

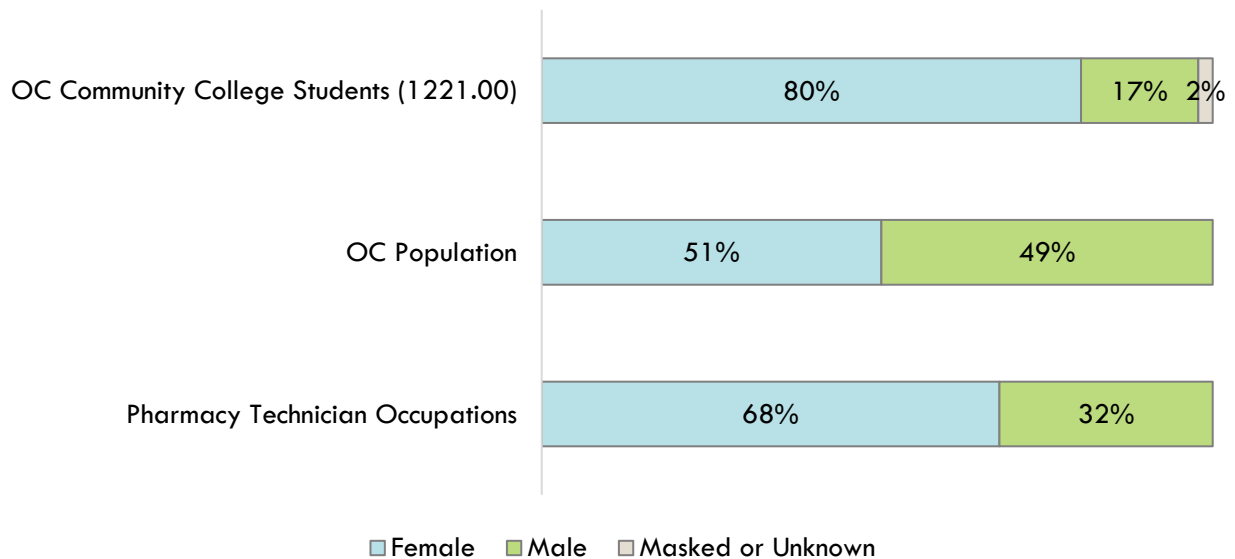


Sex:

Exhibit 16 shows the sex of Orange County community college students enrolled in pharmacy technician programs compared to the overall Orange County population as well as these pharmacy technician occupations.

Though the population is split nearly evenly between women and men, the majority (80%) of community college pharmacy technician occupations and workers in these pharmacy technician occupations (68%) are women.

Exhibit 16: Program and County Demographics by Sex



Appendix A: Methodology

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, childcare, 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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