Labor Market Analysis for Noncredit Program Exploration: 1205.10/Phlebotomy
(*Phlebotomy Certificate of Completion*)
Orange County Center of Excellence, September 2023

C·O·E CENTERS OF EXCELLENCE FOR LABOR MARKET RESEARCH

Summary

Program LMI Endorsement	Endorsed: All LMI Criteria Met	☒	Endorsed: Some LMI Criteria Met	☐	Not LMI Endorsed	☐

Program LMI Endorsement Criteria		
Supply Gap:	Yes ☑	No ☐
	Comments: there is projected to be **919 annual job openings** throughout Los Angeles and Orange counties for *phlebotomists*, which **is more than the 103 awards conferred by educational institutions.**	
Living Wage: (Entry-Level, 25th)	Yes ☑	No ☐
	Comments: **Entry-level wages for *phlebotomists* are $21.67, which is above the OC living wage of $20.63.**	
Education:	Yes ☑	No ☐
	Comments: The typical entry-level education for *phlebotomists* is a **postsecondary nondegree award and 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 ☐	*No* ☑
Comments: 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 one middle-skill occupation:

- Phlebotomists (31-1097)

Based on the available data there appears to be a supply gap for *phlebotomists*, typical entry-level wages are above the living wage, and typical education requirements 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 (25th Percentile)	Typical Entry-Level Education	Community College Educational Attainment
Phlebotomists (31-1131)	LA: 571 OC: 348	LA: 103 OC: 0	OC: $21.67	Postsecondary nondegree award	61%
Total	**919**	**103**	**N/A**	**N/A**	**N/A**

Demand:

- The number of jobs related to *phlebotomists* is projected to increase 13% through 2027, equating to 919 annual job openings.
- Hourly entry-level wages for *phlebotomists* are $21.67 in Orange County, which is above the living wage of $20.63.
- There were 2,091 online job postings for *phlebotomists* over the past 12 months. The highest number of postings were for phlebotomists, mobile phlebotomists, and certified phlebotomy technicians.
- The typical entry-level education for *phlebotomists* is a postsecondary nondegree award.
- Approximately 61% of workers in the field have completed some college or an associate degree as their highest level of education.

Supply:

- There was an average of 2 awards conferred by 2 community colleges in Los Angeles and Orange Counties from 2019 to 2022.
- Non-community college institutions conferred an average of 101 awards from 2019 to 2021.
- Due to the low number of students enrolled in phlebotomy programs in Orange County, there was insufficient data to determine the median wages after exiting, percentage of students that attained the regional living wage, and the percentage of students that 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 *phlebotomists* from 2017 through 2027. Though there was a 7% decline across all occupations from 2019 to 2020 due to the COVID-19 pandemic, employment for *phlebotomists* declined only 1% in Orange County over the same period. Employment for *phlebotomists* increased sharply from 2020 to 2021 and is projected to grow at a slightly higher rate for all occupations through 2027.

Exhibit 2: Annual Percent Change in Jobs for Phlebotomists, 2017-2027

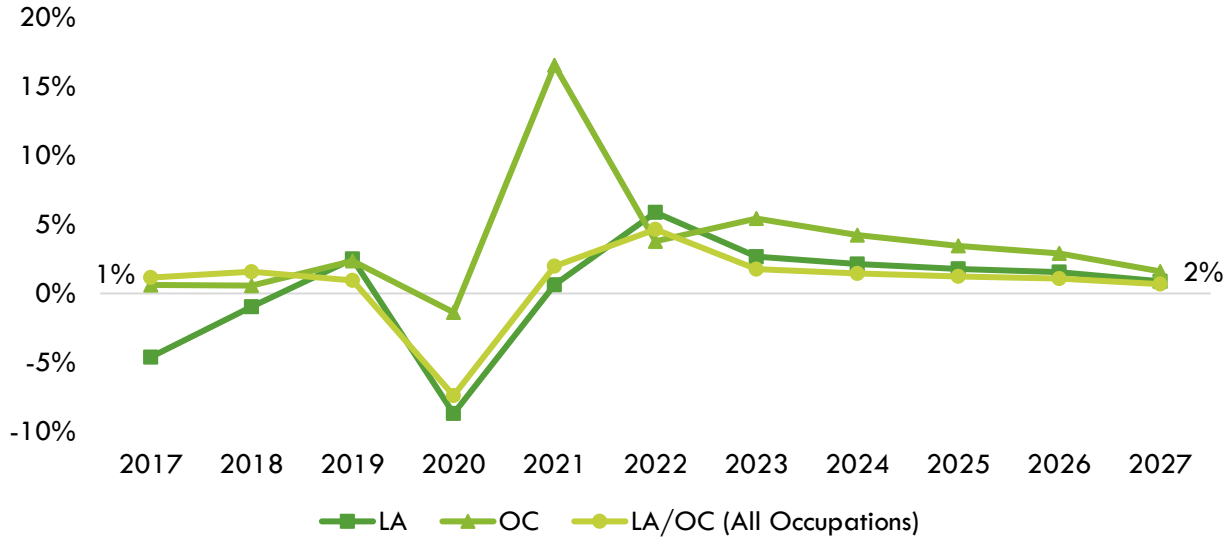


Exhibit 3 shows the five-year occupational demand projections for *phlebotomists*. In Los Angeles/Orange County, the number of jobs related to these occupations is projected to increase by 13% through 2027. There is projected to be 919 jobs available annually.

Exhibit 3: Occupational Demand in Los Angeles and Orange Counties[1]

Geography	2022 Jobs	2027 Jobs	2022-2027 Change	2022-2027 % Change	Annual Openings
Los Angeles	3,439	3,759	320	9%	571
Orange	1,816	2,158	342	19%	348
Total	**5,255**	**5,917**	**662**	**13%**	**919**

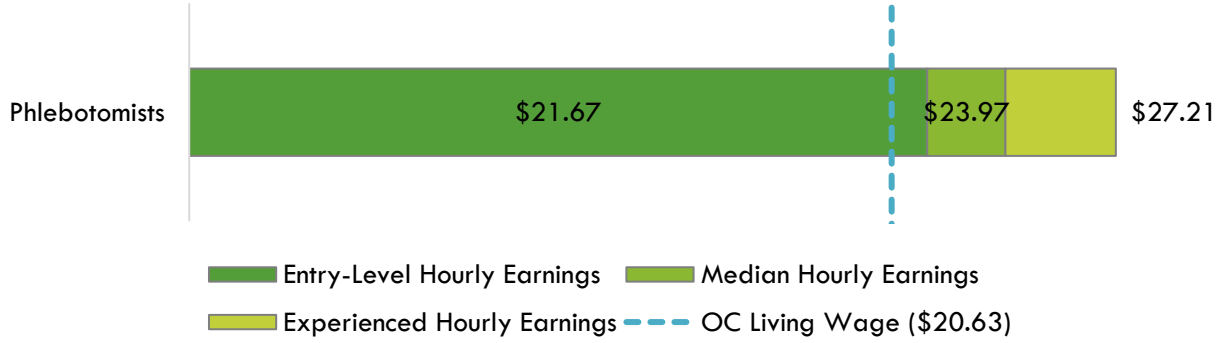
Wages:

The labor market endorsement in this report considers the entry-level hourly wages for *phlebotomists* 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 *phlebotomists* are $21.67, which is above the living wage for one adult ($20.63 in Orange County). Experienced hourly wages are $27.21. Orange County's average wages are slightly higher than the average statewide wage of $24.27 for this occupation. Exhibit 4 shows the wage range for *phlebotomists* in Orange County and how it compares to the regional living wage.

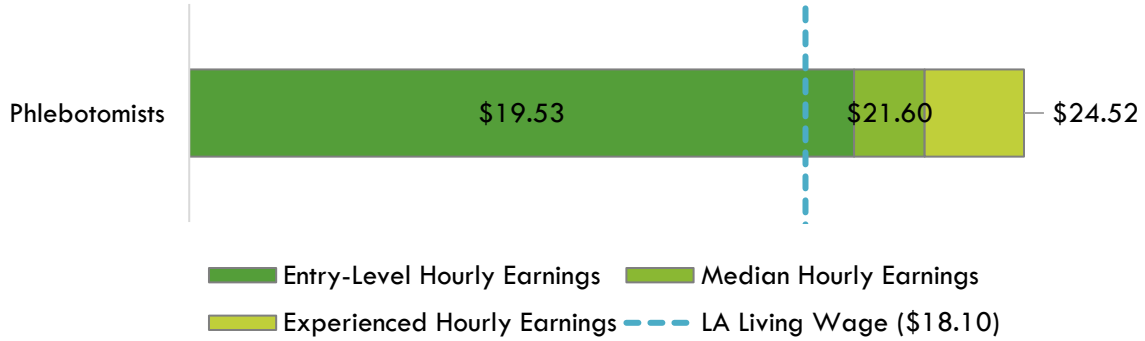
[1] Five-year change represents new job additions to the workforce. Annual openings include new jobs and replacement jobs that result from retirements and separations.

Exhibit 4: Wages by Occupation in Orange County



The typical entry-level hourly wages for *phlebotomists* are $19.53, which is above the living wage for one adult ($18.10 in Los Angeles County). Experienced hourly wages range are $24.52. Los Angeles County's average wages are lower than the average statewide wage of $24.27 for this occupation. Exhibit 5 shows the wage range for *phlebotomists* in Los Angeles County and how it compares to the regional living 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.

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

There were 2,091 online job postings related to *phlebotomists* listed in the past 12 months, as shown in Exhibit 6.

Exhibit 6: Number of Job Postings by Occupation (n=2,091)

Occupation	Job Postings	Percentage of Job Postings
Phlebotomists	2,091	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=2,091)

Employer	Job Postings	Percentage of Job Postings
Quest Diagnostics	312	15%
Actalent	121	6%
Labcorp Drug Development	88	4%
Providence	54	3%
Rangam Consultants	54	3%
University of California	50	2%
PRIDE Health	43	2%
Talentburst	35	2%
Aya Healthcare	29	1%
Rangam International	28	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=2,091)

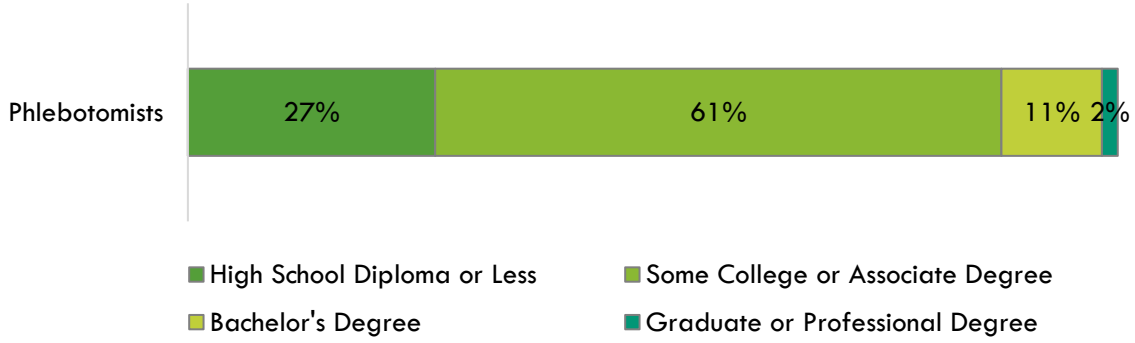
Top Specialized Skills	Top Soft Skills	Top Computer Skills
Phlebotomy (2,014)	Customer Service (856)	Microsoft Office (43)
Venipuncture (832)	Communications (764)	Epic EMR (34)
Data Entry (709)	Collections (548)	Ansible (20)
CPT Coding (516)	Packaging And Labeling (367)	Laboratory Management System (16)
Specimen Processing (506)	Clerical Works (330)	Microsoft Excel (15)
Pediatrics (496)	Good Driving Record (309)	Google Workspace (13)
Specimen Collection (451)	Filing (298)	Firefox (6)
Medical Assistance (441)	Research (225)	Adobe Creative Suite (5)
Geriatrics (417)	Operations (218)	Adobe Photoshop (5)
Capillary (403)	Leadership (207)	AutoCAD (5)

Educational Attainment:

The Bureau of Labor Statistics (BLS) lists a postsecondary nondegree award as the typical entry-level education for *phlebotomists*. Additionally, the national-level educational attainment data indicates 61% 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 *phlebotomists*.

Of the 58% of the cumulative job postings for *phlebotomists* that listed a minimum education requirement in Los Angeles/Orange County, 99% (1,207) requested a high school diploma or an associate degree and 1% (14) requested a bachelor's degree.

Exhibit 9: National-level Educational Attainment for Occupations



Educational Supply

Community College Supply:

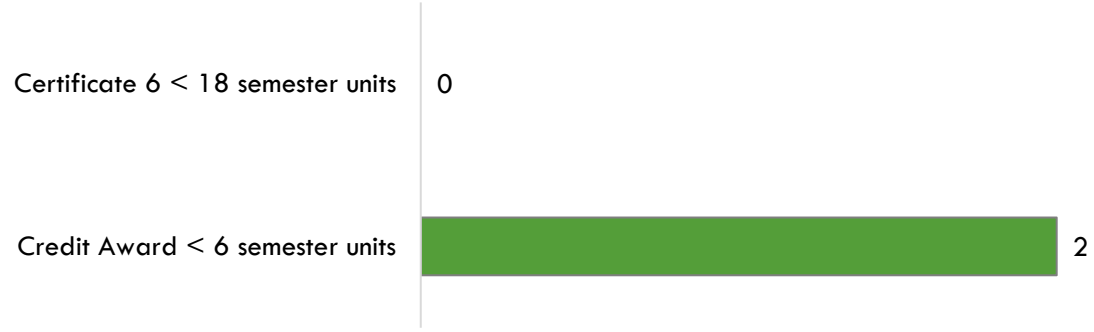
Exhibit 10 shows the three-year average number of awards conferred by community colleges in the related TOP code: Phlebotomy. The college with the most completions in the region is Long Beach. Over the past 12 months, there were no other related program recommendation requests from regional community colleges.

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

TOP Code	Program	College	2019-2020 Awards	2020-2021 Awards	2021-2022 Awards	3-Year Award Average
1205.10	Phlebotomy	Long Beach	3	3	0	2
		LA Subtotal	**3**	**3**	**0**	**2**
		Saddleback	0	1	0	0
		OC Subtotal	**0**	**1**	**0**	**0**
		Supply Total/Average	**3**	**4**	**0**	**2**

Exhibit 11 shows the annual average community college awards by type from 2019-20 to 2021-22. All awards are for credit awards less than 6 semester units.

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 phlebotomy programs in the Orange County Region and California. Currently, no Coast Community College District (CCCD) colleges offer a phlebotomy program. Therefore, metrics for CCCD are not included. Additionally, several metrics are unavailable for the Orange County region due to a low number of students enrolled in phlebotomy programs.

California students that exited phlebotomy programs in the 2019-20 academic year had median annual earnings of $36,580 and 37% attained the living wage.

Exhibit 12: Phlebotomy (1205.10) Strong Workforce Program Metrics, 2020-21[3]

SWP Metric	CCCD	OC Region	California
SWP Students	N/A	65	324
SWP Students Who Earned 9 or More Career Education Units in the District in a Single Year	N/A	28%	22%
SWP Students Who Completed a Noncredit CTE or Workforce Preparation Course	N/A	33%	44%
SWP Students Who Earned a Degree or Certificate or Attained Apprenticeship Journey Status	N/A	Insufficient Data	26
SWP Students Who Transferred to a Four-Year Postsecondary Institution (2019-20)	N/A	Insufficient Data	0
SWP Students with a Job Closely Related to Their Field of Study (2018-19)	N/A	Insufficient Data	Insufficient Data
Median Annual Earnings for SWP Exiting Students (2019-20)	N/A	Insufficient Data	$36,580 ($17.59)
Median Change in Earnings for SWP Exiting Students (2019-20)	N/A	Insufficient Data	30%
SWP Exiting Students Who Attained the Living Wage (2019-20)	N/A	Insufficient Data	37%

[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 *phlebotomists*. 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: Phlebotomy Technician/Phlebotomist (51.1009).

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 college institutions in the region conferred an average of 101 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	3-Year Award Average
51.1009	Phlebotomy Technician/ Phlebotomist	Advanced College	17	8	12
		Angeles College	6	0	3
		Healthcare Career College	0	87	44
		High Desert Medical College	0	49	24
		National Polytechnic College	4	8	6
		Universal Healthcare Careers College	5	18	12
		Supply Total/Average	**32**	**170**	**101**

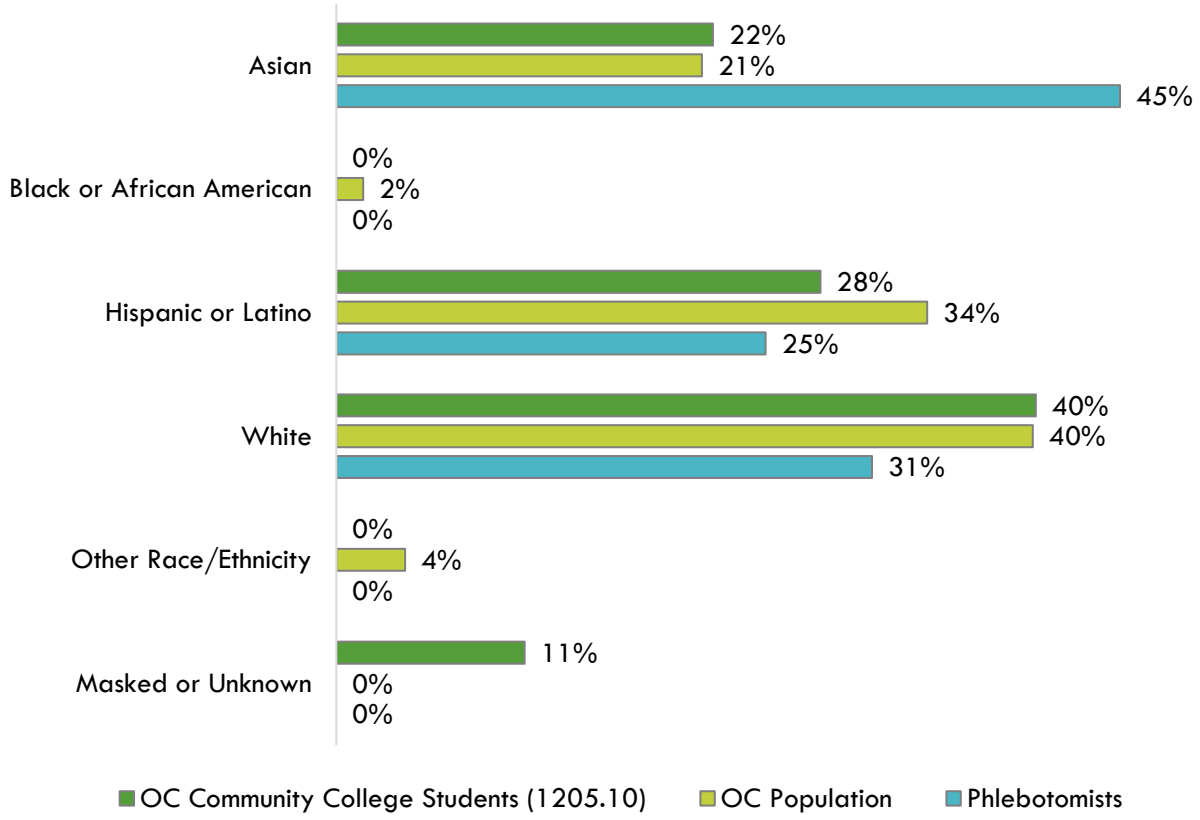
Regional Demographics

This section analyzes demographic data for Orange County community college students enrolled in phlebotomy 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 phlebotomy programs compared to the overall Orange County population, as well as *phlebotomists*. Notably, 45% of *phlebotomists* are Asian, which is significantly higher than community college phlebotomy students (22%) and the population (21%).

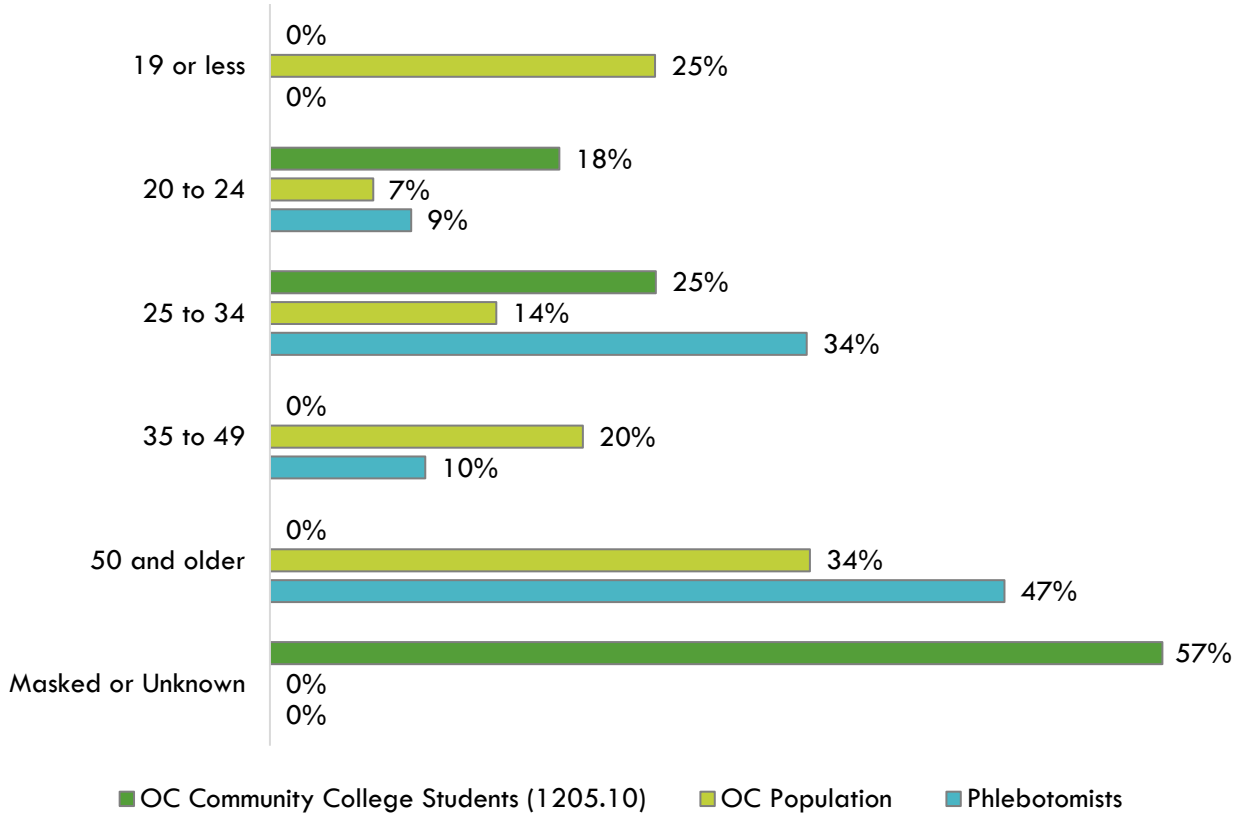
Exhibit 14: Program and County Demographics by Ethnicity



Age:

Exhibit 15 shows the age of Orange County community college students enrolled in phlebotomy programs compared to the overall Orange County population, as well as *phlebotomists*. Approximately 47% of *phlebotomists* are age 50 and older, which is significantly higher than the population (34%), and community college phlebotomy students (0%). Additionally, the age of 57% of community college phlebotomy students is masked or unknown.

Exhibit 15: Program and County Demographics by Age

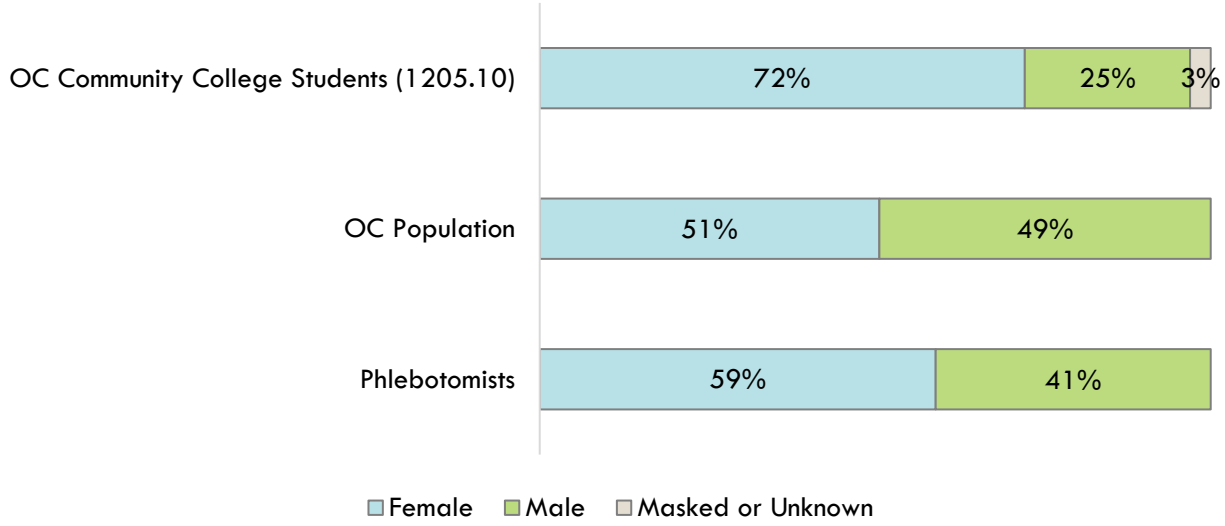


Sex:

Exhibit 16 shows the sex of Orange County community college students enrolled in phlebotomy programs compared to the overall Orange County population as well as *phlebotomists*.

Though the population is split nearly evenly, the majority of phlebotomy students (72%) and *phlebotomists* (59%) 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	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/
Living Wage	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://insightcced.org/family-needs-calculator/ The living wage for one adult in Orange County is $20.63 per hour ($42,910.40 annually). This figure is used by the CCCCO to calculate the percentage of students that attained the regional living wage.
Typical Education and Training Requirements, and Educational Attainment	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
Emerging Occupation Descriptions, Additional Education Requirements, and Employer Preferences	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/
Educational Supply	The CCCCO Data Mart provides information about students, courses, student services, outcomes and faculty and staff. For more information, see: https://datamart.cccco.edu 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
Student Metrics and Demographics	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

Data Type	Source
Population and Occupation Demographics	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 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

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FOR LABOR MARKET RESEARCH

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