

Labor Market Analysis for: 1227.00 Diagnostic Medical Sonography

Inland Empire/Desert Center of Excellence, August 2024

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Summary

Program LMI Endorsement	All LMI Criteria Met	Some LMI Criteria Met (Proceed with Caution)	LMI Criteria NOT Met
	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>

Program LMI Endorsement Criteria		
Supply Gap	Yes <input type="checkbox"/>	No <input checked="" type="checkbox"/>
	<i>Comments:</i> There is <i>projected</i> to be 71 annual job openings throughout the Inland Empire/Desert region, which is less than the 202 annual average awards conferred by educational institutions over the last 3 years . Supply data includes both community college awards (6) and non-community college awards (196).	
Living Wage	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>
	<i>Comments:</i> All (100%) of annual job openings for this occupation have entry-level hourly wages above the IE/D living wage of 13.74. ¹	
Education	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>
	<i>Comments:</i> Most job postings for target occupations require an associate degree (61%) . See exhibits 8 and 9 for more details.	

The Inland Empire/ Desert (IE/D) Center of Excellence for Labor Market Research (IE/D COE) reviewed the following occupations to prepare this report:

- Middle-Skill (typically require training/education above a HS diploma but less than a bachelor’s degree)
 - Diagnostic Medical Sonographers (29-2032)

Summary of findings

Demand

- The number of jobs related to the middle-skill occupation – Diagnostic Medical Sonographers – is projected to increase 18% through 2028, with 71 annual job openings (new and replacement jobs).
- Hourly entry-level wages for all occupations are above living wage at the 25th percentile hourly wage, estimated to be \$40.41 in IE/D.
- There were 313 online job postings from 70 employers over the past 12-months with the highest postings for diagnostic medical sonographers.
- Most job postings for target occupations require an associate degree (61%), followed by high school diploma equivalent (37%), and bachelor’s degree (1%).

Supply

- On average, there were 202 annual awards conferred by educational institutions over the last 3 years in related fields: 6 from community colleges and 196 from other institutions (e.g., 4-year universities, private schools).
- IE/D community college students that exited these programs in the 2021-22 academic year earned a median annual wage of \$81,590 (\$39.23 per hour).
- 100% of students that exited their program in 2021-22 reported that they are working in a job closely related to their field of study.
- Community college programs play an important role diversifying the talent pipeline in these occupations. The plurality of IE/D professionals in medical imaging occupations are White (38%), mid-career 35-54 (51%), and female (67%). Because of a lack of student demographic data, this report is unable to provide a similar profile of students in the most recent year.

¹ While the [UW self-sufficiency standard](#) is currently used by the CO and other COEs, the self-sufficiency standard was last updated by UW in 2021, does not account for significant increases in the cost of living in the Inland Empire the last three years, and is below the State of California minimum wage of \$16.00. For these reasons, the COE will provide an alternative living wage calculation from MIT in the analysis below as an additional reference point. MIT estimates, the living wage for an adult with no kids living in 2024 is \$26.30 in Riverside County and \$25.17 in San Bernadino County.

Introduction

California Community College Diagnostic Medical Sonography (TOP 1227.00) programs prepare students for employment using techniques used to assist physicians in diagnosing disease or injury by means of high-frequency sound waves (ultrasound) that create body images showing the shape and composition of body tissues. (Taxonomy of Programs, 2023). The knowledge, skills, and abilities trained by Diagnostic Medical Sonography programs lead to employment in occupations related to medical imaging.

Job Demand

In 2023, there were 777 jobs in occupations related to medical imaging in the IE/D region. Regional employment for this occupation group is projected to increase by 18% through 2028 with 71 job openings projected annually. Exhibit 1 displays the job count, five-year projected job growth, and job openings in the region.

Exhibit 1. Five-year projections for occupations related to medical imaging, IE/D Region, 2023-2028

Occupation	SOC	2023 Jobs	2028 Jobs	2023 - 2028 % Change	5-Yr Openings (New + Replacement Jobs)	Annual Openings (New + Replacement Jobs)
Diagnostic Medical Sonographers	29-2032	777	918	18%	356	71

SOURCE: LIGHTCAST 2024.2

Job Postings

The following analysis for occupations related to medical imaging using online job posting data.

Important note: The data produced in this section were generated by leveraging online job posting data sourced from Lightcast, which is the labor market analytics software tool COEs use to produce these briefs. The job posting data is collected from scraping online job boards such as LinkedIn, Indeed, Glassdoor and many others. The process Lightcast uses to assemble this data does have some limitations due to methods that recruitment professionals sometimes use (e.g., posting one job to fill multiple positions). For example, the number of jobs posted is not necessarily the same as the number of job vacancies.² While not perfect, Lightcast leverages machine learning and other AI technologies to enrich, deduplicate and aggregate this information to make it a meaningful dataset.

Exhibit 2 displays the number of job ads posted for occupations related to medical imaging over the last 12 months and the median posting duration. Over the previous 12 months, there were 313 unique job postings for occupations related to medical imaging in the region from 70 employers.

Exhibit 2. Job ads and posting duration, IE/D Region, Aug 2023 – July 2024

Job Title	Job Ads	Median Posting Duration
Diagnostic Medical Sonographers	313	22 days

SOURCE: LIGHTCAST 2024.2

² "Job Posting Analytics (JPA) Methodology." Lightcast Knowledge Base, <https://kb.lightcast.io/en/articles/6957446-job-posting-analytics-jpa-methodology>

Earnings

Exhibit 3a displays the hourly earnings for occupations related to medical imaging and Exhibit 3b displays the hourly earnings for job postings of the same occupations and compares both to the MIT IE/D living wage of \$25.73.³

Exhibit 3a. Projected hourly earnings by percentile, IE/D Region, 2023

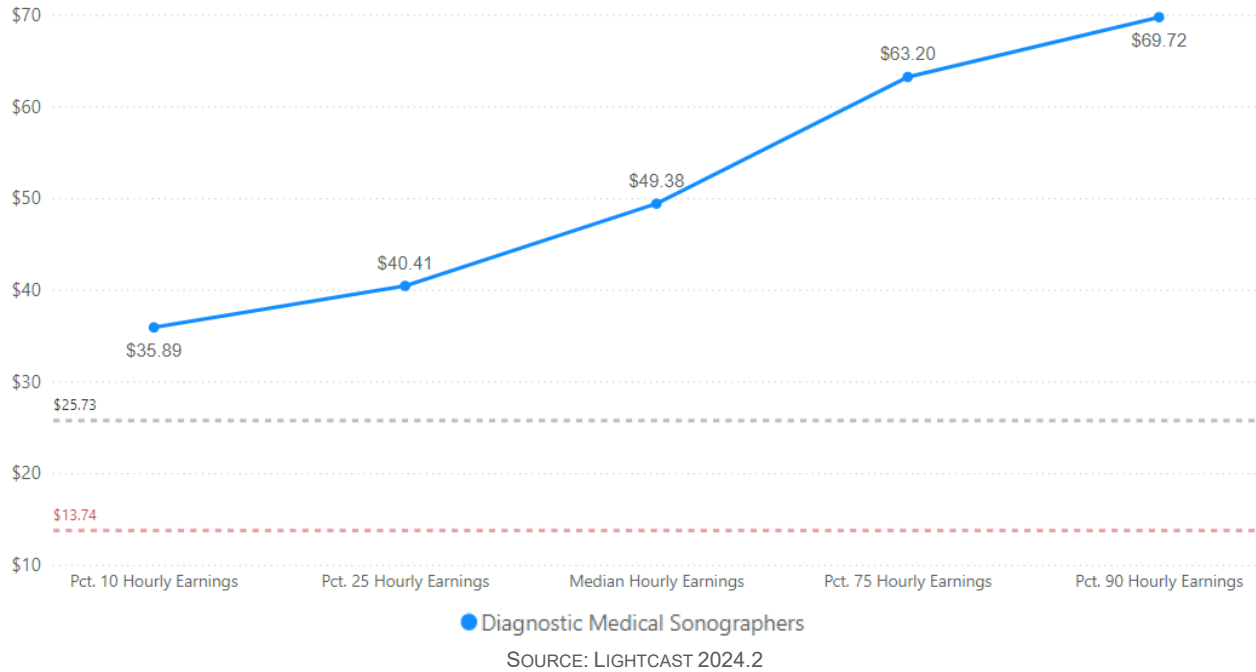
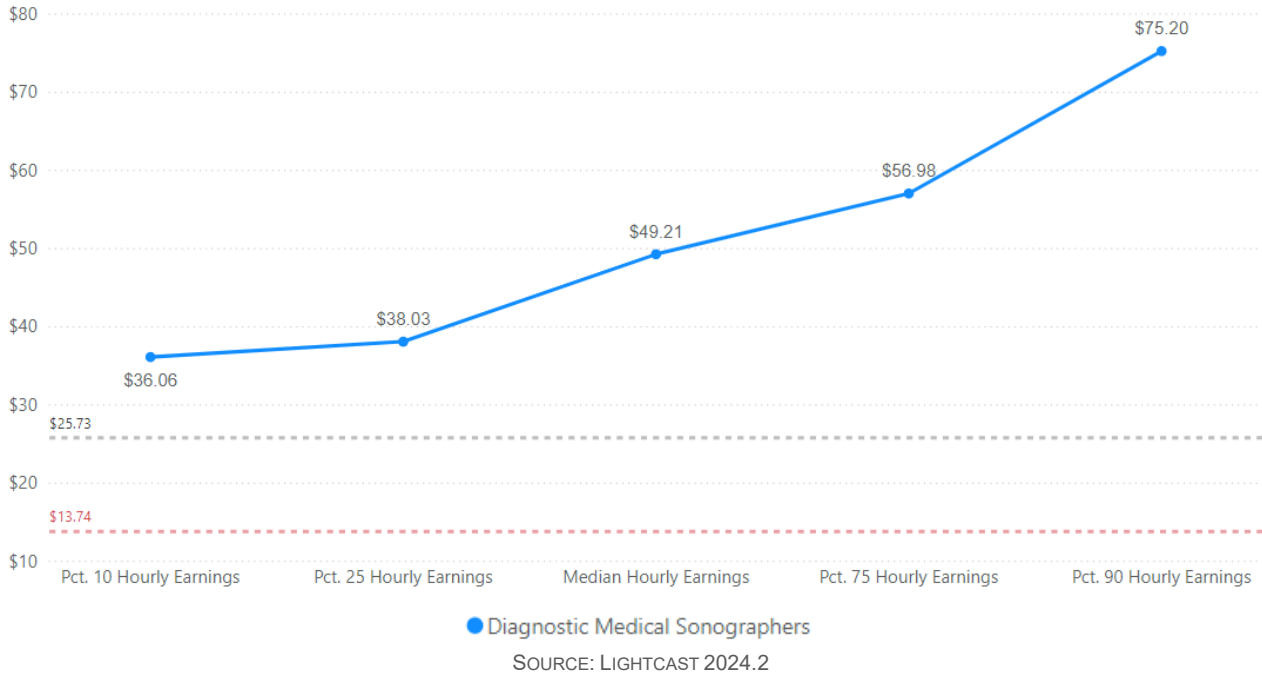


Exhibit 3b. Hourly earnings of job postings by percentile, IE/D Region, 2023



All projected entry-level earnings (that is, the earnings of the lowest paid 25% of employees in the IE/D) were above the UW Self-Sufficiency Standard for the IE/D⁴. The occupation listed was also above the MIT living wage for an adult with no children (\$25.73).

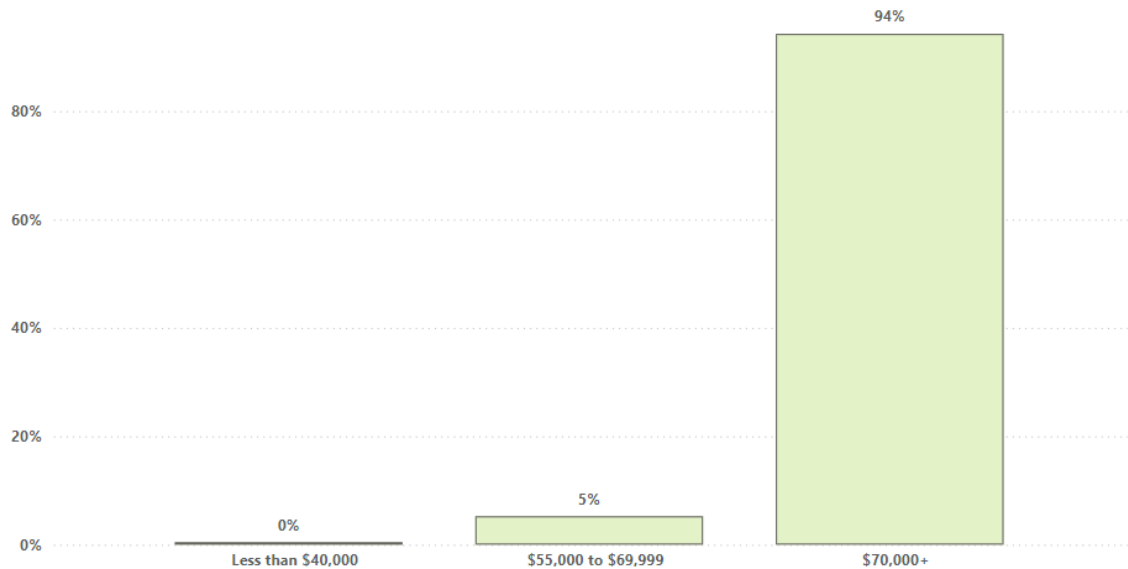
³ While the [UW self-sufficiency standard](#) is currently used by the CO and other COEs, the self-sufficiency standard was last updated by UW in 2021, does not account for significant increases in the cost of living in the Inland Empire the last three years, and is below the State of California minimum wage of \$16.00. While the COE uses this standard for the LMI Wage criteria, For these reasons, the provides an alternative living wage calculation from MIT in the analysis as an additional reference point. MIT estimates, the living wage for an adult with no kids living in 2024 is \$26.30 in Riverside County and \$25.17 in San Bernardino County.

⁴ *ibid*

Advertised Salary from Online Job Ads

Exhibit 4 displays the regional online advertised salaries for the occupations related to medical imaging over the last 12 months. Online job ad salary information data suggests most employers (94%) advertise an annual salary greater than \$70,000 (\$33.65 per hour).

Exhibit 4. Online advertised salaries occupations related to medical imaging, IE/D Region, Aug 2023 – Jul 2024



SOURCE: LIGHTCAST 2024.2

Online Job Advertisements: top job titles, skills, education & work experience.

Exhibit 5 displays the job titles most frequently used in job postings for the occupations related to medical imaging over the last 12 months. Assessing the top advertised job titles may provide insight into the types of positions sought by employers.

Exhibit 5. Job titles most frequently used in job ads, IE/D Region, Aug 2023 – Jul 2024

Job Title	Unique Postings
Ultrasound Technicians	111
Ultrasound Technologists	49
Sonographers	41
Diagnostic Medical Sonographers	24
Travel Ultrasound Technologists	21
Ultrasound Technologists/Sonographers	7
Lead Ultrasound Technologists	6
Echocardiographers	5
Lead Ultrasound Technicians	5
Ultrasound Sales Specialists	5

SOURCE: LIGHTCAST 2024.2

Exhibit 6 displays the employers posting the most job ads for this occupational group during the last 12 months. Showing employer names can provide insight into where students may find employment after completing a program and may inform job development and other employer engagement targets for faculty and staff involved in related programs. RadNet and Siemens had the highest unique job posts for this occupational group in the last 12 months. Posting intensity is the ratio of total job posts to unique job posts which are deduplicated. A higher posting intensity can represent the level of effort and activity the organization is putting into hiring for that position. The following report comes directly from Lightcast's Job Posting Analytics dashboard.

Exhibit 6. Employers posting the most job ads, IE/D Region, Aug 2023 – Jul 2024

Company	Total/Unique (Aug 2023 - Jul 2024)	Posting Intensity	Median Posting Duration
RadNet	88 / 42	2 : 1	19 days
Siemens	38 / 25	2 : 1	25 days
Loma Linda University Health	73 / 19	4 : 1	24 days
Desert Regional Medical Center	39 / 14	3 : 1	38 days
Eisenhower Health	25 / 14	2 : 1	12 days
Kaiser Permanente	60 / 12	5 : 1	33 days
Platt College-Los Angeles	33 / 11	3 : 1	20 days
Universal Health Services	22 / 7	3 : 1	5 days
Planned Parenthood	11 / 6	2 : 1	28 days
Desert Valley Medical Group	19 / 5	4 : 1	21 days

SOURCE: LIGHTCAST 2024.2

Exhibit 7 displays the top common, specialized and computer skills that were included in the job postings over the last 12 months. Today's demand is an important indicator of which skills employers are looking for in the current market. Analyzing skills from a historical perspective as well as projecting the future needs of employers may provide insight into how the job posting skills demand compares to the market as a whole. Rapidly growing skills are those that are increasing in demand at a faster rate than the market as a whole.⁵

Exhibit 7. Top 10 in-demand skills from employer job ads, IE/D Region, Aug 2023 – Jul 2024

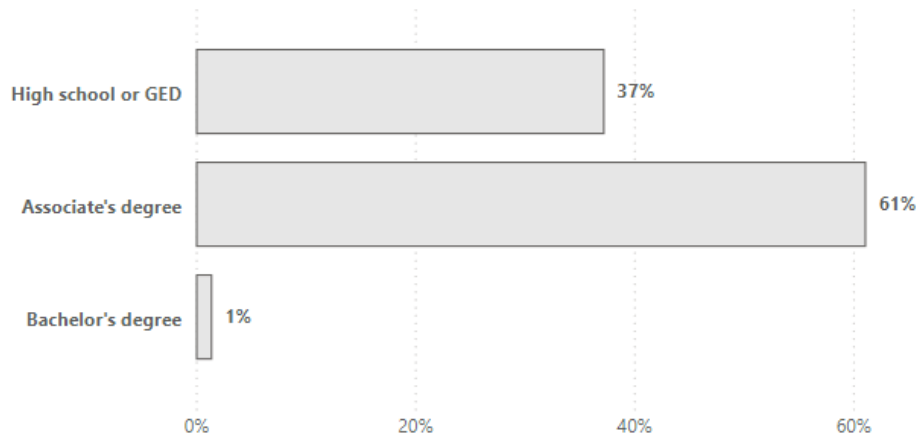
Common skills	Total Postings	Skill Growth Relative to Market
Communication	100	Lagging
Troubleshooting (Problem Solving)	48	Growing
Management	42	Stable
Interpersonal Communications	36	Growing
Quality Assurance	31	Growing
Scheduling	30	Growing
Critical Thinking	29	Rapidly Growing
Ethical Standards And Conduct	29	Growing
Detail Oriented	28	Stable
Quality Control	28	Growing
Specialized skills	Total Postings	Skill Growth Relative to Market
Medical Ultrasonography	300	Stable
Radiology	107	Growing
Obstetrics And Gynaecology	100	Growing
Biopsies	64	Stable
Medical Records	60	Growing
Infection Control	56	Growing
Diagnostic Medical Sonography	51	Lagging
Anatomy	47	Growing
Sterilization	46	Growing
Medical Privacy	43	Growing
Computer Skills	Total Postings	Skill Growth Relative to Market
Microsoft Word	7	Stable
Microsoft Excel	6	Growing
Microsoft Outlook	6	Rapidly Growing
Epic EMR	3	Growing
Laboratory Management System	2	Stable
Zoom (Video Conferencing Tool)	1	Growing

SOURCE: LIGHTCAST 2024.2

⁵ "What are Lightcast Skill Projects", Lightcast Knowledge base, <https://kb.lightcast.io/en/articles/8496296-what-are-lightcast-skill-projections>

Exhibit 8 includes the minimum educational requirements from job postings for this occupational group with an associate degree (61%) significantly greater than a high school diploma or equivalent (37%) or bachelor's degree (1%).

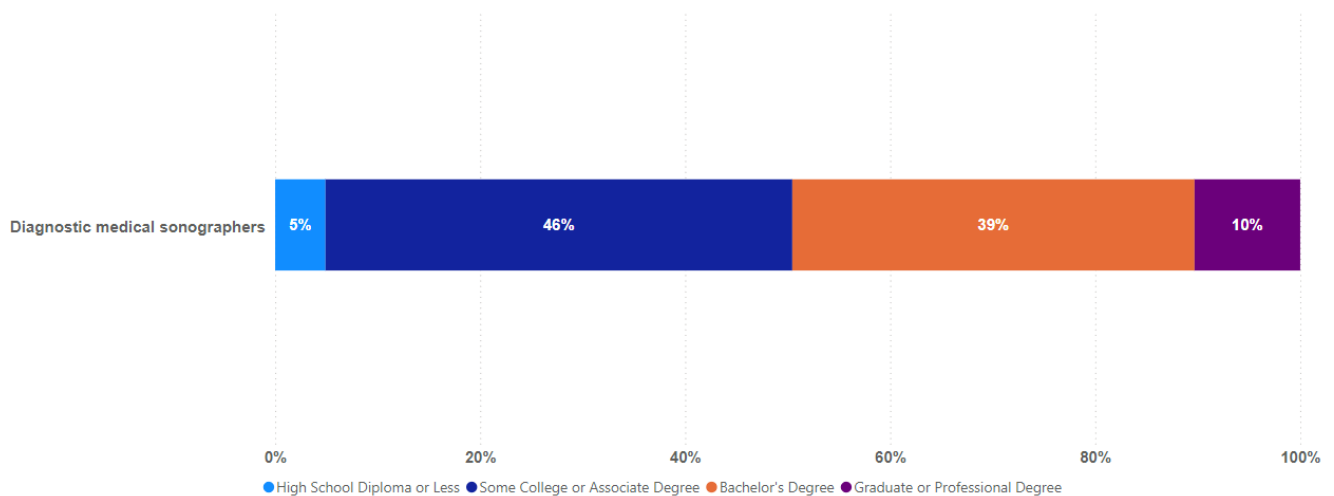
Exhibit 8 Minimum educational requirements in job postings for this occupational group, IE/D Region, Aug 2023 – Jul 2024



SOURCE: LIGHTCAST 2024.2

For the middle-skill occupations, the Bureau of Labor Statistics (BLS) education attainment data in Exhibit 9 for current professionals in the occupations of interest indicates that between an estimated 46% of workers have completed some college or an associate degree as their highest level of education.

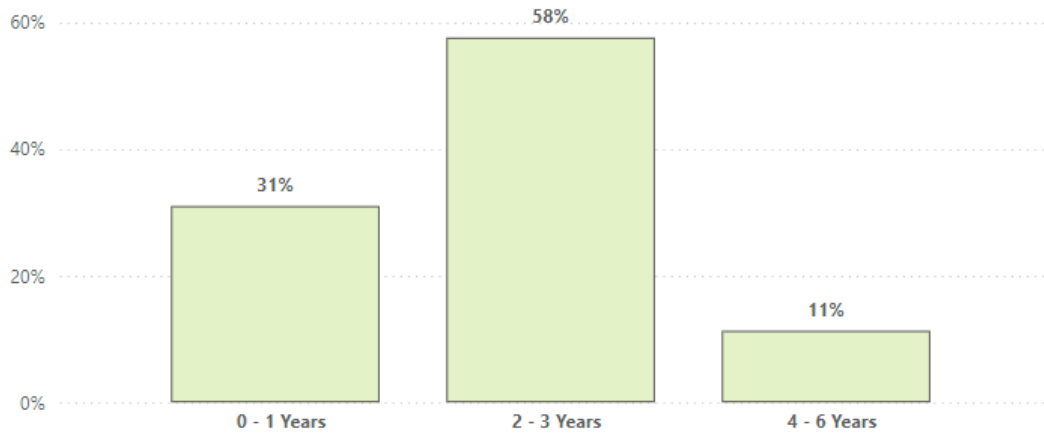
Exhibit 9 National-level Education Attainment for Occupations



SOURCE: BLS 2021

Exhibit 10 displays the work experience typically required from employer job ads for this occupational group. The majority (58%) of employers listing minimum experience requirements sought candidates with 2-3 years of previous work experience.

Exhibit 10 Work experience requirements, IE/D Region, Aug 2023 – Jul 2024



SOURCE: LIGHTCAST 2024.2

Student Completions and Program Outcomes

Exhibit 11 displays student completions for the Diagnostic Medical Sonography (TOP 1227.00) programs over the last three academic years (2020-2023). In the previous three academic years, one regional community college issued an average of 6 awards in relevant programs.

Exhibit 11 Annual average community college awards for Diagnostic Medical Sonography (TOP 1227.00)

Top Code	Program	College	2020-2021 Awards	2021-2022 Awards	2022-2023 Awards	3-Year Award Average
1227.00	Diagnostic Medical Sonography	Mt. San Jacinto	9	5	5	6

SOURCE: MIS DATA MART

Non-Community College Supply

Award completion data is available for Diagnostic Medical Sonography/Sonographer and Ultrasound Technician (CIP 51.0910) in the IE/D region for non-community college programs.

In the previous three academic years, three regional non-community colleges institutions issued an average of 196 awards in relevant programs.

CIP	Program	College	2019-2020 Awards	2020-2021 Awards	2021-2022 Awards	3-Year Award Average
51.0910	Diagnostic Medical Sonography/Sonographer and Ultrasound Technician	Loma Linda University	18	21	20	20
51.0910	Diagnostic Medical Sonography/Sonographer and Ultrasound Technician	Platt College-Ontario	102	73	80	85
51.0910	Diagnostic Medical Sonography/Sonographer and Ultrasound Technician	Platt College-Riverside	101	86	86	91
Total			221	180	186	196

SOURCE: IPEDS

California program outcome data may provide useful insight into the likelihood of success for the proposed program. Community college student outcome information based on the selected TOP code and region is provided in Exhibit 12.

Exhibit 12 Diagnostic Medical Sonography strong workforce program outcomes, IE/D, most recent academic year

Program metric title	Inland Empire/Desert	Statewide
Attained a living wage (completers and skills-builders)		93%
Completed 9+ career education units in one year	72%	67%
Job closely related to the field of study	100%	97%
Median annual earnings (all exiters)	\$81,590	\$67,302
Students who earned a degree, certificate, or attained apprenticeship	10	54
Unduplicated count of enrolled students	18	186

SOURCE: LAUNCHBOARD

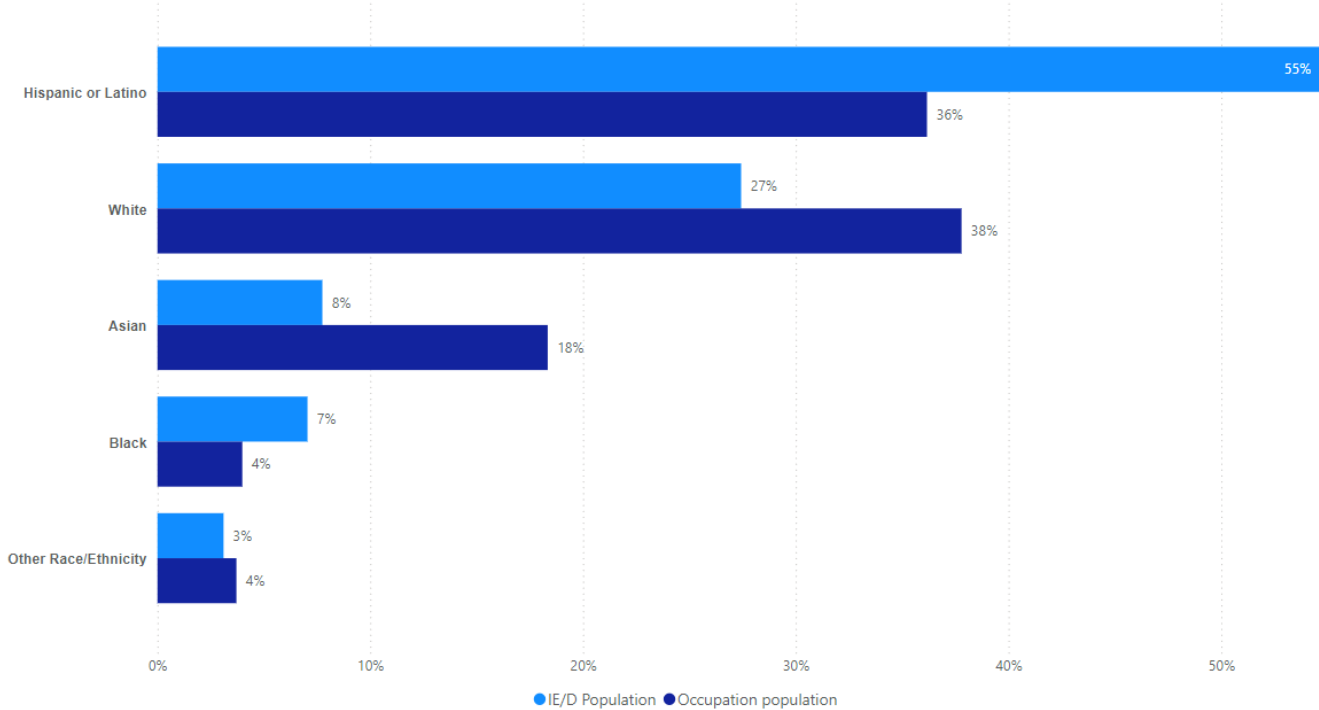
Building an Inclusive Economy

This section is intended to examine demographic data for IE/D community college students in Diagnostic Medical Sonography programs compared to the IE/D population. However, all students for the most recent year have had their demographic data masked, so this report is unable to provide any details about IE/D students for this program in the most recent year. However, demographics for related occupation data for this occupation related to medical imaging are available. This analysis can be used to:

- Understand the community college system's current or potential role supporting a diverse talent pipeline into the occupations of interest.
- Inform students (and the faculty and staff working with them) the extent to which individuals from similar demographic groups are over or underrepresented in the professions related to their field of study.

Notably, 18% of the IE/D population that are employed in occupations related to medical imaging are Asian, which is significantly higher than the IE/D population (8%). Though 55% of the IE/D population are Hispanic/Latino, only 36% of workers in Diagnostic Medical Sonography jobs are Hispanic/Latino.

Exhibit 13 Program and County Demographics by Ethnicity

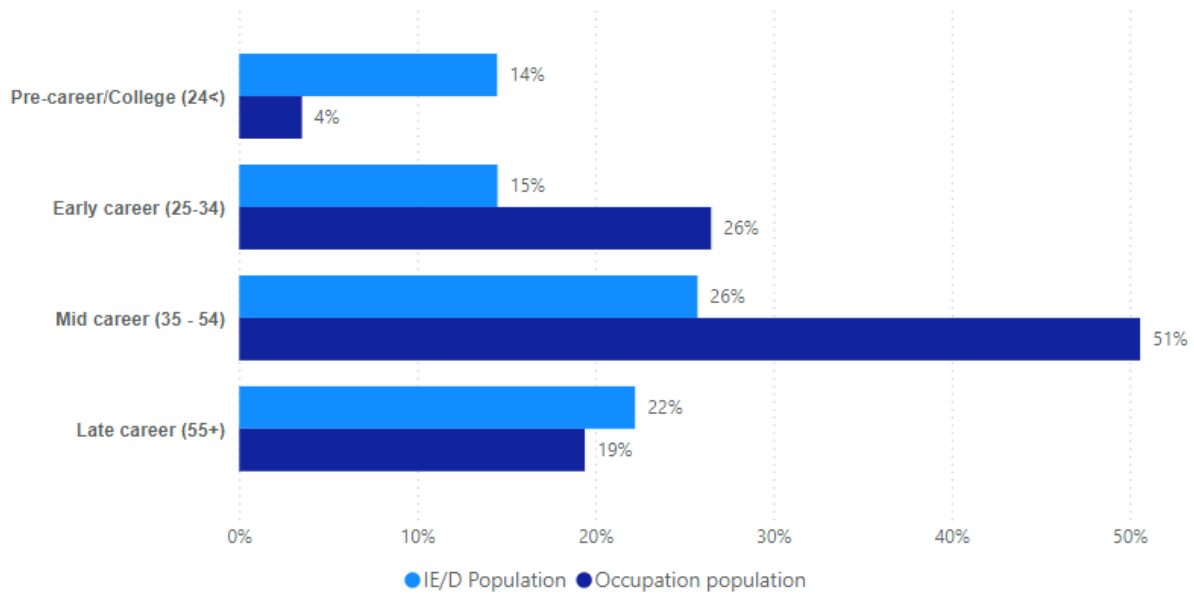


SOURCE: LIGHTCAST 2024.2 AND LAUNCHBOARD

The plurality of IE/D professionals in medical imaging occupations are White (38%), mid-career 35-54 (51%), and female (67%). Because of a lack of student demographic data, this report is unable to provide a similar profile of students in the most recent year.

Exhibit 14 compares the age of IE/D workers in the Diagnostic Medical Sonography occupational field compared to the IE/D population.

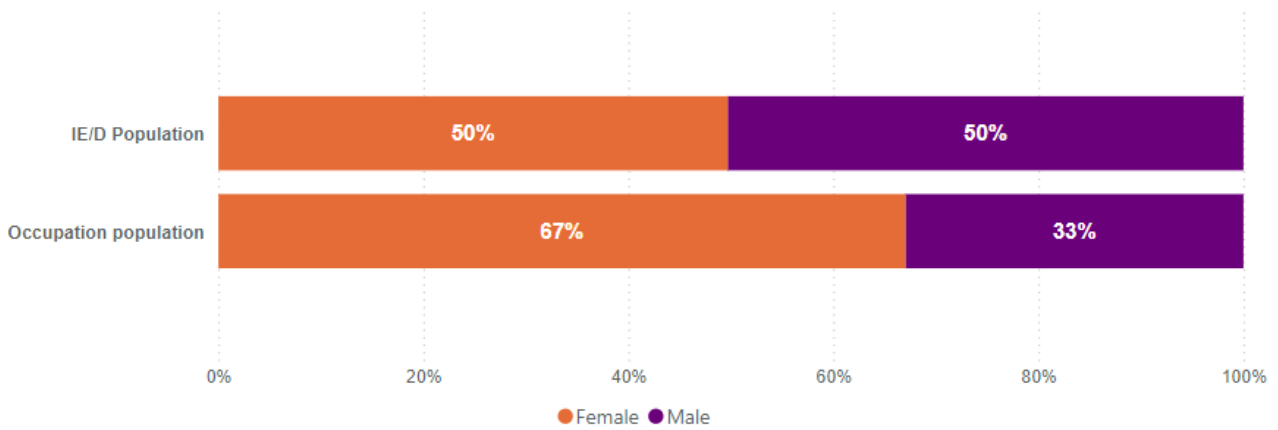
Exhibit 14 Program and County Demographics by Age



SOURCE: LIGHTCAST 2024.2

Exhibit 15 compares the gender of IE/D workers in the Diagnostic Medical Sonography occupational field compared to the IE/D population.

Exhibit 15 Program and County Demographics by Gender



SOURCE: LIGHTCAST 2024.2

Appendix: Methodology

Exhibit 11 displays the average annual California Community College (CCC) awards conferred during the three academic years between 2020 and 2023 from the California Community Colleges Chancellor's Office Management Information Systems (MIS) Data Mart. Awards are the combined total during the timeframe, divided by three in this case to calculate an annual average. This is done to minimize the effect of atypical variations 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 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, 2023a). 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, 2023a).

Appendix: References

Type of Data	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. https://lightcast.io/
Living Wage	The living wage is derived from MITs Living Wage 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://livingwage.mit.edu/pages/methodology The living wage for one adult in San Bernardino County is \$25.17 per hour (\$52,353.60 annually). The living wage for one adult in Riverside County is \$26.30 per hour (\$54,704 annually). The average living wage to represent Inland Empire/Desert is \$25.74 per hour (53,539.20 annually)
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
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