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Labor Market Analysis

Medical Sonography



Prepared by Central Valley/Mother Lode Center of Excellence



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Summary

The Central Valley/Mother Lode Center of Excellence developed this report for Porterville College to determine whether there is demand in the local labor market that is not being met by the supply from postsecondary programs. This report summarizes labor market demand, wages, skills, and postsecondary supply for diagnostic medical sonographers:

- Diagnostic Medical Sonographers (SOC 29-2023)

Key Findings

- **Occupational Demand** — Diagnostic medical sonographers have a labor market demand of 48 annual job openings in the South Central Valley/Southern Mother Lode (SCV/SML) subregion. Between 2022 and 2027, diagnostic medical sonographers are projected grow by 14%.
- **Wages** — Diagnostic medical sonographers earn an entry-level wage of \$37.23/hour which is higher than the living wage in the SCV/SML subregion, which is \$11.91/hour for a single adult.¹
- **Employers and Occupational Titles** — Employers in the SCV/SML subregion include Siemens Healthineers, Adventist Health, and RadNet. The most common job title is sonographers.
- **Skills and Certifications** — The top baseline skill is communication, the top specialized skill is medical ultrasonography, and the top software skill is Microsoft Excel. The most in-demand certification is an American Registry for Diagnostic Diagnostic medical sonographers (ARDMS) Certification.
- **Education** — An associate's degree is typically required for diagnostic medical sonographers.
- **Supply and Demand Analysis** — An analysis of supply and demand reveals that there are 48 annual openings (i.e., demand) and 23 average annual postsecondary degrees awarded (i.e., supply) in the SCV/SML subregion. This suggests an undersupply of 25 workers. In the CVML region, there are 70 annual openings with 28 average annual awards conferred suggesting an undersupply of 42 workers.

Recommendation

Based on a comparison of demand and supply, there is an undersupply of trained workers in the SCV/SML subregion and the CVML region. The Center of Excellence recommends that Porterville College work with the regional directors, the college's advisory board, and local industry in the development of programs to address the shortage of diagnostic medical sonographers workers.

¹ The term "living wage" in Center of Excellence reports is calculated by averaging the self-sufficiency wages from the Insight Center's California Family Needs Calculator for each county in the subregion: <https://insightccd.org/tools-metrics/self-sufficiency-standard-tool-for-california/>.

Introduction

The Central Valley/Mother Lode Center of Excellence developed this report to provide Porterville College with labor market information for diagnostic medical sonographers. The geographical focus for this report is the South Central Valley/Southern Mother Lode (SCV/SML) subregion, but regional demand and supply data has been included for broader applicability and use. Analysis of the program and occupational data related to diagnostic medical sonographers is included in the report. The Standard Occupational Classification (SOC) System codes and occupational titles used in this report from the Bureau of Labor Statistics and O*NET OnLine are shown below.

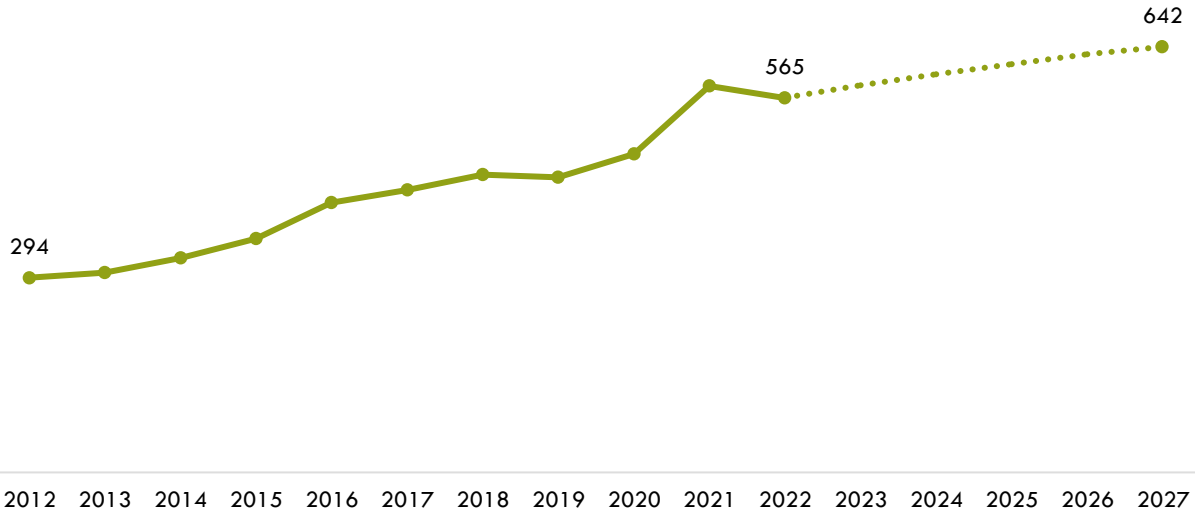
Diagnostic Medical Sonographers (SOC 29-2032)

- **Job Description:** Produce ultrasonic recordings of internal organs for use by physicians. Includes vascular technologists.
- **Knowledge:** Customer and Personal Service, English Language, Physics, Medicine and Dentistry, Administrative
- **Skills:** Active Listening, Reading Comprehension, Social Perceptiveness, Speaking, Critical Thinking

Employment

Exhibit 1a shows trends for diagnostic medical sonographers in the SCV/SML subregion. Between 2022 to 2027, the number of jobs for diagnostic medical sonographers is projected to increase by 77, a growth rate of 14%.

Exhibit 1a. Historical employment and projected occupational demand for diagnostic medical sonographers in the SCV/SML subregion, 2012-2027



Diagnostic medical sonographers in the SCV/SML subregion employed 565 workers in 2022 (Exhibit 1b), and are projected to have 48 annual openings.

Exhibit 1b. Current employment and projected occupational demand for diagnostic medical sonographers in the SCV/SML subregion, 2022-2027

Occupation	2022 Jobs	2027 Jobs	5-Year Change	5-Year % Change	Annual Openings
Diagnostic Medical Sonographers	565	642	77	14%	48
TOTAL	565	642	77	14%	48

Wages

The average living wage for a single adult in the SCV/SML subregion is \$11.91/hour.² Exhibit 2 shows the entry-level hourly wages for diagnostic medical sonographers.³

Exhibit 2. Hourly wages for diagnostic medical sonographers in the SCV/SML subregion

Occupation	25 th Percentile Hourly Earnings	Median Hourly Earnings	75 th Percentile Hourly Earnings
Diagnostic Medical Sonographers	\$37.23	\$46.37	\$53.23

Job Postings

There were 195 unique job postings for occupations related to diagnostic medical sonographers in the SCV/SML subregion from April 2023 to September 2023.⁴

Top Employers

The top employers with the most job postings are listed in Exhibit 3. The top employers in online job postings were Siemens Healthineers, Adventist Health, and RadNet.

Exhibit 3. Top employers for diagnostic medical sonographers in job postings

Employer
Siemens Healthineers
Adventist Health
RadNet
Valley Children's Healthcare
Community Regional Medical Center
Nomad Health
Trinity Health
Medical Group
Saint Agnes Medical Center
Aya Healthcare

² The term "living wage" in Center of Excellence reports is calculated by averaging the self-sufficiency wages from the Insight Center's California Family Needs Calculator for each county in the subregion: <https://insightccd.org/tools-metrics/self-sufficiency-standard-tool-for-california/>.

³ Note: 10th and 25th percentiles are considered entry-level wages while 75th and 90th are considered experienced wages, which may be obtained through long-term employment or extra training, etc.

⁴ Other than occupational titles and job titles, the categories below can be counted one or multiple times per job posting, and across several areas in a single posting. For example, a skill can be counted in two different skill types, and an employer can indicate more than one education level.

Top Job Titles

Exhibit 4 shows the most common job titles for diagnostic medical sonographers in the SCV/SML subregion.

Exhibit 4. Top job titles in job postings for diagnostic medical sonographers

Job Title
Sonographers
Ultrasound Technologists
Cardiac Sonographers

Salaries

Exhibit 5 shows the “Market Salaries” for diagnostic medical sonographers. These are calculated by Lightcast using a machine learning model built from millions of job postings every year. This accounts for adjustments based on location, industry, skills, experience, education, among other variables.

Exhibit 5. Market salaries for diagnostic medical sonographers

Market Salary	Job Postings
\$94,000-\$104,999	39
\$105,000-\$115,999	33
\$160,000-\$239,000	31
\$149,000-\$159,999	20
\$72,000-\$82,999	17

Education

Of the 195 unique job postings, 103 listed a preferred or minimum educational requirement for the position being filled. Among those, 57% requested a high school diploma or GED, 31% requested a bachelor’s degree, and 12% requested an associate degree (Exhibit 6).

Exhibit 6. Education levels requested in job postings for diagnostic medical sonographers

Education Level	Job Postings	% of Job Postings
High school or GED	59	57%
Bachelor's degree	32	31%
Associate degree	12	12%

Baseline, Specialized, and Software Skills

Exhibit 7 depicts the top baseline, specialized, and software skills in job postings. The most commonly requested baseline skill is communication. The most commonly requested specialized skill is medical ultrasonography. The most commonly requested software skill is Microsoft Excel.

Exhibit 7. In-demand baseline, specialized, and software skills for diagnostic medical sonographers in job postings

Baseline Skills	Specialized Skills	Software Skills
Communication	Medical Ultrasonography	Microsoft Excel
Ethical Standards and Conduct	Obstetrics and Gynecology	Epic EMR
Management	Radiology	Microsoft Word
Quality Assurance	Diagnostic Medical Sonography	Laboratory Management System
Multilingualism	Clinical Experience	Patient Management Software

Certifications

Of the 195 job postings, there were 541 certifications listed. Among those, 26% indicated a need for an American Registry for Diagnostic Medical Sonography (ARDMS) Certification. The next top certification is a Basic Life Support (BLS) Certification (Exhibit 8).

Exhibit 8. Top diagnostic medical sonographers certifications requested in job postings

Certifications	% of Job Postings
American Registry for Diagnostic Medical Sonography (ARDMS) Certification	26%
Basic Life Support (BLS) Certification	16%
Registered Vascular Technologist (RVT)	9%
Registered Diagnostic Medical Sonographer (RDMS)	8%
ARRT Sonography (S) Certification	7%

Education, Work Experience, & Training

An associate's degree is typically required for diagnostic medical sonographers (Exhibit 9).

Exhibit 9. Education, work experience, training, and Current Population Survey results for diagnostic medical sonographers⁵

Occupation	Typical Entry-level Education	Work Experience Required	Typical On-The-Job Training	CPS
Diagnostic Medical Sonographers	Associate's degree	None	None	46.4%

⁵ "Labor Force Statistics from the Current Population Survey," Bureau of Labor Statistics, <https://www.bls.gov/cps/>.

Supply

An analysis of program data from the Integrated Postsecondary Education Data System (IPEDS) for the last three program years shows that, on average, 23 awards were conferred in the SCV/SML subregion (Exhibits 10 and 11).

Exhibit 10. TOP and CIP codes for diagnostic medical sonographers

TOP Titles	CIP Titles
1227.00 - Diagnostic Medical Sonographers	51.0910 – Diagnostic Medical Sonographers/Sonographers and Ultrasound Technician

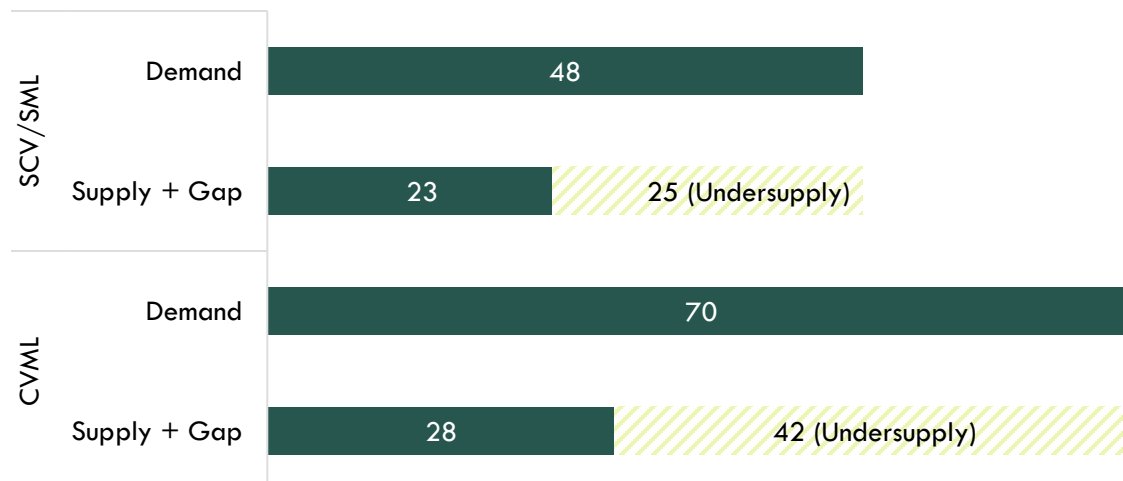
Exhibit 11. Postsecondary supply for diagnostic medical sonographers for Program Years 2019-20 through 2021-22

TOP/CIP Code- Title	College	Certificate 30 < 60 Semester Units	Certificates of at least 2 but Less Than 4 Years	Associate Degree	TOTAL
1227.00 - Diagnostic Medical Sonography	Merced	5			5
51.0910 - Diagnostic Medical Sonography/Sonographer and Ultrasound Technician	San Joaquin Valley College-Bakersfield		1	22	23
SCV/SML TOTAL		0	1	22	23
CVML TOTAL		5	1	22	28

*SCV/SML awards

There is an undersupply of 25 diagnostic medical sonographers workers in the SCV/SML subregion and an undersupply of 42 workers in the region (Exhibit 12).

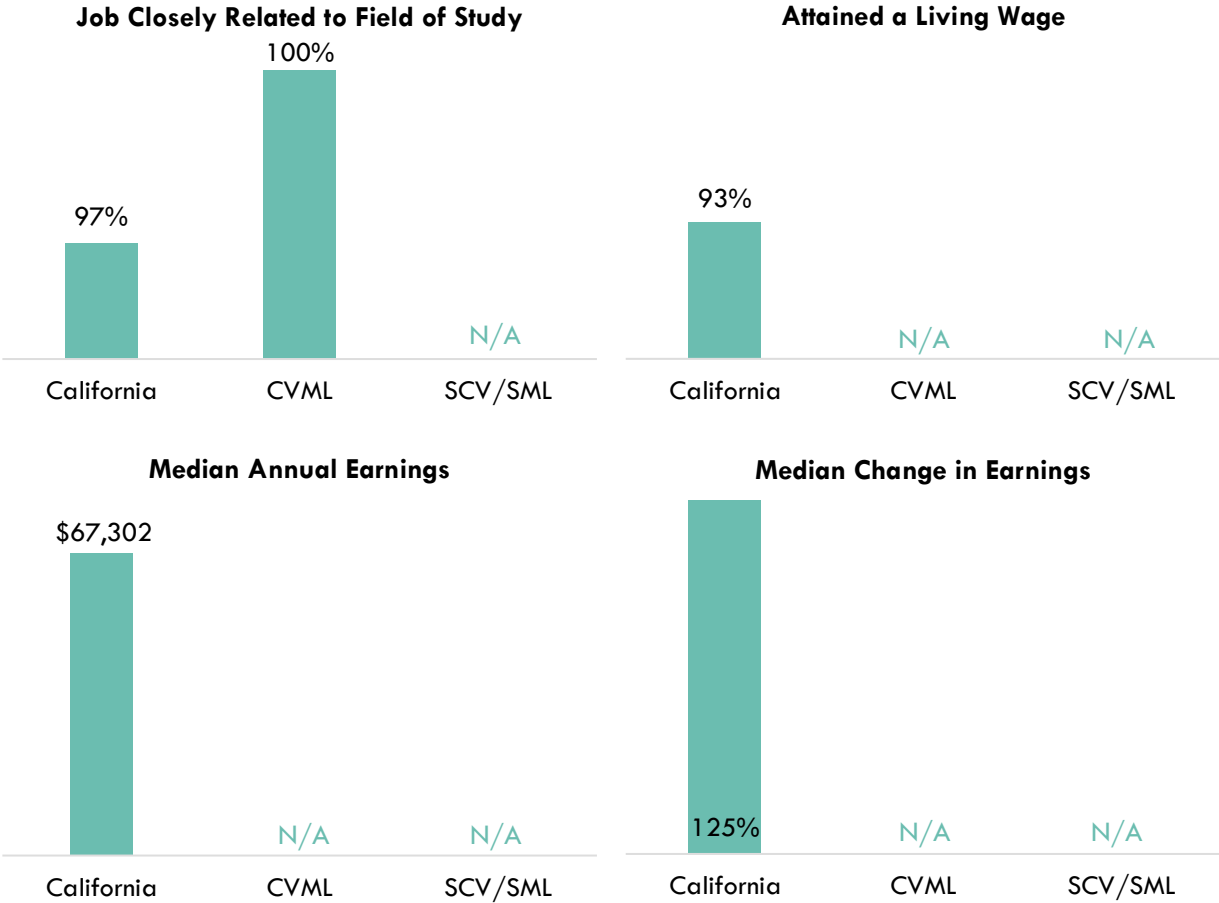
Exhibit 12. Diagnostic medical sonographers' workforce demand (annual job openings), postsecondary awards (supply), and additional students needed to fill gap in the SCV/SML subregion and region



Student Outcomes

Exhibits 13 summarize outcomes from California Community College Chancellor’s LaunchBoard for TOP codes related to diagnostic medical sonographers. Notably, 100% of students obtained a job closely related to their field of study region.

Exhibit 13. LaunchBoard Metrics for TOP 1227.00 - Diagnostic medical sonographers in California, CVML region, and SCV/SML subregion



Recommendation

This report suggests there is a shortage of 25 workers in the SCV/SML subregion and a shortage of 42 workers in the CVML region for diagnostic medical sonographers. Based on these findings, it is recommended that Porterville College work with the regional directors, the college’s advisory board, and local industry in the expansion of programs to address the shortage of diagnostic medical sonographers in the region.

Appendix: Methodology & Data Sources

Data Sources

Labor market and educational supply data compiled in this report derive from a variety of sources. Data were drawn from external sources, including the Economic Modeling Specialists, Inc., the California Community Colleges Chancellor’s Office Management Information Systems Data Mart and the National Center for Educational Statistics (NCES) Integrated Postsecondary Education Data System (IPEDS). Below is the summary of the data sources found in this study.

Data Type	Source
Labor Market Information/Population Estimates and Projections/Educational Attainment	Economic Modeling Specialists, Intl. (Lightcast). Lightcast occupational employment data are based on final Lightcast industry data and final Lightcast staffing patterns. Wage estimates are based on Occupational Employment Statistics (QCEW and Non-QCEW Employees classes of worker) and the American Community Survey (Self-Employed and Extended Proprietors). Occupational wage estimates also affected by county-level Lightcast earnings by industry: economicmodeling.com .
Typical Education Level and On-the-job Training	Bureau of Labor Statistics (BLS) uses a system to assign categories for entry-level education and typical on-the-job training to each occupation for which BLS publishes projections data: https://www.bls.gov/emp/tables/educational-attainment.htm .
LaunchBoard	Chancellor’s LaunchBoard. https://www.calpassplus.org/LaunchBoard/SWP.aspx
Labor Force, Employment and Unemployment Estimates	California Employment Development Department, Labor Market Information Division: labormarketinfo.edd.ca.gov .
Job Posting and Skills Data	Lightcast: https://lightcast.io/ .
Additional Education Requirements/ Employer Preferences	The O*NET Job Zone database includes over 900 as well as information on skills, abilities, knowledge, work activities and interests associated with specific occupations: onetonline.org .

Key Terms and Concepts

Annual Job Openings: Annual openings are calculated by dividing the number of years in the projection period by total job openings.

Education Attainment Level: The highest education attainment level of workers age 25 years or older.

Employment Estimate: The total number of workers currently employed.

Employment Projections: Projections of employment are calculated by a proprietary Economic Modeling Specialists, Intl. (LIGHTCAST) formula that includes historical employment and economic indicators along with national, state and local trends.

LaunchBoard (Attained the Living Wage): Among SWP students who exited college and did not transfer to any postsecondary institution, the proportion who attained the district county living wage for a single adult measured immediately following academic year of exit

LaunchBoard (Median Annual Earnings): Among SWP students who exited the community college system and who did not transfer to any postsecondary institution, median earnings following the academic year of exit.

LaunchBoard (Median Change in Earnings): Among SWP students who exited and who did not transfer to any postsecondary institution, median change in earnings between the second quarter prior to the beginning of the academic year of entry and the second quarter after the end of the academic year of exit from the last college attended.

LaunchBoard (Job Closely Related to Field of Study): Among SWP students who responded to the CTE Outcomes Survey and did not transfer to any postsecondary institution, the proportion who reported that they are working in a job very closely or closely related to their field of study.

Living Wage: The cost of living in a specific community or region for one adult and no children. The cost increases with the addition of children.

Occupation: An occupation is a grouping of job titles that have a similar set of activities or tasks that employees perform.

Percent Change: Rate of growth or decline in the occupation for the projected period; this does not factor in replacement openings.

Replacements: Estimate of job openings resulting from workers retiring or otherwise permanently leaving an occupation. Workers entering an occupation often need training. These replacement needs, added to job openings due to growth, may be used to assess the minimum number of workers who will need to be trained for an occupation.

Total Job Openings (New + Replacements): Sum of projected growth (new jobs) and replacement needs. When an occupation is expected to lose jobs, or retain the current employment level, number of openings will equal replacements.

Typical Education Requirement: represents the typical education level most workers need to enter an occupation.

Typical On-The-Job Training: indicates the typical on-the-job training needed to attain competency in the skills needed in the occupation.