

LABOR MARKET ANALYSIS

FOR PROGRAM RECOMMENDATION



C·O·E

CENTERS OF EXCELLENCE
FOR LABOR MARKET RESEARCH

BIOMEDICAL EQUIPMENT TECHNOLOGY IN THE GREATER SACRAMENTO REGION

North (Greater Sacramento)
Center of Excellence

FEBRUARY 2022

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SUMMARY

The North/Far North Center of Excellence for Labor Market Research prepared this report to provide a labor market analysis of educational supply and occupational demand for middle-skilled career pathways in the North (Greater Sacramento) subregion. This report aims to determine if demand in the local labor market is unmet by the supply from existing community college programs and other postsecondary training providers.

This report primarily focuses on training that leads to jobs in middle-skilled occupations - jobs that typically require education beyond a high school diploma but less than a Bachelor's degree - but may include higher-skilled occupations for training pathways that lead to a bachelor's degree. Lowered skilled occupations are rarely considered in this type of analysis due to the lessened barriers for entry-level work, such as no formal education and on-the-job training requirements.

Key findings include:

- The North (Greater Sacramento) subregion held 375 medical equipment repairer jobs in 2020. Medical equipment repairer jobs are projected to increase by 10% over the next five years, adding 38 new jobs to the subregion by 2025.
- Over the next five years, medical equipment repairer jobs are projected to have 49 annual openings in the North (Greater Sacramento) subregion.
- Wage data shows that medical equipment repairers earn \$6 above the subregion's living wage of \$14.53 per hour.
- Awards data analysis shows that North (Greater Sacramento) training providers conferred an average of 12 awards (certificates and associate degrees) in biotechnology and biomedical technology programs over the last three academic years.

Recommendations include:

- The North/Far North Center of Excellence recommends moving forward with the program.

INTRODUCTION

The North (Greater Sacramento) Center of Excellence (COE) was asked to provide labor market information for a proposed program at a regional community college. This report focuses on the following Standard Occupational Classification (SOC) occupations and codes:

- These middle-skill occupations require more education and training beyond a high school diploma but less than a four-year degree:
 - Medical Equipment Repairers (49-9062)

A review of related programs revealed the following Taxonomy of Programs (TOP) title(s) and code(s) are appropriate for inclusion in this report:

- Biotechnology and Biomedical Technology (0430.00)

The corresponding Classification of Instructional Program (CIP) title(s) and code(s) are:

- Biomedical Technology/Technician. (15.0401)

OCCUPATIONAL DEMAND

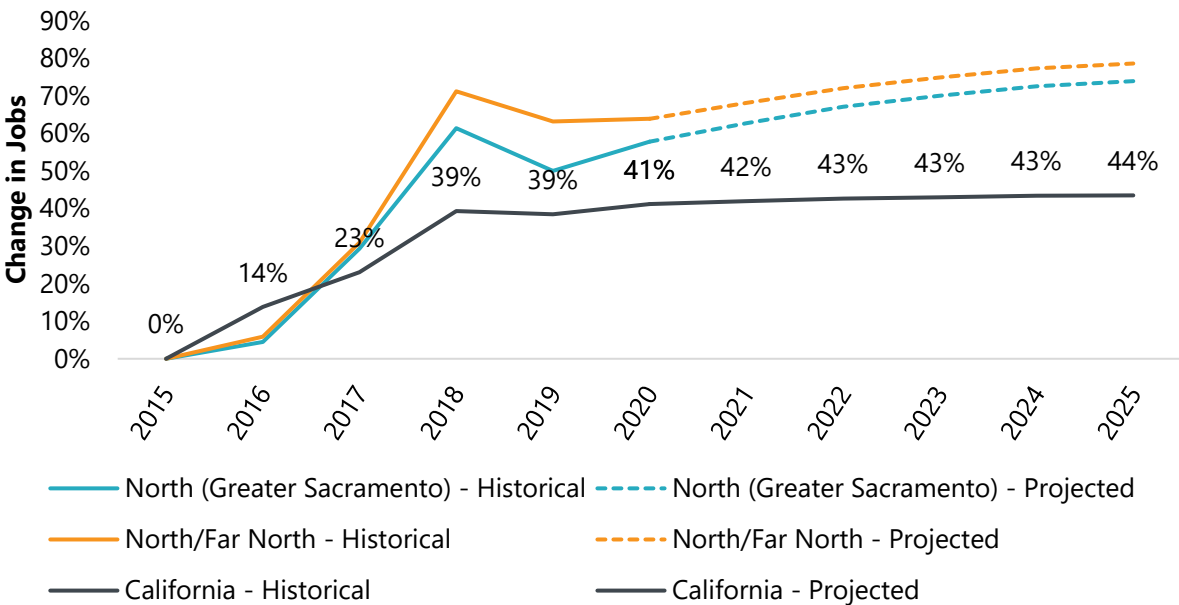
Exhibit 1 summarizes the five-year projected job growth for middle-skill and high-skill occupations in the North, North/Far North, and California.

Exhibit 1. Employment and projected demand, 2020-2025

Occupation	2020 Jobs	2025 Jobs	2020-2025 Change	2020-2025 % Change	2020-2025 Annual Openings
Medical Equipment Repairers	375	414	38	10%	49
North (Greater Sacramento)	375	414	38	10%	49
Medical Equipment Repairers	495	539	44	9%	63
North/Far North	495	539	44	9%	63
Medical Equipment Repairers	5,158	5,242	84	2%	573
California	5,158	5,242	84	2%	573

Exhibit 2 compares the percent change in jobs between 2015 through 2020 and the projected changes through 2025. The rate of change is indexed to the total number of jobs in 2015.

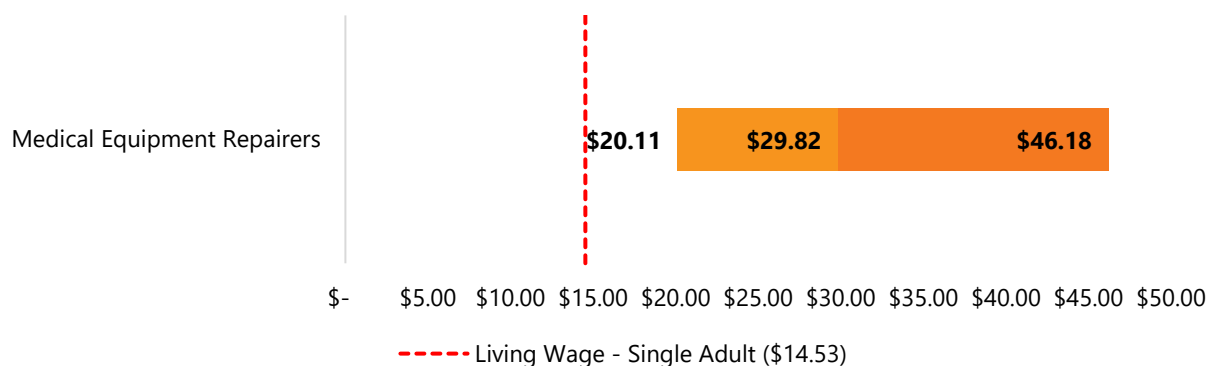
Exhibit 2. Changes in employment, 2015-2025



WAGES

Exhibit 3 compares the entry-level, median, and experienced wages for the selected occupations to the North (Greater Sacramento) living wage for a single adult - \$14.53 per hour.¹

Exhibit 3. Comparison of wages by occupation, 2020



JOB POSTINGS

This section analyzes recent data from online job postings (real-time LMI). Online job postings may provide additional insight into recent changes in the labor market that are not captured by historical trends.

The North COE identified 137 online job postings for the selected occupations in the Greater Sacramento subregion. Job postings data comes from Burning Glass Labor Insights and represents new listings posted online within the last year, from February 1, 2021, to January 31, 2022.

Occupations and Job Titles

Exhibit 4 details the number of online job postings for the selected occupations.

Exhibit 4. Number of job postings by occupation

Occupation	Job Postings	Share of Job Postings
Medical Equipment Repairers	137	100%
Total Job Postings	137	100%

¹ Living wage is defined as the level of income a single adult with no children must earn to meet basic needs, including food, housing, transportation, healthcare, taxes, and other miscellaneous basic needs. The 25th-percentile and 75th-percentile hourly wages are used as proxy for entry-level and experienced-level wages.

Exhibit 5 shows the top 10 job titles with the most job postings and the share. All job postings included a job title.

Exhibit 5. Top jobs titles

Job Title	Job Postings	Share of Job Postings
Maintenance Technician	17	12%
Medical Equipment Delivery Technician	9	7%
Medical Equipment Technician	6	4%
Service Technician - Dental	6	4%
Equipment Specialist	5	4%
Maintenance Technician II	4	3%
Medical Service Technician	4	3%
Biomedical Equipment Technician I	3	2%
Biomedical Service Specialist Field Technician	3	2%
Bmet (Biomedical Equipment Technician)	3	2%

Employers

Exhibit 6 shows the top 10 employers with the most job postings for the selected occupations. Two percent (n = 3) of job postings did not include an employer.

Exhibit 6. Employers with the most job postings

Employer	Job Postings	Share of Job Postings
Sutter Health	10	7%
Universal Health Services, Inc.	7	5%
Dignity Health	7	5%
Adapthealth	7	5%
University Of California	5	4%

Employer	Job Postings	Share of Job Postings
Horizon Oxygen & Medical Equipment	5	4%
Vitas Healthcare Corporation	4	3%
University California Davis	4	3%
Davita Incorporated	4	3%
Agiliti Incorporated	4	3%

Certifications, Skills, and Experience

Exhibit 7 shows the most relevant certifications requested by employers for the selected occupations. Thirty-six percent (n = 49) of job postings did not include certification information.

Exhibit 7. Most in-demand certifications

Certification	Job Postings	Share of Job Postings
Driver's License	80	58%
OSHA Forklift Certification	3	2%
Biomedical Equipment Technician (BMET)	2	1%

Exhibit 8 shows the specialized skills most requested by employers for the selected occupations.

Exhibit 8. Most in-demand specialized skills

Specialized Skill	Skill Postings	Share of Skill Postings
Repair	84	61%
Cleaning	37	27%
Plumbing	33	24%
Customer Service	26	19%
Predictive / Preventative Maintenance	24	18%
Lifting Ability	22	16%

Specialized Skill	Skill Postings	Share of Skill Postings
HVAC	20	15%
Painting	20	15%
Carpentry	18	13%
Infection Control	18	13%

Exhibit 9 shows employers' minimum level of education for job postings for the selected occupations. Eighteen percent (n = 24) of job postings did not include a preferred education level.

Exhibit 9. Employer-preferred minimum education levels

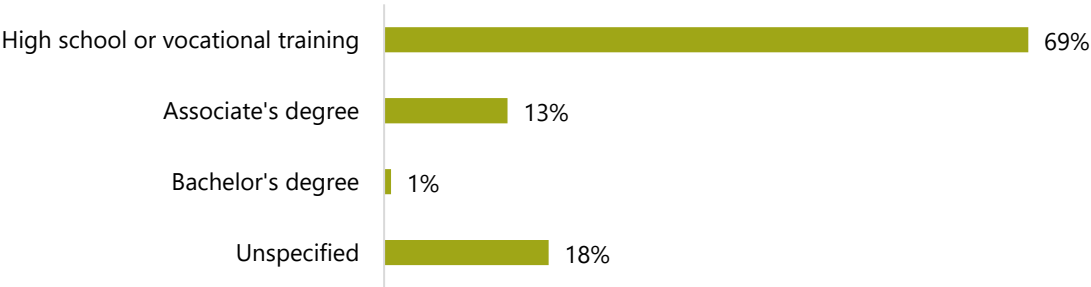
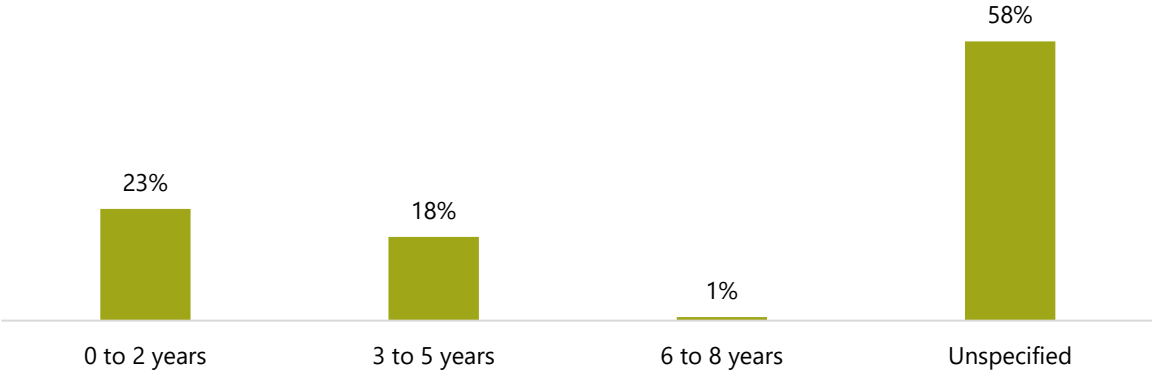


Exhibit 10 shows the experience levels required by employers for job postings for the selected occupations. Fifty-eight percent (n = 80) of job postings did not include a preferred education level.

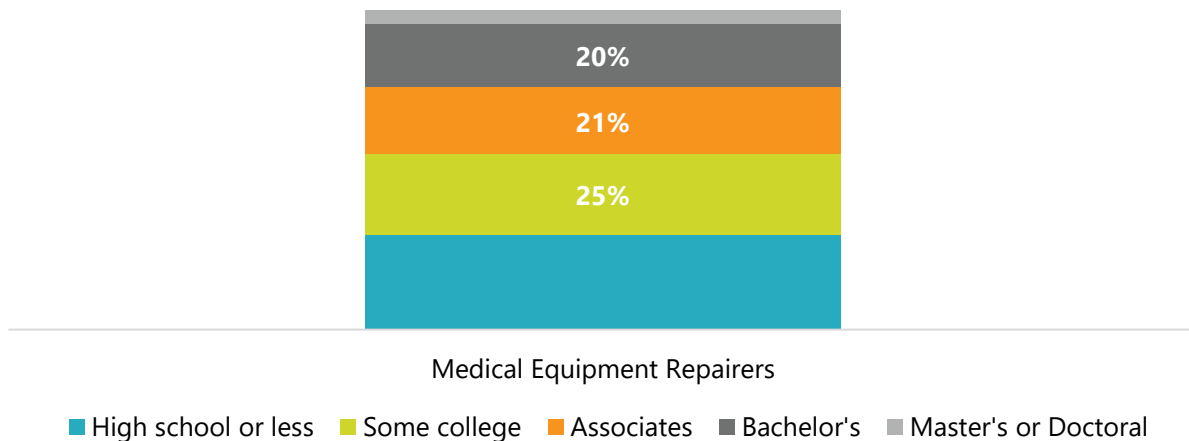
Exhibit 10. Employer-preferred experience levels



EDUCATION AND TRAINING

The U.S. Census Bureau and Bureau of Labor Statistics collected data on education achieved by workers employed in occupations. Exhibit 11 shows the national-level educational attainment of the current workforce in the selected occupations.

Exhibit 11. National worker educational attainment for selected occupations, 2019



The Bureau of Labor Statistics (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 the BLS publishes projections data. Exhibit 12 shows the skill level and entry-level job requirements for the selected occupations.

Exhibit 12. Typical education, work experience, and on-the-job training requirements

Occupation	Typical Entry-level Education	Work Experience Required	On-the-job Training Required
Medical Equipment Repairers	Associate's degree	None	Moderate-term on-the-job training

EDUCATIONAL SUPPLY

Educational supply for an occupation can be estimated by analyzing the number of awards issued in related Taxonomy of Programs (TOP) or Classification of Instructional Programs (CIP) codes. Exhibit 13 shows the TOP and CIP codes for educational programs related to the selected occupations.

Exhibit 13. TOP and CIP codes for training programs related to the selected occupations

TOP Programs and Codes	Aligned CIP Programs and Codes
Biotechnology and Biomedical Technology (0430.00)	Biomedical Technology/Technician. (15.0401)

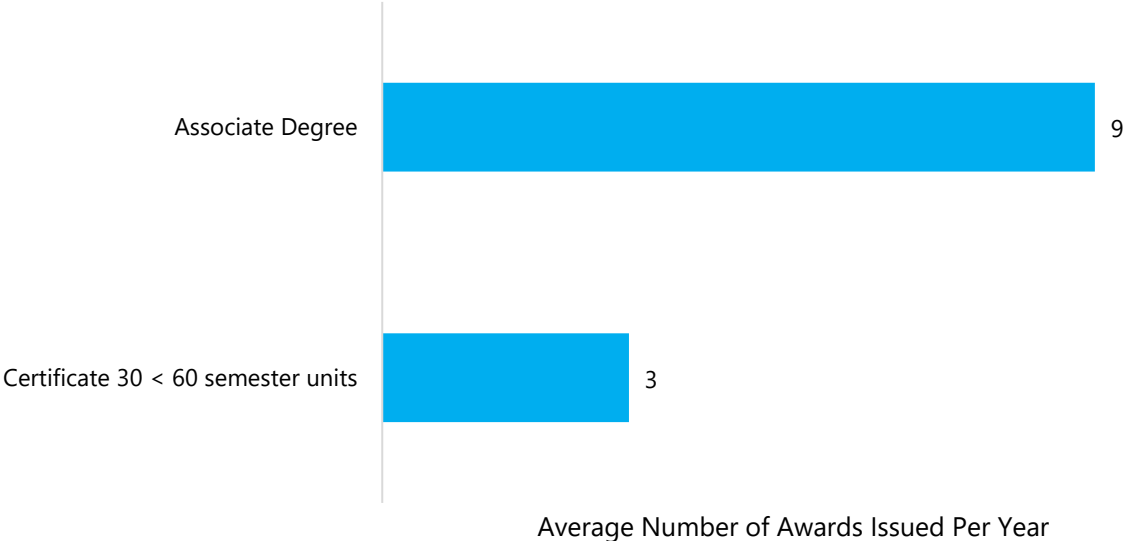
Community College Supply

Exhibits 14 and 15 compare the average number of certificates and degrees conferred in selected community college programs over the last three academic years.

Exhibit 14. Annual average community college awards by program, 2017-18 through 2019-20

Program - TOP Code	College	Annual Awards 2018-19	Annual Awards 2019-20	Annual Awards 2020-21	3-Yr Annual Awards Average
Biotechnology and Biomedical Technology (0430.00)	American River	20	9	6	12
	Grand Total	20	9	6	12

Exhibit 15. Annual average community college awards by type, 2017-18 through 2019-20



Other Postsecondary Supply

Exhibit 16 compares the average number of degrees non-community college training providers confer in the North (Greater Sacramento) subregion over the last three academic years. Please note that non-community college data lags by one year.

No other postsecondary training provider offered programs in the corresponding CIP.

FINDINGS

- This report focuses on one occupation in the Biomedical Equipment Technology pathway, including medical equipment repairers.
- The North (Greater Sacramento) subregion held 375 medical equipment repairer jobs in 2020. Medical equipment repairer jobs are projected to increase by 10% over the next five years, adding 38 new jobs to the subregion by 2025.
- Jobs for medical equipment repairers are projected to grow faster in the North (Greater Sacramento) subregion than in California.
- Over the next five years, medical equipment repairer jobs are projected to have 49 annual openings in the North (Greater Sacramento) subregion.
- Wage data shows that medical equipment repairers earn \$6 above the subregion's living wage of \$14.53 per hour.
- According to real-time labor market information, there were about 137 online job postings for medical equipment repairers between February 1, 2021, and January 31, 2022.
- Forty-six percent of incumbent workers in the studied occupation have educational attainment levels consistent with community college offerings (some college or associate degrees). Another 20% of workers in this occupation have a bachelor's degree.
- American River College is the only North (Greater Sacramento) community college to offer degrees and certificates in programs related to medical equipment repairers. These programs conferred an average of 12 awards (certificates and associate degrees) in biotechnology and biomedical technology programs over the last three academic years (2018-19 through 2020-21).

RECOMMENDATIONS

- Based on a three-year average of annual awards in North (Greater Sacramento) subregion biomedical equipment technology programs and projected yearly openings, the supply gap analysis shows that the region seems to have room for additional training.
 - Together, community colleges and other postsecondary training providers issued an average of 12 awards over the last three years.
 - There are 49 projected annual openings for medical equipment repairers.
- The North/Far North Center of Excellence recommends moving forward with the program.

COE Recommendation		
Move forward with the program	Proceed with caution	Program is not recommended
<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

APPENDIX A. METHODOLOGY AND SOURCES

This report identified Occupations using the Center of Excellence TOP-to-CIP-to-SOC crosswalk and O*Net OnLine. This report's findings were determined using labor market data from the Bureau of Labor Statistics (BLS), U.S. Census Bureau data from Emsi, and jobs posting data from Burning Glass.

Cal-PASS Plus LaunchBoard. California Community Colleges Chancellor's Office.

<https://www.calpassplus.org/LaunchBoard/Home.aspx>.

Emsi 2021.4; QCEW Employees, Non-QCEW Employees, and Self-Employed.

<https://www.economicmodeling.com/>. EMSI occupational employment data are based on final EMSI industry data and final EMSI 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).

Educational Attainment for Workers 25 Years and Older by Detailed Occupation, 2016-2017.

Bureau of Labor Statistics. <https://www.bls.gov/emp/tables/educational-attainment.htm#>.

Integrated Postsecondary Education Data System (IPEDS). National Center for Education Statistics. U.S. Department of Education. <https://nces.ed.gov/ipeds/>.

"Labor Insight Real-Time Labor Market Information Tool." Burning Glass Technologies.

<http://www.burning-glass.com>.

Labor Market Information Division. California Employment Development Department.

<https://labormarketinfo.edd.ca.gov/>.

Management Information Systems (MIS) Data Mart. California Community Colleges Chancellor's Office. <https://datamart.cccco.edu/>.

Occupational Employment Statistics (OES). Bureau of Labor Statistics.

<https://www.bls.gov/oes/home.htm>.

O*NET OnLine. U.S. Department of Labor/Employment and Training Administration (DOL ETA).

<https://www.onetonline.org/>.

Self-Sufficiency Standard Tool for California. The University of Washington.

<http://www.selfsufficiencystandard.org/>

"Taxonomy of Programs." California Community Colleges Chancellor's Office. June 2012, 6th Edition. <https://www.cccco.edu/-/media/CCCCO-Website/About->

[Us/Divisions/Educational-Services-and-Support/Academic-Affairs/What-we-do/Curriculum-and-Instruction-Unit/Files/TOPmanual6200909corrected12513pdf.aspx](https://www.coecc.net/Us/Divisions/Educational-Services-and-Support/Academic-Affairs/What-we-do/Curriculum-and-Instruction-Unit/Files/TOPmanual6200909corrected12513pdf.aspx)

"TOP-CIP-SOC Crosswalk." Centers of Excellence for Labor Market Research. November 2015 Edition. <http://coecc.net/>

COVID-19 Statement: This report includes employment projection data by EMSI. EMSI's projections are modeled on recorded (historical) employment figures and incorporate several underlying assumptions, including the assumption that the economy during the projection period will be at approximately full employment or potential output. To the extent that a recession or labor shock, such as the economic effects of COVID-19, can cause long-term structural change, they may impact the projections. At this time, it is not possible to quantify the impact of COVID-19 on projections of industry and occupational employment. Other measures such as unemployment rates and monthly industry employment estimates will reflect the most recent information on employment and jobs in the state and, in combination with input from local employers, may help validate current and future employment needs as depicted here.

Important Disclaimer: All representations included in this report have been produced from primary research and/or secondary review of publicly and/or privately available data and/or research reports. Efforts have been made to qualify and validate the accuracy of the data and the reported findings; however, neither the Centers of Excellence, COE host District, nor California Community Colleges Chancellor's Office are responsible for applications or decisions made by recipient community colleges or their representatives based upon components or recommendations contained in this study.

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Centers of Excellence for Labor Market Research, Economic and
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