

PROGRAM ENDORSEMENT BRIEF



C·O·E

CENTERS OF EXCELLENCE
FOR LABOR MARKET RESEARCH

RADIOLOGY
IN THE FAR NORTH

Far North
Center of Excellence

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SUMMARY

The 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 Far North 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 - that is, occupations 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 requirements and no requirements for on-the-job training.

Key findings include:

- The Far North subregion held 409 radiologic technologist and technician jobs in 2020. Radiologic technologist and technician jobs are projected to increase by 7% over the next five years, adding 30 new jobs to the subregion by 2025.
- Over the next five years, the radiologic technologist and technician occupation is projected to have 26 annual openings in the Far North subregion.
- Wage data shows that radiologic technologist and technicians earn approximately \$32 to \$54 per hour, above the subregion's living wage of \$12.74 per hour.
- Awards data analysis shows that Far North training providers did not offer any programs (certificates and associate degrees) in radiologic technologist and technician training programs over the last three academic years. Two community colleges within the greater North/Far North region, Folsom and Yuba, offered radiologic training programs.

Recommendations include:

- Based on the lack of existing radiologic programs at Far North community colleges and projected yearly openings, the supply gap analysis shows that the region may have room for additional training.
- Considering both the North and Far North region, the demand analysis estimates that there will be 115 projected annual openings in the larger region yet only 18 average annual awards.

INTRODUCTION

The Far North 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) occupation and code:

- One middle-skill occupation requires more education and training beyond a high school diploma but less than a four-year degree:
 - Radiologic Technologists and Technicians (29-2034)

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

- Radiologic Technology (1225.00)

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

- Radiologic Technology/Science – Radiographer (51.0911)

OCCUPATIONAL DEMAND

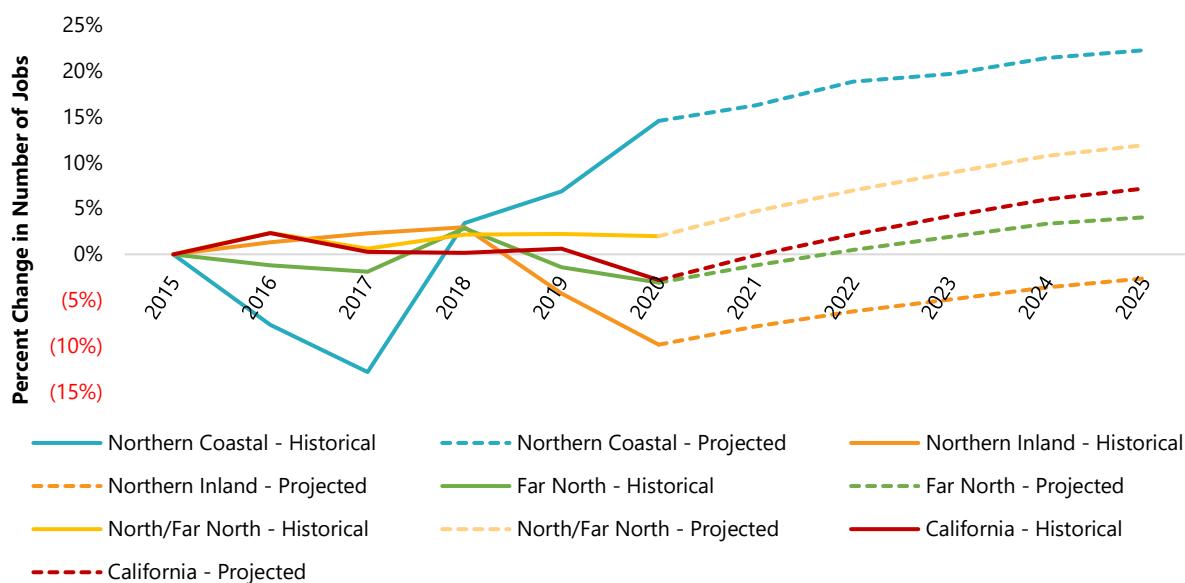
Exhibit 1 summarizes the five-year projected job growth for the Radiologic Technologists and Technicians (29-2034) occupation in the Far North, North/Far North, and California.

Exhibit 1. Employment and projected demand, 2020-2025

Region	2020 Jobs	2025 Jobs	2020-2025 Jobs Change	2020-2025 Jobs % Change	2020-2025 Annual Openings
Northern Coastal	134	143	9	7%	8
Northern Inland	275	297	22	8%	18
Far North	409	439	30	7%	26
North/Far North	1,656	1,817	161	10%	115
California	17,257	19,027	1,770	10%	1,222

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.

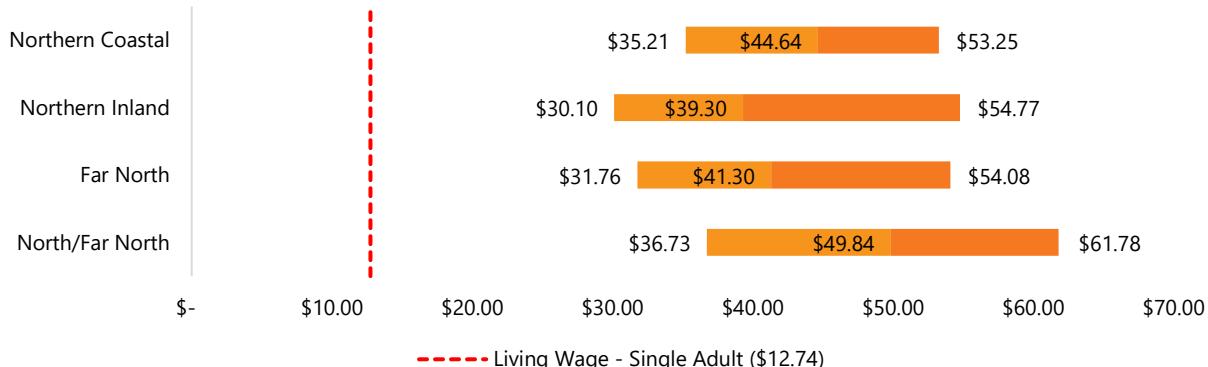
Exhibit 2. Changes in employment, 2015-2025



WAGES

Exhibit 3 compares the entry-level, median, and experienced wages for the selected occupation to the Far North living wage for a single adult - \$12.74 per hour.¹

Exhibit 3. Comparison of wages by subregion, 2020



JOB POSTINGS

This section of the report 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 Far North COE identified 202 online job postings for the radiologic technologist and technician occupation in the Far North subregion. Job postings data comes from Burning Glass Labor Insights and represents new listings posted online within the last year, from September 1, 2020, to August 31, 2021.

Occupation and Job Titles

Exhibit 4 details the number of online job postings by region for the selected occupation.

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 4. Number of job postings by region

Occupation	Job Postings	Share of Job Postings
Northern Coastal	70	35%
Northern Inland	132	65%
Total Far North Job Postings	202	100%
Total North Far North Job Postings	622	100%

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

Exhibit 5. Top jobs titles

Job Title	Job Postings	Share of Job Postings
Travel Radiology Technologist	21	10%
Computed Tomography Technologist	11	5%
Certified Radiology Technologist	10	5%
Mammography Technologist	8	4%
Radiologic Technologist	7	3%
Radiology Technician II	7	3%
Radiology Technician Travel Assignments	7	3%
Travel Radiology Technician/Xray	7	3%
Mammographer Technician Travel	5	2%
Radiology Technician II	5	2%

Employers

Exhibit 6 shows the top 10 employers with the most job postings for the selected occupation. Thirty-five percent (n=71) of job postings did not include an employer.

Exhibit 6. Employers with the most job postings

Employer	Job Postings	Share of Job Postings	Sub-Region
Dignity Health	29	22%	Northern Inland
Adventist Health	23	17%	Northern Coastal & Northern Inland
Healthcare Traveler Allied Health	12	9%	Northern Inland
Covenant Health	7	5%	Northern Coastal
Ahs Medstat	7	5%	Northern Coastal & Northern Inland
Sutter Health	6	4%	Northern Coastal
Enloe Medical Center	5	4%	Northern Inland
Central Valley Specialty Hospital	5	4%	Northern Inland
Shasta Regional Medical Center	4	3%	Northern Inland
Prime Healthcare Services	4	3%	Northern Inland

Skills, Certifications, and Experience

Exhibit 7 shows the specialized skills most requested by employers for the selected occupation. Thirteen percent (n=27) of job postings did not include an employer.

Exhibit 7. Most in-demand specialized skills

Specialized Skill	Skill Postings	Share of Skill Postings
Radiology	161	13%
X-Rays	100	8%
Radiologic Technology	98	8%
Patient Care	67	5%
Cardiopulmonary Resuscitation (CPR)	44	4%

Specialized Skill	Skill Postings	Share of Skill Postings
Mammography	41	3%
Acute Care	31	3%
Ultrasound	27	2%
Patient/Family Education and Instruction	26	2%
X-Ray (Radiography) Equipment	26	2%

Exhibit 8 shows the most relevant certifications requested by employers for the selected occupations. Thirty-five percent (n=71) of job postings did not include certification information.

Exhibit 8. Most in-demand certifications

Certification	Job Postings	Share of Job Postings
American Registry of Radiologic Technologists (ARRT) Certification	89	36%
Basic Life Saving (BLS)	48	20%
Basic Cardiac Life Support Certification	41	17%
American Heart Association Certification	22	9%
First Aid Cpr Aed	18	7%
Certified Radiology Technician	10	4%

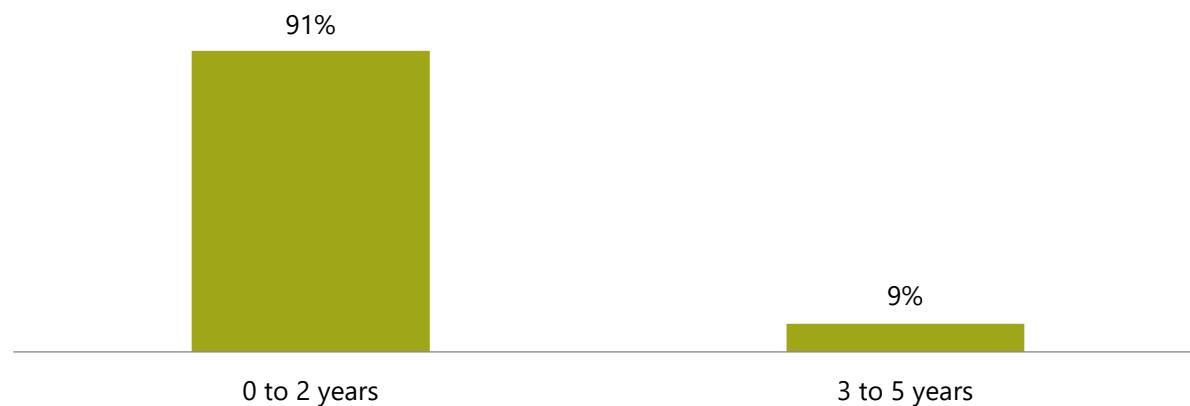
Exhibit 9 shows the minimum level of education required by employers for job postings for the selected occupation. Fifty-nine percent (n=120) of job postings did not include a preferred education level.

Exhibit 9. Employer-preferred minimum education levels



Exhibit 10 shows the experience levels required by employers for job postings for the selected occupation. Fifty-nine percent ($n=120$) of job postings did not include a preferred education level.

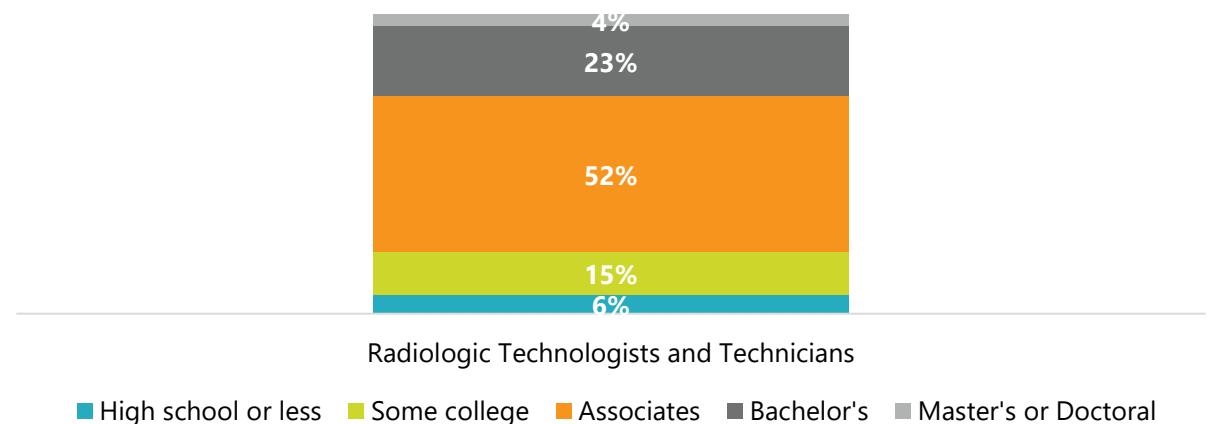
Exhibit 10. Employer-preferred experience levels



EDUCATION AND TRAINING

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

Exhibit 11. National worker educational attainment for selected occupation, 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 occupation.

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
Radiologic Technologists and Technicians	Associate's degree	None	None

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 occupation.

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

TOP Programs and Codes	Aligned CIP Programs and Codes
Radiologic Technology (1225.00)	<ul style="list-style-type: none">• Radiologic Technology/Science – Radiographer (51.0911)

Community College Supply

There were two active programs for the related TOP codes at Community Colleges in the North/Far North during the past three years.

Exhibit 14. Other postsecondary awards by program, 2017-18 through 2019-20

Program - CIP Code	College	Annual Awards 2017-18	Annual Awards 2018-19	Annual Awards 2019-20	3-Yr Annual Awards Average
1225.00 - Radiologic Technology	Folsom Lake	0	7	0	2
	Yuba	17	16	15	16
	Subtotal	17	23	15	18
	Grand Total	17	23	15	18

Other Postsecondary Supply

There were no active programs for the related CIP codes at other Postsecondary institutions in the North/Far North during the past three years.

FINDINGS

This report focuses on one occupation with relevant career pathways in radiologic technologist and technician jobs.

- The Far North subregion held 409 radiologic technologist and technician jobs in 2020.
- Radiologic technologist and technician jobs are projected to increase by 7% over the next five years, adding 30 new jobs to the subregion by 2025. Radiologic technologist and technician jobs are projected to grow slower in the Far North than in greater California over the next five years
- Over the next five years, radiologic technologist and technician jobs are projected to have 26 annual openings in the Far North subregion.
- Wage data shows that radiologic technologist and technicians earn approximately \$32 to \$54 per hour, well above the subregion's living wage of \$12.74 per hour. Entry-level wages are highest in the Northern Coastal subregion at \$35.21 per hour.
- According to real-time labor market information, there were 202 online job postings for radiologic technologist and technician occupations between September 1, 2020, and August 31, 2021. Of these, 70 job postings (35%) were in the Northern Coastal subregion and 132 job postings (65%) were in the Northern Inland subregion.
- Top job titles and employers are concentrated within a narrow definition of radiologic services. Most employers were either direct hospitals or specialized private healthcare providers.
- Required educational attainment of incumbent workers and entry-level work requirements were aligned for the studied occupation. Two-thirds (67%) of radiologic technologist and technicians have educational attainment levels consistent with community college offerings (some college or associate degrees).
- None of the Far North community colleges offered degrees or certificates in programs related to radiologic technologist and technicians. Two programs offered at community colleges in the Greater Sacramento region offered training related to the studied occupation. Between 2017-19 and 2019-20, these community colleges conferred an average of 18 awards annually in radiologic programs.

RECOMMENDATIONS

- Based on the lack of existing radiologic programs at Far North community colleges and projected yearly openings, the supply gap analysis shows that the region may have room

for additional training. However, with only 26 annual openings projected in the Far North region, demand is low.

- Considering both the North and Far North region, there appears to be a significant need for a radiologic technologist and technicians training program. The demand analysis estimates that there will be 115 projected annual openings in the broader region yet only 18 average annual awards, all from non-community college training providers.
- The Far North Center of Excellence recommends moving forward with the proposed 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

Occupations in this report were identified 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. <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/>.

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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.ashx>

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