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CENTERS OF EXCELLENCE
FOR LABOR MARKET RESEARCH

PROGRAM ENDORSEMENT BRIEF

HEALTH INFORMATION TECHNOLOGY: CERTIFIED TUMOR REGISTRARS IN THE NORTH/FAR NORTH

North (Greater Sacramento)
Center of Excellence

October 2021

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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/Far North subregion. This report aims to determine if the need 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 - 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. This type of analysis rarely considers lower-skilled occupations due to the lessened barriers for entry-level work, such as no formal education and no on-the-job training requirements.

Key findings include:

- Certified tumor registrars represent a subset of the jobs found within the studied Health Information Technology hybrid occupations.
- The North/Far North held 4,439 health information technology (HIT) jobs in 2020. North/Far North HIT jobs are projected to increase by 12% by 2025.
- HIT jobs are projected to have 425 annual openings across the North/Far North.
- Wage data shows that HIT occupations earn an entry-level wage above the North (Greater Sacramento) subregion's living wage of \$14.53 per hour.
- Analysis of job postings data shows that annual postings for certified tumor registrars have more than doubled since 2010.
- Program data analysis shows that only one community college in the state - Santa Barbara City - offers training related to certified tumor registrars.
- Certified tumor registrars also represent an opportunity for remote middle-skilled work.

Recommendations include:

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

INTRODUCTION

The North (Greater Sacramento) Center of Excellence 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:

- Health Information Technologists, Medical Registrars, Surgical Assistants, and Healthcare Practitioners and Technical Workers, All Other (29-9098)
- Medical Dosimetrists, Medical Records Specialists, and Health Technologists and Technicians, All Other (29-2098)

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

- Health Information Technology (1223.00)

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

- Health Information/Medical Records Technology/Technician. (51.0707)

OCCUPATIONAL DEMAND

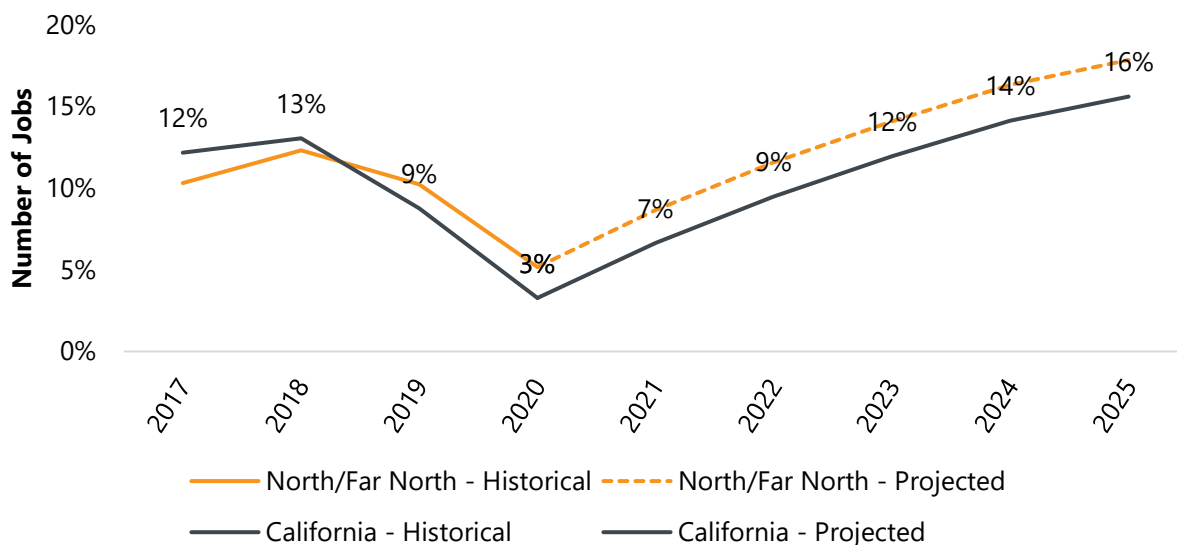
Exhibit 1 summarizes the five-year projected job growth for middle-skill and high-skill occupations in the North/Far North and California.

Exhibit 1. Employment and projected demand, 2020-2025

Occupation	2020 Jobs	2025 Jobs	2020-2025 Jobs Change	2020-2025 Jobs % Change	2020-2025 Annual Openings
Medical Dosimetrists, Medical Records Specialists, and Health Technologists and Technicians, All Other	3,938	4,419	481	12%	388
Health Information Technologists, Medical Registrars, Surgical Assistants, and Healthcare Practitioners and Technical Workers,	501	555	54	11%	37
North/Far North	4,439	4,974	535	12%	425
Medical Dosimetrists, Medical Records Specialists, and Health Technologists and Technicians, All Other	39,404	44,336	4,932	13%	3,910
Health Information Technologists, Medical Registrars, Surgical Assistants, and Healthcare Practitioners and Technical Workers,	8,144	8,889	745	9%	574
California	47,548	53,225	5,677	12%	4,484

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.

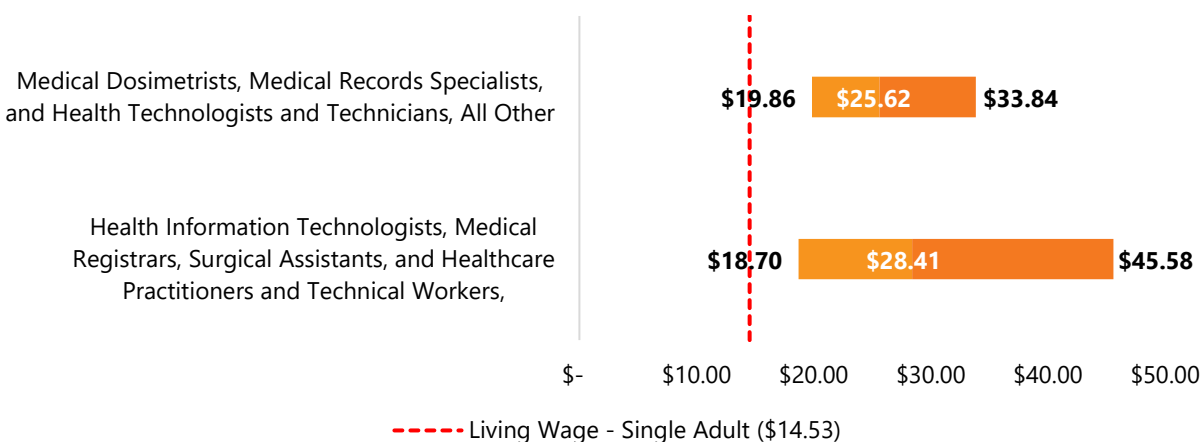
Exhibit 2. Changes in employment, 2015-2025



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



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.

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 NFN COE identified 2,432 online job postings for the selected occupations across the North/Far North region. Job postings data comes from Burning Glass Labor Insights and represents new listings posted online within the last year, from October 1, 2020, to September 30, 2021.

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 Dosimetrists, Medical Records Specialists, and Health Technologists and Technicians, All Other	2,405	99%
Health Information Technologists, Medical Registrars, Surgical Assistants, and Healthcare Practitioners and Technical Workers, All Other	27	1%
Total Job Postings	2,432	100%

Exhibit 5 shows the top job titles with the most job postings and the share of job postings. All job postings included a job title. Appendix B shows a ten-year trend of job postings for certified tumor registrars.

Exhibit 5. Top jobs titles

Job Title	Job Postings	Share of Job Postings
Medical Billing Specialist	32	1%
Emergency Department Technician	31	1%
Medical Biller	31	1%
Medical Scribe	28	1%
Medical	27	1%

Job Title	Job Postings	Share of Job Postings
Med Technician	24	1%
Med Aide/Technician	21	1%
Medical Records Clerk	21	1%
Medical Records Assistant	14	1%
OR Assistant	12	0%
Tumor Registrar Specific Job Titles		
Certified Tumor Registrar	7	--
Cancer Follow-Up Technician	3	--
Cancer Tumor Registrar II	2	--
Remote Certified Tumor Registrar - Level I Trauma Hospital	2	--
Cancer Registry Assistant	1	--
Remote Certified Tumor Registrar	1	--

Employers

Exhibit 6 shows the top 10 employers with the most job postings for the selected occupations. All job postings included an employer.

Exhibit 6. Employers with the most job postings

Employer	Job Postings	Share of Job Postings
Dignity Health	183	8%
Oroville Hospital	107	4%
UC/UC Davis/UC Davis Health	179	7%
Sutter Health System	130	5%
Adventist Health	73	3%
Guidehouse	67	3%

Employer	Job Postings	Share of Job Postings
Atria Senior Living	33	1%
Anthem Blue Cross	31	1%
Covenant Health	28	1%
Apria	28	1%
Tumor Registrar Specific Employers		
Sutter	11	--
Guidehouse	3	--
Enloe Medical Center	1	--
Adventist Health	1	--

Certifications, Skills, and Experience

Exhibit 7 shows the most relevant certifications requested by employers for the selected occupations. Forty-five percent (n = 1,106) of job postings did not include certification information.

Exhibit 7. Most in-demand certifications

Certification	Job Postings	Share of Job Postings
Certified Professional Coder	134	6%
Certified Coding Specialist	89	4%
Registered Health Information Technician	76	3%
American Registry of Radiologic Technologists (ARRT) Certification	76	3%
Medical Billing and Coding Certification	74	3%
Registered Health Information Administrator	72	3%
Certified Outpatient Coding (COC)	29	1%
Project Management Certification	15	1%

Certification	Job Postings	Share of Job Postings
Certified Coding Associate	12	--
Certified Clinical Document Specialist	11	--
Tumor Registrar Specific Certifications		
Certified Tumor Registrar	14	1%
Anatomy and Physiology Certificate	2	--

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
Patient Care	501	21%
Medical Coding	470	19%
Customer Billing	384	16%
Cardiopulmonary Resuscitation (CPR)	290	12%
Scheduling	275	11%
Anatomy	273	11%
Medical Terminology	226	9%
Electronic Health Records	225	9%
Physiology	219	9%
ICD-10	198	8%
Tumor Registrar Specific Skills		
Tumor Registry	16	--
Cancer knowledge	16	--
Oncology	15	--
Medical Coding	11	--

Specialized Skill	Skill Postings	Share of Skill Postings
Anatomy	9	--
Physiology	8	--
Medical Abstraction	8	--
Histology	8	--
Quality Assurance and Control	7	--
Pathology	7	--

Exhibit 9 shows the minimum level of education required by employers for job postings for the selected occupations. Thirty-seven percent (n = 756) of job postings did not include a preferred education level.

Exhibit 9. Employer-preferred minimum education levels

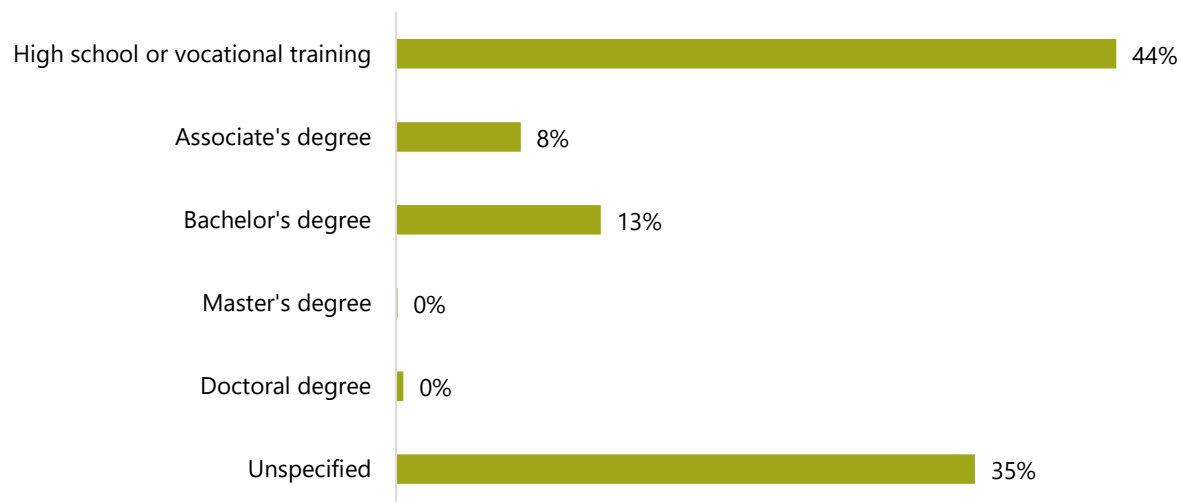
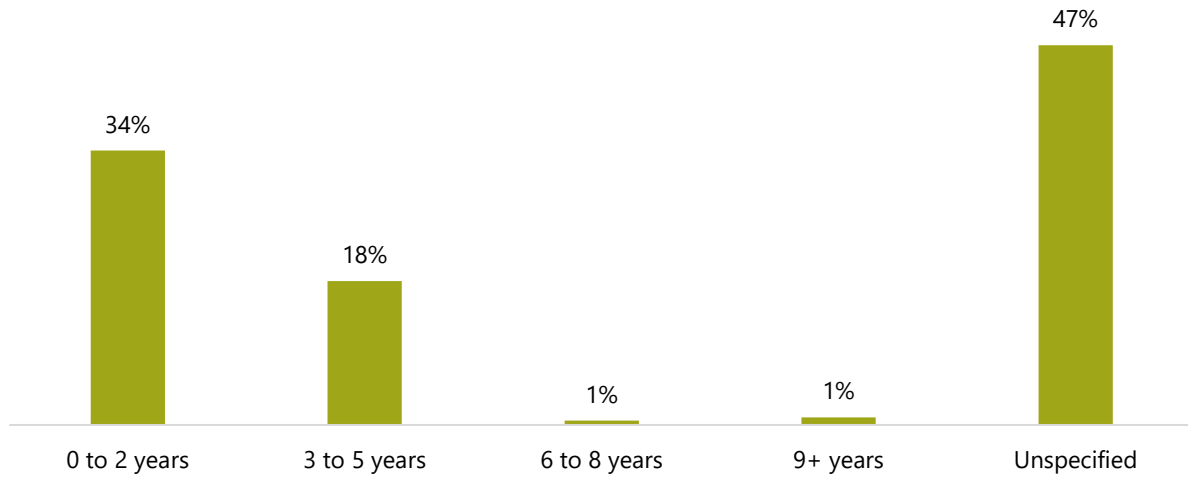


Exhibit 10 shows the experience levels required by employers for job postings for the selected occupations. Forty-five percent (n = 901) of job postings did not include a preferred education level.

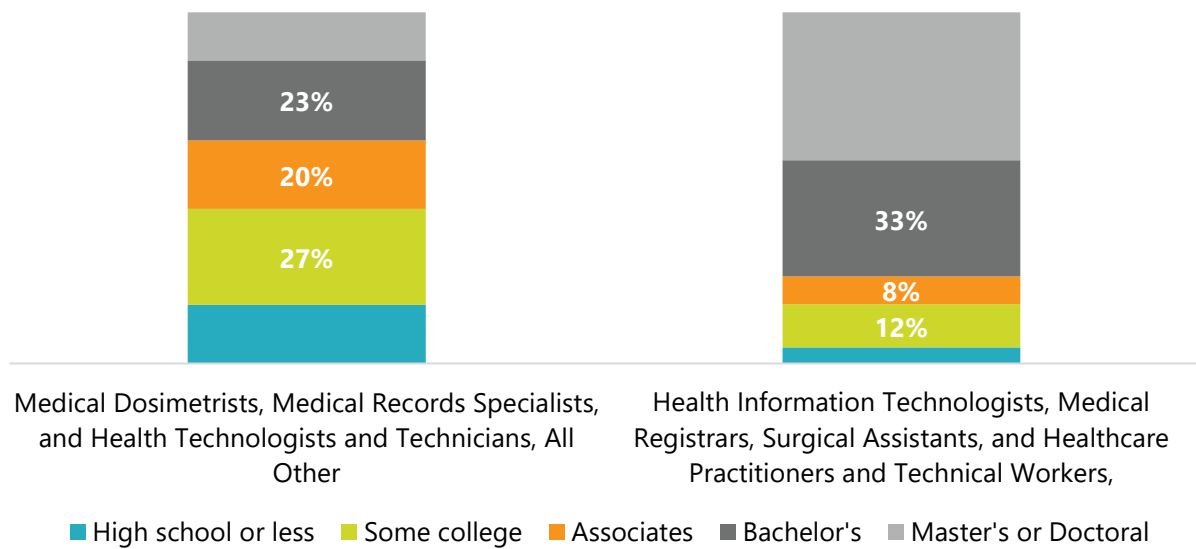
Exhibit 10. Employer-preferred experience levels



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 Dosimetrists, Medical Records Specialists, and Health Technologists and Technicians, All Other	Postsecondary nondegree award	None	None
Health Information Technologists, Medical Registrars, Surgical Assistants, and Healthcare Practitioners and Technical Workers,	Postsecondary nondegree award	None	None

State and Industry Certifications

The National Cancer Registrars Association (NCRA) oversees the Certified Tumor Registrar (CTR) credential. There are non-credentialed cancer registrars; however, many hospitals and cancer registries require workers to have the credential, and workers with the credential tend to earn more (approximately \$25,000 more a year, according to NCRA). Exhibit 13 summarizes the credentials of the certification organization.

Exhibit 13. State- and industry-recognized certifications

Certification Organization	Certifications Offered	Earn Credential By
National Cancer Registrars Association (NCRA)	<ul style="list-style-type: none"> • Certified Tumor Registrar (CTR) 	<ul style="list-style-type: none"> • Pass the CTR exam
Pathways to Exam Eligibility		Prerequisite Coursework for NCRA-accredited Programs
<ol style="list-style-type: none"> 1. Complete an associate degree in Cancer Registry Management (CRM) or Cancer Information Management (CIM) from an NCRA-accredited provider AND successful completion of a 160-hour clinical practicum under a CTR supervisor 2. Complete an associate degree in any field AND earn a certificate in CRM or CIM from an NCRA-accredited provider AND successful completion of a 160-hour clinical practicum under a CTR supervisor 3. Complete an associate degree in any field AND complete two semesters of Human Anatomy and Human Physiology AND 1,950 hours work experience in the cancer registry field (approx. one year, full-time) 		<ul style="list-style-type: none"> • Human anatomy and physiology I • Human anatomy and physiology II • Medical terminology • A course in healthcare technology and information systems

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 14 shows the TOP and CIP codes for educational programs related to the selected occupations.

Exhibit 14. TOP and CIP codes for training programs related to the selected occupations

TOP Programs and Codes	Aligned CIP Programs and Codes
Health Information Technology (1223.00)	Health Information/Medical Records Technology/Technician. (51.0707)

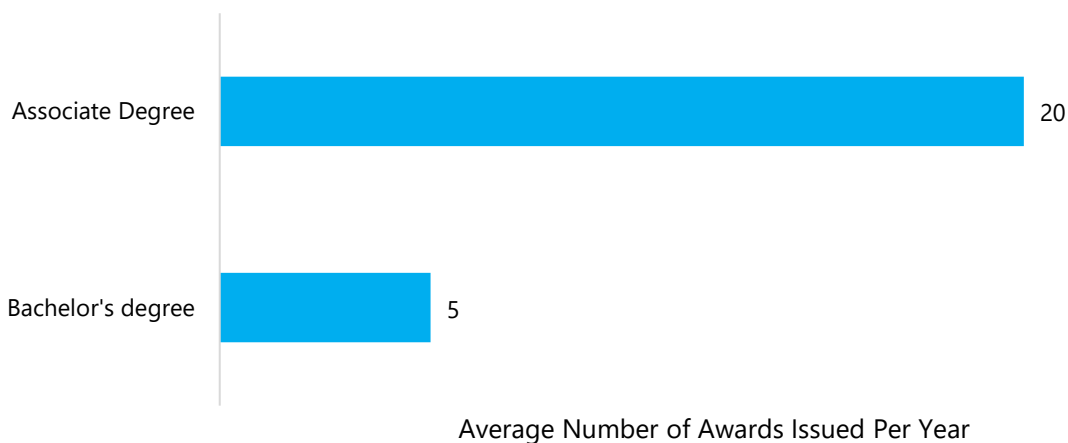
Community College Supply

Exhibits 15 and 16 compare the average number of certificates and degrees conferred in selected community college programs over the last three academic years.

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

Program - TOP Code	College	Annual Awards 2017-18	Annual Awards 2018-19	Annual Awards 2019-20	3-Yr Annual Awards Average
Health Information Technology (1223.00)	Cosumnes River	12	15	19	15
	Shasta	5	2	8	5
	Shasta (B.S. only)	2	6	8	5
	Subtotal	19	23	35	25
	Grand Total	19	23	35	25

Exhibit 16. Annual average community college awards by type, 2017-18 through 2019-20



Other Postsecondary Supply

Exhibit 17 compares the average number of degrees non-community college training providers confer in the North/Far North area over the last three academic years. Please note that non-community college data lags by one year.

Exhibit 17. Other postsecondary awards by program, 2016-17 through 2018-19

Program - CIP Code	College	Annual Awards 2017-18	Annual Awards 2018-19	Annual Awards 2019-20	3-Yr Annual Awards Average
Health Information/Medical Records Technology/Technician. (51.0707)	Asher College	11	22	23	19
	Subtotal	11	22	23	19
	Grand Total	11	22	23	19

Community College Program Inventory

Exhibit 18 provides a list of Health Information Technology (HIT) Programs located throughout the state.

Exhibit 18. Health Information Technology Program Inventory (active as of Oct 4, 2021)

College	Program Title	Awards Offered
BAKERSFIELD	Health Information Technology	A.S. Degree

College	Program Title	Awards Offered
CHABOT	Health Information Coding	Certificate
COSUMNES RIVER	Health Information Technology	A.S. Degree
CYPRESS	Health Information Technology	A.S. Degree
EAST L.A.	Health Information Technology	A.S. Degree Certificate
	Interventional Radiology Coding	Certificate
FRESNO CITY	Health Information Technology: Revenue Management	A.S. Degree
MOORPARK	Medical Coding	Certificate
SADDLEBACK	Health Information Technology	A.S. Degree
	Healthcare Technology Optimization Specialist	Certificate
SAN DIEGO MESA	Health Information Technology	A.S. Degree
SAN FRANCISCO CITY	Health Information Technology	A.S. Degree Certificate
	Health Information Clerk I	Certificate
	Health Information Clerk II	Certificate
SANTA BARBARA CITY	Cancer Information Management	A.S. Degree Certificate
	Health Information Technology	A.S. Degree
	Healthcare Data Analytics	Certificate
	Medical Reimbursement Specialist	Certificate
SHASTA	Health Information Technology	A.S. Degree

FINDINGS

This report provides labor market data for two hybrid occupations² associated with Health Information Technology, emphasizing certified tumor registrars. Certified tumor registrars represent a subset of the jobs found within the studied hybrid occupations. Therefore, much of the data in this report represents the broader occupations studied across the entire 22-county North/Far North region. When possible, data analysis specific to certified tumor registrars is provided.

- The North/Far North held 4,439 health information technology (HIT) jobs in 2020.
- North/Far North HIT jobs will increase by 12% over the next five years, adding 535 new jobs to the region by 2025. HIT jobs in the North/Far North are projected to grow at the same rate as California.
- Over the next five years, HIT jobs are projected to have 425 annual openings across the North/Far North.
- Wage data shows that HIT occupations earn approximately \$4 to \$5 above the North (Greater Sacramento) subregion's living wage of \$14.53 per hour.
- According to real-time labor market information, there were about 2,432 online postings for HIT occupations between October 1, 2020, and September 30, 2021.
- Approximately 16 of these job postings (or 0.6%) were explicitly related to "certified tumor registrars," including certified tumor registrar, cancer tumor registrar, and cancer registry assistant.
- Annual job postings for certified tumor registrars have more than doubled since 2010 (Appendix B).
- Most skills in job postings were consistent with medical billing and coding jobs (as well as medical technicians). Skills for certified tumor registrar job postings specifically mentioned tumor registry, cancer knowledge, anatomy, physiology, and medical coding as specialized skills.
- Most job postings for tumor registrars require a third-party certification or an anatomy/physiology certificate. Certified tumor registrars typically hold an association-based certification from the National Cancer Registrars Association (NCRA).
- Cosumnes River College and Shasta College are the only North/Far North community colleges that offer training in Health Information Technology programs. Together, these colleges conferred an average of 25 awards (associate and bachelor degrees) in Health

² Hybrid occupations are a combination of the 2010 and 2018 Bureau of Labor Statistics Standard Occupational Classification (SOC) system. The current Occupational Employment Statistics (OES) program is using hybrid occupations during the transition to the 2018 SOC system. [More information can be found here.](#)

Information Technology programs over the last three academic years (2017-18 through 2019-20).

- Only one community college in the state offers training directly related to tumor registrars - Santa Barbara City College's Cancer Information Management program in southern California.

RECOMMENDATIONS

- Based on a three-year average of annual awards in the North/Far North cancer registry training programs and projected yearly openings, the supply gap analysis shows that the North/Far North region may have room for additional training.
 - There currently aren't any training programs for certified tumor registrars in the North/Far North.
 - Job posting data shows that while job posting demand is relatively low,³ job postings for certified tumor registrars have doubled since 2010 (Appendix B).
- Certified tumor registrars also represent an opportunity for remote middle-skilled work.
- 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"/>

³ When compared to the North/Far North region's overall job posting activity (n = 419,706 job postings, Oct 1, 2020 - Sep 30, 2021).

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#>.

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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/>

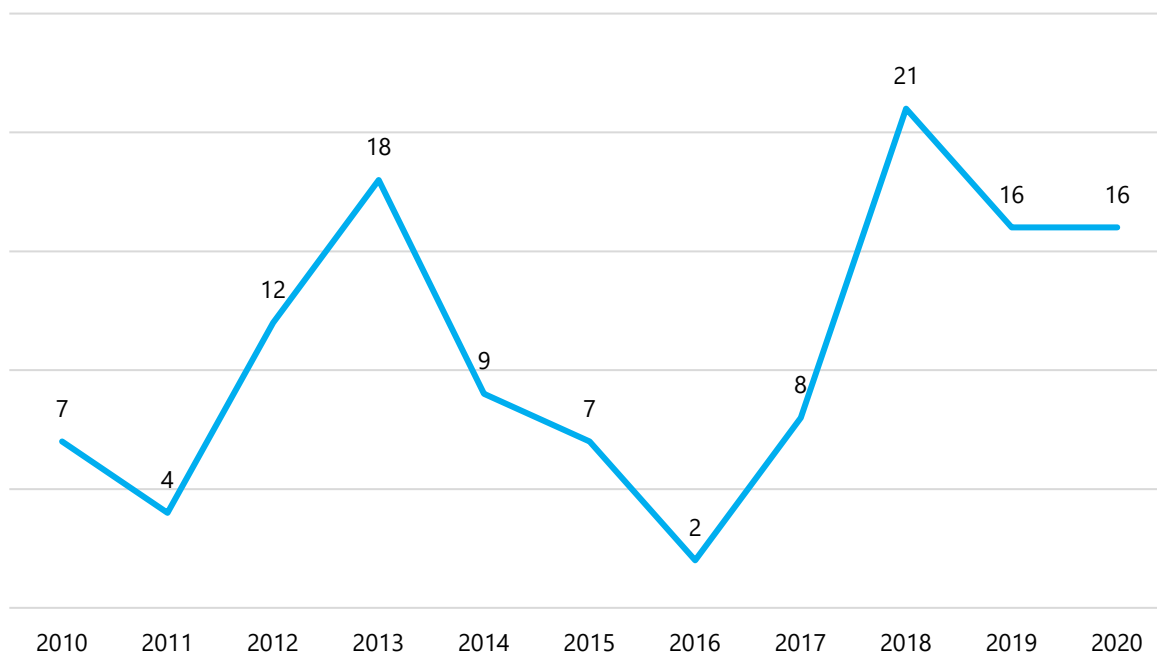
"Taxonomy of Programs." California Community Colleges Chancellor's Office. June 2012, 6th Edition. <https://www.cccco.edu/-/media/CCCCO-Website/About-Us/Divisions/Educational-Services-and-Support/Academic-Affairs/What-we-do/Curriculum-and-Instruction-Unit/Files/TOPmanual6200909corrected12513pdf.ashx>

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

APPENDIX B. CTR JOB POSTING TRENDS

Exhibit B shows the ten-year job posting trend for certified tumor registrars in the North/Far North from 2010 to 2020. Annual job postings for tumor registrars have more than doubled since 2010. Annual job postings peaked at 21 in 2018.

Exhibit B. Certified Tumor Registrar Annual Job Posting Trends, 2010 - 2020



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
Workforce Development Program



CENTERS OF EXCELLENCE
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