April 2021

Labor Market Analysis

LVN-to-RN Bridge

Prepared by the Central Valley/Mother Lode Center of Excellence

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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.

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Summary

This study conducted by the Central Valley/Mother Lode Center of Excellence examines labor market demand, wages, skills, and postsecondary supply for registered nurses. One occupation related to LVN-to-RN Bridge was identified for Bakersfield College:

- 29-1141, Registered Nurses

Key findings:

- **Occupational demand —** Nearly 18,300 workers were employed in jobs related to registered nurses in 2020 in the South Central Valley/Southern Mother Lode (SCV/SML) subregion. The largest occupation is registered nurses with a projected growth rate of 11% over the next five years and 1303 annual openings.

- **Wages —** Registered nurses earn an entry-level wage of $37.05/hour in the subregion and $39.05/hour in the region.

- **Employers —** Employers with the most job postings in the subregion are Community Medical Centers Incorporated, Adventist Health, and Community Regional Medical.

- **Occupational titles —** The most common occupational title in job postings in the subregion is registered nurses. The most common job title is registered nurse.

- **Skills and certifications —** The top baseline skill is research, the top specialized skill is advanced cardiac life support, and the top software skill is Microsoft Excel. The most in-demand certification is a registered nurse.

- **Education —** A bachelor's degree is typically required for registered nurses.

- **Supply —** Analysis of postsecondary completions in the region shows that on average 811 awards were conferred in the Central Valley/Mother Lode region each year.

Based on a comparison of occupational demand and supply, there is an undersupply of 959 trained workers in the subregion and 1,203 workers in the region. The Center of Excellence recommends that Bakersfield College work with the college's advisory board, and local industry in the expansion of programs, such as LVN-to-RN Bridge, to address the shortage of registered nurses workers in the region.

Introduction

The Central Valley/Mother Lode Center of Excellence was asked by Bakersfield College to provide labor market information for registered nurses. 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.

The average living wage for a single adult in the SCV/SML subregion is $10.30/hour.[1] Analysis of the program and occupational data related to registered nurses resulted in the identification of applicable occupations. The Standard Occupational Classification (SOC) System codes and titles used in this report are:

- 29-1141, Registered Nurses

The occupational titles, job descriptions, sample job titles, and knowledge and skills from the Bureau of Labor Statistics and O*NET OnLine are shown below.

Registered Nurses
Job Description: Assess patient health problems and needs, develop, and implement nursing care plans, and maintain medical records. Administer nursing care to ill, injured, convalescent, or disabled patients. May advise patients on health maintenance and disease prevention or provide case management. Licensing or registration required.
Knowledge: Medicine and Dentistry, Customer and Personal Service, Psychology, English Language, Education and Training
Skills: Active Listening, Social Perceptiveness, Service Orientation, Speaking, Coordination

Occupational Demand

The South Central Valley/Southern Mother Lode subregion employed 18,275 workers in registered nurses occupations in 2020 (Exhibit 1). The largest occupation is registered nurses. This occupation is projected to grow by 11% over the next five years and has projected annual openings totaling 1,303.

Exhibit 1. Registered nurse employment and occupational projections in the SCV/SML subregion

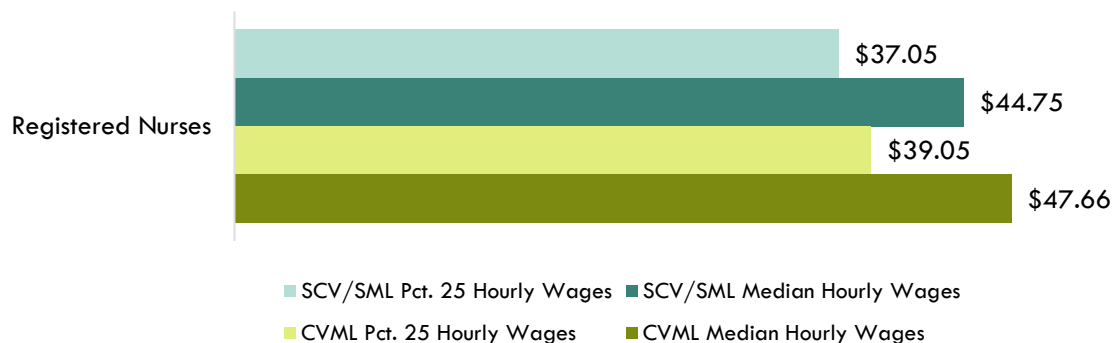| Occupation	2020 Jobs	2025 Jobs	5-Year Change	5-Year % Change	Annual Openings
Registered Nurses	18,275	20,198	1,924	11%	1,303

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[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://insightcced.org/tools-metrics/self-sufficiency-standard-tool-for-california/.

Wages

Exhibit 2 compares the entry-level and experienced wages of registered nurses. Registered nurses earn an entry-level wage of $37.05/hour in the subregion and $39.05/hour in the region.

Exhibit 2. Entry-level and experienced wage comparison in the SCV/SML subregion and region

Registered Nurses

$37.05
$44.75
$39.05
$47.66

■ SCV/SML Pct. 25 Hourly Wages   ■ SCV/SML Median Hourly Wages
■ CVML Pct. 25 Hourly Wages   ■ CVML Median Hourly Wages

Median salary data from Emsi shows that registered nurses earn a median salary of $93,076 in the subregion.

Exhibit 3. Median salaries for registered nurses occupations in the subregion

Occupation	Median Salary
Registered Nurses	$93,076.52

Job Postings

There were 10,621 job postings for the one occupation in the SCV/SML subregion from October 2020 to March 2021.[2] The employers with the most job postings are listed in Exhibit 4.

Exhibit 4. Top employers of registered nurses by number of job postings

Employer	Job Postings	% Job Postings
Community Medical Centers Incorporated	753	11%
Adventist Health	518	8%
Community Regional Medical	362	5%
Rn Travel Healthcare	359	5%
Healthcare Travelers	271	4%
Anthem Blue Cross	265	4%
Dignity Health	248	4%
Soliant	217	3%
Next Travel Nursing	119	2%
Cynet Systems	107	2%

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[2] Other than occupation 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.

Exhibit 4 shows how job postings for the targeted occupations in the SCV/SML subregion are distributed across five O*NET OnLine occupations. The occupational title registered nurses is listed in 10,621 job postings. Note how this occupational title dominates the job posting results. Common job titles in postings include registered nurses in registered nurse in 544 job postings, registered nurse intensive care unit in 58 job postings, and PACU registered nurse in 49 job postings.

Exhibit 5. Top occupational titles in job postings for registered nurses

Occupational Title	Job Postings	% of Job Postings
Registered Nurses	8,832	83%
Critical Care Nurses	1,764	17%
Advanced Practice Psychiatric Nurses	15	0%
Clinical Nurse Specialists	8	0%
Acute Care Nurses	2	0%

Education

Of the 10,621 job postings, 8,555 listed an education level preferred for the positions being filled. Of those, 65% requested an associate degree, 40% requested a bachelor's degree, and 5% requested a master's degree (Exhibit 6). A job posting can indicate more than one education level. Hence, the percentages shown in the chart below may total more than 100%.
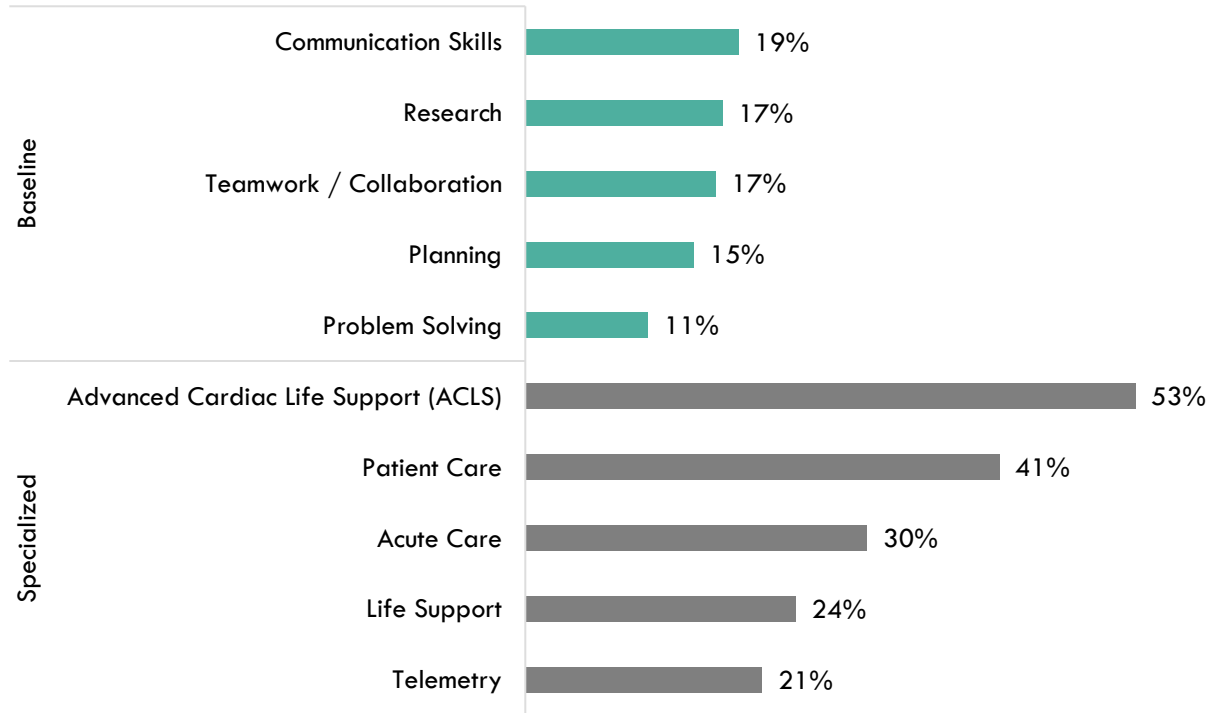
Exhibit 6. Education levels requested in job postings for registered nurses

Education Level	Job Postings	% of Job Postings
Associate degree	5,590	65%
Bachelor's degree	3,428	40%
Master's degree	404	5%
High school or vocational training	314	4%
Doctoral degree	29	0%

Baseline and Specialized Skills

Exhibit 7 depicts the top baseline and specialized skills for the targeted occupations. The three most important baseline skills are communication, 19% of job postings, research, 17%, and teamwork/collaboration, 17%. The top three specialized skills are advanced cardiac life support, 53% of job postings, patient care, 41%, and acute care, 30%.
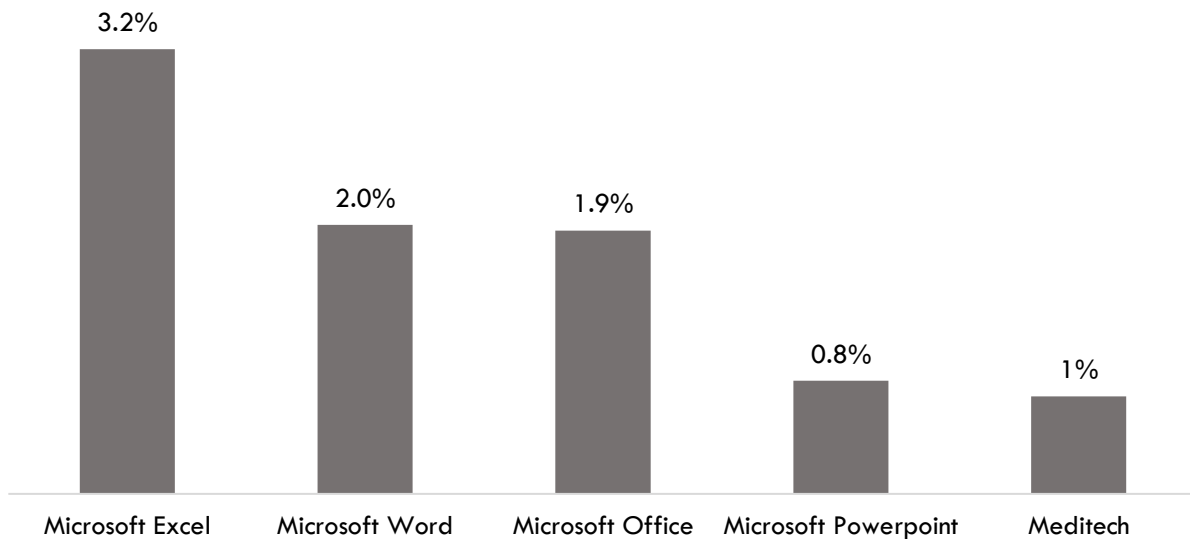
Exhibit 7. In-demand registered nurse baseline and specialized skills

Skill	Category	Percentage
Communication Skills	Baseline	19%
Research	Baseline	17%
Teamwork / Collaboration	Baseline	17%
Planning	Baseline	15%
Problem Solving	Baseline	11%
Advanced Cardiac Life Support (ACLS)	Specialized	53%
Patient Care	Specialized	41%
Acute Care	Specialized	30%
Life Support	Specialized	24%
Telemetry	Specialized	21%

Software Skills

Analysis also included the software skills most in demand by employers. Microsoft Excel and Word were the top two software skills identified in job postings (Exhibit 8).

Exhibit 8. In-demand registered nurse software skills

Software	Percentage
Microsoft Excel	3.2%
Microsoft Word	2.0%
Microsoft Office	1.9%
Microsoft Powerpoint	0.8%
Meditech	1%

Certifications

Of the 10,621 job postings, 9,217 contained certification data. Among those, 92% indicated a need for a registered nurse. The next top certifications are Advanced Cardiac Life Support Certification and Basic Life Saving (Exhibit 9). (Due to the low number of job postings with certifications listed, the chart below may not be representative of the full sample.)

Exhibit 9. Top registered nurse certifications requested in job postings
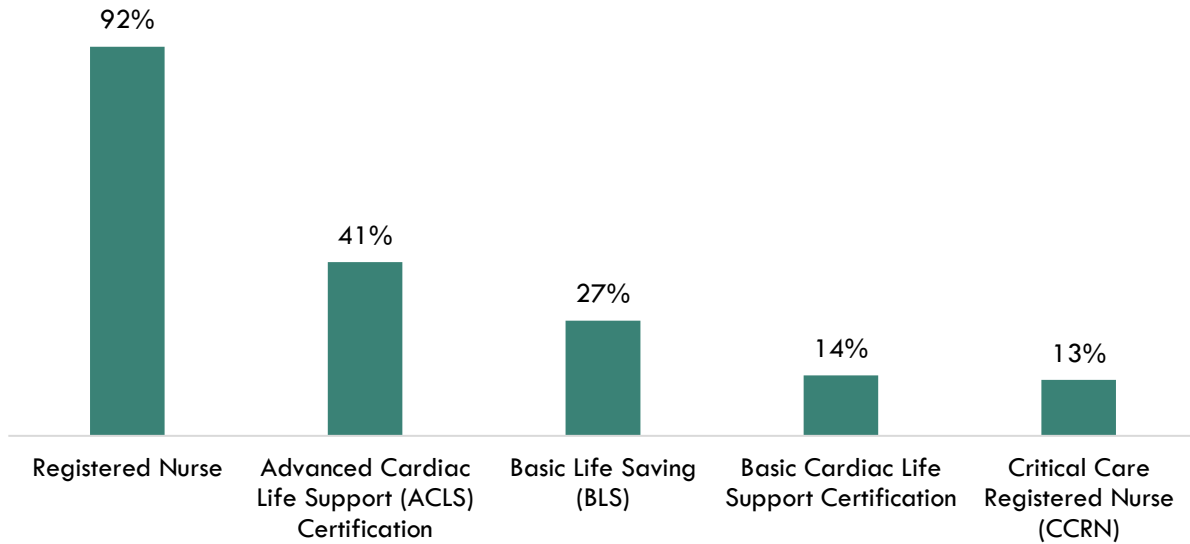
Education, Work Experience & Training

A bachelor's degree is typically required for registered nurses, but more than a third of workers in this occupation hold less than a bachelor's degree (Exhibit 10).

Exhibit 10. Education, work experience, training, and Current Population Survey results for registered nurses[3]

Occupation	Typical Entry-level Education	Work Experience Required	Typical On-The-Job Training	CPS
Registered Nurses	Bachelor's degree	None	None	36.5%

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[3] "Labor Force Statistics from the Current Population Survey," Bureau of Labor Statistics, https://www.bls.gov/cps/.

Supply

Analysis of program data from the California Community Colleges Chancellor's Office Data Mart included the TOP and CIP codes and titles: 123010 - Registered Nursing and 51.3801 - Registered Nursing/Registered Nurse. Analysis of the last three years of data shows that, on average, 811 awards were conferred in the Central Valley/Mother Lode region each year (Exhibit 11).

Exhibit 11. Postsecondary supply for registered nurses occupations in the region

TOP Code - Title	Colleges	Associate Degree	Award 1 < 2 Academic Years	Certificate 18 < 30 Semester Units	Subtotal
123010 - Registered Nursing	Bakersfield	119			119
	Fresno City	201			201
	Merced	57			57
	Modesto	108			108
	Porterville	20			20
	Reedley College	11		4	15
	San Joaquin Delta	102			102
	Sequoias	76			76
	West Hills Lemoore	31			31
51.3801 - Registered Nursing/Registered Nurse	San Joaquin Valley College-Visalia	83	1		84
TOTAL		**806**	**1**	**4**	**811**

There is an undersupply of 959 registered nurses workers in the SCV/SML subregion and 1,203 workers in the region (Exhibit 12).

Exhibit 12. Registered nurse workforce annual demand and supply in the SCV/SML subregion and region

Legend: Demand ■ Gap ■ Supply

Region	Demand	Gap	Supply
SCV/SML	1,303	959	345
CVML	2,014	1,203	811
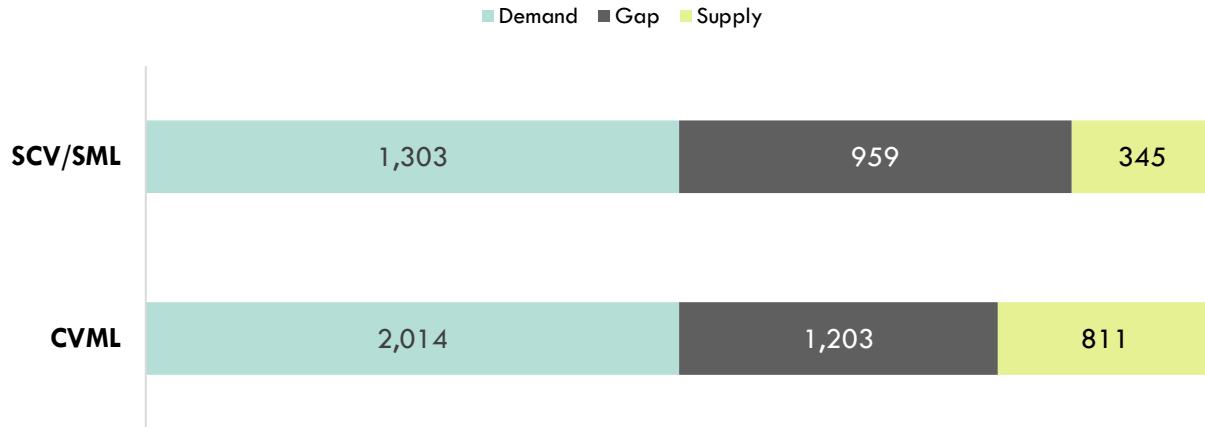
Student Outcomes

Exhibit 13 summarizes employment and wage outcomes from the California Community College Chancellor's Cal-PASS Plus LaunchBoard for the TOP codes related to registered nurses. There were 797 students who received a degree or certificate or attained apprenticeship journey status and 443 who transferred; 95% of students obtained a job closely related to their field of study; 94% reported a median change in earnings; and 67% attained a living wage.

Exhibit 13. Regional metrics for the TOP codes related to registered nurses

Metric	Registered Nurse 123010
Students Who Got a Degree or Certificate or Attained Apprenticeship Journey Status	797
Number of Students Who Transferred	443
Job Closely Related to Field of Study	95%
Median Change in Earnings	94%
Attained a Living Wage	67%
* denotes data not available.	

Conclusion

The entry-level wages of the one occupation exceed the SCV/SML subregion's average living wage. There were 10,621 job postings in the past six months for occupations related to registered nurses in the subregion. Analysis of skills and certification requirements in job postings indicates:

- The top baseline skill is research, and the top specialized skill is advanced cardiac life support.
- The top software skill is Microsoft Excel.
- The top certification is a registered nurse.

There is an undersupply of trained workers, a shortage of 959 in the SCV/SML subregion and 1,203 in the region.

Recommendation

Based on these findings, it is recommended that Bakersfield College work with the college's advisory board, and local industry in the development of programs, such as LVN-to-RN Bridge, to address the shortage of registered nurses in the region.

Appendix A: 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. (EMSI). 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). Occupational wage estimates also affected by county-level EMSI 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.
Labor Force, Employment and Unemployment Estimates	California Employment Development Department, Labor Market Information Division: labormarketinfo.edd.ca.gov.
Job Posting and Skills Data	Burning Glass: burning-glass.com/.
Additional Education Requirements/ Employer Preferences	The O*NET Job Zone database includes over 900 occupations 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. (EMSI) formula that includes historical employment and economic indicators along with national, state and local trends.

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.