

Inland Empire Regional Collaborative - Health Industry Workforce Report -

This report has been developed on behalf of the SlingShot Initiative in Riverside and San Bernardino Counties. The research became possible thanks to the support from San Bernardino County and Riverside County Workforce Development Boards. Reach Out provided leadership in conducting the research and developing this report.



For more information about this report, please contact:

Diana Fox
Executive Director, Reach Out
1126 W. Foothill Blvd., Suite 250
Upland, CA 91786
909.982.8641
diana@we-reachout.org



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Introduction and Background

For over a decade, the Inland Empire has grappled with a health workforce shortage and lack of primary care capacity. The Press-Enterprise, the San Bernardino Sun, California Healthline and KPCC have reported extensively on such issues as the region's scarcity of specialists, primary care doctors, obstetricians and gynecologists, nursing assistants and residencies for medical students. Meanwhile, the health workforce shortage is only expected to become exacerbated as an aging workforce retires.

The Inland Empire has the most severe doctor shortage in California, an issue which has received much scrutiny in recent years and which resulted in the formation of the University of California, Riverside's School of Medicine. According to the Association of American Medical Colleges, there are on average 90 primary care physicians per 100,000 residents nationwide. In the Inland Empire, however, there are 34.5 primary care physicians per 100,000 residents, nearly two-thirds less than the national average, according to data provided by the California Health Care Foundation. In addition, Riverside and San Bernardino counties are designated Registered Nurse Shortage Areas according to the Office of Statewide Planning and Development.

However, nursing and physician shortages are not the only occupations facing a health workforce shortage in the Inland Empire. In 2007, indications of shortages in other areas, not only in medicine, but in dentistry and behavioral health, spurred educators and employers to develop solutions to this looming problem.

The Inland Empire's rapidly growing and diverse population, coupled with low educational attainment, the anticipated retirement of experienced Healthcare professionals, and new demands created by Healthcare reform all contributed to a growing need for regional planning on the future health workforce.

The San Bernardino and Riverside County Workforce Development Boards were not surprised that Healthcare became one of the two focus sectors for the Inland Empire Regional Collaborative (IERC), one of the 12 coalitions throughout the state chosen for the SlingShot Initiative.¹ Focusing on the two-county region, the IERC facilitated regional employer engagement by creating a model and developing a system that effectively engages the business community and directs training resources based on employer feedback.

In 2015, the IERC held several regional convenings with community and business/private industry stakeholders, designed to identify challenges, solutions, and resources for large-scale impact. Attendees included Workforce Investment Boards, K-12 Systems, universities, all regional community colleges, California Employment Development Department (EDD), economic development partners, and community-based organizations, employers from priority industry sectors, labor organizations, and Chambers of Commerce. The IERC gathered specific industry and employer feedback from the Healthcare and advanced manufacturing industries. Industry champions emerged from the group and were invited to identify specific industry priorities.

Based on the industry input, the IERC identified initial occupations of focus and started developing curriculum and funding pilot programs, such as Community Health Worker and Health Information Technology. The IERC chose four different providers: Loma Linda University Gateway College,

¹ The other focus sector for the SlingShot Initiative in the Inland Empire is manufacturing.

HealthStaff, Mt. San Jacinto College, and University of California Riverside Extension. Many participants completed training and obtained employment in the region.

In 2016, Industry Sector Experts were engaged for outreach and identification of industry needs. Goals of the Industry Sector Experts included: 1) comparing improved feedback from industry that reflects the outcomes of new hires to the initial industry feedback; 2) measuring working group engagement and motivation through attendance and involvement; 3) expanding circle of employers in targeted industry convening and doubling number of industry champions; and 4 improving employment outcomes for SlingShot training participants.

In 2017, Industry Champion Events were held. It became clear that a broader study of the labor market needs and shortages was necessary to further focus the regional efforts in Healthcare sector. On behalf of the IERC, Reach Out implemented a health workforce study on the 55 Healthcare occupations in demand, using a variety of research methods, including the data collection and analysis of traditional labor market sources, employer interviews, and geographic information systems (GIS) analyses. This report represents the summary of the findings and recommendations to address identified gaps. The goals of the recommendations are to support regional Healthcare sector, improve training, achieve better employment outcomes, and create opportunities for upward income mobility for the Inland Empire.

Methodology and Research Scope

The research team conducted the study utilizing a variety of private and public sources and data collection methods. Secondary data sources on labor market demand and education and training completions were analyzed for the Inland Empire region as a whole and its sub regions where possible. The team also interviewed local employers, analyzed job postings and surveyed Regional Occupational Programs. The following represents the research steps, data sources and research methodologies employed for this project:

Identification of occupations

The initial list of job titles was compiled by the IERC to reflect those jobs that regional employers expressed interest in. The researchers on this project matched these existing job titles with the Standard Occupational System (SOC) codes and reviewed related reports and literature. The result was the list of 63 occupations. Demand data for these SOC occupations was used to rank these by job openings and identify the 55 growing occupations that became the focus of this study. The following occupations were included in the study:

Anesthesiologists	Diagnostic Medical	Health care Social Workers
Audiologists	Sonographers	Home Health Aides
Cardiovascular Technologists and Technicians	Dietitians and Nutritionists	Licensed Vocational Nurses
Community Health Workers	Emergency Medical Technicians and Paramedics	Magnetic Resonance Imaging Technologists
Dental Assistants	Family and General Practitioners	Massage Therapists
Dental Hygienists	Health Educators	Medical and Clinical Laboratory Technicians
Dentists, General		

Medical and Clinical Laboratory Technologists	Occupational Therapists	Psychiatric Technicians
Medical and Health Services Managers	Occupational Therapy Assistants	Psychiatrists
Medical Assistants	Ophthalmic Medical Technicians	Radiologic Technologists
Medical Records and Health Information Technicians	Optometrists	Registered Nurses
Medical Secretaries	Personal Care Aides	Respiratory Therapists
Medical Transcriptionists	Pharmacists	Social and Human Service Assistants
Mental Health and Substance Abuse Social Workers	Pharmacy Aides	Speech-Language Pathologists
Mental Health Counselors	Pharmacy Technicians	Surgeons
Nuclear Medicine Technologists	Phlebotomists	Surgical Technologists
Nurse Anesthetists	Physical Therapist Aides	Veterinarians
Nurse Practitioners	Physical Therapist Assistants	Veterinary Assistants and Laboratory Animal Caretakers
Nursing Assistants	Physical Therapists	Veterinary Technologists and Technicians
	Physician Assistants	

Appendix A provides the full list of 55 occupations by educational level required, as well as related job titles and SOC codes.

Geographic scope

The analysis of available data was conducted for the Inland Empire region that consists of San Bernardino and Riverside Counties. Where possible, the data was also obtained and analyzed on the sub-regional level for the combined zip-code areas of High Desert, Eastern Deserts (i.e. Coachella Valley and Morongo Basin), West End San Bernardino County, Metro San Bernardino County, Western Riverside County, and Southwest Riverside County.

Appendix B lists zip codes included in each sub region.

Secondary data collection

First research step was to obtain accurate and reliable secondary data for 55 Healthcare occupations in the Inland Empire and its sub regions. In partnership with the California Community Colleges’ Center of Excellence for Labor Market Research (COE)², the research team collected traditional labor market data using Emsi’s Labor Market Analytics tool.³ The data were used for

² Coeccc.net

³ Emsi occupation 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. www.economicmodeling.com

assessing the projected annual demand for the 55 Healthcare occupations on regional and sub-regional levels.

The research team then matched 55 occupations with educational programs using the crosswalk between SOC codes and Classification of Instructional Programs (CIP) codes. Using the CIP codes identified through the crosswalk, we accessed Integrated Postsecondary Education Data System (IPEDS) to compile data on postsecondary program completers. We also requested and received the self-reported data on the number of high school student completers in Healthcare from the Regional Occupational Programs (ROP) in the region. IPEDS and ROP completion data were used for assessing the supply of educated workforce for the 55 Healthcare occupations.

Data Disclaimer: Because not all training providers report data to IPEDS, some institutions, especially those that deliver short-term training, might be missing from the data source utilized for this report. Thus, caution should be taken when analyzing completion counts for occupations that require less than an associate degree.

Another secondary data source utilized in this research was Burning Glass. It allowed us to obtain information on the employer job postings in Health care and understand the latest trends in employer hiring in the Inland Empire.

Primary data collection

In addition to the secondary research, the team conducted primary data collection through a series of **interviews with Healthcare employers in the region**. Using County Business Service contact sheets, input from both county contacts, and Reach Out questionnaire, the team conducted employer interviews between June and December, 2017. The interviewees were asked about their current hiring needs and most difficult to fill positions. Of the 30 employers contacted for interviews, 24 employers participated. The participating Healthcare businesses included electronic medical software experts, health plan networks, community clinics, general acute care hospitals, first responders and skilled nursing facilities.

Appendix C provides the full list of employers that participated in the interviews.

GIS Mapping

The IERC partnered with the Loma Linda University to develop Geographic Information Systems (GIS) **mapping for the top 10 occupations where the shortages exist overlaid with the number of completions and the locations of education and training institutions**. The maps were developed to show training shortages or oversupply by sub-region.

Industry Growth & Trends

The Healthcare sector has been an important driver of the Inland Empire economy. It was the only sector that added employment during the recent Great Recession in 2007-2011 and continued to grow rapidly through the economic recovery thereafter. The Healthcare sector encompasses a diverse range of industries. The top 10 Healthcare industry groups in the Inland Empire region that demonstrate projected positive job growth from 2015 to 2020 include the individual and family services industry group (which is projected to grow by 47% or 22,000 positions in a 5-year span), general medical and surgical hospitals group (with 11% projected growth and almost 4,000 additional openings), nursing care facilities (12% growth and 1,400 new jobs), and others. Exhibit 1 provides projection data for all top ten industry groups.

Exhibit 1: Industry Groups in Health Care.⁴

Health Care Industry Groups (NAICS)	2015 Jobs	2015 - 2020 Change	2015 - 2020 % Change	2016 Location Quotient	2016 Establishments	Current Total Earnings
Individual and Family Services (6241)	47,470	22,087	47%	2.1	40,328	\$17,870
General Medical and Surgical Hospitals (6221)	35,741	3,928	11%	0.8	44	\$83,049
Nursing Care Facilities (Skilled Nursing Facilities) (6231)	11,969	1,388	12%	0.7	149	\$43,465
Offices of Dentists (6212)	10,939	1,066	10%	1.1	1,662	\$54,811
Home Health Care Services (6216)	9,000	810	9%	0.6	299	\$39,260
Outpatient Care Centers (6214)	6,986	8,804	126%	1.4	373	\$82,028
Continuing Care Retirement Communities and Assisted Living Facilities for the Elderly (6233)	6,833	1,957	29%	0.8	290	\$29,943
Offices of Other Health Practitioners (6213)	6,820	1,208	18%	0.7	960	\$42,950
Residential Intellectual and Developmental Disability, Mental Health and Substance Abuse Facilities (6232)	4,822	485	10%	0.8	307	\$35,698
Medical and Diagnostic Laboratories (6215)	2,200	153	7%	0.8	184	\$53,749

Source: California Community Colleges' Centers of Excellence for Labor Market Research, coeccc.net

Note: 2016 Establishments also include sole proprietors.

The review of the data above and existing literature as well as the information from the employer interviews reveals a number of trends that are shaping the future of the Healthcare workforce landscape in the Inland Empire region:

- Of all industry groups, the **outpatient care centers industry group** presents the most opportunities. It is expected to add employment at an incredibly high rate of 126% in a five-year period. It is number two industry group by the total number of new jobs, and it is

⁴ Location Quotient is a measure of how concentrated employment of industries are in an area compared to national average. A location quotient of more than 1.0 indicates higher regional concentration of an industry, while location quotient of less than 1.0 indicates lower regional concentration. For example, a location quotient of 1.2 explains that an industry is 20% more concentrated in a region compared to the national average.

40% more concentrated in the Inland Empire compared to the national average (location quotient of 1.4). It also shows some of the highest average earnings per worker (\$82,000).

- The demand for Healthcare services and subsequent industry and employment growth continues to be driven by the **aging population** that requires more services. The number of people age 60 and older will jump 40% by 2030⁵, says the federally mandated California State Plan on Aging. Currently, two-thirds of the state's older population is concentrated in either the San Francisco Bay or Los Angeles areas. But experts predict in the next decade that concentration will spread to Orange, Riverside and San Bernardino counties. The older population in Riverside County is expected to hike by 97% by 2030 (from 353,225 to 695,017), while the growth of this population group for San Bernardino is estimated to be at 107% (from 265,699 to 550,488). This will not only drive the overall growth of the sector in the region, but also the types of Healthcare services that will be needed and the types of workers that will need to be trained to deliver such services.
- Other workforce needs of the industry are shaped by the Affordable Care Act (ACA) implementation and technology changes. Specifically, interview participants articulated the **increased need for Registered Nurse Case Managers** to ensure adherence to the Affordable Care Act (ACA) guidelines for diagnosis and care within the legislation's specified requirements and time frames (e.g. management of chronic conditions achieved within 90 days, no readmission for five discharge diagnoses within 30 days). Additionally, **Health Information Technology (HIT) professionals** are needed who can certify that the organization's electronic medical records are within the ACA's parameters for meaningful use.
- The geographic and demographic diversity of the Inland Empire creates additional needs for the Health care sector to deliver services. In San Bernardino County, there are 59 designated **medically underserved areas** in all three areas of primary care, dental care, and mental health. In Riverside County, there are 42 designated medically underserved areas in all three categories.
- Faced with the challenges of providing more care, Healthcare employers are exploring alternative ways to deliver care. For example, **physician assistants (PAs) and nurse practitioners (NPs)** are now performing some of the functions that were previously delivered only by Medical Doctors. Case in point, Kaiser Permanente recently announced a new plan to use nurse practitioners in over 30 Target stores across Southern California. These clinics will provide a wide range of health services including pediatric care, women's health and treatment of minor illnesses. CVS is now offering Minute Clinics that provide basic services such as immunizations, treatment of minor injuries, etc. They are usually staffed by NPs and PAs.

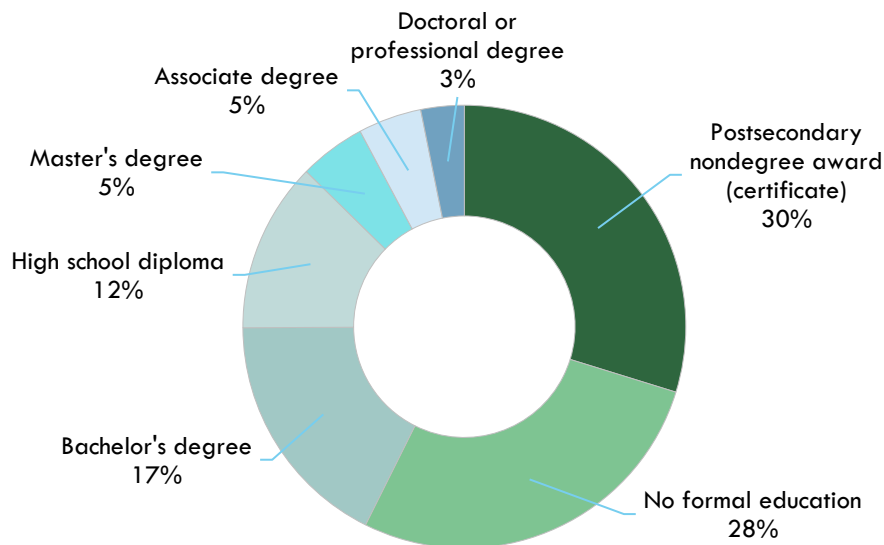
⁵ California State Plan on Aging.

- New development is also driving the need for workers. For example, Riverside University Health System is opening a new medical center in Moreno Valley. Kaiser Permanente will open a new medical facility in Murrieta. Some of the services in the new facility will include: Primary Care, OB/Gyn, Ambulatory Surgery, Urgent Care, Telemedicine, Specialty Services, Laboratory and Pharmacy. Each of these departments will need the allied health and nursing positions to support the medical facility.
- The high turnover rate within certain occupations (i.e., CNAs and LVNs) is attributable to hourly wage/salary/benefit competition among Healthcare employers. One employer reported the turnover rate of 11% for LVNs. One employer reported 18% turnover and another reported 25% for CNA's. As one employer stated, "These positions incur high turnover as wages are low and employees will leave one organization to work at another for as little as a 15 cent per hour increase." The impact of this "churning" of staff is the constant and costly need to seek and train new hires, which creates "an immediate and tremendous need" for CNAs and LVNs, as well as RNs.

Projected Demand for 55 Occupations

Collectively, the 55 Healthcare occupations chosen for this study represent over 135,000 currently employed workers in the Inland Empire. These positions are expected to grow by about 20% or 26,700 new positions in the next five years. Annually, there will be over 17,900 openings due to growth and replacement needs. A large portion of these job openings (30%) will be for occupations requiring Postsecondary non degree awards, such as certificates, followed by those requiring no formal education (28%) and those that require Bachelor's degree (17%). See Exhibit 2.

Exhibit 2 – Percent of Occupational Job Openings for the next five years by Education Requirements



Exhibits 3 through 9 provide traditional labor market projections for all 55 Healthcare occupations, grouped by minimum entry-level educational level. Annual job openings indicate the potential demand for each occupation, which includes both the new jobs created due to industry expansion and the openings created due to replacement needs, such as retirements.

Among occupations that require Doctoral education, pharmacists and physical therapists are projected to be in the highest demand. Top in-demand occupations requiring Master’s degree include Healthcare social workers, mental health counselors, and nurse practitioners. Registered nurses, health managers, mental health and substance abuse social workers are the top of the Bachelor’s degree occupational group. The largest annual openings for the Associate’s degree occupations are projected for dental hygienists, radiologic technologists, and medical and clinical laboratory technicians. Nursing assistants, medical assistants and Licensed Vocational Nurses are the highest in-demand occupations requiring a certificate.

Exhibit 3 - Demand for Occupations Requiring Doctoral or Professional Degree

Occupation	2017 Jobs	2022 Jobs	5-year change	5-year % Change	Annual Openings
Pharmacists	2,911	3,204	293	10%	187
Physical Therapists	1,537	1,892	355	23%	139
Dentists, General	2,142	2,341	199	9%	102
Family and General Practitioners	952	1,020	68	7%	41
Veterinarians	554	618	64	12%	35
Optometrists	290	338	48	17%	20
Psychiatrists	414	449	35	8%	18
Surgeons	340	352	12	4%	12
Anesthesiologists	154	158	4	3%	6
Audiologists	49	65	16	33%	6
TOTAL	9,343	10,437	1,095	12%	567

Exhibit 4 - Demand for Occupations Requiring Master's Degree

Occupation	2017 Jobs	2022 Jobs	5-year change	5-year % Change	Annual Openings
Health care Social Workers	1,488	1,899	411	28%	251
Mental Health Counselors	1,626	1,934	308	19%	242
Nurse Practitioners	1,184	1,486	302	26%	124
Speech-Language Pathologists	1,041	1,246	205	20%	97
Occupational Therapists	842	1,025	183	22%	81
Physician Assistants	604	750	146	24%	65
Nurse Anesthetists	82	109	27	33%	10
TOTAL	6,866	8,449	1,583	23%	869

Exhibit 5 - Demand for Occupations Requiring Bachelor's Degree

Occupation	2017 Jobs	2022 Jobs	5-year change	5-year % Change	Annual Openings
Registered Nurses	28,884	33,357	4,473	15%	2,442
Medical and Health Services Managers	2,456	2,943	487	20%	301
Mental Health and Substance Abuse Social Workers	1,193	1,440	247	21%	180
Dietitians and Nutritionists	774	926	152	20%	81
Health Educators	461	557	96	21%	80
Medical and Clinical Laboratory Technologists	601	717	116	19%	63
TOTAL	34,368	39,940	5,572	16%	3,148

Exhibit 6 - Demand for Occupations Requiring Associate's Degree

Occupation	2017 Jobs	2022 Jobs	5-year change	5-year % Change	Annual Openings
Dental Hygienists	1,620	1,910	290	18%	161
Radiologic Technologists	1,804	2,027	223	12%	142
Medical and Clinical Laboratory Technicians	1,078	1,271	193	18%	110
Respiratory Therapists	1,609	1,768	159	10%	109
Veterinary Technologists and Technicians	625	758	133	21%	79
Physical Therapist Assistants	362	487	125	35%	74
Diagnostic Medical Sonographers	516	611	95	18%	48
Cardiovascular Technologists and Technicians	509	587	78	15%	43
Occupational Therapy Assistants	156	219	63	40%	35
Magnetic Resonance Imaging Technologists	193	223	30	16%	17
Nuclear Medicine Technologists	194	204	10	5%	12
TOTAL	8,665	10,065	1,399	16%	831

Exhibit 7 - Demand for Occupations Requiring Postsecondary Non degree Award/Certificate

Occupation	2017 Jobs	2022 Jobs	5-year change	5-year % Change	Annual Openings
Nursing Assistants	9,408	11,334	1,926	20%	1,529
Medical Assistants	7,779	8,827	1,048	13%	1,077
Licensed Vocational Nurses	8,265	9,394	1,129	14%	841
Dental Assistants	4,800	5,432	632	13%	676
Massage Therapists	2,615	2,971	356	14%	352

Emergency Medical Technicians and Paramedics	2,306	2,772	466	20%	241
Phlebotomists	1,191	1,353	162	14%	160
Medical Records and Health Information Technicians	1,712	1,929	217	13%	150
Psychiatric Technicians	1,203	1,309	106	9%	119
Surgical Technologists	856	1,062	206	24%	114
Medical Transcriptionists	376	410	34	9%	53
Ophthalmic Medical Technicians	225	256	31	14%	24
TOTAL	40,734	47,049	6,314	16%	5,338

Exhibit 8 - Demand for Occupations Requiring High School Diploma

Occupation	2017 Jobs	2022 Jobs	5-year change	5-year % Change	Annual Openings
Medical Secretaries	6,442	7,266	824	13%	888
Social and Human Service Assistants	2,888	3,574	686	24%	511
Pharmacy Technicians	3,641	4,151	510	14%	401
Veterinary Assistants and Laboratory Animal Caretakers	1,053	1,171	118	11%	191
Physical Therapist Aides	538	648	110	20%	91
Pharmacy Aides	537	581	44	8%	83
Community Health Workers	336	429	93	28%	64
TOTAL	15,436	17,819	2,383	15%	2,229

Exhibit 9 - Demand for Occupations Requiring No Formal Education

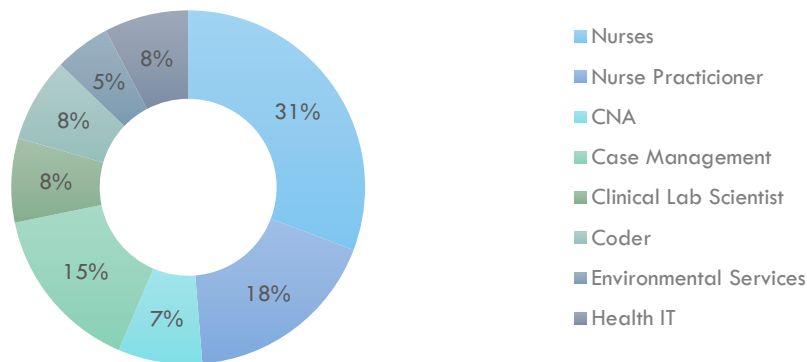
Occupation	2017 Jobs	2022 Jobs	5-year change	5-year % Change	Annual Openings
Personal Care Aides	17,102	23,761	6,659	39%	4,187
Home Health Aides	2,874	4,599	1,725	60%	759
TOTAL	19,976	28,360	8,384	42%	4,946

Employer Hiring & Training Needs

Based on the qualitative information from the interviews with 24 employers, registered nurses were the number one need expressed by the interviewees (Exhibit 10). Case managers and health information technology (HIT) professionals were also a frequently stated need, followed by speech, respiratory occupational and physical therapists. A “tremendous and immediate need” for CNAs and LVNs was also emphasized. Behavioral health specialists were also stated as a hiring need and viewed as a critical shortage in the Inland Empire. Environmental Service staff (hospital housekeeping) and Dietary staff were a need at two hospitals.

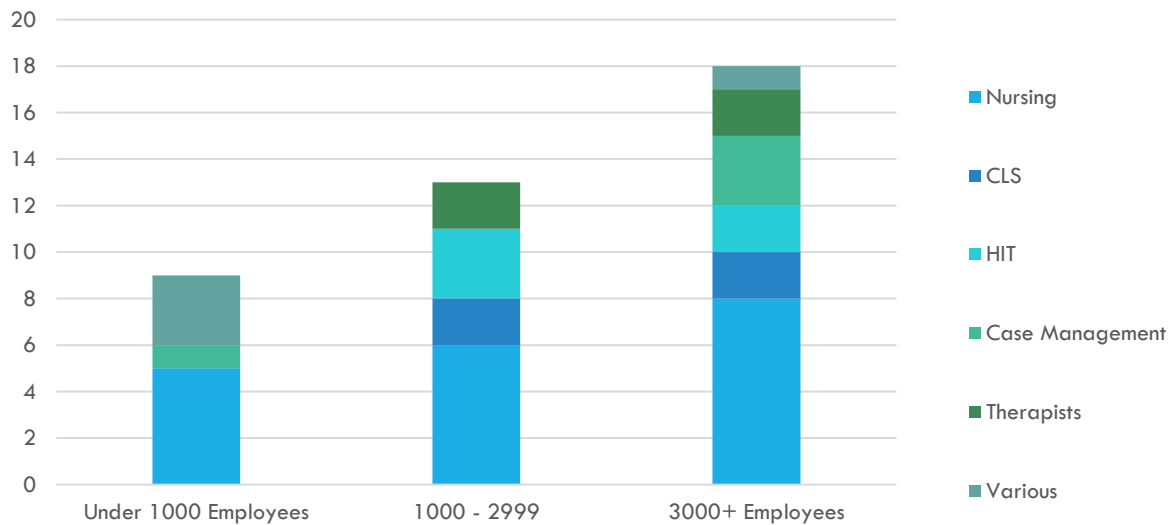
When asked about the needs in a structured questionnaire, employers indicated that all levels of nursing are the largest needs throughout the Inland Empire, particularly in regards to Nurse Practitioners, Bachelor of Science in Nursing, Registered Nurses, and Certified Nursing Assistants.

Exhibit 10 – Current Hiring Needs in the Inland Empire (n=23)



The interviews also included a follow-up question of “Why are these positions difficult to fill?” The response overwhelmingly given was a shortage in the labor market. So overwhelming was this response that out of twenty responses, seventeen respondents associated the difficulty with labor shortages. (Exhibit 11)

Exhibit 11 – Positions Most Difficult to Fill (n=22)



Interviews with local employers also confirmed that the trend towards Bachelor’s degrees in the health field is on the rise, especially for the occupations that are difficult to hire. Associate Degrees and Special Training programs are also still of importance in the Inland Empire medical field. (Exhibit 12)

Exhibit 12 – Highest Training Required for Positions that are Difficult to Fill



The survey explored how potential job seekers in the medical field can obtain the necessary training required to find a position. Employers were asked about the unique, responsive methods of training that are necessary for the positions. The findings indicate that many facilities train for specialized positions either in-house or in a partnership with other facilities or universities. In the Inland Empire, an example is Loma Linda University. (Exhibit 13)

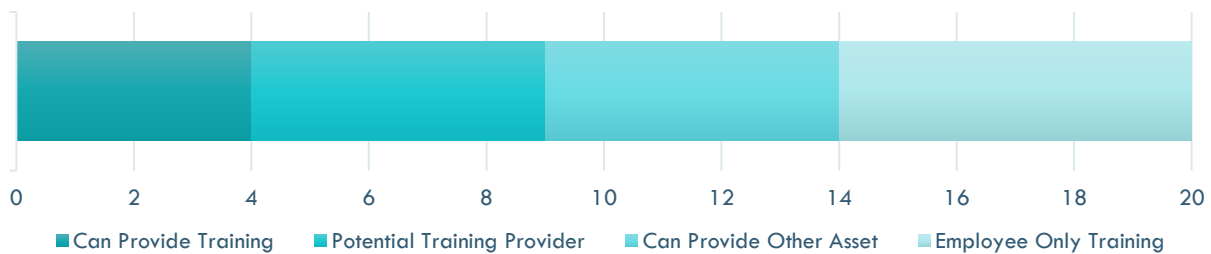
Exhibit 13 – Discrete Training Required for Needed Positions



Most of the interviewees have internal programs in place to train new hires and incumbent staff for openings within the needed occupations. For those for whom registered nurses are a critical need, strong partnerships have been forged with local nursing schools, and students in these schools participate in practicums, externships and internships with the Healthcare employers. Most of the Healthcare employers whose needs are in the HIT arena use a private HIT provider to provide proprietary training to staff. Three hospitals contract out their HIT training.

One community clinic offered to provide training resources in the form of a training location. One hospital offered a training venue. (Exhibit 14)

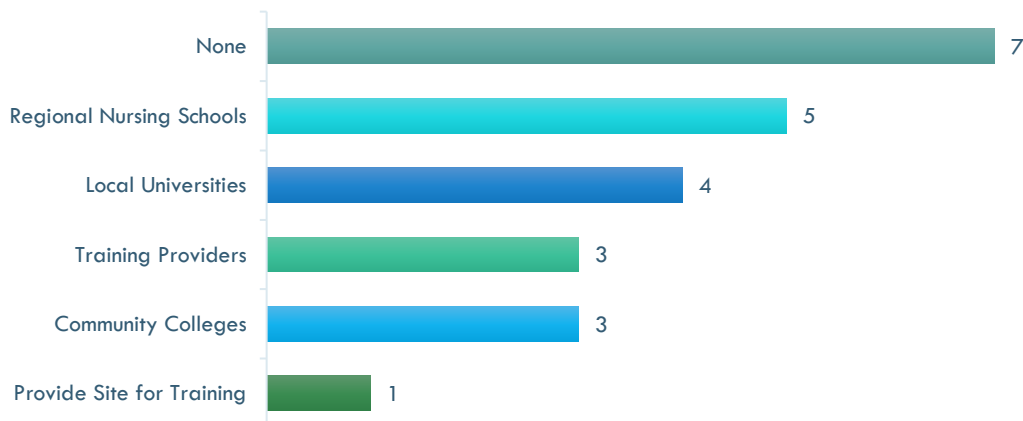
Exhibit 14 – Availability of Facilities to Provide Training



However, employers reported that they are connected to local training providers, be it universities, community colleges, or other occupational training in the area. Many of the respondents reported that they have a “close” or “very close” working relationship with many of the regional training facilities. Ten of the employers surveyed have a recruitment strategy in place from education and training programs. For smaller employers not employing medical care staff, this question was not applicable. (Exhibit 15)

Through strengthening the bridge between medical training programs and medical health facilities, the Inland Empire has a solid foundation to begin to address the medical employment needs in the area.

Exhibit 15 – Connections with Regional Training Providers



Immediate Training Needs

Many of the Healthcare employers interviewed expressed a dire need for applicants and new hires who project professionalism. Comments about applicants’ or new hires’ appearance (attire), demeanor (lack of customer service skills), attendance (calling off, tardiness) and lack of basic computer skills were frequent and expressed with a discernible amount of frustration by the Healthcare employer. As one Healthcare employer put it, “I need employees who show up, are not wearing jeans and flip flops, can smile and be kind to my patients and know how to do more than just swipe left.”

Community Health Workers (CHW)

The role of and possible need for Community Health Workers was discussed with each Healthcare business. When asked about the need for Community Health Workers, almost half of the employers (11 of 24) responded that they do not use this occupation, while seven employers already employ these workers, and four plan to employ them in the near future. One employer also reported that Community Health Worker duties are currently performed by other staff.

Two of the interviewees plan to add CHWs to their care teams. These CHWs will coach the care teams' patients on life skills that can improve the social determinants of health and use of community resources such as food banks, transportation vouchers, utility and housing assistance, and medical home identification, as well as options for health insurance through the Affordable Care Act. One Healthcare entity did employ several CHWs, but found skills to be lacking and have removed the position from their job family. No other Healthcare employer had a current or foreseeable need for CHWs.

Health Information Technology (HIT)

A need was expressed by many of the Healthcare employers for applicants that understand and can function within HIT, with one major employer defining the need as "huge." It is estimated by a training analyst for an electronic medical software vendor and a local HIT expert there are more than 10 HIT software programs in use by hospitals and clinics in the Inland Empire. These systems encompass the electronic medical record (EMR). The meaningful use of the EMR is required by the Affordable Care Act, and therefore staff that can work effectively within the HIT/EMR is a critical need.

While many different HIT software programs are available, a discussion with a software expert revealed that all HIT software products, which include the EMR, have the same basic platform of functionality. Variations among software programs occur in the specific applications of each HIT software product, but the basic workings of the software are identical.

Emerging Jobs

Traditional labor market data does not always help understand new or emerging workforce needs. In order to identify emerging occupational titles, aggregated job postings data were obtained and analyzed. Because job postings do not equal job openings, these data should only be used to observe the general trends, rather than to indicate the demand for jobs using job postings counts.

Employer job advertisements for Healthcare positions in the Inland Empire indicate that the employers have new/emerging needs. Some of the titles with the largest number of online advertisements include intensive/critical care nurses, clinical case managers, nursing managers/supervisors, health technicians, telemetry technicians, registrar/patient service representatives, nursing home administrators, sterile processing technicians, nutrition technicians, and clinical documentation specialists. The list of the top emerging titles is provided in Exhibit 16.

Exhibit 16 – Top Emerging Health care Occupations in the Inland Empire (by online job advertisements)

Emerging Occupational Titles	Job Postings (2016)
Intensive / Critical Care Nurse	2,233
Clinical Case Manager	894
Nursing Manager / Supervisor	689
Health Technician / Technologist (Other)	384
Telemetry Technician	359
Registrar / Patient Service Representative	335
Medical Biller	238
Nursing Home / Home Health Administrator	196
Sterile Processing Technician	188
Nutrition / Dietetic Technician	172
Clinical Analyst / Clinical Documentation and Improvement Spec	112
Clinical Data Systems Specialist / Manager	109
Dialysis Technician	105
Clinical Nurse Educator	81
Dietary Aide	78
Clinical Nurse Specialist	41
Emergency Room / Department Technician	36
Medical Records / Coding Supervisor	28
Histotechnologist / Histotechnician	24
Cytogenetic Technologist / Cytotechnologist	16
Endoscopy Technician	16
Neurodiagnostic Technician / Technologist	15
Patient Advocate / Navigator	13
EKG Technician	8
Hearing Screener / Technician	4
Mental Health Assistant	2

Additionally, interviews revealed two other emerging occupations:

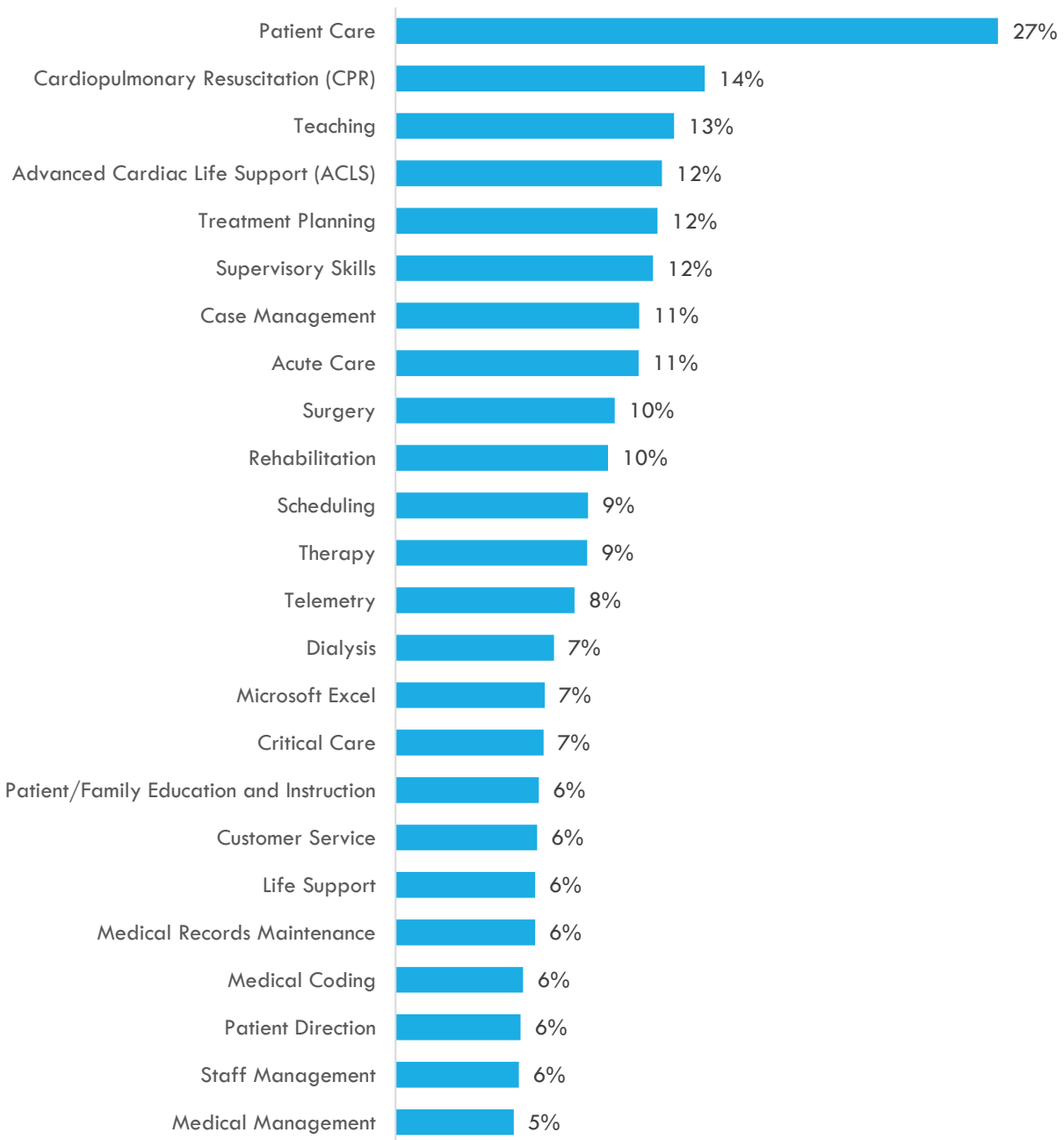
- **Medical Scribe/ Scribe Assistant:** Scribes work closely with physicians and Healthcare providers to supply real time charting of physician and patient encounters during medical exams. Scribes are responsible for a variety of clerical tasks that include retrieving medical records, documenting the results of diagnostic tests, and preparing discharge instructions, while maintaining the flow of the clinic.
- **Hybridization of existing positons,** such as medical assistant and scribe; nursing assistant and phlebotomist.



Skills in Demand

Employer job advertisements also provide an insight into the top skills that are required and preferred for Healthcare positions in the region. Patient care is the top specialized skill listed in 27% of employer job postings in the Inland Empire. Other skills in greatest demand are also shown in Exhibit 17.

Exhibit 17 – Top Specialized Skills Listed in Health care Job Ads, Percent of all postings (n= 22,151)



Education and Training Gap Analysis

The number of students completing education and training programs related to Healthcare was analyzed to determine if postsecondary institutions are supplying enough students to meet workforce demand.

Available programs and completions

There are 56 postsecondary education institutions and other training providers in the Inland Empire region with programs for the 55 Healthcare occupations identified for this study. These institutions are located primarily in the Metropolitan San Bernardino and western areas of San Bernardino and Riverside Counties. A limited number of training providers are located in the desert areas of the region. Appendix D provides the full list of the training institutions.

Collectively, these education and training institutions conferred over 11,800 program awards, ranging from occupational course credits to formal degrees. Most of these awards were given to students in Metro San Bernardino, West End San Bernardino County and Western Riverside County sub regions (Exhibit 18).

Exhibit 18 – Number of Completers of Relevant Healthcare Programs by Sub Region

Sub region	Number of Completers (2016)
Metro San Bernardino	3,625
West End San Bernardino	4,063
Western Riverside	2,251
Eastern Desert	1,334
Southwest Riverside	359
High Desert	160
Other	70
Total	11,862

Of all of the awards conferred by the educational institutions in the region, almost one-third was conferred as credits for Regional Occupational Program courses, followed by postsecondary certificate awards of at least one but less than two academic years (22%) and those of less than one academic year (16%). Exhibit 19 provides the number of completers for each award level.

Exhibit 19 – Number of Completers by Award Level

Award/Degree Level	Number of Completers (2016)
ROP Course	3,501
Award of less than 1 academic year	1,810
Award of at least 1 but less than 2 academic years	2,735
Award of at least 2 but less than 4 academic years	225
Associate degree	1,354
Bachelor's degree	1,270
Post baccalaureate certificate	11
Master's degree	395
Post-masters certificate	9
Doctoral degree	552
Total	11,862

Of the 55 occupations of study, 46 were found to have matching programs with completers in the region. The largest number of awards were conferred for medical assistants (1,719), registered nurses (1,283), and EMTs and paramedics (1,239). Other occupations with many completers included LVNs, dental assistants, medical secretaries and nursing assistants. Exhibit 20 shows the top 20 occupations with the largest number of completers in the region.

Exhibit 20 – Top 20 occupations with Education/Training Program Completers in the Region

Occupation	Number of Completers (2016)
Medical Assistants	1,719
Registered Nurses	1,283
Emergency Medical Technicians and Paramedics	1,239
Licensed Vocational Nurses	866
Dental Assistants	668
Medical Secretaries	525
Nursing Assistants	339
Pharmacy Aides	273
Medical and Health Services Managers	258
Respiratory Therapists	198
Pharmacy Technicians	191
Medical Records and Health Information Technicians	190
Massage Therapists	189
Veterinary Technologists and Technicians	181
Mental Health and Substance Abuse Social Workers	180
Surgical Technologists	173
Dentists, General	171
Dietitians and Nutritionists	138
Diagnostic Medical Sonographers	130
Physical Therapists	118

Some of the courses offered by ROPs in the region were not occupation specific but rather exploratory in nature Healthcare Occupations. These exploratory courses were completed by 1,564 students in the region providing a pipeline of high school students into the Healthcare education programs.

Identified Gaps

Upon matching of the projected 2016 annual openings with annual (2016) completion in the region, training gaps between workforce supply and workforce demand for each occupation was identified⁶. Exhibit 21 shows all Healthcare occupations that are projected to experience undersupply of education/trained workers in the region by at least 20 positions. Twenty-nine occupations are likely to have training gaps. Registered nurses and nursing assistants are projected to have the highest number of shortages, followed by social/human service assistants, medical secretaries and Healthcare social workers.

⁶ Occupations that require no formal education were excluded from the training gap analysis because completions cannot be utilized as a measure of “supply” in this case. These occupations are Personal Care Aides and Home Health Aides.

Exhibit 21 – Occupations with the Annual Training Undersupply in the Inland Empire

Description	Typical Entry Level Education	Annual Openings	Regional Completions (2016)	Undersupply
Nursing Assistants	Postsecondary non degree award	1,529	339	(1,190)
Registered Nurses	Bachelor's degree	2,442	1,283	(1,159)
Social and Human Service Assistants	High school diploma or equivalent	511	75	(436)
Medical Secretaries	High school diploma or equivalent	888	525	(363)
Health care Social Workers	Master's degree	251	3	(248)
Mental Health Counselors	Master's degree	242	25	(217)
Pharmacy Technicians	High school diploma or equivalent	401	191	(210)
Veterinary Assistants and Laboratory Animal Caretakers	High school diploma or equivalent	191	23	(168)
Massage Therapists	Postsecondary non degree award	352	189	(163)
Phlebotomists	Postsecondary non degree award	160	14	(146)
Medical and Clinical Laboratory Technicians	Associate degree	110	0	(110)
Pharmacists	Doctoral or professional degree	187	79	(108)
Family and General Practitioners	Doctoral or professional degree	307*	189**	(118)
Psychiatric Technicians	Postsecondary non degree award	119	24	(95)
Dental Hygienists	Associate degree	161	93	(68)
Community Health Workers	High school diploma or equivalent	64	0	(64)
Physical Therapist Aides	High school diploma or equivalent	91	30	(61)
Radiologic Technologists	Associate degree	142	91	(51)
Medical and Clinical Laboratory Technologists	Bachelor's degree	63	18	(45)
Cardiovascular Technologists and Technicians	Associate degree	43	0	(43)
Occupational Therapists	Master's degree	81	38	(43)
Medical and Health Services Managers	Bachelor's degree	301	258	(43)
Occupational Therapy Assistants	Associate degree	35	0	(35)
Veterinarians	Doctoral or professional degree	35	0	(35)

Physical Therapist Assistants	Associate degree	74	44	(30)
Nurse Practitioners	Master's degree	124	95	(29)
Ophthalmic Medical Technicians	Postsecondary non degree award	24	0	(24)
Physical Therapists	Doctoral or professional degree	139	118	(21)
Optometrists	Doctoral or professional degree	20	0	(20)

*Source: 2017 Burning Glass Physician Position Openings. Using traditional data sources, the demand numbers for family and general practitioners were underestimated, as job postings data indicate larger demand for the Inland Empire region and the subregions; hence, an alternative, reliable data set was utilized for this occupation.

**Source: 2017 Loma Linda University School of Medicine and University of California Riverside School of Medicine total completions

While some of the occupations with insufficient program completions require a 4-year degree and above, the majority only need a high school diploma with some on-the-job-training, certificate completion or an associate degree. Thus, opportunities exist to close these gaps quickly by expanding or initiating relevant programs through the region's Regional Occupational Programs, community colleges, and other private post-secondary institutions. The following is the list of occupations that show gaps, but require less than a Bachelor's degree:

- Nursing Assistants
- Social and Human Service Assistants
- Medical Secretaries
- Pharmacy Technicians
- Veterinary Assistants and Laboratory Animal Caretakers
- Massage Therapists
- Phlebotomists
- Medical and Clinical Laboratory Technicians
- Psychiatric Technicians
- Dental Hygienists
- Community Health Workers
- Physical Therapist Aides
- Radiologic Technologists
- Cardiovascular Technologists and Technicians
- Occupational Therapists
- Occupational Therapy Assistants
- Physical Therapist Assistants
- Ophthalmic Medical Technicians
- Veterinary Technologists and Technicians

Among the occupations that show an oversupply of the trained/educated workforce by at least 20 completers are EMTs/Paramedics, medical assistants, pharmacy aides, and veterinary technologists/technicians.

Exhibit 22 - Occupations with the Annual Training Oversupply in the Inland Empire

Description	Typical Entry Level Education	Annual Openings	Regional Completions (2016)	Oversupply
Emergency Medical Technicians and Paramedics	Postsecondary non degree award	241	1,239	998
Medical Assistants	Postsecondary non degree award	1,077	1,719	642
Pharmacy Aides	High school diploma or equivalent	83	273	190
Veterinary Technologists and Technicians	Associate degree	79	181	102
Respiratory Therapists	Associate degree	109	198	89
Diagnostic Medical Sonographers	Associate degree	48	130	82
Dentists, General	Doctoral or professional degree	102	171	69
Audiologists	Doctoral or professional degree	6	70	64
Surgical Technologists	Postsecondary non degree award	114	173	59
Dietitians and Nutritionists	Bachelor's degree	81	138	57
Surgeons	Doctoral or professional degree	12	68	56
Medical Records and Health Information Technicians	Postsecondary non degree award	150	190	40
Licensed Vocational Nurses	Postsecondary non degree award	841	866	25
Health Educators	Bachelor's degree	80	103	23

Appendix F provides the gap analysis for all 55 occupations by the level of education.

Sub regional Gap Analysis ⁷

Metro San Bernardino County

In Metro San Bernardino Sub region, there are nine occupations that show undersupply of trained workforce by at least 20 workers for each occupation. Occupations with the largest training gaps include nursing assistants, registered nurses, and social and human services assistants. Many occupations that experience shortages require a certificate or a high school diploma. These include nursing assistants, LVNs, social and human service assistants, phlebotomists, and massage therapists. Exhibit 23 shows all occupations with a shortage of at least 20 trained workers. Occupations that require no formal education were excluded from this analysis.

Exhibit 23 – Occupations with the Annual Training Undersupply in Metro San Bernardino County

Description	Typical Entry Level Education	Annual Openings	Completions (2016)	Undersupply
Nursing Assistants	Postsecondary non degree award	370	35	(335)
Registered Nurses	Bachelor's degree	462	373	(89)
Social and Human Service Assistants	High school diploma or equivalent	106	50	(56)
Licensed Vocational Nurses	Postsecondary non degree award	140	84	(56)
Health care Social Workers	Master's degree	53	0	(53)
Phlebotomists	Postsecondary non degree award	38	0	(38)
Massage Therapists	Postsecondary non degree award	28	0	(28)
Veterinary Assistants and Laboratory Animal Caretakers	High school diploma or equivalent	25	0	(25)
Pharmacy Technicians	High school diploma or equivalent	46	24	(22)

Metro San Bernardino area is home to large universities that educate health professionals, such as medical doctors, dentists, and others. Hence, it may seem that many occupations with the highest education requirements are in oversupply in this sub region. However, these professional are likely to obtain employment across the Inland Empire region and beyond. Some of the occupations that require less education and show more completers than projected openings include EMT and paramedics, medical and health services managers, medical secretaries, and dental assistants. (Exhibit 24)

⁷ The Subregional demand numbers for Family and General Practitioners are available only for the Inland Empire as a whole (see page 21).

Exhibit 24 – Occupations with the Annual Training Oversupply in Metro San Bernardino

Description	Typical Entry Level Education	Annual Openings	Regional Completions (2016)	Oversupply
Emergency Medical Technicians and Paramedics	Postsecondary non degree award	18	303	285
Medical and Health Services Managers	Bachelor's degree	47	182	135
Dietitians and Nutritionists	Bachelor's degree	10	113	103
Physical Therapists	Doctoral or professional degree	21	118	97
Family and General Practitioners	Doctoral or professional degree	6	100	94
Medical Secretaries	High school diploma or equivalent	136	207	71
Health Educators	Bachelor's degree	12	80	68
Surgeons	Doctoral or professional degree	2	68	66
Dental Assistants	Postsecondary non degree award	98	159	61
Dental Hygienists	Associate degree	22	81	59
Pharmacists	Doctoral or professional degree	29	79	50
Respiratory Therapists	Associate degree	25	74	49
Nurse Practitioners	Master's degree	17	59	42
Radiologic Technologists	Associate degree	23	65	42
Physical Therapist Assistants	Associate degree	11	44	33
Speech-Language Pathologists	Master's degree	14	47	33
Medical Assistants	Postsecondary non degree award	147	179	32
Physician Assistants	Master's degree	8	37	29
Occupational Therapists	Master's degree	14	38	24

Education and training program institutions with completers in Metro San Bernardino Sub region include:

- California State University-San Bernardino
- Colton-Redlands-Yucaipa Regional Occupational Program
- Concorde Career College-San Bernardino
- Crafton Hills College
- Everest College-San Bernardino
- Loma Linda University
- San Bernardino County Superintendent of Schools Regional Occupational Program
- San Bernardino Valley College
- University of Redlands

West End San Bernardino County

The West End areas of San Bernardino County have significant shortages of educated workers across many occupations. Top twenty occupations with gaps are shown in Exhibit 25. Registered nurses, nursing assistants, social and human service assistants, and medical secretaries are among them. (Exhibit 25)county

Exhibit 25 – Occupations with the Annual Training Undersupply in West End San Bernardino County

Description	Typical Entry Level Education	Annual Openings	Completions (2016)	Undersupply
Registered Nurses	Bachelor's degree	705	342	(363)
Nursing Assistants	Postsecondary non degree award	352	101	(251)
Social and Human Service Assistants	High school diploma or equivalent	106	2	(104)
Medical Secretaries	High school diploma or equivalent	264	165	(99)
Medical and Health Services Managers	Bachelor's degree	92	12	(80)
Health care Social Workers	Master's degree	61	0	(61)
Mental Health Counselors	Master's degree	52	0	(52)
Pharmacists	Doctoral or professional degree	49	0	(49)
Massage Therapists	Postsecondary non degree award	107	58	(49)
Pharmacy Technicians	High school diploma or equivalent	103	56	(47)
Nurse Practitioners	Master's degree	44	0	(44)
Dental Hygienists	Associate degree	44	0	(44)
Physical Therapists	Doctoral or professional degree	43	0	(43)
Phlebotomists	Postsecondary non degree award	42	0	(42)
Mental Health and Substance Abuse Social Workers	Bachelor's degree	40	0	(40)
Veterinary Assistants and Laboratory Animal Caretakers	High school diploma or equivalent	40	0	(40)
Medical and Clinical Laboratory Technicians	Associate degree	33	0	(33)
Dentists, General	Doctoral or professional degree	30	0	(30)
Physical Therapist Aides	High school diploma or equivalent	27	0	(27)
Speech-Language Pathologists	Master's degree	25	0	(25)

The number of annual completers exceeds the annual job openings for ten of the 55 occupations in West End San Bernardino County. These include medical assistants, EMTs and paramedics, LVNs, pharmacy aides, and veterinary technologists. (Exhibit 26)

Exhibit 26 – Occupations with the Annual Training Oversupply in West End San Bernardino County

Description	Typical Entry Level Education	Annual Openings	Completions (2016)	Oversupply
Medical Assistants	Postsecondary non degree award	367	670	303
Emergency Medical Technicians and Paramedics	Postsecondary non degree award	34	330	296
Licensed Vocational Nurses	Postsecondary non degree award	237	498	261
Pharmacy Aides	High school diploma or equivalent	21	260	239
Veterinary Technologists and Technicians	Associate degree	17	156	139
Respiratory Therapists	Associate degree	26	98	72
Medical Records and Health Information Technicians	Postsecondary non degree award	43	101	58
Dental Assistants	Postsecondary non degree award	183	239	56
Diagnostic Medical Sonographers	Associate degree	13	45	32
Medical Transcriptionists	Postsecondary non degree award	16	38	22

Education and training programs with completers in West End San Bernardino include:

- American Career College-Ontario
- Argosy University-Inland Empire
- Baldy View ROP
- Chaffey College
- Everest College-Ontario
- Platt College-Ontario
- San Bernardino County Superintendent of Schools ROP
- San Joaquin Valley College-Ontario
- Summit College
- United Education Institute-Ontario



High Desert

- The High Desert areas are characterized by limited occupational demand compared to other areas and very few training providers. Gaps and oversupplies are relatively small for most occupations – less than 20 workers/positions. Occupations with the largest training gaps in the High Desert areas are nursing assistants, dental assistants, medical secretaries, and others. (Exhibit 33)

Exhibit 33 – Occupations with the Annual Training Undersupply in High Desert

Description	Typical Entry Level Education	Annual Openings	Completions (2016)	Undersupply
Nursing Assistants	Postsecondary non degree award	71	0	(71)
Dental Assistants	Postsecondary non degree award	56	0	(56)
Medical Secretaries	High school diploma or equivalent	53	0	(53)
Medical Assistants	Postsecondary non degree award	56	7	(49)
Licensed Vocational Nurses	Postsecondary non degree award	42	0	(42)
Pharmacy Technicians	High school diploma or equivalent	35	0	(35)
Massage Therapists	Postsecondary non degree award	21	0	(21)

- The respiratory therapist occupation is the only occupation with possible oversupply in High Desert. (Exhibit 34)

Exhibit 34 – Occupations with the Annual Training Oversupply in High Desert

Description	Typical Entry Level Education	Annual Openings	Completions (2016)	Oversupply
Respiratory Therapists	Associate degree	7	26	19

- The only education and training provider in High Desert Sub region is Victor Valley Community College.

Western Riverside County

In Western Riverside County, the training gaps are similar to those of the region overall and other sub regions, including the shortages of nursing assistants, registered nurses, medical secretaries, social and human service assistants, and Healthcare social workers. (Exhibit 27)

Exhibit 27 – Occupations with the Annual Training Undersupply in Western Riverside County

Description	Typical Entry Level Education	Annual Openings	Completions (2016)	Undersupply
Nursing Assistants	Postsecondary non degree award	348	80	(268)
Registered Nurses	Bachelor's degree	565	319	(246)
Medical Secretaries	High school diploma or equivalent	210	65	(145)
Social and Human Service Assistants	High school diploma or equivalent	132	23	(109)
Health care Social Workers	Master's degree	68	3	(65)
Mental Health Counselors	Master's degree	53	0	(53)
Pharmacists	Doctoral or professional degree	38	0	(38)
Licensed Practical and Licensed Vocational Nurses	Postsecondary non degree award	187	152	(35)
Radiologic Technologists	Associate degree	34	0	(34)
Massage Therapists	Postsecondary non degree award	85	52	(33)
Phlebotomists	Postsecondary non degree award	31	0	(31)
Physical Therapists	Doctoral or professional degree	28	0	(28)
Psychiatric Technicians	Postsecondary non degree award	27	0	(27)
Dental Hygienists	Associate degree	39	12	(27)
Dental Assistants	Postsecondary non degree award	164	139	(25)
Medical and Clinical Laboratory Technicians	Associate degree	25	0	(25)
Respiratory Therapists	Associate degree	24	0	(24)
Dentists, General	Doctoral or professional degree	24	0	(24)

There are only a few occupations that are projected to have an oversupply of at least 20 trained workers in Western Riverside. These include EMT and paramedics, medical assistants, surgical technologists, and diagnostic medical sonographers, among others. (Exhibit 28)

Exhibit 28 – Occupations with the Annual Training Oversupply in Western Riverside County

Description	Typical Entry Level Education	Annual Openings	Completions (2016)	Oversupply
Emergency Medical Technicians and Paramedics	Postsecondary non degree award	120	323	203
Medical Assistants	Postsecondary non degree award	262	450	188
Surgical Technologists	Postsecondary non degree award	27	90	63
Diagnostic Medical Sonographers	Associate degree	11	52	41
Medical Records and Health Information Technicians	Postsecondary non degree award	35	75	40
Pharmacy Technicians	High school diploma or equivalent	77	111	34

Education and training programs with completers in Western Riverside County include:

- American College of Health care
- Brightwood College-Riverside
- California Baptist University
- InterCoast Colleges-Riverside
- La Sierra University
- Moreno Valley College
- North-West College-Riverside
- Platt College-Riverside
- Riverside City College
- Riverside County Office of Education - Area 2
- UEI College-Riverside

Eastern Desert

The Eastern Desert areas of the Inland Empire region are characterized by generally low labor market demand compared to other areas. Interestingly, unlike in other sub regions, the top occupations with shortages do not include nursing assistants. (Exhibit 29)

Exhibit 29 – Occupations with the Annual Training Undersupply in Eastern Desert

Description	Typical Entry Level Education	Annual Openings	Completions (2016)	Undersupply
Registered Nurses	Bachelor's degree	232	80	(152)
Social and Human Service Assistants	High school diploma or equivalent	48	0	(48)
Pharmacy Technicians	High school diploma or equivalent	46	0	(46)
Mental Health Counselors	Master's degree	30	0	(30)

Medical and Health Services Managers	<i>Bachelor's degree</i>	27	0	(27)
Psychiatric Technicians	<i>Postsecondary non degree award</i>	24	0	(24)
Veterinary Assistants and Laboratory Animal Caretakers	<i>High school diploma or equivalent</i>	22	0	(22)
Pharmacists	<i>Doctoral or professional degree</i>	21	0	(21)
Health care Social Workers	<i>Master's degree</i>	20	0	(20)

Sub regional oversupply of trained workers exists in six occupations of study. Medical assistants top this list, with over four completers for each projected job opening. (Exhibit 30)

Exhibit 30 – Occupations with the Annual Training Oversupply in Eastern Desert

Description	Typical Entry Level Education	Annual Openings	Completions (2016)	Oversupply
Medical Assistants	<i>Postsecondary non degree award</i>	103	413	310
Emergency Medical Technicians and Paramedics	<i>Postsecondary non degree award</i>	14	104	90
Dental Assistants	<i>Postsecondary non degree award</i>	48	131	83
Mental Health and Substance Abuse Social Workers	<i>Bachelor's degree</i>	22	101	79
Licensed Practical and Licensed Vocational Nurses	<i>Postsecondary non degree award</i>	73	132	59
Massage Therapists	<i>Postsecondary non degree award</i>	27	79	52

Education and training program providers with completions in Eastern Desert include:

- Beaumont Adult School
- Brightwood College-Palm Springs
- California Nurses Educational Institute
- College of the Desert
- Copper Mountain Community College
- Mayfield College
- Milan Institute-Palm Desert
- Palo Verde College
- Riverside County Office of Education-School of Career Education
- San Bernardino County Superintendent of Schools ROP

Southwest Riverside

In Southwest Riverside County Sub region, anticipated shortages largely mirror those in the Inland Empire region - registered nurses, nursing assistants, LVNs, pharmacy technicians, mental health counselors, etc. are in undersupply. However, while in other sub regions medical assistants are expected to be in oversupply, this occupation is projected to have shortages in the Southwest Riverside County areas as no medical assisting training is offered here. (Exhibit 31)

Exhibit 31 – Occupations with the Annual Training Undersupply in Southwest Riverside

Description	Typical Entry Level Education	Annual Openings	Completions (2016)	Undersupply
Registered Nurses	Bachelor's degree	163	47	(116)
Medical Assistants	Postsecondary non degree award	86	0	(86)
Nursing Assistants	Postsecondary non degree award	86	0	(86)
Dental Assistants	Postsecondary non degree award	70	0	(70)
Medical Secretaries	High school diploma or equivalent	74	15	(59)
Licensed Vocational Nurses	Postsecondary non degree award	54	0	(54)
Massage Therapists	Postsecondary non degree award	52	0	(52)
Pharmacy Technicians	High school diploma or equivalent	41	0	(41)
Social and Human Service Assistants	High school diploma or equivalent	40	0	(40)
Mental Health Counselors	Master's degree	28	0	(28)
Veterinary Assistants and Laboratory Animal Caretakers	High school diploma or equivalent	27	0	(27)
Medical and Health Services Managers	Bachelor's degree	22	0	(22)

The only occupation that is expected to have sizable oversupply in Southwest Riverside is EMT and paramedics. (Exhibit 32)

Exhibit 32 – Occupations with the Annual Training Oversupply in Southwest Riverside

Description	Typical Entry Level Education	Annual Openings	Completions (2016)	Oversupply
Emergency Medical Technicians and Paramedics	Postsecondary non degree award	12	104	92

Education and training program providers with completions in Southwest Riverside County Sub region include:

- Mt San Jacinto Community College District
- Riverside County Office of Education - Area 1
- Riverside County Office of Education - Area 3

Workforce Equity Gaps

Health care employers are increasingly striving to build a workforce that is representative of the diverse regional populations. In order to measure whether or not the current workforce ethnic and racial composition reflects the ethnic and racial composition of the regional population, the relative shares of each were compared for each occupation.

The look at the racial and ethnic composition of the overall Healthcare workforce in 2017 reveals that equity gaps exist, primarily for the Hispanic/Latino populations. For example, Hispanics make up almost half of the total regional population, but comprise only one-third of the health sector workforce. The ethnic gaps for higher education/higher wage occupations have slightly decreased demonstrating a positive change. For example, Hispanics currently represent 18% of the Registered Nursing workforce compared to 12% in 2012. However, this is still far from being representative of the region’s population (Exhibit 35).

Exhibit 35 - Racial and Ethnic Composition of Inland Empire Population, Health Workforce and RNs

Race/Ethnicity	% of Population	% of Health care Workforce	% of Registered Nurses
White	32.9%	39.0%	45.6%
Hispanic or Latino	45.8%	33.8%	18.3%
Asian	7.2%	16.7%	26.6%
Black or African American	8.2%	8.4%	7.6%
Two or More Races	3.5%	1.4%	1.4%
American Indian or Alaska Native	1.9%	0.3%	0.3%
Native Hawaiian or Other Pacific Islander	0.5%	0.3%	0.2%

The analysis of ethnic composition by occupation shows that the Hispanic/Latino and Black/African American populations are underrepresented across many of the Healthcare occupations. The gaps in Hispanic/Latino representation exist in 51 of the 55 occupations, with double-digit percentage point difference between those employed in the occupation and the share of total population. The gaps for Blacks/African Americans exist for at least 30 occupations. However, most gaps are not significant, ranging between 1 to 10 percentage points.

Exhibit 36 presents the top 20 Healthcare occupations with the largest equity gaps for Hispanic/Latino populations. The data demonstrates significant underrepresentation of this demographic group in the occupations with the highest educational requirements, such as bachelor's and doctoral degrees. Among those occupations that require less than a bachelor's degree, occupations with significant underrepresentation among Hispanics include medical transcriptionists, occupational therapy assistants, respiratory therapists, medical and clinical laboratory technicians, and psychiatric technicians.

Exhibit 36 – Top 20 Occupations with the Largest Employment Equity Gaps for Hispanic/Latino Workforce

Description	Typical Entry Level Education	Hispanic/Latino % of Occupation	Hispanic/Latino Equity Gaps (Difference between % in occupation and % in population)
Optometrists	Doctoral or professional degree	10%	(36%)
Pharmacists	Doctoral or professional degree	13%	(33%)
Veterinarians	Doctoral or professional degree	13%	(33%)
Nurse Anesthetists	Master's degree	15%	(31%)
Physical Therapists	Doctoral or professional degree	15%	(31%)
Psychiatrists	Doctoral or professional degree	15%	(30%)
Anesthesiologists	Doctoral or professional degree	16%	(30%)
Family and General Practitioners	Doctoral or professional degree	16%	(30%)
Surgeons	Doctoral or professional degree	16%	(30%)
Occupational Therapists	Master's degree	16%	(30%)
Registered Nurses	Bachelor's degree	18%	(28%)
Nurse Practitioners	Master's degree	18%	(27%)
Dentists, General	Doctoral or professional degree	20%	(25%)
Medical Transcriptionists	Postsecondary non degree award	22%	(24%)
Speech-Language Pathologists	Master's degree	22%	(23%)
Occupational Therapy Assistants	Associate degree	23%	(23%)
Medical and Clinical Laboratory Technologists	Bachelor's degree	24%	(22%)
Respiratory Therapists	Associate degree	25%	(21%)
Medical and Clinical Laboratory Technicians	Associate degree	26%	(20%)
Psychiatric Technicians	Postsecondary non degree award	27%	(19%)

Cross-Ranking: Top Occupations with Most Job Opportunities and Gaps

The following three main factors were selected for cross-ranking of occupations: labor market demand measured using annual job openings, training undersupply or gap, and ethnic diversity gaps. All 55 occupations were ranked for each factor; then the overall ranking was determined. The highest ranked occupations are registered nurses, pharmacists, massage therapists, mental health counselors and nursing assistants.

Exhibit 37 – Top 20 Occupations with the Highest Ranking across Three Factors

Occupations	Overall Rank	Rank by Most Job Openings	Rank by Largest Training Gaps	Rank by Largest Equity Gaps
Registered Nurses	1	2	2	11
Pharmacists	2	17	14	2
Massage Therapists	3	11	11	22
Mental Health Counselors	4	14	8	29
Nursing Assistants	5	3	3	46
Medical Secretaries	6	5	6	42
Medical and Health Services Managers	7	12	23	23
Physical Therapists	8	23	30	5
Dental Hygienists	9	19	16	24
Medical and Clinical Laboratory Technicians	10	27	13	19
Health care Social Workers	11	13	7	40
Psychiatric Technicians	12	25	15	20
Pharmacy Technicians	13	10	9	43
Nurse Practitioners	14	24	27	12
Social and Human Service Assistants	15	9	5	49
Occupational Therapists	16	33	22	10
Veterinary Assistants and Laboratory Animal Caretakers	17	16	10	41
Radiologic Technologists	18	22	19	27
Veterinarians	19	46	25	3
Medical and Clinical Laboratory Technologists	20	40	20	17

GIS Mapping for Top 10 Occupations

This report provides geographic mapping of labor market demand and training supply by sub region. Each of the ten maps profiles gap analysis for the ten occupations with the largest training shortages. Only occupations that require some postsecondary education and show completions were included in the 10 occupations that were mapped.

Conclusion and Recommendations

As articulated in IERC strategic plan, the Inland Empire's projected considerable growth in population and economic power by 2030 sets the stage for bold and important opportunities for economic development in the Healthcare sector – a singular moment in time to build a virtual Silicon Valley of Health care.

The greater Inland Empire region already possesses a wealth of resources – three medical schools (and three more in planning and implementation stages), numerous Allied Health and Public Health educational facilities, a fledgling biotech sector in Southwest Riverside County, a strong intermediary in the Inland Health Professions Coalition, and a growing population of residents who are desirous to enter training and educational programs that lead to sustainable wage jobs and careers.

The Health Industry SlingShot recommendations are as follows:

Use of this report

This report contains sub regional data that may vary from other sub regions. This should be considered when planning the location and need of training programs.

Address the Nursing Shortage

The Inland Empire has a shortage of 1,499 Registered Nurses, and 1,190 Nursing Assistants (total of 2,689 open positions in nursing professions alone). Suggested strategies include:

- Convene clinical site coordinators to discuss and explore alternative site placements for nursing programs and report back to WDB.
 - Discuss options for funding of LVN programs and bring down costs (i.e., Office of Statewide Health Planning and Development, California Hospital Association, nursing unions, California Association Nurses, United Nurses Association of CA)
 - Create a forum with Community Colleges to discuss the possibility of summer classes for students of merit to begin foundation classes leading to preferential admissions to the nursing program.

Advance Soft Skills Training

- Train County Workforce Development Board Business Services Representatives (BSR's) to inform and advise employers of the existence of Workforce Readiness Credential to use as pre-employment and incumbent training.

Champion the Role and Education of Community Health Workers

- Recruit the partners such as Community Health Association Inland Southern Region, Hospital Association of Southern California and *Promotores* to explore the viability and utility of the Community Health Worker Core Consensus (C3) Project to lift, support, and build awareness of CHWs as a valued part of the health workforce in the community, clinic, and acute care setting.

Alignment with Statewide Initiative

- Assign Reach Out as the Health Industry Consultant to participate in the California Future Health Workforce Commission at the state level, which is developing a blueprint for the modern health workforce in California. Consultant will bring back recommendations for implementation strategies including standardization and expansion of CHW engagement.

WDB Staffing Support for Health Industry Sector

- Continue to contract with the SlingShot Health industry consultant, Reach Out, as a strategy that will be embedded in long-term practice. Create exchange points between the Health Industry Consultant and the Business Service Representatives to bring greater value to the health industry sector. Create time for Health industry consultant to provide ongoing information exchange to the BSRs working with Healthcare employers. Create more opportunities for cross-pollination of ideas and services; for example, communication between training providers and employers in need of employees, and customized training needs.

Advancement of Technology

- Continue to offer and enhance Health Information Technology training that is responsive to employer needs in the Inland Empire.

Health Workforce Training Data

- The Inland Empire has a large gap in the ability to capture data from small- to mid-size health training organizations, including both independent training providers, as well as some Regional Occupational Programs. Without this data, it will be difficult to perform accurate reporting on overage/shortage data for the region. It is recommended that the Inland Empire Regional Planning Unit develop a collaborative system to work with training providers, and to incentivize their participation in shared data collection.

Appendix A – Occupations and Job Titles

SOC	Description	Other Common Titles
Doctoral or professional degree		
29-1021	Dentists, General	Associate Dentist, Dental Surgery Doctor (DDS), Dentist, Dentist/Owner, Doctor of Dental Medicine (DMD), Doctor of Dental Surgery (DDS), Family Dentist, General Dentist, General Dentist/Owner, Pediatric Dentist
29-1041	Optometrists	Chief, Optometry Service; Doctor of Optometry (OD); Eye Clinic Manager; Independent Contractor; Optometrist; Optometrist, Owner; Optometrist, President/Practice Owner; Optometrist/Practice Owner
29-1051	Pharmacists	Clinical Pharmacist; Hospital Pharmacist; Outpatient Pharmacy Manager; Pharmacist; Pharmacist in Charge (PIC); Pharmacist in Charge, Owner (PIC, Owner); Pharmacy Informaticist; Registered Pharmacist; Staff Pharmacist; Staff Pharmacist, Hospital
29-1061	Anesthesiologists	Anesthesia Associate, Anesthesia Director, Anesthesia Resident, Anesthesiologist, Attending Anesthesiologist, Medical Doctor (MD), Obstetrical Anesthesiologist, Physician Anesthesiologist, Staff Anesthesiologist, Staff Anesthetist
29-1062	Family and General Practitioners	Board Certified Family Physician, Family Medicine Physician, Family Physician, Family Practice Medical Doctor (FP MD), Family Practice Physician, Family Practitioner, Medical Doctor (MD), Medical Staff Physician, Physician, Primary Care Physician
29-1066	Psychiatrists	Adult Psychiatrist, Child & Adolescent Psychiatrist, Child Psychiatrist, Clinical Director, Consulting Psychiatrist, Medical Doctor (MD), Outpatient Psychiatrist, Prison Psychiatrist, Psychiatrist, Staff Psychiatrist
29-1067	Surgeons	Cardiovascular Surgeon, General Surgeon, Hand Surgeon, Orthopedic Surgeon, Orthopedic Surgeon, Physician, Plastic Surgeon, Surgeon, Thoracic Surgeon, Vascular Surgeon
29-1123	Physical Therapists	Chief Physical Therapist; Home Care Physical Therapist; Outpatient Physical Therapist; Pediatric Physical Therapist; Per Diem Physical Therapist; Physical Therapist (PT); Physical Therapist, Director of Rehabilitation; Registered Physical Therapist (RPT); Rehabilitation Services Director; Staff Physical Therapist (Staff PT)
29-1131	Veterinarians	Associate Veterinarian, Doctor of Veterinary Medicine (DVM), Emergency Veterinarian, Equine Vet (Equine Veterinarian), Mixed Animal Veterinarian, Small Animal Veterinarian, Staff Veterinarian, Veterinarian (VET), Veterinary Medicine Doctor (DVM), Veterinary Surgeon
29-1181	Audiologists	Audiologist, Audiology Director, Audiology Doctor (AUD), Certificate of Clinical Competence in Audiology Licensed Audiologist (CCC-A Licensed Audiologist), Clinical Audiologist, Clinical Director, Dispensing Audiologist, Doctor of Audiology, Educational Audiologist, Pediatric Audiologist
Master's degree		
21-1014	Mental Health Counselors	Behavior Analyst, Behavior Support Specialist (BSS), Case Manager, Clinician, Correctional Counselor, Counselor, Mental Health Counselor, Mental Health Specialist, Mental Health Therapist, Therapist
21-1022	Health care Social Workers	Clinical Social Worker, Dialysis Social Worker, Director of Social Work, Hospice Social Worker, Medical Social Worker, Nephrology Social Worker, Oncology Social Worker, Renal Social Worker, Social Work Case Manager, Social Worker
29-1071	Physician Assistants	Certified Physician Assistant (PA-C), Clinical Physician Assistant, Family Practice Physician Assistant, General Surgery Physician Assistant, Midlevel Provider, Orthopedic Physician Assistant, Physician Assistant Certified (PAC), Physician Extender, Physician's Assistant, Surgical Physician Assistant

SOC	Description	Other Common Titles
29-1122	Occupational Therapists	Assistive Technology Trainer, Early Intervention Occupational Therapist, Industrial Rehabilitation Consultant, Occupational Therapist (OT), Occupational Therapy Co-Director, Pediatric Occupational Therapist, Registered Occupational Therapist, Rehabilitation Supervisor, Staff Occupational Therapist, Staff Therapist
29-1127	Speech-Language Pathologists	Bilingual Speech-Language Pathologist, Communication Specialist, Educational Speech-Language Clinician, Speech and Language Clinician, Speech and Language Specialist, Speech Pathologist, Speech Therapist, Speech-Language Pathologist (SLP), Speech/Language Therapist, Teacher of the Speech and Hearing Handicapped
29-1151	Nurse Anesthetists	Certified Registered Nurse Anesthetist (CRNA); Chief Certified Registered Nurse Anesthetist (Chief CRNA); Chief Nurse Anesthetist; Nurse Anesthetist; Professor/Nurse Anesthetist; Senior Certified Registered Nurse Anesthetist (Senior CRNA); Staff Certified Registered Nurse Anesthetist (Staff CRNA); Staff Certified Registered Nurse Anesthetist, Anesthesia Service (Staff CRNA, Anesthesia Service); Staff Nurse Anesthetist
29-1171	Nurse Practitioners	Acute Care Nurse Practitioner; Adult Nurse Practitioner; Advanced Practice Registered Nurse (APRN); Family Nurse Practitioner; Family Practice Certified Advanced Registered Nurse Practitioner; Gastroenterology Nurse Practitioner; Nurse Practitioner; Nurse Practitioner, Adult; Pediatric Nurse Practitioner; Women's Health Care Nurse Practitioner
Bachelor's degree		
11-9111	Medical and Health Services Managers	Clinical Director, Health Information Management Corporate Director, Health Information Management Director, Health Manager, Mental Health Program Manager, Nurse Manager, Nursing Director, Office Manager, Practice Administrator, Program Manager
21-1023	Mental Health and Substance Abuse Social Workers	Case Manager, Psychotherapist, Substance Abuse Counselor, Therapist
21-1091	Health Educators	Certified Diabetes Educator, Clinical Instructor, Clinical Nurse Educator, Community Health Consultant, Community Health Education Coordinator, Health Promotion Specialist, Public Health Educator
29-1031	Dietitians and Nutritionists	Clinical Dietician, Clinical Dietitian, Correctional Food Service Supervisor, Dietary Manager, Dietitian, Nutritionist, Outpatient Dietitian, Pediatric Clinical Dietician, Registered Dietician, Registered Dietitian
29-1141	Registered Nurses	Charge Nurse, Director of Nursing (DON), Emergency Department RN (Emergency Department Registered Nurse), Oncology RN (Oncology Registered Nurse), Operating Room Registered Nurse (OR RN), Public Health Nurse (PHN), Registered Nurse (RN), School Nurse, Staff Nurse, Staff RN (Staff Registered Nurse)
29-2011	Medical and Clinical Laboratory Technologists	Clinical Laboratory Scientist (CLS); Clinical Laboratory Technologist; Histologist Technologist (MT); Medical Laboratory Technologist (Medical Lab Tech); Medical Microbiologist; Microbiology Technologist; Research Assistant
Associate degree		
29-1126	Respiratory Therapists	Cardiopulmonary Rehabilitation Respiratory Therapist, Cardiopulmonary Technician and EEG Tech (Cardiopulmonary Technician and Electroencephalogram Technician), Clinical Coordinator of Respiratory Therapy, Respiratory Care Practitioner, Respiratory Therapist, Respiratory Therapy Director, Staff Respiratory Therapist, Staff Therapist
29-2012	Medical and Clinical Laboratory Technicians	Clinical Laboratory Scientist, Clinical Laboratory Technician (Clinical Lab Technician), Laboratory Assistant (Lab Assistant), Laboratory Supervisor, Laboratory Technician, Medical Laboratory Technician (MLT), Medical Laboratory Technicians (Medical Lab Technician), Medical Technician

SOC	Description	Other Common Titles
29-2021	Dental Hygienists	Dental Hygienist, Mobile Coordinator; Implant Coordinator; Pediatric Dental Hygienist
29-2031	Cardiovascular Technologists and Technicians	Cardiac Catheterization Laboratory Technologist, Cardiac Catheterization Technician, Cardiac Technician, Cardiology Technician, Cardiopulmonary Technician, Cardiovascular Technician, Cardiovascular Technologist (CVT), Electrocardiogram Technician (EKG Technician),
29-2032	Diagnostic Medical Sonographers	Cardiac Sonographer, Cardiac/Vascular Sonographer, Diagnostic Medical Sonographer, Medical Sonographer, Registered Diagnostic Medical Sonographer, Sonographer, Staff Sonographer, Ultrasonographer, Ultrasound Technician (Ultrasound Tech), Ultrasound Technologist (Ultrasound Tech)
29-2033	Nuclear Medicine Technologists	Certified Nuclear Medicine Technologist (CNMT), Lead Nuclear Medicine Technologist (Lead Nuc Med Tech), Nuclear Cardiology Technologist, Nuclear Medicine PET-CT Technologist (Nuclear Medicine Positron Emission Tomography - Computed Tomography Technologist), Nuclear Medicine Technologist (Nuclear Med Tech), Radiation Safety Officer, Senior Nuclear Medicine Technologist, Staff Nuclear Medicine Technologist, Supervisor Nuclear Medicine
29-2034	Radiologic Technologists	Computed Tomography Technologist (CT Technologist), Mammographer, Mammography Technologist, Radiographer, Radiologic Technologist (RT), Radiological Technologist, Radiology Technologist, Staff Technologist, X-Ray Technologist (X-Ray Tech)
29-2035	Magnetic Resonance Imaging Technologists	Chief Magnetic Resonance Imaging Technologist (Chief MRI Technologist), Magnetic Resonance Imaging Coordinator (MRI Coordinator), Magnetic Resonance Imaging Director, Magnetic Resonance Imaging Quality Assurance Coordinator (MRI Quality Assurance Coordinator), Medical Imaging Director, MRI Specialist (Magnetic Resonance Imaging Specialist), MRI Supervisor (Magnetic Resonance Imaging Supervisor), MRI Technologist (Magnetic Resonance Imaging Technologist)
29-2056	Veterinary Technologists and Technicians	Veterinary Technician, Emergency Veterinary Technician, Internal Medicine Veterinary Technician, Medical Technologist, Veterinary Assistant, Veterinary Laboratory Technician/ Lab Tech, Veterinary Nurse
31-2011	Occupational Therapy Assistants	Acute Care Occupational Therapy Assistant, Occupational Therapist Assistant
31-2021	Physical Therapist Assistants	Home Health Physical Therapist Assistant, Outpatient Physical Therapist Assistant, Per Diem Physical Therapist Assistant, Physical Therapy Technician/Tech, Staff Physical Therapy Assistant
Postsecondary non degree award		
29-2041	Emergency Medical Technicians and Paramedics	Emergency Medical Technician (EMT); Emergency Medical Technician, Basic (EMT, B); Emergency Medical Technician/Driver (EMT/DRIVER); EMT Intermediate (Emergency Medical Technician, Intermediate); EMT, Paramedic (Emergency Medical Technician, Paramedic); EMT/Dispatcher (Emergency Medical Technician/Dispatcher); First Responder; Flight Paramedic; Multi Care Technician (Multi Care Tech); Paramedic
29-2053	Psychiatric Technicians	Behavioral Health Technician, Licensed Psychiatric Technician, Mental Health Assistant, Mental Health Associate, Mental Health Specialist, Mental Health Technician, Mental Health Worker, Residential Aide
29-2055	Surgical Technologists	Certified Surgical Tech/First Assistant, Certified Surgical Technician, Certified Surgical Technologist (CST), Operating Room Surgical Technician (OR St), Operating Room Technician (OR Tech), Operating Room Technologist (OR Tech), Surgical Scrub Technician, Surgical Scrub Technologist (Surgical Scrub Tech), Surgical Technician, Surgical Technologist (Surgical Tech)

SOC	Description	Other Common Titles
29-2057	Ophthalmic Medical Technicians	Ophthalmic Assistant, Ophthalmic Medical Assistant, Ophthalmic Medical Technician, Ophthalmic Technician, Surgical Coordinator
29-2061	Licensed Vocational Nurses	Charge Nurse; Licensed Vocational Nurse (LVN); Private Duty Nurse
29-2071	Medical Records and Health Information Technicians	Medical information technician, application technologist, Health Information Specialist, Health Information Technician/Tech, Medical Records Analyst, Medical Records Clerk, Medical Records Coordinator, Medical Records Director, Medical Records Technician/Tech, Registered Health Information Technician
31-1014	Nursing Assistants	Certified Nursing Assistant (CNA)
31-9011	Massage Therapists	Bodywork Therapist, Clinical Massage Therapist, Integrated Deep Tissue Massage Therapist, Medical Massage Therapist, Therapeutic Massage Technician
31-9091	Dental Assistants	Dental Assistant (DA), Expanded Duty Dental Assistant (EDDA), Expanded Function Dental Assistant, Oral Surgery Assistant, Orthodontic Assistant (Ortho Assistant), Orthodontic Technician, Surgical Dental Assistant
31-9092	Medical Assistants	Clinical Assistant, Doctor's Assistant, Ophthalmic Technician, Optometric Assistant, Optometric Technician
31-9094	Medical Transcriptionists	Medical coder, Clinical Medical Transcriptionist, Documentation Specialist, Medical Language Specialist, Medical Secretary, Medical Transcriber, Medical Transcription, Medical Transcription Supervisor, Medical Transcriptionist, Radiology Transcriptionist, Transcriptionist
31-9097	Phlebotomists	Lab Asst; Patient Service Technician PST; Phlebotomist; Phlebotomist Supervisor/Instructor; Phlebotomist, Medical Lab Assistant; Phlebotomy Director; Phlebotomy Program Coordinator; Phlebotomy Supervisor;
High school diploma or equivalent		
21-1093	Social and Human Service Assistants	Peer and family advocates
21-1094	Community Health Workers	Community Health Outreach Worker, Community Health Program Coordinator, Community Health Program Representative (Community Health Program Rep), Community Health Promoter, Community Health Worker (CHW), Community Nutrition Educator, HIV CTS Specialist (Human Immunodeficiency Virus Counseling and Testing Services Specialist)
29-2052	Pharmacy Technicians	Accredited Pharmacy Technician, Certified Pharmacy Technician (CPhT), Compounding Technician, Lead Pharmacy Tech, Pharmacy Tech, Senior Pharmacy Technician, Inventory Specialist
31-2022	Physical Therapist Aides	Clinical Rehabilitation Aide, Physical Therapist Technician, Physical Therapy Aide, Physical Therapy Attendant, Physical Therapy Technician, Rehabilitation Aide, Rehabilitation Attendant, Restorative Aide, Restorative Care Technician
31-9095	Pharmacy Aides	Ancillary, Certified Pharmacist Assistant, Drug Purchaser, Front Counter Clerk, Pharmacist Assistant, Pharmacy Aide, Pharmacy Ancillary, Pharmacy Assistant, Pharmacy Cashier, Pharmacy Clerk
31-9096	Veterinary Assistants and Laboratory Animal Caretakers	Animal Care Provider, Animal Caregiver, Avian Keeper, Emergency Veterinary Assistant, Research Animal Attendant, Small Animal Caretaker, Technician Assistant, Veterinarian Assistant, Veterinary Assistant (Vet Assistant), Veterinary Technician Assistant (Vet Tech Assistant)
43-6013	Medical Secretaries	Admissions Coordinator, Billing Coordinator, Health Unit Coordinator, Medical Office Specialist, Medical Secretary, Patient Coordinator, Physician Office Specialist, Unit Secretary, Unit Support Representative, Ward Clerk

SOC	Description	Other Common Titles
No formal educational credential		
31-1011	Home Health Aides	Home Attendant, Home Care Aide, Home Health Aide (HHA), Home Health Provider, Hospice/Home Health Aide, In Home Caregiver
39-9021	Personal Care Aides	Caregiver, Home Care Aide, Medication Aide, Patient Care Assistant, Personal Care Assistant, Personal Care Attendant, Resident Care Assistant

Appendix B – Sub regional ZIP Code Areas of the Inland Empire

Eastern Desert

92201	Indio, CA (in Riverside county)	92256	Morongo Valley, CA (in San Bernardino county)
92202	Indio, CA (in Riverside county)	92258	North Palm Springs, CA (in Riverside county)
92203	Indio, CA (in Riverside county)	92262	Palm Springs, CA (in Riverside county)
92210	Indian Wells, CA (in Riverside county)	92263	Palm Springs, CA (in Riverside county)
92230	Cabazon, CA (in Riverside county)	92264	Palm Springs, CA (in Riverside county)
92234	Cathedral City, CA (in Riverside county)	92268	Pioneertown, CA (in San Bernardino county)
92235	Cathedral City, CA (in Riverside county)	92270	Rancho Mirage, CA (in Riverside county)
92236	Coachella, CA (in Riverside county)	92274	Thermal, CA (in Riverside county)
92240	Desert Hot Springs, CA (in Riverside county)	92276	Thousand Palms, CA (in Riverside county)
92241	Desert Hot Springs, CA (in Riverside county)	92277	Twentynine Palms, CA (in San Bernardino)
92247	La Quinta, CA (in Riverside county)	92278	Twentynine Palms, CA (in San Bernardino)
92248	La Quinta, CA (in Riverside county)	92282	Whitewater, CA (in Riverside county)
92252	Joshua Tree, CA (in San Bernardino county)	92284	Yucca Valley, CA (in San Bernardino county)
92253	La Quinta, CA (in Riverside county)	92286	Yucca Valley, CA (in San Bernardino county)
92254	Mecca, CA (in Riverside county)		

High Desert

92307	Apple Valley, CA (in San Bernardino county)	92345	Hesperia, CA (in San Bernardino county)
92308	Apple Valley, CA (in San Bernardino county)	92368	Oro Grande, CA (in San Bernardino county)
92311	Barstow, CA (in San Bernardino county)	92392	Victorville, CA (in San Bernardino county)
92312	Barstow, CA (in San Bernardino county)	92393	Victorville, CA (in San Bernardino county)
92340	Hesperia, CA (in San Bernardino county)	92394	Victorville, CA (in San Bernardino county)
92344	Hesperia, CA (in San Bernardino county)	92395	Victorville, CA (in San Bernardino county)

Southwest Riverside

92530	Lake Elsinore, CA (in Riverside county)	92584	Menifee, CA (in Riverside county)
92531	Lake Elsinore, CA (in Riverside county)	92589	Temecula, CA (in Riverside county)
92532	Lake Elsinore, CA (in Riverside county)	92590	Temecula, CA (in Riverside county)
92562	Murrieta, CA (in Riverside county)	92591	Temecula, CA (in Riverside county)
92563	Murrieta, CA (in Riverside county)	92592	Temecula, CA (in Riverside county)
92564	Murrieta, CA (in Riverside county)	92593	Temecula, CA (in Riverside county)
92570	Perris, CA (in Riverside county)	92595	Wildomar, CA (in Riverside county)
92571	Perris, CA (in Riverside county)	92596	Winchester, CA (in Riverside county)
92572	Perris, CA (in Riverside county)	92599	Perris, CA (in Riverside county)

Metro San Bernardino

92313	Grand Terrace, CA (in San Bernardino county)	92403	San Bernardino, CA (in San Bernardino county)
92318	Bryn Mawr, CA (in San Bernardino county)	92404	San Bernardino, CA (in San Bernardino county)
92320	Calimesa, CA (in Riverside county)	92405	San Bernardino, CA (in San Bernardino county)
92346	Highland, CA (in San Bernardino county)	92406	San Bernardino, CA (in San Bernardino county)
92350	Loma Linda, CA (in San Bernardino county)	92407	San Bernardino, CA (in San Bernardino county)
92354	Loma Linda, CA (in San Bernardino county)	92408	San Bernardino, CA (in San Bernardino county)
92357	Loma Linda, CA (in San Bernardino county)	92410	San Bernardino, CA (in San Bernardino county)
92359	Mentone, CA (in San Bernardino county)	92411	San Bernardino, CA (in San Bernardino county)
92373	Redlands, CA (in San Bernardino county)	92413	San Bernardino, CA (in San Bernardino county)
92374	Redlands, CA (in San Bernardino county)	92415	San Bernardino, CA (in San Bernardino county)
92375	Redlands, CA (in San Bernardino county)	92418	San Bernardino, CA (in San Bernardino county)
92399	Yucaipa, CA (in San Bernardino county)	92423	San Bernardino, CA (in San Bernardino county)
92401	San Bernardino, CA (in San Bernardino county)	92427	San Bernardino, CA (in San Bernardino county)
92402	San Bernardino, CA (in San Bernardino county)		

West End San Bernardino

91701	Rancho Cucamonga, CA (in San Bernardino county)	91784	Upland, CA (in San Bernardino county)
91708	Chino, CA (in San Bernardino county)	91785	Upland, CA (in San Bernardino county)
91709	Chino Hills, CA (in San Bernardino county)	91786	Upland, CA (in San Bernardino county)
91710	Chino, CA (in San Bernardino county)	92316	Bloomington, CA (in San Bernardino county)
91729	Rancho Cucamonga, CA (in San Bernardino county)	92324	Colton, CA (in San Bernardino county)
91730	Rancho Cucamonga, CA (in San Bernardino county)	92331	Fontana, CA (in San Bernardino county)
91737	Rancho Cucamonga, CA (in San Bernardino county)	92334	Fontana, CA (in San Bernardino county)
91739	Rancho Cucamonga, CA (in San Bernardino county)	92335	Fontana, CA (in San Bernardino county)
91758	Ontario, CA (in San Bernardino county)	92336	Fontana, CA (in San Bernardino county)
91761	Ontario, CA (in San Bernardino county)	92337	Fontana, CA (in San Bernardino county)
91762	Ontario, CA (in San Bernardino county)	92376	Rialto, CA (in San Bernardino county)
91763	Montclair, CA (in San Bernardino county)	92377	Rialto, CA (in San Bernardino county)
91764	Ontario, CA (in San Bernardino county)		

Western Riverside

91752	Mira Loma, CA (in Riverside county)	92522	Riverside, CA (in Riverside county)
92501	Riverside, CA (in Riverside county)	92551	Moreno Valley, CA (in Riverside county)
92502	Riverside, CA (in Riverside county)	92552	Moreno Valley, CA (in Riverside county)
92503	Riverside, CA (in Riverside county)	92553	Moreno Valley, CA (in Riverside county)
92504	Riverside, CA (in Riverside county)	92554	Moreno Valley, CA (in Riverside county)
92505	Riverside, CA (in Riverside county)	92555	Moreno Valley, CA (in Riverside county)
92506	Riverside, CA (in Riverside county)	92556	Moreno Valley, CA (in Riverside county)
92507	Riverside, CA (in Riverside county)	92557	Moreno Valley, CA (in Riverside county)
92508	Riverside, CA (in Riverside county)	92860	Norco, CA (in Riverside county)
92509	Jurupa Valley, CA (in Riverside county)	92877	Corona, CA (in Riverside county)
92513	Riverside, CA (in Riverside county)	92878	Corona, CA (in Riverside county)
92514	Riverside, CA (in Riverside county)	92879	Corona, CA (in Riverside county)
92516	Riverside, CA (in Riverside county)	92880	Corona, CA (in Riverside county)
92517	Riverside, CA (in Riverside county)	92881	Corona, CA (in Riverside county)
92519	Riverside, CA (in Riverside county)	92882	Corona, CA (in Riverside county)
92521	Riverside, CA (in Riverside county)	92883	Corona, CA (in Riverside county)

Appendix C – Employers Interviewed

The list below represents the Healthcare employers interviewed for this project as well as the size and the type of each employer.

1. **American Medical Response (AMR)** – 1,500+ employees - Emergency Medical Response Units
2. **Ballard Rehabilitation Hospital** – 1,000+ employees - Physical Rehabilitation
3. **Ben Hudnall Trust - Kaiser Permanente Labor Management Partnership** - 80,000+ employees - Union Educational Trust
4. **Community Health Association Inland Southern Region** - 6 employees - Clinical Consortium serving 43 Inland Empire clinics
5. **Community Health Systems** - 500+ employees - Federally Qualified Health Centers
6. **Desert Regional Medical Center** - 6,000+ employees - General Acute Care Hospital
7. **Dignity Health - Community Hospital of San Bernardino and St. Bernardine Medical Center** – 3,200 employees - General Acute Care Hospitals
8. **EPIC Management, LP** – 1,000+ employees, Medical Practice Management & Consulting
9. **Heritage Garden Centers** - 200 employees - Skilled Nursing Facility
10. **Hi Desert Medical Center** – 2,500+ employees - General Acute Care Hospital
11. **Inland Empire Health Plan** – 2,000+ employees - Health Plan
12. **JFK Medical Center** – 3,000+ employees - General Acute Care Hospital
13. **Knolls West Post-Acute Care** - 187 employees - Skilled Nursing Facility
14. **Loma Linda University Medical Center** - 5000+ Employees - Acute Care Teaching Hospital
15. **Molina Health Care** – 21,000 employees - Healthcare Network/Health Plan
16. **Parkview Community Hospital** - 4000+ employees - General Acute Care Hospital
17. **Pomona Valley Hospital Medical Center** - 3400 employees - Acute Care Hospital/ Medical Center
18. **Providence Nursing Homes** - 138 employees - Skilled Nursing, Licensed
19. **Redlands Community Hospital** – 2,000+ employees - Acute Care Hospital
20. **Riverside University Health System** - over 4,000 - Public Health and Medical Center
21. **San Antonio Regional Hospital** - 2000 Employees - Hospital/Healthy Community Institute
22. **San Geronio Memorial Hospital** - 731 employees – General Acute Care Hospital
23. **St. Joseph Health/St. Mary Medical Center** - 1200+ employees – General Acute Care Hospital
24. **Temecula Valley Family Physicians** - 40 employees - Family Practice Clinic

Appendix D – Health care Education and Training Providers

Institution	Address	Website
American Career College-Ontario	3130 East Sedona Court, Ontario, CA 91764	americancareercollege.edu/
American College of Health care	11801 Pierce St., Suite 100, Riverside, CA 92505	www.ach.edu
Argosy University-Inland Empire	3401 Centre Lake Drive, Suite 200, Ontario, CA 91761	www.argosy.edu/locations/inland-empire
Ashdown College of Health Sciences	101 E. Redlands Blvd., Suite 285, Redlands, CA 92373	ashdowncollege.edu
Barstow Community College	2700 Barstow Road, Barstow, CA 92311	www.barstow.edu
Beaumont Adult School	1575 Cherry Ave, Beaumont, CA 92223	bas-beaumont-ca.schoolloop.com/
Brightwood College-Palm Springs	2475 E Tahquitz Canyon Way, Palm Springs, CA 92262-7011	www.brightwood.edu
Brightwood College-Riverside	4040 Vine Street, Riverside, CA 92507-0000	www.brightwood.edu
California Baptist University	8432 Magnolia Ave, Riverside, CA 92504-3297	www.calbaptist.edu
California Nurses Educational Institute	5200 E. Ramon Rd. Suite I-1, Palm Springs, CA 92264	www.cnei.edu
California Paramedical And Technical College	4550 LA SIERRA AVE, RIVERSIDE, CA 92505	http://www.career-college.org/california+paramedical+and+technical+college+-+riverside-716
California State University-San Bernardino	5500 University Parkway, San Bernardino, CA 92407-2397	www.csusb.edu
CET-Rancho Temecula	27941 Jefferson Avenue, Temecula, CA 92590	cetweb.org
Chaffey College	5885 Haven Ave, Rancho Cucamonga, CA 91737-3002	www.chaffey.edu
Coast Career Institute	1250 E. Cooley Drive, Colton, CA 92324-3956	www.coastcareer.com/
College of the Desert	43-500 Monterey Ave, Palm Desert, CA 92260	collegeofthedesert.edu
Colton-Redlands-Yucaipa Regional Occupational Program	1214 Indiana Ct, Redlands, CA 92374	www.cryrop.org
Concorde Career College-San Bernardino	201 East Airport Drive, Suite A, San Bernardino, CA 92408-3403	www.concorde.edu
Copper Mountain Community College	6162 Rotary Way, Joshua Tree, CA 92252	www.cmccd.edu
Crafton Hills College	11711 Sand Canyon Road, Yucaipa, CA 92339-1799	www.craftonhills.edu
Everest College-Ontario	1460 S. Milliken Ave, Ontario, CA 91761-2338	www.everest.edu/campus/ontario
Everest College-Ontario Metro	1819 South Excise Avenue, Ontario, CA 91761	www.everest.edu/campus/ontario_metro
Everest College-San Bernardino	217 E. Club Center Drive, Ste. A, San Bernardino, CA 92408	everest.edu/campus/san_bernardino

Four-D College	1020 East Washington Street, Colton, CA 92324	www.4dcollege.edu
Franklin Career College	1274 Slater Cir, Ontario, CA 91761	www.franklincareercollege.com
InterCoast Colleges-Riverside	1989 Atlanta Ave, Riverside, CA 92507	www.intercoast.edu
International School of Beauty Inc.	72261 Hwy 111 Ste 121-B, Palm Desert, CA 92260-2740	internationalschoolofbeauty.com
ITT Technical Institute-San Bernardino	670 E Carnegie Drive, San Bernardino, CA 92408	www.itt-tech.edu
La Sierra University	4500 Riverwalk Parkway, Riverside, CA 92515-8247	https://lasierra.edu
Loma Linda University	11139 Anderson Street, Loma Linda, CA 92350	www.llu.edu/index.html
Marinello Schools of Beauty- Hemet	2627 W Florida Ave-Ste 100, Hemet, CA 92545	www.marinello.com
Mayfield College	35-325 Date Palm Dr Ste 101, Cathedral City, CA 92234	www.mayfieldcollege.edu
Milan Institute-Palm Desert	75-030 Gerald Ford Drive, Suite 203, Palm Desert, CA 92211	www.milaninstitute.edu
Moreno Valley College	16130 Lasselle St, Moreno Valley, CA 92551	www.mvc.edu/
Mt San Jacinto Community College District	1499 N. State St., San Jacinto, CA 92583-2399	www.msjc.edu
North-West College-Riverside	4550 La Sierra Ave, Riverside, CA 92503	www.north-westcollege.edu
Palo Verde College	One College Drive, Blythe, CA 92225	www.paloverde.edu
Platt College-Ontario	3700 Inland Empire Boulevard, Ste 400, Ontario, CA 91764	www.plattcollege.edu
Platt College-Riverside	6465 Sycamore Canyon Blvd Ste 100, Riverside, CA 92507	www.plattcollege.edu
Riverside City College	4800 Magnolia Avenue, Riverside, CA 92506	www.rcc.edu/riverside/
Riverside County Office of Ed- School of Career Education	47-336 Oasis St., Indio, CA 92201	www.riversidesce.org
San Bernardino Valley College	701 South Mount Vernon Avenue, San Bernardino, CA 92410-2798	www.valleycollege.edu
San Joaquin Valley College- Hesperia	9331 Mariposa Rd, Hesperia, CA 92344	www.sjvc.edu
San Joaquin Valley College- Ontario	4580 Ontario Mills Parkway, Ontario, CA 91764	sjvc.edu
San Joaquin Valley College- Temecula	27270 Madison Ave Ste 103, Temecula, CA 92590	www.sjvc.edu/
Summit College	851 S. Cooley Dr, Colton, CA 92324	www.summitcollege.edu
The University of America	38397 Innovation Court, Murrieta, CA 92563	ua-edu.us
UEI College-Riverside	1860 University Avenue, Riverside, CA 92507-5344	www.uei.edu

United Education Institute-Ontario	4730 Ontario Mills Parkway, Ontario, CA 91764-5574	www.uei.edu
University of Redlands	1200 E. Colton Ave, Redlands, CA 92373-0999	www.redlands.edu
Victor Valley College	18422 Bear Valley Rd, Victorville, CA 92395-5850	www.vvc.edu
West Coast University-Ontario	2855 E. Guasti Rd, Ontario, CA 91761	westcoastuniversity.edu/
Westtech College	9490 Sierra Avenue, Fontana, CA 92335	www.westtech.edu
Westwood College-Inland Empire	20 W 7th St, Upland, CA 91786-7148	www.westwood.edu

Appendix E – Gap Analysis

Description	Annual Openings	Regional Completions (2016)	Oversupply or undersupply	Pct. 10 Hourly Earnings	Median Hourly Earnings	Pct. 90 Hourly Earnings
Doctoral or professional degree						
Pharmacists	187	79	(108)	\$49.90	\$67.84	\$80.46
Veterinarians	35	0	(35)	\$27.77	\$38.23	\$72.22
Physical Therapists	139	118	(21)	\$25.75	\$42.62	\$57.76
Optometrists	20	0	(20)	\$39.96	\$54.15	\$91.79
Psychiatrists	18	11	(7)	\$58.97	\$141.52	\$213.11
Anesthesiologists	6	0	(6)	\$76.92	\$105.49	\$185.52
Surgeons	12	68	56	\$86.67	\$113.71	\$210.29
Family and General Practitioners	41	100	59	\$33.44	\$96.37	\$161.48
Audiologists	6	70	64	\$35.24	\$46.37	\$59.98
Dentists, General	102	171	69	\$22.88	\$70.84	\$114.07
Master's degree						
Health care Social Workers	251	3	(248)	\$16.36	\$32.42	\$47.31
Mental Health Counselors	242	25	(217)	\$12.99	\$18.38	\$29.06
Occupational Therapists	81	38	(43)	\$27.11	\$44.47	\$59.71
Nurse Practitioners	124	95	(29)	\$41.13	\$54.59	\$64.36
Speech-Language Pathologists	97	80	(17)	\$29.42	\$39.92	\$58.05
Physician Assistants	65	49	(16)	\$37.98	\$52.39	\$77.67
Nurse Anesthetists	10	0	(10)	\$64.25	\$96.16	\$157.86
Bachelor's degree						
Registered Nurses	2,442	1,283	(1,159)	\$32.01	\$45.21	\$62.98
Medical and Clinical Laboratory Technologists	63	18	(45)	\$21.18	\$39.85	\$51.95
Medical and Health Services Managers	301	258	(43)	\$28.56	\$52.25	\$79.63
Mental Health and Substance Abuse Social Workers	180	180	0	\$15.47	\$24.21	\$46.43
Health Educators	80	103	23	\$18.30	\$30.41	\$53.29
Dietitians and Nutritionists	81	138	57	\$18.11	\$33.26	\$39.59
Associate degree						
Medical and Clinical Laboratory Technicians	110	0	(110)	\$13.12	\$20.04	\$30.29
Dental Hygienists	161	93	(68)	\$34.24	\$45.38	\$59.17
Radiologic Technologists	142	91	(51)	\$20.32	\$33.56	\$45.37
Cardiovascular Technologists and Technicians	43	0	(43)	\$15.42	\$28.85	\$49.19
Occupational Therapy Assistants	35	0	(35)	\$19.92	\$32.49	\$39.54

Physical Therapist Assistants	74	44	(30)	\$15.12	\$30.60	\$41.89
Nuclear Medicine Technologists	12	0	(12)	\$40.89	\$48.50	\$62.46
Magnetic Resonance Imaging Technologists	17	10	(7)	\$30.15	\$38.83	\$57.54
Diagnostic Medical Sonographers	48	130	82	\$25.15	\$37.41	\$56.75
Respiratory Therapists	109	198	89	\$26.27	\$34.66	\$45.80
Veterinary Technologists and Technicians	79	181	102	\$11.35	\$19.23	\$28.50
Postsecondary non degree award						
Nursing Assistants	1,529	339	(1,190)	\$10.40	\$13.87	\$21.59
Massage Therapists	352	189	(163)	\$10.43	\$14.50	\$22.36
Phlebotomists	160	14	(146)	\$13.47	\$18.64	\$25.45
Psychiatric Technicians	119	24	(95)	\$24.62	\$29.08	\$36.24
Ophthalmic Medical Technicians	24	0	(24)	\$10.81	\$14.17	\$22.19
Medical Transcriptionists	53	45	(8)	\$14.31	\$18.38	\$30.48
Dental Assistants	676	668	(8)	\$10.63	\$15.23	\$23.32
Licensed Practical and Licensed Vocational Nurses	841	866	25	\$16.62	\$23.47	\$30.36
Medical Records and Health Information Technicians	150	190	40	\$13.44	\$20.51	\$35.75
Surgical Technologists	114	173	59	\$16.61	\$23.98	\$37.23
Medical Assistants	1,077	1,719	642	\$10.89	\$14.04	\$19.49
Emergency Medical Technicians and Paramedics	241	1,239	998	\$10.70	\$14.73	\$24.93
High school diploma or equivalent						
Social and Human Service Assistants	511	75	(436)	\$12.10	\$16.78	\$23.99
Medical Secretaries	888	525	(363)	\$11.60	\$15.72	\$24.02
Pharmacy Technicians	401	191	(210)	\$12.11	\$17.26	\$25.09
Veterinary Assistants and Laboratory Animal Caretakers	191	23	(168)	\$10.05	\$13.11	\$19.31
Community Health Workers	64	0	(64)	\$12.33	\$24.01	\$37.44
Physical Therapist Aides	91	30	(61)	\$10.54	\$13.01	\$17.94
Pharmacy Aides	83	273	190	\$10.38	\$13.81	\$22.74
No formal educational credential						
Personal Care Aides	4,187	0	(4,187)	\$10.02	\$10.81	\$13.60
Home Health Aides	759	23	(736)	\$10.10	\$12.64	\$25.32

Appendix F – Cross-Ranking of 55 Occupations by Job Demand, Training Gaps, and Equity Gaps

Color Coding Key:

	Rank 1-10
	Rank 11-20

Occupations	Overall Rank	Rank by Most Job Openings	Rank by Largest Training Gaps	Rank by Largest Equity Gaps
Registered Nurses	1	2	2	11
Pharmacists	2	17	14	2
Massage Therapists	3	11	11	22
Mental Health Counselors	4	14	8	29
Nursing Assistants	5	3	3	46
Medical Secretaries	6	5	6	42
Medical and Health Services Managers	7	12	23	23
Physical Therapists	8	23	30	5
Dental Hygienists	9	19	16	24
Medical and Clinical Laboratory Technicians	10	27	13	19
Health care Social Workers	11	13	7	40
Psychiatric Technicians	12	25	15	20
Pharmacy Technicians	13	10	9	43
Nurse Practitioners	14	24	27	12
Social and Human Service Assistants	15	9	5	49
Occupational Therapists	16	33	22	10
Veterinary Assistants and Laboratory Animal Caretakers	17	16	10	41
Radiologic Technologists	18	22	19	27
Veterinarians	19	46	25	3
Medical and Clinical Laboratory Technologists	20	40	20	17
Speech-Language Pathologists	21	30	32	15
Optometrists	22	48	31	1
Physical Therapist Aides	23	31	18	32
Phlebotomists	24	20	12	50
Licensed Practical and Licensed Vocational Nurses	25	6	43	34
Occupational Therapy Assistants	26	45	24	16
Cardiovascular Technologists and Technicians	27	43	21	25
Medical Transcriptionists	28	41	36	14
Nurse Anesthetists	29	53	35	4
Dentists, General	30	29	51	13
Psychiatrists	31	49	38	6

Respiratory Therapists	32	28	49	18
Mental Health and Substance Abuse Social Workers	33	18	41	37
Physical Therapist Assistants	34	37	26	33
Veterinary Technologists and Technicians	35	36	29	31
Dental Assistants	36	8	37	53
Family and General Practitioners	37	44	48	8
Anesthesiologists	38	54	40	7
Dietitians and Nutritionists	39	34	46	21
Community Health Workers	40	39	17	48
Medical Records and Health Information Technicians	41	21	44	39
Surgeons	42	51	45	9
Emergency Medical Technicians and Paramedics	43	15	55	36
Physician Assistants	44	38	33	35
Surgical Technologists	45	26	47	38
Medical Assistants	46	4	54	54
Nuclear Medicine Technologists	47	52	34	26
Magnetic Resonance Imaging Technologists	48	50	39	28
Ophthalmic Medical Technicians	49	47	28	45
Diagnostic Medical Sonographers	50	42	52	30
Health Educators	51	35	42	47
Pharmacy Aides	52	32	53	52
Personal Care Aides	N/A	1	N/A	51
Home Health Aides	N/A	7	N/A	44
Audiologists	N/A	55	50	N/A

Appendix G – GIS Maps

