

Preliminary Case Study 3: Health, Science, and Medical Technology Real Time Labor Data

Career Ladders Project

Executive Summary

In this case study, we conducted research to find out what a real time labor workforce analysis would add to the proposed California Community College Linked Learning projects and to examine and illustrate its utility for understanding demand in a select industry sector. We anticipated that the research could give us a picture of the overall demand in the particular industry sector and the kind of job demand that would be relevant to entry level and middle skill positions. In this example, we focused on the Health, Science, and Medical Technology (HSMT) industry in the Sacramento Region.

CLP used Labor/Insight™ data, a labor market tool developed by Burning Glass. Labor/Insight is a real time labor market, web-based online application. This online application allows the user to query aggregated demand data across multiple coded data variables, including a variety of reports and the ability to drill down to the underlying job data.

In order to get a robust sample of data for the HSMT industry in the Sacramento area, we set the research criteria for a full year and focused on the Metropolitan Statistical Area. To zero in on the most relevant entry and middle skill level occupations, we used O*NET taxonomy to find the most appropriate occupational families. The research criteria for this set of reports used job postings in Health Care Support and Health Care Practitioners and Technical occupational families for the 12 months of 2011 for the Sacramento Metropolitan Statistical Area which includes Sacramento, Placer, Yolo, and El Dorado Counties.

We pulled this real time industry data to help inform program design, curriculum content, and opportunities for industry partnerships, linking to real time data in the selected metropolitan region on advertised jobs, salaries, and desired employment skills in an occupational cluster. Rather than working with labor market data around projections of future jobs, we could filter real time job postings to show us job openings that employers were seeking to fill.

The reports we produced from this data sample included Top in Demand Jobs by occupation, Top Employers in the industry, Top Cities with job postings in the industry, and Top Occupations with real time job posting salary information and education requirements. Additionally, as a technical assistance tool, we were able to filter employer data to drill down to the underlying jobs under a given employer and skills in demand for actual jobs posted.

To connect the labor market data to the Linked Learning project, we investigated programs of study in health occupations in Sacramento area colleges and linked this information to the jobs in most demand and to jobs that required some postsecondary education, but not a Bachelor's Degree. Putting this data together, we were able to find linkages between the jobs in most

demand and programs of study that could qualify students for some of the high demand jobs and careers.

We found that the industry data supports the overall goals of the proposed Linked Learning project, especially when looking at the locally available programs. Many of the linked jobs are entry level occupations in the field and students can advance with a combination of work experience and further education to other in demand jobs listed.

Below are some of the highlights of the data we gathered from Labor/Insight, followed by some sample entry and exit points into the college programs with promising job prospects in the Health industry.

The **Top in Demand** jobs, requiring **less than a Bachelor's Degree** in HSMT occupations in the Sacramento Area during 2011 were:

- Registered Nurses
- Health Technologists and Technicians
- Medical Records and Health Information Technicians
- Nurse Assistants
- Medical Assistants
- Home Health Aides

The **Mean Salary** advertised for each of these positions is the following:

- | | |
|--|----------|
| • Registered Nurses | \$79,375 |
| • Health Technologists and Technicians | \$53,476 |
| • Medical Records and Health Information Technicians | \$43,329 |
| • Nurse Assistants | \$41,696 |
| • Medical Assistants | \$36,806 |
| • Home Health Aides | \$50,520 |

Graduating High School Students can pursue careers that can lead to these jobs by enrolling in **Community College Programs** such as:

- Registered Nursing (Associate Degree) – Sacramento City College
- Health Information Technology (Certificate 26 Units, Associate Degree) – Cosumnes River College
- Certified Nurse Assistant (Certificate 6 Units) – American River College
- Medical Assisting (Certificate 38 Units, Associate Degree) – Cosumnes River College
- Home Health Aide (Certificate 8 Units) – American River College

Top Employers for this field in the Sacramento Area are:

- Sutter Health

- Kaiser Permanente
- Catholic Healthcare West
- UC Davis Health System
- Adventist Health

The **Top in Demand** jobs, requiring a **Bachelors' Degree** in the Sacramento Area during 2011 were:

- Registered Nurses
- Physicians and Surgeons
- Physical Therapists
- Occupational Therapists
- Pharmacists

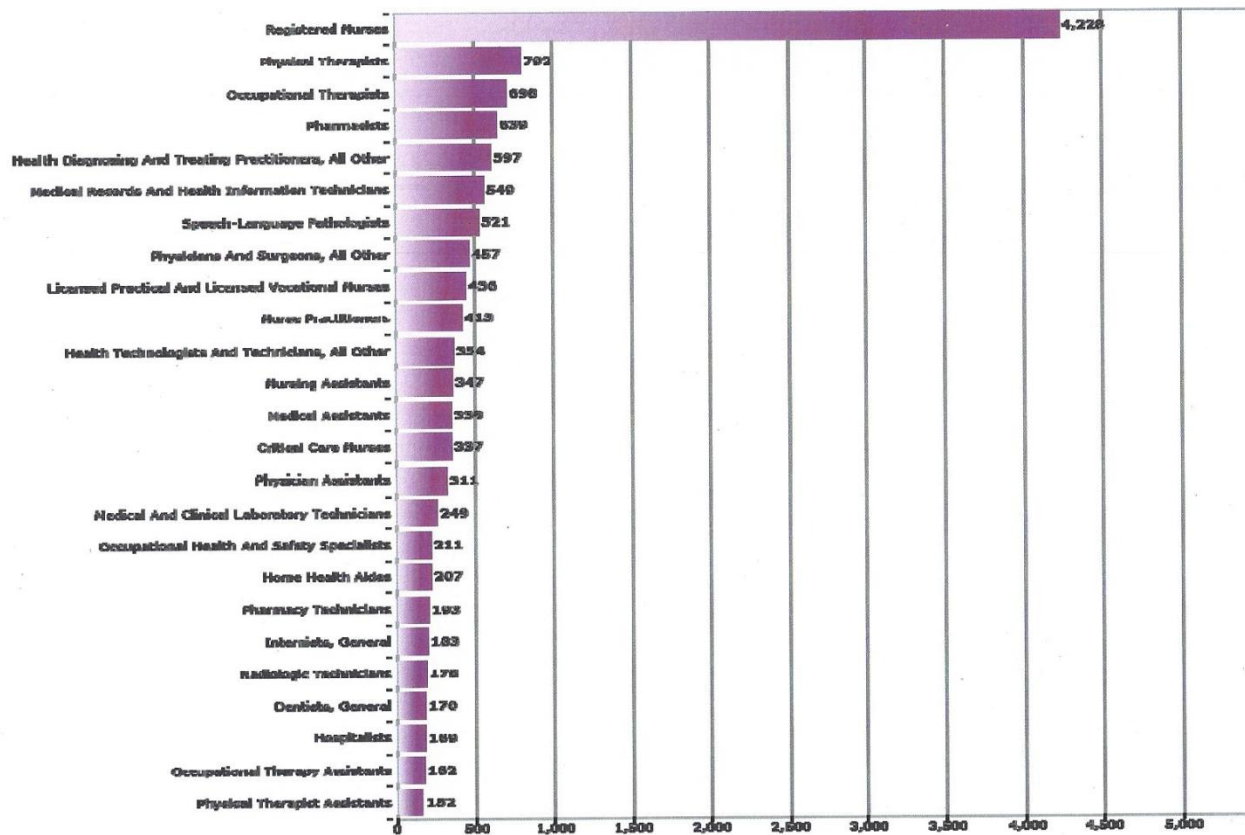
Initial Conclusions and Next Steps

Using real time labor market information, we were able to take a deep dive in the healthcare sector in the greater Sacramento region and extract useful and accurate information concerning where the present jobs are, who the top employers are, and what emerging skills within the industry cluster were most frequently in demand by regional employers in real time. CLP presented the information highlighted here to a number of CC faculty and staff in HSMT programs and generally received a positive response to this type of data collection. We were also able to confirm that entry level and middle skill jobs most relevant to the target Linked Learning student population are available in the Sacramento region and that advancement opportunity exists in HSMT with further education and work experience.

However, we do see several limitations to the data. This real time focus does not help with forecasting future industry trends or innovations that could impact hiring demand and educational training needs. While the data is occupationally focused, CLP and its partner colleges will need to expand on this work to analyze, define, and clarify the broader career pathways in which these occupations nest and the sequence of career progressions available to students and job entrants over time. The real time data is most useful, we believe, as part of a comprehensive suite of industry tools, which would need to include other labor market studies (such as those conducted by regional economic development organizations, state agencies, and private research firms) as well as more in-depth interviews with sector employers and industry leaders to distill forecasted trends, anticipated hiring needs, and strategic direction for the next few years. CLP's plan for Linked Learning includes a focus on ramping up industry involvement in pathway development within the select sectors in order to craft a more complete picture of the career and educational ladder for students with industry validated certificates, credentials, and advancement options identified. This work will be conducted with attention both to locally defined needs and with awareness of regional and statewide industry clusters, especially in sectors like healthcare which increasingly involve large employers operating at a regional or statewide, versus purely local level.

Top 25 'In Demand' Jobs in Healthcare Occupations in Sacramento Metropolitan Area in 2011

15,900 total job postings



Data sourced from Labor Insight, a Burning Glass Technologies product.

Sacramento Metropolitan Statistical Area includes Sacramento, Placer, Yolo, and El Dorado Counties.



**Demand and Requirements for Healthcare Occupations
in Sacramento Metropolitan Area in 2011**

Aligned with Community College Programs of Study
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SOC Code (ONET-6)	Occupation Title	Real Time Job Postings	Real Time Mean Salary	% Real Time Postings Requiring High School Diploma (Excluding NA)	% Real Time Job Postings Requiring Some College/Associate's Degree (Excluding NA)	% Real Time Job Postings Requiring Bachelor's or Higher (Excluding NA)	% Real Time Job Postings with Unspecified Education	% 2010 National Employment Requiring High School Diploma or Less	% 2010 National Employment Requiring Some College or Associate's Degree	% 2010 National Employment Requiring a Bachelor's or Higher	2007-2010 Percentage Change in Employment
29-1141	Registered Nurses	4,623	\$79,375	13%	6%	81%	55%	1%	44%	55%	11%
	Physicians and Surgeons, All Other	812	\$96,008	3%	0%	97%	61%	0%	1%	99%	9%
29-1069											
29-1123	Physical Therapists	792	\$76,306	10%	0%	90%	64%	2%	8%	90%	16%
29-1122	Occupational Therapists	702	\$85,298	8%	0%	92%	76%	1%	10%	89%	-16%
29-1051	Pharmacists	639	\$120,911	7%	1%	92%	55%	0%	5%	95%	2%
29-1199	Health Diagnosing and Treating Practitioners, All Other	602	\$95,777	12%	4%	84%	67%	4%	13%	83%	-17%
29-2099	Health Technologists and Technicians, All Other	582	\$53,476	49%	8%	43%	49%	24%	50%	27%	NA
29-2071	Medical Records and Health Information Technicians	549	\$43,329	57%	9%	34%	54%	32%	51%	16%	32%
29-1127	Speech-Language Pathologists	521	\$81,679	7%	0%	92%	61%	1%	0%	99%	-24%
29-2061	Licensed Practical and Licensed Vocational Nurses	436	\$61,102	22%	8%	70%	64%	21%	74%	5%	24%
29-1171	Nurse Practitioners	413	\$94,278	6%	1%	94%	54%	0%	3%	97%	NA
31-1014	Nursing Assistants	347	\$41,696	84%	0%	16%	38%	51%	42%	8%	6%
31-9092	Medical Assistants	338	\$36,806	77%	7%	16%	48%	27%	64%	9%	19%
29-1071	Physician Assistants	332	\$88,765	17%	0%	83%	65%	5%	21%	74%	51%
29-2012	Medical and Clinical Laboratory Technicians	249	\$35,626	48%	13%	39%	39%	13%	36%	51%	23%
29-9011	Occupational Health and Safety Specialists	211	\$75,132	21%	1%	78%	30%	NA	NA	NA	381%
31-1011	Home Health Aides	207	\$50,520	68%	5%	28%	42%	51%	42%	8%	-5%
29-2052	Pharmacy Technicians	193	\$36,349	64%	9%	27%	48%	27%	55%	18%	24%
29-1063	Internists, General	183	\$67,918	5%	1%	94%	55%	0%	1%	99%	38%
29-1021	Dentists, General	170	\$64,432	30%	7%	63%	82%	0%	0%	100%	20%
	Occupational Therapist Assistants	162	NA	0%	77%	23%	81%	NA	NA	NA	-64%
31-2011											
31-2021	Physical Therapist Assistants	152	NA	0%	57%	43%	63%	14%	59%	27%	-14%
29-1067	Surgeons	140	\$64,121	9%	0%	91%	69%	0%	1%	99%	4%
29-1031	Dietitians and Nutritionists	139	\$48,071	24%	0%	76%	37%	18%	11%	71%	79%
29-2055	Surgical Technologists	138	NA	54%	1%	45%	51%	27%	55%	18%	8%
29-2031	Cardiovascular Technologists and Technicians	137	NA	64%	6%	30%	64%	10%	67%	23%	13%



**Demand and Requirements for Healthcare Occupations
in Sacramento Metropolitan Area in 2011**

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31-9091	Dental Assistants	137	\$39,855	87%	3%	11%	72%	32%	59%	9%	8%
29-1066	Psychiatrists	133	\$73,186	6%	0%	94%	77%	0%	1%	99%	300%
29-1062	Family and General Practitioners	112	NA	48%	0%	52%	59%	0%	1%	99%	100%
29-2034	Radiologic Technologists and Technicians	111	\$69,474	24%	7%	69%	59%	10%	67%	23%	NA
29-1126	Respiratory Therapists	107	NA	33%	2%	65%	49%	2%	70%	28%	16%
29-2032	Diagnostic Medical Sonographers	95	NA	33%	2%	65%	42%	10%	67%	23%	32%
29-2011	Medical and Clinical Laboratory Technologists	91	\$60,434	9%	9%	82%	64%	13%	36%	51%	34%
29-2053	Psychiatric Technicians	82	\$52,461	61%	6%	32%	62%	27%	55%	18%	NA
29-1131	Veterinarians	81	\$85,176	27%	5%	68%	73%	1%	1%	99%	6%
31-9097	Phlebotomists	75	NA	83%	0%	17%	44%	24%	67%	9%	NA
29-1065	Pediatricians, General	74	NA	12%	6%	82%	54%	0%	1%	99%	-47%
29-1125	Recreational Therapists	69	\$66,237	8%	3%	89%	48%	24%	15%	61%	0%
29-2051	Dietetic Technicians	60	\$34,978	69%	3%	28%	47%	27%	55%	18%	-50%
31-9011	Massage Therapists	58	\$67,680	50%	0%	50%	79%	19%	56%	25%	121%
31-9099	Healthcare Support Workers, All Other	57	NA	76%	0%	24%	35%	51%	40%	9%	NA
31-9093	Medical Equipment Preparers	56	NA	70%	0%	30%	21%	51%	40%	9%	NA
29-2021	Dental Hygienists	50	\$67,837	NA	NA	NA	100%	5%	61%	34%	32%
29-2056	Veterinary Technologists and Technicians	49	NA	14%	0%	86%	71%	27%	55%	18%	17%
29-2041	Emergency Medical Technicians and Paramedics	48	NA	56%	0%	44%	67%	15%	72%	13%	NA
31-1015	Orderlies	41	NA	87%	0%	13%	24%	51%	42%	8%	NA
31-9094	Medical Transcriptionists	39	NA	100%	0%	0%	51%	20%	63%	17%	17%
29-1022	Oral and Maxillofacial Surgeons	37	NA	NA	NA	NA	100%	0%	0%	100%	NA
29-1064	Obstetricians and Gynecologists	35	NA	0%	0%	100%	60%	0%	1%	99%	200%
29-2057	Ophthalmic Medical Technicians	31	NA	NA	NA	NA	100%	27%	55%	18%	NA
29-2081	Opticians, Dispensing	30	NA	NA	NA	NA	100%	29%	56%	15%	-20%
29-9099	Healthcare Practitioners and Technical Workers, All Other	30	\$91,617	20%	0%	80%	67%	NA	NA	NA	NA
29-1041	Optometrists	29	NA	NA	NA	NA	100%	0%	1%	98%	111%
29-9012	Occupational Health and Safety Technicians	29	NA	11%	6%	83%	38%	NA	NA	NA	NA
29-1151	Nurse Anesthetists	26	NA	NA	NA	NA	100%	1%	9%	90%	NA
29-1181	Audiologists	26	NA	20%	0%	80%	62%	0%	1%	98%	-75%
29-1124	Radiation Therapists	23	NA	NA	NA	NA	100%	2%	53%	45%	NA

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31-9095	Pharmacy Aides	22	NA	87%	0%	13%	32%	34%	42%	24%	-19%
29-2033	Nuclear Medicine Technologists	21	NA	9%	0%	91%	48%	10%	67%	23%	33%
	Veterinary Assistants and Laboratory Animal Caretakers	21	NA	NA	NA	NA	100%	42%	40%	18%	-15%
31-9096											
29-1011	Chiropractors	16	NA	NA	NA	NA	100%	1%	2%	98%	NA
29-1061	Anesthesiologists	16	NA	NA	NA	NA	100%	0%	1%	99%	-32%
29-1081	Podiatrists	15	NA	25%	0%	75%	20%	0%	0%	100%	NA
31-2022	Physical Therapist Aides	15	NA	70%	0%	30%	33%	14%	59%	27%	38%
29-9091	Athletic Trainers	14	NA	20%	0%	80%	29%	NA	NA	NA	-70%
29-1023	Orthodontists	10	NA	NA	NA	NA	100%	0%	0%	100%	NA
29-2091	Orthotists and Prosthetists	10	NA	NA	NA	NA	100%	24%	50%	27%	NA
31-2012	Occupational Therapist Aides	10	NA	NA	NA	NA	100%	NA	NA	NA	NA
29-1029	Dentists, All Other Specialists	9	NA	NA	NA	NA	100%	0%	0%	100%	NA
	Magnetic Resonance Imaging Technologists	9	NA	NA	NA	NA	100%	10%	67%	23%	NA
29-2035											
29-1161	Nurse Midwives	6	NA	NA	NA	NA	100%	0%	3%	97%	NA
31-1013	Psychiatric Aides	5	NA	NA	NA	NA	100%	51%	42%	8%	NA
29-1129	Therapists, All Other	4	NA	NA	NA	NA	100%	4%	15%	81%	NA
29-1024	Prosthodontists	3	NA	NA	NA	NA	100%	0%	0%	100%	NA
29-2054	Respiratory Therapy Technicians	3	NA	NA	NA	NA	100%	27%	55%	18%	NA
29-2092	Hearing Aid Specialists	1	NA	NA	NA	NA	100%	24%	50%	27%	NA
	Total	15,900									



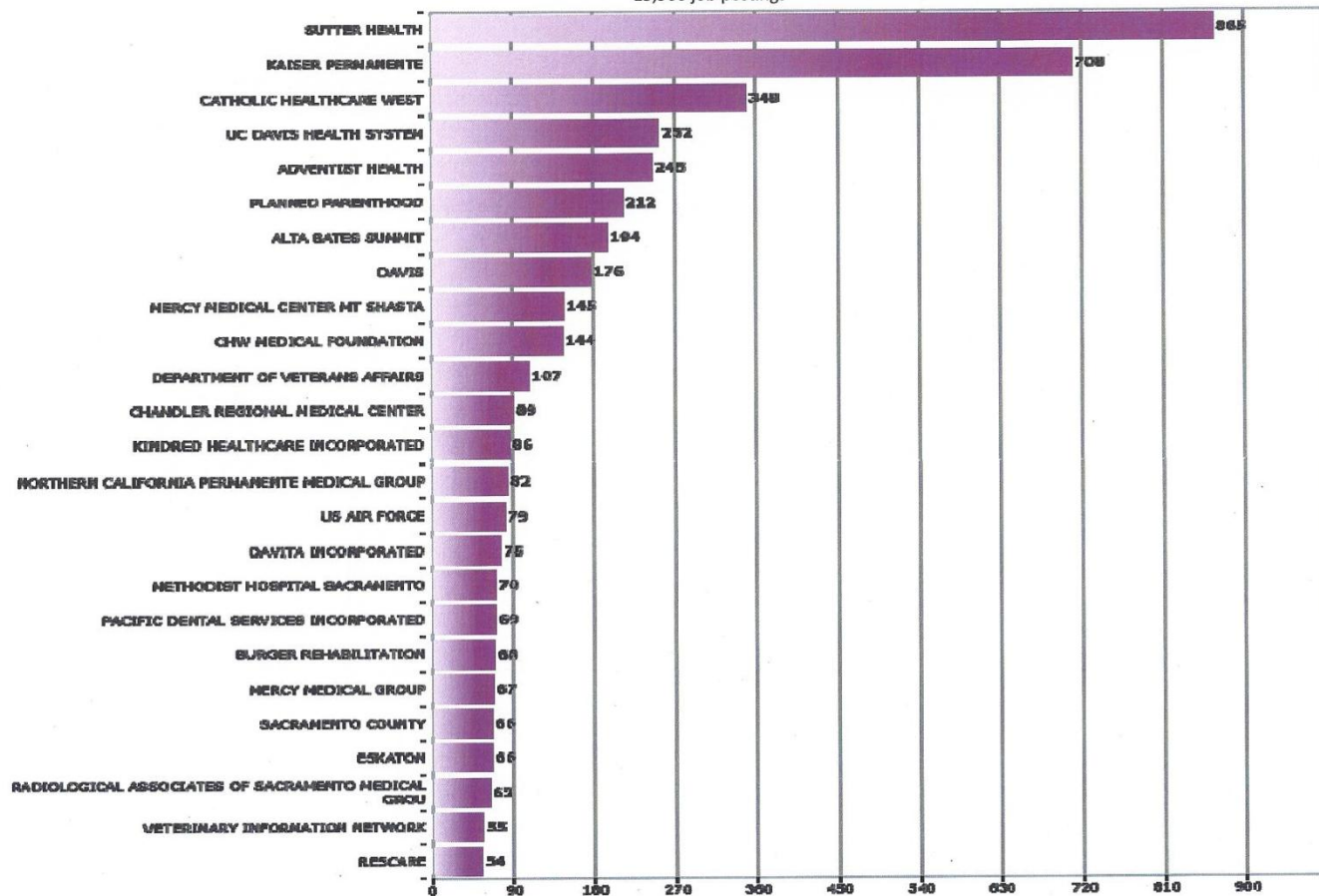
Sacramento CC Programs of Study Aligned with Linked Learning High Schools						
College	T.O.P	Program Name	Program Type	Units	Department	
Sacramento City College	1230.10	Registered Nursing	AS Degree	80 + GE	Science and Allied Health	
	1230.2	Licensed Vocational Nursing	Certificate of Achievement	53	Science and Allied Health	
	1230.2	Licensed Vocational Nursing	AS Degree	53 + GE	Science and Allied Health	
		Occupational Therapy Assistant	AS Degree	66 - 73 + GE	Science and Allied Health	
		Physical Therapist Assistant	AS Degree	63-64 + GE	Science and Allied Health	
	1240.1	Dental Assisting	Certificate of Achievement	28	Science and Allied Health	
	1240.1	Dental Assisting	AS Degree	27 + GE	Science and Allied Health	
	1240.2	Dental Hygiene	AS Degree	83 + GE	Science and Allied Health	
	1309	Gerontology	AS Degree	26 + GE	Behavioral and Social Sciences	
	1309	Gerontology	Certificate of Achievement	26	Behavioral and Social Sciences	
	4902	Nutrition	AS Degree	19 + GE	Behavioral and Social Sciences	
	Cosumnes River College	1208	Medical Assisting	Certificate of Achievement	35.5-37.5	Careers and Technology
1208		Medical Assisting	AS Degree	35 + GE	Careers and Technology	
1208.2		Administrative Medical Assisting	Certificate of Achievement	20.5	Careers and Technology	
1221		Pharmacy Technology	AS Degree	32 + GE	Careers and Technology	
1223		Health Information Technology	AS Degree	37 + GE	Careers and Technology	
		Healthcare Information Technology	Certificate of Proficiency	11	Business and Family Science	

Sacramento CC Programs of Study Aligned with Linked Learning High Schools

College	T.O.P	Program Name	Program Type	Units	Department
		Funeral Services	AS Degree	62.5 - 64.5 + GE	
		Healthcare Interpreting	Certificate of Achievement	22.5 - 28.5	
		Medical Language Interpreter			

Top 25 Employers in Healthcare Occupations in Sacramento Metropolitan Area for 2011

15,900 job postings



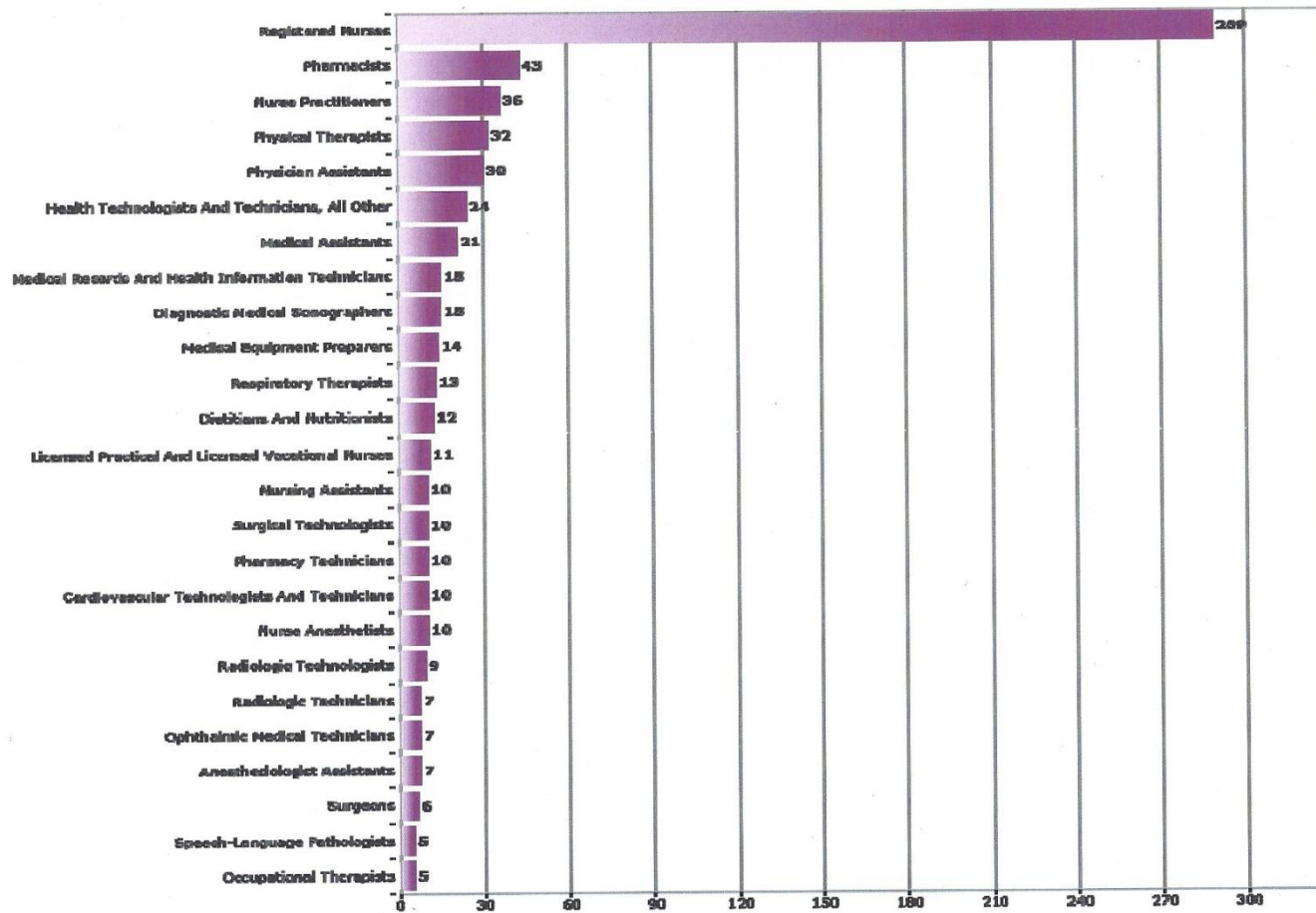
Data sourced from Labor Insight, a Burning Glass Technologies product.

Sacramento Metropolitan Statistical Area includes Sacramento, Placer, Yolo, and El Dorado Counties.



Top 25 Occupations for Kaiser Permanente in Sacramento Metropolitan Area in 2011

708 total job postings for Kaiser



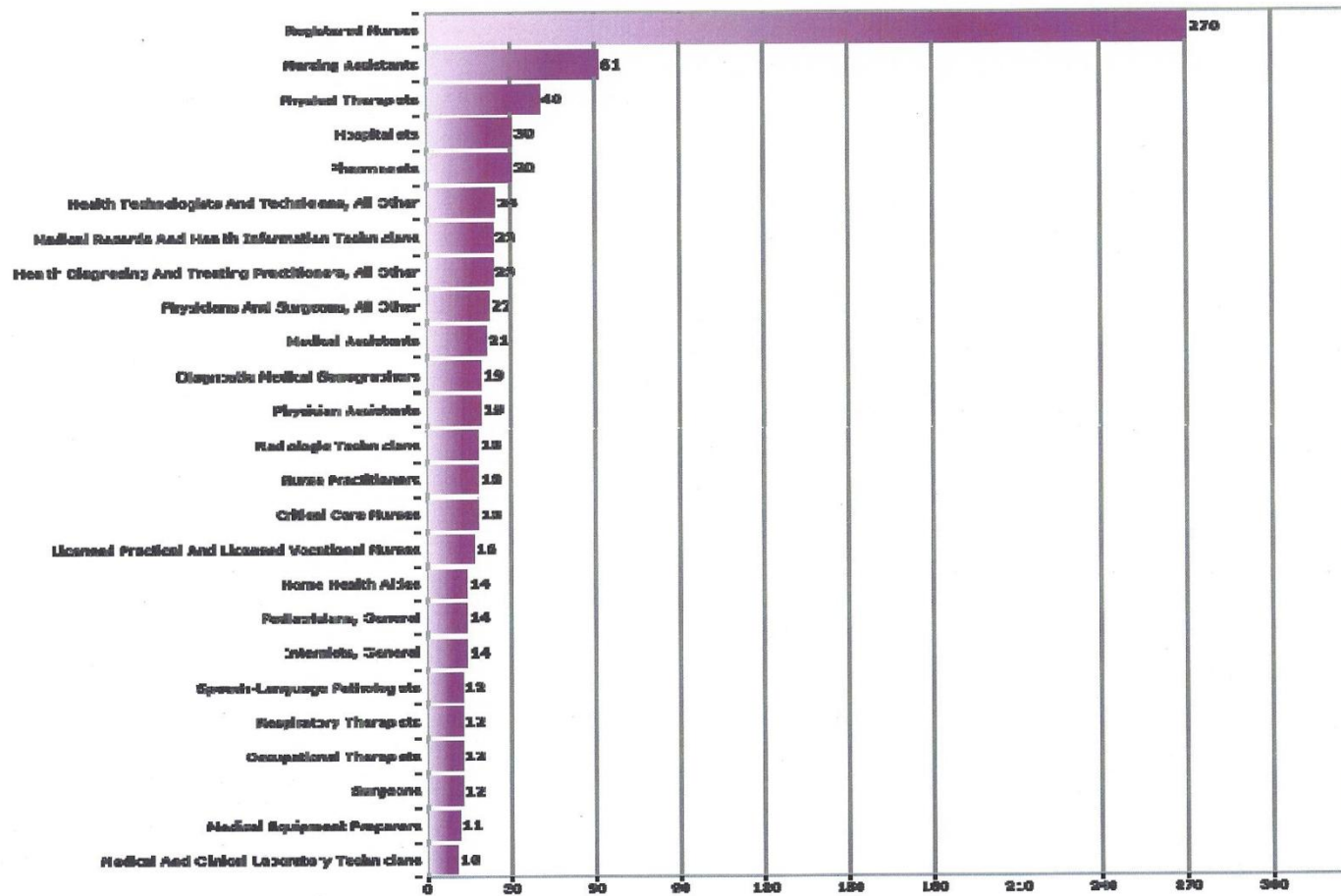
Data sourced from Labor Insight, a Burning Glass Technologies product.

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Top Occupations for Sutter Health in Sacramento Metropolitan Area in 2011

865 total job postings for Sutter Health



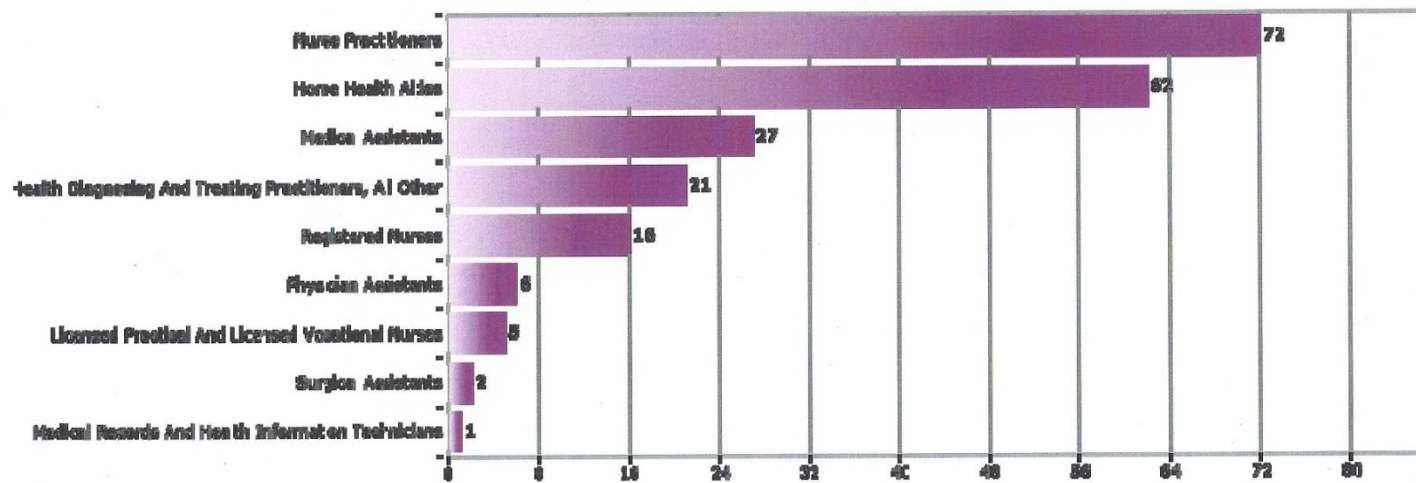
Data sourced from Labor Insight, a Burning Glass Technologies product.

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**Top 25 Occupations for Planned Parenthood
in Sacramento Metropolitan Area in 2011**

212 job postings for Planned Parenthood



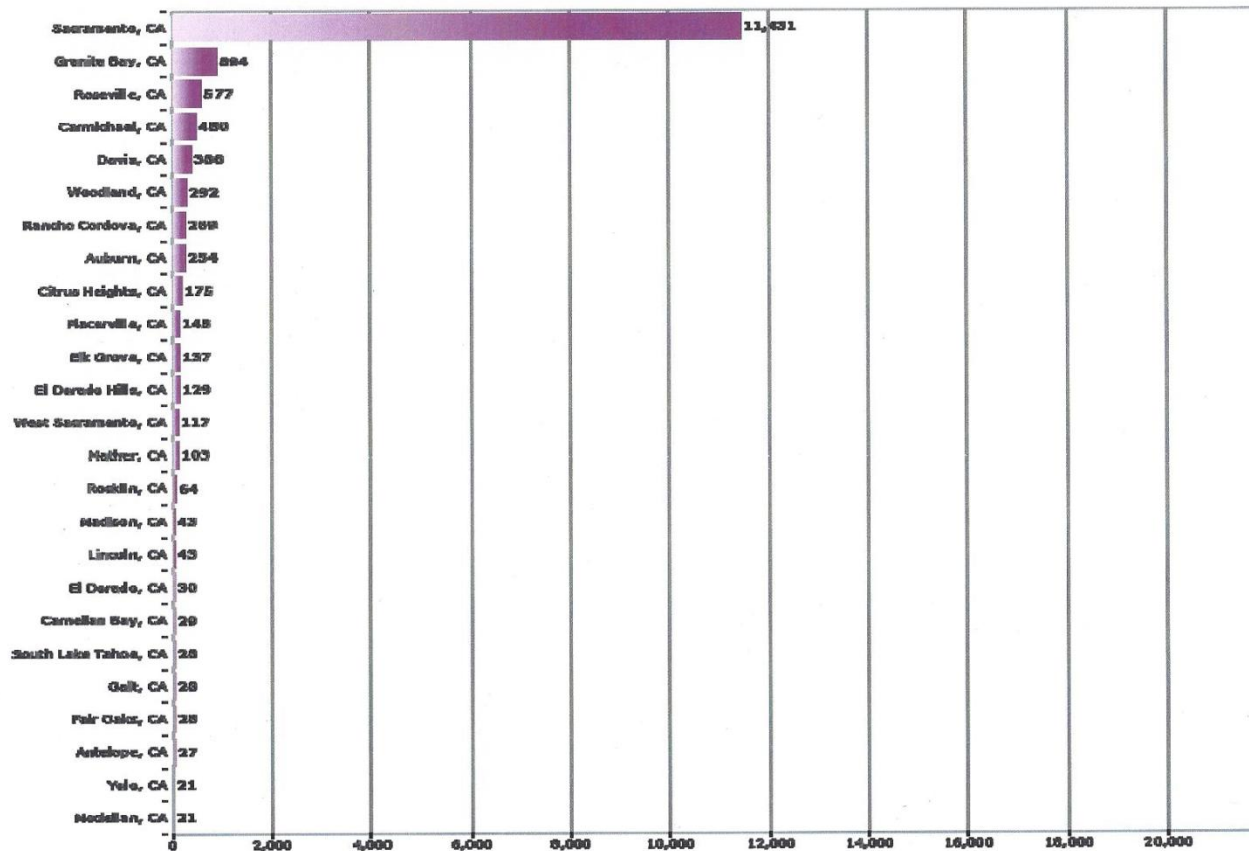
Data sourced from Labor Insight, a Burning Glass Technologies product.

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Top 25 Cities with Job Postings in Healthcare Occupations in Sacramento Metropolitan Area in 2011

15,900 total job postings



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