2010-2020 Industry Employment Projections

San Diego-Carlsbad-San Marcos Metropolitan Statistical Area (San Diego County)

Employment Development Department Labor Market Information Division October 24,2012

NAICS Code	Industry Title	Annual A		Employment Change		
Code		2010	2020	Numerical	Percent	
	Total Employment	1,360,100	1,619,900	259,800	19.1	
	Self Employment (A)	109,500	122,400	12,900	11.8	
	Unpaid Family Workers (B)	1,100	1,200	100	9.1	
	Private Household Workers (C)	16,200	18,100	1,900	11.7	
The second secon	Total Farm	10,500	10,900	400	3.8	
	Total Nonfarm	1,222,800	1,467,300	244,500	20.0	
1133,21	Mining and Logging	400	400	0	0.0	
23	Construction	55,300	72,300	17,000	30.7	
236	Construction of Buildings	12,500	16,200	3,700	29.6	
238	Specialty Trade Contractors	36,800	48,100	11,300	30.7	
2381	Foundation, Structure, and Building Exterior Contractors	6,400	7,900	1,500	23.4	
2382	Building Equipment Contractors	15,300	20,500	5,200	34.0	
2383	Building Finishing Contractors	10,000	13,000	3,000	30.0	
31-33	Manufacturing	92,900	93,600	700	0.8	
	Durable Goods Manufacturing (321,327,331-339)	71,000	71,600	600	0.8	
334	Computer and Electronic Product Manufacturing	25,900	26,300	400	1.5	
336	Transportation Equipment Manufacturing	14,000	14,100	100	0.7	
3364	Aerospace Product and Parts Manufacturing	6,000	6,700	700	11.7	
3366	Ship and Boat Building	7,000	6,300	-700	-10.0	
	Nondurable Goods Manufacturing (311-316,322-326)	21,900	22,000	100	0.5	
22,42- 49	Trade, Transportation, and Utilities	197,300	243,900	46,600	23.6	
42	Wholesale Trade	40,100	51,700	11,600	28.9	
423	Merchant Wholesalers, Durable Goods	20,800	25,800	5,000	24.0	
424	Merchant Wholesalers, Nondurable Goods	14,100	18,100	4,000	28.4	
44-45	Retail Trade	130,700	161,000	30,300	23.2	

441	Motor Vehicle and Parts Dealers	15,100	18,800	3,700	24.5
	Building Material and Garden Equipment and				
444	Supplies Dealers	8,400	9,900	1,500	17.9
445	Food and Beverage Stores	27,000	34,400	7,400	27.4
4451	Grocery Stores	23,800	30,600	6,800	28.6
446	Health and Personal Care Stores	8,200	10,500	2,300	28.0
448	Clothing and Clothing Accessories Stores	15,300	18,900	3,600	23.5
4481	Clothing Stores	12,100	15,000	2,900	24.0
451	Sporting Goods, Hobby, Book, and Music Stores	6,700	7,500	800	11.9
452	General Merchandise Stores	26,700	34,400	7,700	28.8
4521	Department Stores	17,900	22,200	4,300	24.0
4529	Other General Merchandise Stores	8,900	12,200	3,300	37.1
453	Miscellaneous Store Retailers	8,000	8,400	400	5.0
22,48- 49	Transportation, Warehousing, and Utilities	26,500	31,200	4,700	17.7
22	Utilities	7,300	8,100	800	11.0
48-49	Transportation and Warehousing	19,200	23,100	3,900	20.3
493	Warehousing and Storage	1,800	2,200	400	22.2
51	Information	25,100	28,000	2,900	11.6
511	Publishing Industries (except Internet)	7,900	7,700	-200	-2.5
5112	Software Publishers	4,200	5,200	1,000	23.8
515	Broadcasting (except Internet)	3,600	4,100	500	13.9
517	Telecommunications	8,800	11,000	2,200	25.0
52-53	Financial Activities	67,200	80,100	12,900	19.2
52	Finance and Insurance	41,300	49,900	8,600	20.8
522	Credit Intermediation and Related Activities	18,600	23,100	4,500	24.2
523	Securities, Commodity Contracts, and Other Financial Investments and Related Activities	7,300	8,100	800	11.0
524	Insurance Carriers and Related Activities	14,500	17,600	3,100	21.4
53	Real Estate and Rental and Leasing	25,900	30,200	4,300	16.6
531	Real Estate	20,900	24,800	3,900	18.7
54-56	Professional and Business Services	207,700	268,700	61,000	29.4
54	Professional, Scientific, and Technical Services	117,500	158,300	40,800	34.7
5411	Legal Services	12,200	14,100	1,900	15.6
5413	Architectural, Engineering, and Related Services	22,300	32,000	9,700	43.5
5417	Scientific Research and Development Services	30,600	39,100	8,500	27.8
55	Management of Companies and Enterprises	17,100	19,100	2,000	11.7
56	Administrative and Support and Waste Management and Remediation Services	73,200	91,300	18,100	24.7
561	Administrative and Support Services	70,200	87,600	17,400	24.8

5613	Employment Services	27,000	33,500	6,500	24.1
5617	Services to Buildings and Dwellings	19,000	23,600	4,600	24.2
61-62	Education Services, Health Care, and Social Assistance	145,500	177,400	31,900	21.9
61	Educational Services (Private)	25,400	31,500	6,100	24.0
6113	Colleges, Universities, and Professional Schools	12,500	15,500	3,000	24.0
62	Health Care and Social Assistance	120,200	145,900	25,700	21.4
621	Ambulatory Health Care Services	52,800	63,700	10,900	20.6
622	Hospitals (Private)	25,500	28,600	3,100	12.2
623	Nursing and Residential Care Facilities	23,300	30,600	7,300	31.3
624	Social Assistance	18,500	23,000	4,500	24.3
71-72	Leisure and Hospitality	154,800	195,800	41,000	26.5
71	Arts, Entertainment, and Recreation	24,100	32,600	8,500	35.3
713	Amusement, Gambling, and Recreation	16,200	21,900	5,700	35.2
72	Accommodation and Food Services	130,700	163,200	32,500	24.9
721	Accommodation	29,400	32,800	3,400	11.6
722	Food Services and Drinking Places	101,300	130,400	29,100	28.7
722511	Full-Service Restaurants	50,500	65,600	15,100	29.9
81	Other Services (excludes 814-Private Household Workers)	46,200	51,800	5,600	12.1
811	Repair and Maintenance	11,900	12,000	100	0.8
812	Personal and Laundry Services	15,000	18,300	3,300	22.0
	Government	230,400	255,300	24,900	10.8
	Federal Government (D)	47,000	50,300	3,300	7.0
47-01-0-7-01-0-7-0-7-0-7-0-7-0-7-0-7-0-7-	State and Local Government	183,500	205,000	21,500	11.7
	State Government	42,500	51,400	8,900	20.9
	State Government Education	27,900	34,400	6,500	23.3
	Other State Government	14,700	17,000	2,300	15.6
	Local Government	140,900	153,600	12,700	9.0
	Local Government Education	77,300	81,500	4,200	5.4
	Other Local Government	63,700	72,100	8,400	13.2

Data sources: U.S. Bureau of Labor Statistics' Current Employment Statistics March 2011 benchmark and Quarterly Census of Employment and Wages (QCEW) industry employment.

Industry detail may not add up to totals due to independent rounding and suppression.

(A) Self-employed persons work for profit or fees in their own business, profession, trade, or farm. Only the unincorporated self-employed are included in this category. The estimated and projected employment numbers include all workers who are primarily self-employed and wage and salary workers who hold a secondary job as a self-employed worker.

- (B) Unpaid family workers are those persons who work without pay for 15 or more hours per week on a farm or in a business operated by a member of the household to whom they are related by birth or marriage.
- (C) Private household workers are employed as domestic workers whose primary activities are to maintain the household. Industry employment is based on QCEW.
- (D) Temporary U.S. Census workers are included in the base and projected year employment numbers.

Traded Industry Clusters (SANDAG) - Employment and Wages

Figure 2 Industry Cluster Employment and Wages, 2008-2010 \$120,000 Info. and Communications Biotechnology and Tech. Pharmaceuticals \$100,000 Cleantech Biomedical Devices and Products Annual Average Wage (2010) \$80,000 Action Sports Mfg. Aerospace, Navigation, and Publishing and Marketing Maritime Tech. \$60,000 Advanced Precision Mfg Specialty Foods and Microbreweries \$40,000 Horticulture Apparel Mfg. Entertainment and Hospitality \$20,000 Fruits and Vegetables \$0 10% 15% 20% 25% -20% -15% -10% -5% 0% 5% Growth Rate (2008-2010) Sources: SANDAG, Current Employment Inventory (2008-2010).

from http://www.sandag.org/uploads/publicationid/publicationid 1715 15318.pdf

Concentration of Traded Industry Clusters throughout the County

The size of the bubble represents the number of jobs in a given ZIP code (bubbles may overlap). A large bubble could represent many small firms in one area or a small number of large firms. The industry cluster employment concentration maps are presented on the following pages and brief highlights are provided below.

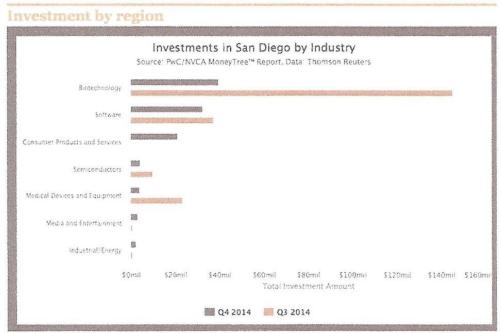
- Action Sports Manufacturing is concentrated in the north coastal area, which is home to many surf board and golf club manufacturing companies. (2008-10 growth = -8%)
- Advanced Precision Manufacturing is distributed widely throughout the region with many small firms. Some employment concentrations are seen in the eastern and southern areas of the region.
- Aerospace, Navigation, and Maritime cluster jobs are concentrated along the southern coastal areas, including the City of San Diego, National City, and Chula Vista.

- With Apparel Manufacturing, we see an even distribution of smaller and midsized firms around the region.
- The Biomedical Devices and Products cluster shows high employment concentrations around the Golden Triangle and in North County. (2008-10 growth = 21%)
- The Biotechnology and Pharmaceuticals cluster shows a distribution similar to Biomedical Devices and Products, but has a larger number of jobs around the region. (2008-10 growth = 20%)
- Jobs in the Cleantech cluster are distributed around North City and downtown San Diego, the Golden Triangle, and in North County. (2008-10 growth = 9%)
- The Entertainment and Hospitality cluster shows a wide distribution of jobs throughout the region, mainly because of hotels and restaurants.
- Employment in the Fruits and Vegetables cluster is predominantly located in North County on either side of the Interstate 15 (I-15) corridor. (2008-10 growth = -9%)
- Within the Horticulture cluster, jobs are clustered in northern coastal area. (2008-10 growth = -11%)
- Information and Communications Technologies cluster jobs are concentrated in the central coastal area and also along the I-15 corridor. (2008-10 growth = -3%)
- Publishing and Marketing jobs are located in the region's urban areas.
- Specialty Foods and Microbreweries, which is largely comprised of tortilla manufacturing and microbreweries, tends to be concentrated in the inland areas of the region. (2008-10 growth = -7%)

For detailed maps, please see pages 15-27 of this report:

http://www.sandag.org/uploads/publicationid/publicationid 1715 15318.pdf

Venture capital funding in San Diego (by industry)



https://www.pwcmoneytree.com/CurrentOuarter/ByRegion

San Diego Workforce Partnership LABOR MARKET ANALYSIS: Healthcare SAN DIEGO COUNTY

October 2014

Lori's notes: These are direct, cut-and-paste excerpts from the report, unless highlighted or otherwise noted.

Highlights Report: http://workforce.org/sites/default/files/pdfs/reports/industry/bj-fold hc 2014-09-16.pdf

Full Report: http://workforce.org/sites/default/files/pdfs/reports/industry/health_care_sdwp_2014-10-02.pdf

We identified five regional high-priority sectors for an in-depth assessment of employer needs: Advanced Manufacturing, Life Sciences, Information and Communication Technologies, Clean Energy and Health Care.

It is estimated that one in every 10 jobs in San Diego is health services-related.

- The 12 occupations in our research are expected to expand at a rate of 13 percent over the next five years.
- Its projected rapid employment growth and opportunities for on-the-job training, combined with reported current and future skills shortage, placed Health Care on our list of San Diego's top five priority sectors.

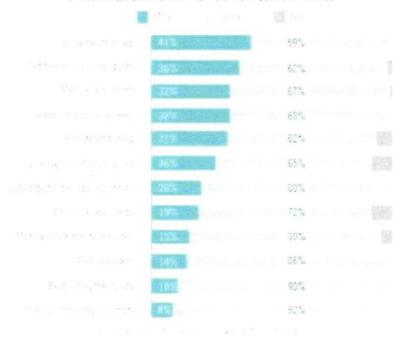
Health Care is one of the largest and fastest-growing sectors of the **U.S. economy**. More than 18 million workers are employed in this sector. Advances in technology and changing demographics are the driving forces impacting both the supply and demand for workers in this sector. Expanding at a rapid pace, Health Care has been designated as one of the high growth sectors in **California**. It contributes significantly to employment in the state, with approximately 2 million workers employed in the sector, which accounts for one in every eight jobs.

In fact, through the Great Recession (2007–2010), employment expanded by more than 12,000 jobs, or 14
percent growth, while overall employment in the County fell by 6 percent.

[In San Diego] The Health Care sector accounts for more than 6,500 establishments and 100,000 workers, providing more than \$8 billion in wages each year. Additionally, Health Care contributes more than \$9 billion to San Diego's Gross Regional Product (GRP).

- In total, there are 60,137 workers employed in these 12 occupations in San Diego County with a projected growth of 12 percent over the next five years.
- There are 2,643 workers employed in these occupations in Imperial County, with a projected growth of 16
 percent over the same period.
- There are four Health Care facility construction projects underway in San Diego that account for nearly \$1.5 billion in contracts and have provided 14,000 on-site jobs for area workers.

EMPLOYER EXPECTATIONS OF 12 MONTH EMPLOYMENT CHANGE

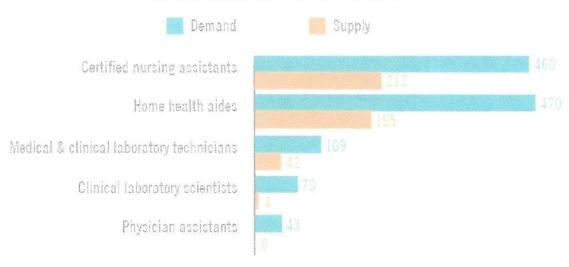


Twelve occupations were selected for in-depth analysis in this study. Together, they represent one-third or 60,100 of all Health Care jobs in the region as of 2013, and are projected to grow 12% from 2014 to 2018.

- Registered nurses CSUSM, SDSU, CC's and proprietary institutions [However], the number of registered nurse graduates currently exceeds the projected number of available openings in San Diego County, per the report.
- 2. Licensed vocational nurses CC's and proprietary institutions
- 3. Certified nursing assistants CC's and proprietary institutions
- 4. Medical assistants CC's and proprietary institutions
- 5. Home health aides CC's and proprietary institutions
- 6. Medical coders CC's and proprietary institutions
- 7. Medical laboratory technicians CC's and proprietary institutions
- 8. Health care social workers CSUSM
- 9. Clinical laboratory scientists Add to CSUSM LAMP plan; on top 5 Gap Analysis
- 10. Respiratory therapists CC's and proprietary institutions
- 11. Physician assistants Add to CSUSM LAMP plan; on top 5 Gap Analysis
- 12. Occupational therapy assistants CC's and proprietary institutions

This study also provides an analysis of jobs gaps within the sector. A gap is created when the number of trained workers produced by the region's educational institutions does not match the number of available job openings. Comparing employer demand with worker supply helps identify training gaps that can be filled with workforce development.





In addition to identifying supply gaps in the region analyzing employer difficulty in hiring for specific occupations provides a greater understanding of which occupational training programs should be developed to address employer needs. Employers reported at least some difficulty in finding qualified applicants for all 12 positions.

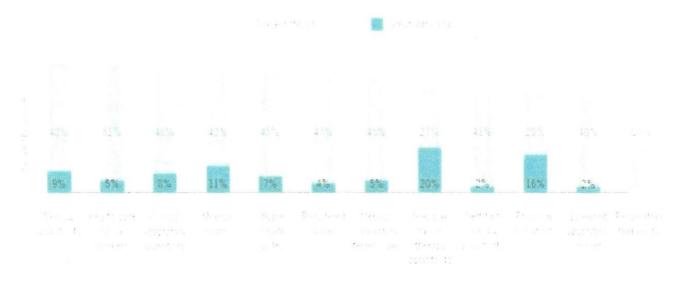


Table 3: Current and Projected Employment by Occupation35

	San Diego County				Imperial County				
	2013 John	2018 Jobs	5-Year Change	Annual Openings	2013 Jobs	2018 John	5 Year Change	Annual Openings	
Registered nurses	22.389	24,197	1,808	822	1,039	1.140	101	42	
Home health aides	7,644	9.157	1,513	470	677	879	202	56	
Flursing assistants	8.871	10.250	1.379	460	237	272	35	12	
Medical assistants	7.776	8,660	884	340	179	209	30	10	
Licensed vocational nurses	5.995	6.743	748	308	215	240	25	11	
Medical & clinical laboratory technicians	1,507	1,830	323	109	48	54	ó	2	
Medical coders	1.502	1.681	179	78	98	106	8	4	
Clinical laboratory scientists	1.110	1,302	192	70	34	37	3	M M	
Healthcare social workers	1.440	1,608	168	ద ద	76	96	20	2	
Physician assistant	723	861	138	43	11	15	4		
Respiratory therapists	882	958	76	29	24	26	2	(4.9)	
Occupational therapy assistants	299	355	56	20	< 10	<10	**	**	
	60.137				2,643				

Of note: 70 annual job openings for Clinical Lab Scientists and 43 for PA's.

Physician assistants Registered nurses Clinical laboratory scientists Occupational therapy assistants Respiratory therapists \$28.30 Health care social workers San Diego County \$23.38 Imperial County Licensed vocational nurses \$24.10 Medical laboratory technicians Medical coders \$18 12 Medical assistants Certified nursing assistants Home health aides

Figure 7: Median Hourly Wages in San Diego and Imperial Counties⁴⁵

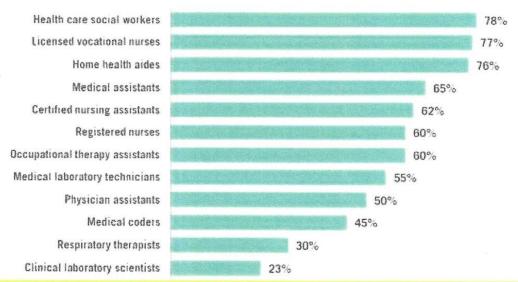
Figure 8: Difficulty Hiring by Ambulatory Care & Long-Term Care Employers⁴²

	Great difficulty	Some difficulty	No difficulty
Occupational therapy assistants	20%	27%	53%
Physician assistants	16%	28%	56%
Medical coders	11%	42%	47%
Medical assistants	9%	48%	42%
Clinical laboratory scientists	8%	46%	46%
Home health aides	7%	45%	48%
Social workers	5%	51%	43%
Medical laboratory technicians	5%	45%	50%
Registered nurses	4%	47%	49%
Certified nursing assistants	2% 4	3%	55%
Licensed vocational nurses	2% 40	1%	58%
Respiratory therapists	20%		80%

Of note: PA's and CLS's are in the top five healthcare positions surveyed as "great difficulty in hiring" by regional employers.

Figure 9: Percent of Ambulatory Care and Long-Term Care Employers Providing Professional Development

Opportunities*3



Of note: PA's and CLS's are in the top 4 for least amount of employer sponsored professional development (CLS = #1).

In San Diego and Imperial counties, there are 28 postsecondary institutions (public and private) that offer programs to train for the 12 occupations of study. Most of these institutions are located in San Diego County, with only two in Imperial—Imperial Valley College and San Diego State University, Imperial Valley Campus. Postsecondary programs range from short-term certificate offerings to associate and bachelor's degree programs.

In total, San Diego County postsecondary institutions awarded more than 4,200 certificates and degrees in programs related to the 12 occupations in 2012-2013. One-third of all awards went to medical assistants and 30 percent for registered nurses. Imperial County postsecondary institutions awarded about 100 certificate and degrees, with majority of students completing Registered Nursing and Licensed Vocational Nursing programs.

Table 7: Number of Postsecondary Program Completers in San Diego County, 2012-201345

Occupation	Certificates	Associate Degrees	Bachelor's Degrees	Total Completions
Certified nursing assistants	212	0	0	212
Clinical laboratory scientists	0	0	4	4
Health care social workers	1	29	0	30
Home health aides	195	0	0	195
Licensed vocational nurses	352	10	19	381
Medical & clinical laboratory technicians	22	20	0	42
Medical assistants	1,212	210	0	1,422
Medical coders	355	33	0	388
Occupational therapy assistants	0	19*	0	19
Physician assistants	0	0	0	0
Registered nurses	71	511	686	1.268
Respiratory therapists	32	212	19	263
Total	2.452	1.044	728	A 224

Of note: most of the healthcare educational programs in the region focus on nursing and nursing related programs. Zero PA program graduates; only 4 CLS graduates (most likely from UCSD Extension's program? Costly?).

Education and training institutions in both counties should add or enhance completion rates of the
programs focused on preparing for occupations with shortages of regional supply, including
certified nursing assistants, home health aides, medical laboratory technicians, clinical laboratory
scientists and physician assistants. Please note that annual openings for some of these occupations
(such as physician assistants and clinical laboratory scientists) are small in absolute numbers. The
need can be met by expanding capacity of institutions currently offering programs in these areas
rather than creating new programs.

With the support of the regional workforce development agencies, employers and educators should work together to increase the number of externships between students and incumbents.

Physician Assistants

Standard Occupational Code: 29-1071 Other Job Title(s): Physician Assistant

Description: Provide health care services typically performed by a physician-under the supervision of a physician. Conduct complete physicals, provide treatment and counsel patients. May in some cases prescribe medication. Must graduate from an accredited educational program for physician assistants.

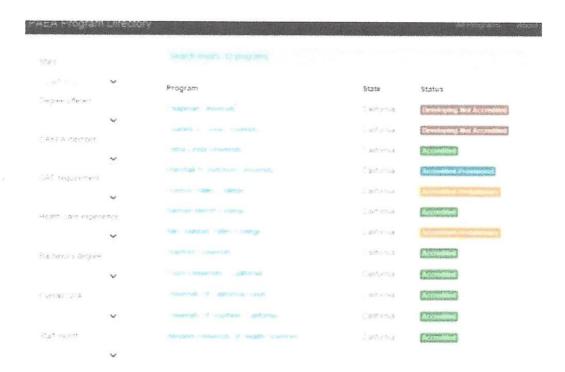


Note: Similar table in report combined MLT's with CLS's, so data table for only CLS's was lacking. But data infused elsewhere in the report.

Note: Relevant career lattices to these and other top programs were in the appendix of the report (pp. 42-46; and others), which are important for our Marketing dept.

http://workforce.org/sites/default/files/pdfs/reports/industry/health_care_sdwp_2014-10-02.pdf

Now, a search for accredited PA program via the Physician Assistant Educational Association (http://directory.paeaonline.org/) reveals no San Diego area programs. More information on how to develop an accredited PA program is here: http://www.paeaonline.org/index.php?ht=d/sp/i/136650/pid/136650



CLS programs are state regulated, with a list of approved programs on the CA Dept of Public Health website. The nearest are Loma Linda University and UCSD, the latter partnering with our nearby Palomar Medical Center, from which Dr. K. in CSUSM-CSM has connections and a supporter in CLS).

Approved California Fragrams for Chriscal Laboratory Scientist Training [2009]

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