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Dental Offices

Los Angeles County

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Table of Contents

Executive Summary	3
Introduction	4
Industry Overview	4
Demand	5
Labor Market	6
Employers	6
Job Growth	7
Occupations and Wages	8
Training Requirements	9
Industry Validation	11
Existing Programs	11
Accredited and Approved Programs in Los Angeles County	11
Implications and Recommendations for Community Colleges	14
Program Development	14
Other Recommendations	15
Conclusion	16
References	18
Organizations	19
Online Resources	20
Appendices	25
Appendix A: How to Utilize this Report	25
Appendix B: O*NET Top Knowledge, Skills and Abilities	27
Appendix C: Allowable Duties of Dental Assistants, RDAs, and RDAEFs	30
Appendix D: Los Angeles County Community College Programs	33
Appendix E: Employer Survey	35
Appendix F: Dental Office Employer Survey Results	37

THE NUMBER OF DENTAL ASSISTANT AND DENTAL HYGIENIST JOBS IN LOS ANGELES COUNTY IS PROJECTED TO GROW 34% AND 35% RESPECTIVELY OVER THE NEXT FIVE YEARS, RESULTING IN 3,471 (NEW AND REPLACEMENT) JOBS FOR DENTAL ASSISTANTS AND 2,528 JOBS FOR DENTAL HYGIENISTS.¹ – SOURCE: EMSI

Executive Summary

The Dental Care Industry is experiencing unprecedented growth in demand for qualified workers. Among the factors contributing to the unusually high rate of job growth and replacement demand in the industry are the aging population in California, increased numbers of patients with insurance, rising demand for cosmetic services, changes in the way Dentistry is practiced, and expanding services to underserved populations.

In Los Angeles County, Dental Hygienists are projected to be the fastest growing allied health occupation with an increase of 35% from 2007-2012. During this same period, the demand for Dental Assistants is projected to grow by 34% making it the third-fastest growing allied health occupation in Los Angeles County. These occupations will both experience greater growth than average for all health care employment in the county (13%) and significantly greater growth than all employment during the five-year period, which is projected to be 7%. The median hourly wages are \$13.30 for Dental Assistants and \$34.55 for Dental Hygienists.²

Many Dental Assistants are trained on the job although Dentists generally prefer hiring experienced assistants or those who have certificates from an approved school and/or their Registered Dental Assistant (RDA) licenses. There are three community college Dental Assisting Programs in the county along with many private school programs. Although some data indicates that more than enough graduates are being produced to fill the hiring demand, employers and some studies have documented difficulty finding qualified candidates for jobs. Dental Hygienists are graduates of AA- or BA-degree programs. There are four accredited programs in Los Angeles County producing around 120 graduates per year for the 505 annual projected job openings. Employer surveys have confirmed the need for more graduates, especially those with hands-on experience.

The research demonstrated a clear need for more Dental Hygiene Programs, where the current capacity is only 20% of the projected demand. Working closely with employers and partners, colleges should seek out new sources of funding for the equipment necessary to support the expansion of programs and the creation of new ones. The programs should be strongly marketed to increase the pipeline of students preparing for these jobs.

Numerous programs already exist to train Dental Assistants, in particular through private schools; therefore this report recommends careful study and partnership with local employers before the creation of new programs. By providing more hands-on experience to students, colleges may be able to help bridge the “experience” gap for employers, many of whom will only hire experienced applicants, regardless of their educational background.

¹ EMSI Complete Employment - Spring 2008 Release v. 2

² Ibid.

Introduction

In concert with its examination of high-demand, high-growth allied health occupations and in recognition of the dramatic growth projected for this industry, the Center of Excellence provides the Los Angeles community colleges with this separate environmental scan of the local Dental Care industry. Dental office workers are a sub-sector of the allied health workforce. In fact, one out of five offices delivering health care in this region is part of the Dental Health Care or Dental Office Industry. As an integral part of overall health, oral health plays a key role in fighting diseases (some as serious as heart disease) and diagnosing over 90% of systemic diseases (like diabetes and leukemia) which show up in the mouth cavity first. Thus the dental health care employee is an allied health worker who is at the same time a technician, a detective, and an educator.³

Dental offices are already experiencing shortages of workers and during the period from 2007-2012 the demand for occupations in this industry will increase in Los Angeles County by 31%.⁴ Interestingly, the tooth whitening industry has now surpassed \$1 billion,⁵ while the most recent data shows that 27% of children and 29% of adults have untreated cavities (2002-2003 data).

Efforts to improve access for underserved populations are complicated. Large professional associations like the American Dental Association are opposed to using Dental Hygienists and other Dental Office workers to provide basic care away from dental offices to people who currently do not access traditional care.⁶ In spite of this opposition, Dental Hygienists can be licensed in California for “Alternative Practices” where they are not under the on-site supervision of a Dentist.

This environmental scan focuses on the education, training and availability of two occupations in the Dental Office Industry: Dental Assistant and Dental Hygienist. The report suggests strategies to increase the number of available qualified candidates to meet the local demand.

Industry Overview

Dental Offices include general, specialized, and pediatric services, with general dentistry composing 82% of all employment.⁷ These general practitioners handle a variety of dental needs. Specialized dentists practice in any of nine specialty areas. *Orthodontists*, the largest group of specialists, straighten teeth by applying pressure to the teeth with braces or retainers. The next largest group, *oral and maxillofacial surgeons*, operates on the mouth and jaws. The rest specialize as *pediatric dentists* (focusing on Dentistry for children); *periodontists* (treating gums and bone supporting the teeth); *prosthodontists* (replacing

³ Sarasohn-Kahn, Jane, “Beyond tooth whitening: the decline of oral health,” Health Populi, found online at <http://www.healthpopuli.com/2007/10/beyond-tooth-whitening-decline-of-oral.html>

⁴ EMSI Complete Employment - Spring 2008 Release v. 2

⁵ Sarasohn-Kahn, Jane, “Beyond tooth whitening: the decline of oral health,” Health Populi, found online at <http://www.healthpopuli.com/2007/10/beyond-tooth-whitening-decline-of-oral.html>

⁶ Berenson, Alex, “Boom Times for Dentists, But Not for Teeth,” New York Times, October 11, 2007, found online at http://www.nytimes.com/2007/10/11/business/11decay.html?pagewanted=1&_r=2

⁷ EMSI Complete Employment - Spring 2008 Release v. 2

missing teeth with permanent fixtures, such as crowns and bridges, or with removable fixtures such as dentures); *endodontists* (performing root canal therapy); *public health dentists* (promoting good dental health and preventing dental diseases within the community); *oral pathologists* (studying oral diseases); or *oral and maxillofacial radiologists* (diagnosing diseases in the head and neck through the use of imaging technologies).⁸

Demand⁹

Among the factors contributing to the unusually high rate of job growth and replacement demand in the industry are the aging population in California, increased numbers of patients with insurance, rising demand for cosmetic services, changes in the way Dentistry is practiced, and expanding services to underserved populations.

The Aging Population: California's population is getting older as the oldest baby-boomers start reaching the traditional retirement age of 65 in 2011. Within the next ten years, 12 percent of the workforce is expected to retire, even after accounting for delays such as improved physical health and saving longer for retirement.¹⁰ Retirements at that level, for the occupations reviewed in this report will create about 1,562 replacement job openings in Los Angeles County over the next five years.¹¹

High Level of Insured Patients: California is one of a handful of states including preventive and restorative dental services for children and adults in its federally-funded Medicaid program. Denti-Cal (California's Medicaid dental program) insures 8.5-million low-income, disabled and elderly adults and children. While many do not currently utilize this insurance benefit, the overall demand for Denti-Cal benefits will increase as the population grows and ages.¹² Since 1995, consumer demand for dental services has increased dramatically as employers added dental insurance to their employee benefits' packages. The number of adult Californians with dental insurance increased by over 18% from 1995-2003, and dental office visits increased by 11.2 percent between 1997 and 2004. With a larger proportion of insured adults and a growing population, the dental care industry is building and maintaining a higher patient case load than just a few years ago. Ironically, at the same time the number of uninsured and untreated patients continues to grow as well.¹³

New Demand for Cosmetic Treatments: A 2007 report released by a national research firm estimates that 5% of all dental practices in the country offer dental spa services, which include cosmetic treatments and relaxing spa services. This emerging market is drawn from the image conscious consumer, interested in tooth whitening, veneers, smile design, and anti-clenching products and services. Not only does the addition of new services provide revenue

⁸ Bureau of Labor Statistics, U.S. Department of Labor, *Occupational Outlook Handbook, 2008-09 Edition*, Dentists, on the Internet at <http://www.bls.gov/oco/ocos072.htm>

⁹ The first part of this section is adapted directly from "Dental Offices in Northern California," Center of Excellence for Northern California, March 2008, online at www.cccewd.net

¹⁰ "California's Coming Retirement Wave," Center for Continuing Study of the California Economy, February, 2007, found online at http://www.ccsce.com/pdf/Numbers_CA_Ret_Wave.pdf

¹¹ Economic Modeling Specialists, Inc. www.economicmodeling.com Complete Data: Fall 2007

¹² Denti-Cal Facts and Figures: A Look at California's Medicaid Dental Program – May, 2007, found online <http://www.chcf.org/topics/medi-cal/index.cfm?itemID=131431>

¹³ Berenson, Altex, "Boom Times for Dentists, But Not for Teeth," October 11, 2007, found online at http://www.nytimes.com/2007/10/11/business/11decay.html?pagewanted=1&_r=2

increases as high as 30% per customer visit, but it also is increasing the demand for Dental Assistants and Dental Hygienists.¹⁴

The Changing Way Dentistry is Practiced: A growing emphasis in Dentistry on preventative care and patient education is increasing the reliance of Dentists on Dental Assistants and Dental Hygienists. “To meet this demand, facilities that provide dental care, particularly Dentists’ offices, will increasingly employ dental hygienists, and more hygienists per office, to perform services that have been performed by Dentists in the past.”¹⁵

Expanding Dental Health Care Services to Underserved Populations: Recent studies have highlighted the lack of dental health care for low income, non-English speaking, and disabled populations. Existing training programs for dental office workers do not include training on how to handle disabled patients (e.g. patients with Autism) so Dentists are sometimes unwilling to accept these patients into their practices.¹⁶ Many Dentists will not accept Dental patients for a variety of reasons, including the fact that they frequently miss their appointments.¹⁷ For a number of related reasons, dental care has become disproportionately available to low-income and non-English speaking residents. This disparity is being addressed in the California Dental Pipeline project.¹⁸ Other efforts to address this problem on a national level include a recommendation from the American Dental Hygienists Association for colleges to create a curriculum for an Advanced Dental Hygiene Practitioner who could provide primary oral care services with less supervision from a Dentist in settings available to underserved populations.¹⁹ Although currently opposed by the American Dental Association, there are also suggestions that a “Dental Therapist” occupation be developed, similar to those in 50 other countries, which would include job duties like drilling and filling cavities.²⁰ If these efforts to expand service to underserved populations are successful, they will further add to the rising demand for Dental Assistants and Dental Hygienists.

Labor Market

Employers

Ninety-one percent of all employment in the Dental Care Industry is in Dental Offices. There are currently over 7,000 Dental Hygienists and over 10,000 Dental Assistants practicing in Los Angeles County.²¹

¹⁴ “The US Dental Spa Market,” Diagonal Reports – July, 2007 found online at http://www.diagonalreports.com/pdfs/den07us_pr.html

¹⁵ Bureau of Labor Statistics, U.S. Department of Labor, *Occupational Outlook Handbook, 2008-09 Edition*, Dental Hygienists, on the Internet at <http://www.bls.gov/oco/ocos097.htm>

¹⁶ Patricia E Bauer, “Shortage of Dental Care Worsening for People with Disabilities,” June 4, 2008, found online at <http://www.patriciaebauer.com/2008/06/04/shortage-of-dental-care-worsening-for-people-with-disabilities/>

¹⁷ Berenson, Alex, “Boom Times for Dentists, But Not for Teeth,” October 11, 2007, found online at http://www.nytimes.com/2007/10/11/business/11decay.html?pagewanted=1&_r=2

¹⁸ Pipeline, Profession & Practice: Community-Based Dental Education found online at <http://www.dentalpipeline.org/index.html>

¹⁹ McKinnon, Monette; Luke, Gina; Bresch, Jack; Moss, Myla; and Valachovic, Richard; “Emerging Allied Dental Workforce Models: Considerations for Academic Dental Institutions” *Journal of Dental Education*, Volume 71:11, November 2007

²⁰ Berenson, Alex, “Boom Times for Dentists, But Not for Teeth,” October 11, 2007, found online at http://www.nytimes.com/2007/10/11/business/11decay.html?pagewanted=1&_r=2

²¹ EMSI Complete Employment - Spring 2008 Release v. 2

The 2002 study of Dental Office workers completed by UCLA reported that about 96% of the Dentists in the state employ Dental Assistants in their offices and over half of those employ more than 2 full-time equivalent Assistants per Dentist. Dentists more often employ Registered Dental Assistants than those without licenses and the trend in new hires leans heavily toward Registered Dental Assistants. About 38% of the Dentists in Los Angeles County experienced a delay of more than one month in hiring a Registered Dental Assistant. Delays were even more pronounced among Dentists with specialty practices. This delay in hiring Dental Assistants in Los Angeles County was consistent with the statewide average.²²

The same study reported that about one-half of all Dentists in the state have Dental Hygienists in their offices. It was also determined that over 2/3 of all Dentists employing Dental Hygienists are hiring part-time personnel for these jobs.²³ For each full-time Dentist employing a hygienist, there are 20 hours per week of hygienist time provided. Of those Dentists with hygienists' openings, about 44% in Los Angeles reported difficulties hiring or replacing hygienists, meaning that it took them over 1.5 months to find a qualified candidate. Though this is lower than the statewide average of 52%, it still suggests a shortage of available, qualified candidates.²⁴

Job Growth

Table 1: Employment Projections and Wages in Los Angeles County

SOC Code	Description	Total Employment		Employment Growth		Growth + Replacement		Average # Jobs /Yr	Median Wages
		2007 Jobs	2012 Jobs	# of Jobs	%	# of Jobs	%		
29-1021	Dentists, general	3,186	3,572	386	12%	639	20%	127	\$52.71
29-2021	Dental Hygienists	7,187	9,037	1,850	26%	2,528	35%	505	\$34.55
31-9091	Dental Assistants	10,191	12,778	2,587	25%	3,471	34%	694	\$13.30
51-9081	Dental laboratory technicians	1,371	1,349	(22)	(2%)	105	8%	21	\$28.53
	Total	21,935	26,736	4,801	22%	6,743	31%	1,347	

Source: EMSI Complete Employment - Spring 2008 Release v. 2

The demand for Dental Laboratory Technicians is not expected to grow; therefore the projections do not suggest a need to train more candidates for this occupation. Dentists require a level of education higher than what the community colleges can provide. Therefore, this study focuses on Dental Hygienists and Dental Assistants, which are both forecasted to

²² Pourat, Nadereh; Roby, Dylan; Wyn, Roberta; and Marcus, Marvin, "Is there a Shortage of Dental Hygienists and Assistants in California", UCLA Center for Health Policy Research, November, 2005 found online at http://www.healthpolicy.ucla.edu/pubs/files/Dental_RT_050506.pdf

²³ Ibid.

²⁴ Ibid.

be in high-demand in the next five years. In Los Angeles County, Dental Assistants are the third fastest-growing allied health occupation with a projected increase of 34% from 2007-2012. During this same period, the demand for Dental Hygienists is projected to grow by 35%, making it the fastest growing allied health occupation in Los Angeles County. These two occupations will both experience greater growth than the average for all health care occupations in the county, which is 13%, and significantly greater growth than all occupations during the five-year period, which is projected to be 7%.²⁵

Occupations and Wages

Dental Assistants

Dental Assistants work closely with, and under the supervision of, Dentists to perform a variety of patient care, office, and laboratory duties. Some of the typical tasks performed by Dental Assistants include:

- Sterilize and disinfect instruments and equipment
- Prepare materials for impressions and restorations
- Apply cavity-preventing agents to teeth
- Obtain patient records
- Take and process X-rays
- Assist the Dentist chair-side with the delivery of instruments and preparation of dental materials
- Counsel patients about postoperative and general oral health care
- Perform a variety of office management tasks²⁶

Dental Assistants in Los Angeles County earn a median hourly wage of \$13.30. They are the lowest paid of the Dental Office occupations. Dental Assistants also make less than other allied health workers in Los Angeles County, who average \$18.17 per hour.²⁷ With further training and an examination, Dental Assistants can become Registered Dental Assistants or Registered Dental Assistants in Extended Practice, or they can go back to college to become Dental Hygienists. Any of these steps toward further training will generally result in higher hourly wages.

Dental Hygienists

Dental Hygienists work with the Dentist to provide comprehensive dental care to patients. Dental Hygienists clean teeth and provide preventive dental care, as well as teach patients how to practice good oral hygiene. They examine patients' teeth and gums, recording the presence of diseases or abnormalities. They may explain the relationship between diet and oral health and educate patients on how to properly brush and floss teeth. Hygienists use rotary, hand instruments and take X-rays.²⁸

²⁵ EMSI Complete Employment - Spring 2008 Release v. 2

²⁶ Bureau of Labor Statistics, U.S. Department of Labor, *Occupational Outlook Handbook, 2008-09 Edition*, Dental Assistants, on the Internet at <http://www.bls.gov/oco/ocos163.htm>

²⁷ Economic Modeling Specialists, Inc. www.economicmodeling.com Complete Data: Spring 2008, v.2

²⁸ California Dental Association, Dental Hygienist flyer, found online at http://www.cda.org/library/adhp/dh_flyer.pdf

The median wage earned by Dental Hygienists in Los Angeles County is currently \$34.55 per hour, considerably more than the median wage of all Dental Office workers, which is \$26.94/hour. The median wage of all allied health workers in Los Angeles County is \$17.34.²⁹

Appendix B provides the Occupational Information Network (O*NET) description of knowledge, skills and abilities of Dental Assistants and Dental Hygienists.

Training Requirements

Dental Assistants³⁰

The minimum education requirement for Dental Assistants is a high school diploma or equivalency, although many employers prefer entry-level applicants with a Registered Dental Assistant (RDA) license from the Committee on Dental Auxiliaries (COMDA). RDA applicants must meet one of the following requirements prior to taking an examination: (1) Graduation from a Committee on Dental Auxiliaries (COMDA) approved RDA program with a minimum of 720 hours (see the Existing Programs section of this report for a list of community colleges and other providers of approved programs); or (2) Completion of at least 12 months of paid work experience under a licensed Dentist; or (3) Completion of a California Department of Education 4-month educational program and 8 months of experience as a dental assistant working with a licensed Dentist. Additionally, all applicants must complete ADA board-approved courses in coronal polishing and radiation safety.³¹

Registered Dental Assistants are preferred because they may perform more complex tasks than unlicensed assistants.³² Some of the duties that may be performed under general or direct supervision include:

- Mouth-mirror inspection of the oral cavity to include charting of obvious lesions, existing restorations and missing teeth;
- Placement and removal of temporary sedative dressings;
- Obtain endodontic cultures;
- Test pulp vitality;
- Remove excess cement from supragingival surfaces of teeth with a hand instrument or floss; and,
- Placement of post-extraction and periodontal dressings.

In total, RDAs may perform 18 more duties than unlicensed assistants. With an additional 90 hours of training from an approved program (currently at UC San Francisco or UC Los Angeles), RDAs can take an examination to register for extended function status. Registered Dental Assistants in Extended Functions (RDAEFs) may perform an additional 9 duties.

²⁹Economic Modeling Specialists, Inc. www.economicmodeling.com Complete Data: Spring, 2008, v.2

³⁰ This section is adapted directly from "Dental Offices in Northern California," Center of Excellence for Northern California, March 2008, online at www.ccewd.net

³¹ Registered Dental Assistants, Committee on Dental Auxiliaries, found online at http://www.comda.ca.gov/exam_rda.html

³² Dental Assistant Job Profile, California Dental Association, found online at http://www.cda.org/library/adhp/da_flyer.pdf

Appendix C provides the list of allowable duties that may be performed by Dental Assistants, RDAs, and RDAEFs, pursuant to Title 16, California Code of Regulations.

Dental Hygienists

A career in Dental Hygiene requires an Associate degree from an accredited dental hygiene school and licensing by the State of California. The American Dental Association’s Joint Commission on National Dental Examinations administers the written exam and the State of California Committee on Dental Auxiliaries (COMDA) administers the clinical and legal examination.

Just over half of the active Dental Hygienists in the state have AA degrees. About 43% of practicing Dental Hygienists have BA degrees and 4.5% have MA or PhD degrees. About 0.5% of active hygienists are currently enrolled in programs to obtain their Registered Dental Hygienist Alternative Practice (RDHAP) license (allowing them to work without the direct supervision of a Dentist in settings like nursing homes or schools) or their Registered Dental Hygienist Extended Care (RDHEF) license (allowing them to perform additional duties). There are currently about 200 hygienists in California who possess these specialized licenses and about 5% of all active hygienists say they are likely to pursue these licenses in the future.³³

The RDHEF license requires the same 90-hour approved training program at UCSF or UCLA as that taken by Dental Assistants to earn their Extended Functions status. To be eligible for the RDHAP license, a hygienist must be a Registered Dental Hygienist, have 2,000 hours of work experience, hold a BA degree, and complete 150 hours of additional training. On August 9, 2002, the Dental Board approved the first RDHAP educational program at West Los Angeles College. The RDHAP license was approved in 1998 and a recent report details the progress of this new sub-sector of Dental Hygienists.³⁴

Table 2 shows how Dental Assistants can move up the ladder and through the pipeline to become Dental Hygienists.

Table 2--Dental Office Career Ladder and Pipeline

Dental Hygienist AP (Alternative Practice)
Dental Hygienist EF (Extended Functions)
Dental Hygienist
Registered Dental Assistant - EF (Extended Functions)
Registered Dental Assistant (RDA)
Dental Assistant

³³ California Survey of Dental Hygienists, 2005-2006, Descriptive Findings, Center for the Health Professions, University of California, San Francisco, March 2007, found online at http://futurehealth.ucsf.edu/pdf_files/RDH%20Survey%20Descriptive%20Web%20Report%203_2007.pdf

³⁴ Mertz, Elizabeth, “Registered Dental Hygienists in Alternative Practice: Increasing access to Dental Health care in California,” Center for the Health Professions, University of California at San Francisco, May 2008, found online at http://futurehealth.ucsf.edu/pdf_files/RDHAP_Report_2008.pdf

Industry Validation

A survey of Los Angeles County dental offices was conducted to evaluate the training and hiring needs for Dental Assistants and Dental Hygienists. Questionnaires were sent by mail in May 2008. Twenty-two employers located throughout the county completed and returned the questionnaires. Businesses responding to the survey employed up to 12 Dental Assistants. Twelve of the 22 employers in the survey employ as many as 15 Dental Hygienists. The questionnaires are provided in Appendix E, and the detailed results of the survey are presented in Appendix F.

The survey results indicated that most respondents will hire Dental Assistants who have only a high school diploma, but they require at least an AA degree from a Dental Hygienist candidate. Though most of those surveyed said that it is not difficult to find inexperienced Dental Assistants, most employers in the survey said it was “Somewhat Difficult” or “Very Difficult” to find experienced Dental Assistants or Dental Hygienists with or without experience. Half of those surveyed said it is “Very Difficult” to find experienced Dental Hygienists. The job requirements that candidates have most trouble meeting fell into several categories: technical skills, soft skills (communication, people skills), and other skills ranging from a knowledge of the field (Dentistry) to good work ethic. See Appendix F for details.

The question asking whether the community colleges should create new programs in these two occupations garnered the most positive response on the survey. Eighty-five percent of the respondents felt that more community college programs in Dental Assisting would bring professionalism to the field, help fill the growing demand for job candidates, and provide better education than candidates are currently getting at the private proprietary schools. Everyone surveyed responded positively to the question about new programs in Dental Hygiene and felt that those programs would help meet the growing demand, shorten waiting periods to get into programs, and provide access for those students who cannot afford to go through university programs.

Existing Programs

Accredited and Approved Programs in Los Angeles County

There are 3 community college programs for Dental Assistants and 3 for Dental Hygienists. See Appendix D for details on each of these programs. All community college programs in the county are accredited (Dental Hygienists) or approved by COMDA (Dental Assistants). Table 3 includes information regarding public and private providers.

**Table 3 – Accredited and Approved Educational Programs
In Los Angeles County for Dental Hygienists and Dental Assistants**

Dental Hygiene – Accredited Programs			
College	Approximate Number of Applicants Per Year	Enrollment*	Yearly Graduates*
Cerritos College	Always have more applicants than slots	24	24
Pasadena City College	250	18	18
West Los Angeles College	160	24	24-30
University of Southern California (BS degree)	Unavailable	Unavailable	52 ³⁵
Total Dental Hygiene Graduates Per Year			124

Dental Assisting³⁶			
College	Approximate Number of Applicants Per Year	Enrollment*	Yearly Graduates*
Cerritos College	Do not maintain a list, but there are always many applicants	35-45	30
Citrus College	Not reported	16	16
Pasadena City College	Always a waiting list	27	14
West Los Angeles College	Waiting for approval to start program		
American Career College	Unavailable	Unavailable	107
Clarita Career College, Long Beach	Unavailable	Unavailable	24
Concorde Career College, North Hollywood	Unavailable	Unavailable	59

³⁵ Health Workforce Solutions, "Closing the Health Workforce Gap in California: An Education Imperative, November 5, 2007, The Campaign for College Opportunity, San Francisco, found online at http://www.collegecampaign.org/assets/docs/hcwfs/cco_alliedhealth_report_10-30-07_final.pdf Appendix B

³⁶ California Dental Association, Committee on Dental Auxiliaries, List of Approved RDA Education Programs, found online at http://www.comda.ca.gov/rda_edu_programs.htm

College	Approximate Number of Applicants Per Year	Enrollment*	Yearly Graduates*
Everest College, City of Industry and 5 other locations previously Bryman College	Unavailable	Unavailable	412
Hacienda-La Puente Unified Adult Education	Unavailable	Unavailable	343
North-West College West Covina, Glendale, Pasadena, Pomona	Unavailable	Unavailable	77
United Education Institute	Unavailable	Unavailable	355
Total Dental Assistant Graduates in Approved Programs/Yr			1,437

Enrollment and graduation figures are approximate and vary from year to year. All data for Dental Assisting Programs was taken from EMSI Occupational Programs. Data for Dental Hygiene Programs was self-reported by the colleges unless otherwise noted.

The number of current Dental Hygiene graduates (124/year) is dramatically lower than the projected 505 new and replacement jobs expected each year for the coming five years and suggests a crisis situation that will worsen with each passing year. On the other hand, the supply of Dental Assistants (at 1,437 per year) appears to be over twice as much as the projected need of 694 per year. In addition to the approved Dental Assisting programs listed in Table 3, there are additional students graduating each year in the County from non-approved programs and numerous dental offices that hire candidates with no training.³⁷

Other Local Programs

- University of California-Los Angeles offers the Extended Functions 90- hour program for Registered Dental Assistants and Registered Dental Hygienists
- California State University at Los Angeles, offers an Extended Education Program for Dental Assistants (Not approved by COMDA)

³⁷ EMSI, Dental Assistant Program Completers, 2006

Implications and Recommendations for Community Colleges

Program Development

Dental Assisting

Work closely with local employers when considering the development of new or expanded community college programs. The large number of existing training providers (mostly private schools) and current program graduates (see Table 3) suggest an oversupply of job candidates and no need for community colleges to create new Dental Assisting programs. Program development decisions are always difficult when there appear to be plenty of job candidates at the same time that there are also indicators that qualified candidates are difficult to find. For example, the study done at UCLA identified 38% of Los Angeles county employers are having some difficulty finding qualified Dental Assisting candidates. Similarly, the employers surveyed for the purpose of this report overwhelmingly voiced a desire for more community college programs in Dental Assisting in order to raise the education, quality, and professionalism of candidates. These employers are confident that students completing a community college program would be better prepared than the majority of the candidates they are currently interviewing. This employer preference for candidates prepared at community colleges means those candidates would be more likely to be hired than students completing programs perceived to be less rigorous. This was confirmed by community college representatives who indicated that their Dental Assisting graduates have no problem finding jobs.

College decision makers are in the difficult position of having opposing messages about the need for new programs. Decisions about added or expanded programs need to be made in response to advisory committee input, in discussion with local employers, and in consideration of special program/college circumstances. For example, West Los Angeles College has a new Dental Assisting program in the final stages of being approved. That program will complete a suite of Dental Office programs at the college which includes Dental Hygiene and the extended education program for Dental Hygiene Alternate Practice certification. See the *Pipeline* recommendation later in this report for more advantages of co-locating programs.

Modify existing programs to include more clinical and hands-on experience in response to the industry's requests. In the survey conducted by the Center of Excellence, employers reported having difficulty finding qualified Dental Assistants. Sixty seven percent of the employers surveyed indicated that they require experienced candidates and they are unlikely to hire students directly after completion of a training program. By bringing more hands-on, work experience, clinical and internship opportunities into their programs, the colleges may be able to provide job candidates that more closely meet the requirement of local employers for Dental Assistants with dental office experience.

Dental Hygiene

Direct regional resources toward the identification and development of new programs for Dental Hygienists. The accredited Dental Hygiene Programs in Los Angeles County, including the BS-degree program at USC, project that they will graduate 124 students in the

coming year.³⁸ This includes an expansion of the West Los Angeles College program from 24 to 30 students.³⁹ The difference between these 124 graduates and the projected demand for an average of 505 hires per year for the coming five years is alarming, particularly in light of the amount of time needed to develop and launch new Dental Hygienist Programs. The shortage of hygienists is already being felt to a greater degree than the shortage of Dental Assistants. In the employer survey done for this study, a higher percentage of employers reported difficulty in hiring hygienists than assistants and every survey respondent urged the colleges to create new programs for Dental Hygienists.

The need for Dental Hygienists is going to continue to grow so dramatically that even colleges with no current Dental programs should consider adding Dental Hygienist programs to their curriculum. At West Los Angeles College, only 30 students will be admitted to the program this year from a pool of 160 applicants.⁴⁰ Pasadena City College has 250 applicants each year for its 18 student slots. One employer reported that the waiting list for entry to Dental Hygiene programs was 2 years. The UCLA-sponsored study also confirmed that 44% of Los Angeles dental practices wait over 1.5 months to find qualified Dental Hygienist candidates to fill their positions.⁴¹ The shortage of job candidates will grow more critical each year until new programs are developed. Since Dental Hygienists must have a minimum of an AA degree, this challenge falls squarely on the shoulders of the community colleges and is not likely to be alleviated by the private schools in the area.

Other Recommendations

Partner with workforce investment boards and industry to explore how to obtain or leverage the resources needed to expand or initiate new programs The challenge for the colleges is to find resources to make program expansion possible. This may have to be done creatively, since support for college programs is currently being reduced by the state of California. Since equipment is one of the largest expenses in mounting new programs, perhaps alliances with employers and their vendors could result in access to equipment for clinical labs and hands-on components of the programs. Funding for equipment may also be available through grant sources that are dedicated to increasing the Dental Care workforce. If community colleges make the commitment to bring under-represented populations of students into their programs they may also be able to participate in special projects and/or grants aimed at access for these student populations.

Create a pipeline of job candidates for the Dental Office occupations by educating students about possible career ladder moves and supporting their efforts to use Dental Assisting as an entry level career leading to Dental Hygiene. West Los Angeles College is currently awaiting final approval for a new program in Dental Assisting. When its Dental Assisting Program begins, all of the Los Angeles County community colleges that have Dental Office programs except Citrus College will have both Dental Assisting and Dental Hygiene

³⁸ Health Workforce Solutions, "Closing the Health Workforce Gap in California: An Education Imperative, November 5, 2007, The Campaign for College Opportunity, San Francisco, found online at http://www.collegecampaign.org/assets/docs/hcwfs/cco_alliedhealth_report_10-30-07_final.pdf Appendix B

³⁹ Reported by Lisa Takayama, Associate Professor, Allied Health, West Los Angeles College.

⁴⁰ Ibid.

⁴¹ Pourat, Nadereh; Roby, Dylan; Wyn, Roberta; and Marcus, Marvin, "Is there a Shortage of Dental Hygienists and Assistants in California", UCLA Center for Health Policy Research, November, 2005 found online at http://www.healthpolicy.ucla.edu/pubs/files/Dental_RT_050506.pdf, page 25

programs. When colleges have both programs they can prepare students for different levels of dental office occupations and create a pipeline from Dental Assisting into the higher-paying and more in-demand jobs in Dental Hygiene. From the beginning of their education and training, Dental Assisting students should be exposed to the opportunities they have for career advancement. Their experience in the Dental Office as Assistants can be invaluable to them later in their careers when first applying for Dental Hygiene positions. In addition to going back to school after they have some experience and going through a Dental Hygiene program, Dental Assistant students should be encouraged to take their exam for the RDA certification as soon as they finish their program and also to go to UCLA to receive the training for their Extended Functions certificate.

Monitor changes in the industry that might affect program development. New state regulations which are currently scheduled to go into effect in January, 2010, would establish four new specialized categories of licenses and some added continuing education requirements for Dental Assistants. Another law is currently in the legislature, however, that would supersede the existing law and instead create a system where several permits would be available (rather than specialized licenses) to both licensed and unlicensed assistants. This proposed law would also impose a number of continuing education requirements. Colleges with Dental Assisting programs should watch these developments closely and be prepared to develop and offer the required courses once the legislative intent is clear.⁴² In addition to modifications to the existing programs, the colleges can offer continuing education or contract education courses to help the industry meet the requirements of the new law. In this way the colleges can also support the “professionalization” of Dental Assistants.

On June 13, 2008, a new law was enacted in California creating the Dental Hygiene Committee, which will function under the California Dental Board to regulate and oversee education and licensure of Dental Hygienists in the state. This Committee is expected to take over some of the functions of COMDA as well as dedicate itself to expanded access to oral health care through the use of Dental Hygienists. Colleges will also want to watch this new regulatory body for information on developing educational requirements and opportunities.⁴³

Conclusion

The workforce development recommendations for Dental Assistants and Dental Hygienists are different, despite the significant and growing demand for qualified employees in both occupations. In Dental Assisting, numerous programs are already available, and the current training capacity may be able to meet the growing demand quantitatively. However, employers are encouraging the colleges to create more programs to improve the professionalism, overall preparation, and availability of better-educated Dental Assistant candidates.

The data presented in this report, including employers’ input, clearly demonstrate a need for more community college programs in Dental Hygiene. Barriers need to be overcome for the creation of such programs. Indeed, the programs require equipment, labs, supplies, and

⁴² Summary of the Meeting of the Dental Board of California, May 15-18, 2008, found online at <http://www.cspd.org/advocacy/pdf/DBCMeeting0508.pdf>

⁴³ “Governor Signs Landmark Law for California Dental Hygienists,” California Dental Hygienists Association, June 13, 2008, found online at <http://www.cdha.org/downloads/FINALSB853-6-13-08.pdf>

instructors that may be difficult to recruit. Community colleges need to aggressively seek support for new and expanded programs, going beyond their normal funding channels when necessary to obtain an adequate budget for their dental programs.

For both types of programs, attention to recruiting students from under-represented populations fulfills the community colleges' open access mission and may allow programs to qualify for grant funds or participate in special projects designed to bring a more diverse population of workers into the Dental Care Industry.

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Patricia E Bauer, "Shortage of Dental Care Worsening for People with Disabilities," June 4, 2008, found online at <http://www.patriciaebauer.com/2008/06/04/shortage-of-dental-care-worsening-for-people-with-disabilities/>

Berenson, Alex, "Boom Times for Dentists, But Not for Teeth," New York Times, October 11, 2007, found online at <http://www.nytimes.com/2007/10/11/business/11decay.html?pagewanted=1& r=2>

Bureau of Labor Statistics, U.S. Department of Labor, *Occupational Outlook Handbook, 2008-09 Edition*, Dentists, on the Internet at <http://www.bls.gov/oco/ocos072.htm>

California Dental Association, Dental Hygienist flyer, found online at http://www.cda.org/library/adhp/dh_flyer.pdf and Dental Assistant flyer, found online at http://www.cda.org/library/adhp/da_flyer.pdf

California Survey of Dental Hygienists, 2005-2006, Descriptive Findings, Center for the Health Professions, University of California, San Francisco, March 2007, found online at http://futurehealth.ucsf.edu/pdf_files/RDH%20Survey%20Descriptive%20Web%20Report%203_2007.pdf

"California's Coming Retirement Wave," Center for Continuing Study of the California Economy, February, 2007, found online at http://www.ccsce.com/pdf/Numbers_CA_Ret_Wave.pdf

"Dental Offices in Northern California," Center of Excellence for Northern California, March 2008, online at www.ccewd.net

Denti-Cal Facts and Figures: A Look at California's Medicaid Dental Program – May, 2007, found online <http://www.chcf.org/topics/medi-cal/index.cfm?itemID=131431>

McKinnon, Monette; Luke, Gina; Bresch, Jack; Moss, Myla; and Valachovic, Richard; "Emerging Allied Dental Workforce Models: Considerations for Academic Dental Institutions", *Journal of Dental Education*, Volume 71:11, November 2007

Mertz, Elizabeth, "Registered Dental Hygienists in Alternative Practice: Increasing access to Dental Health Care in California," Center for the Health Professions, University of California at San Francisco, May 2008, found online at http://futurehealth.ucsf.edu/pdf_files/RDHAP_Report_2008.pdf)

Pipeline, Profession & Practice: Community-Based Dental Education found online at <http://www.dentalpipeline.org/index.html>

Pourat, Nadereh; Roby, Dylan; Wyn, Roberta; and Marcus, Marvin, "Is there a Shortage of Dental Hygienists and Assistants in California", UCLA Center for Health Policy Research, November, 2005 found online at http://www.healthpolicy.ucla.edu/pubs/files/Dental_RT_050506.pdf

Registered Dental Assistants, Committee on Dental Auxiliaries, found online at http://www.comda.ca.gov/exam_rda.html

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Summary of the Meeting of the Dental Board of California, May 15-18, 2008, found online at <http://www.cspd.org/advocacy/pdf/DBCMeeting0508.pdf>

"The US Dental Spa Market," Diagonal Reports – July, 2007 found online at http://www.diagonalreports.com/pdfs/den07us_pr.html

Organizations

California Dental Association
<http://www.cda.org>

American Dental Assistants Association
<http://www.dentalassistant.org>

American Dental Association
<http://www.ada.org>

Committee on Dental Auxiliaries
<http://www.comda.ca.gov>

Dental Assisting National Board
<http://www.danb.org>

California Dental Assistants Association
<http://www.cdaaweb.org>

Online Resources

The following links are provided with thanks to Rio Salado Dental Assisting and Dental Hygiene Programs, online at

<http://www.rio.maricopa.edu/services/student/support/library/elib/dental.shtml#associations>

Online Journals

American Dental Association (ADA) News Daily

<http://www.ada.org/adapco/daily/today.html>

Articles – from the Dental Directory – Separate articles for Patients and Dentists

<http://dentaldirectory.virtualave.net/Articles/articleslist.htm>

Dental Bytes – an online Journal

<http://www.dentalbytes.com/index1.html>

Dental Hygienist News Online (DHN Online) — on the Crest® Dental Resource Net

http://www.dentalcare.com/soap/journals/dh_news/dhn/index.htm

Dental Review Online

<http://dentalreview.com/>

Electronic Discussion Groups in Dentistry

<http://Dentistry.vh.org/leslie.html>

Featured Articles and Public Information — from the California Dental Hygienists' Association

<http://www.cdha.org/articles/articles.htm>

Journal of Contemporary Dental Practice -published quarterly by the Procter & Gamble Company as a public service to dental professionals

<http://www.thejcdp.com/>

The Journal of Continuing Dental Education: Dental Study Club Online — is a joint publication of the Continuing Education Foundation, Center for Professional Development, The Texas A&M University System-Baylor College of Dentistry, and the Division of Continuing Dental Education, University of Texas Health Science Center at San Antonio Dental School.

<http://www.tambcd.edu/DentalCE/dsc/>

Journal of Dental Technology – Where Readers always get the inside scoop!

<http://nadl.org/jdt/>

Journal of Dentistry – Educational Technology Section – this publication will be free during the Year 2000

<http://www.elsevier.com/homepage/sab/jdentet/index.html>

The Journal of Practical Hygiene (JPH) — Subscription is required, but you can preview sample articles of JPH.

<http://montagemedia.com/jph.html>

RDH - Registration page and access to the Penn Well Corporation's free online journal.

http://rdh.pennnet.com/UserReg/new_user_form.cfm?Section=NewUser

SCMC Focus Newsletter

<http://www.scmc.org/focus.html>

Dental Reference Websites

A Dictionary of Dental Terms - by Rich Masel

<http://www.bracesinfo.com/glossary.html>

Basic Sciences Virtual Library – from Harvard University

http://countweb.med.harvard.edu/web_resources/basic_sciences.html

Dental Implant Glossary

<http://www.enexus.com/dental-implant/glossindex.htm>

Dental Terminology

<http://www.pe.net/~iddpc1/denterm1.htm>

Health Science Reference – Medical Indices & Directories

http://countweb.med.harvard.edu/web_resources/health_sciences.html

Index of Lesions – links with graphics

<http://www.uiowa.edu/~oprm/AtlasWIN/AtlasIndex.html>

The Merck Manual – Home Edition – a searchable online edition

http://www.merck.com/pubs/mmanual_home/

Clickable Contents page – a list of subjects from the Merck online book

http://www.merck.com/pubs/mmanual_home/contents.htm

National Center for Health Statistics – from the Center for Disease Control – CDC

<http://www.cdc.gov/nchs/releases.htm>

National Library Of Medicine – Pub Med

<http://www.enexus.com/dental-implant/nlm-frame.html>

Orthodontics Glossary — From the American Association of Orthodontists

<http://www.aaortho.org/braces/Dentists/glossary/index.cfm>

Pediatric Dentistry Clinical Photos

http://cudental.creighton.edu/htm/ped_pics.htm

RxList – The Internet Drug List – a searchable database

<http://www.rxlist.com/>

The Virtual Dental Center – Martindale Health Science Guide 2000

<http://www-sci.lib.uci.edu/HSG/Dental.html>

Associations /Organizations /Programs

American Dental Education Association (ADEA) Dental Hygiene Education Section —“The ADEA is a community of dental educators that addresses contemporary issues and trends influencing the field of Dentistry. Students and practitioners are welcome to participate.”

<http://www.adea.org/>

American Dental Assistants Association Homepage

<http://www.dentalassistant.org/>

American Dental Hygienist’s Association

<http://www.adha.org/>

The American Society of Dentistry for Children (ASDC)

<http://cudental.creighton.edu/asdc/>

American Student Dental Association – “Provides information about this association's political and professional history, current activities and events. Links to employment opportunities and publications”

<http://www.dentalstudent.org/>

Continuing Education Courses from the Periodontics Information Center at UCLA.

<http://www.dent.ucla.edu/pic/courses/index.html>

DH Forum – Online: Continuing education for dental hygienists. In affiliation with Marquette University Dental Hygiene, Milwaukee, WI

<http://www.marquette.edu/dhforum/>

Hispanic Dental Association —“ Dedicated to promoting oral health in the Hispanic community, supporting Hispanic dental professionals, and encouraging Hispanics in developing oral health careers.”

<http://www.hdassoc.org/>

International Association of Orofacial Mycology

<http://iaom.com/index.html>

National Center for Dental Hygiene Research — The NCDHR website includes an Online Library, information on professional education, grant funding, clinical practice, and consumer education.

<http://jeffline.tju.edu/DHNet/>

National Center for Fluoridation Policy and Research — From the University at Buffalo, State University of New York, School of Dental Medicine, the NCFPR provides information about community water fluoridation

<http://fluoride.oralhealth.org/index.asp>

OSAP – Organization for Safety & Asepsis Procedures – Your Dental Infection Control Association

<http://www.osap.org/index.htm>

OSHA – Occupational Safety & Health Administration – United States Dept of Labor – Resources for Workers

<http://www.osha.gov/>

UCLA School of Dentistry, Oral Radiology

http://www.dent.ucla.edu/sod/depts/oral_rad/

Dental Assisting Websites

American Dental Assistants Association Homepage

www.dentalassistant.org

ADA Dental Careers Brochure – Dental Assisting

<http://www.ada.org/prof/ed/careers/brochures/assisting.html>

ADA Fact Sheet – Dental Assisting

<http://www.ada.org/prof/ed/careers/factsheets/assisting.html>

Careers as a Dental Assistant – from the Dental Directory – Your Link to the Dental Community

<http://dentaldirectory.virtualave.net/CareerSearch/professi2.htm>

Dental Assistants – Nature of Work, Working Conditions, Employment, Training, Earnings – From The Occupational Outlook Handbook 2000, U.S. Dept. of Labor

<http://www.bls.gov/oco/ocos163.htm>

Dental Assistant Jobs – post a job, look for a job or view resumes

<http://www.dentalassistantjobs.com/>

Dental Assisting National Board – CDA Study Guide Archives – National Certification Information

<http://www.dentalassisting.com/>

Dental Hygiene Websites

ADA Dental Careers Brochure – Dental Hygiene

<http://www.ada.org/prof/ed/careers/brochures/hygiene.html>

ADA Fact Sheet – Dental Hygiene

<http://www.ada.org/prof/ed/careers/factsheets/hygiene.html>

American Dental Hygienist's Association

<http://www.adha.org/>

Arizona Department of Health Services Office of Oral Health — Included among the OOH publications is the 1996 “Survey of Dental Hygienists in Arizona's Work Force”

<http://www.hs.state.az.us/cfhs/ooH/index.html>

Arizona State Dental Hygienists Association – Registered Dental Hygienists

<http://www.asdha.org/>

Associate of Applied Science in Dental Hygiene – Rio Salado College

<http://www.riosalado.edu/ci/programs/current/dental.html>

Dental Hygienists – Nature of Work, Working Conditions, Employment, Training, Earnings – From The Occupational Outlook Handbook 2000, U.S. Dept. of Labor

<http://www.bls.gov/oco/ocos097.htm>

National Center for Dental Hygiene Research

<http://jeffline.tju.edu/DHNet/>

Professional Issues – from ADHA Online

<http://www.adha.org/profissues/index.html>

Resources for Dental Hygienists – from the Dental Directory

<http://dentaldirectory.virtualave.net/Hygienist/hygienis.htm>

State Dental Hygiene Association Links

<http://www.adha.org/relatedlinks/index.html>

U.S. Schools of Dental Hygiene – a list of links by state. Also international schools

<http://www.dentalsite.com/hygienists/hygsch.html>

Appendices

Appendix A: How to Utilize this Report

About Us - Description of BWPI

The Business and Workforce Performance Improvement (BWPI) initiative is focused on building the capacity of the colleges in the area of economic and workforce development to enhance their ability to deliver education and training services to businesses and workers in high growth industries, new technologies, and other clusters of opportunities.

The Centers of Excellence (COE) within BWPI provide information regarding workforce trends, increasing awareness and visibility about the colleges' economic and workforce development programs and services, and building partnerships with business and industry.

The goal is to position the colleges as the workforce partners of choice to business and industry and ensure that college programs are current and responsive. This will contribute to the overall economic vitality of the communities in which they serve.

How to Use This Report

The Centers of Excellence within the Business and Workforce Performance Improvement Initiative of the California Community College Economic and Workforce Development Program have undertaken Environmental Scanning to provide targeted and valuable information to community colleges on high growth industries and occupations.

This report is intended to assist the decision-making process of California community college administrators and planners in addressing local and regional workforce needs and emerging job opportunities in the workplace as they relate to college programs. The information contained in this report can be used to guide program offerings, strengthen grant applications, and support other economic and workforce development efforts. This report is designed to provide current industry data that will:

- Define potential strategic opportunities relative to an industry's emerging trends and workforce needs.
- Inform local college program planning and resource development.
- Promote a future-oriented and market responsive way of thinking among stakeholders.

Important Disclaimer

All representations included in this industry scan report have been produced from a secondary review of publicly and/or privately available data and/or research reports. Efforts have been made to qualify and validate the accuracy of the data and the reported findings. The purpose of the Environmental Scan is to assist the California Community Colleges to respond to emerging market needs for workforce performance improvement. However, neither the Business and Workforce Performance Improvement Centers of Excellence, COE host college nor California Community Colleges Chancellor's Office are responsible for applications or decisions made by recipient community colleges or their representatives based upon this study including components or recommendations.

Additional Information

The Business and Workforce Performance Improvement Initiative is funded in part by the Chancellor's Office, California Community Colleges, Economic and Workforce Development Program. The total grant amount (grant number 07-305-016 for \$205,000) represents funding for multiple projects and written reports through the Center of Excellence.

Our mission is to strengthen California's workforce and advance economic growth through education, training and job development.

Appendix B: O*NET Top Knowledge, Skills and Abilities⁴⁴

O*NET is the national source for occupation information. Under the direction of the **US Department of Labor/Employment and Training Administration**, the North Carolina Employment Security Commission has developed a methodology to collect and profile standard occupations from across the U.S. The database is continuously updated with current labor market information. Below is the occupational profile for Dental Assistants and Dental Hygienists, including the top knowledge, skills and abilities.

DENTAL ASSISTANTS

Knowledge	<p>Medicine and Dentistry — Knowledge of the information and techniques needed to diagnose and treat human injuries, diseases, and deformities. This includes symptoms, treatment alternatives, drug properties and interactions, and preventive health-care measures.</p> <p>Customer and Personal Service — Knowledge of principles and processes for providing customer and personal services. This includes customer needs assessment, meeting quality standards for services, and evaluation of customer satisfaction.</p> <p>English Language — Knowledge of the structure and content of the English language including the meaning and spelling of words, rules of composition, and grammar.</p> <p>Clerical — Knowledge of administrative and clerical procedures and systems such as word processing, managing files and records, stenography and transcription, designing forms, and other office procedures and terminology.</p> <p>Chemistry — Knowledge of the chemical composition, structure, and properties of substances and of the chemical processes and transformations that they undergo. This includes uses of chemicals and their interactions, danger signs, production techniques, and disposal methods.</p>
Skills	<p>Active Listening — Giving full attention to what other people are saying, taking time to understand the points being made, asking questions as appropriate, and not interrupting at inappropriate times.</p> <p>Reading Comprehension — Understanding written sentences and paragraphs in work related documents.</p> <p>Speaking — Talking to others to convey information effectively.</p> <p>Coordination — Adjusting actions in relation to others' actions.</p> <p>Social Perceptiveness — Being aware of others' reactions and understanding why they react as they do.</p> <p>Equipment Maintenance — Performing routine maintenance on equipment and determining when and what kind of maintenance is needed.</p> <p>Active Learning — Understanding the implications of new information for both current and future problem-solving and decision-making.</p> <p>Time Management — Managing one's own time and the time of others.</p> <p>Equipment Selection — Determining the kind of tools and equipment needed to do a job.</p> <p>Instructing — Teaching others how to do something.</p>
Abilities	<p>Oral Expression — The ability to communicate information and ideas in speaking so others will understand.</p> <p>Oral Comprehension — The ability to listen to and understand information and ideas presented through spoken words and sentences.</p> <p>Near Vision — The ability to see details at close range (within a few feet of the observer).</p> <p>Written Expression — The ability to communicate information and ideas in writing so others will understand.</p>

⁴⁴ Occupational Information Network: O*NET Online found at <http://online.onetcenter.org/>

	<p>Information Ordering — The ability to arrange things or actions in a certain order or pattern according to a specific rule or set of rules (e.g., patterns of numbers, letters, words, pictures, mathematical operations).</p> <p>Speech Clarity — The ability to speak clearly so others can understand you.</p> <p>Arm-Hand Steadiness — The ability to keep your hand and arm steady while moving your arm or while holding your arm and hand in one position.</p> <p>Speech Recognition — The ability to identify and understand the speech of another person.</p> <p>Finger Dexterity — The ability to make precisely coordinated movements of the fingers of one or both hands to grasp, manipulate, or assemble very small objects.</p> <p>Problem Sensitivity — The ability to tell when something is wrong or is likely to go wrong. It does not involve solving the problem, only recognizing there is a problem.</p>
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DENTAL HYGIENISTS

Knowledge	<p>Medicine and Dentistry — Knowledge of the information and techniques needed to diagnose and treat human injuries, diseases, and deformities. This includes symptoms, treatment alternatives, drug properties and interactions, and preventive health-care measures.</p> <p>Customer and Personal Service — Knowledge of principles and processes for providing customer and personal services. This includes customer needs assessment, meeting quality standards for services, and evaluation of customer satisfaction.</p> <p>Biology — Knowledge of plant and animal organisms, their tissues, cells, functions, interdependencies, and interactions with each other and the environment.</p> <p>Education and Training — Knowledge of principles and methods for curriculum and training design, teaching and instruction for individuals and groups, and the measurement of training effects.</p> <p>English Language — Knowledge of the structure and content of the English language including the meaning and spelling of words, rules of composition, and grammar.</p> <p>Psychology — Knowledge of human behavior and performance; individual differences in ability, personality, and interests; learning and motivation; psychological research methods; and the assessment and treatment of behavioral and affective disorders.</p> <p>Sales and Marketing — Knowledge of principles and methods for showing, promoting, and selling products or services. This includes marketing strategy and tactics, product demonstration, sales techniques, and sales control systems.</p> <p>Public Safety and Security — Knowledge of relevant equipment, policies, procedures, and strategies to promote effective local, state, or national security operations for the protection of people, data, property, and institutions.</p> <p>Production and Processing — Knowledge of raw materials, production processes, quality control, costs, and other techniques for maximizing the effective manufacture and distribution of goods.</p>
Skills	<p>Active Listening — Giving full attention to what other people are saying, taking time to understand the points being made, asking questions as appropriate, and not interrupting at inappropriate times.</p> <p>Speaking — Talking to others to convey information effectively.</p> <p>Active Learning — Understanding the implications of new information for both current and future problem-solving and decision-making.</p> <p>Reading Comprehension — Understanding written sentences and paragraphs in work related documents.</p>

	<p>Time Management — Managing one's own time and the time of others.</p> <p>Critical Thinking — Using logic and reasoning to identify the strengths and weaknesses of alternative solutions, conclusions or approaches to problems.</p> <p>Social Perceptiveness — Being aware of others' reactions and understanding why they react as they do.</p> <p>Coordination — Adjusting actions in relation to others' actions.</p> <p>Instructing — Teaching others how to do something.</p> <p>Writing — Communicating effectively in writing as appropriate for the needs of the audience.</p>
Abilities	<p>Finger Dexterity — The ability to make precisely coordinated movements of the fingers of one or both hands to grasp, manipulate, or assemble very small objects.</p> <p>Near Vision — The ability to see details at close range (within a few feet of the observer).</p> <p>Manual Dexterity — The ability to quickly move your hand, your hand together with your arm, or your two hands to grasp, manipulate, or assemble objects.</p> <p>Arm-Hand Steadiness — The ability to keep your hand and arm steady while moving your arm or while holding your arm and hand in one position.</p> <p>Problem Sensitivity — The ability to tell when something is wrong or is likely to go wrong. It does not involve solving the problem, only recognizing there is a problem.</p> <p>Control Precision — The ability to quickly and repeatedly adjust the controls of a machine or a vehicle to exact positions.</p> <p>Oral Expression — The ability to communicate information and ideas in speaking so others will understand.</p> <p>Speech Clarity — The ability to speak clearly so others can understand you.</p> <p>Selective Attention — The ability to concentrate on a task over a period of time without being distracted.</p> <p>Inductive Reasoning — The ability to combine pieces of information to form general rules or conclusions (includes finding a relationship among seemingly unrelated events).</p>

Appendix C: Allowable Duties of Dental Assistants, RDAs, and RDAEFs⁴⁵

California Code of Regulations

Title 16. Professional and Vocational Regulations

Article 5. Duties and Settings

1085. Dental Assistant Duties and Settings.

(a) Unless specifically so provided by regulation, a Dental Assistant may not perform the following functions or any other activity which represents the practice of Dentistry or requires the knowledge, skill and training of a licensed Dentist:

- (1) Diagnosis and treatment planning;
- (2) Surgical or cutting procedures on hard or soft tissue;
- (3) Fitting and adjusting of correctional and prosthodontic appliances;
- (4) Prescription of medicines;
- (5) Placement, condensation, carving or removal of permanent restorations, including final cementation procedures;
- (6) Irrigation and medication of canals, try--in cones, reaming, filing or filling of root canals;
- (7) Taking of impressions for prosthodontic appliances, bridges or any other structures which may be worn in the mouth;
- (8) Administration of injectable and/or general anesthesia;
- (9) Oral prophylaxis procedures.

(b) A Dental Assistant may perform such basic supportive dental procedures as the following under the general supervision of a licensed Dentist:

- (1) Extra-oral duties or functions specified by the supervising Dentist;
- (2) Operation of dental radiographic equipment for the purpose of oral radiography if the Dental Assistant has complied with the requirements of section 1656 of the Code.
- (3) Examine orthodontic appliances.

(c) A Dental Assistant may perform such basic supportive dental procedures as the following under the direct supervision of a licensed Dentist when done so pursuant to the order, control and full professional responsibility of the supervising Dentist. Such procedures shall be checked and approved by the supervising Dentist prior to dismissal of the patient from the office of said Dentist.

- (1) Take impressions for diagnostic (1) and opposing models, bleaching trays, temporary crowns and bridges, and sports guards;
- (2) Apply non-aerosol and non-caustic topical agents;
- (3) Remove post-extraction and periodontal dressings;
- (4) Placement of elastic orthodontic separators;
- (5) Remove orthodontic separators;
- (6) Assist in the administration of nitrous oxide analgesia or sedation; however, a Dental Assistant shall not start the administration of the gases and shall not adjust the flow of the gases unless instructed to do so by the Dentist who shall be present at the patient's chair side at the implementation of these instructions. This regulation shall not be constructed to prevent any person from taking appropriate action in the event of a medical emergency.
- (7) Hold anterior matrices;

⁴⁵ COMDA, "Portions of the Business and Professions Code ("Dental Practice Act") and California Code of Regulations, Title 16 as they relate to Dental Auxiliaries," www.comda.ca.gov

- (8) Remove sutures;
- (9) Take intra-oral measurements for orthodontic procedures;
- (10) Seat adjusted retainers or headgears, including appropriate instructions;
- (11) Check for loose bands;
- (12) Remove arch wires;
- (13) Remove ligature ties;
- (14) Apply topical fluoride, after scaling and polishing by the supervising Dentist or a registered Dental Hygienist;
- (15) Place and remove rubber dams;
- (16) Place, wedge and remove matrices;
- (17) Cure restorative or orthodontic materials in operative site with light-curing device.

For the purpose of this section a supervising licensed Dentist is defined as a Dentist whose patient is receiving the services of a Dental Assistant in the treatment facility and is under the direct control of said licensed Dentist.

Note Authority cited: Section 1614, Business and Professions Code. Reference: Section 1751, Business and Professions Code.

1086. RDA Duties and Settings.

(a) Unless specifically so provided by regulation, the prohibitions contained in section 1085 of these regulations apply to registered Dental Assistants.

(b) A registered Dental Assistant may perform all functions which may be performed by a Dental Assistant.

(c) Under general supervision, a registered Dental Assistant may perform the following duties:

(1) Mouth-mirror inspection of the oral cavity, to include charting of obvious lesions, existing restorations and missing teeth;

(2) Placement and removal of temporary sedative dressings.

(d) A registered Dental Assistant may perform the following procedures under the direct supervision of a licensed Dentist when done so pursuant to the order, control and full professional responsibility of the supervising Dentist. Such procedures shall be checked and approved by the supervising Dentist prior to dismissal of the patient from the office of said Dentist.

(1) Obtain endodontic cultures;

(2) Dry canals, previously opened by the supervising Dentist, with absorbent points;

(3) Test pulp vitality;

(4) Place bases and liners on sound dentin;

(5) Remove excess cement from supragingival surfaces of teeth with a hand instrument or floss;

(6) Size stainless steel crowns, temporary crowns and bands;

(7) Fabrication of temporary crowns intra-orally;

(8) Temporary cementation and removal of temporary crowns and removal of orthodontic bands;

(9) Placement of orthodontic separators;

(10) Placement and ligation of arch wires;

(11) Placement of post-extraction and periodontal dressings;

(12) Apply bleaching agents;

(13) Activate bleaching agents with non-laser light-curing device;

(14) Take bite registrations for diagnostic models for case study only;

(15) Coronal polishing (Evidence of satisfactory completion of a board-approved course of instruction in this function must be submitted to the board prior to any performance thereof). The processing times for coronal polishing course approval are set forth in section 1069. This procedure shall not be intended or interpreted as a complete oral prophylaxis (a procedure which can be performed only by a licensed Dentist or registered Dental Hygienist). A licensed Dentist or registered Dental Hygienist shall determine that the teeth to be polished are free of calculus or other extraneous material prior to coronal polishing.

(16) Removal of excess cement from coronal surfaces of teeth under orthodontic treatment by means of an ultrasonic scaler. (Evidence of satisfactory completion of a board-approved course of instruction or equivalent instruction in an approved RDA program in this function must be submitted to the board prior to any performance thereof.) The processing times for ultrasonic scaler course approval are set forth in section 1069.

(e) Settings. Registered Dental Assistants may undertake the duties authorized by this section in a treatment facility under the jurisdiction and control of the supervising licensed Dentist, or in an equivalent facility approved by the board.

Note Authority cited: Section 1614, Business and Professions Code. Reference: Sections 1614 and 1754, Business and Professions Code; and Section 15376, Government Code.

1087. RDAEF Duties and Settings.

(a) Unless specifically so provided by regulation, the prohibitions contained in Section 1085 apply to RDAEFs.

(b) An RDAEF may perform all duties assigned to Dental Assistants and registered Dental Assistants.

(c) An RDAEF may perform the procedures set forth below under the direct supervision of a licensed Dentist when done so pursuant to the order, control and full professional responsibility of the supervising Dentist. Such procedures shall be checked and approved by the supervising Dentist prior to dismissal of the patient from the office of said Dentist.

- (1) Cord retraction of gingivae for impression procedures;
- (2) Take impressions for cast restorations;
- (3) Take impressions for space maintainers, orthodontic appliances and occlusal guards.
- (4) Prepare enamel by etching for bonding;
- (5) Formulate indirect patterns for endodontic post and core castings;
- (6) Fit trial endodontic filling points;
- (7) Apply pit and fissure sealants;
- (8) Remove excess cement from subgingival tooth surfaces with a hand instrument;
- (9) Apply etchant for bonding restorative materials.

(d) Settings. Registered Dental Assistants in extended functions may undertake the duties authorized by this section in a treatment facility under the jurisdiction and control of the supervising licensed Dentist, or in an equivalent facility approved by the board.

Note Authority cited: Section 1614, Business and Professions Code. Reference: Sections 1614, 1756 and 1757, Business and Professions Code.

Appendix D: Los Angeles County Community College Programs

There are 3 community college programs for Dental Assistants and 3 for Dental Hygienists.

Cerritos College: Dental Assisting Certificate of Achievement, 32 units

- Applied Dental Science I
- Dental Radiography I
- Introduction to Chairside Assisting
- Introduction to Operatory Procedures
- Applied Dental Science II
- Dental Radiography II
- Advanced Chairside Assisting
- Dental Office Management
- Clinical I Dental Schools
- Clinical II Cooperative Office Training

Cerritos College: Dental Hygiene Associate in Arts Degree or Certificate of Achievement, 53 units

- Preventive Dentistry I
- Infection Control and Dental Office Emergencies
- Dental Hygiene Radiography
- Dental Hygiene Clinical Sciences I, II, III, and IV
- Pre-Clinical Dental Hygiene I
- Head and Neck Anatomy
- Dental Embryology, Histology and Anatomy
- Preventive Dentistry
- Clinical Dental Hygiene II, IIA, III, IV
- General and Oral Pathology
- Pharmacology
- Management of Pain
- Applied Periodontics
- Dental Materials Laboratory
- Dental Care for the Special Patient
- Community Dental Health Laboratory I and II
- Dental Health Education & Research I, II
- Ethical Issues in Dental Hygiene

Citrus College: Dental Assisting Certificate of Achievement, 31 units

- Dental Assisting Basics
- Chairside Assisting
- Dental Materials
- Introduction to Dental Assisting
- Preclinical Dental Science
- Infection Control in the Dental Office
- Preventive Dental Health
- Dental Specialties
- Dental Practice Management
- Dental Radiology
- Registered Dental Assistant
- Dental Practical Experience

Pasadena City College: Dental Assistant
Certificate of Achievement, 31 units

- Dental Materials
- Infection Control in Dentistry
- Introduction to Dental Essentials
- Applied Human Behavior
- Chairside Techniques I and II
- Office Administration

Pasadena City College: Dental Hygienist
Certificate of Achievement, 58 units

- Fundamentals of Dental Hygiene Theory and Practice
- Clinical Dental Hygiene Theory and Practice A, B, and C
- Pathology
- Introduction to Oral Health Research
- Pharmacology
- Dental Health Education and Communication
- Current Issues in Dental Hygiene
- Periodontics
- Dental Materials
- Dental Morphology and Occlusion
- Community Dental Health and Lab
- Clinical Practice in Alternative Settings
- Medical Evaluation of Dental Hygiene Patients
- Oral Radiology

West Los Angeles College: Dental Hygiene
Associate of Science Degree

- Principles of Clinical Dental Hygiene
- Intro to Clinical Dental Hygiene
- Radiology I and II
- Radiology 1 - Laboratory
- Tooth Morphology
- General Pathology
- Head & Neck Anatomy
- Infection Control
- Preventive Dentistry
- Pain Control
- Introduction to Periodontics
- Special Patient Care
- Clinical Dental Hygiene I, II, III, IV
- Oral Pathology
- Biochemical Nutrition
- Dental Materials
- Cariology and Occlusion
- Expanded Functions Laboratory
- Dental Health Education
- Dental Health Education-Practicum
- Pharmacology
- Developmental Clinic
- Emergencies in Dental Practice
- Advanced Periodontal Seminar
- Essentials of Dental Hygiene
- Community Dental Health
- Community Dental Health-Practicum

Appendix E: Employer Survey



Please return completed questionnaire to:
Center of Excellence
1100 N. Grand Avenue, 17-15
Walnut, CA 91789
OR Fax to: 909-468-3906

Company Name: _____
Name of Respondent: _____
Title: _____
Phone: _____
City: _____

This survey is conducted on behalf of the California Community Colleges to evaluate the education and training needs of the dental industry in Los Angeles County. Thank you for answering the following questions. Your individual responses will be kept confidential; only aggregated data will be presented in our report.

Occupation studied: Dental Assistants: sterilize, disinfect, prepare and lay out instruments; work alongside dentist to provide assistance; instruct patients on postoperative and general oral health care; obtain patient records.

1. How many dental assistants does your organization currently employ? _____
2. Do you anticipate hiring dental assistants in the next 24 months? Yes No If yes, how many? _____
3. When you hire dental assistants, is prior experience required? Yes No If yes, how much? _____
4. Is training acceptable as a substitute for experience for dental assistants? Yes No
If yes, how much (explain)? _____
5. What is the minimum level of formal education your practice requires when hiring dental assistants? (Check one).
 Less than high school diploma High school diploma or equivalent Some College
 Associate Degree (2-year) Other: _____
6. Do you *require* that your dental assistants be Registered Dental Assistants? Yes No
7. Do you *prefer* that your dental assistants be Registered Dental Assistants? Yes No
8. How difficult is it to find qualified applicants to fill dental assistant positions?
 - Experienced: Not Difficult Somewhat Difficult Very Difficult N/A
 - Inexperienced: Not Difficult Somewhat Difficult Very Difficult N/A
9. What job requirements are applicants often unable to meet? _____

10. Where did your dental assistants receive their training/education? _____

11. Do you believe that the community colleges in Los Angeles County should create new programs to train dental assistants? Yes No Why? _____

12. Do you have any other comments regarding the role of the community colleges in preparing students to work in your industry? _____

13. May we contact you again if we have further questions? Yes No



Please return completed questionnaire to:
Center of Excellence
1100 N. Grand Avenue, 17-15
Walnut, CA 91789
OR Fax to: 909-468-3906

Company Name: _____
Name of Respondent: _____
Title: _____
Phone: _____
City: _____

This survey is conducted on behalf of the California Community Colleges to evaluate the education and training needs of the dental industry in Los Angeles County. Thank you for answering the following questions. Your individual responses will be kept confidential; only aggregated data will be presented in our report.

Occupation studied: Dental Hygienists: remove deposits from teeth, teach patients good oral hygiene, and provide other preventive dental care; examine patients' teeth and gums, recording the presence of diseases or abnormalities.

1. How many dental hygienists does your organization currently employ? _____
2. Do you anticipate hiring dental hygienists in the next 24 months? Yes No If yes, how many? _____
3. When you hire dental hygienists, is prior experience required? Yes No If yes, how much? _____
4. Is training acceptable as a substitute for experience for dental hygienists? Yes No
If yes, how much (explain)? _____
5. What is the minimum level of formal education your practice requires when hiring dental hygienists? (Check one).
 Associates Degree Bachelors Degree Other: _____
6. How difficult is it to find qualified applicants to fill dental hygienist positions?
 - Experienced: Not Difficult Somewhat Difficult Very Difficult N/A
 - Inexperienced: Not Difficult Somewhat Difficult Very Difficult N/A
7. What job requirements are applicants often unable to meet? _____

8. Where did your dental hygienists receive their training/education? _____

9. Where do your dental hygienists take courses to obtain the required continuing education units?

10. Do you believe that the community colleges in Los Angeles County should create new programs for dental hygienists? Yes No Why? _____

11. Do you have any other comments regarding the role of the community colleges in preparing students to work in your industry? _____

12. May we contact you again if we have further questions? Yes No

Thank you very much for answering these questions. Please return this questionnaire by mail in the envelope provided or by fax to (909) 468-3906 no later than Wednesday May 28, 2008.

Appendix F: Dental Office Employer Survey Results

Question Asked	Answers Given Regarding Dental Assistants	Answers Given Regarding Dental Hygienists
When you hire dental assistants or hygienists, is prior experience required?	Yes – 67% of responses	Yes – 73% of responses
Is training acceptable as a substitute for experience?	Yes – 57% of responses	Yes- 41% of responses
What is the minimum level of formal education your practice requires?	85% -“High School Diploma” 5% -“Associate Degree” 10% -“Less than High School Diploma”	75% -“Associate Degree” 25% - “Bachelors Degree”
Where did your assistants or hygienists receive their education?	68% - “private school” 21% -“community college” 5% - “in house” 5% - “ROP”	58% -“university” 25% - “community college” 16% -“foreign university”
How Difficult is it to find EXPERIENCED applicants?	68% - “Somewhat Difficult” 32% - “Very Difficult”	7% -“Not Difficult” 36% -“Somewhat Difficult” 50% - “Very Difficult” 7% - “N/A”
How Difficult is it to find INEXPERIENCED applicants?	68% -“Not Difficult” 10% - “Somewhat Difficult” 16% -“Very Difficult” 5% - “N/A”	15% -“Not Difficult” 38% -“Somewhat Difficult” 8% -“Very Difficult” 15% - “N/A”
Do you have any other comments regarding the role of the community colleges in preparing students to work in your industry?	<ul style="list-style-type: none"> • Offer continuing education • Longer Internships • Training for RDAs • Increase professionalism and responsibility among graduates • Career ladder to hygienists • 	<ul style="list-style-type: none"> • Communication and People Skills • Educating Patients • Professionalism • Teamwork
What job requirements are applicants often unable to meet?	Technical Skills <ul style="list-style-type: none"> • X-ray • Implants • Lab Work • Temporary Crown • Surgery 	Technical Skills <ul style="list-style-type: none"> • Root Planing • Implants • X-ray

Question Asked	Answers Given Regarding Dental Assistants	Answers Given Regarding Dental Hygienists
What job requirements are applicants often unable to meet?	Soft Skills <ul style="list-style-type: none"> • Communication • People Skills • English (as a second language) • 	Soft Skills <ul style="list-style-type: none"> • People skills, especially working with a wide variety of personalities • Ability to educate patients
	Other <ul style="list-style-type: none"> • Knowledge of Dentistry • Willingness to work the required schedule • Work Ethic • Speed • Chair-side manner • RDA certification 	Other <ul style="list-style-type: none"> • Speed • Experience • Teamwork • Thoroughness • Office Systems
Do you believe that the community colleges in Los Angeles should create new programs, and if so, why?	85% - "yes" Reasons given: <ul style="list-style-type: none"> • To improve the professionalism of the occupation • More RDAs are needed and demand continues to grow • To keep up with new techniques and equipment • Occupational schools are not doing a good job of preparing these candidates • The colleges can also educate in the basic skills • More hands-on experience could be offered to students 	100% of those responding said "yes" and cited the growing demand and long (2 year) waits to get into existing community college programs. It was also noted that the community colleges can offer greater access to these careers because the education will not be as expensive as it is at local universities.

In addition, respondents who employed Dental Hygienists reported that they have a variety of places where hygienists can receive continuing education, including the California Dental Association, at conferences and conventions, online, in-house in their offices, and at local universities.