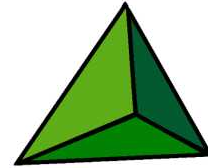




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CALIFORNIA  
COMMUNITY  
COLLEGES

**BUSINESS AND WORKFORCE  
PERFORMANCE IMPROVEMENT INITIATIVE**



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## **Dental Offices in Northern California**

Northern Inland: Butte, Colusa, Glenn, Lassen, Modoc, Plumas,  
Sacramento, Shasta, Siskiyou, Tehama, and Trinity Counties

Greater Sacramento: El Dorado, Nevada, Placer, Sacramento, Sierra,  
Sutter, Yolo, and Yuba Counties

March 2008



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**IN NORTHERN CALIFORNIA, THE DENTAL OFFICE INDUSTRY SECTOR IS PROJECTED TO GROW BY 29 PERCENT FROM 9,850 JOBS IN 2006 TO 12,670 JOBS IN 2016. INCLUDING REPLACEMENT WORKERS, THE SECTOR WILL NEED ABOUT 370 DENTAL ASSISTANTS AND 170 DENTAL HYGIENISTS ANNUALLY TO MEET INCREASING CONSUMER DEMAND.**

SOURCE: ECONOMIC MODELING SPECIALISTS, INC.

## **Executive Summary**

In northern California, the dental office sector is expected to grow faster than the regional economy. Within the inland region of northern California, the dental office sector is expected to grow by 28 percent (or about 520 new jobs) from approximately 1,850 jobs in 2006 to 2,370 jobs in 2016. In the greater Sacramento region of northern California, the dental office sector is expected to grow by 29 percent with an addition of about 2,300 new jobs in ten years, from approximately 8,000 jobs in 2006 to 10,300 in 2016. This report covers two dental office occupations: **dental assistants** and **dental hygienists**. Each of which have distinct occupational growth rates and employment opportunities.

For **dental assistants**, the replacement need is expected to be more than double the annual job growth rate as dental office workers retire, leave to start a family, change careers, or move to a new office within the same industry sector. Including replacement workers, the annual need for dental assistants is about 70 in the inland region and about 300 in the greater Sacramento region.

The distribution of dental assistant training providers is centrally located in the inland region with one in Chico and one in Redding. Even with the appropriate distribution, about 70 percent of dental office employers are experiencing difficulty in recruiting entry-level dental assistants. At the current completion level, the region's training providers have the capacity to train only 30 of the 70 open dental assistant positions.

Although a portion of these open positions will be filled by dental office workers changing positions within the same industry sector, the gap will continue to expand if left unaddressed. While training is not required to become a dental assistant, most dental office employers prefer dental assistants with the appropriate licensing as it expands the list of duties that they may perform. Many employers recruit applicants directly from the region's ROP centers because they prepare students to take the registered dental assistant (RDA) licensing exam. Thus, the projected shortage of dental assistants could be corrected by expanding the inland region's existing RDA training programs.

Conversely, in the greater Sacramento region, the supply of dental assistants is significantly outpacing demand. With 10 training providers graduating an average of 470 dental assistants annually and projected growth and replacement needs of only 300, the estimated annual oversupply of dental assistants is more than 170.

The annual need for **dental hygienists** is about 35 in the inland region and 135 in the greater Sacramento region. Much of this growth and replacement demand can be contributed to four major factors: (1) an aging population, (2) a growing population, (3) an increasing proportion of insured, and; (4) an increasing demand for cosmetic treatments.

Even with a steady growth rate, findings from a recent survey of dental offices in the inland region revealed that employers within a 60 minute commute of Shasta College are experiencing no difficulty in recruiting entry level dental hygienist applicants. Employers in Butte and Tehama counties, however, are experiencing difficulty in recruiting entry level dental hygienists. This distribution problem is further supported by Shasta College, who is observing about half of their graduates leave the immediate area to find employment.

In the greater Sacramento region, the current supply of dental hygienist graduates closely matches the projected annual need. While two-thirds of the dental office employers surveyed stated recruitment challenges in finding entry level dental hygienists, the launch of a new dental hygiene program is quickly correcting the problem. In late 2005, Western Career College in Sacramento launched a dental hygiene program with an annual training capacity of 60. With a dropout rate of only 2 percent, the third class is expected to complete the program in December 2008. In addition, Sacramento City College confers an average of 19 degrees annually. Thus, the annual projected growth and replacement demand of 135 aligns to the annual supply of about 80 after accounting for turnover within the industry and part-time employees working at multiple locations.

Lastly, an upcoming law will also have an impact on the dental industry. According to SB 1546, "all assistants [are] required to complete within one year of employment (1) board-approved courses in infection control and California law and (2) a course in basic life support offered by the American Red Cross." This new requirement is effective January 1, 2010 and provides a limited opportunity to develop short-term courses that address the new legislative requirement.

## Introduction

The California Community Colleges Chancellor's Office has charged the Centers of Excellence (COE) with identifying industries and occupations with unmet workforce and training needs. By researching and validating employment trends and examining current community college capacity, the COE compiles an environmental scan report that identifies potential training gaps applicable to the community college system.

The purpose of this environmental scan report is to determine if the workforce needs of the dental office sector warrants an organized response from community colleges within two regions of Northern California:

- § The inland region– Butte, Colusa, Glenn, Lassen, Modoc, Plumas, Shasta, Sierra, Siskiyou, Tehama, and Trinity counties; and,
- § The greater Sacramento region - El Dorado, Nevada, Placer, Sacramento, Sutter, Yolo, and Yuba counties.

The report includes a review of the industry, high growth occupations within the industry, employer needs and challenges, community resources and issues, and recommendations on how to respond.

## Industry Overview

The dental office industry sector, an important element of allied health, is composed of general, specialized, and pediatric services. General dentistry is the largest sub-sector with about 82 percent of the total employment.<sup>1</sup> The majority of general dentists own and operate a private practice; however a few operate in a corporate owned establishment.

In the northern inland region, the dental office sector is expected to grow by 28 percent from approximately 1,850 in 2006 to 2,370 jobs in 2016 (or about 520 jobs), which is significantly higher than the region's overall projected growth rate of 16 percent.<sup>1</sup> Most dental office jobs fall within a 60 minute drive time of two community colleges. Forty-two percent of the employment is near Butte College and 37 percent is along the I-5 corridor near Shasta College. Together these two areas represent 79 percent of the total employment in the inland region or approximately 1,460 dental office jobs.<sup>2</sup>

The dental office sector, in the greater Sacramento region, is expected to grow by about the same rate of 29 percent (or about 2,300 jobs) from approximately 8,000 jobs in 2006 to 10,300 in 2016.<sup>1</sup> Eighty-five percent of the total dental office employment is located in Sacramento, El Dorado and Placer Counties, near the Los Rios Community Colleges and Sierra College.<sup>2</sup> Appendix B provides a geographical representation of the employment distribution.

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<sup>1</sup> Economic Modeling Specialists, Inc. – 10/07

<sup>2</sup> ESRI GIS Analysis with InfoUSA data

There are four main factors contributing to the high rate of job growth and replacement demand in Northern California, including: an aging population, a growing population, a high level of insured, and new demand for cosmetic services.

*The Aging Population:* California's population is getting older. The oldest baby-boomers turned 60 years of age in 2006 and will reach 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.<sup>3</sup> Retirements at that level, for the occupations reviewed in this report (dental assistants and hygienists), will create about 130 additional job openings in the inland region and 540 additional jobs in the greater Sacramento region over the next ten years. The health care industry calls this the "double whammy:" the inevitable loss of personnel combined with an increase in demand.

*The Growing Population:* Additionally, the inland region's population is expected to grow 2.45 times faster than the state, adding about 179,000 people by 2017. The largest growth will be found in the mid-adult category – 30 to 39 years of age – and young children category – 0 to 9 years of age. Robust growth is also expected in the 60 and older category. The Sacramento region is growing just slightly faster than the state, adding about 400,000 people by 2017. As with the inland region, the mid-adult and over 60 categories are projected to grow more than any other age group.<sup>4</sup>

*A High Level of Insured:* California is one of a handful of states opting to include preventive and restorative dental services for adults (not just children under the age of 21) in the federally funded program Medicaid.<sup>5</sup> Denti-Cal, California's dental program funded by Medicaid, insures 8.5 million low income, disabled and elderly adults and children. While many do not utilize this insurance benefit, the overall demand for Denti-Cal benefits will increase as the population grows.<sup>5</sup>

Further, during the mid and late 1990's and early 2000's, consumer demand for dental services increased dramatically as employers added dental insurance as a standard employee benefit. The number of adult Californians with dental insurance increased by 18.1 percent between 1995 and 2003, and visitations to the dental office increased by 11.2 percent between 1997 and 2004.<sup>6</sup>

Dental offices throughout the state scrambled to expand their practices. Many could not find enough qualified dental hygienists and dental assistants to meet the increase in consumer demand, which led to a spike in wages. However, as the demand leveled off in the early part of the decade, wages declined to previous levels and dental offices slowed their expansion.<sup>6</sup>

Even so, the overall increase of adults with dental insurance continues to have an impact on the dental office industry sector. With a larger proportion of insured adults

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<sup>3</sup> "California's Coming Retirement Wave," Center for Continuing Study of the California Economy – 02/07

<sup>4</sup> Economic Modeling Specialists, Inc. – 10/07

<sup>5</sup> Denti-Cal Facts and Figures: A Look at California's Medicaid Dental Program - 05/07

<sup>6</sup> "Is there a Shortage of Dental Hygienists and Assistants in California" – 11/05

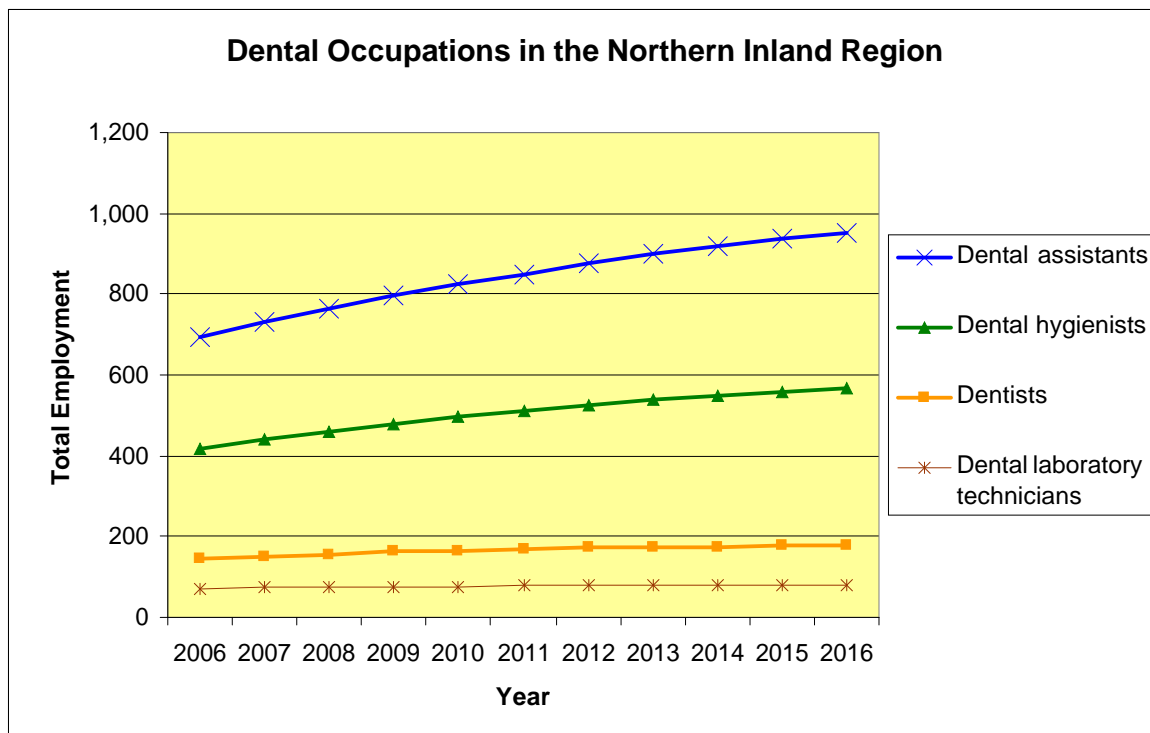
and a growing population, the dental office industry sector is building and maintaining a higher patient case load than just a few years ago.

*New Demand for Cosmetic Treatments:* A 2007 report released by a national research firm estimates that 5 percent of all dental practices in the U.S. 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 gains as much as 30 percent per customer visit, but it also is increasing the demand for dental assistants and dental hygienists.<sup>7</sup>

## Occupational Overview

As shown below, the largest employment in the dental office industry sector is contained within two occupations: dental assisting and dental hygienists. In the inland region, dental assistants is the fastest growing occupation with projected growth of 258 jobs and 458 replacement jobs by 2016. The second fastest growing occupation is dental hygienists with projected growth of 148 jobs and 196 replacement jobs by 2016. Dentists and dental laboratory technicians are expected to grow modestly with a combined addition of only 82 and 31 new and replacement jobs by 2016, respectively.<sup>8</sup>

Chart 1: 2006-2016 Projected Employment in the Inland Region<sup>8</sup>

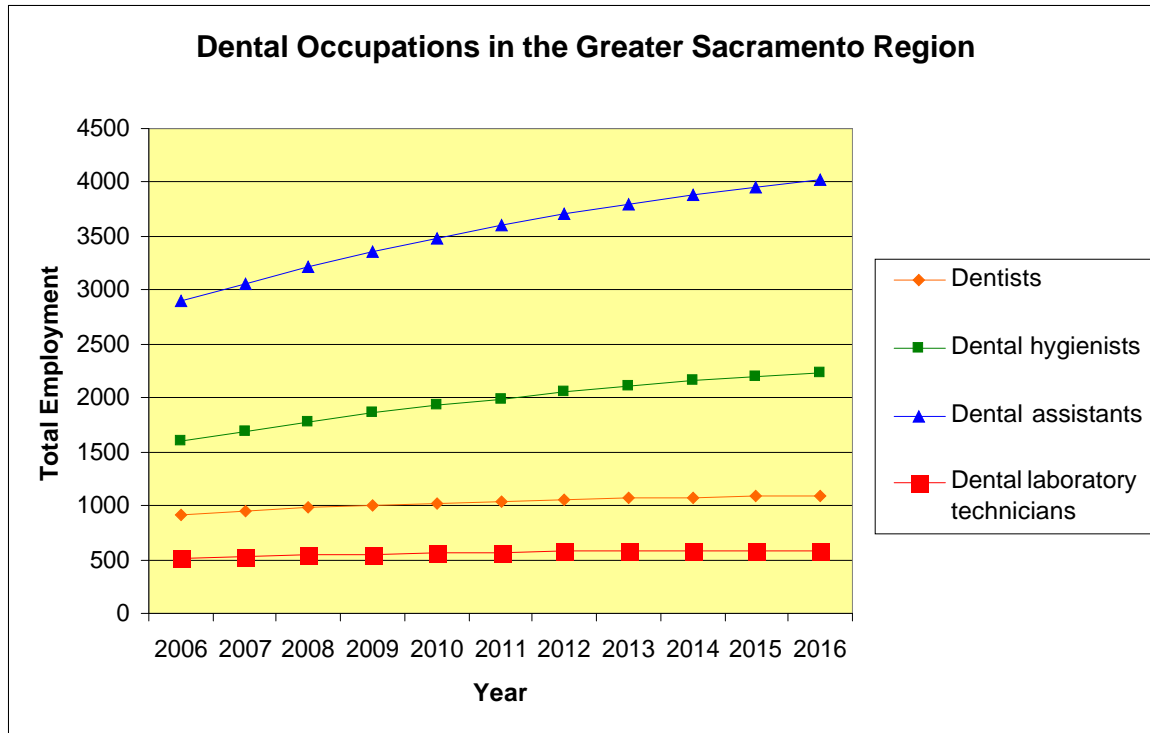


<sup>7</sup> "The US Dental Spa Market," Diagonal Reports – 07/07

<sup>8</sup> Economic Modeling Specialists, Inc. – 10/07

In the greater Sacramento region, dental hygienist is the fastest growing dental occupation with projected growth of 628 new jobs and 749 replacement jobs by 2016. Although the dental assisting occupation is growing at a slightly slower rate, it is significantly larger in size. The dental assistant occupation is expected to add 1,113 new jobs and 1,914 replacement jobs by 2016. The laboratory technician occupation is expected to grow modestly with the addition of only 73 new jobs and 153 replacement jobs by 2016.

Chart 2: 2006-2016 Projected Employment in the Greater Sacramento Region<sup>9</sup>



Appendix B provides a comparison of projected growth and replacement data in California, the northern inland and greater Sacramento regions. The following section provides an overview of the two largest occupations – dental assisting and dental hygienist – including an occupation description, training and education requirements, and earning potential.

### Dental Assistants

As defined by the California Dental Association, “dental assistants work along side the dentist and assist with a variety of dental services.” Some of the main tasks include providing the dentist with instruments, preparing dental materials, counseling patients, and maintaining operatory and instrument infection control. Dental assistants are also responsible for a variety of managerial tasks.<sup>10</sup> The typical career ladder is dental assistant, registered dental assistant, registered dental assistant extended functions

<sup>9</sup> Economic Modeling Specialists, Inc. – 10/07

<sup>10</sup> California Dental Association – 10/07

and special certifications. As dental assistants move along the career ladder their pay increases and within a few years they can earn more than the regional average.

The minimum education requirement for dental assistants is a high school diploma or equivalency, although many employers prefer entry level applicants with a license from the Committee on Dental Auxiliaries (COMDA).<sup>11</sup> Registered dental assistant (RDA) applicants must meet one of the following requirements prior to taking the California Dental Board examinations: (1) Graduation from a California Dental board approved RDA program with a minimum of 720 hours; or (2) Completion of at least 12 months of paid work experience under a licensed dentist; or (3) Completion of a 4-month educational program approved by the California Department of Education plus eight (8) months paid work experience. Additionally, all applicants must complete ADA board approved courses in coronal polishing and radiation safety.<sup>12</sup>

Registered dental assistants are preferred because they may perform more complex tasks than unlicensed assistants.<sup>13</sup> Some of the duties that may be performed under general or direct supervision include:

- (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;
- (3) Remove excess cement from supragingival surfaces of teeth with a hand instrument or floss; and,
- (4) Placement of post-extraction and periodontal dressings
- (5) Coronal polish
- (6) Pit and fissure sealants
- (7) Temporary crowns and bridges.

In total, RDAs may perform 18 additional duties than unlicensed assistants. With an additional 90 hours of training from a California Dental board approved program, RDAs may take an examination to register for extended function status. Registered dental assistants in extended functions (RDAEFs) may perform an additional 9 duties. Appendix H 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 assistants earn a median hourly wage of \$14.75 in the inland region and \$17.00 in the greater Sacramento region.<sup>14</sup> Newly trained and licensed registered dental assistants earn about two to four dollars more than entry-level unlicensed dental assistants. In the inland region, some dental office employers are willing to hire unlicensed dental assistants who plan to obtain the licensure requirement after gaining 12 months of work experience.<sup>15</sup>

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<sup>11</sup> Interview: California Dental Association – 11/07

<sup>12</sup> Committee on Dental Auxiliaries – 3/08

<sup>13</sup> California Dental Association, Dental Assisting Categories Document

<sup>14</sup> Economic Modeling Specialists, Inc. – 10/07

<sup>15</sup> Executive Interviews – 3/08

Most dental office employers provide benefits to their full time employees, including medical insurance, dental insurance, paid vacation, paid sick leave and retirement plans. Almost all dental assistants work full-time, averaging 30 to 40 hours per week.<sup>16</sup>

## Dental Hygienists

Dental hygienists examine and clean teeth. They also provide counseling to patients on how to practice good oral hygiene, such as explaining the connection between diet and health or tactics for properly brushing and flossing.<sup>17</sup> They also prepare the dentist for the oral examination that follows by pointing out areas of concern.

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 administers the clinical and legal examination.<sup>18 & 19</sup>

Dental hygienists earn significantly higher wages than the regional aggregate average with median hourly wages of \$38.17 in the inland region and \$39.38 in the Sacramento region.<sup>20</sup> According to a recent survey, 70 percent of dental hygienists work part time in the inland region and about 50 percent work part time in the greater Sacramento region, averaging between 8 and 24 hours a week. In both regions, more than 70 percent of the employers surveyed provide medical benefits to their part time hygienists.<sup>21</sup>

Appendix D provides a job description of the major dental occupations (excluding support staff) and Appendix E provides the Occupational Information Network (O\*NET) description of knowledge, skills and abilities of dental assistants and dental hygienists.

## Employer Needs and Challenges

According to a recent survey, about 50 percent of dental office employers in the inland region are experiencing difficulty in finding entry level dental hygienist applicants. Employers located in Butte and Tehama counties reported the greatest degree of difficulty in finding entry level dental hygienist applicants, while dental offices near Shasta College reported no difficulty.

This disparity is a result of training availability. Shasta College offers the only dental hygienist program in the inland region and many of the graduates are leaving the area to look for employment. During a recent interview, Via Gilbert, the Executive Director of the Northern California Dental Society, said "There is no shortage of dental hygienists

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<sup>16</sup> SETA Research: Dental Assistant & Dental Hygienist Survey – 12/07

<sup>17</sup> California Dental Association – 10/07

<sup>18</sup> U.S. Department of Labor, Bureau of Labor Statistics, Occupational Outlook Handbook – 8/06

<sup>19</sup> State of California, Committee on Dental Auxiliaries Website – 1/08

<sup>20</sup> Economic Modeling Specialists, Inc. – 10/07

<sup>21</sup> SETA Research: Dental Assistant & Dental Hygienist Survey – 12/07

[in the far northern region]. We have many hygienists looking for work. However, it is a struggle to find registered dental assistants."<sup>22</sup>

The survey also revealed that about 70 percent of dental office employers in the inland region are experiencing difficulty in recruiting entry level dental assistant applicants. One of the key reasons for this shortage is the lack of available training programs relative to the annual need. In the inland region, there are only two dental assistant programs with an annual training capacity of about 30 compared to projected annual growth of about 25 and replacement needs of 45.<sup>23</sup>

In the greater Sacramento region, dental office employers reported a higher level of difficulty in recruiting entry-level dental hygienists than dental assistants. Two thirds of the employers surveyed reported difficulty in recruiting entry level dental hygienist applicants, while only 40 percent of the employers reported difficulty in finding entry-level dental assistant applicants.<sup>24</sup>

With 10 dental assistant training programs graduating approximately 470 dental assistants each year, the region's training network is producing more graduates than needed to meet the projected annual growth of 110 and replacement needs of 190. If the training network continues to produce graduates at the current rate, more than 170 newly trained dental assistants will have difficulty finding employment in the greater Sacramento region.

The main challenge employers have in recruiting dental assistants is not an undersupply of trained workers, but rather finding entry-level applicants with the appropriate work ethic, attitude and personality that aligns with their office culture and environment. Some of the key attributes that employers seek in entry-level dental assistant applicants include:<sup>25</sup>

- |  |                                  |
|--|----------------------------------|
| § Ability to follow direction                        | § Excellent interpersonal skills |
| § Ability to work independently or as part of a team | § Positive attitude              |
| § Friendly and personal                              | § Reliable                       |
|  | § Think quickly on their feet    |

In addition, even though employers reported difficulty in recruiting entry-level dental hygienists, this challenge will likely diminish within the next few years as students graduate from a newly launched dental hygiene program. Until recently, Sacramento City College offered the only dental hygiene training program in the region with an annual training capacity of 24. However in the last three years, Western Career College launched a dental hygiene program with an annual training capacity of 60 graduates, which is beginning to eliminate the region's shortage. Further, about 50 percent of dental hygienists work part-time at multiple locations, significantly reducing the overall annual need for newly trained dental hygienists. Thus, the projected annual entry of 78

<sup>22</sup> Interview, Northern California Dental Society – 1/08

<sup>23</sup> Economic Modeling Specialists, Inc. – 10/07

<sup>24</sup> SETA Research: Dental Assistant & Dental Hygienist Survey – 12/07

<sup>25</sup> Executive Interviews – 3/08

newly trained dental hygienists is appropriately aligned with the industry's long-term hiring needs.

An upcoming law will also have an impact on the dental industry. According to SB 1546, "all assistants [are] required to complete within one year of employment (1) board-approved courses in infection control and California law and (2) a course in basic life support offered by the American Red Cross."<sup>26</sup> This new requirement is effective January 1, 2010 and will drive a need for new courses in infection control and relevant state law.

Along with the need for new courses, dental hygienists are required to complete 25 units of continuing education every two years of employment. Half of these units can be completed online, and the rest must be completed in person with ADA board-accredited courses.<sup>27</sup> The California Dental Association (CDA) offers courses at central locations throughout northern California several times a year. Additionally, Sacramento City College offers continuing education courses that meet this requirement. Thus, it appears that this additional training requirement is being adequately met.

## **Community College Response and Issues**

In the inland region, there are two ADA board-accredited dental assisting programs—one at the Shasta-Trinity ROP center and one at the Butte County ROP center. Additionally, there is a registered dental hygiene program at Shasta College in Redding. Other than a dental radiography program offered by the Butte County ROP, these are the only formal dental training programs in the region.

The Shasta-Trinity ROP consistently awards 9 to 10 degrees in registered dental assisting annually. One hundred percent of the graduates are employed three months after completion of the program.<sup>28</sup> With a slightly larger operating capacity, the Butte County ROP awards between 15 and 20 registered dental assistant degrees annually.<sup>29</sup> Employers work closely with both programs to recruit candidates for open dental assisting positions.<sup>28, 29</sup>

The Shasta College dental hygiene program was launched in 1998 and officially approved by the California Community College Chancellor's Office in 1999. With 41 prerequisite units and 56 core program units, it typically takes four years to obtain the degree. As shown below, the number of Associate in Science degrees awarded in the dental hygiene program slightly increased between 2001 and 2007 with an average of about 10 graduates per year.<sup>30</sup> The 2004 decline in number of graduates was a result of low enrollments in 2002.<sup>31</sup>

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<sup>26</sup> California Dental Association: Dental Assisting Categories Document / Website – 1/08

<sup>27</sup> California Dental Hygienist Association Website – 1/08

<sup>28</sup> Interview: Shasta-Trinity ROP, Registered Dental Assisting Program Instructor – 2/08

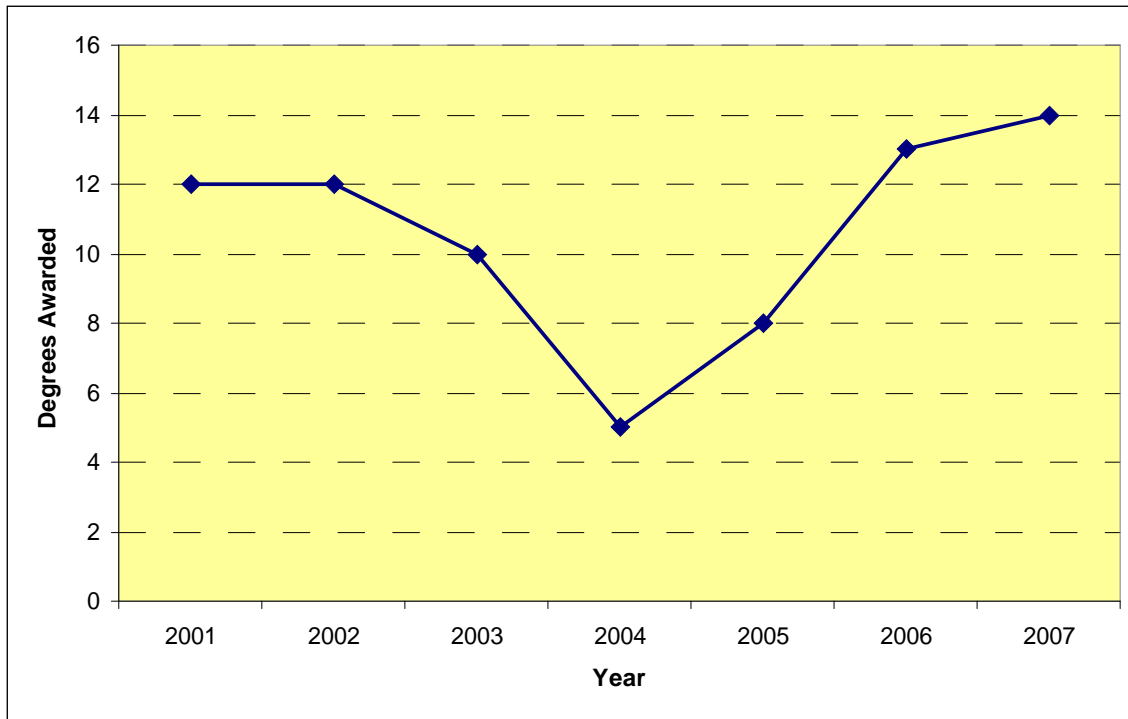
<sup>29</sup> Interview: Butte County ROP, Registered Dental Assisting Program Instructor – 2/08

<sup>30</sup> California Postsecondary Education Commission, Custom Data Report – 10/07

<sup>31</sup> Interview: Shasta College, Registered Dental Hygiene Program Chair - 2/08 & 3/08

During the first few years of operation, a maximum of 12 students were admitted into the program, which expanded to 16 slots in 2005. However, as with any program, student interest varies from year to year with admissions typically ranging between 12 and 16 students annually. Further, one to two students drop out of the program each year for personal reasons, such as starting a family or changing career objectives.<sup>31</sup>

Chart 3: Dental Hygiene Degrees Conferred at Shasta College in Redding<sup>31, 32</sup>



According to the Chair of the Registered Dental Hygiene Program at Shasta College, about half of the graduates gain employment in Shasta and Tehama counties. Since the program launch, the area has been saturated with qualified entry level applicants, making it difficult for graduates to find employment in the immediate area of Redding.

In the greater Sacramento region, there are 10 dental training providers with an annual training capacity of approximately 770 dental assistants and 85 dental hygienists. Though the maximum training capacity is much higher than the projected labor needs, only about 470 newly trained dental assistants and 80 dental hygienists enter the field of dentistry each year.

<sup>32</sup> California Postsecondary Education Commission, Custom Data Report - 10/07

Table 1: Dental Training Providers in the Greater Sacramento Region<sup>33, 34</sup>

<b>Program</b>	<b>Training Provider</b>	<b>Annual Training Capacity</b>	<b>Annual Average # of Graduates</b>
Dental Assisting	49er Regional Occupational Program (ROP)	48	35 - 40
Dental Assisting	Central Sierra ROP	60	21
Dental Assisting	Dental Assisting Institute	54	15 - 30
Dental Assisting	High-Tech Institute	125	100
Dental Assisting	Maric College	Unknown	Unknown
Dental Assisting	Sacramento City College	30	13*
<i>Dental Hygiene</i>	<i>Sacramento City College</i>	24	19
Dental Assisting	Sacramento County ROP	65 – 95*	60-65
Dental Assisting	San Joaquin Valley College	120	4
Dental Assisting	Tri-County ROP	45	20-30
Dental Assisting	Western Career College – Citrus Heights	100	71
Dental Assisting	Western Career College - Sacramento	150	132
<i>Dental Hygiene</i>	<i>Western Career College - Sacramento</i>	60	59

\* 25 – 27 students successfully complete the dental assisting program at Sacramento City College each year, but not all of the completers submit the appropriate forms to receive a certificate or degree.

\*\* Sacramento County ROP is considering the development of a new facility. The current training capacity is 65, but the expansion would add approximately 30 additional spaces.

Sacramento City College is the only community college in the greater Sacramento region offering a dental assistant degree program and a dental hygiene degree program. Students may select from two dental assisting degree choices: (1) An Associate in Science Degree in Dental Assisting or (2) A Career Certificate in Dental Assisting. Both require 27 units of course work in dental assisting. The AS in Dental Assisting requires an additional 60 units of general education and electives.

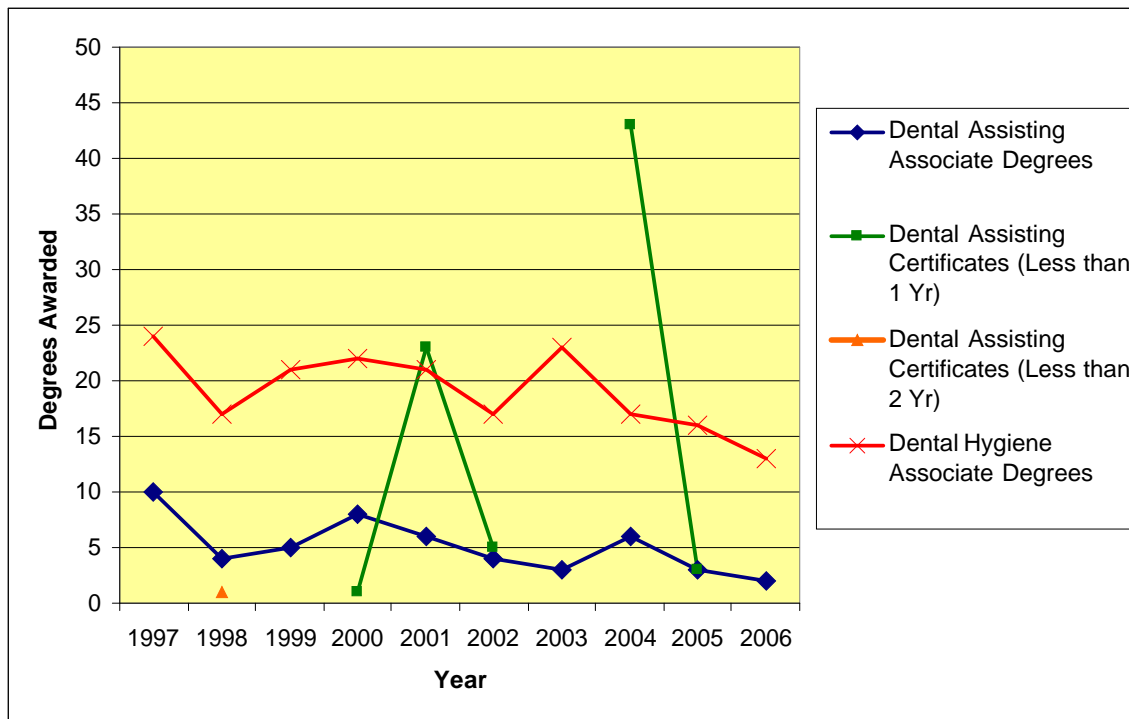
<sup>33</sup> Reported by 49er ROP, Central Sierra ROP, Dental Assisting Institute, High-Tech Institute, Sacramento City College, Sacramento County ROP, San Joaquin Valley College, Tri-County ROP and Western Career College – 3/08

<sup>34</sup> Sacramento City College Annual Average Number of Degrees calculated with data from California Postsecondary Education Commission (CPEC) – 3/08

The dental hygiene program consists of 35 to 39.5 prerequisite units and 43.5 dental hygiene course units in addition to general education and elective units. As with the Shasta College program, it can easily take up to four years to obtain an Associate in Science degree in dental hygiene. Sacramento City College also offers employers a venue to recruit graduating students and job seekers through a “Job Book” system. Dental offices post open dental assisting and dental hygiene positions that are available for students and the public to view.

As shown below, the number of Associate degrees awarded in dental assisting and dental hygiene has remained relatively consistent over the last ten years. However, the number of dental assistant certificates conferred increased sharply in 2001 and 2004. The main reason for this variance is related to internal procedural problems—that is, the completion and submission of paperwork. Thus, while between 25 and 27 students complete the dental assisting certificate program annually, not all of the completers are submitting the appropriate forms to receive the certificate within the year it is earned. It is a process that is under review by the college.<sup>35</sup>

Chart 4: Dental Hygiene and Dental Assisting Degrees Conferred at Sacramento City College<sup>36</sup>



<sup>35</sup> Interview with Sandra Lo, Director of Dental Health, Sacramento City College – 3/08

<sup>36</sup> California Postsecondary Education Commission, Custom Data Report – 3/08

## **Conclusion and Recommendations**

During the 1990's and early 2000's, the dental office sector experienced rapid and expansive growth as more companies started providing dental insurance to their employees. With large new case loads, the dental office industry found it difficult to recruit qualified dental assistants and hygienists, which led to short-term wage inflation. The training community responded by developing new programs, diminishing the shortage and better aligning California's educational system with the dental office labor force needs.

Some training gaps, however, remain in select regions of California. A recent survey of northern California employers revealed that dental offices are experiencing a higher level of difficulty in recruiting dental assistants in the northern inland region than the greater Sacramento region. Conversely, employers in the inland region, especially near Shasta College, reported no difficulty in finding dental hygienists compared to employers in the greater Sacramento region who report moderate challenges in finding trained and qualified applicants.

Unless the northern California training network adjusts to meet the dental office labor market needs, these challenges are expected to continue as the industry grows. Over the next ten years, the dental office industry is expected to experience above average growth for several reasons:

- § The retirement boom should enhance the need for services,
- § The region's population is growing, and;
- § A recent shift in consumer tastes has increased demand for cosmetic treatments.

### **The Northern Inland Region**

In the inland region, most of the growth will occur within a 60 minute commute time of two community colleges: Butte College and Shasta College. Forty-two percent of the employment is near Butte College and 37 percent is along the I-5 corridor near Shasta College. When applying the employment distribution to the projected workforce needs, it shows that the annual growth and replacement need for dental assistants near Butte College and Shasta College is approximately 30 and 26, respectively. Outside these two areas, the annual need for dental assistants is about 16.

With only two dental assisting programs in the region, demand is slightly outpacing supply. The Shasta-Trinity ROP awards about 10 registered dental assisting certificates a year and the Butte County ROP awards between 15 and 20. Consequently, the region may need to recruit up to 40 dental assistants from outside the area to meet the region's annual need from projected separations and growth. Some replacements will occur naturally as dental assistants leave one practice for another and migration brings new dental assistants to the region.

While employers prefer registered dental assistants, completion of a formal training program is not necessary to obtain the license. An alternative path to registration is

working under a licensed dentist for 12 months and completing courses in coronal polishing and radiation safety. *Therefore, a possible solution to the slight shortage is adding courses in coronal polishing and radiation safety for working dental assistants as well as expanding the training capacity of the existing ROP centers.*

The inland region's need for dental hygienists is much smaller. Over the next ten years, the dental office industry is projected to hire about 15 dental hygienists near Butte College and 13 dental hygienists near Shasta College. Outside these two areas, the annual growth and replacement need for dental hygienists is approximately 7. Although the Shasta College Dental Hygiene program awards 10 to 14 degrees a year, about half of these graduates are leaving the area to find employment. With the majority of dental hygienists working between 12 and 24 hours per week, many are employed at multiple practices. Consequently, dental offices in the region can recruit from a smaller applicant pool to meet their dental hygiene hiring needs.

Because of the low population density in the inland region, Shasta College is providing sufficient training to meet the annual labor market needs. However, graduates of the program have to move to other areas of the region to find employment in the field of dentistry. *A possible solution to this issue is establishing a shorter, intensive program in collaboration with the other community colleges in the inland region.* Students could complete the pre-requisites and general education courses at their local community college and temporarily move to Redding to complete the core dental hygiene courses at Shasta College.

### **The Greater Sacramento Region**

Training providers in the greater Sacramento region are conferring more dental assistant degrees than needed to support annual labor market growth and replacement demand. With 10 training providers graduating an average of 470 workers annually and projected growth and replacement needs of only 300, the estimated annual oversupply of dental assistants is more than 170. The dental office survey results mirrored this forecast with only 40 percent of the employers reporting difficulty in recruiting entry-level dental assistants. In fact, the main challenge employers face in finding qualified entry level applicants is relative to finding the right fit—that is, the appropriate attitude, work ethic and personality for the office environment.

Conversely, two-thirds of Sacramento area dental offices reported difficulty in finding entry-level dental hygienists that have the appropriate education and training. However, the entry of a new dental hygiene program at Western Career College is beginning to align supply with demand. Prior to late 2005, Sacramento City College was the only training provider in the region with a dental hygiene program. With the addition of a new program, the region's training providers are capable of training 85 dental hygiene students each year. This is sufficient to meet the region's annual growth projections of 60 new workers and 75 replacement workers after accounting for turnover within the industry and part-time employees working at multiple locations.

*Therefore, the greater Sacramento region's projected labor market needs do not warrant an organized response from the community college system.* In a few years, the reported need by employers should level off as dental hygiene students complete their training program and enter the field of dentistry.

Lastly, an upcoming law will also have an impact on the dental industry throughout northern California. According to SB 1546, "all assistants [are] required to complete within one year of employment (1) board-approved courses in infection control and California law and (2) a course in basic life support offered by the American Red Cross." This new requirement is effective January 1, 2010 and provides a limited opportunity to the community college system to develop short-term courses that address the new legislative requirement.

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## **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 difference this will make to the colleges is that it will position them 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 Environmental Scan 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;
- § Influence and inform local college program planning and resource development; and
- § Promote a future-oriented and market responsive way of thinking among stakeholders.

This Environmental Scan included a review of the California Regional Economies Project reports and Employment Development Department (EDD) Labor Market Information (LMID) projections that cover the communities in this region, as well as many other sources as referenced.

## **Important Disclaimer**

All representations included in this Environmental Scan product/study 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 or 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.

## **Data Limitations**

Data on the number of adults with dental insurance by county are not readily available. This information would provide a foundation for further assessment of future demand.

Migration trends with specific occupational data are currently not available. Information on the number of people with degrees or certificates in dental hygiene or dental assisting that are moving or leaving the area would provide a better understanding of current and future supply.

## **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 07-305-017 for \$205,000) represents compensation for multiple documents or written reports through the Centers of Excellence.

The mission of the Economic and Workforce Development Program is to strengthen California's workforce and advance economic growth through education, training and job development. The Centers of Excellence mission is to provide regional workforce data, in partnership with business and industry, to assist community colleges with program planning and resource advancement.

## Appendix B: California and Regional Growth

### Projected Growth in the Dental Office Sector, NAICS 6212

	2006 Jobs	2016 Jobs	Change	% Change	2006 Establishments	2006 Location Quotient	Earnings Per Worker
<b>California</b>	121,226	150,782	29,556	24%	17,580	1.00	\$48,742
<b>North Cal Inland</b>	1,850	2,370	520	28%	262	1.03	\$35,843
<b>Greater Sacramento</b>	7,999	10,338	2,339	29%	1,088	1.07	\$49,825

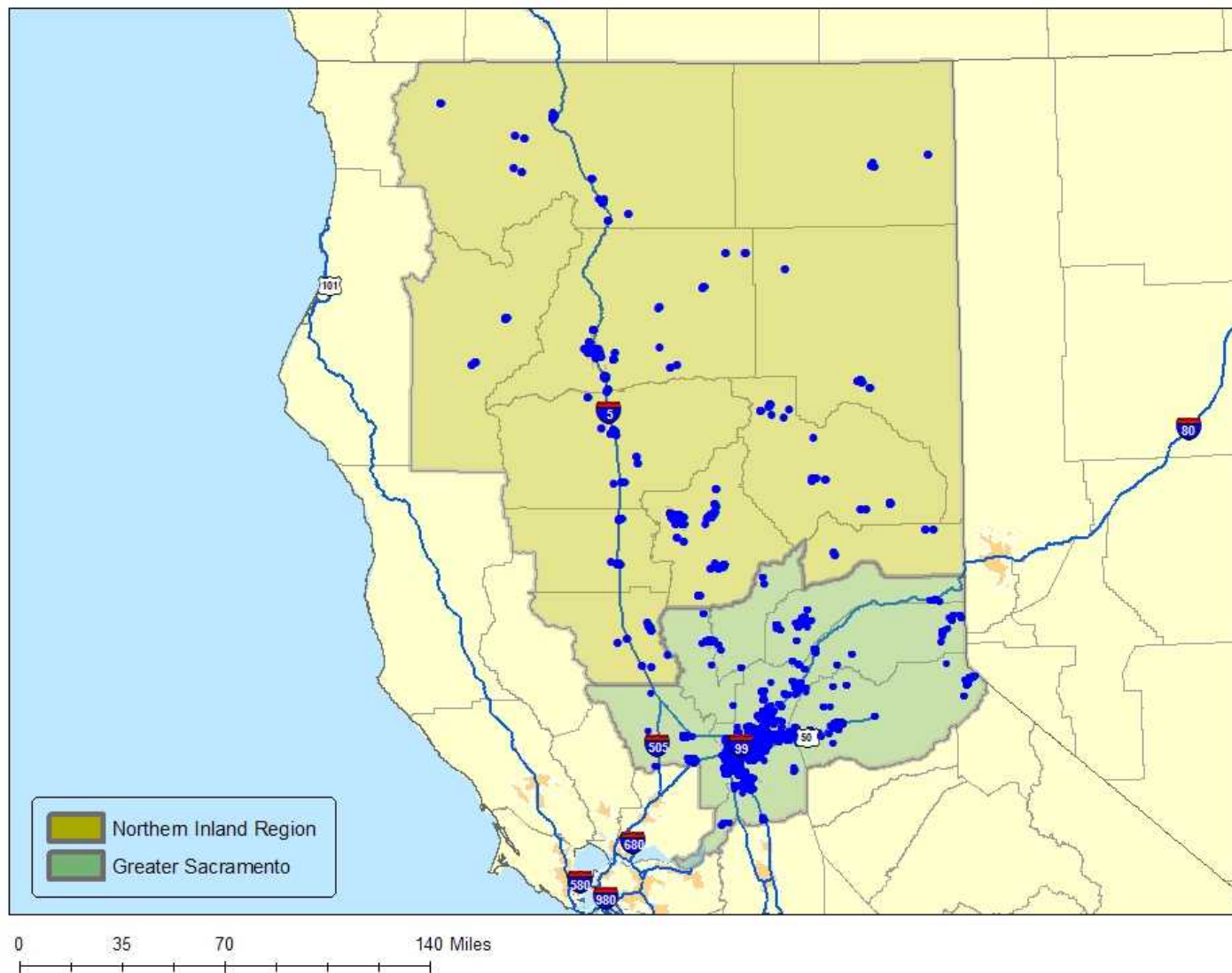
### Projected Growth & Replacement Needs in the Dental Office Sector, 6212 by Occupation

SOC Code	Description	Projected Growth		New Change		Replacement Change		Total New & Replacement Change	
		2006	2016	Actual	Percent	Actual	Percent	Actual	Percent
<b>California</b>									
29-1021	Dentists, general	11,900	13,254	1,354	11%	4,609	39%	5,963	50%
29-1029	Dentists, all other specialists	2,464	2,557	93	4%	218	9%	311	13%
29-2021	Dental hygienists	23,531	31,955	8,424	36%	10,982	46%	19,406	82%
31-9091	Dental assistants	42,685	58,345	15,660	37%	28,119	66%	43,779	103%
51-9081	Dental laboratory technicians	5,557	5,842	285	5%	1,660	30%	1,945	35%
<b>California Total</b>		86,138	111,953	25,815	30%	45,587	53%	71,402	83%
<b>North Cal Inland: Butte, Colusa, Glenn, Lassen, Modoc, Plumas, Shasta, Sierra, Siskiyou, Tehama and Trinity Counties</b>									
29-1021	Dentists, general	128	151	23	18%	49	39%	72	57%
29-1029	Dentists, all other specialists	17	25	8	47%	2	9%	10	56%
29-2021	Dental hygienists	419	567	148	35%	196	47%	344	82%
31-9091	Dental assistants	695	953	258	37%	458	66%	716	103%
51-9081	Dental laboratory technicians	69	79	10	14%	21	31%	31	45%
<b>North Cal Inland Total</b>		1,328	1,775	446	34%	725	54%	1,171	88%
<b>Greater Sacramento: El Dorado, Nevada, Placer, Sacramento, Sutter, Yolo and Yuba Counties</b>									
29-1021	Dentists, general	765	898	133	17%	296	39%	429	56%
29-1029	Dentists, all other specialists	147	190	43	29%	13	9%	56	38%
29-2021	Dental hygienists	1604	2232	628	39%	749	47%	1,377	86%
31-9091	Dental assistants	2906	4019	1,113	38%	1,914	66%	3,027	104%
51-9081	Dental laboratory technicians	513	586	73	14%	153	30%	226	44%
<b>Greater Sacramento Total</b>		5,935	7,925	1,887	33%	2,999	53%	4,886	86%

In California, the dental office sector is projected to grow by 30 percent with replacement needs of 53 percent. The growth and replacement rate is similar in northern California with an estimated combined new and replacement projection of 88 percent in the inland region and 86 percent in greater Sacramento region. The location quotient of the dental office sector shows a slightly higher concentration of employment in northern California than the state as whole.

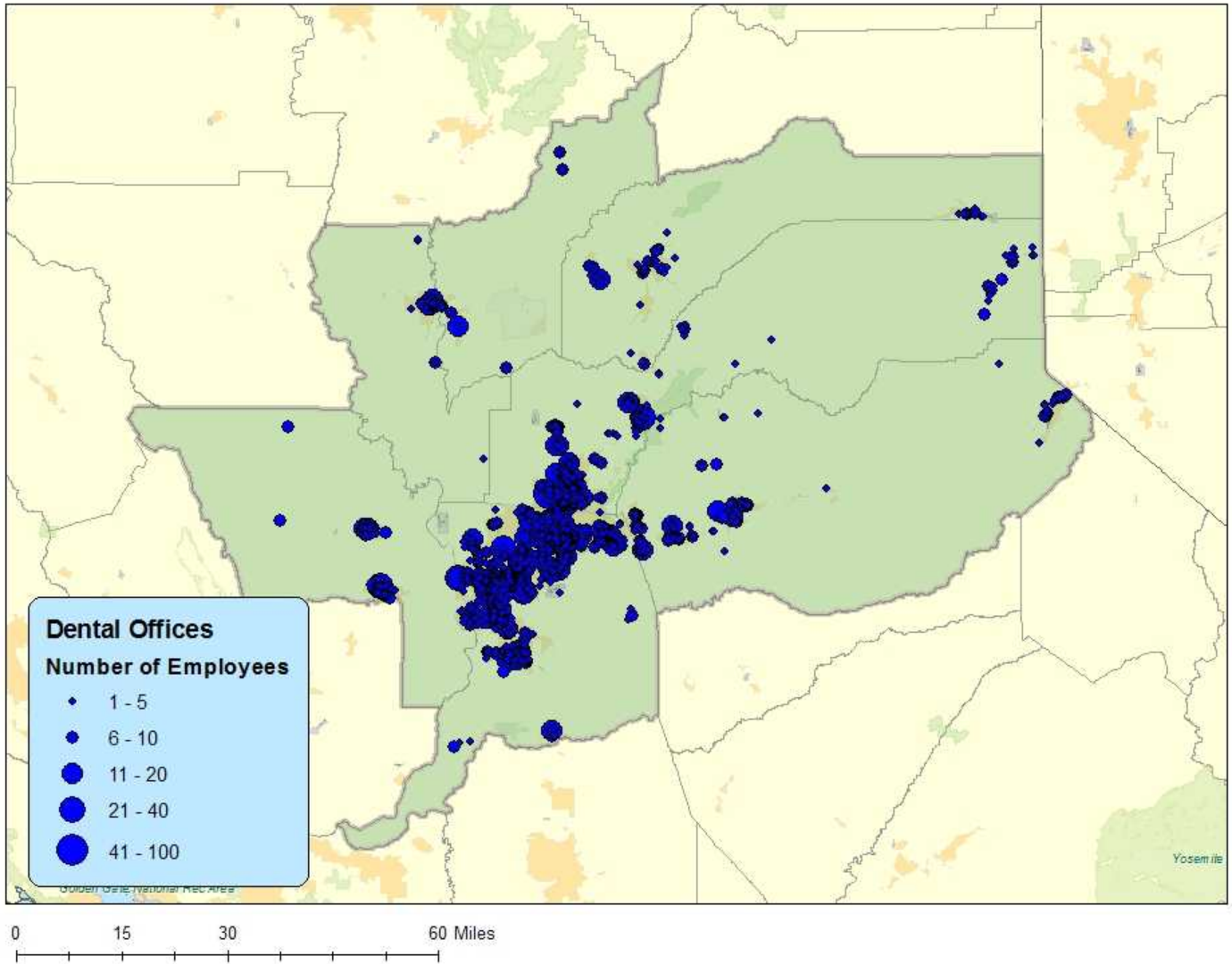
## Appendix C: Employer Locations and Concentration Distribution<sup>37</sup>

### Dental Offices in Northern California, NAICS 6212

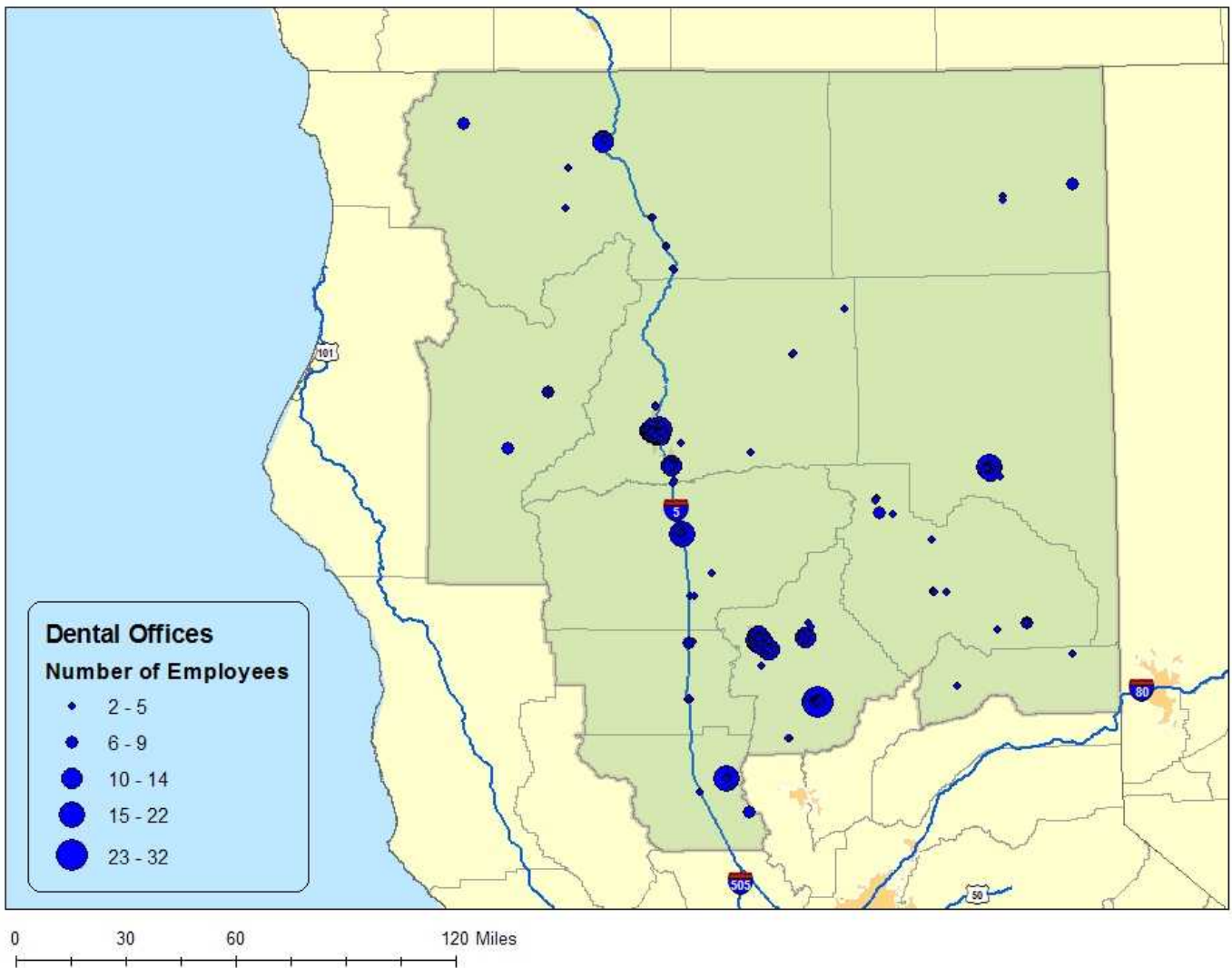


<sup>37</sup> InfoUSA Data – 1/2007

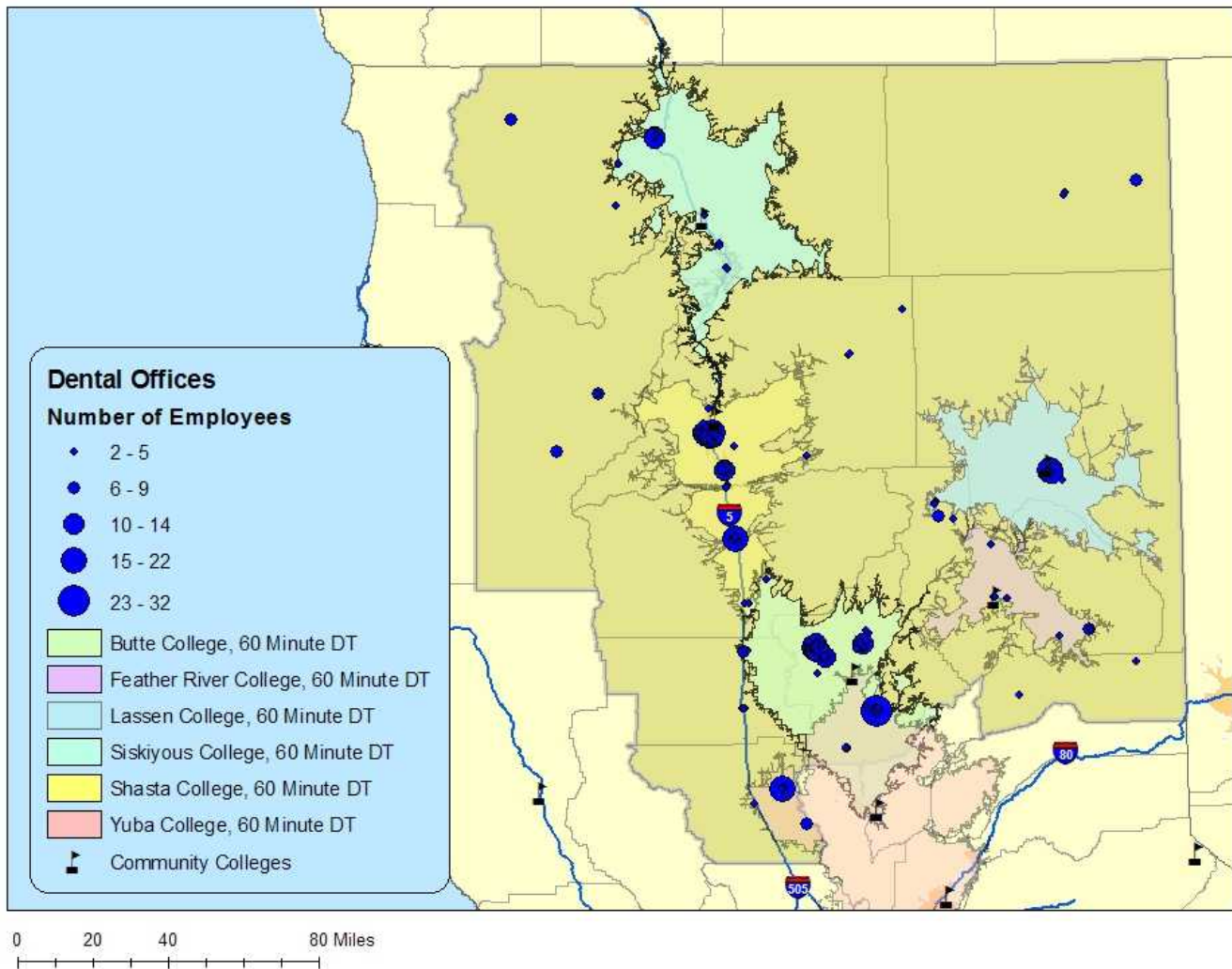
## Dental Offices in the Greater Sacramento Region, NAICS 6212



## Dental Offices in the Northern Inland Region, NAICS 6212



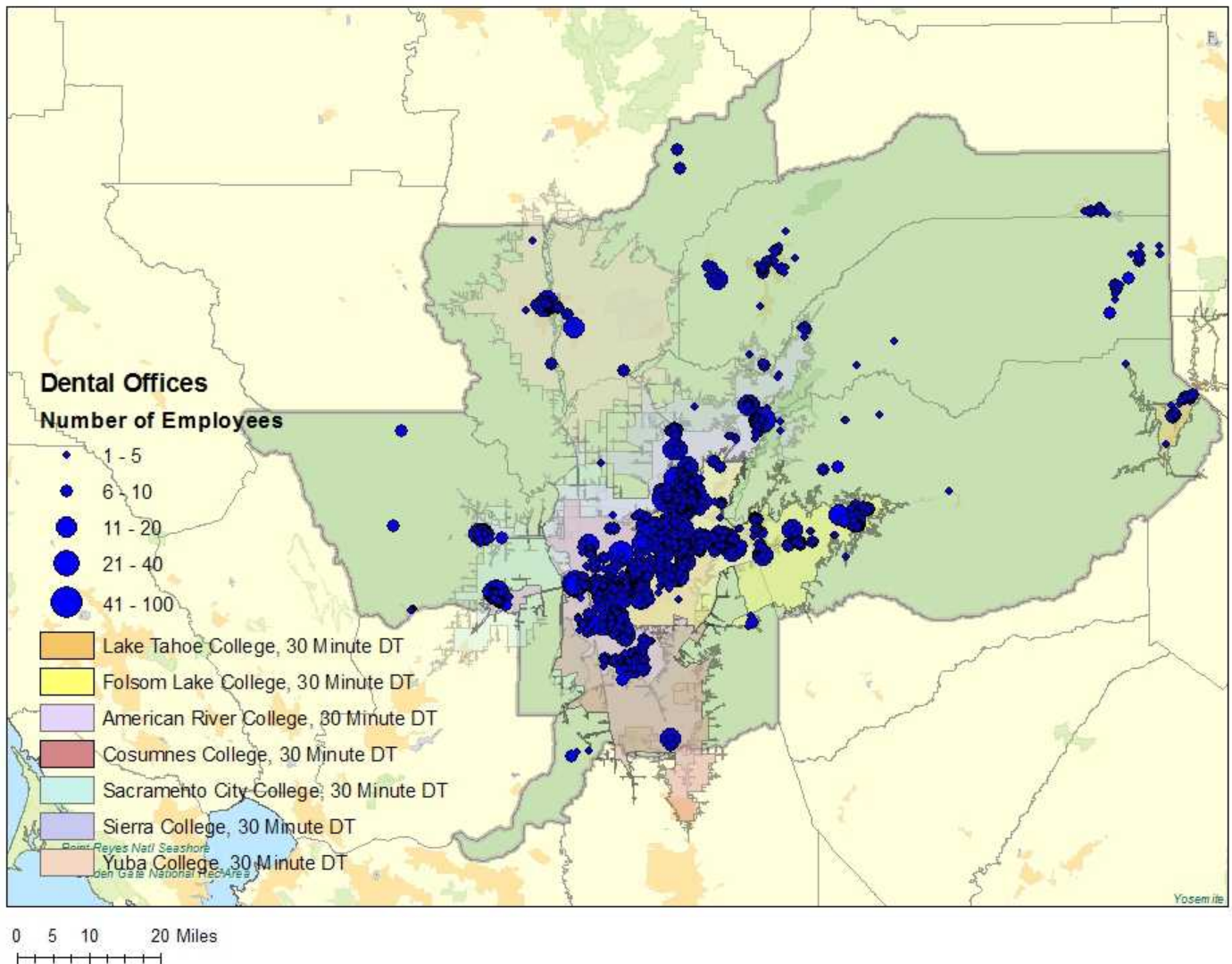
## Dental Offices within a 60 Minute Drive Time of Community Colleges in the Northern Inland Region



This map shows the distribution of dental offices within a 60 minute driving distance of community colleges in the northern inland region. Yuba College was included for analysis purposes. As shown, some overlap exists along Interstate 5 between Shasta College and College of the Siskiyou and along Highway 99 between Butte College and Yuba College. Additionally, the largest concentration of employment is near Shasta College and Butte College.

Forty-two percent of this region's dental office employment is near Butte College and 37 percent is along the I-5 corridor near Shasta College. Together these two areas represent 79 percent of the total employment or approximately 1,460 dental office jobs.

## Dental Offices within a 30 Minute Drive Time of Community Colleges in the Greater Sacramento Region



This map shows the distribution of dental offices within a 30 minute driving distance of community colleges in the greater Sacramento region. Considerable overlap exists among American River College, Cosumnes River College, Folsom Lake College, Sacramento City College and Sierra College. Though there is little overlap surrounding Yuba College or Lake Tahoe Community College, the majority of employment is concentrated in Sacramento County.

## **Appendix D: Occupation Descriptions<sup>38</sup>**

### **Dental Assistants**

Dental assistants work along side the dentist and assist with a variety of dental services. Specific tasks dental assistants are trained to perform may include: (1) taking and processing X-rays, (2) assisting the dentist at chairside with the delivery of instruments and preparation of dental materials, (3) counseling patients about preventive dental care and nutrition, (4) operatory and instrument infection control, and (5) performing a variety of office management tasks.

### **Dental Hygienists**

Dental hygienists work with the dentist to provide comprehensive dental care to patients. A career in dental hygiene offers variety and personal satisfaction. 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, take X-rays, and may administer local anesthetics in some states.

### **Dental Laboratory Technician**

A dental laboratory technician makes dental prostheses, which are replacements for natural teeth to help people eat, chew, talk or smile. The dental laboratory technician needs artistic aptitude for detailed and precise work, manual dexterity and skill in using small hand instruments and equipment. Technicians are valuable members of the dental care team although they rarely work directly with patients. They receive instruction from dentists by following written instructions and using impressions (molds) of the patients' teeth or soft tissue to create full dentures, crowns, bridges, or orthodontic appliances. They often perform much of their work without close supervision.

Some duties of a dental laboratory technician may include: (1) fabricates fixed bridges, partials, dentures, veneers and crowns (2) create orthodontic appliances and splints to help straighten and protect teeth and (3) work with materials such as waxes, plastics, precious and non-precious alloys, stainless steel, a variety of porcelains and composites or polymer glass combinations.

### **Dentist**

A dentist is trained and licensed to practice the diagnosis, treatment and prevention of diseases, injuries and malformations of the teeth, jaw and mouth. Most dentists practice general dentistry, giving them the capability to provide comprehensive care to a variety of patients.

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<sup>38</sup> Excerpt from the California Dental Association Website – 10/07

## Appendix E: O\*NET Top Knowledge, Skills and Abilities<sup>39</sup>

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

<p>Knowledge</p>	<p><b>Medicine and Dentistry</b> — 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><b>Customer and Personal Service</b> — 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><b>English Language</b> — Knowledge of the structure and content of the English language including the meaning and spelling of words, rules of composition, and grammar.</p> <p><b>Clerical</b> — 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><b>Chemistry</b> — 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>
<p>Skills</p>	<p><b>Active Listening</b> — 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><b>Reading Comprehension</b> — Understanding written sentences and paragraphs in work related documents.</p> <p><b>Speaking</b> — Talking to others to convey information effectively.</p> <p><b>Coordination</b> — Adjusting actions in relation to others' actions.</p> <p><b>Social Perceptiveness</b> — Being aware of others' reactions and understanding why they react as they do.</p> <p><b>Equipment Maintenance</b> — Performing routine maintenance on equipment and determining when and what kind of maintenance is needed.</p> <p><b>Active Learning</b> — Understanding the implications of new information for both current and future problem-solving and decision-making.</p> <p><b>Time Management</b> — Managing one's own time and the time of others.</p> <p><b>Equipment Selection</b> — Determining the kind of tools and equipment needed to do a job.</p> <p><b>Instructing</b> — Teaching others how to do something.</p>
<p>Abilities</p>	<p><b>Oral Expression</b> — The ability to communicate information and ideas in speaking so others will understand.</p> <p><b>Oral Comprehension</b> — The ability to listen to and understand information and ideas presented through spoken words and sentences.</p> <p><b>Near Vision</b> — The ability to see details at close range (within a few feet of the observer).</p>

<sup>39</sup> O\*NET Online

	<p><b>Written Expression</b> — The ability to communicate information and ideas in writing so others will understand.</p> <p><b>Information Ordering</b> — 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><b>Speech Clarity</b> — The ability to speak clearly so others can understand you.</p> <p><b>Arm-Hand Steadiness</b> — 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><b>Speech Recognition</b> — The ability to identify and understand the speech of another person.</p> <p><b>Finger Dexterity</b> — 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><b>Problem Sensitivity</b> — 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><b>Medicine and Dentistry</b> — 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><b>Customer and Personal Service</b> — 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><b>Biology</b> — Knowledge of plant and animal organisms, their tissues, cells, functions, interdependencies, and interactions with each other and the environment.</p> <p><b>Education and Training</b> — 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><b>English Language</b> — Knowledge of the structure and content of the English language including the meaning and spelling of words, rules of composition, and grammar.</p> <p><b>Psychology</b> — 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><b>Sales and Marketing</b> — 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><b>Public Safety and Security</b> — 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><b>Production and Processing</b> — Knowledge of raw materials, production processes, quality control, costs, and other techniques for maximizing the effective manufacture and distribution of goods.</p>
Skills	<p><b>Active Listening</b> — 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><b>Speaking</b> — Talking to others to convey information effectively.</p> <p><b>Active Learning</b> — Understanding the implications of new information for</p>

	<p>both current and future problem-solving and decision-making.</p> <p><b>Reading Comprehension</b> — Understanding written sentences and paragraphs in work related documents.</p> <p><b>Time Management</b> — Managing one's own time and the time of others.</p> <p><b>Critical Thinking</b> — Using logic and reasoning to identify the strengths and weaknesses of alternative solutions, conclusions or approaches to problems.</p> <p><b>Social Perceptiveness</b> — Being aware of others' reactions and understanding why they react as they do.</p> <p><b>Coordination</b> — Adjusting actions in relation to others' actions.</p> <p><b>Instructing</b> — Teaching others how to do something.</p> <p><b>Writing</b> — Communicating effectively in writing as appropriate for the needs of the audience.</p>
Abilities	<p><b>Finger Dexterity</b> — 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><b>Near Vision</b> — The ability to see details at close range (within a few feet of the observer).</p> <p><b>Manual Dexterity</b> — 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><b>Arm-Hand Steadiness</b> — 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><b>Problem Sensitivity</b> — 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><b>Control Precision</b> — The ability to quickly and repeatedly adjust the controls of a machine or a vehicle to exact positions.</p> <p><b>Oral Expression</b> — The ability to communicate information and ideas in speaking so others will understand.</p> <p><b>Speech Clarity</b> — The ability to speak clearly so others can understand you.</p> <p><b>Selective Attention</b> — The ability to concentrate on a task over a period of time without being distracted.</p> <p><b>Inductive Reasoning</b> — The ability to combine pieces of information to form general rules or conclusions (includes finding a relationship among seemingly unrelated events).</p>

## Appendix F: California Community College Dental Programs<sup>40</sup>

College Name	Program Title	Cert Units	Degree Units	Degree Type	Comments
Alameda, College of	Dental Assisting	40	40	S	
Allan Hancock College	Dental Assistant	26	26	S	
Cabrillo College	Dental Hygiene		53.5	S	
Cerritos College	Dental Hygienist		75	A	Also available: recommended pattern of transfer preparation for dental hygiene at four-year institution.
Cerritos College	Dental Assistant	32	32	A	
Chabot College	Dental Hygiene		55	A	
Chaffey College	Dental Assisting	31	31	S	
Citrus College	Dental Assistant	30	18	S	
Contra Costa College	Dental Assisting	50	50	S	
Cuesta College	Dental Hygiene				Degree projected.
Cypress College	Dental Hygiene	56.5	56.5	S	
Cypress College	Dental Assistant	29.5	29.5	S	
Diablo Valley College	Dental Hygiene	87.5	87.5	S	
Diablo Valley College	Dental Assisting	41.5	41.5	S	
Diablo Valley College	Dental Laboratory Technology	20	20	S	Includes dental materials, morphology, anatomy, crown & bridge techniques, dental ceramics, fixed and removable techniques, etc.
Foothill College	Dental Hygiene		127	S	Program is two years plus two summers.
Foothill College	Dental Assisting	44.5	44.5	S	
Fresno City College	Dental Hygiene		51.5	S	
Hartnell College	Dental Hygiene		77	S	Coordinated with a dental residency program at Natividad Medical Center, Salinas.

<sup>40</sup> CA Community Colleges Chancellor's Office: Program Inventory Last Updated on: 10/22/07

Los Angeles City College	Dental Technology	48	61	S	Skills needed in commercial dental laboratory or dental office laboratory. Manufacture of prosthodontics.
Marin, College of	Dental Assisting: Registered	41.5	38.5	S	
Modesto Junior College	Dental Assisting	38	38	S	
Monterey Peninsula College	Dental Assisting	31	31	S	
Orange Coast College	Dental Assisting: Registered	27	27	B	
Oxnard College	Dental Hygiene		56	S	
Oxnard College	Dental Assisting	26			
Palomar College	Dental Assisting (Registered Dental Assistant)	39.5	39.5	A	
Pasadena City College	Dental Hygiene	57	55	S	
Pasadena City College	Dental Assisting	35	35	S	
Pasadena City College	Dental Laboratory Technology	47	47	S	
Redwoods, College of the	Dental Assisting	32	32	S	
Reedley College	Dental Assisting	47	47	S	
Riverside City College	Dental Hygiene		60.5	S	
Riverside City College	Dental Assistant	42	42	S	
Riverside City College	Dental Laboratory Technology	37	37	S	
<b>Sacramento City College</b>	<b>Dental Hygiene</b>	<b>43</b>	<b>82.5</b>	<b>S</b>	
<b>Sacramento City College</b>	<b>Dental Assisting</b>	<b>26.5</b>	<b>26.5</b>	<b>S</b>	
San Diego Mesa College	Dental Assisting (RDA, CDA)	29.5	29.5	S	Graduates eligible for State RDA & CDA National exam.
San Francisco, City College	Dental Assisting	29	44	S	

San Jose City College	Dental Assisting	31.5	36	S	Prepares for national board of Amer. Dental Assts. Assn. and California licensure exam.
San Mateo, College of	Dental Assisting	32	35	S	
Santa Rosa Junior College	Dental Hygiene		95.5	S	
Santa Rosa Junior College	Dental Assisting	43			College offers 11 month and 22 month extended programs.
<b>Shasta College</b>	<b>Dental Hygiene</b>		<b>56</b>	<b>A</b>	<b>Besides core coursework, 41 units of prerequisites and 6 additional units of general education are required. Total degree unit requirement is 103 units.</b>
Southwestern College	Dental Hygiene		50	S	
Taft College	Dental Hygiene	51	51	S	
West Los Angeles College	Dental Hygiene		61	S	

## **Appendix G: Dental Associations**

As a stable, established industry, there is a myriad of educational resources available to dental offices throughout California. Many state and national dental associations provide educational courses, conferences and policy papers that can be utilized by dental offices and educational institutions to stay abreast of legislative changes and scientific/technical advancements. Below is a list of statewide and national dental associations supporting the dental office industry.

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

California Dental Hygienists Association  
<http://www.cdha.org>

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

California Dental Laboratory Association  
<http://www.cdla.org>

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

American Dental Hygienists' Association  
<http://www.adha.org>

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

National Association of Dental Laboratories  
<http://www.nadl.org>

American Dental Education Association  
[http:// www.adea.com](http://www.adea.com)

## **Appendix H: Allowable Duties of Dental Assistants, RDAs, and RDAEFs<sup>41</sup>**

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 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

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<sup>41</sup> 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](http://www.comda.ca.gov)

patient's chairside 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;
- (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.