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Connecticut Department
of Public Health

Report to the General Assembly

An Act Concerning the Department of Public Health's Oversight Responsibilities relating to Scope of Practice Determinations:

Scope of Practice Review Committee Report on
Expanded Functions Dental Auxiliaries

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State of Connecticut

Department of Public Health

Report to the General Assembly

An Act Concerning the Department of Public Health's Oversight Responsibilities relating to Scope of Practice Determinations for Health Care Professions: Scope of Practice Review Committee Report on Expanded Functions Dental Auxiliaries (EFDA)

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Executive Summary

In accordance with Public Act 11-209, the Connecticut Dental Assistants Association (CDAA) submitted a scope of practice request to the Department of Public Health to establish an Expanded Functions Dental Auxiliary (EFDA) in Connecticut. An EFDA is a highly trained and skilled dental assistant or dental hygienist who receives additional education to perform reversible, intraoral procedures and additional tasks (expanded duties or extended duties), services or capacities, often including direct patient care services, which are delegated by a licensed dentist and performed under the supervision of a licensed dentist. The Department also received two additional scope of practice requests related to dental care and services: a request from the Connecticut State Dental Association (CSDA) related the addition of Interim Therapeutic Restorations (ITR) to the dental hygiene scope of practice and a request from the Connecticut Dental Hygienists' Association (CDHA) related to advanced dental hygiene practitioners. The Department made a decision to combine the scope of practice review committees due to the complexity of the issues and because the impacted parties are the same for all of the requests. The decision to combine the committees was supported by scope of practice review committee members. A separate report, however, is being submitted for each of the scope of practice requests as the issues are very distinct.

The scope of practice review committee reviewed and evaluated the CDAA's request to establish an EFDA as well as subsequent written responses to the request and additional information that was gathered through the review process. Literature and other information reviewed and evaluated by the scope of practice review committee demonstrated that dental assistants and dental hygienists who receive appropriate education and training can safely engage in expanded functions and practice as EFDAs. Education and training programs for EFDAs have been in place for many years in other states. EFDA education and training programs in Connecticut can certainly be incorporated into existing accredited dental hygiene education programs to allow dental assistants and currently licensed dental hygienists to gain additional competencies. The Dental Assisting National Board (DANB) already has examination and certification programs in place that could be utilized in Connecticut.

EFDAs have been in place in several other states for many years and proven to be an effective tool in enhancing access to care. Literature and other information that was reviewed as part of scope of practice review process stressed the importance of increasing the role of auxiliary staff in providing oral health care. EFDAs are able to support the dental team in providing care to patients, especially the underserved. EFDAs supplement and support dentists by performing basic dental procedures that enable the dentists to see more patients. Although a dentist must oversee procedures performed by EFDAs, they can play a significant role in enhancing the ability of dental practices and clinics to serve those in need. Studies demonstrate that procedures can safely be delegated to EFDAs and that quality of care was not adversely affected when the duties were delegated to these trained dental auxiliaries, and that dentists who work with EFDAs are more productive than colleagues who don't use EFDAs. Studies also show that improved access to oral health care can decrease the need for more costly restorative treatments and help to reduce the overall cost of dental care.

In reviewing all of the information provided, the scope of practice review committee did not identify any specific public health and safety risks associated with allowing appropriately educated and trained dental assistants and dental hygienists to engage in expanded functions. Evidence provided by the CDAA demonstrated that enactment of these changes in other states has enhanced quality and affordable dental care, and it is anticipated that the enactment of similar changes would enhance quality and affordable dental care in Connecticut. Creation of an EFDA as outlined in the CDAA's proposal would increase the current scope of practice for both dental assistants and dental hygienists and expand their ability to practice to the full extent of their current education and training.

The committee was not presented with draft statutory revisions for review. Should the Public Health Committee decide to raise a bill related to the CDAA's scope of practice request, the Department of Public Health along with the pertinent organizations that were represented on the scope of practice review committee to review this request (CDHA and CSDA) respectfully request the opportunity to work with the Public Health Committee on such a proposal.

Background

Public Act 11-209, An Act Concerning the Department of Public Health's Oversight Responsibilities Relating to Scope of Practice Determinations for Health Care Professions, established a process for the submission and review of requests from health care professions seeking to revise or establish a scope of practice prior to consideration by the General Assembly. Under the provisions of this act, persons or entities acting on behalf of a health care profession that may be directly impacted by a scope of practice request may submit a written impact statement to the Department of Public Health. The Commissioner of Public Health shall, within available appropriations, establish and appoint members to a scope of practice review committee for each timely scope of practice request received by the Department. Committees shall consist of the following members:

1. Two members recommended by the requestor to represent the health care profession making the scope of practice request;

2. Two members recommended by each person or entity that has submitted a written impact statement, to represent the health care profession(s) directly impacted by the scope of practice request; and

3. The Commissioner of Public Health or the commissioner's designee, who shall serve as an ex-officio, non-voting member and chairperson of the committee.

The Commissioner of Public Health was also authorized to expand the membership of the committee to include other representatives from other related fields if it was deemed beneficial to a resolution of the issues presented.

Scope of practice review committees shall review and evaluate the scope of practice request, subsequent written responses to the request and any other information the committee deems relevant to the scope of practice request. Such review and evaluation shall include, but not be limited to, an assessment of any public health and safety risks that may be associated with the request, whether the request my enhance access to quality and affordable health care and whether the request enhances the ability of the profession to practice to the full extent of the profession's education and training. Upon concluding its review and evaluation of the scope of practice request, the committee shall provide its findings to the joint standing committee of the General Assembly having cognizance of matters relating to public health. The Department of Public Health (DPH) is responsible for receiving requests and for establishing and providing support to the review committees, within available appropriations.

Scope of Practice Request

The Connecticut Dental Assistants Association (CDAA) requested a scope of practice request to establish an Expanded Functions Dental Auxiliary (EFDA) in Connecticut. An EFDA is a highly trained and skilled dental assistant or dental hygienist who receives additional education and training to perform reversible, intraoral procedures and additional tasks which are delegated by a licensed dentist and performed under the supervision of a licensed dentist. Highly skilled EFDAs are able to support the dental team in providing care to patients, especially the underserved.

Impact Statements and Responses to Impact Statements

Written impact statements in response to the scope of practice request submitted by CDAA were received from the Connecticut State Dental Association (CSDA), the Connecticut Association of Endodontics (CAE), the American Academy of Pediatric Dentistry (AAPD), the Connecticut Society of Pediatric Dentists (CSPD) and the Connecticut Dental Hygienists' Association (CDHA). CDAA submitted written responses to the impact statements, which were reviewed by the scope of practice review committee.

Scope of Practice Review Committee Membership

In accordance with the provisions of Public Act 11-209, a scope of practice review committee was established to review and evaluate the scope of practice request submitted by the CDAA. The Department received three scope of practice requests related to dental care and services: the request submitted by the CDAA, which is the subject of this report; a request from the Connecticut State Dental Association (CSDA) related to the addition of interim therapeutic restorations (ITR) to the dental hygiene scope of practice; and a request from the Connecticut Dental Hygienists' Association (CDHA) related to advanced dental hygiene practitioners. Because the issues are complex and the impacted parties are the same for all of the requests, the scope of practice review committees were combined. Committee members specific to this request included representation from:

1. the Connecticut State Dental Association;
2. the Connecticut Association of Endodontics;
3. the American Academy of Pediatric Dentistry
4. the Connecticut Society of Pediatric Dentists;
5. the Connecticut Dental Hygienists' Association; and
6. the commissioner's designee (chairperson and ex-officio, non-voting member).

Representatives from the Department of Social Services, the Department of Public Health's Office of Oral Health and the Dental Assisting National Board (DANB) also participated in meetings and provided valuable information to the committee.

Scope of Practice Review Committee Evaluation of Request

The CDAA's scope of practice request included all of the required items identified in PA 11-209 as outlined below. Additional clarifying information was obtained during the review and evaluation of this request.

Health & Safety Benefits

The CDAA identified the following health and safety benefits associated with implementing the scope of practice request:

> Dental caries is an infectious disease process affecting both children and adults. Dental decay is the single most common disease in childhood. If left untreated, tooth decay can lead to difficulty in speaking, chewing and swallowing, loss of self-esteem, needless pain and lost school days. Infected teeth are reservoirs of bacteria that flood the rest of the body, leaving a child prone to many other childhood infections, including ear infections and sinus infections. Studies have shown that sealants, a well-accepted clinical coating, can prevent tooth decay in molar teeth as soon as they erupt. Dental sealants are a covered service under Medicaid/SCHIP Programs in Connecticut, affording availability of sealants to low income children. In Connecticut, more than 1 out of every 6 third graders have untreated tooth decay. Minority and low-income children have the highest level of dental disease and the lowest level of dental sealants. In order to reverse these trends, resources have to be mobilized. Key strategies identified to improve the oral health of children in CT include: increase the number of dental professionals providing dental sealants, increase the number of dental providers in underserved areas and increase the provision of dental sealants in safety nets and private dental practice. The implementation of educated and trained EFDAs in providing dental sealants can only have a positive impact on the health and safety of the citizens of Connecticut.

Adults, including the elderly and those with special needs, who suffer from tooth decay, are also at risk for other systemic diseases. The use of certified EFDAs will increase the efficiency of the dental team thereby increasing the number of patients that can receive treatment while maintaining high standards of proper patient care. EFDAs can perform expanded skills for which they have been highly trained under strict guidelines and clinical evaluation. Reliable evaluation and examinations will ensure that EFDA students are competent to perform acquired skills.

Access to Healthcare

The CDAA identified that implementation of the scope of practice request would have the following impact on access to health care:

The implementation of EFDAs in Connecticut can improve capacity for public care by providing practitioners with more time to treat the currently underserved population. EFDAs can also increase practice productivity and efficiency and thus allow for additional "chair time" for underserved patients to include the elderly, special needs and Medicaid recipients.

Laws Governing the Profession

The CDAA provided the following information concerning current laws:

Most states have regulations regarding dental assisting and the performance of expanded functions. The regulations for all 50 states and the District of Columbia are outlines on the website for the Dental Assisting National Board (DANB) in their "State Specific Dental Assisting Information" page at www.danb.org. In Connecticut, dental assistants are not licensed, certified nor registered by the Department of Public Health but are overseen by the Commissioner of Public Health, with advice and assistance from the Dental Commission.

"A licensed dentist may delegate to dental assistants such dental procedures as the dentist may deem advisable, including the taking of dental x-rays if the dental assistant can demonstrate successful completion of the dental radiography portion of an examination prescribed by the Dental Assisting National Board", as stated in the Connecticut General Statutes, Chapter 379 Dentistry, Section 20-112a.

Currently, dental assistants are not required to take continuing education whereas dentists and hygienists do.

Dental assistants in Connecticut may perform functions authorized by the Connecticut State Dental Commission/Department of Public Health as cited in the Dental Practice Act; Chapter 379, section 20-112a. Dental procedures are delegated by a licensed dentist to the dental assistant and are performed under the supervision, control and responsibility of the dentist. Dental Assistants in Connecticut are not required to be licensed or registered but must hold a certification in DANB Radiation Health and safety in order to expose dental x-rays as cited in the Department of Public Health Statutes and Regulations: Chapter 376c, section 20-7433(3).

Current Requirements for Education and Training and Applicable Certification Requirements

In the State of Connecticut, dental assistants can be hired and trained on-the-job or complete a formal education program in a CODA-accredited dental assisting program. Both pathways provide the opportunity for dental assistants to become Certified Dental assistants through the Dental Assisting National Board (DANB). Training programs are offered by community colleges, vocational schools, or technical institutes. One-year program enrollees receive a certificate or diploma upon completion, while those in 2-year programs receive an associate degree. Dental assistants may also acquire necessary skills through on-the-job training.

The only statutory requirements related to mandatory education and training for dental assistants are in regard to taking dental x-rays. Dental assistants must successfully complete the radiology portion of the Dental Assisting National Board examination in order to take dental x-rays in Connecticut. Neither certification nor licensure is currently required for dental assistants to practice in Connecticut.

Summary of Known Scope of Practice Changes

There have been no scope of practice changes related to the practice of dental assistants that have been passed within the last five years. The CDAA provided the following information in conjunction with their request:

> The Connecticut State Dental Association (CSDA) and the Connecticut Society of Pediatric Dentists (CSPD) has supported EFDA both conceptually and through policy since 2003. In 2005 the CSDA, the Connecticut Dental Assisting Association and the Connecticut Dental Hygiene Association, participated in Department of Public Health mediation regarding scope of practice. During that process, the CSDA agreed to support a long list of EFDA competencies. The CSDA also testified in favor of the EFDA-portion of House Bill 5630, "An Act Concerning The Establishment Of Licensure For An Advanced Dental Hygiene Practitioner" in 2009.

Impact on Existing Relationships within the Health Care Delivery System

The CDAA identified that the implementation of this scope of practice request would have the following impact on existing relationships within the health care delivery system:

> This scope request would directly impact the relationships between the dental assistant, dental hygienists and dentist as it would allow the dentist, as lead member of the dental team to determine how to utilize the resources within his/her office to best meet the demand for services. This would positively complement both the dental and dental hygiene professions as it would allow for an enhanced career path for both dental assistants and dental hygienists.
>
> Subsequent to the Surgeon General's report in 2000, a coalition of public and private organizations recommended, among other actions, taking steps to increase the oral health workforce's diversity, capacity, and flexibility. The expansion of duties for the dental assistant, in line with recommendations by DANB for a uniform national model for dental assistants can:

- Increase the capacity of the oral healthcare services infrastructure by enhancing dental assistant recruitment and retention;
- Minimize unproductive time that dental assistants spend obtaining new credentials when they change their state of residence, and reduce losses from the dental assisting workforce of experienced dental assistants who choose not to obtain new credentials when they change their state of residence;
- Mitigate shortages in the dental assisting workforce by enhancing the ability of dental offices within commuting distance of neighboring states to hire dental assistants living in those states;
- Allow public health initiatives designed to benefit underserved segments of the population to more effectively recruit qualified dental assisting personnel.

Research supports the improved effectiveness of the dental office when an EFDA is utilized. The increase in dental services available for Medicaid and other underserved populations will positively impact the relationship between the dental profession and the population at large.

Economic Impact

The CDAA identified and provided documentation to support that the implementation of this scope of practice request would have the following economic impact:

The request will improve the efficiency of the dental office thus allowing for the expansion of services to those patients covered by public insurance.

The impact of delegation on practice productivity and efficiency are substantial. As delegation increases, practices see more patients and generate higher gross billings and net incomes. Larger practices (e.g., more dentist and staff hours and space) are the primary employers of expanded function dental auxiliaries. This study suggests that general dental practices could substantially increase their capacity to see more patients with the effective use of expanded duty dental auxiliaries.

Moreover, training programs for EFDA are self-sustaining and can be operated in existing training programs with no additional cost to the educational system.

Regional and National Trends

The CDAA identified the following regional and national trends related to EFDAs:

Dental Assisting National Board, Inc. Position paper of the ADAA/DANB Alliance: Addressing a uniform national model for the dental assisting profession. 2005 (attached)

Dental Assisting National Board, Inc. National Overview of Dental Assisting Job Titles. (attached) This chart illustrates the various job titles given to different job function levels across the United States

Other Health Care Professions that may be Impacted by the Scope of Practice Request as Identified by the Requestor

The CDAA identified the following regional and national trends related to EFDAs:

> The EFDA certification will provide for enhanced professional development and skill development for dental assistants and dental hygienists in CT. Training will develop specific knowledge, skills and competencies essential for the EFDA to assist the dentist in delivery of quality dental care. EFDAs can perform expanded duties for which they are trained under specific guidelines that incorporate clinical evaluation. The certification process will ensure that EFDAs are competent to perform the skills identified in the expanded scope of practice. The additional services performed by the EFDA will help the dentist to expand the number of patients the practice serves and to best allocate the dental resources within the practice.
>
> This program will offer dental assistants a chance to elevate their professional status and will promote longevity in the profession. Dental assistants who are DANB-certified stay in the profession an average of 14.5 years (3 times longer than non-certified dental assistants). The enhancement of scope of services is in line with the recent Institute of Medicine report, *Improving Access to Oral Health Care for Vulnerable and Underserved Populations which concluded that* "states should examine and amend state practice laws to allow healthcare professionals to practice to their highest level of competence." By requiring the scope of services to be provided under the supervision of a dentist, the change will maintain the quality and integrity of the dental home.

Findings and Conclusions

In accordance with Public Act 11-209, the Connecticut Dental Assistants Association (CDAA) submitted a scope of practice request to the Department of Public Health to establish an Expanded Functions Dental Auxiliary (EFDA) in Connecticut. An EFDA is a highly trained and skilled dental assistant or dental hygienist who receives additional education to perform reversible, intraoral procedures and additional tasks (expanded duties or extended duties), services or capacities, often including direct patient care services, which are delegated by a licensed dentist and performed under the supervision of a licensed dentist. The Department also received two additional scope of practice requests related to dental care and services: a request from the Connecticut State Dental Association (CSDA) related the addition of Interim Therapeutic Restorations (ITR) to the dental hygiene scope of practice and a request from the Connecticut Dental Hygienists' Association (CDHA) related to advanced dental hygiene practitioners. The Department made a decision to combine the scope of practice review committees due to the complexity of the issues and because the impacted parties are the same for all of the requests. The decision to combine the committees was supported by scope of practice review committee members. A separate report, however, is being submitted for each of the scope of practice requests as the issues are very distinct.

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EFDAs have been in place in several other states for many years and proven to be an effective tool in enhancing access to care. Literature and other information that was reviewed as part of scope of practice review process stressed the importance of increasing the role of auxiliary staff in providing oral health care. EFDAs are able to support the dental team in providing care to patients, especially the underserved. EFDAs supplement and support dentists by performing basic dental procedures that enable the dentists to see more patients. Although a dentist must oversee procedures performed by EFDAs, they can play a significant role in enhancing the ability of dental practices and clinics to serve those in need. Studies demonstrate that procedures can safely be delegated to EFDAs and that quality of care was not adversely affected when the duties were delegated to these trained dental auxiliaries, and that dentists who work with EFDAs are more productive than colleagues who don't use EFDAs. Studies also show that improved access to oral health care can decrease the need for more costly restorative treatments and help to reduce the overall cost of dental care.

In reviewing all of the information provided, the scope of practice review committee did not identify any specific public health and safety risks associated with allowing appropriately educated and trained dental assistants and dental hygienists to engage in expanded functions. Evidence provided by the CDAA demonstrated that enactment of these changes in other states has enhanced quality and affordable dental care, and it is anticipated that the enactment of similar changes would enhance quality and affordable dental care in Connecticut. Creation of an EFDA as outlined in the CDAA's proposal would increase the current scope of practice for both dental assistants and dental hygienists and expand their ability to practice to the full extent of their current education and training.

The committee was not presented with draft statutory revisions for review. Should the Public Health Committee decide to raise a bill related to the CDAA's scope of practice request, the Department of Public Health along with the pertinent organizations that were represented on the scope of practice review committee to review this request (CDHA and CSDA) respectfully request the opportunity to work with the Public Health Committee on such a proposal.

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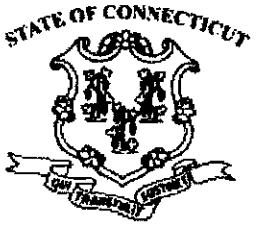
Appendix A

Ref. #12



Substitute House Bill No. 6549

Public Act No. 11-209

AN ACT CONCERNING THE DEPARTMENT OF PUBLIC HEALTH'S OVERSIGHT RESPONSIBILITIES RELATING TO SCOPE OF PRACTICE DETERMINATIONS FOR HEALTH CARE PROFESSIONS.

Be it enacted by the Senate and House of Representatives in General Assembly convened:

Section 1. (NEW) (*Effective July 1, 2011*) (a) Any person or entity, acting on behalf of a health care profession that seeks to establish a new scope of practice or change a profession's scope of practice, may submit a written scope of practice request to the Department of Public Health not later than August fifteenth of the year preceding the commencement of the next regular session of the General Assembly.

(b) (1) Any written scope of practice request submitted to the Department of Public Health pursuant to subsection (a) of this section shall include the following information:

(A) A plain language description of the request;

(B) Public health and safety benefits that the requestor believes will be achieved should the request be implemented and, if applicable, a description of any harm to public health and safety should the request not be implemented;

(C) The impact that the request will have on public access to health care;

(D) A brief summary of state or federal laws that govern the health care profession making the request;

(E) The state's current regulatory oversight of the health care profession making the request;

(F) All current education, training and examination requirements and any relevant certification requirements applicable to the health care profession making the request;

(G) A summary of known scope of practice changes either requested or enacted concerning the health care profession in the five-year period preceding the date of the request;

(H) The extent to which the request directly impacts existing relationships within the health care delivery system;

(I) The anticipated economic impact of the request on the health care delivery system;

(J) Regional and national trends concerning licensure of the health care profession making the request and a summary of relevant scope of practice provisions enacted in other states;

(K) Identification of any health care professions that can reasonably be anticipated to be directly impacted by the request, the nature of the impact and efforts made by the requestor to discuss the request with such health care professions; and

(L) A description of how the request relates to the health care profession's ability to practice to the full extent of the profession's education and training.

(2) In lieu of submitting a scope of practice request as described in subdivision (1) of this subsection, any person or entity acting on behalf of a health care profession may submit a request for an exemption from the processes described in this section and section 2 of this act. A request for exemption shall include a plain language description of the request and the reasons for the request for exemption, including, but not limited to: (A) Exigent circumstances which necessitate an immediate response to the scope of practice request, (B) the lack of any dispute concerning the scope of practice request, or (C) any outstanding issues among health care professions concerning the scope of practice request can easily be resolved. Such request for exemption shall be submitted to the Department of Public Health not later than August fifteenth of the year preceding the commencement of the next regular session of the General Assembly.

(c) In any year in which a scope of practice request is received pursuant to this section, not later than September fifteenth of the year preceding the commencement of the next regular session of the General Assembly, the Department of Public Health, within available appropriations, shall: (1) Provide written notification to the joint standing committee of the General Assembly having cognizance of matters relating to public health of any health care profession that has submitted a scope of practice request, including any request for exemption, to the department pursuant to this section; and (2) post any such request, including any request for exemption, and the name and address of the requestor on the department's web site.

(d) Any person or entity, acting on behalf of a health care profession that may be directly impacted by a scope of practice request submitted pursuant to this section, may submit to the department a written statement identifying the nature of the impact not later than October first of the year preceding the next regular session of the General Assembly. Any such person or entity directly impacted by a scope of practice request shall indicate the nature of the impact taking into consideration the criteria set forth in subsection (b) of this section and shall provide a copy of the written impact statement to the requestor. Not later than October fifteenth of such year, the requestor shall submit a written response to the department and any person or entity that has provided a written impact statement. The requestor's written response shall include, but not be limited to, a description of areas of agreement and disagreement between the respective health care professions.

Sec. 2. (NEW) (*Effective July 1, 2011*) (a) On or before November first of the year preceding the commencement of the next regular session of the General Assembly, the Commissioner of Public Health shall, within available appropriations allocated to the department, establish and appoint members to a scope of practice review committee for each timely scope of practice request submitted to the department pursuant to section 1 of this act. Committees established pursuant to this section shall consist of the following members: (1) Two members recommended by the requestor to represent the health care profession making the scope of practice request; (2) two members recommended by each person or entity that has submitted a written impact statement pursuant to subsection (d) of section 1 of this act, to represent the health care professions directly impacted by the scope of practice request; and (3) the Commissioner of Public Health or the commissioner's designee, who shall serve as an ex-officio, nonvoting member of the committee. The Commissioner of Public Health or the commissioner's designee shall serve as the chairperson of any such committee. The Commissioner of Public Health may appoint additional members to any committee established pursuant to this section to include representatives from health care professions having a proximate relationship to the underlying request if the commissioner or the commissioner's designee determines that such expansion would be beneficial to a resolution of the issues presented. Any member of such committee shall serve without compensation.

(b) Any committee established pursuant to this section shall review and evaluate the scope of practice request, subsequent written responses to the request and any other information the committee deems relevant to the scope of practice request. Such review and evaluation shall include, but not be limited to, an assessment of any public health and safety risks that may be associated with the request, whether the request may enhance access to quality and affordable health care and whether the request enhances the ability of the profession to practice to the full extent of the profession's education and training. The committee, when carrying out the duties prescribed in this section, may seek input on the scope of practice request from the Department of Public Health

and such other entities as the committee determines necessary in order to provide its written findings as described in subsection (c) of this section.

(c) The committee, upon concluding its review and evaluation of the scope of practice request, shall provide its findings to the joint standing committee of the General Assembly having cognizance of matters relating to public health. The committee shall provide the written findings to said joint standing committee not later than the February first following the date of the committee's establishment. The committee shall include with its written findings all materials that were presented to the committee for review and consideration during the review process. The committee shall terminate on the date that it submits its written findings to said joint standing committee.

Sec. 3. (NEW) (*Effective July 1, 2011*) On or before January 1, 2013, the Commissioner of Public Health shall evaluate the processes implemented pursuant to sections 1 and 2 of this act and report to the joint standing committee of the General Assembly having cognizance of matters relating to public health, in accordance with the provisions of section 11-4a of the general statutes, on the effectiveness of such processes in addressing scope of practice requests. Such report may also include recommendations from the committee concerning measures that could be implemented to improve the scope of practice review process.

Approved July 13, 2011

Appendix B

Expanded Functions Dental Auxiliary (EFDA)

Scope of Practice Committee Members

Jennifer Filippone, Department of Public Health
Wendy Furniss, Department of Public Health
Jennifer Lefkowski, Department of Public Health
Tatiana Barton, Connecticut State Dental Association, President
Dr. John Raus, Connecticut State Dental Association
Carolyn Malon, Connecticut State Dental Association
L. Teal Mercer, RDH, Connecticut Dental Hygienist Association
Dinah G. Auger, Connecticut Dental Hygienist Association
Jody Bishop-Pulla, Connecticut Dental Hygienist Association
Celeste Baranowski, Connecticut Dental Hygienist Association
Marcia H. Lorentzen, RDH, EdD, Connecticut Dental Hygienist Association
Mary Calka, Connecticut Dental Hygienist Association
John Hillger, Connecticut State of Oral Maxillofacial Society
Ian Tergary, Connecticut State of Oral Maxillofacial Society

Appendix C

CONNECTICUT DENTAL ASSISTANTS ASSOCIATION

www.cdaa4u.org

SCOPE OF PRACTICE REQUEST
AUGUST 15, 2011

Connecticut Dental Assistants Association
Expanded Functions Dental Auxiliary SCOPE REQUEST
(For the Department of Public Health)
August 13, 2011

SCOPE OF PRACTICE REQUEST
Written Request to DPH
The bill requires any person or entity, acting on behalf of a health care profession, seeking legislative action in the following year's legislative session that would result in a (1) statutory change to the profession's scope of practice or (2) new law establishing a scope of practice, to provide DPH with a written request.
Criteria **- The request submitted to DPH must include:**

1. A plain language description of the request:

2. Public health and safety benefits that the requestor believes will occur if the request is implemented and, if applicable, a description of any harm to public health and safety if it is not:

3. The impact on public access to health care:

4. A summary of state or federal laws governing the profession:

5. The state's current regulatory oversight of the profession:

6. All current education and training requirements applicable to the profession:

7. All scope of practice changes requested or enacted concerning the profession in the five years preceding the request:

8. The extent to which the request directly impacts existing relationships within the health care delivery system:

9. The anticipated economic impact on the public and the health professions affected by the request:

10. Regional and national trends concerning licensing of the health profession making the request and a summary of relevant scope of practice provisions enacted in other states:

11. Identification of any health care professions that might oppose the request, the possible nature of the opposition, and efforts the requestor made to get support for the request from other health care professions, including areas of agreement between any affected health professions:

12. A description of how the request relates to the health care profession's ability to practice to the full extent of the profession's education and training:

1. A plain language description of the request:

The Connecticut Dental Assistants Association is requesting a Scope of Practice change to the practice of dental assisting to provide for the education and training of an Expanded Functions Dental Auxiliary (EFDA) in Connecticut. An EFDA is a highly trained and skilled dental assistant or dental hygienist who receives extra education to perform reversible, intraoral procedures, and additional tasks (expanded duties or extended duties), services or capacities, often including direct patient care services, which may be legally delegated by a licensed dentist and performed under the supervision of a licensed dentist. Highly skilled EFDAs are able to support the dental team in providing care to patients, especially the underserved.

The Dental Assistant is responsible for the routine maintenance of the dental equipment, ensuring it is operative and in aseptic condition. The assistant is also responsible for the supplies, which should be in adequate levels. Another function is the use of dental x-ray equipment to take intra-/extra-oral radiographs and develop film, when certified by the Dental Assisting National Board (DANB) for Radiation Health and Safety. The assistant also prepares patients and the operatory, checking all instruments and materials required for the given treatment under the supervision of the dentist. The dental assistant assists the dentist chairside utilizing four-handed dentistry to provide instruments, materials, retraction, and/or oral evacuation during patient care. The EFDA in addition to technical support services/tasks normally delegated to the dental assistant, is to perform chair side assistant duties and/or direct care duties in all phases of restorative, surgical, endodontic, prosthodontic, orthodontic, and periodontal treatment under the supervision of a dentist. Some examples of the additional duties provided by EFDAs include placing dental restorative materials, the making and cementation of temporary bridges and crowns, removal of sutures, performing supragingival (above the gumline) debridement (cleaning), coronal polishing, placing dental pit and fissure sealants, applying topical fluoride and varnish and taking impressions.

The Commission on Dental Accreditation (CODA) accredits dental, dental hygiene, and standard 10 month dental assisting certificate programs. Currently, CODA does not accredit EFDA educational programs. Consequently, this Expanded Function Dental Auxiliary scope request requires the successful completion of an EFDA program offered through an institution that has an existing Commission on Dental Accreditation accredited dental/allied dental program. The educational program will provide a rigorous didactic, laboratory/pre-clinical, and clinical experience to achieve a level of clinical competency for all expanded function duties. This program would also provide intensive training in placing restorative materials. Certification will be provided by DANB. A modular educational delivery system has been developed to maximize EFDA certification opportunity by providing accessibility to the allied dental workforce. The modules include Restorative, Orthodontic, and Periodontal/Surgical and Preventive. DANB will provide rigorous testing for each individual module for certification. Certification examination through DANB will provide standardization and foster public safety by assessing EFDA candidates' competence.

The institution would be given the flexibility to run the program through their Continuing Education/Adult Education Divisions or their Academic Division to offer an EFDA educational program that prepares candidates to sit for certification through DANB examination. This provides each institution with the option in which the EFDA program would be most economically feasible. The ability to offer the EFDA certification program through the Continuing Education/Adult Education Divisions is imperative to provide an all inclusive career ladder in our efforts to support labor market demands and retention of dental assistants in the field. The Continuing Education/Adult Education Divisions are able to provide the EFDA certification to dental assistants that become certified dental assistants through the on-the-job DANB pathway.[1] Both the Division(s) option and the modular educational system provide the ability to offer evening and weekend courses, which foster program availability to those currently employed in the field.

A candidate for an EFDA program must first be a Certified Dental Assistant or a Registered Dental Hygienist who has passed the General Chairside Dental Assisting National Board under the General Chairside Pathway I Guidelines. [1]

An EFDA must maintain certification as determined by the Department of Public Health in consultation with the Dental Commission.

EFDAs have existed in the military for approximately 40 years. Expanded Function Dental Auxiliaries who have served as such for no less than three years in the US military, the Public Health Service or Indian Health Services may practice in Connecticut.

A CDA certified in EFDA in another state may practice in Connecticut if the dental assistant meets all criteria and has completed an EFDA program with the minimum requirements listed below:

- The candidate's certificates are current and in good standing
- The expanded functions program was taken and successfully completed at an institution with a CODA dental/allied dental program
- The program provided a combination of 221 didactic and laboratory hours and 146 clinical hours (if all 4 expanded functions modules were taken concurrently). Taken individually, the requirements would be as follows: Introductory module: 21.25 didactic/laboratory and 8.75 clinical hours; Restorative module: 80.5 didactic/laboratory and 32 clinical hours; Preventive module: 41.75 didactic/laboratory and 70.75 clinical hours; Orthodontic module: 59.75 didactic/laboratory and 52.75 clinical hours.
- May practice only the competencies/tasks they have been certified in and are legally permitted in Connecticut. (Note: EFDA competencies/tasks vary from state to state)

The concept of an EFDA began in the 1960's through Federal government legislation to address the shortage of dental care providers. The legislation funded grants for Dental Auxiliary Utilization (DAU); Training in Expanded Auxiliary Management (TEAM); and Expanded Functions Dental Auxiliary (EFDA) programs. Currently, 44 states as well as the District of Columbia allow some form of EFDAs or similarly titled auxiliary that are able to work in a variety of dental settings, including dental clinics, hospitals, private practice and pediatric offices among others. [2] The US military, US Public Health Service and Indian Health Services have utilized EFDAs since the 1970's.

Kentucky was the first state in the nation to have an EFDA program. In Ohio, EFDA legislation passed in 1976 and developed a training program at Case Western Reserve University School of Dentistry. The Connecticut Dental Assistants Association's EFDA Curriculum Committee concluded that the program at Case Western Reserve University should be the basis for a Connecticut model due to its success as a model emulated by many states over the past several decades. As a result, the educational requirements associated with this request have a foundation on a proven program that provides appropriate education and training.

2. Public health and safety benefits that the requestor believes will occur if the request is implemented and, if applicable, a description of any harm to public health and safety if it is not:

Dental caries (tooth decay) is an infectious disease process affecting both children and adults. It is probably the most widespread disease known to man. Dental decay is the single most common disease in childhood - five times more common than asthma. If left untreated, tooth decay in children can lead to difficulty in speaking, chewing and swallowing, loss of self-esteem, needless pain and lost school days and increased cost of care. Infected teeth are reservoirs of bacteria that flood the rest of the body, leaving a child prone to many other childhood infections, including ear infections and sinus infections. Antibiotic therapy is often not successful for other infections when dental decay is not treated. [3]

As stated in "Every Smile Counts – The Oral Health of Connecticut's Children", a study and report sponsored by the Connecticut Department of Public Health Office of Oral Health, December 2007, Connecticut still has barriers to overcome to improve the oral health of Connecticut's children. More than 60 percent of third grade children in Connecticut do not have dental sealants, a well-accepted clinical intervention to prevent tooth decay in molar teeth. Sealants are safe coatings that help prevent decay. [3] They are easy to apply and are placed on permanent molars as soon as they erupt, and can often last 10-15 years. [4] Dental sealants are a covered service under Medicaid/SCHIP Programs in Connecticut, affording availability of sealants to low income children. Most private dental insurers also cover sealants. [3]

By third grade, more than 40% of Connecticut's children have experienced tooth decay, more than 1 out of 6 have untreated tooth decay and 14% have rampant decay. Minority and low-income children have the highest level of dental disease and the lowest level of dental sealants. We are seeing more dental disease among children, and we need more effective ways to provide essential preventive and restorative services. In order to reverse these trends, we need to mobilize resources. Key strategies identified to improve the oral health of children in CT include: increase the number of dental professionals providing dental sealants, increase the number of dental providers in underserved areas, and increase the provision of dental sealants

in safety nets and private dental practice. [3] The implementation of educated and trained EFDAs in providing dental sealants can only have a positive impact on the health and safety of the citizens of Connecticut.

Also stated in "Every Smile Counts" is the fact that children with infected and painful teeth miss more school days than other children, disrupting their educational and social experiences, and cost school districts money. In 1996, children between 5 to 17 years of age missed 1,611,000 school days due to acute dental problems – an average of 3.1 days per 100 students. [3]

Adults, including the elderly and those with special needs, who suffer from tooth decay, are also at risk for other systemic diseases. Recent studies point to associations between oral diseases and other systemic diseases, leading to missed days at work and economic burdens.

The use of certified EFDAs will increase the efficiency of the dental team thereby increasing the number of patients that can receive treatment while maintaining high standards of proper patient care. EFDAs can perform expanded skills for which they have been highly trained under strict guidelines and clinical evaluation. Reliable evaluation and examinations will ensure that EFDA students are competent to perform acquired skills.

3. The impact on public access to health care:

The implementation of EFDAs in Connecticut can improve capacity for public care by providing practitioners with more time to treat the currently underserved population. It would also help to meet the Connecticut Department of Public Health's Goal III: Assurance, which states: "Inform and empower the public regarding oral health programs and solutions. Support the capacity for quality health services and promote laws and regulations that protect the public's well being." [5]

The implementation of EFDAs can also increase practice productivity and efficiency and thus allow for additional "chair time" for underserved patients to include the elderly, special needs and Medicaid recipients. This is founded on evidenced based outcomes from existing programs and the following points:

- EFDAs allow more patients to be treated in the same amount of time
- EFDAs can improve efficiency for non-profit agencies
- EFDAs are widely accepted across the country and have proven to be an asset in improving access to care
- The EFDA model provides a career ladder for dental auxiliaries
- The EFDA model creates new job opportunities

Evidence based outcomes:

"As [the Army's] Dental Care Reengineering Initiative matured and incorporated lessons learned, enhanced optimization opportunities emerged. In 2001, a site visit [by representatives from the US Army Dental Command (DENCOM)] to the US Navy dental facilities at Pearl Harbor served to greatly refine the Army's optimization concept of specially trained dental auxiliaries. The Navy dental commander, Captain Robert Hutto, was experimenting in training Navy enlisted dental technicians in expanded duties. These assistants were then placed in multiancillary teams consisting of two EFDAs and one conventional dental assistant. When compared to conventional treatment teams of one provider and one dental assistant, the EFDA teams showed productivity increases of between 92% and 155% over baseline." "All three [Army] Department of Dental Sciences (DoD) dental services face the twin challenges of preparing large numbers of service members for deployment with a shrinking pool of general dentists. The DENCOM's EFDA program has been and continues to be a proven, highly successful method for leveraging the productivity output of general and comprehensive dentists to better meet the needs of our service members." [6]

"The Expanded Function Dental Auxiliary (EFDA) Program's primary objective is to address this issue. By design, the program provides current dental assistants with advanced training, allowing them to place and contour final restorative materials that increases the dentist's overall efficiency. As efficiency improves, both access to care and costs per procedure simultaneously improve.

"Labor Substitution is the mechanism through which an EFDA working under the direct supervision of a licensed provider can optimize the productivity of the primary dental provider. The US Army DENCOM began training EFDAs in March of 2002 and now has 112 EFDAs at different levels of training. Results are preliminary at this junction but the collected data so far point very dramatically to the success of the program. Dentists working with an EFDA provider are 40 percent more productive than their counterparts working without an EFDA. As an EFDA completes a two-year training cycle, the expectation is that a dentist working with two EFDAs and one ancillary (a Dental Care Optimization Team) will be 80 percent more efficient with no compromise in quality." [7]

"The tangible benefit of this program is its ability to save the government over ten million dollars in purchased dental care by the 36th month of the EFDA program and over $18 million annually thereafter. Since its inception 24 months ago, EFDA's combined workload totals over $12 million in direct patient care. The intangible benefits are the pride and job satisfaction the program instills in our EFDAs." [7]

4. A summary of state or federal laws governing the profession:

Most states have regulations regarding dental assisting and the performance of expanded functions. The regulations for all 50 states and the District of Columbia are outlined on the website for the Dental Assisting National Board (DANB) in their "State Specific Dental Assisting Information" page at www.danb.org.

In Connecticut, dental assistants are not licensed, certified nor registered by the Department of Public Health but are overseen by the Commissioner of Public Health, with advice and assistance from the Dental Commission.

"A licensed dentist may delegate to dental assistants such dental procedures as the dentist may deem advisable, including the taking of dental x-rays if the dental assistant can demonstrate successful completion of the dental radiography portion of an examination prescribed by the Dental Assisting National Board", as stated in The CT General Statutes, Chapter 379 Dentistry, Section 20-112a. [9]

Although dentists and dental hygienists have continuing education requirements, dental assistants do not.

In Connecticut, dental assistants are not required to be tested or evaluated for their knowledge and competency in infection control either. This would be easily accomplished, if the dental assistant were required to take and successfully pass the infection control exam offered by the Dental Assisting National Board within 6 to 12 months of initial employment. This would be another step in the right direction to ensure public safety, in this case in the area of infection control.

See the Following State Statutes, Acts and Bills that Apply to Dental Assistants in Connecticut:

Connecticut General Statutes, CHAPTER 376c RADIOGRAPHERS AND RADIOLOGIC TECHNOLOGISTS [8]

Connecticut General Statutes, Chapter 379 DENTISTRY [9]

1993:
Substitute House Bill No. 7097. Public Act No. 93-249: AN ACT CONCERNING X-RAY SAFETY [10]
This states in Sec.4.(a), the conditions under which a dental assistant may take a dental x-ray.

1992:
Substitute Bill No. 5443
AN ACT CONCERNING THE REGULATION OF DENTAL HYGIENISTS [11]
This states, in Sec. 5., what dental procedures a dentist may delegate to a dental assistant.

5. The state's current regulatory oversight of the profession:

Dental assistants in Connecticut may perform functions authorized by the Connecticut State Dental Commission/Department of Public Health as cited in the Dental Practice Act; Chapter 379, section 20-112a.

Dental procedures are delegated by a licensed dentist to the dental assistant and are performed under the supervision, control and responsibility of the dentist. Dental Assistants in Connecticut are not required to be licensed or registered but must hold a certification in DANB Radiation Health and Safety in order to expose dental x-rays as cited in the Department of Public Health Statutes and Regulations; Chapter 376c, section 20-7433 (3). [9]

6. All current education and training requirements applicable to the profession:

In the State of Connecticut, dental assistants can be hired and trained on-the-job (OJT) or complete a formal education program in a CODA–accredited dental assisting program. Both the OJT and formal education pathways provide the opportunity for dental assistants to become Certified Dental Assistants through the Dental Assisting National Board.

At present, there are five Commission on Dental Accreditation accredited formal education programs for dental assisting in Connecticut. These institutions offer 10 month certificate programs that fall under the CODA standards and are as follows:

1. A.I. Prince Technical High School
2. Lincoln College of New England
3. Porter and Chester Institute
    - Branford
    - Enfield
    - Rocky Hill
    - Stratford
    - Watertown
4. Tunxis Community College
5. Windham Technical High School

Graduates from these programs are qualified to take the DANB exam and become certified dental assistants. These CODA-approved programs include two State technical high school adult education programs (A.I. Prince and Windham); one proprietary school (Porter and Chester Institute); and two college level programs (Lincoln College of New England and Tunxis Community College).

Currently, OJT trained dental assistants can perform most general dental assistant tasks without any formal education. OJT trained dental assistants in Connecticut are not required to become certified dental assistants under the Dental Assisting National Board. However, OJT dental assistants cannot expose radiographs unless they successfully pass the Radiation Health and Safety portion of the Dental Assisting National Board which is a written examination (without any hands-on training requirement) prior to exposing patients to radiation. To become a certified dental assistant, OJT trained dental assistants would also have to successfully complete two additional sections (Infection Control Examination and General Chairside) of the Dental Assisting National Board. OJT trained dental assistants may be eligible to take the General Chairside portion of the Dental Assisting National Board and become certified dental assistants under DANB's Pathway II guidelines after completing 3500 hours of work experience. However, the Dental Assisting National Board Infection Control Examination can be taken separately at any time to demonstrate appropriate level of knowledge in sterilization, OHSA mandates, Bloodborne Pathogens Standard, cross-contamination, and aseptic procedures. [1]

This request offers a "win-win-win" solution to ensure Public Safety by mandating all dental assistants successfully complete the DANB Infection Control Examination; to provide a career ladder to address labor shortages; and foster oral health care delivery to underserved populations.

7. All scope of practice changes requested or enacted concerning the profession (of Dental Assisting) in the five years preceding the request:

2011:
Substitute House Bill No. 6549. Public Act No. 11 - 209
AN ACT CONCERNING THE DEPARTMENT OF PUBLIC HEALTH'S OVERSITE RESPONSIBILITIES RELATING TO SCOPE OF PRACTICE DETERMINATIONS FOR HEALTH CARE. [12]

"This bill establishes a process for the submission and review of requests from health care professions seeking to revise their existing scope of practice or to establish a new scope of practice prior to consideration by the General Assembly. Under the bill, scope of practice review committees may review and evaluate scope of practice requests and provide findings to the Public Health Committee. The Department of Public Health (DPH) is responsible for receiving scope of practice requests and for establishing and providing support to the review committees."

Effective July 1, 2011.
HB-6549, Joint Favorable Report
An Act Concerning the Department of Public Health's Oversight Responsibilities Relating to Scope of Practice Determinations for Health Care Professionals. [13]
Vote date 3/30/11
Bill Sponsors: Public Health Committee
Reasons for Bill: To establish a formal process in order to resolve scope of practice issues for health care professionals. This will be under the auspices of the Department of Public Health.

Nature and Sources of Support:
Scott A. Bialik, DDS:
Carolyn J. Malon, DDS:
John J. Mooney, DMD:
Bruce Tandy, DMD:
Jonathan B. Knapp, DMD:
Allen Hindin, DDS, MPH:

2010:
HB-5355 Bill Sponsors: Human Services Committee, Rep. Nardello
Vote date: 3/23/10
AN ACT CONCERNING AN ADVANCED DENTAL HYGIENE PRACTICE PILOT PROGRAM [14]
Reasons for Bill: To establish a pilot program to provide advanced dental hygienist practitioner services in public health facilities located in the City of Bridgeport.

Nature and Sources of Opposition:
The American Dental Association: Statement regarding Dental Assistants: **"The ADA welcomes the appropriate expansion of services by dental assistants** as one approach to the access problem. Appropriately educated and trained dental assistants are proven assets to the dental team and help dentists to deliver care more efficiently, permitting more people to receive the comprehensive oral health care they deserve. However, the ADA cannot support any call for the development of an "advanced" dental hygiene position that would work ostensively without the involvement of a dentist."

Raised Bill No. 5258. LCO No. 161
February Session 2010
Introduced by PRI
AN ACT IMPLEMENTING THE RECOMMENDATIONS OF THE PROGRAM REVIEW AND INVESTIGATIONS COMMITTEE CONCERNING SCOPE OF PRACTICE DETERMINATIONS FOR HEALTH CARE PROFESSIONALS [15]
Effective July 1, 2010, "any person or entity, acting on behalf of a health care profession that seeks to advance legislation in the following year's legislative session that would result in a statutory change to such profession's scope of practice or the enactment of new statutory provisions setting forth the scope of practice, shall submit a written scope of practice request to the Department of Public Health."

2009:
Committee Bill No. 5630, LCO No. 4680
January 2009
AN ACT CONCERNING THE ESTABLISHMENT OF LICENSURE FOR AN ADVANCED PRACTICE DENTAL HYGIENE PRACTITIONER [16]
Introduced by: PH
This act states a proposed change for Sec. 2. Section 20-112a of the general statutes that would become effective October 1, 2009, with descriptions of **levels for dental assistants**. These levels are:

Entry level dental assistant (including proposed requirement for successful completion of the DANB infection control exam no later than October 1, 2010),
Noncertified dental assistant,
Certified (by DANB) dental assistant,
Expanded function dental assistant.

Proposed Bill No. 5630, LCO No. 1961
January 2009
AN ACT CONCERNING THE ESTABLISHMENT OF LICENSURE FOR AN ADVANCED PRACTICE DENTAL HYGIENE PRACTITIONER [17]
Introduced by: Rep. Nardello, 89TH Dist.
Statement of Purpose: To increase access of dental care for underserved populations.
Be it enacted by the Senate and House of representatives in General Assembly convened:
That Chapter 379a of the general statutes be amended to: (1) Establish licensure for an advanced practice dental hygiene practitioner: and **(2) expand the scope of functions that may be performed by dental assistants.**

2008:
Substitute House Bill No. 5701 Public Act No. 08-184 Effective October 1, 2008
AN ACT CONCERNING REVISIONS TO STATUTES PERTAINING TO THE DEPARTMENT OF PUBLIC HEALTH. [18]
States that **a dental assistant student** may take x-rays if they are an "intern or trainee pursing practical training in the taking of dental x-rays provided such activities constitute part of a supervised course or training program and such person is designated by a title which clearly indicates such person's status as a student, intern or trainee".

2005:
Substitute House Bill No. 6819. Public Act No. 05-213
AN ACT CONCERNING ACCESS TO ORAL HEALTH CARE [19]
Effective October 1, 2005
Sec. 4 Subsection (a) (3) Refers to **dental assistants** who may take dental x-rays under supervision and control of a licensed dentist, only if they can demonstrate successful completion of the dental radiography portion of an examination prescribed by the Dental Assisting Board.

sHB 6819
AN ACT CONCERNING ACCESS TO ORAL HEALTH CARE [20]
SUMMARY:
This bill revises the scope of practice for dentists, dental hygienists, and **dental assistants**. And it creates continuing education requirement for dentists.
Dental Hygienists: This bill permits licensed dental hygienists to administer certain kinds of local anesthesia. 20 hours class room training. 8 hours of clinical training.
Dental Assistants: The bill allows a **dental assistant** who has passed the dental radiography portion of an exam prescribed by the Dental Assisting National Board to take dental x-rays. The dentist under whom the assistant works must supervise and control the procedure.
Effective Date: October 1, 2005
DENTAL SCOPE OF PRACTICE

Bill No. HB-6819
Action/Date: JFS / 4/4/2005
AN ACT CONCERNING ACCESS TO ORAL HEALTH CARE [21]
Sponsors: Public Health Committee
Reasons for Bill: To improve access and quality of oral health care.
Nature and Sources of Support:
Robert Slate, Executive Director of the Connecticut Oral Health Initiative, testified in support of the bill, as it could lead to increased access to oral health care for underserved populations. **The expansion of duties for dental assistants** and hygienists could allow for the treatment of HUSKY clients.

2004:
Substitute HB No. 5636, Special Act No. 04-7
AN ACT CONCERNING ORAL HEALTH CARE [22]

Effective July 1, 2004
States that the Commissioner of Public Health shall establish an ad hoc committee for the purpose of examining and evaluating possible statutory changes that would improve access to oral health care such as considering the administration of local anesthesia and nitrous oxide by dental hygienists, **expanding the functions of dental assistants** and requiring continuing education for dentists.

8. The extent to which the request directly impacts existing relationships within the health care delivery system:

This scope request would directly impact the existing relationship between the dental assistant and the dental hygienist in CT. Hygienists currently perform some of the competencies that the EFDA would be trained to perform. Hygienists also would be eligible to obtain EFDA certification.

This request for the implementation of an EFDA Scope of Practice in Connecticut would positively complement both the dental and dental hygiene professions. The dentists would benefit by having a more broadly trained and educated dental auxiliary, thus freeing their time to provide more technically intricate procedures and to increase capacity. This allows dentists to address the needs of more patients, and more complicated cases according to their advanced training. It creates additional time for dentists to address the diagnostic and treatment planning needs of all patients.

The hygienists would benefit because EFDAs would enhance the capacity of the dental team thus allowing the hygienist the ability to focus on patient education, prevention and treatment of oral disease in an increasingly medically diverse and aging population. Increasing capacity of the delivery system would expand opportunities to care for more citizens of Connecticut on a day to day basis. EFDAs performing skills such as placement of sealants and topical fluoride and varnish would thus allow the hygienists to practice with patients with more complex needs they were trained for.

9. The anticipated economic impact on the public and the health professions affected by the request:

The United States Army Dental Command (DENCOM) began an expanded functions program in the late 1970's, using civilians and enlisted soldiers as expanded-duty dental assistants to perform reversible dental restorative procedures (place fillings) and limited oral hygiene procedures. These assistants were called Dental Therapy Assistants (DTAs). The use of civilian DTAs proved to be highly effective, and they stayed in their jobs a long time. By the mid 1980's, the shortage of dentists in the nation reversed, and it was not necessary anymore to train these civilian ancillaries in expanded functions. By the 1990's, it was decided that the training of enlisted soldiers in expanded functions would also be terminated, due to the fact that the cost of the programs was high compared to the short amount of time they were in the field. [6]

By the late 1990's, those enlisted DTAs already trained were now engaged in providing oral hygiene services, as there was now a shortage of dental hygienists. These DTAs were now providing hygiene support to those patients requiring less extensive hygiene care and this allowed the available registered dental hygienists to focus on patients with more advanced needs. But patient needs were still unmet and they still needed access to timely and cost-effective routine care. To address this need, the DENCOM looked to civilian consulting groups and the federal service organization, the Indian Health Services (IHS), which had a highly successful EFDA program already in existence from the 1970's. With their help, the DENCOM developed the Dental Care Reengineering Initiative (DCRI) in 1997. The DCRI delivery model used multichair and multiancillary primary care teams led by general and/or comprehensive dentists. The production was significantly higher using these multiple care delivery units (dental chairs) and multiple ancillaries than when utilizing conventional dental assistants. As effective as DCRI was, more improvements were soon to come. In 2001, members of the DCRI team visited with the US Navy dental facilities in Pearl Harbor. At that time, Navy dental commander, CAPT Robert Hutto, was experimenting in training Navy enlisted dental technicians in expanded duties. These assistants were then placed in multiancillary teams consisting of two EFDAs and one conventional dental assistant. When compared to traditional treatment teams of one provider and one dental assistant, the EFDA teams showed productivity increases of between 92% and 155% over baseline. [6]

The DENCOM was now motivated to re-introduce the EFDA into their primary health teams. Dr. Terry Haney of the IHS agreed to partner with the DENCOM in August 2001 to teach the students. Eventually, partnering

with the MEDCOM Civilian Personnel Office and the Department of Dental Services, the DENCOM developed its own EFDA training program with the IHS program as the model. [6] The DENCOM began training EFDAs in March 2002 and as of 2004 had 112 EFDAs at different levels of training. By 2004, the DENCOM had a chronic shortage of military dentists, and efforts at recruiting and retaining civilian contract dentists did not meet the military staff shortfall. Due to the war on terrorism, increased mobility of soldiers and the need for routine and specialty dental care for these soldiers, revealed the need for the DENCOM to utilize all its personnel to deliver optimal and quality dental care. Army dentists working with an EFDA provider realized they were 40 percent more productive than their counterparts working without an EFDA. [7] The DENCOM EFDA team is usually compromised of one dentist, two dental assistants and one expanded functions dental assistant. [23] The Army Dental Care System (ADCS) has termed this use of dentistry as Dental Care Optimization (DCO). It is a business practice that is funded at 14 dental clinic sites within the ADCS. The role of the EFDA is limited and defined within the ADCS; it does not include the performance of irreversible procedures. The EFDA is utilized as an auxiliary oral health care provider under the supervision of a dentist, and engages in patient treatment only with the consent of the dentist.

The success of the DENCOM EFDA program is measured in the program's return on investment (ROI) During FY 2004, the ROI was approximately $10 of dental care for every dollar funding the program. During FY 2005 the DENCOM's centrally-managed EFDA program produced 235,719 Dental Weighted Values (DWVs) of treatment. This is equivalent to $23.5 million of dental treatment. DENCOM spent $3.84 million to support the program. The DENCOM acquired approximately $6 in dental care for every dollar funding the program. The DENCOM's EFDA program has proven to be so extremely cost-effective that is was fully funded via the Program Objective Memorandum (POM) for FY 2006-2011. [24]

The Indian Health Service does not keep statistics on productivity of expanded functions dental assistants. However, Dr. Chris Halliday, Director, Division of Oral Health of Indian Health Services, had this comment regarding the use of expanded functions dental assistants, "The IHS has been utilizing EFDAs since the late 1970s and they are a vital source of our dental practice. There is no doubt in my mind that EFDAs greatly increase the efficiency and effectiveness of the dental services that IHS provides to the American Indian and Alaska Native people." [25]

10. Regional and national trends concerning licensing of the health profession making the request and a summary of relevant scope of practice provisions enacted in other states:

Please see the following printed attachments in References:
"State-Specific Comparison of Selected Expanded Duties (Coronal Polish, Topical Fluoride, Sealants) & Levels of Supervision: as of August 9, 2011". This chart shows which of the 50 states and the District of Columbia, allow dental assistants to perform certain types of expanded duties. The examples of allowable duties used for this chart are coronal polishing, application of topical fluoride and application of sealants. Many states require licensing, registration or certification for dental assistants. Some states also require certification in radiation health and safety, infection control and basic life saving techniques. [2]

"Licensing Requirements. CHART 37 – REGULATION OF DENTAL ASSISTANTS/EXPANDED FUNCTIONS ALLOWED". This chart shows which states allow dental assistants to perform the following expanded functions: x-ray; coronal polish; fabrication, fit and placement of temporary crowns; place sealants; place temporary restorative material; polish amalgam restorations; take final impressions and place and carve permanent restorations. [26]

11. Identification of any health care professions that might oppose the request, the possible nature of the opposition, and efforts the requestor made to get support for the request from other health care professions, including areas of agreement between any affected health professions:

This scope request would directly impact the existing relationship between the dental assistant and the dental hygienist in CT. Some of the competencies that the EFDA would be allowed to do hygienists can currently perform.

In 2005 the CT State Dental Association (CSDA), CT Dental Hygiene Association (CDHA), and the CT Dental Assistant Association (CDAA) participated in DPH-mediated discussions regarding the potential utilization of EFDA's in CT. All three organizations agreed to a long list of competencies.

Also, in 2009, HB 5630 [16] included EFDA's for the purpose of "increasing access to dental care for underserved populations." All three professional organizations testified in favor of EFDA within that bill.

It is hoped that this request to create expanded functions for dental auxiliaries is seen as a positive change to all dental health care providers in Connecticut. The intent is to increase the access to care for the underserved citizens in Connecticut. By increasing the dental workforce that can provide preventive care, we can decrease the numbers of children and adults in Connecticut who are not receiving good, basic, preventive dental care, and help prevent the suffering of pain that comes with dental decay and infection. This can only be a good thing for the citizens of Connecticut.

Bills that have supported this request:

Committee Bill No. 5630, LCO No. 4680
January 2009
AN ACT CONCERNING THE ESTABLISHMENT OF LICENSURE FOR AN ADVANCED PRACTICE DENTAL HYGIENE PRACTITIONER [16]
Introduced by: PH
This act states a proposed change for Sec. 2. Section 20-112a of the general statutes that would become effective October 1, 2009, with descriptions of **levels for dental assistants**. These levels are:

Entry level dental assistant (including proposed requirement for successful completion of the DANB infection control exam no later than October 1, 2010),
Noncertified dental assistant,
Certified (by DANB) dental assistant,
Expanded function dental assistant.

Proposed Bill No. 5630, LCO No. 1961
January 2009
AN ACT CONCERNING THE ESTABLISHMENT OF LICENSURE FOR AN ADVANCED PRACTICE DENTAL HYGIENE PRACTITIONER [17]
Introduced by: Rep. Nardello, 89TH Dist.
Statement of Purpose: To increase access of dental care for underserved populations.
Be it enacted by the Senate and House of representatives in General Assembly convened:
That Chapter 379a of the general statutes be amended to: (1) Establish licensure for an advanced practice dental hygiene practitioner: and **(2) expand the scope of functions that may be performed by dental assistants.**

12. A description of how the request relates to the health care profession's ability to practice to the full extent of the profession's education and training:

Training will develop specific knowledge, skills and competencies essential for the dental assistant to assist the dentist in delivery of quality dental care. EFDAs can perform expanded skills for which they have been highly trained under strict guidelines and clinical evaluation. Reliable evaluation and examinations will ensure that EFDA students are competent to perform newly acquired skills. These skills will advance and enhance the dental assistant's scope of practice that will help the dentist promote and deliver comprehensive dental service to patients.

These increased skills allow the dental auxiliary to play a bigger part in contributing to the process of dental care. When included in the process of dental care delivery, EFDAs save the dentist time and effort, improving efficiency in delivery of care, allowing the dentist (and dental hygienist) to then focus on patient treatment involving more complex skills.

This program offers dental assistants another chance to elevate their professional status and can promote longevity in the profession. Dental assistants who are DANB-certified (an EFDA will be required to renew their DANB certification each year to keep the EFDA designation) stay in the profession an average of 14.5 years (3 times longer than non-certified DAs). They stay in the same practice an average of 8 years. Dental assistants who become EFDAs must pursue lifelong learning. Enhancement of professional competencies through learning will promote high quality of care.

Appendix D

August 15, 2011

Jennifer L. Filippone, Chief
Practitioner Licensing and Investigations Section
Department of Public Health
410 Capitol Avenue, MS#12MQA
P.O. Box 340308
Hartford, CT 06134

Dear Jennifer,

Per Public Act 11-209, An Act Concerning the Department of Public Health's Oversight Responsibilities Relating to Scope of Practice Determinations For Health Care Professions, the Connecticut Dental Assistants Association (CDAA) is submitting a scope request which would increase the scope of practice for dental assistants in public health and private settings.

The CDAA is requesting this Scope of Practice change to the practice of dental assisting to provide for the education and training of an Expanded Functions Dental Auxiliary (EFDA) in Connecticut. An EFDA is a highly trained and skilled dental assistant or dental hygienist who receives extra education to perform reversible, intraoral procedures, and additional tasks (expanded duties or extended duties), services or capacities, often including direct patient care services, which may be legally delegated by a licensed dentist under the supervision of a licensed dentist. EFDAs are utilized in 44 states and the District of Columbia.

It is hoped that this request to create expanded functions for dental auxiliaries is seen as a positive change to all dental health care providers in Connecticut. The intent is to increase the access to care for the underserved citizens in Connecticut, including the elderly and those with special needs. By increasing the dental workforce that can provide preventive care, we can decrease the numbers of children and adults in Connecticut who are not receiving good, basic, preventive dental care, and help prevent the suffering of pain that comes with dental decay and infection. This can only be a good thing for the citizens of Connecticut.

In closing, the CDAA looks forward to working with the Department and all interested partners through this new scope process in the hopes of identifying real solutions that will positively impact the lives of the citizens of Connecticut. Please do not hesitate to contact me should you have any additional questions.

Sincerely,

Beth M. Barber, COA, MADAA, BS
President CDAA

September 30, 2011

VIA E-MAIL: jennifer.filippone@ct.gov

Jennifer L. Filippone
Chief Practitioner Licensing and Investigations Section
Department of Public Health
410 Capitol Avenue, MS#12MQA
PO Box 340308
Hartford, CT 06134

Dear Ms. Filippone:

I am submitting this response on behalf of the 92 members of the Connecticut Association of Endodontists (CAE). This impact statement is submitted under the provisions of Public Act 11-209 in response to the "Scope of Practice Request" submitted by the Connecticut Dental Assistants Association (CDAA).
The CAE supports the creation of an Expanded Function Dental Auxiliary (EFDA).

The EFDA exists, is functional and productive in many other states. Providing this position in Connecticut will have many benefits:

1. It expands the capacity of our dental workforce to treat more patients. With the recent passage of Obamacare it is predicted that the utilization of dental services will increase. An EFDA is an established and proven way to increase the capacity to deliver care.
2. It provides an additional position for those auxiliaries who desire to further their knowledge and training.
3. It is cost effective education.

The EFTA is an already proven model; states that have EFDAs have not had issues with compromised quality of care.

An EFDA works in conjunction with a dentist. The dentist delegates appropriate procedures within the scope of the law taking into consideration the needs of the patient and the capabilities of the EFDA. The EFDA broadens the scope of services that an auxiliary can provide. These services involve reversible procedures and thus pose little to no potential harm to patients.

This is a proven way to expand our ability to treat patients without compromising care while broadening the education and abilities of a member of the dental team. On behalf of the CAE I wish to again state our support for the EFDA proposal. Thank you for your consideration. Please contact me if you have any questions or would like additional information.

Sincerely,

Brian Amoroso, DDS
President
Connecticut Association of Endodontists
BrianA403@AOL.com
Office: (203) 333-3636

Impact Statement- Expanded Function Dental Auxiliary (EFDA)

A plain language description of the request:

The Connecticut Society of Pediatric Dentists is requesting a Scope of Practice change for the practice of dental assisting to provide for the education, training, and certification of an Expanded Functions Dental Auxiliary (EFDA). An EFDA is a highly trained and skilled dental assistant or dental hygienist who receives additional education to enable them to perform reversible, intraoral procedures, and additional tasks (expanded duties or extended duties), services or capacities, often including direct patient care services, which may be legally delegated by a licensed dentist under the supervision of a licensed dentist. Training programs for EFDA are self-sustaining and can be operated in existing training programs with no additional cost to the educational system.

The EFDA practices under the supervision of a licensed dentist. Connection to the Dental Home concept ensures that children will have access to comprehensive care, including restorative services to eliminate pain and restore function.

Inclusion of an EFDA in the dental office as a part of the dental team will increase access to care for the underserved citizens in Connecticut, including children, the elderly and those with special needs. Research suggests that the use of EFDAs can increase the capacity of the dental office. Beazoglou, et al (2009), in an economic analysis of EFDAs in Colorado concluded that private general dental practices can substantially increase gross billings, patient visits, value-added, efficiency and practice net income with the delegation of more duties to auxiliaries. Increasing access to services within the context of a dental home will improve the oral health of Connecticut children and adults and will prevent the unnecessary suffering that comes with dental decay and infection. [i]

Public health and safety benefits that the requestor believes will be achieved should the request be implemented and, if applicable, a description of any harm to public health and safety should the request not be implemented:
Oral health is integral to the optimal physical, social-emotional and intellectual development of every child. Unfortunately, many children in America suffer from poor oral health and a lack of access to oral health care. In his 2000 report *Oral Health in America*, the Surgeon General noted that not only is dental caries the most common chronic disease of childhood, but that low-income children suffer twice as much from dental caries as children who are more affluent.[ii]

The impact of untreated dental disease extends to all aspects of physical, mental and behavioral health. According to Casamassimo, et al in *Beyond the DMFT*, "ECC exacts a toll on children, affecting their development, school performance and behavior, and on families and society as well. In extreme cases, ECC and its treatment can lead to serious disability and even death. In finding access to care and managing chronic pain and its consequences, families experience

stress and, thus, a diminished quality of life. Communities devote resources to prevention and management of the condition."[iii]

The change in scope of practice of dental assisting requested, which would allow inclusion of an EFDA in a dental practice under the supervision of a dentist would extend the ability of that dental practice to provide dental services to all populations, including those most at-risk for dental disease – low income, those suffering from physically and mental disabilities, and the elderly. These populations will achieve increased access to screening, preventive services, parent and caregiver education within the practice facilitated by the inclusion of an EFDA in the dental team. Research indicates that inclusion of an EFDA in the dental team can increase the number of patients seen in a given dental office and increase the productivity of the office.[iv]

These outcomes are consistent with the goals identified in the *CT 2007-2012 Oral Health Improvement Plan*. The plan identified the following objectives related to this request:

- By 2011, increase by 50% the proportion of children, adults, and vulnerable populations who receive annual preventive and necessary restorative oral health care.
- By 2008, develop policies to promote and facilitate the provision of oral health services.
- By 2012, promote and implement effective and efficient models that increase access to quality oral health services.[v]

According to Oral Health in Connecticut (2007), published by the CT Department of Public Health:

> The most vulnerable populations, including the elderly, poor, uninsured, racial and ethnic minorities, disabled, and those challenged by transportation barriers, face significant oral health problems, including tooth decay and periodontal (gum) disease. These preventable oral diseases can also act as a focus of infection which can influence the outcomes of serious health problems such as cardiovascular disease, diabetes, and pre-term low birth weight. As a result, oral diseases place a significant burden on the healthcare system in Connecticut and on the public in terms of pain, suffering, poor self-esteem, cost of treatment, and lost productivity in school and at work.[vi]

According to this report, the number of dental assistants in the state in 2004 was 3,098. This number is below the national average of 1.5 assistants per dentist. HRSA ranked the state 18th in dental assistants in 2000. The creation of a professional development route that would allow dental assistants to enhance their professional satisfaction through skill development would possibly increase the number entering this profession. It would increase likelihood of retention of trained dental assistants in the workforce. Again, an increase in the number of dental assistants would increase the number of patients that could be served by a given dental office, thus increasing access.

The impact that the request will have on public access to health care:
Access to oral health care for children is an important concern that has received considerable attention since publication of *Oral Health in America: A Report of the Surgeon General*, in 2000.[vii] The report identified "profound and consequential disparities in the oral health of our

citizens" and that dental disease "restricts activities in school, work, and home, and often significantly diminishes the quality of life." It concluded that for certain large groups of disadvantaged children there is a "silent epidemic" of dental disease. This report identified dental caries as the most common chronic disease of children in the US, noting that 80 percent of tooth decay is found in 20-25 percent of children, large portions of whom live in poverty or low-income households and lack access to an ongoing source of quality dental care.

A dental home is the ongoing relationship between the dentist and the patient, inclusive of all aspects of oral health care delivery, in a comprehensive, continuously-accessible, coordinated, and family-centered way. Such care takes into consideration the patient's age, developmental status, and psychosocial well-being and is appropriate to the needs of the child and family. Children who have a dental home are more likely to receive appropriate preventive and therapeutic oral healthcare.[viii]

Central to the dental home model is dentist-directed care. The dentist performs the examination, diagnoses oral conditions, and establishes a treatment plan that includes preventive services, and all services are carried out under the dentist's supervision. The EFDA works under the supervision of the dentist to increase productivity and efficiency while preserving quality of care. This also allows for provision of preventive oral health education by EFDAs and preventive oral health services under general supervision (ie, without the presence of the supervising dentist in the treatment facility) following the examination, diagnosis, and treatment plan by the licensed, supervising dentist. Furthermore, the dental team can be expanded to include auxiliaries who go into the community to provide education and coordination of oral health services. Utilizing EFDAs to improve oral health literacy could decrease individuals' risk for oral diseases and mitigate a later need for more extensive and expensive therapeutic services.

Numerous studies have demonstrated the efficacy and effectiveness of introducing EFDAs into the dental practice. The Navy Dental Corp and the Philadelphia Department of Dental Health have publicly stated that EFDAs allow for the leveraging of dental personnel to increase access. Researchers from the University of Colorado in a study, *A Pilot Study to Determine Barriers to Implementing Productivity Enhancement Strategies in Dental Practices* found that when high delegation dentists were asked how delegation had affected their practice, they responded that they believed that expanded delegation had: (1) increased the number of patients seen, (2) increased productivity and income, (3) reduced the stress of practicing dentistry, and (4) permitted reduced hours without a decrease in income.[ix]

The CT Oral Health Improvement research also addresses the need to increase the number of children within CT that receive dental sealants. In fact, dental sealants are one of the universally agreed upon, evidence-based preventive techniques. The EFDA programs allow sealant placement, contributing towards the increase in percentage of CT children who have receive dental sealants.

Increased access to screening, preventive services, parent and caregiver education within the dental home provided by EFDAs, will improve the oral health of high risk populations and result in a higher percentage of Medicaid-enrolled children receiving preventive, diagnostic and treatment dental services.

A brief summary of state or federal laws that govern the health care profession making the request:

A number of states have EFDA regulations in their dental practice acts. Currently 35 states allow dental assistants to perform all four Certified Preventive Dental Assistant Tasks as identified by DANB: Coronal Polishing, Fluoride Application, Sealant Application, & Topical Anesthetics Application[x]. 27 states currently allow for some form of EFDA.[xi] Some states, such as Colorado have had them for years. In such states, EFDAs have increased the productivity and efficiency of the dental office.

Dental assistants are explicitly or implicitly recognized in the dental practice acts or administrative rules of 49 states. The dental practice acts and/or administrative rules of a majority of states (31) explicitly or implicitly recognize more than one level of dental assistant and restrict the performance of certain advanced functions to dental assistants who complete certain educational or clinical experience requirements or who hold certain credentials. In Connecticut, dental assistants are not licensed, certified nor registered by the Department of Public Health but are overseen by the Commissioner of Public Health, with advice and assistance from the Dental Commission. "A licensed dentist may delegate to dental assistants such dental procedures as the dentist may deem advisable, including the taking of dental x-rays if the dental assistant can demonstrate successful completion of the dental radiography portion of an examination prescribed by the Dental Assisting National Board", as stated in the CT General Statutes, Chapter 379 Dentistry, Section 20-112a. (9).[xii]

Since 2000, at least 11 states have passed new legislation or adopted new administrative rules governing the practice of dental assisting. In each case, the new law or rule permitted or more clearly defined delegation of expanded functions to dental assistants, or established or more clearly defined credentialing requirements for dental assistants. Additional regulatory revisions pertaining to delegation of expanded functions or education and credentialing requirements are currently under consideration in 10 other states.[3] The trend since 2000 toward enactment of new rules related to the delegation of expanded functions to dental assistants, combined with the increase since 1993 in the number of states recognizing two or more levels of dental assisting, reflects the oral healthcare community's increasing interest in allowing the delegation of expanded functions to dental assistants. These trends also indicate that the oral healthcare and regulatory communities recognize that dental assistants who perform expanded functions should be competent and qualified to perform them and that it is necessary to establish and implement a means of measuring competency and/or verifying qualifications of these dental assistants.[xiii]

The Commission on Dental accreditation (CODA) accredits dental, dental hygiene, and standard 10 month dental assisting certificate programs. Currently, CODA does not accredit EFDA educational programs. Consequently, this EFDA scope request requires the successful completion of an EFDA program offered through an institution that has an existing Commission on Dental accreditation accredited dental/allied dental program. Certification would be provided by the Dental Assisting National Board (DANB). The Certified Dental Assistant (CDA) credential that is conferred to dental assistants who pass the CDA Examination is administered by DANB. This credential draws national participation and recognition. The CDA Exam is made up of three components: Radiation Health and Safety (RHS), Infection Control (ICE), and General Chairside Assisting (GC). These components may be taken all at once, or each component may be taken individually. A candidate must pass all three components within five years to earn the CDA credential. [xiv]

DANB is recognized by the American Dental Association as the national credentialing agency for dental assistants. Its national certification programs—including the Certified Dental Assistant (CDA), Certified

Orthodontic Assistant (COA), and Certified Dental Practice Management Administrator (CDPMA) Examinations, and the RHS, ICE, GC, and Orthodontic Assisting (OA) component examinations—are accredited by the National Commission for Certifying Agencies (NCCA), the accrediting body of the National Organization for Competency Assurance (NOCA).[xv]

DANB requires that Certification be renewed annually—CDAs, COAs, CDPMAs, and COMSAs must complete, each year, 12 hours of continuing dental education (CDE) meeting the CDE guidelines established by DANB for recertification and must maintain current CPR certification.

Currently, 34 states and the Veterans Health Administration recognize or require successful performance on a DANB dental assisting exam (CDA, COA, or one or more DANB component exams) for dental assistants to meet state or agency regulations or as a prerequisite to performing expanded functions. [xvi]

The state's current regulatory oversight of the health care profession making the request:

Dental assistants in Connecticut may perform functions authorized by the Connecticut State Dental Commission/Department of Public Health as cited in the Dental Practice Act; Chapter 379, section 20-112a. Dental procedures are delegated by a licensed dentist to the dental assistant and are performed under the supervision, control and responsibility of the dentist. Dental Assistants in Connecticut are not required to be licensed or registered but must hold a certification in DANB Radiation Health and Safety in order to expose dental x-rays as cited in the Department of Public Health Statutes and Regulations; Chapter 376 c, section 20-7433 (3).[xvii]

A dental assistant in the state of Connecticut may perform basic supportive dental procedures specified by the state dental practice act under the supervision of a licensed dentist. There are no education or training requirements for this level of dental assisting.

> **Sec. 20-112a. Dental assistants:** A licensed dentist may delegate to dental assistants such dental procedures as the dentist may deem advisable, including the taking of dental x-rays if the dental assistant can demonstrate successful completion of the dental radiography portion of an examination prescribed by the Dental Assisting National Board, but such procedures shall be performed under the dentist's supervision and control and the dentist shall assume responsibility for such procedures; provided such assistants may not engage in: (1) Diagnosis for dental procedures or dental treatment; (2) the cutting or removal of any hard or soft tissue or suturing; (3) the prescribing of drugs or medications that require the written or oral order of a licensed dentist or physician; (4) the administration of local, parenteral, inhalation or general anesthetic agents in connection with any dental operative procedure; (5) the taking of any impression of the teeth or jaws or the relationship of the teeth or jaws for the purpose of fabricating any appliance or prosthesis; (6) the placing, finishing and adjustment of temporary or final restorations, capping materials and cement bases; or (7) the practice of dental hygiene as defined in section 20-126*l*.[xviii]

Pursuant to Section 20-74ee(3), Connecticut General Statutes, nothing shall be construed to require license as a radiographer or limit the activities of a dental assistant as defined in Section 20-112a, provided such dental assistant is engaged in the taking of dental x-rays under the supervision and control of a dentist licensed pursuant to Chapter 379, Connecticut General Statutes, provided the dental assistant

can demonstrate successful completion of the dental radiography portion of an examination prescribed by the Dental Assisting National Board (DANB) or a dental assistant student, intern or trainee pursuing practical training in the taking of dental x-rays provided such activities constitute part of a supervised course or training program and such person is designated by a title that clearly indicates such person's status as a student, intern or trainee.[xix]

In Connecticut, dental assistants are not licensed, certified nor registered by the Department of Public Health but are overseen by the Commissioner of Public Health, with advice and assistance from the Dental Commission. "A licensed dentist may delegate to dental assistants such dental procedures as the dentist may deem advisable, including the taking of dental x-rays if the dental assistant can demonstrate successful completion of the dental radiography portion of an examination prescribed by the Dental Assisting National Board", as stated in the CT General Statutes, Chapter 379 Dentistry, Section 20-112a. (9).

All current education, training and examination requirements and any relevant certification requirements applicable to the health care profession making the request:

In the State of Connecticut, dental assistants can be hired and trained on-the-job or complete a formal education program in a CODA-accredited dental assisting program. Both pathways provide the opportunity for dental assistants to become Certified Dental assistants through the Dental Assisting National Board (DANB). Training programs are offered by community colleges, vocational schools, or technical institutes. One-year program enrollees receive a certificate or diploma upon completion, while those in 2-year programs receive an associate degree. Dental assistants may also acquire necessary skills through on-the-job training.

Licensure is required for dental assistants in the state of Connecticut only in regard to taking dental x-rays. Prerequisite: Dental assistants must successfully complete the radiology section of the Dental Assisting National Board examination in order to take dental x-rays in Connecticut; but other than that, neither certification nor licensure is required in Connecticut.

Training programs for EFDA are self-sustaining and can be operated in existing training programs with no additional cost to the educational system.

A summary of known scope of practice changes either requested or enacted concerning the health care profession in the five-year period preceding the date of this request:

The Connecticut State Dental Association (CSDA) and the Connecticut Society of Pediatric Dentists (CSPD) has supported EFDA both conceptually and through policy since 2003. In 2005 the CSDA, the Connecticut Dental Assisting Association and the Connecticut Dental Hygiene Association, participated in Department of Public Health mediation regarding scope of practice. During that process, the CSDA agreed to support a long list of EFDA competencies. The CSDA also testified in favor of the EFDA-portion of House Bill 5630, "An Act Concerning The Establishment Of Licensure For An Advanced Dental Hygiene Practitioner" in 2009.

The extent to which the request directly impacts existing relationships within the health care delivery system:

This scope request would directly impact the relationships between the dental assistant, dental hygienists and dentist as it would allow the dentist, as lead member of the dental team to determine how to utilize the resources within his/her office to best meet the demand for services. This would positively complement both the dental and dental hygiene professions as it would allow for an enhanced career path for both dental assistants and dental hygienists.

Subsequent to the Surgeon General's report in 200, a coalition of public and private organizations recommended, among other actions, taking steps to increase the oral health workforce's diversity, capacity, and flexibility.[xx] The expansion of duties for the dental assistant, in line with recommendations by DANB for a uniform national model for dental assistants can:

- increase the capacity of the oral healthcare services infrastructure by enhancing dental assistant recruitment and retention;
- Minimize unproductive time that dental assistants spend obtaining new credentials when they change their state of residence, and reduce losses from the dental assisting workforce of experienced dental assistants who choose not to obtain new credentials when they change their state of residence;
- Mitigate shortages in the dental assisting workforce by enhancing the ability of dental offices within commuting distance of neighboring states to hire dental assistants living in those states;
- Allow public health initiatives designed to benefit underserved segments of the population to more effectively recruit qualified dental assisting personnel.[xxi]

Research supports the improved effectiveness of the dental office when an EFDA is utilized. The increase in dental services available for Medicaid and other underserved populations will positively impact the relationship between the dental profession and the population at large.

The anticipated economic impact of the request on the health care delivery system:

The request will improve the efficiency of the dental office thus allowing for the expansion of services to those patients covered by public insurance. According to Beazoglou, et al. (2009):

> The impact of delegation on practice productivity and efficiency are substantial. As delegation increases, practices see more patients and generate higher gross billings and net incomes. Larger practices (e.g., more dentist and staff hours and space) are the primary employers of expanded function dental auxiliaries. This study suggests that general dental practices could substantially increase their capacity to see more patients with the effective use of expanded duty dental auxiliaries.[xxii]

Moreover, training programs for EFDA are self-sustaining and can be operated in existing training programs with no additional cost to the educational system.

Regional and national trends concerning licensure of the health care profession making the request and a summary of relevant scope of practice provisions enacted in other states:

Please see the following printed attachments:
Dental Assisting National Board, Inc. Position paper of the ADAA/DANB Alliance: Addressing a uniform national model for the dental assisting profession. 2005.

Dental Assisting National Board, Inc. National Overview of Dental Assisting Job Titles. The chart on the next page illustrates the various job titles given to different job function levels across the United States. [xxiii]

Identification of any health care professions that can reasonably be anticipated to be directly impacted by the request, the nature of the impact and efforts made by the requestor to discuss the request with such health care professions:

The health care professionals that would be affected by a change in scope would be the dental assistants themselves, possibly the dental hygienists and the dentists in the state of Connecticut.

A description of how the request relates to the health care profession's ability to practice to the full extent of the profession's education and training:

The EFDA certification will all for enhanced professional development and skill development for dental assistants in CT. Training will develop specific knowledge, skills and competencies essential for the dental assistant to assist the dentist in delivery of quality dental care. EFDAs can perform expanded duties for which they are trained under specific guidelines that incorporate clinical evaluation. The certification process will ensure that EFDAs are competent to perform the skills identified in the expanded scope of practice. The additional services performed by the EFDA will help the dentist to expand the number of patients the practice serves and to best allocate the dental resources within the practice.

This program will offer dental assistants a chance to elevate their professional status and will promote longevity in the profession. Dental assistants who are DANB-certified stay in the profession an average of 14.5 years (3 times longer than non-certified dental assistants). The enhancement of scope of services is in line with the recent Institute of Medicine report, *Improving Access to Oral Health Care for Vulnerable and Underserved Populations which concluded that* "states should examine and amend state practice laws to allow healthcare professionals to practice to their highest level of competence."[xxiv] By requiring the scope of services to be provided under the supervision of a dentist, the change will maintain the quality and integrity of the dental home.

Sincerely,

Douglas B. Keck, DMD, MSHEd
Representative of the Connecticut Society of Pediatric Dentists

[i] Beazoglou T, Brown LJ, Ray S, Chen L, Lazar V. An Economic Study of Expanded Duties of Dental Auxiliaries in Colorado. Chicago: American Dental Association, Health Policy Resources Center; 2009.

[ii] U.S. Department of Health and Human Services. Oral Health in America: A Report of the Surgeon General. Rockville, MD: U.S. Department of Health and Human Services, National Institute of Dental and Craniofacial Research, National Institutes of Health, 2000.

[iii] Casamassimo PS, Thikkurissy S, Edelstein BL, Maiorini E. Beyond the dmft: the human and economic cost of early childhood caries. J Am Dent Assoc. 2009 Jun;140(6):650-7.

[iv] American Academy of Pediatric Dentistry. Policy on workforce issues and delivery of oral health care services in a dental home. 2011.

[v] Connecticut Department of Public Health, Office of Oral Public Health. CT oral health improvement plan: 2001-2012. 2007.

[vi] Connecticut Department of Public Health. Oral health in Connecticut. 2007.

[vii] Ibid.

[viii] American academy of Pediatric Dentistry. Definition of a Dental Home. 2006.

[ix] Domer, LR and Call, RL. A pilot study to determine barriers to implementing productivity enhancement strategies in dental practices. Unpublished report, School of Dentistry, University of Colorado. June 14, 2005.

[x] Dental Assisting National Board, Inc. DANBs CDPA Summary Chart. 2011.

[xi] Dental Assisting National Board, Inc. National Overview of Dental Assisting Jobs. 2011

[xii] Dental Assisting National Board, Inc. Position paper of the ADAA/DANB Alliance: Addressing a uniform national model for the dental assisting profession. 2005.

[xiii] Ibid.

[xiv] Dental Assisting National Board, Inc. 2011. CDA Exam Application Packet.

[xv] Dental Assisting National Board, Inc. 2011. www.DANB.org

[xvi] Ibid.

[xvii] CT General Statutes. Chapter 397. Dentistry.

[xviii] Ibid.

[xix] Ibid.

[xx] U.S. Department of Health and Human Services. A National Call to Action to Promote Oral Health. Rockville, MD: U.S. Department of Health and Human Services, Public Health Service, Centers for Disease Control and Prevention, and the National Institutes of Health, National Institute of Dental and Craniofacial Research. NIH Publication No. 03-5303, May 2003.

[xxi] Dental Assisting National Board, Inc. Position paper of the ADAA/DANB Alliance: Addressing a uniform national model for the dental assisting profession. 2005.

[xxii] Beazoglou T, Brown LJ, Ray S, Chen L, Lazar V. An Economic Study of Expanded Duties of Dental Auxiliaries in Colorado. Chicago: American Dental Association, Health Policy Resources Center; 2009.
[xxiii] Dental Assisting National Board, Inc. National Overview of Dental Assisting Job Titles. www.danb.org. Accessed 9-27-2011
[xxiv] Institute of Medicine of the National Academies. Improving access to oral health care for vulnerable and underserved populations. July, 2011.

Connecticut Society of
Pediatric Dentists
A state unit organization of the American Academy of Pediatric Dentistry

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September 30, 2011

Jennifer L. Filippone
Chief Practitioner Licensing and Investigations Section
Department of Public Health
410 Capitol Avenue, MS#12MQA
PO Box 340308
Hartford, CT 06134

Dear Ms. Filippone,

Per Public Act 11-209, An Act Concerning the Department of Public Health's Oversight Responsibilities Relating to Scope of Practice Determinations For Health Care Professions, the Connecticut Society of Pediatric Dentists (CSPD) is formally submitting this document as an impact statement to the Expanded Function Dental Auxiliary (EFDA) scope request which was submitted by the Connecticut Dental Assistant Association (CDAA). The CSPD has been the leader and voice for pediatric oral healthcare in Connecticut . The CSPD currently represents approximately 100 licensed pediatric dentists and dental residents in the state of Connecticut.

The CSPD is in support of the creation of an EFDA as described by the CDAA's recent scope request submitted to the Department of Public Health. The attached document reviews in a complete way the impact of how a change in the scope of practice of the dental assistants in our state to an expanded functions dental assistant will benefit the pediatric dentistry profession. Thank you for your attention in this matter.

Sincerely,

Douglas B. Keck, DMD, MSHEd
Representative of the Connecticut Society of Pediatric Dentists

CONNECTICUT DENTAL ASSISTANTS ASSOCIATION

cdaa4u.org

October 15, 2011

Jennifer Filippone, Chief
Practitioner Licensing and Investigation Section
Department of Public Health
410 Capitol Avenue, MS#12MQA
P.O. Box 340308
Hartford, CT 06134

Dear Jennifer,

The Connecticut Dental Assistants Association (CDAA) acknowledges support of our recent Scope of Practice Request by the Connecticut Association of Endodontists (CAE) in their impact statement document dated September 30, 2011. This Scope of Practice Request asks for an increase in scope of practice to provide for Expanded Functions Dental Auxiliaries (EFDAs) in Connecticut.

The CDAA agrees with the CAE that EFDAs working in conjunction with and under supervision of a dentist would expand the capacity of our dental workforce to treat more patients and would provide additional position for auxiliaries in a cost effective manner.

The CDAA would like to express our gratitude to the CAE for their support of this very important initiative. This opportunity would allow dental auxiliary personnel more responsibility and dentists more flexibility to potentially treat a greater number of patients in a variety of healthcare settings, thus increasing the access to dental care for Connecticut's underserved citizens.

The CDAA looks forward to working with our dental colleagues and the Department of Public Health to further investigate this request.

Sincerely,

Beth M. Barber, COA, MADAA, BS
President CDAA

CONNECTICUT DENTAL ASSISTANTS ASSOCIATION

cdaa4u.org

October 15, 2011

Jennifer Filippone, Chief
Practitioner Licensing and Investigation Section
Department of Public Health
410 Capitol Avenue, MS#12MQA
P.O. Box 340308
Hartford, CT 06134

Dear Jennifer,

The Connecticut Dental Assistants Association (CDAA) acknowledges response to our recent Scope of Practice Request by the Connecticut Dental Hygiene Association (CDHA) in their impact statement document dated September 30, 2011. This Scope of Practice Request asks for an increase in scope of practice to provide for Expanded Functions Dental Auxiliaries (EFDAs) in Connecticut.

The CDAA would like to express our gratitude to the CDHA for their support for many key components in our scope request.

The CDAA looks forward to addressing any concerns together.

Sincerely,

Beth M. Barber, COA, MADAA, BS
President CDAA

CONNECTICUT DENTAL ASSISTANTS ASSOCIATION

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October 15, 2011

Jennifer Filippone, Chief
Practitioner Licensing and Investigation Section
Department of Public Health
410 Capitol Avenue, MS#12MQA
P.O. Box 340308
Hartford, CT 06134

Dear Jennifer,

The Connecticut Dental Assistants Association (CDAA) acknowledges support of our recent Scope of Practice Request by the Connecticut Society of Pediatric Dentists (CSPD) in their impact statement document dated September 30, 2011. This Scope of Practice Request asks for an increase in scope of practice to provide for Expanded Functions Dental Auxiliaries (EFDAs) in Connecticut.

The CDAA agrees with the CSPD that the oral healthcare community has expressed increasing interest in allowing the delegation of expanded functions to dental auxiliary. EFDAs working under the supervision of a dentist, allows dentists to allocate dental resources within a practice to provide dental services to all populations, including those most at-risk for dental disease.

The CDAA would like to express our gratitude to the CSPD for their full support of this very important initiative. This opportunity would allow dental auxiliary personnel more responsibility and dentists more flexibility to potentially treat a greater number of patients in a variety of healthcare settings, thus increasing the access to dental care for Connecticut's underserved citizens.

The CDAA looks forward to working with our dental colleagues and the Department of Public Health to further investigate this request.

Sincerely,

Beth M. Barber, COA, MADAA, BS
President CDAA

American Academy of Pediatric Dentistry
211 East Chicago Avenue, Suite 1700 • Chicago, Illinois 60611-2637 • 312-337-2169 • Fax: 312-337-6329 • *www.aapd.org*

September 30, 2011

Jennifer L. Filippone, Chief
Practitioner Licensing and Investigations Section
Department of Public Health
410 Capitol Ave. MS#12MQA
PO Box 340308
Hartford, CT 06134

Dear Ms. Filippone:

The American Academy of Pediatric Dentistry is writing in support of the Connecticut Society of Pediatric Dentists (CSPD) scope request which would increase the scope of practice for dental assistants in public health and private settings. This request is made in accordance with Public Act 11-209, An Act Concerning the Department of Public Health's Oversight Responsibilities Relating to Scope of Practice Determinations for Health Care Professions.

Founded in 1947, the **American Academy of Pediatric Dentistry (AAPD)** is a not-for-profit membership association representing the specialty of pediatric dentistry. The AAPD's 8,000 members are primary oral health care providers who offer comprehensive specialty treatment for millions of infants, children, adolescents, and individuals with special health care needs. The AAPD also represents general dentists who treat a significant number of children in their practices. As advocates for children's oral health, the AAPD develops and promotes evidence-based policies and guidelines, fosters research, contributes to scholarly work concerning pediatric oral health, and educates health care providers, policymakers, and the public on ways to improve children's oral health. For further information, please visit the AAPD Web site at *www.aapd.org*.

A major component of AAPD's advocacy efforts is development of oral health policies and evidence-based clinical practice guidelines that promote access to and delivery of safe, high quality comprehensive oral healthcare for all children, including those with special health care needs, within a dental home. A dental home is the ongoing relationship between the dentist and the patient, inclusive of all aspects of oral health care delivery, in a comprehensive, continuously-accessible, coordinated, and family-centered way. Central to the dental home model is dentist-directed care. The dentist performs the examination, diagnoses oral conditions, and establishes a treatment plan that includes preventive services, and all services are carried out under the dentist's supervision.

The Expanded Functions Dental Auxiliary (EFDA) model, as proposed by the CSPD fits within the evidence-based guidelines of the AAPD. The EFDA, under this model, performs duties that are complementary and in support of the treatment plan outlined by the dentist while maintaining the integrity of the dental home. Connection to the dental home ensures that children will have access to comprehensive care, including restorative services when needed.

The change in scope of practice of dental assisting requested allows the inclusion of an EFDA in the dental office as a part of the dental team. This will increase access to care for the underserved citizens in Connecticut, including children, the elderly and those with special needs. The inclusion of an EDFA on the dental team increases the efficiency of the dental office, thus increasing capacity. Increased capacity will extend the ability of that dental practice to provide dental services to all populations, including those most at-risk for dental disease – low income and those suffering from physically and mental disabilities. An EFDA can apply dental sealants, one of the very few nationally accepted, evidence-based preventive measures that can significantly reduce dental caries.

Sincerely yours,

Rhea M. Haugseth

Rhea M. Haugseth, DMD
President

John S. Rutkauskas

John S. Rutkauskas, DDS, MBA, CAE
Chief Executive Officer

Appendix E

Ref. #9

Connecticut General Statutes
Chapter 379
Dentistry

Sec. 20-103a. State Dental Commission. (a) The State Dental Commission shall consist of nine members appointed by the governor, subject to the provisions of section 4-9a, six of whom shall be practitioners in dentistry residing in this state who are in good standing in their profession and three of whom shall be public members. No member of said commission shall be an elected or appointed officer of a professional association of members of his profession or have been such an officer for the year immediately preceding his appointment. The Commissioner of Public Health, with advice and assistance from the Dental Commission, may issue regulations to implement the provisions of this chapter, and to insure proper dental care and the protection of public health, considering the convenience and welfare of the patient, methods recommended by the canon of ethics of the Connecticut State Dental Association and the American Dental Association and accepted health standards as promulgated by local health ordinances and state statutes and regulations.

(b) The governor shall appoint a chairperson from among such members. Said commission shall meet at least once during each calendar quarter and at such other times as the chairman deems necessary. Special meetings shall be held on the request of a majority of the commission after notice in accordance with the provisions of section 1-21. A majority of the members of the board shall constitute a quorum. Members shall not be compensated for their services. Any member who fails to attend three consecutive meetings or who fails to attend fifty per cent of all meetings held during any calendar year shall be deemed to have resigned from office. Minutes of all meetings shall be recorded by the commission. No member shall participate in the affairs of the commission during the pendency of any disciplinary proceedings by the commission against such member. No member shall serve for more than two full consecutive terms commencing after July 1, 1980. Said commission shall (1) hear and decide matters concerning suspension or revocation of licensure, (2) adjudicate complaints filed against practitioners and (3) impose sanctions where appropriate.

Sec. 20-106. License. No person shall engage in the practice of dentistry or dental medicine unless such person has first obtained a license from the department of public health.

Sec. 20-106a. Designation of limited practice. No licensed and registered dentist shall designate in any matter that he has limited his practice to one of the specialty areas of dentistry expressly approved by the American Dental Association unless such dentist has completed two years of advanced or postgraduate education in the area of such specialty and has notified the Dental Commission of such limitation of practice. Nothing contained herein shall prohibit any licensed and registered dentist who has limited his practice prior to May 8, 1975, from continuing to designate such limitation.

Sec. 20-107. Application for license. (a) Each application for a license to practice dentistry shall be in writing and signed by the applicant and no license shall be issued to any person unless he or she presents a diploma or other certificate of graduation from some reputable dental college or from a department of dentistry of a medical college conferring a dental degree, or unless he or she is practicing as a legally qualified dentist in another state having requirements for admission determined by the department to be similar to or higher than the requirements of this state.

(b) The Dental Commission may, with the consent of the Commissioner of Public Health, determine the colleges which shall be considered reputable dental or medical colleges for the purposes of this chapter. The commission shall consult when possible with nationally recognized accrediting agencies when making such determinations.

(c) Notwithstanding the provisions of subsections (a) and (b) of this section, the department may issue a license to practice dentistry to any applicant holding a diploma from a foreign dental school, provided the applicant (1) is a graduate of a dental school located outside the United States and has received the degree of doctor of dental medicine or surgery, or its equivalent; (2) has passed the written and practical examinations required in section 20-108, as amended by this act; (3) has successfully completed not less than two years of graduate dental training as a resident dentist in a program accredited by the Commission on Dental Accreditation; and (4) has successfully completed, at a level greater than the

second postgraduate year, not less than two years of a residency or fellowship training program accredited by the Commission on Dental Accreditation in a community or school-based health center affiliated with and under the supervision of a school of dentistry in this state, or has served as a full-time faculty member of a school of dentistry in this state pursuant to the provisions of section 20-120 for not less than three years.

Sec. 20-108. Examination of applicants. (a) Except as provided in section 20-110 and subsection (b) of this section, each applicant for a license to practice dental medicine or dental surgery shall be examined by the Department of Public Health, under the supervision of the Dental Commission as to his or her professional knowledge and skill before such license is granted. Such examination shall be conducted in the English language. The Dental Commission may, with the consent of the Commissioner of Public Health, accept and approve, in lieu of the written examination required by this section, the results of an examination given by the Joint Commission on National Dental Examinations, subject to such conditions as the commission may prescribe, and the Dental Commission with the consent of the Commissioner of Public Health, may accept and approve, in lieu of the written and practical examination required by this section, the results of regional testing agencies as to written and practical examinations, subject to such conditions as the commission, with the consent of the Commissioner of Public Health, may prescribe. Passing scores shall be established by the department with the consent of the commission.

(b) In lieu of the practical examination required by subsection (a) of this section, an applicant for licensure may submit evidence of having successfully completed not less than one year of graduate dental training as a resident dentist in a program accredited by the Commission on Dental Accreditation, provided the director of the dental residency program at the facility in which the applicant completed the residency training provides documentation satisfactory to the Department of Public Health attesting to the resident dentist's competency in all areas tested on the practical examination required by subsection (a) of this section. Not later than December 1, 2005, the Dental Commission, in consultation with the Department of Public Health, shall develop a form upon which such documentation shall be provided.

Sec. 20-109. Fee for examination. Upon the payment of a fee of five hundred sixty five dollars by an applicant, the department of public health, under the supervision of the dental commissioners shall examine applicants. All examinations shall be given at least once per year and at other times prescribed by the department. The department shall grant licenses to such applicants as are qualified.

Sec. 20-110. Licenses to out-of-state applicants. The department of public health may without examination, issue a license to any dentist who is licensed in some other state or territory, if such other state or territory has requirements for admission determined by the department to be similar to or higher than the requirements of this state, upon certification from the board of examiners or like board of the state or territory in which such dentist was a practitioner certifying to his competency and upon payment of a fee of five hundred sixty five dollars to said department. No license shall be issued under this section to any applicant against whom professional disciplinary action is pending or who is the subject of an unresolved complaint. The department shall inform the Dental Commission annually of the number of applications it receives for licensure under this section.

Section 20-112a. Dental assistants. A licensed dentist may delegate to dental assistants such dental procedures as the dentist may deem advisable, including the taking of dental x-rays if the dental assistant can demonstrate successful completion of the dental radiography portion of an examination prescribed by the Dental Assisting National Board, but such procedures shall be performed under the dentist's supervision and control and the dentist shall assume responsibility for such procedures; provided such assistants may not engage in: (1) Diagnosis for dental procedures or dental treatment; (2) the cutting or removal of any hard or soft tissue or suturing; (3) the prescribing of drugs or medications that require the written or oral order of a licensed dentist or physician; (4) the administration of local, parenteral, inhalation or general anesthetic agents in connection with any dental operative procedure; (5) the taking of any impression of the teeth or jaws or the relationship of the teeth or jaws for the purpose of fabricating any appliance or prosthesis; (6) the placing, finishing and adjustment of temporary or final restorations, capping materials and cement bases; or (7) the practice of dental hygiene as defined in section 20-126*l*, as amended.

Sec. 20-113. Display of license. The license for the current year shall be displayed conspicuously in the office, place of business or place of employment of each licensee. Each licensed dentist shall forthwith notify the department of any change of address or employment subsequent to his licensure. Any association of dentists which has registered with the secretary of the state as required under section 34-82 shall also register annually as an association with the secretary of the Dental Commission.

Sec. 20-113a. Renewal of licenses. Licenses issued under this chapter shall be renewed annually in accordance with the provisions of section 19a-88.

Sec. 20-113b. Renewal of license by person who practices for no fee. Any person who practices dentistry for no fee, for at least one hundred hours per year at a public health facility, as defined in section 20-126*l*, and does not otherwise engage in the practice of dentistry, shall be eligible to renew a license, as provided in subsection (a) of section 19a-88, as amended by this act, without payment of the professional services fee specified in said subsection (a).

Sec. 20-114. Disciplinary action by Dental Commission concerning dentists and dental hygienists. (a) The Dental Commission may take any of the actions set forth in section 19a-17 of the 2008 supplement to the general statutes for any of the following causes: (1) The presentation to the department of any diploma, license or certificate illegally or fraudulently obtained, or obtained from an institution that is not reputable or from an unrecognized or irregular institution or state board, or obtained by the practice of any fraud or deception; (2) proof that a practitioner has become unfit or incompetent or has been guilty of cruelty, incompetence, negligence or indecent conduct toward patients; (3) conviction of the violation of any of the provisions of this chapter by any court of criminal jurisdiction, provided no action shall be taken under section 19a-17 of the 2008 supplement to the general statutes because of such conviction if any appeal to a higher court has been filed until the appeal has been determined by the higher court and the conviction sustained; (4) the employment of any unlicensed person for other than mechanical purposes in the practice of dental medicine or dental surgery subject to the provisions of section 20-122a; (5) the violation of any of the provisions of this chapter or of the regulations adopted hereunder or the refusal to comply with any of said provisions or regulations; (6) the aiding or abetting in the practice of dentistry, dental medicine or dental hygiene of a person not licensed to practice dentistry, dental medicine or dental hygiene in this state; (7) designating a limited practice, except as provided in section 20-106a; (8) engaging in fraud or material deception in the course of professional activities; (9) the effects of physical or mental illness, emotional disorder or loss of motor skill, including but not limited to, deterioration through the aging process, upon the license holder; (10) abuse or excessive use of drugs, including alcohol, narcotics or chemicals; (11) failure to comply with the continuing education requirements set forth in section 20-126c; (12) for failure of a holder of a dental anesthesia or conscious sedation permit to successfully complete an on-site evaluation conducted pursuant to subsection (c) of section 20-123b; or failure to provide information to the Department of Public Health required to complete a health care provider profile, as se forth in section20-13j, as amended by public act 08-109. A violation of any of the provisions of this chapter by any unlicensed employee in the practice of dentistry or dental hygiene, with the knowledge of his employer, shall be deemed a violation thereof by his employer. The commissioner of public health may order a license holder to submit to a reasonable physical or mental examination if his physical or mental capacity to practice safely is the subject of an investigation. Said commissioner may petition the superior court for the judicial district of Hartford to enforce such order or any action taken pursuant to section 19a-17 of the 2008 supplement to the general statutes.

(b) For purposes of subdivision (8) of subsection (a), fraud or material deception shall include, but not be limited to, the following practices: (1) Submission of a claim form to a third party intentionally reporting incorrect treatment dates for the purpose of assisting a patient in obtaining benefits under a dental plan, which benefits would otherwise be disallowed; (2) increasing a fee to a patient for a dental procedure or dental hygiene service in excess of the fee generally charged by the dentist for such procedure or service solely because the patient has dental insurance; (3) intentionally describing a dental procedure incorrectly on a third-party claim form in order to receive a greater payment or reimbursement or intentionally misrepresenting a dental procedure not otherwise eligible for payment or reimbursement on such claim form for the purpose of receiving payment or reimbursement; and (4) intentionally accepting payment from a third party as payment in full for patient services rendered when (A) the patient has been excused from payment of any applicable deductible by the license holder and (B) such license holder fails to notify the third party of such action.

Sec. 20-118. Dentist removing from state. Any licensed dentist changing his residence or place of business to another state shall, upon application to the dental commissioners, receive a certificate which shall state that he is a licensed dentist in this state; and such certificate shall be given without payment of any fee.

Sec. 20-120. Practice of dentistry in clinics, schools of dentistry and state institutions. (a) Any graduate of a recognized dental college may practice dentistry in a clinic for a period not exceeding six months, provided he shall obtain the written consent and approval of the Dental Commission.

(b) A full-time faculty member of a school of dentistry in this state who is licensed in another state or who has exceptional qualifications as approved by the Dental Commission may be granted a provisional license upon consent and approval of the Dental Commission which provisional license shall be in effect during such time as the licensee is in the full-time employment of a school of dentistry within the state. Such provisional license shall limit the licensee to the practice of dentistry in the school of dentistry of which he is a member of the faculty or in any hospital affiliated with such school.

(c) Any graduate of a foreign dental school, who has exceptional qualifications, as approved by the Dental Commission, may practice dentistry in any state institution.

Sec. 20-122. Ownership and operation of offices by unlicensed persons or by corporations. (a) No person, except a licensed and registered dentist, and no corporation, except a professional service corporation organized and existing under chapter 594a for the purpose of rendering professional dental services, and no institution shall own or operate a dental office, or an office, laboratory or operation or consultation room in which dental medicine, dental surgery or dental hygiene is carried on as a portion of its regular business; but the provisions of this section do not apply to hospitals, community health centers, public or parochial schools, or convalescent homes, or institutions under control of an agency of the state of Connecticut, or the state or municipal board of health, or a municipal board of education; or those educational institutions treating their students, or to industrial institutions or corporations rendering treatment to their employees on a nonprofit basis, provided permission for such treatment has been granted by the State Dental Commission. Such permission may be revoked for cause after hearing by said commission.

(b) Any licensed practitioner who provides dental services in a dental office or other location in violation of subsection (a) of this section shall be subject to disciplinary action under sections 20-114 and 19a-17.

(c) Notwithstanding the provisions of subsections (a) and (b) of this section or chapter 594a, a professional service corporation whose capital stock is held by or under the control of a personal representative or the estate of a deceased or incompetent dentist may operate a dental office or other location for the purpose of rendering professional dental services for a reasonable period of time, not to exceed eighteen months from the date of the dentist's death or the date the dentist is lawfully determined to be incompetent, whichever is applicable.

Sec. 20-122a. Work authorization for unlicensed person. No dentist shall use the services of any person not licensed to practice dentistry in this state, or the services of any partnership, corporation or association, to construct, alter, repair or duplicate any denture, plate, bridge, splint or orthodontic or prosthetic appliance, without first furnishing such unlicensed person, partnership, corporation or association with a written work authorization on forms prescribed by the Dental Commission, and no unlicensed person, partnership, association or corporation shall perform any of such services for a dentist without first obtaining such written work authorization. Such authorization, which shall be retained by the unlicensed person, partnership, corporation or association to whom it is issued, and a copy thereof, which shall be retained by the issuing dentist, shall be subject to inspection by the department of public health or its authorized agents for a period of one year from its issuance.

Sec. 20-122b. Subwork authorization. Failure of dentist to provide written authorization. (a) If upon receiving such written authorization an unlicensed person, partnership, corporation or association, hereinafter referred to as "contractor", engages another person, partnership, corporation or association, hereinafter referred to as "subcontractor", to perform some of the services relative to such work

authorization, such contractor shall furnish to such subcontractor a written subwork authorization with respect thereto on forms prescribed by the Dental Commission. Such subwork authorization, which shall be retained by the subcontractor, and a duplicate thereof, which shall be attached to the work authorization and retained by the contractor, shall be subject to inspection by the department of public health or its authorized agents for a period of one year from its issuance.

(b) When any unlicensed person, partnership, association or corporation performs for a dentist any service listed in section 20-122a and demands that such dentist furnish him with a written work authorization which such dentist fails or refuses to furnish, such unlicensed person, partnership, association or corporation shall be deemed to have complied with the provisions of this section and said section 20-122a.

Sec. 20-122c. Inspection of authorization files by department of public health. The department of public health or its authorized agent may inspect the written authorization files of any licensed dentist or unlicensed person, partnership, organization or association to determine its compliance with section 20-122a. Any licensed dentist or unlicensed person, partnership, organization or association which violates any provision of said section 20-122a, or refuses to allow the department of public health or its authorized agents to inspect the work authorization or prosthetic dentures, bridges, orthodontic or other appliances or structures to be used as substitutes for or as a part of natural teeth or jaws or associated structures for the correction of malocclusions or deformities in its possession shall be subject to such penalties as are provided in section 20-126.

Sec. 20-123. Practice of dentistry defined. Exceptions. (a) No person shall engage in the practice of dentistry unless he or she is licensed pursuant to the provisions of this chapter. The practice of dentistry or dental medicine is defined as the diagnosis, evaluation, prevention or treatment by surgical or other means, of an injury, deformity, disease or condition of the oral cavity or its contents, or the jaws or the associated structures of the jaws. The practice of dentistry does not include: (1) The treatment of dermatologic diseases or disorders of the skin or face; (2) the performance of microvascular free tissue transfer; (3) the treatment of diseases or disorders of the eye; (4) ocular procedures; (5) the performance of cosmetic surgery or other cosmetic procedures other than those related to the oral cavity, its contents, or the jaws; or (6) nasal or sinus surgery, other than that related to the oral cavity, its contents or the jaws.

(b) No person other than a person licensed to practice dentistry under this chapter shall:

(1) Describe himself or herself by the word "Dentist" or letters "D.D.S." or "D.M.D.", or in other words, letters or title in connection with his or her name which in any way represents such person as engaged in the practice of dentistry;

(2) Own or carry on a dental practice or business;

(3) Replace lost teeth by artificial ones, or attempt to diagnose or correct malpositioned teeth;

(4) Directly or indirectly, by any means or method, furnish, supply, construct, reproduce or repair any prosthetic denture, bridge, appliance or any other structure to be worn in a person's mouth, except upon the written direction of a licensed dentist, or place such appliance or structure in a person's mouth or attempt to adjust such appliance or structure in a person's mouth, or deliver such appliance or structure to any person other than the dentist upon whose direction the work was performed;

(5) Sell or distribute materials, except to a licensed dentist, dental laboratory or dental supply house, with instructions for an individual to construct, repair, reproduce or duplicate any prosthetic denture, bridge, appliance or any other structure to be worn in a person's mouth;

(6) Advertise to the public, by any method, to furnish, supply, construct, reproduce or repair any prosthetic denture, bridge, appliance or other structure to be worn in a person's mouth;

(7) Give estimates of the cost of dental treatment; or

(8) Advertise or permit it to be advertised by sign, card, circular, handbill or newspaper, or otherwise indicate that such person, by contract with others or by himself or herself, will perform any of the functions specified in subdivisions (1) to (7), inclusive, of this subsection.

(c) Notwithstanding the provisions of subsection (a) of this section, a person who is licensed to practice dentistry under this chapter, who has successfully completed a postdoctoral training program that is accredited by the Commission on Dental Accreditation or its successor organization, in the specialty area of dentistry in which such person practices may: (1) Diagnose, evaluate, prevent or treat by surgical or other means, injuries, deformities, diseases or conditions of the hard and soft tissues of the oral and maxillofacial area, or its adjacent or associated structures; and (2) perform any of the following procedures, provided the dentist has been granted hospital privileges to perform such procedures: (A) Surgical treatment of sleep apnea involving the jaws; (B) salivary gland surgery; (C) the harvesting of donor tissue; (D) frontal and orbital surgery and nasoethmoidal procedures to the extent that such surgery or procedures are associated with trauma.

(d) Any person who, in practicing dentistry or dental medicine, as defined in this section, employs or permits any other person except a licensed dentist to so practice dentistry or dental medicine shall be subject to the penalties provided in section 20-126.

(e) The provisions of this section do not apply to:

(1) Any practicing physician or surgeon who is licensed in accordance with chapter 370;

(2) Any regularly enrolled student in a dental school approved as provided in this chapter or a medical school approved as provided in chapter 370 receiving practical training in dentistry under the supervision of a licensed dentist or physician in a dental or medical school in this state or in any hospital, infirmary, clinic or dispensary affiliated with such school;

(3) A person who holds the degree of doctor of dental medicine or doctor of dental surgery or its equivalent and who has been issued a permit in accordance with section 20-126b and who is receiving practical training under the supervision of a licensed dentist or physician in an advanced dental education program conducted by a dental or medical school in this state or by a hospital operated by the federal government or licensed pursuant to subsection (a) of section 19a-491;

(4) Any regularly enrolled student in or graduate of an accredited school of dental hygiene who is receiving practical training in dental hygiene in an approved school of dental hygiene in the state or in any hospital, infirmary, clinic or dispensary affiliated with such school, under the supervision of a dentist licensed pursuant to this chapter or a dental hygienist licensed pursuant to chapter 379a; or

(5) Controlled investigations or innovative training programs related to the delivery of dental health services within accredited dental schools or schools of dental hygiene, provided such programs are (A) under the supervision of a dentist licensed pursuant to chapter 379 or physician licensed pursuant to chapter 370, and (B) conducted within a program accredited by the Commission on Dental Accreditation or such other national professional accrediting body as may be recognized by the United States Department of Education.

Sec. 20-123a. Anesthesia and sedation: Definitions. For purposes of this section and section 20-123b:

(a) "Conscious sedation" means a drug-induced state in which the patient is calmed and relaxed, capable of making rational responses to commands and has all protective reflexes intact, including the ability to clear and maintain his own airway in a patent state, but does not include nitrous oxide sedation or any orally administered sedation;

(b) "General anesthesia" means a controlled state of unconsciousness produced by pharmacologic or nonpharmacologic methods, or a combination thereof, accompanied by a partial or complete loss of protective reflexes including an inability to independently maintain an airway and to respond purposefully to physical stimulation or verbal commands; and

(c) "Commissioner" means the commissioner of public health.

Sec. 20-123b. Permit for use of anesthesia required. Regulations. (a) On and after the effective date of the regulations adopted in accordance with subsection (d) of this section, no dentist licensed under this chapter shall use general anesthesia or conscious sedation, as these terms are defined in section 20-123a, on any patient unless such dentist has a permit, currently in effect, issued by the commissioner, initially for a period of twelve months and renewable annually thereafter, authorizing the use of such general anesthesia or conscious sedation.

(b) No applicant shall be issued a permit initially as required in subsection (a) of this section unless (1) the commissioner approves the results of an on-site evaluation of the applicant's facility conducted in consultation with the Connecticut Society of Oral and Maxillo-Facial Surgeons by an individual or individuals selected from a list of site evaluators approved by the commissioner, provided such evaluation is conducted without cost to the state, (2) the commissioner is satisfied that the applicant is in compliance with guidelines in the American Dental Association Guidelines for Teaching and the Comprehensive Control of Pain and Anxiety in Dentistry and (3) such initial application includes payment of a fee in the amount of two hundred dollars.

(c) The commissioner may renew such permit annually, provided (1) application for renewal is received by the commissioner not later than three months after the date of expiration of such permit, (2) payment of a renewal fee of two hundred dollars is received with such application and (3) an on-site evaluation of the dentist's facility is conducted in consultation with The Connecticut Society of Oral and Maxillo-Facial Surgeons by an individual or individuals selected from a list of site evaluators approved by the commissioner, provided such evaluation is conducted without cost to the state on a schedule established in regulations adopted pursuant to this section and the commissioner approves the results of each such evaluation.

(d) The commissioner, with the advice and assistance of the State Dental Commission, shall adopt regulations in accordance with the provisions of chapter 54 to implement the provisions of this section.

Sec. 20-124. False representations. No person shall falsely claim to hold a certificate of registration, license, diploma or degree granted by a society, school or by the Board of Dental Commissioners, or, with intent to deceive the public, pretend to be a graduate of any dental college or college, or append the letters "D.D.S." or "D.M.D." or "M.D.S." to his name, without having the degree indicated by such letters conferred upon him by diploma from a college, a school or a board of examiners empowered to confer the same.

Sec. 20-124a. Dental referral services: Disclosure of acceptance of fee for referral required. It shall be an unfair or deceptive trade practice, in violation of chapter 735a, for any person, firm, partnership, association, corporation or agent or employee thereof that engages in for profit, any business or service that in whole or in part includes the referral or recommendation of persons to a licensed dentist or dental practice for any form of dental care or treatment, to fail to disclose to a prospective patient, at the time the prospective patient makes initial contact by any means including advertising with the for-profit business or service, that the licensed dentist has paid a fee for such referral.

Sec. 20-125. Appeal. Any licensee aggrieved by a final decision of the Dental Commission in suspending or revoking any license under the provisions of this chapter may appeal therefrom as provided in section 4-183. Appeals brought under this section shall be privileged with respect to the order of trial assignment.

Sec. 20-126. Penalties. Any person who violates any provision of this chapter shall be fined not more than five hundred dollars or imprisoned not more than five years or both. Any person who continues to practice dentistry, dental medicine or dental surgery, after his license, certificate, registration or authority to so do has been suspended or revoked and while such disability continues, shall be fined not more than five hundred dollars or imprisoned not more than five years or both. For purposes of this section each instance of patient contact or consultation which is in violation of any provision of this section shall

constitute a separate offense. Failure to renew a license in a timely manner shall not constitute a violation for the purposes of this section.

Sec. 20-126a. Payment for dental care of patients in chronic and convalescent hospitals and convalescent homes. Payment for dental care rendered to patients in chronic and convalescent hospitals or convalescent homes shall be made directly to the dentist rendering or directing such care. The Commissioner of Social Services shall not be required to recognize the cost of employing or contracting with a dentist in the rates established for convalescent homes pursuant to section 17b-340.

Sec. 20-126b. (Formerly Sec. 20-126v). Permit for advanced dental education. No person shall participate in an advanced dental education program unless he has received a permit issued by the Department of Public Health. The permit shall be issued solely for purposes of participation in an advanced dental education program conducted by a dental or medical school or by a hospital operated by the federal government or licensed pursuant to subsection (a) of section 19a-491. No person shall receive a permit until a statement has been filed with the department on his behalf by the program administration certifying that he is to be enrolled in the program and that he has received the degree of doctor of dental medicine or doctor of dental surgery or its equivalent.

Section 20-126c. Continuing Education for License Renewal. (a) As used in this section:

(1) "Commissioner" means the Commissioner of Public Health;

(2) "Contact hour" means a minimum of fifty minutes of continuing education activity;

(3) "Department" means the Department of Public Health;

(4) "Licensee" means any person who receives a license from the department pursuant to chapter 379 of the general statutes; and

(5) "Registration period" means the one-year period for which a license renewed in accordance with section 19a-88 of the general statutes and is current and valid.

(b) Except as otherwise provided in this section, for registration periods beginning on and after October 1, 2007, a licensee applying for license renewal shall earn a minimum of twenty-five contact hours of continuing education within the preceding twenty-four-month period. Such continuing education shall (1) be in an area of the licensee's practice; (2) reflect the professional needs of the licensee in order to meet the health care needs of the public; and (3) include at least one contact hour of training or education in each of the following topics: (A) Infectious diseases, including, but not limited to, acquired immune deficiency syndrome and human immunodeficiency virus, (B) access to care, (C) risk management, (D) care of special needs patients, and (E) domestic violence, including sexual abuse. Qualifying continuing education activities include, but are not limited to, courses, including on-line courses, offered or approved by the American Dental Association or state, district or local dental associations and societies affiliated with the American Dental Association; national, state, district or local dental specialty organizations or the American Academy of General Dentistry; a hospital or other health care institution; dental schools and other schools of higher education accredited or recognized by the Council on Dental Accreditation or a regional accrediting organization; agencies or businesses whose programs are accredited or recognized by the Council on Dental Accreditation; local, state or national medical associations; a state or local health department; or the Accreditation Council for Graduate Medical Education. Eight hours of volunteer dental practice at a public health facility, as defined in section 20-126*l*, as amended, may be substituted for one contact hour of continuing education, up to a maximum of ten contact hours in one twenty-four-month period.

(c) Each licensee applying for license renewal pursuant to section 19a-88 of the general statutes shall sign a statement attesting that he or she has satisfied the continuing education requirements of subsection (b) of this section on a form prescribed by the department. Each licensee shall retain records of attendance or certificates of completion that demonstrate compliance with the continuing education requirements of said subsection (b) for a minimum of three years following the year in which the continuing education activities

were completed and shall submit such records to the department for inspection not later than forty-five days after a request by the department for such records.

(d) A licensee applying for the first time for license renewal pursuant to section 19a-88 of the general statutes, as amended by this act, is exempt from the continuing education requirements of this section.

(e) A licensee who is not engaged in active professional practice in any form during a registration period shall be exempt from the continuing education requirements of this section, provided the licensee submits to the department, prior to the expiration of the registration period, a notarized application for exemption on a form prescribed by the department and such other documentation as may be required by the department. The application for exemption pursuant to this subsection shall contain a statement that the licensee may not engage in professional practice until the licensee has met the continuing education requirements of this section.

(f) In individual cases involving medical disability or illness, the commissioner may, in the commissioner's discretion, grant a waiver of the continuing education requirements or an extension of time within which to fulfill the continuing education requirements of this section to any licensee, provided the licensee submits to the department an application for waiver or extension of time on a form prescribed by the department, along with a certification by a licensed physician of the disability or illness and such other documentation as may be required by the commissioner. The commissioner may grant a waiver or extension for a period not to exceed one registration period, except that the commissioner may grant additional waivers or extensions if the medical disability or illness upon which a waiver or extension is granted continues beyond the period of the waiver or extension and the licensee applies for an additional waiver or extension.

(g) Any licensee whose license has become void pursuant to section 19a-88 of the general statutes, as amended by this act, and who applies to the department for reinstatement of such license pursuant to section 19a-14 of the general statutes shall submit evidence documenting successful completion of twelve contact hours of continuing education within the one-year period immediately preceding application for reinstatement.

Sec. 20-126d. Professional liability insurance required. Reports from insurance companies. Exception to insurance requirement. Reitired dentist providing fee services. (a) Except as provided in subsection (c) of this section, each person licensed to practice dentistry under the provisions of chapter 379 of the general statutes who provides direct patient care services shall maintain professional liability insurance or other indemnity against liability for professional malpractice. The amount of insurance which each such person shall carry as insurance or indemnity against claims for injury or death for professional malpractice shall be not less than five hundred thousand dollars for one person, per occurrence, with an aggregate of not less than one million five hundred thousand dollars.

(b) Each insurance company that issues professional liability insurance, as defined in subdivision (4) of subsection (b) of section 38a-393 of the general statutes, shall on and after January 1, 2007, render to the Commissioner of Public Health a true record of the names and addresses, according to classification, of cancellations of and refusals to renew professional liability insurance policies and the reasons for such cancellation or refusal to renew said policies for the year ending on the thirty-first day of December next preceding.

(c) A person subject to the provisions of subsection (a) of this section shall be deemed in compliance with such subsection when providing dental services at a clinic licensed by the Department of Public Health that is recognized as tax exempt pursuant to Section 501(c)(3) of the Internal Revenue Code of 1986 or any successor internal revenue code, as may be amended from time to time, provided: (1) Such person is not compensated for such services; (2) the clinic does not charge patients for such services; (3) the clinic maintains professional liability insurance coverage in the amounts required by subsection (a) of this section for each aggregated forty hours of service or fraction thereof for such persons; (4) the clinic carries additional appropriate professional liability coverage on behalf of the clinic and its employees in the amounts of five hundred thousand dollars per occurrence, with an aggregate of not less than one million five hundred thousand dollars; and (5) the clinic maintains total professional liability coverage of not less than one million dollars per occurrence with an annual aggregate of not less than three million dollars.

Such person shall be subject to the provisions of subsection (a) of this section when providing direct patient care services in any setting other than such clinic. Nothing in this subsection shall be construed to relieve the clinic from any insurance requirements otherwise required by law.

(d) No person insured pursuant to the requirements of subsection (a) of this section with a claims-made medical malpractice insurance policy shall lose the right to unlimited additional extended reporting period coverage upon such person's permanent retirement from practice if such person solely provides professional services without charge at a clinic recognized as tax exempt under Section 501(c)(3) of said internal revenue code.

Secs 20-126e to 20-126g. Reserved for future use.

Appendix F

Volume 8, Issue 3 August, 2010

Central Regional Dental Testing Service, Inc.

The CRDTS Report

Acting Editor: Lynn M. Ray, BS, RDH

Launch Team for Hygiene Electronic Scoring !

Back Row: Janet Primiano, HI; Dave McDermott, President, Premier One; Kim Laudenslager, Staff; Tunday Anday, GA; Cynthia Fretland, MN; Darlene Carritt, NE; Gwen Hlava, NE; Dr. Julie Marshall, NE;
Front Row: Amber Riley-Burns, WA; Penny Fudally, ERC Chair; Marilyn Sailer, ND; Cathy Cornell, ND.

DENTAL HYGIENE UPDATE by Penny Fudally, RDH, MEd, Hygiene ERC Chair

The majority of the hygiene clinical testing is completed and we accomplished an incredible, successful examination season with the implementation of electronic scoring. To date we have tested over 1200 candidates in over 30 sites during this new technological era and more hygiene examinations for 2010 are scheduled in August, September and December. Teamwork, diligence and dedication made this a successful 2010 hygiene-testing year. Examiners worked hard to strive toward our goal of an outstanding national hygiene clinical examination. Through their collaboration, we continue to build a valid and reliable hygiene clinical examination and promote the high standards that CRDTS represents as a testing agency.

The picture above shows the first hygiene clinical examination team for 2010 utilizing the electronic scoring technology at Argosy University. This team, as well as 70 plus other hygiene examiners, embraced the concept and technological application of using electronic scoring devices with professionalism.

The CRDTS Hygiene Examination Review committee met on July 10-11, 2010, at the Kansas City Airport Hilton, Kansas City, Missouri. During the August Annual Steering meeting, recommendations from this committee regarding the 2011 Hygiene Examination will be addressed. This committee will continue to make every effort to address comments, suggestions and feedback given to this committee by examiners, candidates, patients and faculty. We place great significance on all input and value the information provided to this committee.

PRESIDENT'S MESSAGE

My how time flies! It seems that only a short time ago, I assumed the position of CRDTS' President and yet that occurred in November of 2008. In a few short weeks, I will turn the gavel over to Dr. Tony Malaktaris as he assumes the Presidency of CRDTS. I cannot think of a more capable person to lead CRDTS to new horizons.

As I look back over the last two years, I think it is instructive to appreciate where we were at that time so that we can measure what gains our organization has made. Two years ago, we were part of a larger organization with its own committees, structure, bylaws, and governance. CRDTS had little control over our destiny as we were usually outnumbered and outvoted on many important issues. Without going into unpleasant details, the bottom line is that CRDTS could not provide the necessary service to its member Boards and our associated educational institutions. We were failing them, and fortunately, our membership decided to withdraw from the ADEX experiment and once again become an active, independent test development and administrative agency. We quickly reactivated our dental and dental hygiene Examination Review Committees, rolled up our sleeves, and went to work. Under the leadership of our committee Chairs Penny Fudally, RDH and Dr. Steve Holcomb, we recruited excellent, dedicated and extremely talented committee members representing our state Dental Boards. Our teams have created the best exam constructs that I have ever been involved with. Our professional staff, including Ms. Kim Laudenslager, Ms. Kimber Cobb, and Ms. Lynn Ray, have worked tirelessly making our examinations what they are today.

Your Steering Committee approved the funding for an Invitational Conference meeting, at which important issues such as examination security and psychometric evaluation were explored as they relate to various components of licensure examination processes. CRDTS invited and funded participation from other testing agencies, including independent states. The professionalism and trust developed as a result of that conference will continue to pay dividends to CRDTS and our mission. The basic theme and tenets developed at that conference also provided the program for last year's Annual Meeting. I hope you believe as I do that the program was of great benefit to those in attendance.

One of the highlights of last year was the hiring of our Executive Director, Dr. Jake Lippert. Jake, a well-known CRDTS examiner, proves to be an excellent Executive Director with each encounter that I have with him. He has indeed brought our team together. As a result, our offices work seamlessly so that the goals established by our staff, our committees, and the Steering Committee can be achieved.
You will hear about further developments including the electronic scoring systems and the development of the Dental Therapist exam for the Minnesota Dental Board elsewhere in this newsletter and at our Annual Meeting. Our accomplishments are many and our work continues. I thank you, the CRDTS membership, for allowing me to be a part of this success.

MINNESOTA DENTAL THERAPIST TASK FORCE—Report by John Cosby, DMD, Chairman

On November 7, 2009 the CRDTS Steering Committee authorized the formation of an ad hoc committee for the purpose of creating a dental therapist clinical examination at the request of the Minnesota Board of Dentistry. As Chair of that committee, I appointed Dr. Steve Holcomb, Ms. Kimber McCoy, and Mrs. Lynn Ray to the committee, pictured here with Minnesota Board representatives, Dr. Joan Sheppard, Dr. David Linde and Mr. Marshall Shragg. We began to study the Minnesota statute which defines the tasks, skills, and abilities in the scope of practice for this new dental mid-level provider. Two educational programs were created in Minnesota for the purpose of providing didactic and clinical training for the Minnesota Dental Therapist. Metropolitan State University's program has seven students who are licensed RDH's, currently have a BS degree, have at least 1000 hours of clinical practice, and are working toward their Master's degree as a Dental Therapist. This program has a strong emphasis on public health and will graduate their first class in the summer of 2011.

The second program has been developed by the University of Minnesota School of Dentistry. Their program is designed to integrate the Dental Therapist with the dental students so that they are trained to be part of the dental team. One standard of care is taught and both dental and dental therapy students will work in the same clinical environment. The BS program in Dental Therapy requires a high school degree, 12 months of didactic prerequisites, and 28 months in the program. The Masters program is designed for adult learners, emphasizes public health leadership and education, and confers a professional degree at graduation with 28 months in the program.

On June 19, 2010, the CRDTS representatives met with representatives from both dental therapy programs and the Minnesota Board of Dentistry at the Board's office. The dental therapy scope of practice was reviewed along with the curricula

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Dental ERC Update

By Stephan Holcomb, D.M.D.

The 2011 dental examination format (manikin and patient-based) has been diligently reviewed and finalized by the Dental Examination Review Committee (DERC). The Summary of 2011 Changes includes combining the criteria for the anterior and posterior endodontic procedures (for scoring purposes only), medical history changes, updates to the amalgam and posterior composite criteria, multiple restorative treatment selection options and increased flexibility within the open schedule format.

The use of specific DERC subcommittees for meticulous scrutiny of the examination format has proven to be an increasingly effective mechanism for testing section review. The recommendations provided by the subcommittees are presented and discussed by the entire DERC before voting on the report submitted to the Executive and Steering Committees. All final decisions concerning the recommendations of the DERC are made by the CRDTS Steering Committee.

The Dental Calibration Committee (DCC) has received the 2011 report of the DERC. The task of the DCC is to develop calibration and standardization materials that accurately reflect the content and criteria of the approved examination format. The DCC is constantly in need of new clinical images of all parts of the examination. These images can include preparations, final restorations and radiographic images. The DCC welcomes all images of any level of performance – SAT, ACC, SUB or DEF. Please submit any images to Kimber McCoy and accept our appreciation!!

Once again, thank you for the opportunity to work with the dedicated and incredible professionals on the DERC and DCC. We solicit input from all examiners through either direct comments/suggestions or through the current examiner feedback process. The CRDTS National Dental Examination is a product of all of our efforts!

President-Elect's Message

by Tony Malaktaris, DDS

Greetings to all from the North Country; I hope everyone is having a great summer but the time is fast approaching for another annual meeting and the start of a new exam season. I for one am excited for both.

As President Elect my primary job for the year has been to organize the annual meeting being held in Kansas City on Aug. 26th—28th. Once again this year's annual meeting will concentrate on our Member States with speakers and break-out sessions devoted to educating and answering questions about CRDTS and our examinations. We will have Dave McDermott from Premiere One giving a Power Point Presentation on Electronic Scoring, showing what we have today and what we plan for the future. We will have Dr. Steve Holcomb along with Kimber and Lynn give another Exam Comparison to keep our Board Members current on what the differences are. We will have Joey Bly give a presentation on Central Office so we can show everyone what our great staff does to keep this organization running smoothly. Once again Dr. Marv Dvorak and Lynn Ray will give a presentation to our State Board representatives and new examiners. Lynn Ray and Kimber McCoy will provide examiner profiles this year and have worked tirelessly to gather the information needed to generate these reports.

As for my term as President, I hope to continue where our past-president left off with major goals to include development and administration of an examination for the Mid-level Provider Program in Minnesota; further development of the electronic scoring system; continued efforts to reestablish examinations in Iowa and Missouri; consideration of examination opportunities in new states. My list will continue to grow as the year progresses but the foundation is set and we must continue to improve and develop relationships with our Member States.

I would like to personally thank our staff at Central Office and in Oklahoma and Colorado for all they have done for CRDTS. Without these hard working and dedicated employees we would not have been able to bring CRDTS and our examinations to their current level and we will continue our work to take it to the next level.

Minnesota Dental Therapist Task Force Report (continued)

of both programs. Dr. Holcomb, CRDTS' dental ERC chair, gave a PowerPoint presentation outlining the basic constructs and requirements of the CRDTS Dental Examination. Kimber McCoy and Lynn Ray provided valuable input into this presentation. It was agreed by all participants that CRDTS would develop criteria comprising one standard of care that would not deviate from that required of dental candidates. The Minnesota Board of Dentistry would assist CRDTS in defining what content would be included in the clinical exam. This meeting of the Task Force was extremely productive, effective, and collegial. All participants benefitted and left with a clear understanding of our goals and processes that would be used in the examination development phase.

Dr. Holcomb will create a special subcommittee of the ERC for the purpose of defining criteria and content of this exam. We will publish our candidate manuals in January 2011, Beta test the Manikin exam in February, then in April, CRDTS will offer the entire exam for Metro State candidates and perhaps the manikin exam for Minnesota candidates. In September/ October of 2011, we will offer the patient based exam for the Minnesota candidates or perhaps the entire exam. Much work needs to be done within this next year and CRDTS is committed to develop a valid and reliable assessment process for these Dental Therapist candidates. This project is a unique demonstration of CRDTS' mission to serve the assessment needs of our Member State Boards.

The CRDTS Report

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CRDTS ANNUAL MEETING SPECIAL EVENTS

TOUR of KANSAS CITY:

Examiners, spouses, and guests are welcome to take part in a tour of Kansas City historical sites. We will view the Quality Hill area, Lewis & Clark Point, the Missouri River and many more. Stops will be made at Union Station, the National World War I Liberty Memorial and Kauffman Gardens. There is a $30 per person fee and space is limited so notify Central Office right away to reserve your spot.
We will be departing the Hilton at 8:30am, Friday August

PRESIDENT'S MEET & GREET:

Friday, August 27th

7:30—9:00 p.m.

Cash Bar and Snacks

DINNER AND DANCE:

Saturday, August 28th

6:00—10:00 p.m.

Casual Western Attire

Wildfire Dance Band

Cash Bar

Appendix G

Appendix H

The dental safety net in Connecticut

TRYFON BEAZOGLOU, Ph.D.; DENNIS HEFFLEY, Ph.D.; STEVEN LEPOWSKY, D.M.D.; JOANNA DOUGLASS, B.D.S., D.D.S.; MONICA LOPEZ; HOWARD BAILIT, D.M.D., Ph.D.

Background. Many poor, medically disabled and geographically isolated populations have difficulty accessing private-sector dental care and are considered underserved. To address this problem, public- and voluntary-sector organizations have established clinics and provide care to the underserved. Collectively, these clinics are known as "the dental safety net." The authors describe the dental safety net in Connecticut and examine the capacity and efficiency of this system to provide care to the noninstitutionalized underserved population of the state.

Methods. The authors describe Connecticut's dental safety net in terms of dentists, allied health staff members, operatories, patient visits and patients treated per dentist per year. The authors compare the productivity of safety-net dentists with that of private practitioners. They also estimate the capacity of the safety net to treat people enrolled in Medicaid and the State Children's Health Insurance Program.

Results. The safety net is made up of dental clinics in community health centers, hospitals, the dental school and public schools. One hundred eleven dentists, 38 hygienists and 95 dental assistants staff the clinics. Safety-net dentists have fewer patient visits and patients than do private practitioners. The Connecticut safety-net system has the capacity to treat about 28.2 percent of publicly insured patients.

Conclusions. The dental safety net is an important community resource, and greater use of allied dental personnel could substantially improve the capacity of the system to care for the poor and other underserved populations.

Key Words. Dental safety net; dental Medicaid; underserved populations.

The poor, medically disabled and geographically isolated have more difficulty accessing private-sector dental care than do more advantaged groups in the U.S. population.[1] To address this problem, federal, state and municipal governments and voluntary-sector organizations (for example, community hospitals) have established clinics that provide care to noninstitutionalized underserved people. Collectively, these dental facilities are known as the "dental safety net." Private practices that treat patients receiving Medicaid and other low-income patients are not included in the usual definition of the safety net.

Greater use of allied dental personnel could substantially improve the capacity of the dental safety-net system.

DENTAL SAFETY NET

A few studies have examined the size and capacity of the dental safety net at the national level[2] (H.B., R. Weaver, unpublished data, 2004). Although the safety net plays an important role in providing care to low-income and other disadvantaged groups, it has limited capacity relative to the size of the underserved population. One weakness of these studies is that their estimates of the size and capacity of the safety net are based on "order-of-magnitude guesses" rather than on the primary collection of data at the state level.

One study examined the capacity of the dental safety net in Illinois. Byck and colleagues[3] recently surveyed all Illinois dental safety-net clinics, and they reported a total of 95 federally qualified health centers (FQHCs), community health centers (CHCs), local health departments, private not-for-profit clinics, schools of dentistry and dental hygiene clinics, and school-based clinics. In 2000, these clinics provided a mean of 3,150 patient visits

per clinic, for a total of 300,000 patient visits per year. Assuming a mean of 2.2 visits per patient, the 95 clinics treated about 136,363 patients. These authors also reported the results from 57 clinics representing the three largest identified groups of community-based clinics.[4]

In this report, we describe the dental safety net in Connecticut and examine the capacity and efficiency of this system to provide care to the noninstitutionalized underserved population in the state.

MATERIALS AND METHODS

In 2003, we gathered information to describe the Medicaid and State Children's Health Insurance Program (SCHIP) in terms of enrolled members, utilization rates and reimbursement rates to dentists. We obtained these data from the Connecticut Department of Social Services, which is responsible for running the Medicaid and SCHIP programs.

We identified safety-net providers in the state from a comprehensive list compiled and continuously updated by the Connecticut Department of Public Health. We verified and augmented this list by examining Medicaid dental claims data for the year 2000-2001 and identified public- and voluntary-sector delivery sites and providers.

Medicaid fees in Connecticut are in the bottom first to seventh percentiles compared with other New England states.

To establish the capacity and structure of the state's safety net, we surveyed all facilities by telephone, written survey or both to obtain data regarding the number of full-time equivalent (FTE) dentists, hygienists, dental assistants and other staff members, as well as the number of dental operatories. FQHCs, CHCs and the state dental school also provided detailed output data regarding the number of patient visits and patients treated annually in their facilities. We combined the data from the FQHCs and CHCs.

To compare the productivity (that is, mean number of patient visits per year per dentist) of safety-net dentists with that of private practitioners, we first examined the mean number of allied health personnel and operatories per dentist in private general practices and in Connecticut safety-net clinics. We obtained the data for the former from the 2002 Survey of Dental Practice conducted by the American Dental Association.[5] We then adjusted the dental output of a dentist in private practice on the basis of the known output elasticities (that is, the percentage change in output over the percentage change in input) of allied health staff (.54) and operatories (.17) in private practices.[6] This calculation gives the output of private practices if they were configured the same way that safety-net clinics are configured.

We also estimated the percentage of Medicaid-enrolled children served by safety-net clinics versus private dental offices. We used Medicaid dental claims for children enrolled continuously for the year 2000-2001 to identify the two provider types. As part of this analysis, we also compared the mix of services provided to children. We conducted the latter analysis to assess the comparability of the output from safety-net clinics with that from private practices that treat the underserved.

RESULTS

Underserved patients and the Medicaid system. The disadvantaged population in Connecticut consists of two groups: Healthcare for UninSured Kids and Youths (HUSKY A) and SCHIP (HUSKY B). HUSKY A is composed of children in families with incomes at or below 185 percent of the federal poverty guidelines and families with incomes at or below 150 percent of the federal poverty guidelines. HUSKY B is composed of children in families with incomes above 185 percent of the federal poverty guidelines. Children in families with incomes between 185 and 235 percent of the federal poverty guidelines incur no premiums; those in families with incomes between 235 and 300 percent of the federal poverty guidelines incur modest premiums; and those in families with incomes higher than 300 percent of the federal poverty guidelines incur group premium rates negotiated by the state.[7]

In fiscal year (FY) 2001, 229,150 people, aged 0 to 21 years were enrolled in HUSKY A and 11,460 were enrolled in HUSKY B, for a total of 240,610 people.[7]

Approximately 29 percent of the Medicaid- and SCHIP-eligible population (aged 0 to 21 years) visited a dentist one or more times in FY 2001. Three hundred twelve private practitioners and 111 dentists working in safety-net facilities provided these services. These dentists represent 14.5 percent and 5.1 percent, respectively, of the total number of practicing dentists (N = 2,159) in

the state (T.B., H.B., L. Brown, M.L., D.H., unpublished data, 2003).

One reason for the overall low utilization rates is the low Medicaid reimbursement rates. Medicaid fees in Connecticut are in the bottom first to seventh percentiles compared with other New England states.[8]

TABLE 1

SIZE AND COMPOSITION OF DENTAL SAFETY NET IN CONNECTICUT, 2003.

TYPE OF FACILITY	NUMBER OF DENTAL CHAIRS	FTE* DENTISTS	FTE DENTAL HYGIENISTS	FTE DENTAL ASSISTANTS
Community Health Centers†	106	35	17	44
Hospitals	50	34	8	32
Public Schools	27	4	11	5
Dental School	38	38	2	14
TOTAL	221	111	38	95

* FTE: Full-time equivalent.
† Composed of federally qualified health centers and community health centers.

Safety-net clinics. Table 1 shows the different types of safety-net clinics in Connecticut and the mean FTE staffing for each clinic type. Community health centers (both FQHCs and CHCs) represent the largest component of the safety-net system in terms of dental chairs (106) and FTE dentists (35). These community clinics also employ the largest number of hygienists (17) and assistants (44), both absolutely and relative to the number of FTE dentists.

Four community teaching hospitals, located in inner-city neighborhoods, have accredited general practice dental residency programs and employ 34 FTE staff dentists and residents, who provide care mainly to underserved patients. These clinics had fewer dental chairs and employed somewhat fewer hygienists and assistants per dentist than did the CHCs.

About 27 public schools have a dental facility in which dental services—mainly screening and preventive—are provided to children. Only six school districts provided comprehensive dental care. Eleven dental hygienists, four FTE dentists and five FTE dental assistants staffed these clinics in 2003.

Twenty pediatric dentistry and 18 advanced education in general dentistry (AEGD) residents and fellows from The University of Connecticut School of Dental Medicine, Farmington, deliver dental care in safety-net clinics in the community or in the dental school. These 38 residents and fellows have access to 38 chairs, but only two hygienists and 14 assistants are available to provide care. Dental students also provide dental care to underserved patients, but they were not included in our analysis because they are not licensed dentists. Likewise, we did not include specialty residents in this study, because many of their patients are not underserved.

In total, the safety-net system in Connecticut had 221 dental chairs and employed 111 FTE dentists or dental residents, 38 hygienists and 95 dental assistants in 2003.

Visits and patients per clinic. Table 2 presents the number of patient visits and patients treated per dentist in CHCs and the dental school AEGD and pediatric dentistry residency programs (combined) and, for comparison purposes, the number of visits and patients treated per private independent practitioner nationally.

CHC staff dentists and AEGD and pediatric dentistry residents provided approximately the same number of patient visits per dentist, but the residents treated 47 percent fewer patients. Evidently, the residents saw each of their patients more times than did CHC staff dentists. As Table 2 shows, both groups of safety-net providers provided far fewer visits and treated fewer patients per dentist than did private practitioners.

To assess differences in productivity between safety-net dentists and dentists in private practice, we examined the current structure of the safety-net system and private practices nationally with respect to dental chairs, hygienists and assistants. We found that the safety-net dental clinics employed 34.3 percent fewer allied health staff members and used 48.6 percent fewer operatories per dentist than did private practices.

The number of patient visits per private practitioner, when adjusted to reflect the number of operatories and allied health personnel per dentist in safety-net clinics, was estimated to be 2,072 (Table 2). Thus, with the same number of operatories and allied health personnel as safety-net clinics, private practices were only slightly

TABLE 2

ANNUAL PATIENT VISITS PER DENTIST AND PATIENTS PER DENTIST IN COMMUNITY HEALTH CENTERS, DENTAL SCHOOL RESIDENCY PROGRAMS AND PRIVATE PRACTICES.

PROVIDER TYPE	NUMBER OF PATIENT VISITS PER DENTIST	NUMBER OF PATIENTS PER DENTIST
Community Health Centers	2,044	612
Dental School AEGD* and Pediatric Dentistry Residency Programs	1,907	415
Private Practitioners	3,775	1,110
Adjusted Private Practitioners†	2,072	—‡

* AEGD: Advanced education in general dentistry.
† Adjusted to reflect the number of operatories and allied health personnel per dentist in safety-net clinics.
‡ Not applicable.

more productive (1.4 percent) than CHCs with regard to the number of patient visits per dentist. The larger difference (8.0 percent) between private practitioners and AEGD and pediatric residency programs may reflect the educational component of these programs.

If we assume that the entire safety-net system in Connecticut had the same output capacity per dentist as did CHCs, the 111 FTE dentists providing care in safety-net clinics could treat about 67,932 patients annually. This represents about 28.2 percent of the people currently enrolled in the HUSKY A and B programs. This does not include most adults covered by public dental insurance and the thousands of adults and children who are underserved but not eligible for, or not enrolled in, Medicaid or SCHIP.

To determine the actual contribution of the safety-net system to the care of underserved children in Connecticut, we analyzed Medicaid and SCHIP claims from 100,000 children who were continuously enrolled in these programs in 2000-2001. Table 3 shows that 67 to 72 percent of these children received care in the offices of private practitioners and 28 to 33 percent received care in safety-net clinics.

Table 3 also shows the mix of services provided to children enrolled in Medicaid and SCHIP by dentists in safety-net clinics and private practitioners. The two patterns of care are not statistically different, suggesting that it is legitimate to compare the productivity of the two systems, because they are providing the same mix of services to children enrolled in the Medicaid and SCHIP programs.

DISCUSSION

This study of dental safety-net clinics in Connecticut suggests that CHCs, hospital clinics and dental school clinics are the largest component of the safety-net system in terms of numbers of dental chairs, FTE dentists and allied health personnel. An examination of the safety-net system at the national level also showed that these three organizations accounted for most of the system's capacity (H.B., R. Weaver, unpublished data, 2004).

These clinics play a critical role in caring for the underserved population. Many patients from low-income families do not have the resources to pay for dental care out of pocket, and for those covered by public insurance, access to care is limited because relatively few private-sector dentists in Connecticut (14.5 percent) participate in the Medicaid and SCHIP programs. This is not surprising in light of the fact that Medicaid reimbursement fees are below the seventh percentile for the region.

In addition, because low-income patients often come from single-parent families and use public transportation, it is difficult and expensive for them to travel outside their immediate neighborhoods to receive dental care. Thus, safety-net clinics represent a critical resource for low-income communities.

However, relative to the total number of underserved patients, safety-net clinics have limited capacity and are able to treat only a small percentage of the targeted population (that is, about 29 percent of enrolled children). This lack of capacity is made more acute by the current staffing patterns of safety-net clinics; specifically, they employ relatively few dental hygienists and assistants. This is a problem because a large percentage of children—and to a lesser extent adults—needs only diagnostic and preventive services. For example, according to the Third National Health and Nutrition Examination

TABLE 3

PREVENTIVE AND RESTORATIVE SERVICES PROVIDED TO CHILDREN ENROLLED IN MEDICAID AND SCHIP* BY SAFETY-NET CLINICS AND PRIVATE PRACTICES IN CONNECTICUT.†

PROVIDER TYPE	PREVENTIVE PROCEDURE		RESTORATIVE PROCEDURE	
	Number (Percentage) of Procedures	Number (Percentage) of Children Treated	Number (Percentage) of Procedures	Number (Percentage) of Children Treated
Safety-Net Clinics	13,372 (33.0)	25,984 (33.0)	7,688 (30.7)	16,368 (27.9)
Private Practices	27,127 (67.0)	52,728 (67.0)	17,367 (69.3)	42,282 (72.1)
TOTAL	40,499 (100)	78,712 (100)	25,055 (100)	58,650 (100)

* SCHIP: State Children's Health Insurance Program.
† Source: Children's Health Council, Hartford, Conn., unpublished data.

Survey, about 50 percent of children from lower-income families have untreated carious teeth.[9] Because of a lack of hygienists, safety-net system dentists appear to spend considerable time providing preventive services.

Likewise, Hillman and colleagues[10] found that dentists are far more productive when they work with full-time dental assistants. In Connecticut, assistants are in short supply, and many safety-net dentists work without this important resource.

Clearly, greater use of dental hygienists and assistants would have a significant impact on the capacity of safety-net clinics to provide care to underserved people. If safety-net clinics had the same allied health staffing levels as those of private practices, we estimate that the output of the safety-net clinics in Connecticut would increase by at least 80 percent, a substantial expansion over the present system.

Interestingly, the ratio of dentists to allied health care personnel in Connecticut is similar to that in Illinois safety-net clinics.[3,4] This suggests that the understaffing of hygienists and assistants in the two states may be related to the funding of safety-net clinics.

The similar number of patient visits per dentist in private dental practices and safety-net clinics (with the same operatory and staffing configurations) was an unexpected finding, because private practitioners are paid on a fee-for-service basis, while most safety-net clinic dentists are salaried. Hillman and colleagues[10] and Stearns and colleagues[11] reported that physicians paid on a fee-for-service basis see more patients and produce more services per unit of time than do salaried physicians. Use of a different output measure (for example, dollar value of services) might show a difference in productivity between private practitioners and safety-net dentists. This issue merits further investigation.

With a limited safety-net system, it is no surprise that the great majority of underserved patients obtain dental care from private practitioners. In this study, 69 percent of children enrolled in Medicaid who obtained care did so in private offices. As we noted above, this high percentage is all the more remarkable because Connecticut Medicaid dental reimbursement fees are so low.

CONCLUSION

This study examined the dental safety net in Connecticut and found that CHCs, hospital dental residency programs, public schools and the dental school AEGD and pediatric dentistry residency programs are the primary providers of care, employing about 111 dentists. The system uses fewer operatories and allied dental staff members per dentist than do private practitioners, and it generates fewer visits per dentist. However, when we adjusted the number of patient visits per private practitioner to reflect the number of operatories and allied health personnel per dentist in safety-net clinics, the number of visits per dentist was almost the same.

As an upper-boundary estimate, the safety-net system has the capacity to care for about 67,932 patients per year; this is 28.2 percent of the patients enrolled in public dental insurance plans in Connecticut. An examination of Medicaid claims for the year 2000-2001 revealed that most enrolled children (69 percent) obtained their

dental care from private practitioners. The dental safety-net system is an important community resource for providing care to the underserved population, and greater use of allied dental personnel could substantially improve the capacity of the system. ■

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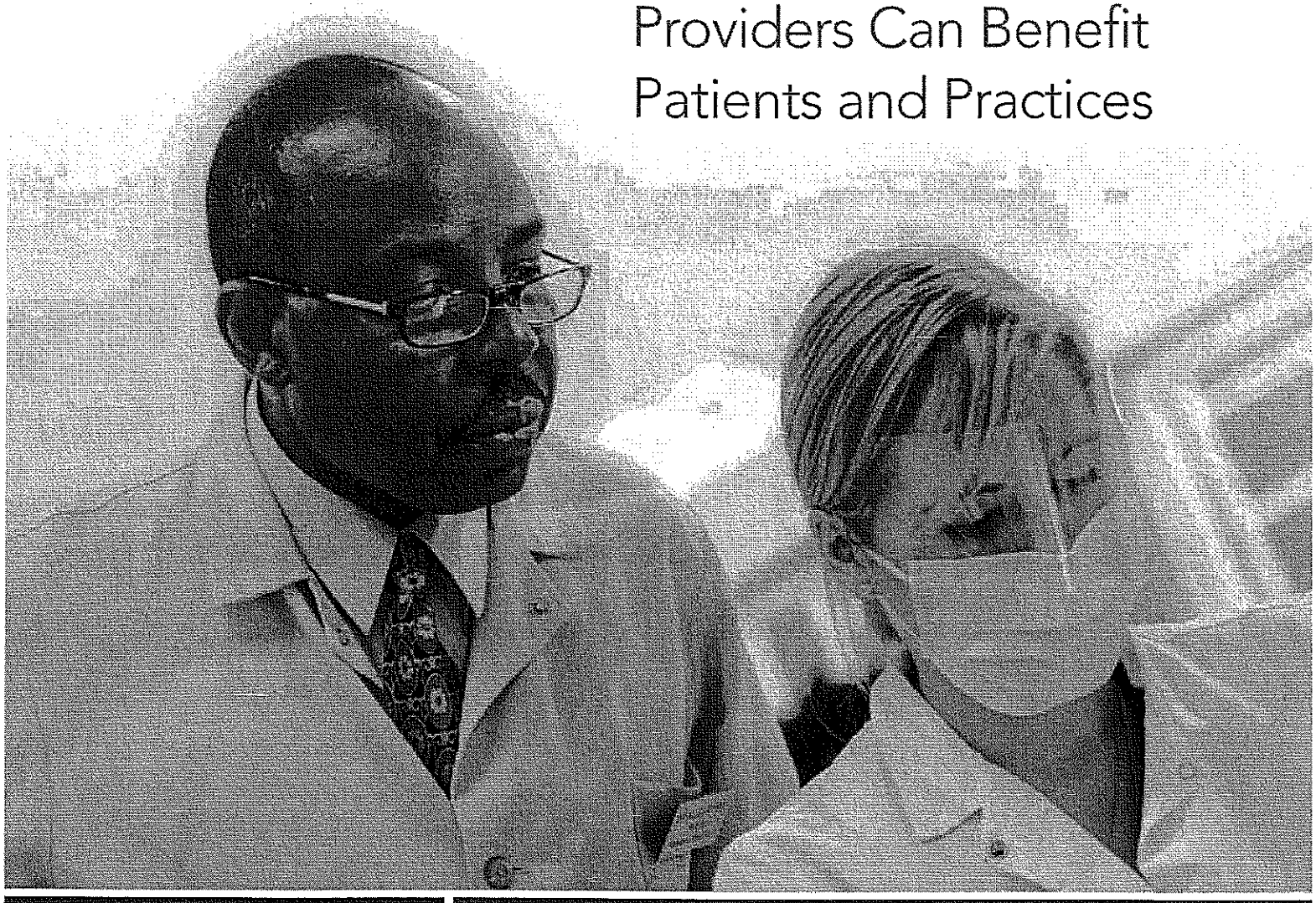
THE PEW CENTER ON THE STATES

It Takes a Team

How New Dental Providers Can Benefit Patients and Practices



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The Pew Center on the States is a division of The Pew Charitable Trusts that identifies and advances effective solutions to critical issues facing states. Pew is a nonprofit organization that applies a rigorous, analytical approach to improve public policy, inform the public and stimulate civic life.

The Pew Children's Dental Campaign works to promote policies that will help millions of children maintain healthy teeth, get the care they need and come to school ready to learn.

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The calculator used in this report was developed for the Pew Children's Dental Campaign by Scott & Company, Inc., a health care and business management consultancy, principal investigator Mary Kate Scott.

For additional information on Pew and the Children's Dental Campaign, please visit www.pewcenteronthestates.org/dental.

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Contents

Introduction

Policy makers in a number of states are considering the creation of new types of licensed professionals who would work with dentists to deliver primary dental care to children and other underserved patients. This report is the first to examine the potential effects of dental therapists and hygienist-therapists—also called allied providers—on the productivity and profits of private dental practices, where 92 percent of the nation's dentists work.[1]

Some dentists are concerned that authorizing new types of dental professionals could negatively affect their businesses. Pew's analysis, however, shows that most private-practice dentists who hire an allied provider can serve more patients while maintaining or improving their financial bottom line. Importantly, most dentists who add a dental therapist or hygienist-therapist to their team can treat more Medicaid enrollees and still preserve or increase their income. Three representative scenarios in the following pages indicate that even practices focused on preventive care could benefit from employing these new allied providers.

States have pressing reasons to find cost-effective ways to expand the patient capacity of the dental health system. Nationwide, 49 million Americans live in areas federally designated as having a shortage of dental providers.[2] Limited access is a particular problem for poor children—17 million of them go without care each year[3]—and is fueled by multiple factors, including low reimbursement rates offered by state Medicaid programs. The imbalance between provider supply and patient demand is likely to increase due to the federal health care reform law enacted in 2010, which will extend dental insurance to an estimated 5.3 million more children by 2014.[4]

Hiring new types of professionals would build on dentists' experience with dental hygienists. Hygienists are employed by most practices and trained to provide a set of preventive services.[5] Dentists have learned that having these practitioners on their team means they can devote more of their time to more sophisticated procedures and enhance their practices' income.

New types of allied providers present dental practices with a similar opportunity. Dental therapists can offer a limited array of restorative services—for example, filling cavities. These practitioners have existed for many years in Great Britain, Canada, New Zealand and other countries, and since 2005 have served in Native Alaskan communities. Hygienist-therapists can be trained to deliver both preventive and restorative care. (See Exhibit 1 on page 7 for a summary of procedures each type of provider could perform.)

As a companion to this report, the Pew Children's Dental Campaign is releasing an economic tool—called the Productivity and Profit Calculator—that evaluates new professionals' impact in the context of real-world dental practices. Policy makers, advocates and dentists can use this calculator to assess the unique variables from their states or communities to better understand the potential effects of adding allied providers to the dental team.

Pew's desire to examine and strengthen the dental workforce is not new. Indeed, from 1985 to 1991, the Pew National Dental Education Program invested $8.75 million in strategic planning and curriculum development for six U.S. dental schools.

State policy changes are essential to ensure that today's unmet need for dental care—and the coming rise in demand created by health care reform—is met by a larger supply of dental professionals. The multiple private-practice scenarios Pew tested demonstrate that states' authorization of allied providers is a sound strategy that can significantly improve access for low-income patients. By employing these new providers, dentists can create a win-win outcome: making sure that coverage will translate to actual dental care without weakening their practices' financial stability.

Key Findings

The three scenarios outlined in this report assess how current and new types of allied providers could change the patient capacity and revenues of private dental practices. These providers include registered dental hygienists and two new types: dental therapists and dental hygienist-therapists.

These scenarios were calculated using the Productivity and Profit Calculator, a financial tool created for Pew by Scott & Company, Inc., a California-based firm that works with organizations interested in developing or assessing new business models in health care. Scott & Company developed the calculator in close consultation with a panel of dentists, dental hygienists and dental office managers.[6]

■ **Allied providers can strengthen the productivity and financial stability of dental practices.**

When serving only privately insured patients, all practice types tested—solo pediatric, solo general and small group—increased their productivity and earnings by adding any one of the three allied providers. Solo practices, where most dentists work, saw profit gains of between 17 and 54 percent.

■ **Allied providers can help practices treat more Medicaid-insured patients in a financially sustainable way.**

By raising the number of patients served each day, allied providers can make it possible for most existing private practices to care for Medicaid-enrolled patients without sacrificing profitability. This is noteworthy because most dentists do not accept Medicaid patients.[7]

Consider the example of a solo general dental practice in a state with a Medicaid reimbursement rate of 60 percent of a dentist's fees—a rate that is the 50-state average and is widely cited as a practice's overhead costs. (As of 2008, 24 states and the District of Columbia offered reimbursements above 60 percent.) When a dental therapist is added to the team and the practice shifts from treating only the privately insured to a patient mix of 80 percent privately insured and 20 percent Medicaid-enrolled, pre-tax profits increase by 6 percent.

■ **Medicaid reimbursement rates play a critical role.**

Reimbursement rates that are set too low discourage dentists' participation in Medicaid and contribute to the access problem for children. As Pew's analysis reveals, inadequate reimbursements also weaken the financial viability of hiring allied providers.

In scenarios using a Medicaid reimbursement rate of 60 percent a solo general dental practice's profits rise when hiring a dental therapist or hygienist-therapist and moving from a patient population that is entirely privately insured to one in which 20 percent of patients are enrolled in Medicaid.

By contrast, in scenarios using a rate of 30 percent (as of 2008, only four states had Medicaid rates paying dentists below 40 percent) the addition of allied providers creates productivity gains but not higher earnings. Yet, even in this case, a solo dental practice seeing more low-income patients performs better financially with an allied provider on the team than without one.

Although raising reimbursement rates is difficult during tight fiscal times, research confirms that doing so is a smart investment that improves access. For example, after Alabama and Tennessee raised their rates, the number of enrollees receiving dental care more than doubled.[8]

- **Fully utilizing allied providers is key to realizing productivity and profit gains.**

Given their large fixed costs, dental practices need to maintain steady, high patient volume to ensure financial viability.[9] In all scenarios tested, hygienist-therapists—the provider with the broadest scope of services among the three types studied—are better able to generate revenue that covers the costs of their employment and benefits the practice's bottom line. (For more details on the provider utilization issue, see "The Utilization Factor" on page 9.)

Gains in productivity and profits are more likely to occur if the dental community and state policy makers ensure that allied providers are seamlessly integrated into existing dental practices. Dental education should train dentists to manage a team of professionals and work efficiently with allied providers. States must review their Medicaid policies to confirm that new types of providers can be properly reimbursed for services they deliver. (For more considerations that policy makers should weigh, see "Policy Implications" on page 16.)

Why Access to Dental Care Matters

Children's dental care—especially in low-income communities—is the most prevalent unmet health need in the United States, and it has real consequences for kids and for our nation.[10] Dental problems cause absences from school, an inability to focus in class, a decline in overall health, worsened job prospects in adulthood, and—in extreme cases—premature death. Moreover, increased demands on public health systems, poor performance in school and lost employee productivity all cost taxpayers in both the short and long terms.[11] For example:

- In a single year, students may miss as many as 51 million hours of school due to dental health problems.[12] In California alone, 504,000 children ages five to 17 were absent at least one school day in 2007 due to a toothache or other dental concern. The state's kids missed a staggering total of 874,000 school days that year due to dental problems.[13]

- A year-long study of five major hospital systems in the Minneapolis-St. Paul area revealed that patients made more than 10,000 emergency room visits for dental problems, such as toothaches or abscesses, at a total cost of more than $4.7 million.[14]

- Individuals who received inadequate dental care as children often miss work to deal with ongoing oral health problems. An estimated 164 million hours of work are missed each year because of dental issues.[15]
- A 2008 study of the armed forces found that 52 percent of new recruits had dental problems that needed urgent attention and would delay overseas deployments.[16]
- Dental problems can hurt a person's ability to find a job. A University of Nebraska study confirmed a widely held but little-discussed prejudice: People who are missing front teeth are seen to be less intelligent and less trustworthy than people without a gap in their smiles.[17]

EDUCATION AND SALARY OF ALLIED PROVIDERS

State policy makers considering new dental workforce models must decide what level of education will be required of allied providers. International experience reveals that two or three years of post-high school training is sufficient to produce practitioners with the necessary skills to deliver quality care.[18]

Given that more education generally results in higher earnings, the Productivity and Profit Calculator uses an allied provider's salary as a proxy for education.[19] When setting education requirements, policy makers should be mindful that practitioners who are required to undergo lengthier periods of training or education generally demand higher salaries. Based on the calculator's analyses, lengthier periods of education will moderately reduce the revenue benefits that dentists would otherwise accrue by hiring new providers.[20]

How the Calculator Tests the Economics of Allied Providers

The Productivity and Profit Calculator is an economic tool that provides information to help dentists and policy makers understand how adding current and new types of allied providers (with distinct scopes of dental practice, levels of training and amounts of supervision) could affect the revenues and productivity of different dental practices.

The calculator is a model that is intended to gauge the direction and magnitude of the gain or loss to earnings and productivity associated with hiring allied providers. It is intended for illustrative purposes only and should not be relied upon as a business-planning tool to forecast actual profit and loss.

Variables also may be adjusted to account for Medicaid participation or to test a provider model that differs from those presented in the dental practice scenarios. (For more information on how the calculator was developed, see "Methodology" on page 18.)

The scenarios start by assessing the impact a practice experiences when hiring a registered dental hygienist. The calculator includes two new types of providers in addition to a registered dental hygienist. The first is the "dental therapist," who would be certified to perform a limited set of preventive and restorative services. The second is the "hygienist-therapist," who would have training necessary for a larger range of restorative and preventive services. These terms reflect the outlines of provider models being explored by states; however, this report is not intended to advocate for a specific type of allied provider. See Exhibit 1, which describes the scope of services performed by each provider.

Exhibit 1

Summary of Dental Procedures Included in the Calculator[21]

Category of Services	Procedures Provided by Dentists and Allied Providers*	Dental Hygienist	Dental Therapist	Hygienist-Therapist	Dentist (Owner or Associate)
Diagnostic	Oral evaluations			●	●
Radiographs/imaging	Panoramic X-ray	●	●	●	●
Preventive	Cleanings	●	●	●	●
	Sealants	●	●	●	●
Restorative	Silver fillings		●	●	●
	Tooth-Colored fillings		●	●	●
	Prefabricated stainless crown		●	●	●
	Temporary filling		●	●	●
	Temporary crown			●	●
	Permanent crown				●
Endodontics	Pulpotomy**		●	●	●
Periodontics	Non-surgical services	●		●	●
Prosthodontics	Complete dentures				●
Extractions	Simple extractions of primary or permanent teeth		●	●	●

Exhibit 1 enumerates the procedures included in the calculator and is not intended as a comprehensive list reflecting the complete scope of care offered by dentists, who may provide other sophisticated procedures, such as root canal therapy or orthodontia.

In practice, allied providers have different scopes of services and go by different names. New providers already are being trained in Minnesota and deployed in parts of Alaska. In 2009, the Minnesota legislature authorized the creation of the bachelor's-level dental therapist and the master's-level advanced dental therapist.[22] In 2005, dental health aide therapists (DHAT) began to be deployed to remote Alaska Native communities. DHATs are trained in a two-year program to provide oral exams and preventive services and to conduct basic restorative services and tooth extraction.[23]

* These are non-technical descriptions of the procedures contained in the calculator. For the technical names of the procedures, as well as the Current Dental Terminology codes they fall under, see Tab 1, "Procedures, Time, Fee" of the Productivity and Profit Calculator.

**A pulpotomy is a procedure for removing infected tissue from a primary tooth.

SOURCE: Pew Center on the States, 2010.

Scenarios

The Productivity and Profit Calculator has been used to determine the impact of adding allied providers on three types of private dental practices:

1. A solo, pediatric dental practice, with a dentist, two dental assistants and administrative support
2. A solo, general practice, with a staff structure similar to type 1 above
3. A small-group practice with a dentist owner, two associate dentists, six dental assistants and administrative support

Each of these scenarios begins with an overview of the practice being tested—its existing staff, annual profits and approximate productivity. In the baseline case, the practices are assumed to have a primarily preventive-diagnostic case mix, and to not serve Medicaid patients. This baseline scenario is then adjusted to reflect the effect of hiring each of the three different allied providers.

A second set of graphs demonstrates the impact of modifying the patient mix from 100 percent privately insured to a combination of 80 percent privately insured and 20 percent Medicaid-enrolled. Most dentists do not accept Medicaid patients, and shifting their practices to include 20 percent Medicaid patients is viewed as a significant yet realistic shift.[24] In addition, these scenarios measure this effect at varying Medicaid reimbursement rates—both with and without the addition of allied providers.

Additional variations on all practice models were tested to capture the effects of reducing utilization (described in "The Utilization Factor" on page 9).

Although these scenarios are intended to represent the majority of dental practices and the better-known new provider types, those who wish to use the calculator to assess their local circumstances can and should alter the model to more closely approximate the existing dental practices in their area and to test providers with differing scopes of practice.

The calculator was developed in consultation with an advisory panel of private-practice dentists. This panel offered input on the assumptions regarding the procedures included in the calculator, the time required to perform each procedure and the costs related to operating a dental practice (wages, supplies and capital expenditures). Taxes are not accounted for in the model.

THE UTILIZATION FACTOR

The utilization rate—the percentage of working hours spent treating patients—is a variable that significantly shapes the financial impact that an allied provider has on a private dental practice. The data presented in the scenarios were generated assuming a utilization rate of 90 percent—which takes into account time spent on lunch, breaks and administrative tasks, leaving 6.12 hours per day for patient care, 244 working days a year. This utilization rate was chosen because it closely reflects the average utilization rate reported by the American Dental Association for general dentists who operate solo practices.[25]

Utilization rates may be lower than 90 percent for several reasons. A new practice may take time to develop a regular stream of patients. Missed appointments may create down-time, and economic slumps may reduce the frequency with which patients seek dental care.

Yet, even when working at less than a 90 percent utilization rate, new types of providers can contribute positive financial benefits to a dental practice. A solo pediatric practice serving only privately insured patients sees a 10 to 35 percent improvement over its baseline profit ($320,593) by hiring any of the three allied providers, even if the new practitioner has only a 75 percent utilization rate and the dentist is busy 90 percent of the time.

The utilization rate becomes more critical when the practice serves Medicaid patients, because Medicaid reimbursements ordinarily are lower than dental practices' usual fees.

States focusing on deploying new allied providers to improve access for Medicaid enrollees must consider methods to help enrollees keep appointments so that dental practices can operate sustainably.

Other scenarios can be tested by adjusting the utilization rates of the dentist and other team members when using the calculator.

Where possible, this information was validated using sources such as the American Dental Association's Survey of Dental Practice. See the "Methodology" section for more details.

The calculator, step-by-step instructions for using it, complete lists of financial data, variables for each scenario and detailed findings are accessible at **www.pewcenteronthestates.org/ittakesateam**.

Impact on a Solo Pediatric Dental Practice

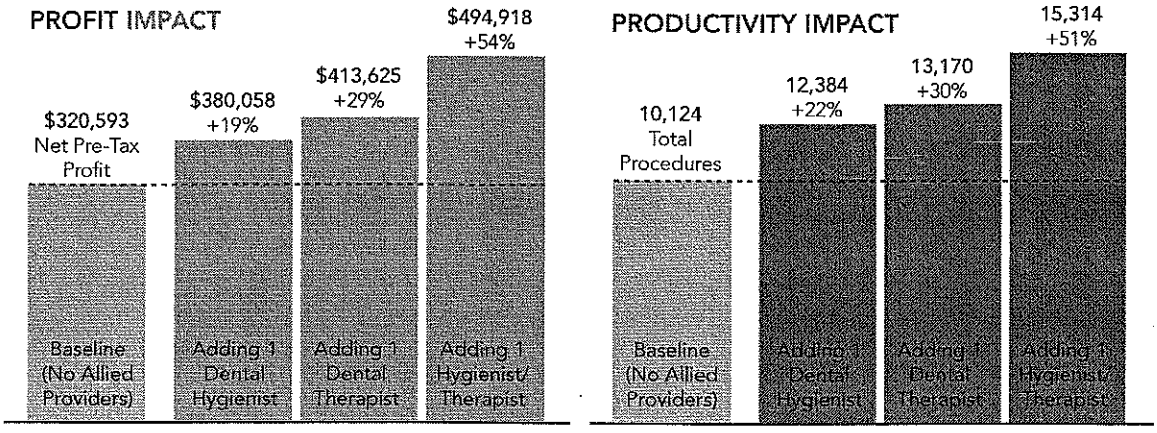
Independent dentists, who run the majority of dental practices in the United States, generally concentrate on providing preventive care and are supported by dental assistants and office staff.[26] The calculator tested the effect of introducing an allied provider into this type of practice. The assessment for this scenario was based on a pediatric dentist with a 2,000-square-foot office and four operatories (rooms with patient chairs), two dental assistants, two support staff and appropriate equipment.

■ This solo pediatric dentist serves the privately insured and generates pre-tax profits of $320,593. The addition of any allied provider yielded higher profits. The practice's earnings rose 19 percent when a dental hygienist was hired, 29 percent when a dental therapist was added and 54 percent when a hygienist-therapist was hired.

■ This practice performs an estimated 10,124 procedures annually, including hygiene, restorative and endodontic procedures. The number of patient-care procedures performed by the practice

Exhibit 2

Allied Providers' Impact on a Solo Pediatric Dental Practice



SOURCE: Pew Center on the States, 2010.

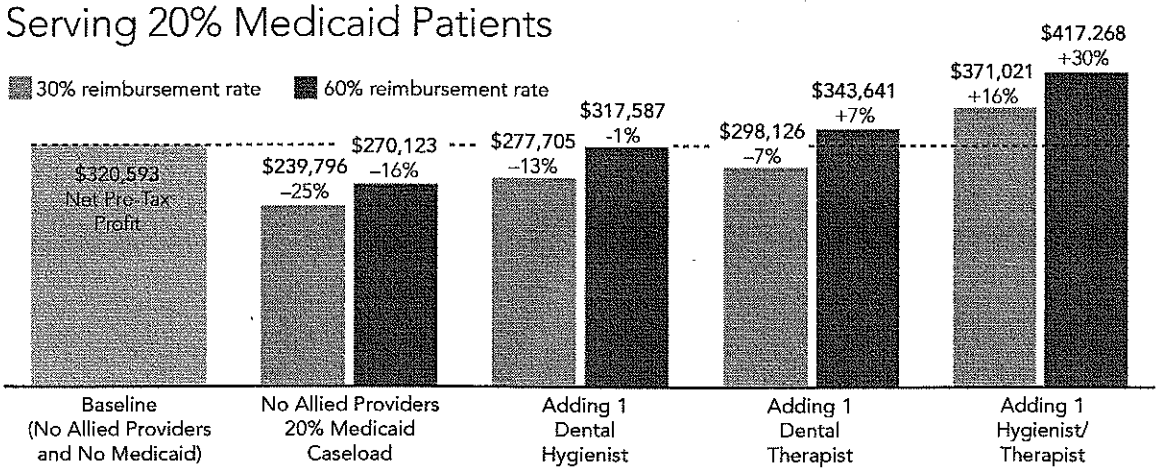
jumped between 22 and 51 percent when a new provider was hired. Notably, the earnings and productivity gains were greater when the allied provider's scope of services was greater (Exhibit 2).

■ Adding a dental therapist or hygienist-therapist, who can perform some restorative procedures, also enables this pediatric practice to devote up to 20 percent of its time to Medicaid-enrolled patients and still increase its income. In this scenario, Medicaid reimbursement rates are assumed to be 60 percent of the practice's usual fees.

■ A Medicaid rate of 30 percent creates a significantly different outcome than a 60 percent rate. Adding a dental therapist to this pediatric practice can increase profits by 7 percent when the reimbursement is higher, but the practice's earnings fall 7 percent with a Medicaid rate of 30 percent.[27] Regardless of the reimbursement rate, a pediatric dentist's solo practice fares much worse financially when serving 20 percent Medicaid-enrolled patients without adding a new provider (Exhibit 3).

Exhibit 3

Profit Impact on a **Solo Pediatric Dental Practice** Serving 20% Medicaid Patients



SOURCE: Pew Center on the States, 2010.

Impact on a Solo General Dental Practice

The second scenario examines a solo general dental practice that serves both adults and children. In general, the findings were very similar to the findings for solo pediatric practices. Operating at 90 percent utilization, this practice saw a profit of about $337,242.

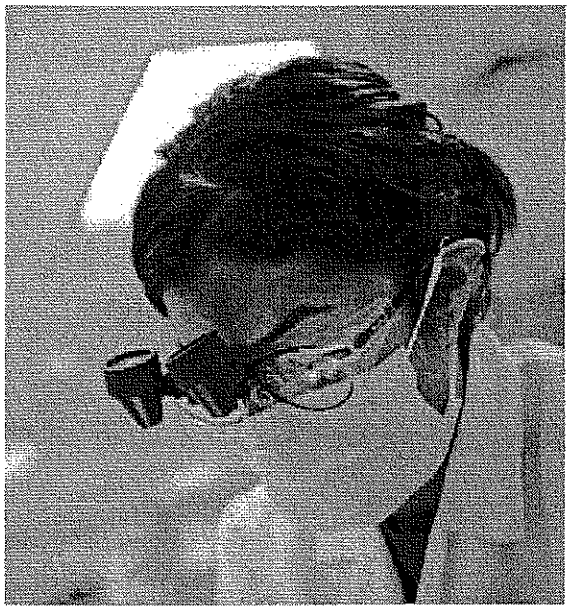
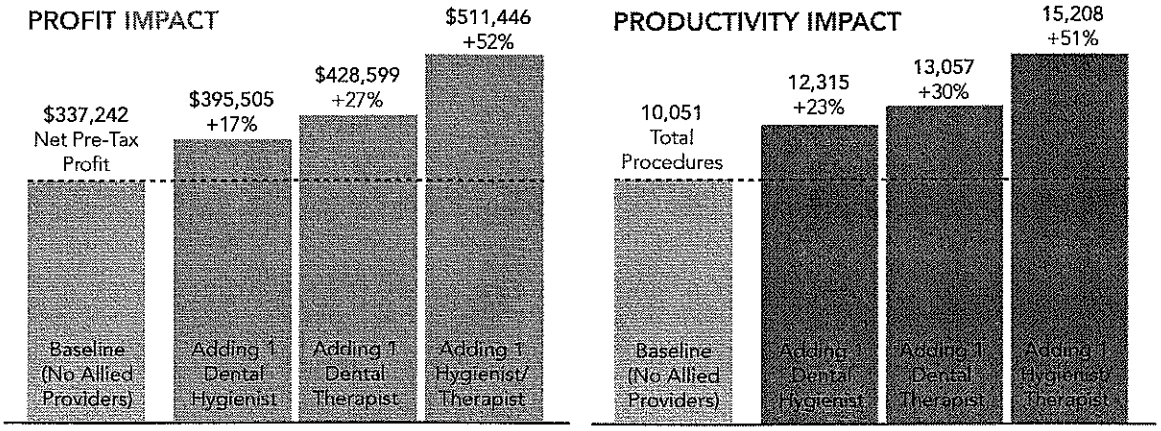


Exhibit 4

Allied Providers' Impact on a Solo General Dental Practice



SOURCE: Pew Center on the States, 2010.

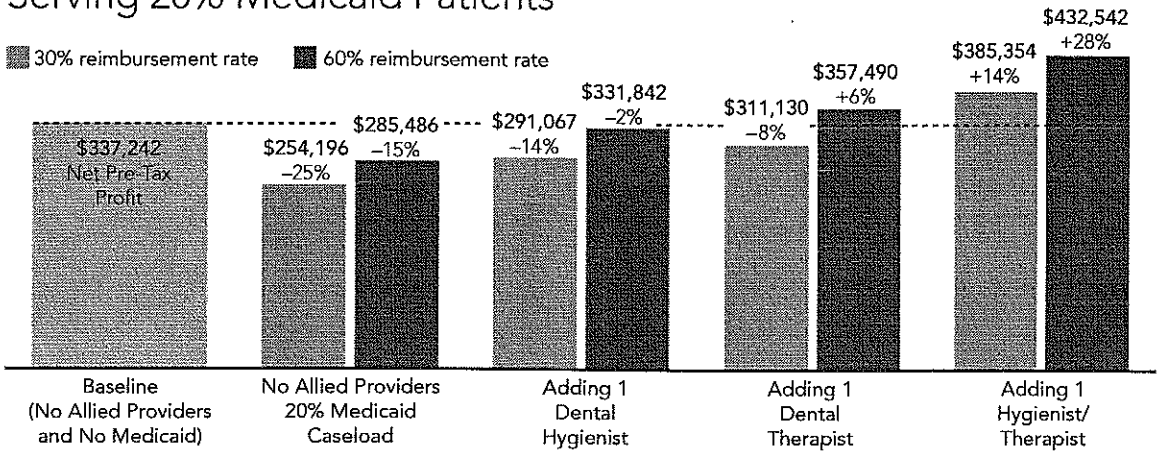
- When adding allied providers to this practice, profits increased 17 percent with a dental hygienist, 27 percent with a dental therapist and 52 percent with a hygienist-therapist (Exhibit 4).

- Hiring a new provider caused this practice's productivity to climb between 23 percent and 51 percent, depending upon the new team member's scope of services (Exhibit 4).

- When the practice's patient mix was modified to include 20 percent Medicaid-enrolled patients, a dental therapist or a hygienist-therapist bolstered the practice's pre-tax profits in three out of the four instances that were tested. These results were similar to those from Scenario 1 (Exhibit 5).

Exhibit 5

Profit Impact on a **Solo General Dental Practice** Serving 20% Medicaid Patients



SOURCE: Pew Center on the States, 2010.

Impact on a Small Group Practice with Associate Dentists

The small group practice is defined as a single owner-dentist with two or more associate dentists. The associate dentists provide the complete set of dental procedures and are compensated at 30 percent of the fees for the procedures they perform. In this scenario, the office is 4,000 square feet with eight operatories and associated equipment, such as additional sterilization equipment, digital cameras, office computers and furniture. The team includes two dental assistants for each dentist and three office support staff.

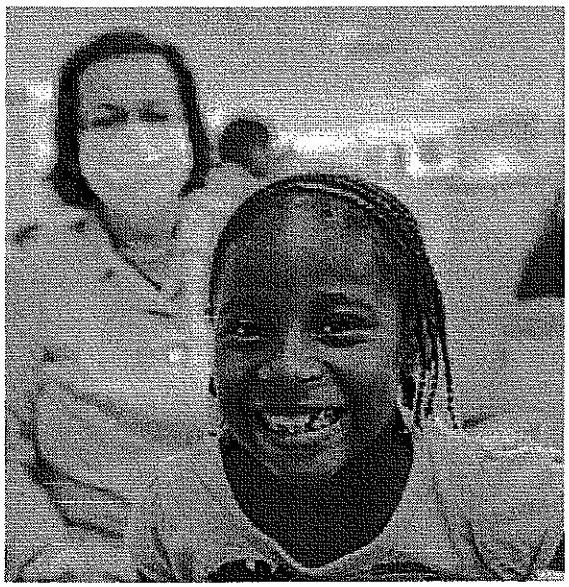
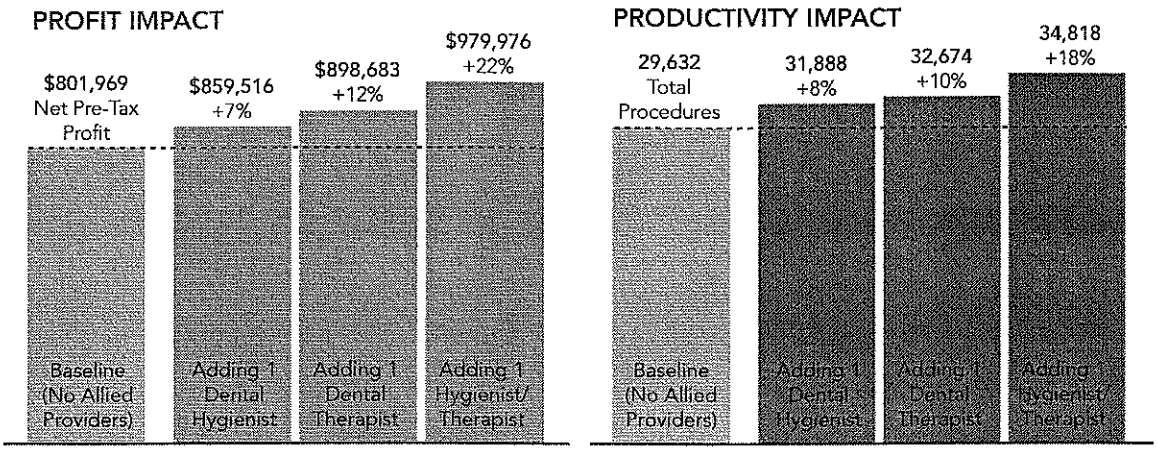


Exhibit 6

Allied Providers' Impact on a **Small Group Dental Practice**



SOURCE: Pew Center on the States, 2010.

■ This practice has an annual pre-tax profit of $801,969 and provides 29,632 procedures per year. Both profits and productivity were enhanced when allied providers were hired by a small group practice whose case mix focuses on the privately insured (Exhibit 6).

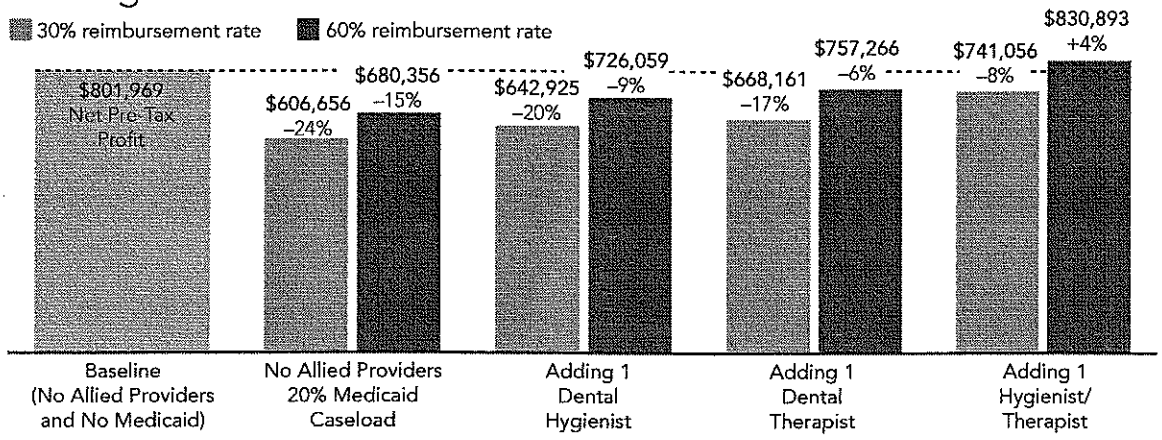
■ When adding allied providers to this practice, profits increased by 7 percent with a dental hygienist, 12 percent with a dental therapist and as high as 22 percent with a hygienist-therapist (Exhibit 6).

■ When one new provider was hired, the practice saw its productivity rise between 8 and 18 percent, depending upon the new team member's scope of services (Exhibit 6).

■ Hiring a new provider and devoting 20 percent of the practice's patient mix to Medicaid enrollees presented a financial challenge for this business, especially when measured at the lowest reimbursement rate of 30 percent. Yet the addition of allied providers significantly mitigated the economic impact. In a group practice with no allied providers, profits fell 24 percent; with one hygienist-therapist, earnings dropped by only 8 percent (Exhibit 7).

Exhibit 7

Profit Impact on a Small Group Dental Practice Serving 20% Medicaid Patients



SOURCE: Pew Center on the States, 2010.

Policy Implications

Private practices provide the majority of dental care in the United States. As outlined in Pew's 2009 policy framework, *Help Wanted: A Policy Maker's Guide to New Dental Providers*, states interested in pursuing new types of providers should think carefully about how these practitioners will complement the system.[28] Policy makers should consider the following:

1. The Productivity and Profit Calculator assumes that allied providers are seamlessly integrated into a dental practice. This requires effective collaboration among team members. Dental school curricula should ensure that graduating students have been trained to manage a team of professionals and to work efficiently with allied providers. Continuing education should be offered to practicing dentists to enhance these skills.

2. States that are seriously committed to improving dental care access must ensure their Medicaid reimbursement rates are high enough to cover the cost of care. States that do so will be more successful in encouraging broad Medicaid participation by dentists. It is unrealistic to expect dental practices—with or without allied providers—to accept Medicaid patients if doing so means their practices take a significant loss of profit.

3. State Medicaid programs should ensure that enrollees have the supports they need to successfully make and keep dental appointments. This could include enhancing transportation assistance, offering translation services or providing case management services to help patients navigate the Medicaid system. These and other supports will help dental practices maintain the utilization levels they need to remain profitable.

4. State leaders and Medicaid administrators should ensure that their policies permit reimbursement for services performed by allied providers. Policy makers should review existing rules that cover public and private dental insurance and take appropriate action to address issues that might arise in the billing process.

Conclusion

Hiring an allied provider can make smart business sense for a private dental practice by increasing its productivity and—in the process—meeting the needs of many low-income Americans who currently go without care.

To make these innovations and benefits a reality for patients and practices, states first must authorize allied providers. As policy makers consider new workforce models, this report and the Productivity and Profit calculator can inform their deliberations and proposals.

State leaders, dentists, public health advocates and other stakeholders should be heartened to know that expanding the dental team is an effective strategy to improve access to care, but they cannot overlook the importance of setting adequate Medicaid reimbursement rates. While raising rates is difficult during tight fiscal times, research confirms its positive impact on access,[29] and several states, including Maryland and Rhode Island, have taken this step in recent years despite budget constraints.

As the American Dental Association notes on its website, "for people who live in areas where a dentist is not available or who cannot afford treatment, access to dental care can be difficult."[30] Shortages of dentists and low Medicaid rates that discourage practices' participation have serious health, education and economic consequences—consequences felt by millions of families firsthand. With stakes this high, now is the time to welcome new allies to the team.

Methodology

The Productivity and Profit Calculator was developed by Scott & Company, Inc.—a California-based consultancy that works with organizations interested in developing or assessing new business models in health care. The calculator's purpose is to determine the impact of an allied dental health professional on a private dental practice's productivity and pre-tax profit. The calculator uses a Microsoft Excel-based model that can be adapted by users to simulate a variety of dental practices, including those presented in the three scenarios of this report.

Scott & Co. consulted with a group of dentists, practice managers, dental hygienists and other practitioners to develop the calculator. In addition, an advisory panel reviewed the project scope, model structure, inputs and findings. (See Advisory Panel members on page 20.)

The expert team guided the creation of the set of procedures that represent those performed in a typical dental practice and that acts as a proxy for the hundreds of procedures conducted within a practice. The team made recommendations on 20 common procedures in eight categories. The model also allows the user to select "Other" as a ninth category, which enables the user to add a specific procedure not found in the standard eight categories.

The expert group provided input on the initial set of fees for each procedure and the time needed to perform them. Fees for each procedure were drawn from the American Dental Association's 2009 Survey of Dental Fees.[31] Medicaid reimbursements are calculated as a percentage of the practice's usual fees. The initial Medicaid reimbursement rate in the calculator is 60 percent of usual fees. This percentage is roughly the national average for the state reimbursement rates paid to dentists for five common dental procedures.[32] The calculator uses one "case mix" for the entire practice and assumes that Medicaid-enrolled patients will receive services similar to those received by privately insured patients.[33]

The allied providers' scopes of practice were based on a 2009 W.K. Kellogg Foundation report.[34] The initial fixed-cost structure was developed under

the guidance of the expert panel and uses salaries from the Bureau of Labor Statistics and publicly available price lists for equipment, leasing fees and tenant improvements.[35] The model assumes a 244-day working year. The model also assumes that a dentist will spend some portion of the day supervising the allied provider; the value of 30 minutes of supervision time for allied providers was developed in consultation with the advisory group.

Users of the calculator can change all variables (allowable procedures, fees, supervision time and cost structure). The model includes initial variables, which provide a starting point for users to generate findings. Fees for services, Medicaid reimbursement rates, salaries, equipment costs, leasing fees and tenant improvements vary significantly across the country; users should make adjustments to reflect local conditions.

For instructions on how to use the calculator, please refer to the user manual at ***www.pewcenteronthestates.org/ittakesateam****. A detailed breakout of inputs and outputs for all three scenarios that were tested can also be found at this Web page.*

Advisory Panel

This report benefited tremendously from the insights and expertise of an advisory panel and two additional external reviewers. These experts provided feedback and guidance at critical stages in the project. While they have screened the report for accuracy, neither they nor their organizations necessarily endorse its findings or conclusions.

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Endnotes

1 In 2006, there were 164,864 private-practice dentists, out of a total of 179,594 professionally active dentists. *See* "Key Dental Facts" (American Dental Association, September 2008), 13, http://www.ada.org/ada/prod/survey/publications_freereports.asp#key (accessed December 7, 2009). In 2007, 73.3 percent of private-practice dentists were sole proprietors. *See* ADA *2008 Survey of Dental Practice*, 5.

2 As of September 30, 2009, those 49 million Americans lived in one of 4,230 dental health professional shortage areas. *See* "Shortage Designation: HPSAs, MUAs & MUPs," Health Resources and Services Administration, U.S. Department of Health and Human Services, http://bhpr.hrsa.gov/shortage (Accessed November 12, 2010).

3 Pew Center on the States, "The Cost of Delay: State Dental Policies Fail One in Five Children," http://pewcenteronthestates.org/costofdelay (February 2010).

4 The estimated number of children who will benefit from the health care reform law comes from Pew Center on the States, Children's Dental Campaign. Pew used national statistics of the insured and uninsured to determine the number of children (approximately 8 million) who are currently uninsured and who would likely qualify for public health insurance (Medicaid and the Children's Health Insurance Program), which includes dental coverage, and the state-based exchanges. Pew then used studies from Massachusetts' health care implementation experience to determine a 66 percent discount rate, allowing for exemptions, and people declining coverage and choosing to pay a fine. *See* "Distribution of the Nonelderly Uninsured by Age" (Henry J. Kaiser Family Foundation, 2009), http://www.statehealthfacts.org/comparetable.jsp?typ=1&ind=134&cat=3&sub=40 (accessed August 17, 2010). *See also* S. Long and L. Phadera, "Estimates of Health Insurance Coverage in Massachusetts from the 2009 Massachusetts Health Insurance Survey" (The Urban Institute, October 2009), http://www.mass.gov/Eeohhs2/docs/dhcfp/r/pubs/09/his_policy_brief_estimates_oct-2009.pdf (accessed August 17, 2010).

5 In 2007, 68 percent of independent dentists employed dental hygienists. *See* American Dental Association Survey Center, *2008 Survey of Dental Practice: Employment of Dental Practice Personnel* (Chicago: American Dental Association, 2009), 6, https://www.ada.org/sections/professionalResources/pdfs/08_sdpe.pdf (accessed September 2, 2010).

6 The calculator is a model that is intended to gauge the direction and magnitude of the gain or loss to earnings and productivity associated with hiring allied providers. It is intended for illustrative purposes only and should not be relied upon as a business-planning tool to forecast actual profit and loss.

7 U.S. Government Accountability Office, "Factors Contributing to Low Use of Dental Services Among Low-Income Populations" (September 2000), http://www.gao.gov/archive/2000/he00149.pdf (accessed December 7, 2009).

8 A study of six states that raised reimbursement rates for dentists found that provider participation

increased by at least one-third and sometimes more than doubled following rate increases. *See* A. Borchgrevink, A. Snyder and S. Gehshan, "The Effects of Medicaid Reimbursement Rates on Access to Dental Care," National Academy of State Health Policy, (March 2008), http://www.nashp.org/sites/default/files/CHCF_dental_rates.pdf (accessed September 30, 2010).

9 R. Levin, "2009 *Dental Economics*®/Levin Group Practice Survey," *Dental Economics*, http://www.levingroupgp.com/pdf/2009survey.pdf (accessed September 2, 2010).

10 P. W. Newacheck et al., "The Unmet Health Needs of America's Children," *Pediatrics* 105 (2000): 989–997.

11 Pew Center on the States, "The Cost of Delay," 16–20.

12 U.S. Department of Health and Human Services, "Oral Health in America: A Report of the Surgeon General" (National Institutes of Health, 2000), 2, http://silk.nih.gov/public/hck1ocv@www.surgeon.fullrpt.pdf (accessed December 16, 2009).

13 N. Pourat and G. Nicholson, *Unaffordable Dental Care Is Linked to Frequent School Absences* (Los Angeles, CA: UCLA Center for Health Policy Research, 2009), 1–6, http://www.healthpolicy.ucla.edu/pubs/publication.aspx?pubID=387 (accessed September 2, 2010).

14 E. Davis, A. Deinard, and E. Maiga, "Doctor, My Tooth Hurts: The Costs of Incomplete Dental Care in the Emergency Room," *Journal of Public Health Dentistry* (Spring 2010): 1–6.

15 Centers for Disease Control and Prevention, Division of Oral Health, "Oral Health for Adults" (December 2006), http://www.cdc.gov/OralHealth/publications/factsheets/adult.htm (accessed November 18, 2009).

16 T. M. Leiendecker, Gary C. Martin et al., "2008 DOD Recruit Oral Health Survey: A Report on Clinical Findings and Treatment Need," Tri-Service Center for Oral Health Studies, (2008) 1 (accessed August 19, 2010).

17 M. Willis, C. Esqueda, and R. Schacht, "Social Perceptions of Individuals Missing Upper Front Teeth," *Perceptual and Motor Skills* 106 (2008): 423–435.

18 D. Nash, et al. "Dental Therapists: A Global Perspective," *International Dental Journal* 58 (2008): 61–70.

19 *See* Bureau of Labor Statistics, Employment Projections, "Education Pays...," (updated May 27, 2010), http://www.bls.gov/emp/ep_chart_001.htm (accessed August 17, 2010).

20 The calculator assumes new allied providers will be paid a fixed salary plus benefits as opposed to a percentage of the revenues they produce. Associate dentists' compensation is assumed to be 30 percent of the fees from the services they produce.

21 The scopes of services presented here are drawn from B. Edelstein, "Training New Dental Providers in the U.S." (W.K. Kellogg Foundation, 2009), http://ww2.wkkf.org/DesktopModules/WKF.00_DmaSupport/ViewDoc.aspx?LanguageID=0&CID=6&ListID=28&ItemID=5000636&fld=PDFFile (accessed August 18, 2010).

22 Pew Center on the States, "The Minnesota Story: How Advocates Secured the First State Law of Its Kind Expanding Children's Access to Dental Care" (The Pew Charitable Trusts, 2010), 3, http://www.pewcenteronthestates.org/uploadedFiles/Minnesota_Story_brief.pdf?n=8376 (accessed September 20, 2010).

23 Agency for Healthcare Research and Quality, "Innovation Profile: Alaska Dental Health Aide Program Improves Access to Oral Health Care for Rural Alaska Native People" (November 2009), http://www.innovations.ahrq.gov/content.aspx?id=1840 (accessed August 9, 2010).

24 On average, government programs constituted about 6 percent of private dentists' gross billings in 2007. *See* American Dental Association, "Income from the Private Practice of Dentistry" (2008), 94.

25 American Dental Association, "2008 Survey of Dental Practice: Characteristics of Dentists in Private Practice and Their Patients," Table 27 (September 2009), 28.

26 American Dental Association, "2005–06 Survey of Dental Practices Rendered" (2007), 28. *See also* Table 32, "General Practitioners" and "Pediatric Dentists."

27 Pew has found that states reimburse, on average, 60.5 percent of dentists' median fees for five common procedures. Twenty-four states met or exceeded this benchmark. The worst-performing state has a reimbursement rate of 30.5 percent. *See* Pew Center on the States, "The Cost of Delay," 40.

28 Pew Center on the States and the National Academy for State Health Policy, "Help Wanted: A Policy Maker's Guide to New Dental Providers" (The Pew Charitable Trusts, 2009), http://www.pewcenteronthestates.org/uploadedFiles/Dental_Report_Help_Wanted.pdf (accessed August 20, 2010).

29 Borchgrevink, Snyder and Gehshan, "The Effects of Medicaid Reimbursement Rates on Access to Dental Care."

30 American Dental Association, "Oral Health Topics: Access to Dental Health/Oral Health Care" (updated January 25, 2010), http://www.ada.org/2961.aspx (accessed August 11, 2010).

31 The model uses the average national fee for each procedure, rounded to the nearest $5. For procedure categories that represent multiple procedures (e.g., denture services), a composite fee is used. *See* American Dental Association, "2009 Survey of Dental Fees" (2009).

32 Pew Center on the States, "The Cost of Delay," 40.

33 The assumption that care is similar across Medicaid and non-Medicaid populations is supported by an Agency for Healthcare Research and Quality study, which found that, "In 2004, approximately 128 million people with at least one dental visit received about 572 million dental procedures in the United States. Approximately 86% of the population with at least one dental visit had at least one diagnostic procedure (examination or X-ray), and about 79% of the population had at least one preventive procedure (cleaning, fluoride, or sealant) during the year. Together, approximately 73% of all procedures were diagnostic (42.5%) or preventive (30.4%) during 2004." R. J. Manski and E. Brown, "Dental Use, Expenses, Private Dental Coverage, and Changes, 1996 and 2004" *MEPS Chartbook No.17* (Agency for Healthcare Research and Quality, 2007), 5, http://www.meps.ahrq.gov/mepsweb/data_files/publications/cb17/cb17.pdf (accessed August 20, 2010).

34 Edelstein, "Training New Dental Providers in the U.S." (2009).

35 For dental hygienist and dental assistant salary information, see Bureau of Labor Statistics, Occupational Employment Statistics, "20-2921, Dental Hygienists" (2010), http://www.bls.gov/oes/current/oes292021.htm; and "31-9091, Dental Assistants" (2010), http://www.bls.gov/oes/current/oes319091.htm (accessed August 9, 2010). Values for salaries for dentists, dental therapists, and hygienist-therapists were generated using input from expert advisors. For equipment costs, *see* Den-Med-Pro Web site, http://www.denmedpro.com/ (accessed August 17, 2010); and Health Care Equipment Specialty, Inc. Web site, http://www.buydentalequipment.com/ (accessed August 17, 2010). For tenant improvement costs, *see* M. Unthank, "Dental Office Planning," *Journal of the American Dental Association* 130 (1999), http://jada.ada.org/cgi/reprint/ 130/11/1579 (accessed August 17, 2010). Note the article quotes $75–$135 improvement cost per square foot, approximately 10 years ago. The model uses $150 per square foot to create a national average, updating these prices. *See also* A. Guay, "Dental Practice: Prices, Production and Profits," *Journal of the American Dental Association* 136 (2005): 360, http://jada.ada.org/cgi/reprint/136/3/357?maxtoshow=&hits=10&RESULTFORMAT=&fulltext=office+costs&and orexactfulltext=and&searchid=1&FIRSTINDEX=0&sortspec=relevance&resourcetype=HWCIT (accessed August 17, 2010). This article indicates total practice costs of $295,890 in 2000, but does not break down the costs by equipment, lease improvement, supplies and staff.

Appendix I

Competency/ Function	Recommended DA	Rationale for omission/addition of a DA from task	Recommended Supervision for tasks at each DA	Rationale for supervision requirement
1. Prepare procedural trays/armamentaria set-ups	1, 2, CDA, EFDA		1 = Direct 2 = Indirect CDA = General EFDA = General	DA 1 under direct supervision to gain knowledge and experience. DA 2 under indirect supervision to gain proficiency toward CDA. CDA and EFDA under general supervision because appropriate formal education and/or certification has assured the necessary knowledge and skills.
2. Perform sterilization and disinfection procedures	1, 2, CDA, EFDA		1 = Direct 2 = General CDA = General EFDA = General	In this vital task the need for a thorough knowledge base is necessary to understand the concepts and assure public protection from potential cross-contamination. Consequently, DA 1 is under direct supervision until successful passing of DANB ICE. The ICE component of DANB must be passed within one year of initial employment. DA 2 is under general supervision with passing of DANB ICE. CDA &EFDA are under general supervision because of completed formal education and/or passing the DANB certification exam.
3. Perform routine maintenance of dental equipment	1, 2, CDA, EFDA		1 = Direct 2 = General CDA = General EFDA = General	DA 1 under direct supervision to gain knowledge and experience. DA 1 is under direct supervision until successful passing of DANB ICE. The ICE component of DANB must be passed within one year of initial employment. DA 2 is under general supervision with passing of DANB ICE. CDA and EFDA under general supervision

				for this basic office support task that under normal circumstances will not provide any public risk. CDA and EFDA levels have obtained certification in the DANB ICE component.
4. Receive and prepare patients for treatment, including seating, positioning chair, and placing napkin	1, 2, CDA, EFDA		1 = Direct 2 = Indirect CDA = General EFDA = General	DA 1 under direct supervision to learn appropriate techniques and assure proper positioning for special needs patients that requires a knowledge base and experience. DA 2 has acquired adequate skills to perform this task under indirect supervision. CDA and EFDA are under general supervision because of completed formal education and/or passing the DANB certification exam.
5. Maintain field of operation during dental procedures through the use of retraction, suction, irrigation, drying, placing and removing cotton rolls, etc.	1, 2, CDA, EFDA		1 = Direct 2 = Indirect CDA = General EFDA = General	DA 1 is under direct supervision until successful passing of DANB ICE. The ICE component of DANB must be passed within one year of initial employment. DA 2 is under indirect supervision with passing of DANB ICE. CDA & EFDA are under general supervision because of completed formal education and/or passing the DANB cert. exam. CDA, EFDA under general supervision will assist with access to care.

6. Transfer dental instruments	1, 2, CDA, EFDA		1 =Direct 2 = Indirect CDA = General EFDA = General	DA 1 under direct supervision for learning not applicable until training purposes in instrument identification, function, and transfer techniques. To limit potential patient and operator harm from improper transfers DA 1 is under direct. Also, DA 1 is under direct supervision until successful passing of DANB ICE. The ICE component of DANB must be passed within one year of initial employment. DA 2 is under indirect supervision with passing of DANB ICE. CDA & EFDA are under general supervision because of completed formal education and/or passing the DANB certification exam. CDA, EFDA under general supervision will assist with access to care.
7. Record existing restoration or conditions (only record/ transcribe as described by the dentist or dental hygienist)	2, CDA, EFDA	DA 1 has been omitted from this function because of the need for a thorough knowledge base in restoration materials, anatomy/morphology, and charting symbols/ procedures.	1 = N/A 2 = Direct CDA = General EFDA = General	DA 2 under direct supervision to provide experience while fostering patient protections. The potential of irreversible harm through incorrect charting and sequential treatment planning mandates a stringent learning/experience requirement. CDA & EFDA are under general supervision because of completed formal educ. and/or passing the DANB certification exam. CDA & EFDA under general supervision will foster access to care by allowing CDA & EFDA to assist dental hygienists in this task in community settings or in private practice.

8. Complete laboratory authorization forms	2, CDA, EFDA	DA 1 has been omitted from this function because of the need for a thorough understanding of various laboratory procedures and concepts.	1 = N/A 2 = Direct CDA = Indirect EFDA = Indirect	DA 2 under direct supervision to provide final review of the authorization form by the attending dentist prior to submission. CDA & EFDA are under indirect supervision because of completed formal education and/or passing the DANB certification exam.
9. Select and manipulate gypsums and waxes	1,2, CDA, EFDA	DA 1 has been added to this function because of minimal potential for negative consequences on public/patient safety and the need to provide learning experience prior to achieving DA 2.	1 = Direct 2 = Indirect CDA = General EFDA = General	DA 1 under direct supervision for this function because of the need for a thorough understanding of concepts and techniques is necessary. Once DA 2 status is achieved indirect supervision is adequate for these functions that are mainly performed within a laboratory setting. CDA & EFDA are under general supervision because of completed formal education and/or passing the DANB certification exam.
10. Mix dental materials	1, 2, CDA, EFDA	DA 1 has been added to provide needed learning and experience prior to achieving DA 2 status	1 = Direct 2 = Indirect CDA = General EFDA = General	DA 1 under direct and DA level 2 under indirect supervision because of the need for a thorough understanding of concepts and techniques and minimize effects from improper manipulation while providing necessary learning and experience. CDA & EFDA are under general supervision because of completed formal education and/or passing the DANB certification exam.

11. Expose radiographs RHS credential	2, CDA, EFDA	DA 1 has been omitted from this function because of the need for a thorough understanding of concepts of radiation physics, biology, health and safety to protect the public from potential undue radiation exposure	1 = N/A 2 = Direct CDA = General EFDA = General	DA 2 under direct supervision after successful completion of DANB RHS and ICE certification examinations. CDA and EFDA are required to have successfully passed the DANB RHS and ICE to gain status CDA or EFDA. Therefore, may expose radiographs under general supervision. Also, CDA and EFDA may have completed formal education programs, or gained experience exposing radiographs through on-the-job training in DA 2 status.
12. Evaluate radiographs for diagnostic quality	2, CDA, EFDA	DA 1 has been omitted from this function because a thorough understanding of the concepts of radiation physics, exposure and development techniques is needed to evaluate radiographs and protect the public from potential undue radiation exposure	1 = N/A 2 = Direct CDA = General EFDA = General	DA 2 under direct supervision after successful completion of DANB RHS and ICE Examination. DA 2 has satisfactory proficiency to expose radiographs under direct supervision. CDA and EFDA are required to have successfully passed the DANB RHS to gain status CDA or EFDA. Therefore, may expose radiographs under general supervision. Also, CDA and EFDA may have completed formal education programs, or gained experience exposing radiographs through on-the-job training in DA 2 status.
13. Process dental radiographs	2, CDA, EFDA	DA 1 has been omitted from this function because of the need for a thorough understanding of the concepts and techniques of film processing is necessary to prevent processing errors that may necessitate retakes of radiographs	1 = N/A 2 = Direct CDA = General EFDA = General	DA 2 under direct supervision after successful completion of DANB RHS and ICE Examination. DA 2 has satisfactory proficiency to expose radiographs under direct supervision. CDA and EFDA are required to have successfully passed the DANB RHS to gain status CDA or EFDA. Therefore, may expose

		and result in potential undue radiation exposure		radiographs under general supervision. Also, CDA and EFDA may have completed formal education programs, or gained experience exposing radiographs through on-the-job training in DA 2 status.
14. Mount and label dental radiographs	2, CDA, EFDA	DA 1 has been omitted from this function because a thorough understanding of anatomy and the concepts of mounting are needed to properly mount radiographs. Improper mounting has the potential for misdiagnoses and faulty treatment planning.	1 = N/A 2 = Direct CDA = General EFDA = General	DA 2 under direct supervision after successful completion of DANB RHS Examination. DA 2 has satisfactory proficiency to expose radiographs under direct supervision. CDA and EFDA are required to have successfully passed the DANB RHS to gain status CDA or EFDA. Therefore, may expose radiographs under general supervision. Also, CDA and EFDA may have completed formal education programs, or gained experience exposing radiographs through on-the-job training in DA 2 status.
15. Provide patient preventive education and oral hygiene instruction as prescribed by a dentist or dental hygienist.	2, CDA, EFDA	Omit DA 1. An entry DA would not have the knowledge or experience to administer preventative education or oral hygiene instruction.	1 = N/A 2 = Direct CDA = Indirect EFDA = Indirect	DA 2 to perform this task under direct supervision to gain necessary knowledge on preventative/oral hygiene concepts and oral hygiene care aids & techniques. s CDA & EFDA have obtained appropriate levels of understanding and experience through formal education and/or experience/certification to perform this task under indirect supervision. The selection of the oral hygiene tool or procedure must be selected by the dentist or RDH.

16. Provide pre- and post-operative instructions	2, CDA, EFDA	Omit DA 1. An entry DA would not have the knowledge or experience to administer operative instructions	1 = N/A 2 = Direct CDA = Indirect EFDA = Indirect	DA 2 to perform this task under direct supervision to gain necessary knowledge and experience on pre-operative and post-operative care. CDA & EFDA have obtained appropriate s of understanding and experience through formal education and/or experience/certification to perform this task under indirect supervision.
17. Apply topical anesthetic to the injection site	2, CDA, EFDA	DA 1 is omitted from this task because the application of this medicament has systemic affects upon the patient. Consequently, a knowledge and experience base is necessary for proper and safe techniques.	1 = N/A 2 = Direct CDA = Indirect EFDA = Indirect	DA 2 under direct supervision to gain knowledge/experience and at the same time safeguard the patient. CDA and EFDA under indirect supervision because they have obtained adequate background in systemic functions of the body; pharmacological aspects of medicaments; and application techniques through formal education and/or passing the DANB certification exam. However, may lack clinical application experience.
18. Four- handed in restorative dental procedures	1,2,CDA,EFDA		1 = Direct 2 = Direct CDA = Indirect EFDA = Indirect	Direct supervision would be inherent in chair side four-handed dentistry for all levels. CDA & EFDA may assist RDHs and each other in expanded function restorative procedures under indirect supervision to promote access to care.
19. four- handed in specialty procedures	1,2,CDA,EFDA		1 = Direct 2 = Direct CDA = Indirect EFDA = Indirect	Direct supervision would be inherent in chair side four-handed dentistry for all levels. CDA & EFDA may assist RDHs and each other in expanded function restorative procedures under indirect supervision to promote access to care.

20. Take and record vital signs	1, 2,CDA,EFDA,	DA 1added to this task under direct supervision to provide the necessary knowledge and skill to advance to DA CDA in the professional career ladder.	1 = Direct 2 = Direct CDA = General EFDA = General	DA 1 and 2 under direct supervision because a thorough understanding of vital signs is necessary and supervised practice is needed to build adequate competency. CDA & EFDA have adequate training/education to perform this task under general supervision and promote access to care.
21. Clean and polish removable appliances	2,CDA,EFDA,	DA 1 is omitted from this task because of the potential for cross-contamination and improper polishing may result in damage to the appliance. Adequate supervision is needed to build competency. CODA and DANB focus on having a clinical competency in the curriculum.	1 = N/A 2 = Direct CDA = General EFDA = General	Potential for cross-contamination and improper polishing may result in damage to the appliance. Adequate supervision is needed to build competency. CODA and DANB focus on having a clinical competency in the curriculum. Consequently, DA 2 under direct supervision to allow learning and experience with appropriate supervision. DA level 2 is required to have successfully passed the DANB ICE component. CDA & EFDA have experience and/or education to perform this task under general supervision. This will foster access to care in facilities provided intermediate and long term care.
22. Take preliminary impressions	1, 2, CDA,EFDA,		1 = Direct 2 = Direct CDA = Indirect EFDA = General	DA levels 1 and 2 to perform this task under direct supervision to gain necessary knowledge and experience while providing adequate patient safeguards. DA level 1 can only perform this task after successful completion of DANB ICE component. DA level 2 is required to have already passed the DANB ICE component. CDA has sufficient skills

				gained through education/experience/ certification to perform this task under indirect supervision. EFDA have acquired a knowledge base and advanced skills through education, experience, and/or certification/ licensure to perform this task under general supervision
23. Place amalgam for condensation by the dentist	2, CDA, EFDA,	DA 1 has not acquired the knowledge base in the properties, mercury safety procedures, and manipulation of amalgam for this procedure.	1 = Direct 2 = Direct CDA = Direct EFDA = Direct	The nature of the procedure provides inherent direct supervision at all DAs (1,2,CDA,EFDA) DA level 1 may perform this task ONLY after successful completion of the DANB ICE component.
24. Fabricate custom trays, to include impression and bleaching trays, and athletic mouth guards	2, CDA, EFDA	DA 1 omitted because of the skill needed in multiple materials, techniques, and equipment to perform these tasks	1 = N/A 2 = Direct CDA = General EFDA = General	DA 2 to perform this task under direct supervision to gain necessary knowledge and experience while provided public safeguards. This function is part of formal education for CDA & EFDA in CODA accredited allied dental education programs. Or, CDA may have obtained skills through OTJ and demonstrated the knowledge required through certification. Consequently, general different supervision is recommended for CDA and EFDA.
25. Recognize and respond to basic dental emergencies	2, CDA, EFDA,	DA 1omitted because a knowledge base to first recognize dental emergencies must be acquired and response procedures must be learned.	1 = N/A 2 = Direct CDA = Indirect EFDA = General	DA 2 must be supervised under direct supervision because they are still gaining knowledge/ experience at this level. CDA has acquired the base knowledge and

				experience to perform this task under indirect supervision. The response to basic dental emergencies is part of an CODA accredited dental hygiene program. CDA & EFDA has advanced experience. Consequently, general supervision is sufficient for EFDA.
26. Remove orthodontic wire	2,CDA,EFDA	A knowledge base of orthodontic armamentarium and experience should be required prior to removing orthodontic wire. Consequently, this task is not recommended for DA 1.	1 = N/A 2 = Direct CDA = Direct EFDA = Indirect	DA 2 and CDA with direct supervision. EFDA under indirect supervision because adequate training/experience has been established and their ability to perform this function under this supervision with increase office productivity and access to care.
27. Take orthodontic study models	1, 2,CDA,EFDA,		1 = Direct 2 = Direct CDA = General EFDA = General	DA level 1 may perform this task ONLY after successful completion of the DANB ICE component. DA levels 1 and 2 are supervised under direct supervision to insure proper anatomic replication. Competency for study models is covered in formal DA and DH educational programs. Also, OTJ trained dental assistants that become certified are tested via DANB. Therefore, CDA & EFDA should be under general supervision.
28. Take orthodontic photographs	1,2,CDA,EFDA,		1 = Direct 2 = Indirect CDA = General EFDA = General	This is not an invasive procedure and does not have potential for irreversible harm under normal circumstances.

				s CDA, EFDA have adequate experience/ knowledge to perform this function under general supervision. DA 1 should require direct supervision to become proficient and DA 2 under indirect supervision to insure technique quality.
29. Pour and trim diagnostic casts	1, 2, CDA, EFDA,		1 = Direct 2 = Direct CDA = General EFDA = General	DA level one may ONLY perform this task after successful completion of the DANB ICE component. DA levels 1 and 2 to perform this task under direct supervision to gain necessary knowledge and experience while provided public safeguards. CDA & EFDA have adequate experience/ knowledge gained through formal education, or experience and certification to perform this function under general supervision.
30. Evaluate quality of diagnostic casts	2, CDA, EFDA,	DA 1 omitted because a knowledge base is needed to distinguish appropriate qualities required in a diagnostic cast	1 = N/A 2 = Direct CDA = Indirect EFDA = Indirect	
31. Perform coronal polishing procedures	CDA, EFDA,	DA levels 1, 2, and 3 are omitted from this procedure because of the high of skill and knowledge required to perform this function and the potential to create irreversible and unalterable changes to oral structures.	1 = N/A 2 = N/A CDA = N/A EFDA = Direct	EFDA via the successful completion of an approved EFDA program, this task can be performed under direct supervision. The coronal polishing procedure is site specific for surface preparation in the following EFDA procedures: composite placement, orthodontic bracket placement, orthodontic band placement, and placement of preventative sealants

32. Remove sutures	CDA, EFDA,	DA 1 and 2 are omitted because of the of skill and knowledge required to perform this function	1 = N/A 2 = N/A CDA= Direct EFDA = Direct	CDA & EFDA have acquired adequate knowledge and experience to perform this function under direct supervision. Under direct supervision the attending dentist is required to authorize the procedure. This would inherently require the determination of the healing process status by the attending dentist prior to authorization of suture removal. This is the most critical concern with suture removal.
33. Adjustment of orthodontic archwires	EFDA	DA 1,2 and CDA are omitted because of the of skill, knowledge, and experience required to perform this function safely and effectively.	1 = N/A 2 = N/A CDA = N/A EFDA = Direct	EFDA under direct supervision because the adjustment of archwires is a critical component of orthodontic treatment.
34. Place orthodontic separators	CDA, EFDA,	DA 1 and 2 are omitted because of the of skill, knowledge, and experience required to perform this function safely and effectively	1 = N/A 2 = N/A CDA = Direct EFDA = Indirect	CDA to perform this function under direct supervision because they must have the knowledge base to pass the DANB examination. Also, if they completed an accredited certificate program experience should have been gained through an orthodontic externship. EFDA will have the most qualifications to perform this function via the successful completion of an EFDA program. Consequently, EFDA is under indirect supervision for this task. Also, if the CDA successfully passes the COA examination provided by DANB this task may be performed under indirect supervision.

35. Apply topical fluoride	EFDA	DA levels 1, 2, and 3 are omitted because of the level of skill and knowledge required to perform this function safely and effectively	1 = N/A 2 = N/A CDA = N/A EFDA = Direct	The formally educated CDA gains the knowledge and experience as part of a CODA dental education program. Also, a CDA that is OJT or formally educated will be tested in the GC component of DANB. However, this function is not normally brought to clinical competency. Consequently, only the EFDA can perform this function under direct supervision after successful completion of an approved EFDA program.
36. Place and remove dental dam	CDA,EFDA	DA 1and 2 are omitted because of the of skill, knowledge, and experience required to perform this function safely and effectively	1 = N/A 2 = N/A CDA = Indirect EFDA = Indirect	Formal CODA dental programs provide appropriate knowledge and laboratory and/or clinical competency experience to perform this function. CDA and EFDA levels have acquired the knowledge and skills to perform this task under indirect supervision.
37. Monitor vital signs.	CDA, EFDA	DA 1and 2 are omitted because of the of skill and knowledge required to perform this function	1 = N/A 2 = N/A CDA = Direct EFDA = Direct	This task may be performed without being classified as an expanded function. Formal CODA dental programs provide appropriate knowledge and laboratory and/or clinical competency in vital signs experience to perform this function, or OTJ and CDA have acquired the knowledge and skills. Also, CDA & EFDA are required to be CPR certified. The task to monitor vital signs is usually associated to a medically compromised patient or surgical/ anesthesia procedures/ recovery.

38. Place and remove matrix bands	CDA, EFDA,	DA s 1 and 2 are omitted because of the of skill, knowledge, and experience required to perform this function safely and effectively	1 = N/A 2 = N/A CDA = Direct EFDA = Indirect	CDA under direct supervision because they have obtained the knowledge and concepts through formal education and/or passing the DANB certification exam. However, formal education programs do not require the of clinical competence for this task EFDA will be able to perform this function under indirect supervision once competency is demonstrated through successful completion of an approved EFDA program.
39a. Fabrication of temporary crowns	2, CDA, EFDA	DA 1 and 2 are omitted because of the of skill and knowledge required to perform this function	1 = N/A 2 = Direct CDA = Indirect EFDA = Indirect	DA 2 under direct supervision to help the DA gain the technical skills and anatomic knowledge necessary for this function while providing direct supervision safeguard. Formal DA education programs provide curriculum in the fabrication of temporary crowns. Therefore, may perform this function under indirect supervision.
39b. Placement of temporary crowns	CDA,EFDA	DA 1and 2 are omitted because of the of skill and knowledge required to perform this function	1 = N/A 2 = N/A CDA = Direct EFDA = Direct	Formal DA education programs provide curriculum in placement of temporary crowns, but no clinical competency requirement. CDA &EFDA under direct supervision to insure public health and safety. The attending dentist to evaluate end product for proper contour/anatomy and occlusal relationships.
40. Remove temporary crowns and cements. (with hand instruments)	CDA, EFDA	DA 1and 2 were omitted due to the skill required to manipulate hand instruments intraorally.	1 = N/A 2 = N/A CDA = Direct EFDA = Indirect	The removal of temporary crowns and cements should not cause irreversible or unalterable changes. CDA is experienced to provide this task with direct

				supervision. EFDA with additional EFDA competency can perform this function under indirect supervision.
41a. Remove permanent (crown luting) cement from supragingival surfaces.	EFDA, ()	Formal DA and DH education programs do not usually include lab or clinical competencies in cement removal DA s 1, 2 and CDA are omitted because The removal of permanent cement can result in irreversible/ unalterable changes.	1 = N/A 2 = N/A CDA = Direct EFDA =Direct	The removal of permanent cement can result in irreversible/ unalterable changes. Therefore, clinical competency should be required via formal curriculum or EFDA. After successful completion of an approved EFDA program, CDA & EFDA to perform this task under direct supervision.
41b. Remove orthodontic cement	CDA, EFDA,	DA 1and 2 are omitted because the removal of the level skill and knowledge required to perform this function	1 = N/A 2 = N/A CDA = N/A EFDA = Indirect	The removal of orthodontic cement can result in irreversible/ unalterable changes. Therefore, clinical competency should be required via formal curriculum or EFDA. COA under direct supervision to provide experience while safeguarding the public. Once a formal EFDA program is completed, EFDA may perform this function under indirect .
42. Place temporary restorations	EFDA	DA 1, and 2 are omitted because of the of skill and knowledge required to perform this function	1 = N/A 2 = N/A CDA = Direct EFDA = Direct	Formal DA education programs usually provide the didactic component of temporary restorations and may include a lab component in placement, but usually not a clinical component. Consequently, CDA performs this task under direct supervision. The EFDA and will have laboratory and clinical competency experience in a formal EFDA program. Consequently, after successful completion of an EFDA program, EFDA under direct supervision to insure proper contour, anatomic

				reproduction, and occlusal relationships.
43. Recognize and respond to basic medical emergencies	CDA, EFDA	Formal training/ education is needed to respond to emergencies. Currently, DA 1and 2 are not required to be certified in appropriate CPR and are omitted from this function.	1 = N/A 2 = N/A CDA = General EFDA = General	Only certified DAs are required to maintain CPR (a minimum of Heartsaver CPR for CDAs) Therefore, s CDA, EFDA can recognize and respond to medical emergencies under general supervision.
44. Monitor and respond to post-surgical bleeding	CDA, EFDA	DA 1and 2 are omitted because a base knowledge is needed to respond in an appropriate manner and adequately provide patient safety	1 = N/A 2 = N/A CDA = Indirect EFDA = Indirect	This is not categorized as an expanded function because CDA has acquired adequate experience and demonstrated required knowledge via certification. Also, formal CODA accredited allied dental education programs incorporate didactic and experience education to allow this function to be performed under indirect supervision
45. Place retraction cord	EFDA	DA 1, 2 and CDA are omitted because a higher of knowledge and skill is required for this function and the invasive nature of the procedure that may include retraction cord impregnated with medicaments	1 = N/A 2 = N/A CDA = N/A EFDA = Direct	Formal education and clinical competency will be provided in an EFDA program so that an EFDA will perform this task under direct supervision. Direct supervision is recommended because of the invasive nature of the procedure that may include retraction cord impregnated with medicaments
46. Place, condense and carve amalgams	EFDA	The didactic component is included in formal curriculum. A lab component may be required in manipulation. Placement on a typodont in a lab competency may be required, but this is not standard. A clinical competency component must be incorporated. Consequently, DA	1 = N/A 2 = N/A CDA = N/A EFDA = Direct	Formal education and clinical competency will be provided in an EFDA program so that a EFDA DA will perform this task under direct supervision. Direct supervision will further insure patient/public health and safety and promote quality dentistry through the evaluation of the end product for proper contour, anatomy, and occlusion. This task as

		1,2,CDA, have been omitted from this task.		an expanded function will increase access to care by fostering an increase in the number of patients the attending dentist will be able to treat in the course of the day.
47. Place and cure composite resin restorations	EFDA	DA 1, 2 and CDA are omitted because a higher of knowledge and skill is required for this advanced procedure.	1 = N/A 2 = N/A CDA = N/A EFDA = Direct	Only a didactic may be included in formal curriculum. A lab component may be required in manipulation. Placement on a typodont in a lab competency may be required, but this is not standard. A clinical competency component must be incorporated Formal education and clinical competency will be provided in an EFDA program so that an EFDA will perform this task under direct supervision. Direct supervision will further insure patient/public health and safety and promote quality dentistry through the evaluation of the end product for proper contour, anatomy, and occlusion. This task as an expanded function will increase access to care by fostering an increase in the number of patients the attending dentist will be able to treat in the course of the day.
48a. Size orthodontic bands and brackets	CDA and EFDA	DA 1 and 2 are omitted because a higher of knowledge and skill is required for this advanced procedure.	1 = N/A 2 = N/A CDA = Direct EFDA = Direct	Sizing of orthodontic bands and brackets is a basic orthodontic procedure and does not have the potential to cause harm or unalterable changes under direct supervision. Consequently, CDA or EFDA may perform this task under direct supervision.

48b. Place orthodontic bands and brackets	EFDA	DA 1, 2, and 3 are omitted because a higher of knowledge and skill is required for this advanced procedure.	1 = N/A 2 = N/A CDA = N/A EFDA = Direct	Placement of orthodontic bands and brackets will be part of EFDA program curriculum and taught to the level of laboratory competency. Because it is a vital component of orthodontic treatment, direct supervision is required
49. Place liners and bases	EFDA	The placement of a base should be to the level of clinical competency. However, standard DH & DA formal curriculum may practice liners/base placement, at most, in a lab typodont. Consequently, DA CDA has been omitted from this function. Also, DA s 1 and 2 would not have the knowledge base or skill for this technique sensitive and vital function.	1 = N/A 2 = N/A CDA = N/A EFDA = Direct	The placement of bases and liners will be taught to the level of clinical competency in an EFDA program. This function goes hand-in-hand with the placement of a restoration that requires direct supervision. Therefore, it was determined that indirect supervision is an adequate for this function.
50. Place periodontal dressings	CDA,EFDA	DA 1 and 2 are omitted because a higher level of knowledge and skill is required for this advanced procedure.	1 = N/A 2 = N/A CDA = Indirect EFDA = General	Placement of Periodontal dressings to at lease the laboratory competency on a typodont is normally part of the formal certificate education program for dental assisting. Or, OTJ trained dental assistants have proven knowledge base via passing DANB to become a CDA. Also, the procedure will not cause irreversible changes under normal circumstances.
51. Fit, size, and place stainless steel crowns	EFDA	This is not standard curriculum in formal education. Especially, lab and clinical competencies. Also, an improperly fitted crown can have consequences on patient health.	1 = N/A 2 = N/A CDA = N/A EFDA = Direct	EFDA will gain skills to the level of laboratory competency in successful completion of an EFDA program. Because this skill will not be to the clinical competency , it falls under direct supervision

52. Remove periodontal dressings	CDA, EFDA	DA1 and 2 are omitted because a higher of knowledge and skill is required for this advanced procedure.	1 = N/A 2 = N/A CDA = Direct EFDA = Indirect	EFDA program curriculum will provide experience to the level of clinical competency. Consequently, EFDA may provide this function under indirect supervision
53. Place post-extraction dressings	CDA, EFDA	DA 1and 2 are omitted because a higher of knowledge and skill is required for this advanced procedure.	1 = N/A 2 = N/A CDA = Direct EFDA = Direct	Formal DA curriculum provides the knowledge base, but does not provide lab or clinical competency in placement of post-ext dressings. EFDA will obtain laboratory competence in an EFDA program.
54. Remove post-ext dressings	CDA, EFDA,	DA 1 and 2 are omitted because a higher level of knowledge and skill is required for this advanced procedure.	1 = N/A 2 = N/A CDA = Direct EFDA =Direct	Formal DA curriculum does not provide lab or clinical competency in the removal of post-ext dressings. EFDA will obtain laboratory competence in successful completion of an EFDA program.
55. Apply pit and fissure sealants	EFDA	DA levels 1, 2, and CDA are omitted because a higher level of knowledge and skill is required for this advanced procedure.	1 = N/A 2 = N/A CDA = N/A EFDA =Direct	The EFDA will acquire clinical competency through successful completion of an EFDA program. Also, A formal CODA education program includes a didactic and laboratory component.
56. Transcribe prescriptions dentist reviews and signs	2, CDA,EFDA,	Although the doctor of record will be required to review and sign the prescriptions which equates to direct supervision, a knowledge of pharmacology, terms, abbreviations is needed to be competent in the interest of public health. For this reason, DA 1 is omitted from this function	1 = N/A 2 = Direct CDA =Direct EFDA = Direct	DA levels 1, 2, and 3 require direct supervision to provide the end of procedure check required under direct supervision to provide transcription safeguard prior to doctors signature.

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Note: All institutions offering the Connecticut expanded function educational/certification programs for dental assistants must have an existing CODA accredited dental program to be recognized to provide official EFDA certification. To qualify for acceptance into a expanded function certification program the candidate must be a certified dental assistant (CDA).

Appendix J

The Impact of New Dental Schools on the Dental Workforce Through 2022

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Abstract: Following a wave of dental school closures from 1986 to 2001 and a perceived shortage of dentists, three new dental schools were established between 1997 and 2003, and eight more are in various stages of planning and development to open over the next decade. Conditions are moving rapidly, and several institutions have stated intentions to open new dental schools since this analysis. This article presents a supply-side analysis of the impact of the new schools on the effective dentist to population ratio, taking into account changes in graduation rates, retirement rate, population growth, productivity, and gender ratio of the profession. Demand-side factors including utilization, per patient expenditures, and case mix are addressed, as well as the implications of these changes on access to care and the future of the profession. Given approximately ten new schools, by 2022, an additional 8,233 graduates will have joined the workforce, or approximately three dentists per 100,000 people. Effective dentist to population ratios vary greatly depending on all of the factors addressed. Changes in productivity influence the effective ratio most significantly. Most probable scenarios for the dental workforce suggest a stable dentist to population ratio at minimum, with an increase likely given recent productivity changes. The increase in dentists will not noticeably improve access to care for low-income and rural populations absent additional public funding to support demand for these populations and concurrent measures to effect even distribution of dentists throughout the country.

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The reduction in dental school enrollments and closure of seven dental schools during the period of 1986–2001 fostered mounting concerns that dentistry would face a shortage of providers. An important feature of any judgment regarding an impending shortage is the approach that is used to assess the adequacy of the dental workforce.

Most workforce assessments have focused on two different approaches to judge the adequacy of the dental workforce: a needs-based approach or an economic approach. The first approach is based on an estimation of unmet needs in a population. Workforce assessment starts with estimates of oral health personnel required to treat all oral disease or a specified proportion of that disease. A variation on this approach is to adjust those estimates downward based on the anticipated utilization of dental services by the populace.

A weakness of the unmet need approach, by itself, is that it does not integrate economic and social reasons for not seeking professional dental care and the role that price plays in determining effective demand directly into the analysis. Considering only unmet need without factoring in the role of economic, social, and cultural factors can lead to large miscalculations of the amount of dental care that will actually be used, which, in turn, can result in large miscalculations on workforce.

The second approach for the assessment of dental workforce uses the demand for dental services as the starting point to estimate required oral health personnel. This approach relies on economic theory to identify important factors that influence supply and demand for dental services. Future trends for these factors are used to forecast workforce requirements. A clear distinction must be drawn between demand and unmet need for services in order to understand future access to care and what interventions are likely to be effective in improving access to care for some subpopulations.

A major workforce research effort in 2004, published as *Adequacy of Current and Future Dental Workforce,*[1] used the economic approach to assess the growing concerns regarding an impending shortage of dentists and concluded that without large increases in demand for dental care—either as percent of the population utilizing care or spending per patient—the projected growth in supply of dentists would outstrip demand projected out to 2022. Preceding the publication of that report, three new dental schools had already opened (Nova Southeastern University College of Dental Medicine in 1997, University of Nevada,

Las Vegas, School of Dental Medicine in 2002, and Arizona School of Dentistry and Oral Health in 2003).[2] Despite its conclusions and in response to the continued perception of workforce shortages, eight new dental schools are in various stages of planning and development. This analysis assumes that all eight schools will open over the next decade, beginning with Midwestern University College of Dental Medicine in Glendale, AZ, which accepted its inaugural class for the fall of 2008.[3,4]

While concerns about a future shortage persist, the size of the overall dental workforce has been steadily increasing during the last two decades (Table 1).[1] The most recent estimate from 2005 pins the number of professionally active dentists at 176,634.[5] Annual growth in the dental workforce from 1989 to 2005 exceeded that of the general population: 1.30 percent to 1.14 percent.[5,6] As a result, the aggregate ratio of dentists per 100,000 Americans rose slightly from 58 to 59.6. Approximately 65 percent of the population visits a dentist annually, a figure that has stabilized in recent years.[1] Despite the overall workforce growth, the number of federally designated Dental Health Professions Shortage Areas (D-HPSAs) more than doubled from 2000 to 2005.[7] It is estimated that 9,000 dentists would be required to treat the thirty-five million people affected by this distribution problem.[7]

Need for new dentists to enter the workforce reflects a confluence of complex variables affecting both supply and demand. This article addresses likely projections of future supply-side changes in the dental workforce as a result of the new dental schools and potential consequences of the new schools on the workforce, access to care, and future of the profession.

Methods

Baseline data for this analysis are taken from the *Adequacy of Current and Future Dental Workforce*.[1] Most of the data used in that monograph was collected by the American Dental Association and by various U.S. government agencies. The sources of the data are referenced in the text when they are used and listed in the tables of this report.

Under the assumption that dental services are delivered largely through private markets subject to the effects of supply and demand and that enrollment in dental schools reflects the rate of return of a career in dentistry in comparison to other options for college graduates, that report used econometric models to calculate growth in the workforce. Because the new schools opening over the next decade will introduce a significant and unpredicted quantity of dental graduates to the workforce, this article undertakes a similar, supply-side analysis in light of the new institutions. This approach depends on accurate baseline data and reasonable, historically consistent assumptions of future trends in population growth, retirement rate, total graduates from existing schools and new schools, workforce habits, productivity, and policy changes.

To standardize comparison of future dentists with current dentists, an adjusted dentist to popula-

Table 1. Trends in dentists, dental expenditures, and dental utilization from 2000 to 2006

Year	Professionally Active Dentists[1]	Real (2008) Per Patient Expenditures[2]	Real (2008) Per Capita Expenditures[2]	Percentage Utilization[3] (ages >2)	Percent Female[2]
2000	166,383	$422.42	$276.26	0.656%	39%
2001	168,556	$446.19	$289.58	0.649%	37%
2002	169,894	$481.19	$306.52	0.644%	39%
2003	173,574	$476.56	$311.19	0.663%	40%
2004	175,705	$489.55	$318.21	0.659%	42%
2005	176,634	$498.37	$323.94	0.658%	44%
2006			$328.39	0.649%	45%

Sources:

1. American Dental Association, Survey Center. 2008 distribution of dentists in the United States by region and state. Chicago: American Dental Association, 2008.
2. U.S. Department of Labor, Bureau of Labor Statistics. Consumer price index. At: www.stats.bls.gov/cpi/. Accessed: November 4, 2009.
3. U.S. Department of Health and Human Services, National Center for Health Statistics. National health interview surveys. Washington, DC: U.S. Department of Health and Human Services, 2000 through 2006.

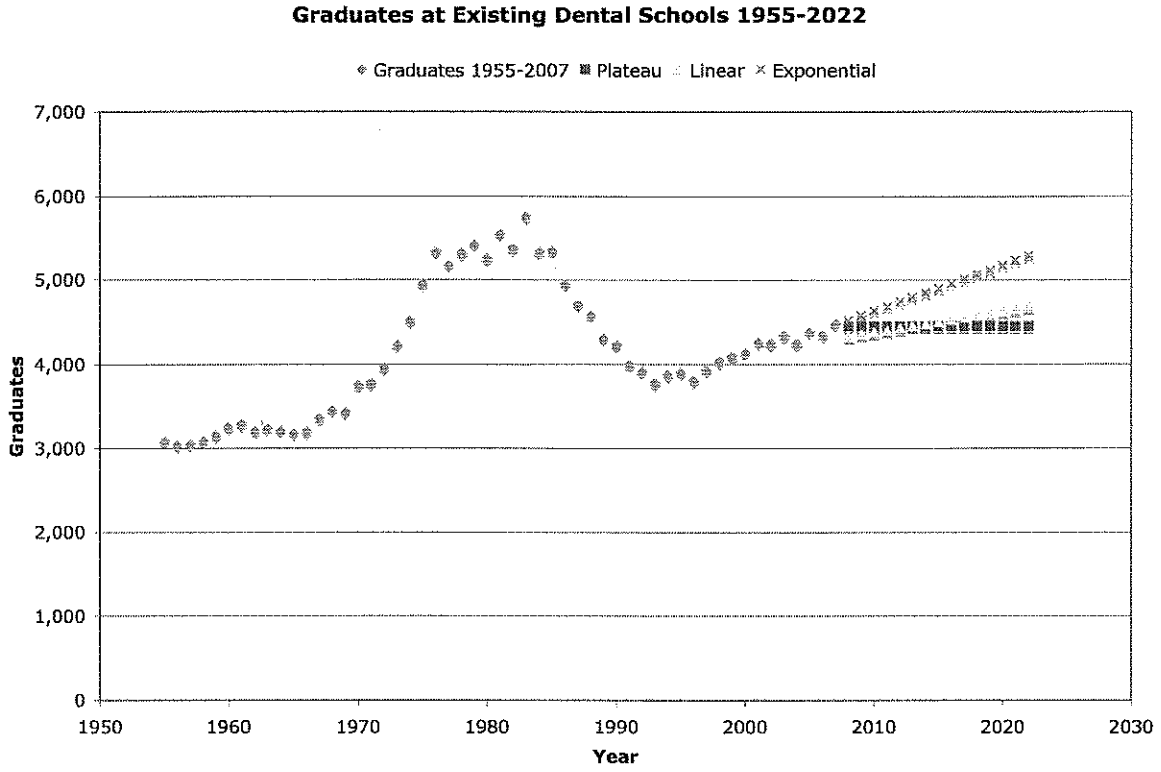

Figure 1. Dental graduates from existing dental schools from 1955 to 2007

Note: The three projections from 2008 to 2022 include a plateau, linear, and exponential trend, displaying possible forms of underlying growth from existing dental schools.

Source: American Dental Association. Survey of predoctoral dental education: academic programs, enrollment, and graduates, volume 1. Chicago: American Dental Association, various years.

tion ratio (dentists/100,000) based on current standards of productivity and chair-side hours is calculated for each possible scenario. It is assumed that population growth will occur at the approximately linear rate predicted by the U.S. Census Bureau. The 2008 population of 303,481,200 is projected to rise to 342,098,800 in 2022.[8]

The baseline projection of retiring dentists from 2002 to 2022 is 73,428 (denoted as R).[9] Sensitivity analysis correcting for a relative increase or decrease in the retirement rate based on a potential deviation of 10,000 dentists from the 2002 baseline leads to 63,428 (denoted as R-) or 83,428 (denoted as R+) retiring dentists from 2002 to 2022.

The periods 1955–1969 and 1993–2007 (see Figure 1) reveal a remarkably consistent trend in graduates produced annually. Federal capitation programs and funding initiatives artificially elevated graduation data from 1970 to 1992, accounting for the bell curve-like deviation observed.[1] Three future scenarios are described. Total graduates, as predicted by the underlying growth trend at existing dental schools, are denoted as either plateau, linear, or exponential. Plateau indicates that existing dental schools maintain their 2007 level of 4,450 graduates per year. Linear indicates that graduation numbers will follow a linear best-fit line for the underlying trend in dental school graduates, reaching a total of 4,679 by 2022. Exponential indicates that graduation numbers will follow an exponential best-fit line, reaching a total of 5,288 by 2022.

Three scenarios are also considered with regard to new schools from 2002 to 2022 (" new" includes Nova, UNLV, and Arizona).[3] Five, ten, and fifteen

new schools are each considered, based on reasonable estimates of when the schools will open and how many students they will graduate. Calculations of total new graduates produced during this time on top of the students graduated by existing schools yield 5,713, 8,233, or 9,213.

As the number of female dentists increases, their impact on the workforce must also be taken into account. Men and women are equally productive on a per hour basis, but women up to the age of forty-five work part-time twice as often as men (the dearth of female dentists in older cohorts makes it impossible to determine if this trend continues beyond child-bearing years).[1] Assuming that women will continue to exhibit an increased tendency to work part-time, two scenarios are considered with respect to the number of female dentists graduating each year: the percentage holds constant at its current rate of 43 percent or increases to 48 percent.[2] The effect of an increasing number of female dentists in the workforce is a reduction in average hours spent treating patients and thus a loss of overall productivity. G43 denotes a gender ratio of 43 percent female, and G48 denotes a gender ratio of 48 percent female.

Since 1960, productivity (output per unit time) of the workforce has increased in three distinct segments.[10] Thus, three scenarios also are considered for productivity growth. Productivity will increase at the rate of its thirty-eight-year average from 1960 to 1998 of 1.31 percent (P1.31). Productivity will increase at the rate of its most recently documented trend from 1991 to 1998 of 1.05 percent (P1.05). Or productivity will remain at its current level (P0), an approximation of the 0.13 percent annual decline in productivity from 1974 to 1991.

Results

Results are shown in Tables 2, 3, and 4 as professionally active dentists per 100,000 people and highlight the impact of the new dental schools. For reference, the current (2005) number of dentists/100,000 is 59.6.[5] If there are ten new schools by 2022, they will increase the dentist/100,000 population ratio by 2.9, an absolute addition of 8,233 dentists to the workforce from 2002 to 2022. Since the schools are assumed to open over a period of years, they will start graduating students at different points in the projection time period. Some schools will not begin to produce graduates until the 2020s, yet a detectable impact is observed by 2022. This impact will increase as the new schools contribute graduates over the years.

Discussion

In any discussion of future workforce adequacy, robustness of the projection depends on the accuracy of working assumptions. Both supply- and demand-side variables affect the need for dentists and the ability of the workforce to absorb changes. The validity of each supply-side assumption is considered below.

Dentistry remains a very attractive career option to women for many reasons, including the flexibility it affords practitioners during the child-bearing years. Given the historical trend of increasing female enrollment in dental schools and continued active recruitment efforts of women into the profession, the percentage of women in graduating classes is likely to approach 48 percent by 2022.

Three productivity projections are considered. The results indicate this is a more powerful determinant of actual workforce capacity than the introduction of fifteen new dental schools combined. Realistic projections of productivity are probably around 1 percent, but even a slight deviation may dramatically magnify this impact when compounded annually until 2022.

Retirement rates are a product of many forces. The elderly members of this generation are more ambulatory and healthier than those in any previous generation. It is possible that dentists will desire to work full-time to older ages than before; alternatively, many may adopt part-time work patterns, mitigating the magnitude of their prolonged employment. Overall market performance also impacts dentists' retirement plans, so economic difficulty as experienced in the downturns of the past decade, by diminishing growth of their estates, extends dentists' working years. However, the market for selling practices will improve as more students graduate. In addition, the large cohort of baby-boomers graduated during the 1970s will soon be reaching retirement age, producing a rapid exodus of dentists in a short period of time.[11] With the range of forces at work, it is impossible to predict which will affect retirement rates most significantly.

In theory, schools can expand as necessary in response to demand; in reality, several factors reduce schools' flexibility with regard to increasing enrollment. First, large facilities may be required to handle the larger enrollment, especially for the

Table 2. Projection of dentists/100,000 people in 2022 given five new dental schools

	P0, G43	P0, G48	P1.05, G43	P1.05, G48	P1.31, G43	P1.31, G48
R+						
Plateau	50.1	49.8	61.7	61.4	64.9	64.7
Linear	50.3	50.1	62.0	61.7	65.3	65.0
Exponential	51.9	51.7	64.0	63.7	67.4	67.1
R						
Plateau	52.8	52.6	65.1	64.8	68.5	68.2
Linear	53.1	52.8	65.4	65.1	68.8	68.5
Exponential	54.7	54.5	67.4	67.1	71.0	70.7
R-						
Plateau	55.6	55.4	68.5	68.2	72.1	71.8
Linear	55.8	55.6	68.8	68.5	72.4	72.1
Exponential	57.5	57.2	70.8	70.5	74.6	74.3

Note: R is baseline projection of retiring dentists from 2002 to 2022 (73,428). R+ is potential deviation of an increase of 10,000 dentists from the 2002 baseline (i.e., 83,428). R- is potential deviation of a decrease of 10,000 dentists from the 2002 baseline (i.e., 63,428).

Table 3. Projection of dentists/100,000 people in 2022 given ten new dental schools

	P0, G43	P0, G48	P1.05, G43	P1.05, G48	P1.31, G43	P1.31, G48
R+						
Plateau	50.8	50.5	62.6	62.3	65.8	65.6
Linear	51.0	50.8	62.8	62.6	66.2	65.9
Exponential	52.6	52.4	64.9	64.6	68.3	68.0
R						
Plateau	53.5	53.3	66.0	65.7	69.4	69.1
Linear	53.8	53.5	66.3	66.0	69.8	69.4
Exponential	55.4	55.2	68.3	68.0	71.9	71.6
R-						
Plateau	56.3	56.1	69.4	69.1	73.0	72.7
Linear	56.5	56.3	69.7	69.4	73.3	73.0
Exponential	58.2	57.9	71.7	71.4	75.5	75.2

Note: R is baseline projection of retiring dentists from 2002 to 2022 (73,428). R+ is potential deviation of an increase of 10,000 dentists from the 2002 baseline (i.e., 83,428). R- is potential deviation of a decrease of 10,000 dentists from the 2002 baseline (i.e., 63,428).

Table 4. Projection of dentists/100,000 people in 2022 given fifteen new dental schools

	P0, G43	P0, G48	P1.05, G43	P1.05, G48	P1.31, G43	P1.31, G48
R+						
Plateau	51.0	50.8	62.9	62.6	66.2	65.9
Linear	51.3	51.0	63.2	62.9	66.5	66.2
Exponential	52.9	52.7	65.2	64.9	68.7	68.3
R						
Plateau	53.8	53.6	66.3	66.0	69.8	69.5
Linear	54.0	53.8	66.6	66.3	70.1	69.8
Exponential	55.7	55.4	68.6	68.3	72.2	71.9
R-						
Plateau	56.6	56.3	69.7	69.4	73.4	73.1
Linear	56.8	56.6	70.0	69.7	73.7	73.4
Exponential	58.5	58.2	72.0	71.7	75.8	75.5

Note: R is baseline projection of retiring dentists from 2002 to 2022 (73,428). R+ is potential deviation of an increase of 10,000 dentists from the 2002 baseline (i.e., 83,428). R- is potential deviation of a decrease of 10,000 dentists from the 2002 baseline (i.e., 63,428).

clinical part of the curriculum. In academic settings, space is frequently highly competitive. In addition, new space often requires extensive renovation to accommodate its new function. Finally, there is a significant shortage of faculty in dental schools, and burgeoning student populations require more instructors to avoid spreading an already sparse resource even more thinly.[12] Schools' abilities to expand will depend on their successful competition for limited existing space and the availability of capital resources to build new space or renovate existing space. Moreover, to staff a larger enrollment, the financial attractiveness of faculty positions in comparison with private practice alternatives can be an obstacle to the successful recruitment of students interested in positions of teaching and research. Given the challenge of rapid growth, it is more reasonable to expect that, if existing dental schools continue to expand, it will be at a linear rate.

Amidst the growing chorus of those citing dentistry's imperative to address access to care issues in rural and low-income segments of the population, support for midlevel providers is mounting.[13-17] Dental health aide therapists in Alaska are the ultimate pilot program for this new personnel group, but many states are experimenting with a variety of options, from expanded function dental hygienists to the creation of entirely new oral health care personnel positions.[18,19] Employment of a midlevel provider position in significant numbers may impact the effective productivity of dentists. Though unlikely to have major immediate consequences, this situation requires constant monitoring as new developments arise.

In addition to the supply-side possibilities, changes in demand may have considerable impact on the need for more dentists. Policy changes granting purchasing power to the underserved, for instance, would catapult demand for dental services almost overnight. Approximately 65 percent of Americans visited a dentist last year.[1] If utilization is increased through a mechanism such as market-level compensation through Medicaid or dental coverage under Medicare, demand for dentists would increase dramatically.[20] Though unlikely to impact demand immediately given the current political climate, this situation also requires close monitoring of new developments.

If we look at historical and recent trends in expenditures per patient and per capita, we see that one important factor in the market's ability to absorb an increase in the number of dentists is the amount of care demanded by each patient. When adjusted for inflation, expenditures per patient rose from $348 in 1989 to $505 in 2006.[21,22] Put simply, demand for dental care is on the rise. If this trend continues, the profession will be better able to withstand increases in the size of the dental workforce in the absence of increased utilization.

Good dental care, oral hygiene, and widespread use of fluoride have caused an age-related shift in the composition of dental care provided.[23] Young cohorts demand primarily preventive, diagnostic, and cosmetic care, whereas the aging baby-boomers, who wish to retain as much of their natural dentition and appearance as possible despite poor oral health early in life necessitating significant restorative work, demand more expensive treatment options. The benefits of good oral health in children pay dividends as that cohort ages, suggesting that young adults and those who have maintained a high quality of oral health since childhood will demand less dental care and simpler restorative options than previous generations.

On the other hand, demand for cosmetic procedures is on the rise.[23] Additionally, the pace of dental research continues to reveal important connections between oral and systemic health.[13] Such advances may increase demand for care as dentistry becomes more closely aligned with the health care system. Ultimately, this is another empirical question impossible to predict given the forces at work.

Adequacy of the current workforce determines the implications of these results for the future workforce. Approximately 65 percent of the population visits a dentist each year, serviced by 176,634 dentists (59.6 dentists/100,000). If adequate funding becomes available to support their need for care, the 35 million people affected by D-HSPAs will demand more than 9,000 dentists to meet their oral health needs. Compounding the situation, dental schools face 400 faculty vacancies and a great need for dental scientists to boost research efforts.

It is certain that there will be five new schools starting in 2009, with the opening of Western University of Health Sciences College of Dental Medicine in Pomona, CA. Others are in various stages of development. Given the time, planning, and accreditation processes necessary to start a dental school, it is assumed that the actual number of new schools will be at or near ten. If the most probable assumptions ([10, R+, P1.05, G48, linear] and [10, R, P1.05, G48, linear]) are carried out to 2022, the effective number of dentists per 100,000 people will increase to between 62.6 and 66.0 from a baseline of

59.6. Conditions in which productivity stagnates over the next several years produce dramatically different results. For example, parameters of [10, R, P0, G48, linear] produce an adjusted dentist/100,000 ratio of 53.5—about nine fewer dentists than the same projection at 1.05 percent. The market's ability to absorb these dentists depends in part on their chosen location of practice. Barring large increases in need for or utilization of dental care or unexpected trends in productivity, graduation, retirement, or practice habits, supply of the dental workforce will outstrip demand for its services between 2008 and 2022.

This conclusion has interesting implications for existing—especially public—dental schools, whose cost structures depend heavily on government monies. Reduction in government support of dental education may confer a competitive advantage on the more economical schools, especially those associated with osteopathic medical schools.[24-26] Given the absence of research capacity at these institutions, organized dentistry must determine how it can promote a strong scientific foundation for advancement of the profession while the number of research-lacking institutions increases.

Recruitment of new dentists into underserved areas has become increasingly challenging given the rise in graduating student debt. The Arizona School of Dentistry and Oral Health has taken a unique approach to this issue by accepting students with a strong commitment to community service and by exposing students to dental need in community clinics. As evidence of the effectiveness of this approach, one-third of that school's 2006 graduating class entered a public health setting.[27]

In light of the rapidly growing number of D-HPSAs, one must question how additional graduates will affect access to care on a national scale. This type of workforce maldistribution is not likely to be addressed by market forces alone. Instead, society must find the political will to adequately fund the need for care for the underserved while concurrently developing supply-side initiatives to ensure that is adequate. Effective long-term policy solutions to the access to care problem must involve practicing dentists. Placing this burden squarely on the shoulders of new graduates—typically saddled with upwards of $200,000 in debt—is quixotic thinking and is as unlikely to produce success as the inadequate Medicaid policies that helped create the current access to care problem.

Dentistry must examine how new dental institutions fit into the spectrum of dental education. In doing so, the profession must passionately support research, since dentistry's legitimacy as a learned profession depends on its commitment to the scientific basis of clinical practice.[28] At the same time, dentistry must fulfill its obligation to meet the nation's oral health needs, especially in D-HPSAs and other underserved areas where traditional modalities of care delivery fail.[14]

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Appendix K

Dental Health Policy Analysis Series

An Economic Study of Expanded Duties of Dental Auxiliaries in Colorado

Tryfon Beazoglou, PhD, L. Jackson Brown, DDS, PhD, Subhash Ray, PhD, Lei Chen, MA, Vickie Lazar, MA, MS

ADA American Dental Association®
Health Policy Resources Center

Dental Health Policy Analysis Series

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PREFACE

In the U.S. economy and elsewhere, productivity is an important concept. Analysts track changes in productivity and attempt to understand the underlying causes of such changes. Economists also believe that there are strong links between productivity and incomes. The U.S. government, through its Bureau of Labor Statistics, regularly measures and reports on productivity, not only to evaluate various sectors of the U.S. economy, but also to compare productivity across different countries. Economic analysis and public and private policy planning have always depended heavily on accurate measures of productivity.

It is essential for any industry or business, including dentistry, to understand the sources and effects of productivity. In 2006, the issues of delegation, expanded duty auxiliaries, and productivity were at the forefront of professional discussions—and they remain so in 2009. Thus, in 2006, the American Dental Association funded a timely study to measure the effects of delegation on productivity and efficiency of dental practices. Leading economists in the fields of health economics and productivity analysis were commissioned to design and conduct this project. Any good empirical study requires accurate data, and the acquisition of reliable data requires both resources and the willingness of individuals (subjects) to participate in the process. Since faculty members at the University of Colorado had conducted a previous study of delegation among Colorado dental practices, it was decided to build upon that study by collecting additional quantitative and qualitative data from Colorado dental practices.

Why focus on Colorado? First, Colorado is a unique state in terms of the discretion in delegation available to dentists. Second, the initial Colorado study had produced a group of dentists who had indicated a willingness to participate in further research. This provided a remarkable opportunity. The intent was to assess not only the contribution of auxiliaries to practices, but also the degree of delegation employed by Colorado dentists. Similar data had not been collected since the 1970s, so there was great enthusiasm among the economists commissioned to work on this project.

This study intended to quantify the relationship between delegation patterns and productivity; and therefore, capacity. The goal was to identify the most effective patterns of delegation, in terms of their impact on dental practice productivity. To do this, dentists were asked what treatment actions they delegated, the number of patients seen and procedures performed over a certain time period, the resources used to provide these services, and the gross billings generated. This allowed the researchers to calculate the effects on types and quantities of services delivered as well as the financial impact of different decisions about delegation on each dental practice.

The results of this study are unique and important. However, the researchers are well aware that empirical results, interesting as they may be, cannot fully account for the actual conditions faced by practicing dentists, nor can results of the study offer definitive recommendations about how each dentist can improve the delivery

of services. Many factors influence the day-to-day conduct of a dental practice and the potential for delegation: physical practice size and the extent to which existing space and equipment are currently utilized, availability of personnel based on geographic location, willingness to train personnel and their willingness to be trained, the effective demand for oral health services in the geographic area of providers, and the dentist's personal preferences and choices regarding the style of practice. The purpose of this study was not to encourage or discourage a particular type of practice, but simply to analyze the empirical data and report the findings. Hopefully, the dental profession and other researchers will find this work worthwhile.

CONTRIBUTORS

This project was a joint collaboration of the American Dental Association and researchers at the University of Colorado and University of Connecticut. Researchers at the University of Colorado and HPRC staff collected data for this study. Economists from the University of Connecticut then analyzed the productivity and efficiency of each practice in the sample. Listed below are the names of the project team members by organization.

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This report is dedicated to Dr. Larry Meskin, an individual that did so much for all aspects of dentistry and was a mentor for so many in the profession. Dr. Meskin pioneered this project and played a vital role in all of its phases; sadly, he passed away in June of 2007 and did not see it come to fruition.

Special thanks go to Dr. L. Jackson Brown, former Associate Executive Director of the ADA's Health Policy Resources Center (HPRC), for having the vision and determination to undertake this important study of productivity for the dental profession by assembling knowledgeable researchers from the University of Colorado and the University of Connecticut.

While this study could not have been completed without the help and support of various staff members at the University of Colorado, the University of Connecticut and the ADA; the most important contributors were the Colorado dentists who participated in this research project. Without their time, commitment, interest and effort, the project would not have succeeded.

Lastly, a debt of gratitude is owed to the leadership of the ADA whose support made the project possible.

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Background

Early Studies of Expanded Delegation

Past studies have indicated that delegation of some tasks during restorative procedures to allied dental personnel can increase the productivity of the dental team by permitting dentists to focus on the tasks that require a higher level of formal and clinical education. Several factors can modulate the expected gains in productivity. One factor is the extent of the delegation—that is, which subtasks in the overall restorative procedure are delegated. Original studies of expanded delegation focused on the reversible procedures that are required to complete the restoration after the restorative site is surgically prepared (Hammons, 1967, 1968; Hammons, Jamison, 1967; Lotzkar and Johnson, 1968; Lotzkar, 1968; Hammons and Jamison, 1968). These procedures include: placement of a matrix band, if indicated; securing a sufficient interproximal contact between the restoration and the adjacent tooth by placement of an interproximal wedge; final preparation of the restoration site by cleaning, placement of a baseliner and a cavity sealant; inserting restorative material in the prepared site; and shaping the inserted material for contour and occlusion.

Some of the early studies were time-motion types of studies (Lotzkar et al, 1971a, 1971b; Kilpatrick et al, 1972). When the patient was seated and the procedure started, timing of the procedure began. At the end of the procedure the time involvement of the dentist and each staff member was recorded. The results from these studies were convincing—increased delegation enabled greater production per unit of production time, using less dentist time. Since less expensive time of non-dentist staff was substituted for more expensive dentists' time, the unit cost of production also declined.

Other early studies were conducted in clinics where the flow of patients could be controlled, such as military installations and dental schools. One of the largest and best known studies established a clinic in Louisville, KY, specifically to study expanded functions. Such studies again demonstrated increased productivity with expanded functions. One of the few studies conducted in a less controlled environment studied expanded functions in a private practice in Lexington, KY (Mullins et al, 1983; Lange et al, 1982). This study was able to demonstrate an increase in output per hour while the practice was fully staffed. The results were more equivocal when one of the two dentists in the practice could not practice for an extended period of time.

Another study examined the effects of delegation on various factors including productivity, gross income, net income, and quality of care in private general practices in Washington State (Milgrom et al, 1983; Bergner et al, 1983). The results indicated that productivity increased in practices that delegated expanded functions more extensively. Higher practice gross incomes were associated with greater delegation; however, net income differences were not statistically significant. In terms of quality of care, researchers found that dental hygienists and dentists provided the same quality of restorative care with respect to amalgams, but dental hygienists tended to have more difficulty with composite restorations.

These classical studies of expanded delegation were conducted from the early 1970s through the early 1980s. They focused primarily on delegation of restorative procedures. Much has changed since these studies were completed. The epidemiology of dental caries has changed markedly. The percentage of patients that arrive at a dental office requiring multiple restorations has declined. The percentage that requires multiple restorations in one quadrant, the circumstance where delegation of the placement and finishing of amalgam demonstrated the greatest advance, has declined even more.

Thirty years ago, amalgam restorations represented the huge majority of all intracoronal restorations; and for posterior teeth, amalgam material was used almost exclusively. Presently, resin composite materials are commonly used when restoring posterior teeth. Composites are more technique-sensitive and require more education and experience before proficiency is attained. In addition, the procedures that are considered for delegation have increased. Preventive and prosthetic procedures are increasingly being delegated in states that permit such delegation.

CONTEMPORARY EXPERIENCE WITH EXPANDED DELEGATION

-Navy Dental Corps. The Navy Dental Corps utilizes both expanded function dental assistants and scaling technicians (Pebley, 1976). Use of these staff has increased productivity in their clinics, permitting more patients to be seen and releasing dentists for responsibilities that only they are qualified to perform. The quality of care has been maintained (Turner, 2006).

-Philadelphia Department of Public Health. In an oral presentation, R. Ivan Lugo, Dental Director, Philadelphia Department of Public Health, reported their experience with an expanded delegation program (Lugo, 2005). The program operates in seven clinics in the underserved areas of Philadelphia. The EFDA (Dental Techno Therapist) pilot program began in 1969. The full program was established in 1975. A high school degree was required to enter EFDA training for the program. Three hundred hours of chairside training or a formal training program were required of the EFDAs, divided between three weeks of didactic training and six months of clinical training. In addition, most of the EFDA's had prior dental assisting experience. Direct supervision of EFDAs was required. Key duties included: placement of rubber dams and matrix bands; placement of restorative material; medication as directed; and finishing and

polishing of restorations. EFDAs also took study models and radiographs; provided patient education; and trained and supervised dental assistants.

Dr. Lugo reported that the program enabled the dental public health program to provide additional dental services by leveraging personnel. The expanded delegation improved output per dentist by 30% (output = workforce x productivity), resulting in an increase in additional patient visits and/or procedures. Quality of care has been sustained and no incidents or complaints involving services provided by EFDAs have been registered in the 30-year history of the program.

-Kansas. Several years ago the State of Kansas enabled dental assistants with the proper education and experience to perform not only coronal polishing, but also supragingival scaling (Mitchell et al, 2006). These personnel have permitted dentists to focus on higher level procedures, addressing a workforce shortage for dental hygienists in certain portions of the state and allowing dentists utilizing these assistants to see more patients each day. It appears that this has been done without compromising patient safety or care.

-Colorado. Perhaps the most extensive recent study of expanded delegation was conducted by researchers at the University of Colorado, School of Dentistry (Domer, 2005). The state practice act of Colorado permits a wide-range of expanded delegation. The study found that high delegation was strongly related to the number of patients seen during a year (high delegation-more patients). It was also related to the age of the dentist(s), whether or not the dentist had taken continuing education courses on the use of expanded function dental allied personnel, the number of dentists in the practice, and formal education of the expanded function staff.

When high delegation dentists were asked how delegation had affected their practice, they responded that they believed that expanded delegation had: (1) increased the number of patients seen, (2) increased productivity and income, (3) reduced the stress of practicing dentistry, and (4) permitted reduced hours without a decrease in income.

In contrast, low delegation practices reported that they chose to not delegate more due to lack of trained expanded function dental assistants and the higher salary these assistants normally require. They reported that they did not have the appropriate case mix, office size or design to appropriately utilize expanded function dental assistants. They also reported that they lacked time to educate and train the expanded duty assistant and were unsure how to integrate expanded delegation into their practices. For private practice, these results suggest that expanded delegation offers benefits for appropriate practices, but not all dentists believe expanded delegation would be useful for them.

COLORADO AS THE SITE FOR THE STUDY

This study builds on a previous Colorado study, *A Pilot Study to Determine Barriers to Implementing Productivity Enhancement Strategies in Dental Practices,* which was approved by the Santa Fe Group as part of its Oral Health

Care Scholars Program and funded by the American Dental Trades Association. The study was conducted by Dr. Larry R. Domer and Dr. Richard L. Call in spring of 2003. Colorado is an excellent site for the study because the range of procedures that can be delegated is among the most comprehensive in the U.S. Moreover, the state has permitted these forms of delegation for several years, so those practices that delegate have had time for that style of practice to be fully integrated into their operations. Practices that do not delegate also have had a substantial period to make that decision and have chosen not to delegate. Consequently, the reasons for both delegation and non-delegation among practices in the study will be based on several years of experience.

Goals and Objectives

The goals and objectives of this study were: to assess the effects of expanded duty dental auxiliaries on (1) dental output; and (2) the efficiency of general dental practices in Colorado. The specific objectives of this study were to:

(1) Compile and analyze results of the *2006 Survey of Expanded Duties for Dental Auxiliaries* conducted in Colorado;

(2) Identify and measure the structural determinants of productivity and efficiency in private dental practices in Colorado;

(3) Estimate the effect of various levels of delegation on gross billings, visits, value-added, efficiency, and net income of general dental practices; and

(4) Recommend specific steps general dental practices may take to increase their productivity and efficiency.

Methodology

Survey, Sample and Data Collection

We developed a survey instrument, the *2006 Survey of Expanded Duties for Dental Auxiliaries*, to address the primary goals of this study. We followed three approaches: (1) existing and widely used dental private practice survey instruments were examined; (2) national experts were consulted; and (3) the resulting survey instrument was pretested with general dental practices in Colorado. Appendix A contains the questionnaire.

The data collected from the initial Colorado study provided an existing sampling frame for this study. Many practices that were part of the initial study indicated their willingness to consider participation in a follow-up study through this question:

> Please check appropriate boxes
> ☐ 1. Please send me a copy of the survey results.
> ☐ 2. Yes, I would be willing to consider phase 2 participation but am not committing to it yet.

When the results of the first Colorado study were presented at the American Dental Association's Dental Economics Advisory Group (DEAG) meeting in March of 2005, Dr. L. Jackson Brown, chairman of DEAG and the Associate Executive Director of ADA's Health Policy Resources Center, expressed interest in the ADA collaborating with the University of Colorado School of Dental Medicine and the University of Connecticut in funding the continuation and expansion of the study in Colorado.

Thus, upon approval by the ADA's Board of Trustees, the second phase of this study—*2006 Survey of Expanded Duties for Dental Auxiliaries*—was funded by the ADA. Respondents of the Domer study who had indicated that they "would be willing to consider phase 2 participation" on their surveys were identified. The information from the first study allowed the practices to be stratified into high, medium and low delegation practices. This, in turn, allowed adequate numbers of each delegation pattern to be selected for the study.

The *2006 Survey of Expanded Duties for Dental Auxiliaries* was mailed as follows. On 10/25/2006, an introductory letter from the University of Colorado was mailed to 153 dentists. The survey and an accompanying cover letter were mailed from the ADA on 10/30/2006. Seventy responses were received. On 11/15/2006, an introductory letter from the University of Colorado was mailed to another 164 dentists. The survey and cover letter were mailed from the ADA on 11/17/2006. Sixty-two responses were received. On 12/28/2006, an introductory letter from the University of Colorado was mailed to another 86 dentists. The survey and cover letter were mailed from the ADA on 1/2/2007. Thirty-two responses were received. Thus, the total sample size was 403 (153+164+86) and the total number of respondents was 164. After accounting for dentists who were determined to be retired, deceased, not in private practice, and not locatable, the adjusted response rate was 43%.

The responses were reviewed for completeness and consistent entries. This process yielded 154 general dental practices with usable data. The 154 observations were divided into four groups based on the data provided regarding the hours worked among non-dentist staff—a key input in the production of dental services. (This was done because one of the methods of analysis used, Data Envelopment Analysis or DEA, requires non-zero entries for input variables. For example, if a practice did not indicate the hours of dental hygienists, then none of the other information provided by that practice could be used for DEA analysis or other techniques that require non-zero inputs.)

The first group consisted of all 154 practices (observations). For this group, the annual hours worked by dental hygienists, chairside assistants and other non-dentist staff were aggregated into one variable denoted as **dental auxiliary hours**. Among 131 of the 154 practices it was possible to disaggregate the dental auxiliary hours into two variables—dental hygienists plus chairside assistants' hours and other non-dentist staff hours. Among 117 practices, it was possible to completely disaggregate the dental auxiliary hours into three separate variables: dental hygienist hours, chairside assistant hours and other non-dentist staff hours. The fourth group consisted of 81 respondents who, aside from filling out the survey, also provided detailed practice production

information using their practice management systems. While all methods of analysis were applied to all groups, only the results for the first group of 154 are presented in this report.

RELEVANT THEORY

Economists distinguish between total output, productivity, and efficiency. These terms and some related concepts are described below. In addition, Appendix B contains a more detailed discussion.

-Output. Economic studies of dental practices generally measure output in several ways: visits, gross billings, value-added, and quantities of various services. Each measure has some validity as well as certain drawbacks. Number of visits is normally the easiest to measure, but visits vary in length as well as the volume and types of services delivered. Gross billings are a more comprehensive measure of services produced but reflects service prices as well as quantities. Strictly speaking, output should be measured in quantity terms, but gross billings can be viewed as a price-weighted index of output. A detailed breakdown of various types of services is arguably the best measure of output, but many of the techniques used to analyze production rely on a single measure of output. The survey described above collected information on each of these output measures.

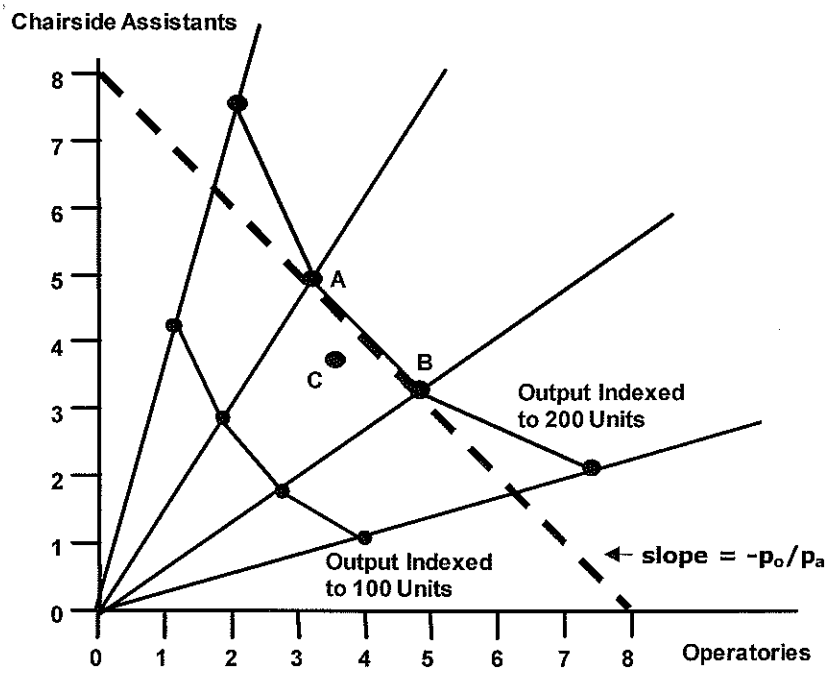
-Productivity. Productivity generally refers to output per unit of some input (e.g., gross billings per dentist or per hour of dentist time), or output relative to some index of input use (e.g. visits per dollar of total cost, where total cost is interpreted as a price-weighted measure of input use). If, through the elimination of inefficiencies or through the genius of a new method of production, greater output is created by the same set of inputs, an improvement in productivity has occurred. In contrast, improvements in production generally mean that more inputs are fed into the process, yielding greater output. This is an important distinction because an increase in productivity implies a greater capacity to produce with a fixed amount of resources. An increase in production simply means that more resources are employed within the same process. (For more details on productivity and its measurement see Appendix B.)

-Efficiency. *Technical efficiency* refers to the producer's ability to achieve the highest attainable output from a particular mix of inputs, given the current "technology" of production. This approach translates into the analysis of efficient combinations of staff and equipment. Once existing staff and equipment are most efficiently combined, the capacity of the delivery system is determined. Production is expanded only with the addition of more staff or more equipment. The limitation on capacity to produce, given an efficient combination of inputs, is called the production limit or frontier for that combination of staff and equipment.

Figure 1 helps to illustrate the production theory concepts within the context of a two-dentist practice that, besides the dentists' time, uses operatories and chairside assistants to produce gross billings (or some other measure of dental

service output). For simplicity, the example assumes that the two inputs are "lumpy" (integer-valued or indivisible), but most economic analyses of production treat inputs and outputs as continuous variables. In the hypothetical two-dentist practice shown in Figure 1, 100 units of output can be produced with several different input combinations. Similarly, several input combinations can be used to produce 200 units of output. Economists refer to each of these output contours as an *isoquant*—a locus of input combinations that can produce the *same* level of output. Isoquants further from the origin reflect higher levels of output. We only show two isoquants here, but a complete map of isoquants—one for each potential level of output—describes the existing production process or *technology*.

Figure 1: Production Isoquants for a Two-Dentist Practice



Again, technical efficiency implies that the maximum possible output is produced from a chosen bundle of inputs. In the graph, that simply means operating on one of the many isoquants that characterize the technology. So what does it mean to be technically *inefficient*? Again, suppose that the isoquants in Figure 1 reflect the state-of-the-art technology for a two-dentist practice. But, suppose that a practice currently using 3 operatories and 6 assistants produces only 175 units of output rather than the 200 that are possible. This practice would be deemed *technically inefficient*. One of the methods used in this study, Data Envelopment Analysis or DEA, allows us to identify a group of efficient practices and then compare other inefficient practices to this benchmark group. The technique also yields an index, ranging from zero to one, which measures the degree of efficiency for each practice in

the sample. Appendix B gives a more formal exposition of DEA and the index of efficiency.

All of the points on the contours are *technically efficient* input combinations, but they are not all *economically efficient*. In this example, an economically efficient input mix is determined by the input prices (relative costs) of assistants (p_a) and operatories (p_o). The dotted *isocost* line, tangent to a segment of the outer contour, displays a ratio of operatory cost to assistant cost which indicates that any of the combinations along that line segment, including the points A and B, are economically efficient ways for this two-dentist practice to produce 200 units of output. The slope of the isocost line = $-p_o/p_a$, so as the input price-ratio changes, the economically efficient mix of inputs also changes. A steeper isocost, reflecting a higher operatory price relative to the price of an assistant, would make only point A, with fewer operatories and more assistants, economically efficient. A slightly flatter isocost, caused by a decline in the operatory price relative to the price of an assistant, would make point B the only economically efficient combination. While technical efficiency simply means using the existing technology to get the most from a chosen mix of inputs, economic efficiency further requires that the chosen input mix is the least costly way to produce that output.

Note that the number of dentists in this example has been held constant. If we consider a solo practice, instead of the two-dentist practice in the example, the entire set of isoquants will shift (one dentist can normally produce less with a given combination of operatories and assistants), but the same basic principles apply: (1) inputs can be substituted (to some extent) to attain a particular level of total output; (2) when technical efficiency is achieved, the practice is operating on one of the isoquants, and any increase in output (movement to a higher isoquant) requires more of at least one input; (3) the cheapest way to produce a given level of output depends on the relative prices of inputs; and (4) as input prices change, the economically efficient mix of inputs also normally changes, requiring more use of the input that has become relatively cheaper and less use of the input that has become relatively more expensive.

The graph is a hypothetical example of a two-dentist practice and is not intended to represent actual production configurations. Other types of staff, such as dental hygienists and front office personnel, as well as various equipment and supplies, also play a role in the efficient production of dental services. These additional inputs to the production process cannot be shown in a two-dimensional graph: the underlying assumption is that other inputs are held constant. In actual production analysis, all of these inputs are considered simultaneously by using multivariate functions and mathematical techniques (see Appendix B).

-Scale Properties. Another property of the production process is *returns to scale*. Returns-to-scale describes the effect on output of a proportionate change in all resources. For example, in Figure 1, for each input combination that produces 100 units of output, if a doubling of inputs exactly doubled output to 200 units, this would indicate a *constant returns to scale*. If this same "scaling up" of inputs increased output *more* than proportionately (e.g.,

to 225 units), this would be an example of *increasing returns to scale*. A less than proportionate increase in output (e.g., to 175 units) would indicate *decreasing returns to scale*. (Technically, the diagram is not an ideal illustration of returns to scale, since the input that is not being graphed, the number of dentists, is fixed.) In this study, our estimates of the *production function*—the multivariate relationship between output and various inputs—quantifies the contribution of each input, as well as the returns to scale for dental practices in the sample.

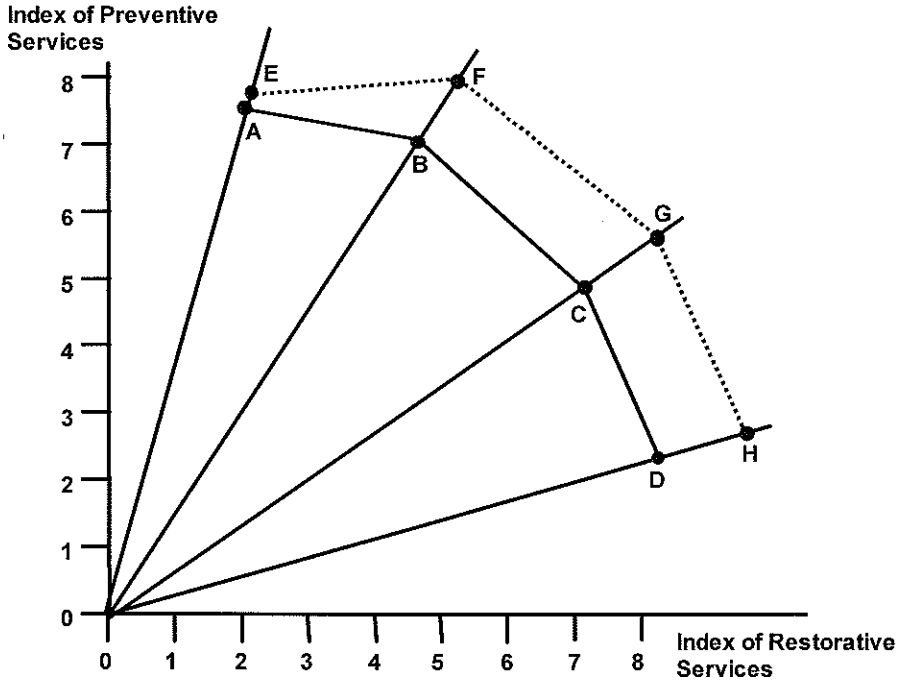
–Productivity with Expanded Function Dental Auxiliaries. The same production principles apply when considering expanded responsibilities for dental auxiliary personnel. In production terms, this is equivalent to a further division of labor, or at least a reassignment of tasks: a larger number of procedures are delegated to non-dentist staff. There are two possible gains that might be realized from expanded delegation. First, it permits dentists to focus on procedures that require their expertise and training, while the auxiliary handles some procedures previously done by the dentist. This can enhance the production of a practice per unit of time and increase technical efficiency. Equivalently, this potential gain from expanded delegation might allow the two-dentist practice depicted in Figure 1 to produce the same 200 units of output with fewer inputs, as represented by point C inside the 200-unit isoquant. A second benefit from expanded delegation is economic efficiency. By substituting the less costly time of expanded function auxiliaries for the more costly time of dentists, a potential cost saving can be realized. So not only is more dentistry produced per hour of production, but it also may be produced with a less expensive mix of labor inputs.

This discussion assumes that all aspects of the underlying technology of production, except the staff scope of responsibilities remains the same between an expanded function and a traditional dental practice—that is, materials, operatories, dentists' abilities etc. are similar in both types of practices. But, expanded delegation, if effective, may yield more services from the same bundle of inputs for practices with certain types of case mix. This increased efficiency, if it exists, will affect the production that is possible for a dental practice of a given size.

This concept is illustrated in Figure 2 which shows hypothetical production possibilities for traditional and expanded delegation practices. For this illustration, practices with different proportions of preventive versus restorative services are depicted. The upper-left radiating line indicates a largely preventive practice, while the lower-right radiating line indicates a largely restorative practice. The two intermediate lines show intermediate preventive/restorative proportions. The solid line connecting the radiating lines depicts the production frontier for traditional practices A, B, C, and D (no expanded delegation). The ABCD line represents the most production that can be produced with efficient traditional practices. The dashed line connecting practices E, F, G and H represents a hypothetical production frontier for expanded delegation practices.

Both traditional and expanded practices cannot be beyond their respective production possibility frontiers. The graph assumes that expanded delegation is more efficient for restorative services but not significantly more efficient for preventive services. This is the reason that the dashed production frontier for expanded-delegation practices diverges from the solid production frontier for traditional practices for those practices with a higher proportion of restorative services.

Figure 2: Production Possibilities



Notice further, for preventive practices (the upper left-most dots), there is not much difference between traditional and expanded delegation practices that are both efficient. This is because under this hypothetical example, the efficiency gain for preventive services is not large for expanded-delegation practices. In contrast, for predominately restorative practices (the lower right-most dots) the difference is greater between traditional and expanded-delegation practices of about equal efficiency for their type of practice. This illustrates a large payoff in efficiency for efficient, expanded delegation practices over traditional practices.

Of course, this is only a hypothetical example for illustrative purposes. These assumptions may or may not be true. The study is intended to provide evidence to help make an empirical determination of these efficiency relations.

-Costs of Expanded Function Dental Auxiliaries. If expanded function auxiliaries command higher earnings, these additional costs must be weighed against the potential gains in practice output and income, but there are other potential costs associated with expanded delegation.

While the underlying technology may not change, the size of the staff and the number of operatories to fully utilize that staff is likely to be larger for an expanded delegation practice than for a traditional practice with the same number of dentists. If expanded practices are systematically larger, the analysis will need to control for such differences to provide an appropriate comparison. Other aspects of staff size also will need to be considered. Larger staff size increases the overhead per hour. If production using expanded delegation is large enough, the practice can absorb the increase in hourly operating costs and still generate more net income per hour of production. Similarly, the cost per unit of dentistry produced will be lower in the expanded practice if the increase in output is proportionately larger than the increase in practice costs.

If expanded delegation increases operating cost, there is another potential downside. Every period of non-production (down time) costs the expanded practice more than it does the traditional practice. Consequently, it is important to have a reliable flow of patients to keep the staff and equipment fully utilized in an expanded delegation practice. Broken appointments, bad weather days, equipment breakdowns, staff absences, and dentists' time-off place a greater burden on an expanded practice. Scheduling also becomes more complicated. Not only must the appointment schedule be fully booked, perhaps slightly overbooked to ensure continuity of production, but appointments must be scheduled such that not too many requiring expanded delegation overcrowd a specific time slot.

DEFINITIONS AND MEASURES

-Output Measures. To assess the productivity and efficiency of dental practices, we used three single-output measures: number of patient visits, gross billings and value-added. Value-added is defined as the dollar value of dental practice output (gross billings) minus the dollar value of inputs purchased from other firms (in this study the dollar value of these inputs consists of lab expenses and dental supplies).

-Input Measures. The set of input measures used for the production function specification as well as the Data Envelopment Analysis (DEA) included: annual hours worked by dentists, dental hygienists, chairside assistants and other non-dentist staff, laboratory expenses, supply expenses, number of operatories and square feet of office space. Because laboratory and supply expenses are measured in dollars rather than physical units, they are not "inputs" in the usual sense, but they serve as good proxies for the quantities of these inputs if lab fees and the prices of supplies are roughly the same for all practices in the study. This is more likely to be true within a single state like Colorado than across many states.

-Delegation Measures. Using the responses to three questions on the survey (Q20, Q23 and Q23 in conjunction with Q25), three separate measures for the delegation of expanded duties were calculated. (See Appendix A for a copy of the survey instrument.)

(1) A qualitative variable was created using the responses to Question 20 which asked: *Do you currently use, or at one time used, expanded function auxiliaries in your primary practice location?* The qualitative variable was assigned a value of "1" if the answer was, *"Yes, currently use."* The qualitative variable was assigned a value of "0" if the answer was, *"No, never used" or "Yes, once used but have discontinued."*

(2) A simple average index was calculated based on the responses to Question 23 which asked dentists to indicate the percentage of delegation for various procedures/activities within eight categories of services. The procedures listed under the category of *Diagnostic/Preventive/Adjunctive* in Question 23 were not used in the calculation because almost all sampled practices delegated these procedures; hence, they do not provide much information about *expanded* delegation. The three categories of *Endodontics, Oral Surgery and Other* were combined into one category; resulting in five service categories. The simple average delegation index was constructed by first calculating the average response rate in each category (rendering 5 means), and then calculating an overall average.

(3) A weighted average delegation index was constructed the same way as the simple average delegation index. For this calculation, however, the means of the five categories were weighted by their corresponding shares of the practice gross billings as indicated in Question 25.

METHODS OF ANALYSIS

Several analyses were performed to achieve the goals and specific objectives of this study.

-Descriptive Analysis. Descriptive analyses (univariate and bivariate) of the structural characteristics and level of delegation of expanded duties were performed.

-Production Function Analyses. The methodology used to assess the effects of expanded delegation on dental output was done in two steps. In the first step, a production function was specified to estimate the contribution of key inputs involved in the production of a general dental practice, excluding the delegation of expanded duties variables. In the second step, the production function was modified to include a variable measuring the extent of delegation. These two steps, which are described in detail below, allowed an assessment of the independent contribution of delegation on dental output.

-Production Function and Empirical Specification. Using a standard econometric approach to estimate the contribution of key inputs to dental practice outputs involved the empirical estimation of a dental production function. In general, a production function is a functional relationship between measure(s) of output(s) and a vector of inputs. For this study, we used a Cobb-Douglas production function:

$$O = b_0 DH^{b1} DSH^{b2} C^{b3}.$$

This function is linear in logarithms:

$\ln O = b_0 + b_1 \ln DH + b_2 \ln DSH + b_3 \ln C$

where O is dental output, b_i are parameters to be estimated, DH and DSH are annual hours of work for dentists and dental staff (includes dental hygienists, chairside assistants, and other dental staff) and C is the number of dental operatories; ln is the natural logarithm.

A modified Cobb-Douglas production function was used to assess the effects of expanded duties dental auxiliary delegation. The modification consisted of adding to the Cobb-Douglas production function a variable indicating the level of expanded duties which were delegated to dental auxiliary:

$O = b_0 DH^{b1} DSH^{b2} C^{b3} e^{b4DEL}$, or in logarithms:

$\ln O = b_0 + b_1 \ln DH + b_2 \ln DSH + b_3 \ln C + b_4 DEL$

where **e** is the base of the natural logarithm and **DEL** the level of delegation.

-Effects of Delegation on Output. We used three alternative measures of dental output: gross billings (market value of dental services), dental visits and value-added (defined as gross billings minus laboratory expenses and supplies).

We used three alternative measures for the level of delegation. These were described above. The first measure of DEL is a qualitative variable taking a value of "1" (if the practice delegates expanded duties) or "0" (if the practice does not delegate expanded duties). The second measure of DEL is a simple average score of the expanded duties delegated in a practice. The third measure of DEL is a weighted average score of the expanded duties delegated in a practice (where the weights are the share of dental services with respect to total gross billings).

The method of estimation was ordinary least squares. The estimates enabled us to establish the incremental contribution of the various factors (i.e., dentist hours, auxiliary hours, operatories) including level of delegation to dental outputs. We used these results to estimate the expected increase in outputs, if a dental practice increased (decreased) the number of operatories, auxiliary hours, etc.

-Effects of Delegation on Efficiency. Clinical (or technical) efficiency is defined as the effectiveness with which a given set of inputs (e.g., dentist and auxiliary time, operatories, lab expenses, supply expenses) are used to produce outputs (e.g., gross billings, dental visits, value-added). To assess the effects of expanded delegation on the clinical efficiency of a general dental practice, a two-step process was used. In the first step, we specified and estimated the clinical (technical) efficiency of each dental practice, excluding the variable measuring the delegation of expanded duties. The method of estimation is

Data Envelopment Analysis (DEA). Thus, the first-step DEA consists of a series of mathematical programming problems—one for each practice in the sample. And the solution, gives an efficiency score ranging from 0 to 1, with 1 indicating that the practice is operating somewhere *on* the efficiency frontier constructed from the observed behavior of practices in the sample. Three sets of efficiency scores were generated for the sampled dental practices, a set for each measure of output: gross billings, dental visits, value-added.

Note that DEA is an alternative to standard production function analysis (Ray, 2004). Dental practices vary in size, composition, and management structures (i.e., inputs), and this variation impacts their effectiveness in producing patient care services (i.e., outputs). To identify best practices, we used DEA—which has been applied to a variety of private and public sector production processes, including dental services (Buck, 2000; Wang et al, 2002; Coppola et al, 2003; Widstrom et al, 2004).

DEA allows for multiple inputs and is a nonparametric approach that does not require a pre-specified functional form to describe the link between output and various inputs. These features allow the data to "tell the story" rather than imposing unnecessary and sometimes arbitrary restrictions. DEA also ensures that all observations lie within the constructed technology set and, therefore, comes closer to the notion of the production function as a performance boundary. Appendix B contains detailed information on DEA.

In the second step of DEA, a set of linear regressions were estimated to assess the impact of expanded duty delegation on practice clinical efficiency. The dependent variable in each set of regressions was the efficiency score of each practice using as output measure gross billings, dental visits and value-added, respectively. The independent variables included the level of delegation (the same three measures of delegation as in the modified Cobb-Douglas production function specification) as well as other dimensions associated with a dental practice, such as location, staff and patient characteristics as follows:

List of Variables	**Variable Definition**	**Data Source**
Training	Dentists were asked if they had taken any CE courses focusing on the use of expanded functions for auxiliaries.	Question 5 in survey instrument
% No-show	Dentists were asked to estimate the percent of all scheduled appointments for which the patient did not appear.	Question 12 in survey instrument
% of gross from uninsured patients	Dentists were asked of the gross billings collected, what percent was received from uninsured patients.	Question 18a in survey instrument
% White	U.S. resident White population at the zip code level	Census 2000
% with BA degree	Percent of the population with a bachelor's degree at the zip code level	Census 2000
Per capita income	Per capita income at the zip code level	Census 2000
Dentist/square mile	Number of dentists per square mile based on zip code of practice locations	ADA & Census 2000

-Effects of Delegation on Net Income. One important issue of delegating expanded duties to dental auxiliaries is to assess their impact on the net income of a general practice. If expanded function auxiliaries command higher earnings, these additional costs must be weighed against potential gains in revenues (gross billings). A proper way to assess the impact of expanded function dental auxiliaries in a dental practice would be to specify and estimate a profit function. Such a specification would require input and output prices, the objective function of the dental practice, the level of training of dentists and dental auxiliaries as well as a number of other intangibles; information that was not part of this study. Thus, an ad hoc linear regression model was estimated. Two dependent variables were used: practice net income and practice net income per dentist hour. The independent variables included level of delegation and patient and practice characteristics (see list of variables above).

Results

DESCRIPTIVE STATISTICS

Of the 154 dentists, 141 were male and 13 were female. The overall average age of the group was 50.4 years. Female dentists were younger, with an average age of 45.6 years, compared to 50.9 years for male dentists. The overall average number of years since graduation was 22.7 years. Among the 13 females, this average was 13.9 years compared to 23.6 years among their male counterparts.

Dentists were asked if they had graduated from either a General Practice Residency (GPR) or Advanced Education in General Dentistry (AEGD) program. The majority, 80.5%, said "No," 16.9% said they had graduated from a GPR program and 2.6% said they had graduated from an AEGD program. The majority, 90.9%, also indicated that they had not taken any continuing education courses focusing on the use of expanded functions for auxiliaries in the "past three years."

Among the 154 dentists, the average number of non-dentist full-time (32 hours or more per week) staff was 4.7 and the average number of non-dentist part-time (less than 32 hours per week) staff was 1.8. Of the 154 dentists, 102 (or 66.2%) indicated being solo practitioners.

The average length of a scheduled appointment was 57.3 minutes and the average percentage of "no-shows" for scheduled appointments was 6.7%. Responding dentists estimated that patients under the age of 18 accounted for 15.4% of their patient base; patients 18 to 34 years of age accounted for 19.9%; those who were 35 to 64 years of age accounted for 51.8%; and those who were 65 and older accounted for 13.0% of the patient base.

As mentioned previously, dentists who were contacted for this study had participated in a previous 2003 study. During that study, these 154 dentists were categorized as follows: 30 (19.5%) were found to be "high" delegators; 28 (18.2%) were "medium" delegators; 88 (57.1%) were "low" delegators; and 8 (5.2%) were not assigned a delegation level. In the 2003 study, the low

delegation level included those who only delegated diagnostic/preventive services; medium delegation level included those who delegated crown/bridge services but not restorative services; and high delegation level included those who delegated restorative services.

Tables 1-3 describe the characteristics of the responding dentists' practices. Among the 154 practices, the average gross billings for 2005 were $859,761. Annually, an average of about $58,000 and $52,000 were spent on lab expenses and dental supply expenses, respectively. These practices had an average of 5,365 patient visits per year, and dentists spent an average of 2,289 hours per year in their practices. As shown in Table 2, the majority of the 154 respondents were solo practitioners; none had more than six dentists. About 55% of the respondents had 3 or 4 operatories; 15.6% had more than 6 operatories (Table 3).

Table 1: Descriptive Statistics of Sampled General Dental Practices

(N=154)	Mean	Std. Deviation	Minimum	Maximum
Gross Billings (2005)	859761	647301	98343	3594756
Practice Net Income	283952	252522	39000	1600000
Annual Visits	5365	4222	784	25991
Number of Dentists	1.6	1.0	1	6
Dentist Hours	2289	1454	800	9214
Dental Hygienist Hours	1992	1638	0	8820
Chairside Assistant Hours	3285	2468	0	13500
Other Staff Hours	2849	2645	0	16400
Dental Auxiliary Hours	8126	5432	1470	31448
Square Feet	2064	1407	800	13000
Number of Operatories	4.6	2.5	1	20
Lab Expenses	57893	45719	4000	300000
Dental Supply Expenses	52253	44958	3676	236816
Value-Added	749615	568006	68556	3236452

Table 2: Distribution of the Number of Dentists in the Practice

Number of Dentists	Frequency	Percent
1	102	66.2%
2	33	21.4%
3	11	7.1%
4	3	1.9%
5	3	1.9%
6	2	1.3%
Total	154	100%

Table 3: Distribution of the Number of Operatories in the Practice

Number of Operatories	Frequency	Percent
Less than 3	15	9.7%
3	39	25.3%
4	45	29.2%
5	22	14.3%
6	9	5.8%
More than 6	24	15.6%
Total	154	100%

LEVEL OF DELEGATION

Two questions on the survey instrument dealt with delegation. In one question (Q20), dentists were asked if they currently use, or at one time used, expanded function auxiliaries in their primary practice locations. The results are shown in Table 4. Almost two-thirds (63.6%) of the respondents delegated some activities to their auxiliary staff.

Table 4: Distribution of Responses to the General Delegation Question

Q20: Do you currently use, or at one time used, expanded function auxiliaries in your primary practice location?		
	Number	**Percent**
Yes, currently use	98	63.64%
Yes, once used but have discontinued	17	11.04%
No, never used	39	25.32%

Table 5 presents mean characteristics of practices based on whether or not the responding dentists indicated currently using expanded function auxiliaries in Question 20. Recall that the categories of "*Yes, once used but have discontinued*," and "*No, never used*" in Q20 were combined to indicate no delegation. The differences between the two groups in Table 5 were statistically significant for all variables except "other staff hours."

Table 5: Mean Characteristics of Dental Practices, by Delegation

	Delegation=No (N=56)	**Delegation=Yes (N=98)**
Gross Billings (2005)	602990	1006487
Practice Net Income	209825	326311
Annual Visits	3680	6328
Number of Dentists	1.3	1.7
Dentists Hours	1915	2502
Dental Hygienist Hours	1429	2314
Chairside Assistant Hours	2437	3769
Other Staff Hours	2434	3086
Dental Auxiliary Hours	6301	9168
Square Feet	1717	2261
Number of Operatories	3.7	5.1
Lab Expenses	39296	68520
Dental Supply Expenses	36793	61088
Delegation Index, Simple	17.31	39.50
Delegation Index, Weighted	8.59	32.88

In another more detailed question (Q23), dentists were asked of all the times specific procedures/ activities were performed, approximately what percentage were delegated to chairside assistants or dental hygienists. Table 6 shows the mean percent of each procedure/activity delegated to the dental auxiliaries. For example, the mean percentage level of delegation was 90% or more for the listed diagnostic and preventive services. The one exception was for the placement of occlusal sealants where the mean percentage delegated was 66%. The mean percentage of delegation was 33% or more for restorative procedures listed under the "Operative, Primary and Permanent Teeth" category and 46% for the placement of temporary filling materials. And so on.

It should be noted that the scope of procedures/activities listed in Table 6 which are allowed to be delegated by a dentist to auxiliary staff (i.e., hygienists, chairside assistants) is the broadest in the country. With the exception of the procedures/activities listed under the category of Diagnostic/Preventive/ Adjunctive, very few states allow some of the other procedures to be delegated to auxiliary staff.

Since the question did not specify to which dental auxiliary procedures/activities were delegated, the last column in Table 6 groups the procedures/activities according to four categories: two categories for dental hygienists and two categories for chairside assistants. The final category is those procedures rarely performed by a non-dentist anywhere in the U.S. outside of Colorado. The procedure/activity coding guide for the last column is as follows:

Most assistants in the U.S. perform
Assistants in a few other states other than Colorado perform
Most hygienists in the U.S. perform
Hygienists in some states other than Colorado perform
Rarely performed by auxiliary staff outside of Colorado except at federal facilities

The reader should note that the procedures/activities with blue shading can also apply to dental hygienists. For example, local anesthesia can be a function for a hygienist or an assistant. Dental hygienists are more likely to provide local anesthesia; in those jurisdictions where they can provide sub-gingival scaling, they usually can provide local anesthesia. In jurisdictions where they cannot provide sub-gingival scaling, they frequently cannot provide local. The authors are unaware of any state, including Colorado, where dental hygienists can provide 'block' locals—it is usually limited in 'infiltration' locals. Chairside assistants can sometimes provide 'infiltration' anesthesia.

Lastly, it may be important to point out that within the last several years, there has been significant blurring in the scope of services that can be provided by chairside assistants and dental hygienists—and with the implementation of new workforce models, things become even less clear. The color-coding guide in Table 6 does not address these issues and is only provided as a general reference for the reader.

Table 6: Mean Level of Delegation by Procedure/Activity

	Number	Mean Percent
Diagnostic/Preventive/Adjunctive		
Take PA or BW radiographs	154	95.93%
Take panoramic radiographs	109	97.96%
Provide prophylaxis	143	91.69%
Place occlusal sealant(s)	111	66.88%
Administer topical fluoride	146	97.48%
Apply fluoride varnish	97	94.24%
Take and pour alginate impressions	149	87.82%
Operative, Primary and Permanent Teeth		
Place wedge/matrix for amalgam	72	33.67%
Place/finish amalgam (1 surface)	62	38.24%
Place/finish amalgam (2+ surfaces)	60	36.23%
Place/wedge matrix for composite	84	35.89%
Place/finish anterior composite	69	37.97%
Place/finish posterior composite (1 surface)	77	38.38%
Place/finish posterior composite (2+ surface)	74	34.04%
Place temporary filling material	114	46.08%
Fixed Prosthodontics		
Place cord for a C&B impression	93	52.91%
Take final C&B impression	72	37.10%
Make temporary crown	123	70.70%
Cement temporary crown	129	69.19%
Remove temporary crown	122	68.21%
Adjust permanent crown before cementation	74	48.28%
Cement permanent crown	61	32.97%
Initial placement/adj of stainless steel crown	39	23.33%
Cement stainless steel crown	42	35.95%
Make temporary bridge	95	67.53%
Cement temporary bridge	101	70.80%
Remove temporary bridge	106	66.75%
Adjust permanent bridge before cementation	67	43.21%
Cement permanent bridge	59	28.64%
Removable Prosthodontics		
Take preliminary RPD impression	124	80.03%
Take final RPD impression	70	48.39%
Try RPD framework in mouth	59	30.32%
Take preliminary CD impression	105	74.57%
Take final CD impression	61	35.72%
Take records for CD	57	29.11%
Adjust RPD or CD	80	36.69%
Rebase, reline, or repair denture	68	36.53%
Periodontics		
Place subgingival medicaments	102	75.02%
Scaling, root planing, and/or curettage*	128	90.30%
Endodontics		
Medicate root canal	41	9.93%
Obturate root canal	38	1.32%
Oral Surgery		
Place suture	42	0.24%
Remove suture	98	45.91%
Other		
Adjust orthodontic appliance	28	27.50%
Place or remove orthodontic brackets/wires	21	45.95%
Local anesthesia	91	17.53%
Perform brush biopsy	37	23.00%

* Supragingival is common; subgingival is not as common in other states.

Based on the reported percent delegation of the procedures listed in Table 6, two overall indices of delegation were created:

- The first is the simple average across all activities, with a mean value of 31.43%.

- The second is a weighted average (the weights being the shares in gross billings of category of services) across all activities, with a mean value of 24.05%.

Recall that these indices do not include the percent response to the procedures/ activities listed in the first category of services, that is, Diagnostic/Preventive/ Adjunctive. To put these indices in perspective, Tables 7 and 8 present the frequency distribution of each index.

Table 7: Frequency Distribution of Delegation Index, Simple Average

% Functions Delegated	Number	Percent
Less than 15	31	20.1%
15.00 - 24.99	32	20.8%
25.00 - 34.99	29	18.8%
35.00 - 44.99	26	16.9%
45.00 - 54.99	17	11.1%
55.00 and Over	19	12.3%
Total	154	100.0%

Table 8: Frequency Distribution of Delegation Index, Weighted Average

% Functions Delegated	Number	Percent
Less than 15	72	46.8%
15.00 - 24.99	30	19.4%
25.00 - 34.99	12	7.8%
35.00 - 44.99	12	7.8%
45.00 - 54.99	12	7.8%
55.00 and Over	16	10.4%
Total	154	100.0%

PRODUCTION FUNCTION RESULTS

Tables 9-11 present the regression results of the Cobb-Douglas production function using gross billings, value-added and visits as output measures. With respect to input measures, delegation is initially excluded so that its impact can be measured in the modified production function (Tables 12-14). The results in Tables 9-11 show that the inputs of dentist hours, auxiliary hours and number of operatories are all positive and statistically significant. The positive statistically significant coefficient of an input indicates that a unit increase in that input will result in a unit increase in the dependent variable (gross billings, value-added, and visits)—all other inputs remaining constant.

In addition, note that the sum of the estimated input coefficients of each production function (gross billings, value-added, visits) is greater than one. In fact, they are 1.244, 1.245, and 1.235, respectively (testing for statistical significance, all three values were found to be statistically different than one). Recall from the previous discussion of scale properties that when "scaling up" of

inputs increases output *more* than proportionately, *increasing returns to scale* are exhibited. In other words, among these 154 dental practices, an increase in all inputs (dentist hours, auxiliary hours, and operatories) by, say, 10% would lead to an increase in dental output (gross billings, value-added, visits) by about 12.5%.

Table 9: Estimated Cobb-Douglas Production Function, Dependent Variable = Gross Billings

Variable	Coefficient	Std. Error	t-value	Prob > |t|
Constant	6.157	0.530	11.623	0.000
Dentists Hours	0.294	0.072	4.105	0.000
Auxiliary Hours	0.501	0.060	8.354	0.000
Operatories	0.449	0.080	5.644	0.000

R-square=0.807, F=208.837, N=154

Table 10: Estimated Cobb-Douglas Production Function, Dependent Variable = Value-Added

Variable	Coefficient	Std. Error	t-value	Prob > |t|
Constant	6.004	0.551	10.894	0.000
Dentists Hours	0.287	0.075	3.878	0.000
Auxiliary Hours	0.507	0.062	8.124	0.000
Operatories	0.449	0.083	5.431	0.000

R-square=0.795, F=193.868, N=154

Table 11: Estimated Cobb-Douglas Production Function, Dependent Variable = Visits

Variable	Coefficient	Std. Error	t-value	Prob > |t|
Constant	1.531	0.609	2.515	0.013
Dentists Hours	0.399	0.082	4.843	0.000
Auxiliary Hours	0.354	0.069	5.135	0.000
Operatories	0.482	0.091	5.280	0.000

R-square=0.742, F=143.552, N=154

Tables 12-14 present the results of the modified Cobb-Douglas regressions estimating the effects of expanded duties dental auxiliary delegation on gross billings (Table 12), value-added (Table 13) and visits (Table 14). Each Table shows the results of three regressions based on using the three measures of delegation: the qualitative variable (Regression 1), the simple average score (Regression 2) and the weighted average score (Regression 3).

In all of the modified Cobb-Douglas regressions, regardless of the output measure used, the estimated coefficient of the inputs of dentist hours, auxiliary hours and number of operatories as well as the delegation measures are all positive and statistically significant. Comparing the results with respect to the three delegation measures, note that while the coefficients of the two delegation variables represented as indices are smaller than the coefficient of the qualitative variable, the delegation indices are representing percentages. In terms of statistical significance, the weighted average index is less significant than the other two delegation measures.

Lastly, the estimated input coefficients in the set of Cobb-Douglas production

functions (Tables 9-11) are similar to these corresponding modified Cobb-Douglas production functions (Tables 12-14). In other words, delegation seems to exert an additional and independent effect on dental output.

Table 12: Estimated Modified Cobb-Douglas Production Function, Dependent Variable = Gross Billings

	Variable	Coefficient	Std. Error	t-value	Prob > |t|
Regression 1	Constant	6.135	0.524	11.709	0.000
	Dentists Hours	0.304	0.071	4.277	0.000
	Auxiliary Hours	0.493	0.059	8.295	0.000
	Operatories	0.417	0.080	5.211	0.000
	Delegation	0.102	0.048	2.095	0.038
	R-square=0.812, F=161.266, N=154				
Regression 2	Constant	6.365	0.512	12.431	0.000
	Dentists Hours	0.332	0.070	4.773	0.000
	Auxiliary Hours	0.434	0.060	7.174	0.000
	Operatories	0.410	0.077	5.318	0.000
	Index-Simple	0.005	0.001	3.680	0.000
	R-square=0.823, F=173.107, N=154				
Regression 3	Constant	6.358	0.533	11.926	0.000
	Dentists Hours	0.300	0.071	4.230	0.000
	Auxiliary Hours	0.469	0.061	7.639	0.000
	Operatories	0.437	0.079	5.545	0.000
	Index-Weighted	0.002	0.001	2.060	0.041
	R-square=0.812, F=160.585, N=154				

Table 13: Estimated Modified Cobb-Douglas Production Function, Dependent Variable = Value-Added

	Variable	Coefficient	Std. Error	t-value	Prob > |t|
Regression 1	Constant	5.982	0.546	10.963	0.000
	Dentists Hours	0.299	0.074	4.039	0.000
	Auxiliary Hours	0.499	0.062	8.058	0.000
	Operatories	0.418	0.083	5.008	0.000
	Delegation	0.102	0.050	2.018	0.045
	R-square=0.801, F=149.474, N=154				
Regression 2	Constant	6.211	0.535	11.615	0.000
	Dentists Hours	0.327	0.073	4.498	0.000
	Auxiliary Hours	0.440	0.063	6.966	0.000
	Operatories	0.411	0.081	5.100	0.000
	Index-Simple	0.005	0.001	3.505	0.001
	R-square=0.823, F=159.494, N=154				
Regression 3	Constant	6.206	0.555	11.178	0.000
	Dentists Hours	0.295	0.074	3.993	0.000
	Auxiliary Hours	0.475	0.064	7.424	0.000
	Operatories	0.438	0.082	5.329	0.000
	Index-Weighted	0.002	0.001	1.985	0.049
	R-square=0.800, F=149.310 N=154				

Table 14: Estimated Modified Cobb-Douglas Production Function, Dependent Variable =Visits

	Variable	Coefficient	Std. Error	t-value	Prob > |t|
Regression 1	Constant	1.496	0.594	2.519	0.013
	Dentists Hours	0.414	0.081	5.142	0.000
	Auxiliary Hours	0.341	0.067	5.063	0.000
	Operatories	0.432	0.091	4.764	0.000
	Delegation	0.161	0.055	2.927	0.004
	R-square=0.756, F=115.237, N=154				
Regression 2	Constant	1.771	0.588	3.010	0.003
	Dentists Hours	0.443	0.080	5.534	0.000
	Auxiliary Hours	0.277	0.069	3.980	0.000
	Operatories	0.438	0.089	4.943	0.000
	Index-Simple	0.006	0.001	3.685	0.000
	R-square=0.763, F=120.087, N=154				
Regression 3	Constant	1.831	0.607	3.017	0.003
	Dentists Hours	0.408	0.081	5.048	0.000
	Auxiliary Hours	0.306	0.070	4.380	0.000
	Operatories	0.465	0.090	5.185	0.000
	Index-Weighted	0.003	0.001	2.693	0.008
	R-square=0.754, F=113.963, N=154				

There are several important points to consider regarding the regression estimates presented in Tables 9-14. First, the production function specifications (both Cobb-Douglas and modified Cobb-Douglas) seem to fit the empirical observations of the sampled general dental practices very well—the R-squares of all estimated functions were consistently high and statistically significant. Second, all input coefficients were consistent, positive and significant. Third, the sum of the estimated input coefficients with and without the delegation exceed the value of one (and the difference is statistically significant) indicating economies of scale. Fourth, the estimated coefficients of all three delegation measures (qualitative, index-simple and index-weighted) are consistent, positive, and significant and they do not seem to affect the values of the estimated input coefficients.

Effects of Delegation on Output

The regression results presented in Tables 12-14 indicated that delegation (calculated and represented in three ways) has a positive impact on gross billings, value-added, and visits. Using the coefficients displayed in Tables 12-14, the estimates of the impact of delegation are provided at various levels of delegation in Tables 15-17 for gross billings and in Tables 18-20 for visits. (Similar tables illustrating the impact of delegation on value-added were generated but not included.)

In Table 15, the impact of delegation—measured by the qualitative variable created using Q20—on gross billings is 10.74%. That is, on average, gross billings of those who said "Yes" to Q20 were $70,168 higher than for those who

said "No." It is important to acknowledge that Question 20 was generic in that dentists may have responded based on different personal definitions of "expanded function auxiliaries."

Table 15: Impact of Delegation on Gross Billings Using the Qualitative Variable Delegation Measure

Level of Delegation	Gross Billings	Percent Change in Gross Billings
Zero (delegation=no=0)	$653,436	N/A
100% (delegation=yes=1)	$723,604	10.74%

The impact of delegation—measured by the simple index created using Q23—on gross billings is shown in Table 16. For example, the gross billings of those who had a delegation index of 40% were on average 22.14% higher than those who had a delegation index of 0%—in dollar terms, this is a difference of $132,549. Table 17 shows similar results using the delegation weighted index. (Note that the estimated impacts are lower because this measure takes into account the mix of services as a percentage of gross billings. Thus, this index is sensitive to case-mix of the practices. In other words, if a practice is more inclined toward procedures where delegation cannot occur, then the index would be lower.)

Table 16: Impact of Delegation on Gross Billings Using the Simple Index Delegation Measure

Level of Delegation	Gross Billings	Percent Change in Gross Billings
Zero	$598,679	N/A
20%	$661,642	10.52%
40%	$731,228	22.14%
60%	$808,131	34.99%
80%	$893,123	49.18%
100%	$987,054	64.87%

Table 17: Impact of Delegation on Gross Billings Using the Weighted Index Delegation Measure

Level of Delegation	Gross Billings	Percent Change in Gross Billings
Zero	$663,292	N/A
20%	$690,361	4.08%
40%	$718,535	8.33%
60%	$747,859	12.75%
80%	$778,380	17.35%
100%	$810,146	22.14%

Again, the results described above indicate that the delegation of activities/procedures to expanded duty dental auxiliaries have a positive and significant impact on the gross billings of a general dental practice. The differences in the magnitude of the impact may be an indication of the importance of the service-mix in a dental practice.

Tables 18-20 show the impact of various levels of delegation on dental visits. Similar to gross billings analysis, these tables illustrate the potential impact of various degrees of delegation on the absolute number of dental visits and the percent increase as the level of delegation increases. Once more, the impact of

delegation is positive and significant. For example, using the simple index measure of delegation, Table 19 shows that the number of annual visits of those who had a delegation index of 40% were on average 27.14% higher than those who had a delegation index of 0%—or a difference of 996 visits.

Table 18: Impact of Delegation on Dental Visits Using the Qualitative Variable Delegation Measure

Level of Delegation	Dental Visits	Percent Change in Dental Visits
Zero (delegation=no=0)	3,899	N/A
100% (delegation=yes=1)	4,580	17.47%

Table 19: Impact of Delegation on Dental Visits Using the Simple Index Delegation Measure

Level of Delegation	Dental Visits	Percent Change in Dental Visits
Zero	3,670	N/A
20%	4,139	12.78%
40%	4,666	27.14%
60%	5,261	43.35%
80%	5,931	61.61%
100%	6,688	82.23%

Table 20: Impact of Delegation on Dental Visits Using the Weighted Index Delegation Measure

Level of Delegation	Dental Visits	Percent Change in Dental Visits
Zero	4,004	N/A
20%	4,251	6.17%
40%	4,514	12.74%
60%	4,793	19.71%
80%	5,090	27.12%
100%	5,405	34.99%

CLINICAL (TECHNICAL) EFFICIENCY ANALYSES

Using Data Envelopment Analysis (DEA), we estimated the technical efficiency of each of the 154 dental practices relative to other practices in the sample, based on dental visits, gross billings, and value-added as alternative measures of output. We used the same set of inputs employed in the Cobb-Douglas production function specification and generated efficiency scores for each dental practice in the sample. One important feature of DEA is that it yields a measure of the technical efficiency of each dental practice relative to the most efficient practices in the sample. These efficiency scores potentially range from zero to one. Rather than invoking some hypothetical notion of efficiency, DEA compares the observed performance of each dental practice to the observed performance of other practices in the sample.

Table 21 gives the distribution of efficiency scores across the 154 private general practices based on gross billings, visits, and value-added. As can be seen, most practices were found to be very efficient based on gross billings—but that same distribution of efficiency scores does not hold when efficiency is based on visits or value-added. While efficiency scores vary based on the output measure used, they are positively correlated as shown in Table 22.

Table 21: Distribution of Private General Practice Efficiency Scores on Gross Billings, Visits and Value-Added

Efficiency Scores	Gross Billings (mean score=0.833)	Visits (mean score= 0.600)	Value-Added (mean score=0.670)
1.00	42	25	20
0.90 – 0.99	19	4	4
0.80 – 0.89	28	4	14
0.70 – 0.79	34	11	25
0.60 – 0.69	20	16	29
0.50 – 0.59	10	29	33
0.40 – 0.49	0	38	18
Less than 0.40	1	27	11
All	154	154	154

Table 22: Correlation Matrix of Gross Billings, Visits and Value-Added

	Gross Billings	Visits	Value-Added
Gross Billings	1.000	-	-
Visits	0.630	1.000	-
Value-Added	0.869	0.605	1.000

EFFECTS OF DELEGATION ON EFFICIENCY

As shown in Table 21, there is marked variation in efficiency scores. Clearly, there are many factors that can be associated with the variation in efficiency scores: (1) practitioner factors[1] such as age, experience, gender, educational background, specialty, etc.; (2) structural factors such as practice size, extent of delegation or expanded duties, office layout, etc.; and (3) market factors such as urban/rural setting, patient age-mix, degree of local competition, etc. Thus, once the efficiency score of each dental practice is generated, a second-stage regression analysis is used to explore the sources of efficiency score differences. This second-stage analysis is particularly useful in measuring the effects of delegation as well as other dimensions associated with a dental practice, including location, staff and patient characteristics.

Table 23 shows the results of the second-stage regression analysis where the dependent variable is the index of efficiency based on gross billings. It should be noted that the explanatory power of these regressions, as measured by the R-square, is much lower than it was for the Cobb-Douglas or modified Cobb-Douglas production functions. However, the second-stage DEA analysis of efficiency scores usually have a low goodness of fit statistics (i.e., R-square).[2]

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[1] Since the analysis is at the practice-level, practitioner factors were not used as they are only available for the dentist filling out the survey and not for all dentists in the practice. The one exception is the use of the variable capturing whether the responding dentist had taken any CE courses focusing on the use of expanded functions for auxiliaries ("Training").

[2] The reason for this is that bulk of the variation in the output (rather than the efficiency score) is explained by systematic factors like variation in the input quantities. In that sense, the DEA efficiency score is itself like the "residual" from a regression. The total variation in the dependent variable of a regression model is due to variation in independent variables and noise. In efficiency analysis, it is generally found that systematic variation is low relative to random factors that include both intrinsic efficiency (or ability not measured by environmental factors) and random noise. It is important to recall in this context that in sociological analysis with cross section data, R-square is usually very low.

Table 23: Estimated Effects of Delegation and Training on Efficiency Based on Gross Billings, Dependent Variable = Index of Efficiency in Gross Billings

	Variable	Coefficient	Std. Error	t-value	Prob > |t|
Regression 1	Constant	0.992	0.155	6.409	0.000
	Training	0.064	0.041	1.563	0.120
	% White	-0.125	0.183	-0.684	0.495
	% No-show	-0.005	0.002	-2.138	0.034
	% of gross from uninsured patients	-0.002	0.001	-2.290	0.023
	% with BA degree	-0.056	0.240	-0.234	0.815
	Dentist/square mile	-0.002	0.008	-0.219	0.827
	Per capita income	0.000000608	0.000	0.185	0.854
	Delegation	0.033	0.025	1.324	0.187
	R-square=0.092, F=1.892, N=154				
Regression 2	Constant	0.959	0.154	6.228	0.000
	Training	0.059	0.040	1.467	0.144
	% White	-0.116	0.181	-0.641	0.523
	% No-show	-0.005	0.002	-2.334	0.021
	% of gross from uninsured patients	-0.001	0.001	-2.042	0.043
	% with BA degree	-0.065	0.236	-0.276	0.783
	Dentist/square mile	-0.001	0.008	-0.111	0.912
	Per capita income	0.000000710	0.000	0.218	0.828
	Index-Simple	0.001	0.001	2.139	0.034
	R-square=0.109, F=2.213, N=154				
Regression 3	Constant	0.990	0.153	6.470	0.000
	Training	0.056	0.041	1.353	0.178
	% White	-0.126	0.182	-0.696	0.487
	% No-show	-0.006	0.002	-2.391	0.018
	% of gross from uninsured patients	-0.002	0.001	-2.111	0.037
	% with BA degree	-0.054	0.237	-0.228	0.820
	Dentist/square mile	-0.003	0.008	-0.340	0.734
	Per capita income	0.000000760	0.000	0.231	0.817
	Index-Weighted	0.001	0.001	1.694	0.092
	R-square=0.099, F=1.981, N=154				

In Table 23, the majority of the independent variables controlling for patient and market characteristics (see variable list and definitions on page 14) were not statistically significant at conventional levels. As shown, demographic characteristics of the population at the zip code level of the practice location (i.e., race captured by "% white," education captured by "% with BA degree," and income captured by "per capita income") were not statistically significant.

Two practice level variables that were significant were the estimated percentage of all scheduled appointments for which the patient did not appear (% No-show) and the estimated percent of gross billings received from uninsured patients (% of gross from uninsured patients). Both

variables had negative coefficients, indicating an inverse relationship with efficiency scores.

With respect to delegation as an independent variable, in Table 23, Regression 1, delegation measured by the qualitative variable is not statistically significant at conventional levels. In Regression 2, delegation measured by the simple index is statistically significant and has a positive coefficient. In Regression 3, delegation measured by the weighted index is statistically significant but only at a 10% level.

Using the coefficients from Regression 2 in Table 23 (the regression where the delegation measure had the highest statistical significance), the estimates of the impact of delegation—measured by the simple index created using Q23—on efficiency scores are provided at various levels of delegation in Table 24. For example, the efficiency scores of those who had a delegation index of 80% were on average 14.62% higher than those who had a delegation index of 0%—i.e., increasing delegation from 0% to 80% would potentially increase the efficiency score from 0.788 to 0.903. Table 26 shows similar results using the delegation weighted index.

Table 24: Impact of Delegation on Efficiency with Respect to Gross Billings, Using the Simple Index Delegation Measure

Level of Delegation	Efficiency Score	Percent Change in Efficiency Score
Zero	0.788	N/A
20%	0.817	3.65%
40%	0.846	7.31%
60%	0.874	10.96%
80%	0.903	14.62%
100%	0.932	18.27%

Next, the same regressions were run except this time the dependent variable is the index of efficiency based on visits instead of gross billings. The results are shown in Table 25. Here, none of the independent variables controlling for patient and market characteristics were statistically significant at conventional levels. "Training," the variable capturing whether dentists had taken any CE courses focusing on the use of expanded functions for auxiliaries, was most significant in Regression 1 and only significant at the 10% level in Regression 3. With respect to delegation, two of the three measures of delegation were statistically significant in Table 25. Clearly, delegation seems to have some effect on efficiency with respect to patient visits. Statistical significance of the effect, as measured by the t-value, is highest when the weighted index of delegation is used.

Table 25: Estimated Effects of Delegation and Training on Efficiency Based on Patient Visits, Dependent Variable = Index of Efficiency in Patient Visits

	Variable	Coefficient	Std. Error	t-value	Prob > |t|
Regression 1	Constant	0.673	0.238	2.824	0.005
	Training	0.120	0.063	1.919	0.057
	% White	-0.025	0.282	-0.088	0.930
	% No-show	-0.003	0.004	-0.930	0.354
	% of gross from uninsured patients	-0.001	0.001	-1.099	0.273
	% with BA degree	-0.459	0.369	-1.243	0.216
	Dentist/square mile	-0.014	0.013	-1.050	0.295
	Per capita income	0.00000288	0.000	0.567	0.571
	Delegation	0.075	0.038	1.960	0.052
	R-square=0.097, F=1.942, N=154				
Regression 2	Constant	0.696	0.241	2.886	0.004
	Training	0.120	0.063	1.898	0.060
	% White	-0.048	0.283	-0.168	0.867
	% No-show	-0.004	0.004	-1.082	0.281
	% of gross from uninsured patients	-0.001	0.001	-0.985	0.326
	% with BA degree	-0.405	0.369	-1.097	0.274
	Dentist/square mile	-0.015	0.013	-1.146	0.254
	Per capita income	0.00000253	0.000	0.497	0.620
	Index-Simple	0.001	0.001	1.399	0.164
	R-square=0.085, F=1.688, N=154				
Regression 3	Constant	0.681	0.236	2.890	0.004
	Training	0.105	0.063	1.660	0.099
	% White				
	% No-show	-0.005	0.004	-1.275	0.204
	% of gross from uninsured patients	-0.001	0.001	-0.889	0.376
	% with BA degree	-0.441	0.366	-1.206	0.230
	Dentist/square mile	-0.016	0.013	-1.257	0.211
	Per capita income	0.00000309	0.000	0.610	0.543
	Index-Weighted	0.002	0.001	2.206	0.029
	R-square=0.103, F=2.081, N=154				

Using the coefficients from Regression 3 in Table 25 (i.e., where the measure of delegation is the weighted index), the estimates of the impact of delegation at various levels of delegation were calculated and are displayed in Table 26. For example, the efficiency scores of those who had a weighted delegation index of 80% were on average 28.9% higher than those who had a delegation index of 0%—i.e., increasing delegation from 0% to 80% would potentially increase the efficiency score from 0.554 to 0.714.

Table 26: Impact of Delegation on Efficiency with Respect to Patient Visits, Using the Weighted Index Delegation Measure

Level of Delegation	Efficiency Score	Percent Change in Efficiency Score
Zero	0.554	N/A
20%	0.594	7.2%
40%	0.634	14.4%
60%	0.674	21.7%
80%	0.714	28.9%
100%	0.754	36.1%

EFFECTS OF DELEGATION ON PRACTICE NET INCOME

An ad hoc regression model was used to assess the impact delegating expanded duties to dental auxiliaries on the net income of a general practice. (Note that here the dependent variable is the practice net income and not efficiency scores as in the previous section.) The results are shown in table 27.

While the explanatory power of these regressions, as measured by the R-square, is low, all three regressions are statistically significant as measured by the F-value. The results indicate that, controlling for a number of patient and practice characteristics including efficiency in gross billings, delegation is positively and substantially associated with the net income of general dental practices in Colorado.

Aside from delegation and efficiency in gross billings, only one other independent variable was statistically significant in all three regressions: "% No-show" (the estimated percentage of all scheduled appointments for which the patient did not appear). One would expect the sign of this variable to be negative, all else being equal. However, one plausible explanation is if practices with high percentage of no shows tend to overbook appointments, then there would be no slack in timing and this could account for the positive sign of the coefficient.

Table 27: Estimated Effects of Delegation on Net Income

	Variable	Coefficient	Std. Error	t-value	Prob > |t|
Regression 1	Constant	-450348	293404	-1.535	0.127
	Training	-30679	68465	-0.448	0.655
	Efficiency in gross billings	318192	143544	2.217	0.028
	% White	309731	303814	1.019	0.310
	% No-show	14643	3976	3.683	0.000
	% of gross from uninsured patients	555	1197	0.464	0.644
	% with BA degree	-288399	398731	-0.723	0.471
	Dentist/square mile	9760	14072	0.694	0.489
	Per capita income	2.482	5.486	0.453	0.652
	Delegation	126651	41154	3.078	0.002
	R-square=0.156, F=2.967, N=154				
Regression 2	Constant	-506512	288524	-1.756	0.081
	Training	-40600	67267	-0.604	0.547
	Efficiency in gross billings	311060	140807	2.209	0.029
	% White	316006	297504	1.062	0.290
	% No-show	13241	3905	3.391	0.001
	% of gross from uninsured patients	1029	1185	0.868	0.387
	% with BA degree	-272914	388890	-0.702	0.484
	Dentist/square mile	11073	13783	0.803	0.423
	Per capita income	2.475	5.374	0.461	0.646
	Index-Simple	4095	1039	3.943	0.000
	R-square=0.189, F=3.718, N=154				
Regression 3	Constant	-440477	287610	-1.532	0.128
	Training	-58868	68213	-0.863	0.390
	Efficiency in gross billings	311250	141531	2.199	0.029
	% White	298439	298721	0.999	0.319
	% No-show	12342	3949	3.125	0.002
	% of gross from uninsured patients	966	1190	0.812	0.418
	% with BA degree	-267727	390944	-0.685	0.495
	Dentist/square mile	5777	13714	0.421	0.674
	Per capita income	2.928	5.412	0.541	0.589
	Index-Weighted	3320	889	3.736	0.000
	R-square=0.180, F=3.521, N=154				

Using these regression results we calculated the magnitude of the delegation impact on practice net income at various level of delegation. Tables 28-30 show the results. In Table 28, the impact of delegation—measured by the qualitative variable created using Q20—on practice net income is 62.51%. That is, on average, practice net income of those who said "Yes" to Q20 was estimated to be $126,651 higher than for those who said "No."

Table 28: Impact of Delegation on Practice Net Income Using the Qualitative Variable Delegation Measure

Level of Delegation	Net Income	Percent Change in Net Income
Zero (delegation=no=0)	$202,612	N/A
100% (delegation=yes=1)	$329,263	62.51%

The estimated impact of delegation—measured by the simple index created using Q23—on practice net income is shown in Table 29. For example, the practice net income of those who had a delegation index of 40% were on average 106.02% higher than those who had a delegation index of 0%—in dollar terms, this is a difference of $163,820. Table 30 shows similar results using the delegation weighted index. (Note that the estimated impacts are lower because this measure takes into account the mix of services as a percentage of gross billings. Thus, this index is sensitive to case-mix of the practices. In other words, if a practice is more inclined toward procedures where delegation cannot occur, then the index would be lower.)

Table 29: Impact of Delegation on Practice Net Income Using the Simple Index Delegation Measure

Level of Delegation	Net Income	Percent Change in Net Income
Zero	$154,504	N/A
20%	$236,414	53.01%
40%	$318,324	106.02%
60%	$400,234	159.04%
80%	$482,144	212.06%
100%	$564,054	265.07%

Table 30: Impact of Delegation on Practice Net Income Using the Weighted Index Delegation Measure

Level of Delegation	Net Income	Percent Change in Net Income
Zero	$203,633	N/A
20%	$269,831	32.64%
40%	$336,229	65.44%
60%	$402,626	97.92%
80%	$469,024	130.55%
100%	$535,422	163.19%

Table 31 presents the results of the ad hoc regression model attempting to assess the effects of delegation on the net income per dentist hour. However, of the three regressions only delegation measured by the simple index is statistically significant. These results suggest that the effect of delegation on net income per dentist hour, controlling for a number of patient and practice characteristics including efficiency in gross billings, is not as clear cut as the delegation effects on practice net income.

Table 31: Estimated Effects of Delegation on Net Income per Dentist Hour

	Variable	Coefficient	Std. Error	t-value	Prob > |t|
Regression 1	Constant	-91.859	72.041	-1.275	0.204
	Training	-8.661	16.811	-0.515	0.607
	Efficiency in gross billings	151.067	35.245	4.286	0.000
	% White	85.502	74.597	1.146	0.254
	% No-Show	0.464	0.976	0.475	0.635
	% of gross from uninsured patients	0.410	0.294	1.395	0.165
	% with BA degree	89.384	97.903	0.913	0.363
	Dentist/square mile	1.291	3.455	0.374	0.709
	Per capita income	-0.001	0.001	-0.992	0.323
	Delegation	11.899	10.105	1.178	0.241
	R-square=0.145, F=2.715, N=154				
Regression 2	Constant	-107.988	71.246	-1.516	0.132
	Training	-10.700	16.610	-0.644	0.520
	Efficiency in gross billings	148.986	34.770	4.285	0.000
	% White	91.538	73.463	1.246	0.215
	% No-Show	0.280	0.964	0.291	0.772
	% of gross from uninsured patients	0.489	0.293	1.672	0.097
	% with BA degree	81.788	96.029	0.852	0.396
	Dentist/square mile	1.847	3.403	0.543	0.588
	Per capita income	-0.001	0.001	-0.956	0.341
	Index-Simple	0.598	0.256	2.333	0.021
	R-square=0.168, F=3.237, N=154				
Regression 3	Constant	-91.247	71.470	-1.277	0.204
	Training	-11.397	16.951	-0.672	0.502
	Efficiency in gross billings	150.355	35.170	4.275	0.000
	% White	84.634	74.231	1.140	0.256
	% No-Show	0.243	0.981	0.248	0.804
	% of gross from uninsured patients	0.450	0.296	1.522	0.130
	% with BA degree	90.953	97.148	0.936	0.351
	Dentist/square mile	0.924	3.408	0.271	0.787
	Per capita income	-0.001	0.001	-0.960	0.339
	Index-Weighted	0.319	0.221	1.446	0.150
	R-square=0.149, F=2.805, N=154				

Dental Practice Analyses

This project included a customized practice analysis for each of the 81 respondents who also provided detailed production information from their practice management systems. An example of the type of analysis is provided in Appendix C. It should be noted that for confidentiality reasons this profile is not one of the 81 responding practices. In fact, the individualized data presented in this profile are fictitious. Each customized profile includes seven major components:

(1) Basic descriptive practice characteristics (e.g., solo, incorporated practice with 5 operatories);

(2) Input and output measures considered, sample size, the estimated efficiency score of the practice in terms of gross billings, and the distribution of efficiency scores of practices in the sample;

(3) The quantity of inputs **used** in the practice, the quantity of inputs **needed** by a fully-efficient practice (with DEA score = 1.00) to produce the reported gross billings, and the **potential** or maximum gross billings that could be produced with no more inputs than the practice currently uses;

(4) The incremental and average estimated productivity of the practice's major inputs (e.g., dentist hours, dental auxiliary hours, operatories);

(5) Whether the practice delegates expanded duties, the level of delegation across several specific procedures/activities, and the distribution of these measures across practices in the sample;

(6) The contribution of delegation to gross billings of an average practice at various levels of delegation; and

(7) The output of the practice (measured by gross billings, total number of visits, and value-added) per dentist hour, and the distribution of this figure across practices in the sample.

Discussion

Data Limitations

This report is based on a sample of 154 private general dental practices located in the state of Colorado. The sample was selected from a previous study of expanded function dental auxiliaries. As such, it may not be perfectly representative of Colorado general practices. Sampled practices were selected to represent low, medium and high levels of delegation based on the classification of the previous study. Caution must be used in generalizing the results to all Colorado private general dentists or to general dentists in other states that allow the delegation of expanded duties to dental hygienists and assistants.

LEVEL OF DELEGATION

This study sample had 98 practices (64%) that reported delegating expanded services to dental hygienists and chairside assistants. This is a substantial number, especially considering that another 11% delegated services in the past. Thus, 75% of dentists, the great majority, had experience using expanded duty auxiliaries. The practices that stopped delegating services were not asked to give a reason for their decision, but this issue merits further investigation.

As expected, practices that did and did not delegate were very different. The delegating practices were larger (operatories and square feet) and had higher annual hours worked by dentists, dental hygienists, and chairside assistants. The hours worked by other staff were also higher among delegating practices, but the difference was not statistically significant. With a much larger operation, the delegating practices generated much larger gross billings, net income, and patient visits. Indeed, the average difference in net income between the two groups of practices was over $100,000.

The specific expanded services delegated are mainly associated with restorative and prosthetic services. For example, about 35% of amalgam placement and finishing procedures were delegated to auxiliary staff (among about 50% of all practices). An even larger percentage of practices had auxiliary staff placing and adjusting temporary crowns and bridges (Table 6). Approximately 43% of practices had auxiliary staff cementing and adjusting permanent crowns and bridges. Likewise, a large percentage of tasks associated with removable dentures were delegated to auxiliary staff. Examples include final RPD impressions (48.4%) and adjusting RPDs (36.7%).

Of particular interest is the fact that many practices delegated critical steps in the construction of fixed and removable prostheses. These include final impressions for crowns and partial and full dentures and the cementation and adjustment of permanent crowns and bridges. This suggests that properly trained and supervised auxiliaries can provide these services effectively and at lower cost to the practice. Of course, this is conjecture, and more detailed studies are needed to assess the impact of delegation on the cost and quality of care.

The distribution of practices by the percent of services delegated indicated that only a small percentage of practices delegated more than 55% of services. Indeed, the great majority of practices delegated less than 35% percent of services. The obvious question is why don't dentists delegate more services? Certainly, dentists appear to have a major financial incentive to delegate more services, but there must be other important barriers that need to be investigated.

The simple index appears to give a better estimate of the level of delegation within practices because it reflects the many small restorative and prosthetic tasks assigned to expanded duty chairside assistants. In contrast, the

weighted index focuses on a few services associated with higher value restorative and prosthetic care.

PRODUCTIVITY AND ECONOMIES OF SCALE

To assess the effects of delegation on productivity in general dental practices, we estimated a series of Cobb-Douglas production functions using gross billings, number of visits and value-added as output measures. The production function regressions clearly indicate the important contribution of all the inputs (i.e., dentist hours, dental auxiliary hours and number of operatories) in generating higher gross billings, patient visits and value-added. All coefficients were statistically significant. Many other studies have reported the same associations. In addition, these estimates indicate statistically significant economies of scale for the sample practices (the sum of all input coefficients is greater than one, indicating that equal percentage increases in all inputs tend to increase output of the practice by a somewhat larger percentage). These production function estimates are the foundation for establishing the effects of delegation.

CLINICAL EFFICIENCY

DEA is a powerful tool to compare the relative efficiency of general dental practices. There was considerable variation among dental practice efficiency scores. The average technical efficiency score of the sampled practices was 0.833 for gross billings. Although detailed results were not presented, it is important to note that upon conducting individual practice analyses, 42 of the 154 practices were identified as "frontier" or "model" practices, with an efficiency score of one. The analyses indicated that the current output of some dental practices could be produced with fewer dentist and auxiliary hours and lower lab costs by the technically efficient practices. Such information should be useful to dental practice management as it seeks to increase clinical efficiency. Estimating the efficiency scores of the sampled practices was also the first step in assessing the effects of delegation.

EFFECTS OF DELEGATION

The main objectives of this study were to assess the effects of delegation on dental output and efficiency of general dental practices in Colorado. The estimates from the modified Cobb-Douglas regressions clearly indicate that delegation in general, as well as delegation of specific procedures/activities to dental hygienists and assistants, has an important effect on gross billings, patient visits and value-added. All estimated coefficients are statistically significant at conventional levels of significance (Tables 12-14). Most importantly, the effects of delegation are substantive and are positively related with the level of delegation (Tables 16-17). These results are broader and more significant than the few reported in the literature (Milgrom et al, 1983).

Similarly, delegating specific procedures/activities to dental hygienists and assistants has an important effect on the clinical (technical) efficiency of a general dental practice based on gross billings. For example, the efficiency

scores of those with a simple delegation index of 80% were on average 14.62% higher than those with a simple delegation index of 0%.

One of the most powerful effects of delegation seems to be on practice net income. Unlike previous studies (Milgrom et al, 1983), the effects of delegation on practice net income is substantial.

A critical unanswered issue is: Is delegation good for every dentist? There is no simple answer to this question, because it is at least possible that practices that delegated more tasks also did many other things differently. Thus, delegation per se may be only one reason for greater output. This study cannot answer this question definitively, but the differences between the two groups of practices may transcend delegation (e.g., the delegating dentists may be better managers, have higher income objectives). An interesting extension of this study would be to assess the potential differences in the quality of the procedures/activities performed by expanded duty auxiliaries and dentists, thus expanding on the work done by Bergner et al (1983).

POLICY IMPLICATIONS

In terms of policy implications, this study suggests that private general dental practices can substantially increase gross billings, patient visits, value-added, efficiency and practice net income with the delegation of more duties to auxiliaries. This is an important issue as the nation addresses the problem of access disparities.

A major challenge for dental education and the profession is to provide clinical training to students, residents, and community dentists on the effective use of expanded duty dental auxiliaries—assuming sufficient quantity demanded of dental care services. Currently, few dental schools have special courses or offer clinical experiences focused on this issue. In part, this is because of the declining resources available to public dental schools, as state and federal support for health professional education wanes.

From both a professional and community perspective, it may be more effective and less costly to channel additional resources into training dentists to practice more efficiently than to simply increase the number of dentists. Yet, current trends are moving in the opposite direction. This is an important health policy issue that warrants immediate but careful attention.

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Appendix A

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2006 Survey of Expanded Duties for Dental Auxiliaries

Please circle the number corresponding to the most appropriate response or fill in the blank. Please do not report ranges.

If your entire primary practice consists of several office locations, please answer the practice questions for your **largest practice** and/or the one in which you **spend most of your time.**

Individual Dentist Questions

1. In what year did YOU **start/join** your **primary practice?** _____ year

2. Have you graduated from either a General Practice Residency (GPR) or Advanced Education in General Dentistry (AEGD) program?

   a. Yes, a GPR program ... 1
   b. Yes, an AEGD program ... 2
   c. No ... 3

3. Please answer the following about the time you spent in your primary practice during **2005**.

   a. Total number of **weeks** worked (Do not include vacation.) _____
   b. Average number of **hours per week** spent in the practice _____

4. Please estimate the total dollar amount of free or discounted charitable care **you personally** provided to institutionalized individuals, elderly patients, low-income individuals, or any other underserved populations during **2005**. Do not include accounts receivable, bad debt, or care provided as a professional courtesy. (If none, enter zero.) $_____

5. Have you taken any continuing education courses focusing on the use of expanded functions for auxiliaries in the **past three years?**

   Yes ... 1
   No ... 2

Primary Practice Questions

6. What was your employment situation in **2005?**

   a. **The practice was:**
      1. incorporated ... 1
      2. unincorporated ... 2

   b. **You were:**
      1. a sole proprietor (i.e., the only **owner**) ... 1
      2. a partner (i.e., one of two or more **owners**) ... 2
      3. an employee (on a salary, commission, percentage or associate basis) ... 3
      4. an independent contractor ... 4

7a. Do you provide dental services at more than one physical location?

   Yes ... 1
   No ... 2

7b. Is your practice part of a larger company that delivers dental care in more than one location (e.g. a franchise)?

   Yes ... 1
   No (Skip to Question 8) ... 2

7c. Does the owning company use: (Circle all that apply).

   1. a directed pricing system? ... 1
   2. a directed accounting system? ... 2
   3. a company-wide policy on delegation? ... 3

8. In the **primary practice location** during **2005**, what was the total:

   a. square feet of office space? _____
   b. number of fully equipped operatories? _____

9. Please indicate the **total number** of general practitioners and specialists in your primary practice location. **Please include yourself.**

   a. General practitioners _____
   b. Specialists _____

10. Please indicate the total number of full-time and part-time **non-dentist staff** in your primary practice location.

   a. Number of full-time staff (32 hours or more per week) _____
   b. Number of part-time staff (less than 32 hours per week) _____

11. What was the average scheduled length of an appointment for the **primary practice location** in **2005?** _____ minutes

12. For the **primary practice location**, please estimate the percentage of all scheduled appointments for which the patient did not appear ("no-shows") during **2005?** _____%

13. For the **primary practice location** during **2005**, how long did the average patient of record and the average new patient have to **wait**:

	Patient of Record	New Patient
a. for the **initial appointment** of a series (excluding emergency cases)?	_____ days	_____ days
b. to see a dentist **after** the patient arrived for a **scheduled** appointment?	_____ minutes	_____ minutes

14. Please indicate the average number of visits **per week** for the following during **2005**.

a. Visits per week treated by all dentists in your practice *excluding hygienist visits* _____

b. Emergency and walk-in visits per week treated by all dentists in the practice _____

c. Visits per week treated *by all hygienists* in your practice _____ visits/week

15. **In your best estimate,** what percentage of **ALL** the patients who visited the **primary practice location** in **2005**:

a. were of the following ages?

Less than five years of age _____%
5 to 17 years of age _____%
18 to 34 years of age _____%
35 to 54 years of age _____%
55 to 64 years of age _____%
65 years of age and older _____%
total 100%

b. had family incomes in the following categories?

Under $15,000 _____%
$15,000-$34,999 _____%
$35,000-$69,999 _____%
$70,000-$99,999 _____%
$100,000 and above _____%
total 100%

Practice Income Questions

16. **PRACTICE ANNUAL GROSS BILLINGS:** In the **primary practice location**, what was the total amount of fees charged for dental care in **2005** (**annual gross billings**)? $_____

17. **PRACTICE GROSS RECEIPTS:** In the **primary practice location**, what were the total **gross receipts actually collected** in **2005**? (If you do not extend credit, this figure may be the same as in Question 16.) $_____

18. **PERCENTAGE OF GROSS RECEIPTS:** Of the **gross receipts** collected in **2005**, what percentage was received: (If none, enter zero.)

a. from *uninsured* patients? _____%
b. from private insurance:
as direct payment from *insured* patients (i.e., **patient co-pay**)? _____%
as direct payment from private insurance carriers (i.e., PPOs and indemnity plans)? _____%
as direct payment from capitation plans? _____%
c. as payment from government programs, (e.g., Medicare, Medicaid, or other public insurance)? _____%
d. from other sources of payment? _____%
total 100 %

19a. **TOTAL PRACTICE EXPENSES:** Please indicate the annual professional expenses for your **primary practice location** in 2005? $_____

19b. For each of the following items below, please indicate the **annual professional expenses** for your **primary practice location** in **2005**. (If no expenses were incurred, please enter zero for each.)

a. Commercial dental laboratory charges . $_____
b. Dental supplies $_____
c. Yearly rent $_____
d. Yearly mortgage (including interest) $_____
e. Total salaries/wages of non-dentist staff (including fringe benefits) $_____

Delegation and Staffing Questions

20. Do you currently use, or at one time used, expanded function auxiliaries in your **primary practice location**?

Yes, currently use 1
Yes, once used but have discontinued 2
No, never used 3

If you are **not** currently using expanded function auxiliaries, skip to Question 22. Otherwise, please continue with Question 21a.

21a. In what year did **YOU** begin using expanded function auxiliaries? _____ year

21b. **In the past three years** would you say that your **primary practice's** use of expanded function auxiliaries has:

1. increased more than 50%? 1
2. increased 0% to 50%? 2
3. remained the same? 3
4. decreased 0% to 50%? 4
5. decreased more than 50%? 5

21c. If your practice is owned by a company, is the use of expanded function auxiliaries established:

1. by the company? 1
2. at the practice level? 2
3. by the individual dentists in the practice? 3
4. not applicable 4
5. other, please specify _____

22. If you are working in a multi-dentist practice, are all dentists in this practice:

	Yes	No	Not Applicable
a. delegating the same procedures?	1	2	3
b. delegating procedures approximately the same percentage of time?	1	2	3

23. Of all the times the following procedures are performed in your **primary practice location**, approximately what percentage are delegated to chairside assistants or dental hygienists? If the procedure is not performed or not delegated, please circle the appropriate number for each procedure.

	Not Performed	Not Delegated	% of Procedure
Diagnostic/Preventive/Adjunctive			
a. Take PA or BW radiographs	1	2	_____
b. Take panoramic radiographs	1	2	_____
c. Provide prophylaxis	1	2	_____
d. Place occlusal sealant(s)	1	2	_____
e. Administer topical fluoride	1	2	_____
f. Apply fluoride varnish	1	2	_____
g. Take and pour alginate impressions	1	2	_____
Operative, Primary and Permanent Teeth			
a. Place wedge/matrix for amalgam	1	2	_____
b. Place/finish amalgam (1 surface)	1	2	_____
c. Place/finish amalgam (2+ surfaces)	1	2	_____
d. Place/wedge matrix for composite	1	2	_____
e. Place/finish anterior composite	1	2	_____
f. Place/finish posterior composite (1 surface)	1	2	_____
g. Place/finish posterior composite (2+ surface)	1	2	_____
h. Place temporary filling material	1	2	_____
Fixed Prosthodontics			
a. Place cord for a C&B impression	1	2	_____
b. Take final C&B impression	1	2	_____
c. Make temporary crown	1	2	_____
d. Cement temporary crown	1	2	_____
e. Remove temporary crown	1	2	_____
f. Adjust permanent crown before cementation	1	2	_____
g. Cement permanent crown	1	2	_____
h. Initial placement/adjustment of stainless steel crown	1	2	_____
i. Cement stainless steel crown	1	2	_____
j. Make temporary bridge	1	2	_____
k. Cement temporary bridge	1	2	_____
l. Remove temporary bridge	1	2	_____
m. Adjust permanent bridge before cementation	1	2	_____
n. Cement permanent bridge	1	2	_____
Removable Prosthodontics			
a. Take preliminary RPD impression	1	2	_____
b. Take final RPD impression	1	2	_____
c. Try RPD framework in mouth	1	2	_____
d. Take preliminary CD impression	1	2	_____
e. Take final CD impression	1	2	_____
f. Take records for CD	1	2	_____
g. Adjust RPD or CD	1	2	_____
h. Rebase, reline, or repair denture	1	2	_____
Periodontics			
a. Place subgingival medicaments	1	2	_____
b. Scaling, root planing, and/or curettage	1	2	_____

Question 23 cont.

	Not Performed	Not Delegated	% of Procedure
Endodontics			
a. Medicate root canal	1	2	_____
b. Obturate root canal	1	2	_____
Oral Surgery			
a. Place suture	1	2	_____
b. Remove suture	1	2	_____
Other			
a. Adjust orthodontic appliance	1	2	_____
b. Place or remove orthodontic brackets/wires	1	2	_____
c. Local anesthesia	1	2	_____
d. Perform brush biopsy	1	2	_____

24. In the table below, please indicate the number of procedures you performed **during a typical month in 2006** and the typical fee charged. If you have a practice management system such as Dentrix, Eaglesoft, etc., you may want use it to answer this question & question 25.

Procedure	Number of Procedures per MONTH	Typical Fee Charged ($)
Diagnostic/Preventive/Adjunctive		
Periodic oral evaluation (D0120)		$
Radiographs, complete series (D0210)		$
Prophylaxis – adult (D1110)		$
Topical application of fluoride (prophy not included) – child (D1205)		$
Sealant – per tooth (D1351)		$
Restorative		
Amalgam – two surfaces, primary or permanent (D2150)		$
Resin-based composite – one surface, posterior-permanent (D2385)		$
Single restoration: Crown – porcelain fused to high noble metal (D2750)		$
Fixed partial denture retainers: Crown – porcelain fused to high noble metal (D6750)		$
Removable Prosthodontics		
Complete denture – maxillary (D5110)		$
Mandibular partial denture – cast metal framework with resin denture bases (including any conventional clasps, rests and teeth) (D5214)		$
Periodontics		
Full mouth debridement to enable comprehensive evaluation and diagnosis (D4355)		$
Periodontal scaling and root planning – four or more teeth per quadrant (D4341)		$
Periodontal maintenance (D4910)		$
Endodontics/Oral Surgery		
Molar RCT (D3330)		$
Extraction, coronal remnants – deciduous tooth (D7111)		$
Removal of impacted tooth – completely bony (D7240)		$
In your best estimate, what percentage of all your procedures are represented in this list? _____%		

25. In **2006**, during a **typical month** in the **primary practice location**, what percentage of your time treating patients was spent in the following procedures and what percentage of your practice gross billings did they account for? (If none, enter zero.)

Procedure	% of your time	% of practice gross billings
a. Diagnostic (D0100 - D0999)	_____ %	_____ %
b. Preventive (D1000 - D1999)	_____ %	_____ %
c. Restorative (D2000 - D2999)	_____ %	_____ %
d. Endodontics (D3000 – D3999)	_____ %	_____ %
e. Periodontics (D4000 - D4999)	_____ %	_____ %
f. Removable prosthodontics (D5000 - D5899)	_____ %	_____ %
g. Fixed prosthodontics (D6200 - D6999)	_____ %	_____ %
h. Oral surgery (D7000 - D7999)	_____ %	_____ %
i. Orthodontics (D8000 - D8999)	_____ %	_____ %
j. Adjunctive general services (D9000 - D9999)	_____ %	_____ %
	total 100 %	total 100 %

26. Please provide the following information for each dentist position currently in the **primary practice location**. Please **include yourself**. If the dentist is a specialist, check the first box. If the dentist is an owner in this practice, check the second box. If the practice did not employ a dentist in each position, please leave the appropriate line(s) blank. (PLEASE PRINT.)

	If Specialist (check box)	If Owner (check box)	Annual Net Income/ Salary per Year dollars	Weeks Worked per Year weeks	Hours Worked per Week hours	Trained to use expanded duty auxiliaries? Yes	Trained to use expanded duty auxiliaries? No	Currently using expanded duty auxiliaries? Yes	Currently using expanded duty auxiliaries? No
DENTIST(S):									
Position #1	☐	☐	$ _____	_____	_____	1	2	1	2
Position #2	☐	☐	$ _____	_____	_____	1	2	1	2
Position #3	☐	☐	$ _____	_____	_____	1	2	1	2
Position #4	☐	☐	$ _____	_____	_____	1	2	1	2
Position #5	☐	☐	$ _____	_____	_____	1	2	1	2

27. Please provide the following information for each of the listed positions currently in the **primary practice location**. If the practice did not employ someone in each position, please check the appropriate box in the first column. (PLEASE PRINT.)

	Not Applicable (check box)	Annual Net Income/ Salary per Year dollars	Weeks Worked per Year weeks	Hours Worked per Week hours	Total Length of Experience in Dentistry years	Trained to perform expanded duties? Formally Yes	Formally No	On the Job Yes	On the Job No	Currently performing expanded duties? Yes	Currently performing expanded duties? No
DENTAL HYGIENIST(S):											
Position #1	☐	$ _____	_____	_____	_____	1	2	1	2	1	2
Position #2	☐	$ _____	_____	_____	_____	1	2	1	2	1	2
Position #3	☐	$ _____	_____	_____	_____	1	2	1	2	1	2
Position #4	☐	$ _____	_____	_____	_____	1	2	1	2	1	2
Position #5	☐	$ _____	_____	_____	_____	1	2	1	2	1	2
CHAIRSIDE ASSISTANT(S):											
Position #1	☐	$ _____	_____	_____	_____	1	2	1	2	1	2
Position #2	☐	$ _____	_____	_____	_____	1	2	1	2	1	2
Position #3	☐	$ _____	_____	_____	_____	1	2	1	2	1	2
Position #4	☐	$ _____	_____	_____	_____	1	2	1	2	1	2
Position #5	☐	$ _____	_____	_____	_____	1	2	1	2	1	2
Position #6	☐	$ _____	_____	_____	_____	1	2	1	2	1	2
Position #7	☐	$ _____	_____	_____	_____	1	2	1	2	1	2

Thank you for your assistance in this research project. Please return this questionnaire (and any printouts or disk/CD containing electronic production information) in the enclosed large white envelope. Drop it in the mail; postage is paid.

Appendix B

PRODUCTIVITY

By far the most commonly used and also the most easily understood measure of performance is *productivity.* In the simple case of a single output produced from a single input, it is merely the ratio of the output and input quantities. A producer with a higher output per unit of input used is more productive and is deemed to perform in a superior fashion. Consider this simple example involving five practices. Output is measured by the number of patient visits and is produced from a single input, dentist hours. The hypothetical input-output quantities are shown in Table A-1.

Table A-1: Productivity Measurement with One Input

	Practice A	Practice B	Practice C	Practice D	Practice E
Number of Visits	15	12	10	13	10
Dentist Hours	4	5	8	7	9
Visits per Dentist Hour	3.75	2.40	1.25	1.86	1.11

By this criterion, practice A, with the highest hourly productivity of a dentist performs best and practice E the worst. Note that number of visits per dentist hour is itself a descriptive measure summarizing the separate pieces of information about the output and the input quantity of a practice into a single ratio measure. In fact, dentist productivity becomes a measure useful for performance evaluation only in a comparative sense. For example, practice D with 1.86 visits per dentist hour is a relatively poor performer only when compared with practices like A and B.

It is seldom the case, however, that only a single input is used to produce the output. To make this example more realistic we include a second input, the number of chairside assistant hours used in conjunction with dentist hours to produce the number of visits shown in Table A-1. The chairside assistant hours were not reported in that table, but the more complete information on the input bundles and the output levels of the same five practices are now shown in Table A-2.

Table A-2: Productivity Measurement with Two Inputs

	Practice A	Practice B	Practice C	Practice D	Practice E
Number of Visits	15	12	10	13	10
Dentist Hours	4	5	8	7	9
Assistant Hours	9	2	8	6	8
Visits per Dentist Hour	3.75	2.40	1.25	1.86	1.11
Visits per Assistant Hour	1.67	6.00	1.25	2.17	1.25

This example clearly illustrates the problem associated with using partial productivity measures to evaluate performance. When productivity is measured as visits per assistant hour (rather than per dentist hour), practice B emerges as the best performer and practice A slips to the third position. The simple fact of the matter is that the output of a practice (in this case, visits) incorporates the contribution of both inputs (the dentist and the assistant). To use visit per dentist hour to evaluate performance amounts to ignoring the

contribution of the assistant's time and shows the practices with more assistants per dentist in an unduly favorable light. What we need to do is to construct an *aggregate measure of the inputs* and to express productivity as the ratio of output to the aggregate input. But how is the aggregate input to be constructed? The task is simple when input prices are available and all practices face the same input prices. Suppose, for example, that the price of one dentist hour is $150 and the price of an assistant hour is $60. Then a measure of the composite input would be the total cost of the input bundle, and overall productivity (output per dollar spent on inputs) would be the inverse of the average cost (dollars spent on inputs per unit of output). Hence, in this special case, a firm with a lower average cost is a better performer.

Table A-3: Measuring Productivity through Average Cost

	Practice A	Practice B	Practice C	Practice D	Practice E
Number of Visits	15	12	10	13	10
Dentist Hours	4	5	8	7	9
Assistant Hours	9	2	8	6	8
Cost ($)	1140	870	1680	1410	1830
Cost per Visit ($)	76.00	72.50	168.00	108.46	183.00

In Table A-3, we can use average cost to rank the firms in reverse order of performance. Now firm B, with the lowest average cost, is the best performer followed closely by firm A. The practice with the lowest cost per visit is treated as the best performer and others are evaluated using this practice as the benchmark.

This approach is quite simple and appeals to common sense. But there are problems. First, when the different practices face different input prices, cost per visit is not a meaningful criterion because a lower average cost may reflect lower input prices rather than higher productivity. Second, and as is often the case, we may not have appropriate prices of all inputs. In that case, we need to get an aggregate or *total factor productivity* measure from the output and input quantities alone. Suppose that X_1 and X_2 measure the number of dentist hours and assistant hours used by a practice and y is the corresponding number of visits. A natural solution would be to take some average of the partial productivities for a measure of total factor productivity. For example, the average productivities of dentist and assistant hours of practice A are

$$AP_1^A = \frac{y_A}{X_{1A}} \text{ and } AP_2^A = \frac{y_A}{X_{2A}}.$$

Define its total factor productivity as the weighted geometric mean

$$TFP^A = \left(AP_1^A\right)^{\beta_1}\left(AP_2^A\right)^{\beta_2}$$

where $\beta_1 + \beta_2 = 1;\ \beta_1, \beta_2 > 0$. Here β_1 and β_2 are, respectively, the weights assigned to the dentist and assistant productivities. For example, if we set

$\beta_1 = 0.6$ and $\beta_2 = 0.4$, in this example

$$TFP^A = (3.75)^{0.6}\ (1.67)^{0.4} = 2.71.$$

For any individual practice *j* (*j* = *A, B, C, D, E)*

$$TFP^j = \left(\frac{y_j}{X_{ij}}\right)^{\beta_1}\left(\frac{y_j}{X_{2j}}\right)^{\beta_2} = \frac{y_j}{X_j}; X_j = X_{1j}^{\beta_1} X_{2j}^{\beta_2}.$$

Note that here $X_j = X_{1j}^{\beta_1} X_{2j}^{\beta_2}$ becomes a measure of aggregate input. We may compare the total factor productivities of two firms B and A through the productivity index

$$TFPI_{B,A} = \frac{TFP_B}{TFP_A} = \frac{y_B/X_B}{y_A/X_A} = \frac{y_B/y_A}{X_B/X_A} = \frac{Q_y}{Q_x}.$$

This productivity index is known as the Tornqvist index and is the ratio of an output quantity index (Q_Y) and an input quantity index (Q_X). If $TFPI_{B,A}$ exceeds unity, B is more productive than A. Otherwise, A is more productive.

The weights β_1 and β_2 are of critical importance in the definition of the aggregate input *X* and can have a significant impact on the how the total factor productivity is measured. When cost information is available, one can use the shares of the labor and capital input in the total cost for these weights. In the present example, the average share of dentist hours in total cost across the five practices shown in Table A-3 is 0.72. We use $\beta_1 = 0.72$ and $\beta_2 = 0.28$ to obtain the weighted geometric means of partial productivities to get the total factor productivities of the individual practices shown in Table A-4 below.

Table A-4: Measuring Total Factor Productivity

	Practice A	Practice B	Practice C	Practice D	Practice E
Number of Visits	15	12	10	13	10
Dentist Hours	4	5	8	7	9
Assistant Hours	9	2	8	6	8
Visit per Dentist Hour	3.75	2.40	1.25	1.86	1.11
Visit per Assistant Hour	1.67	6.00	1.25	2.17	1.25
Total Input	5.02	3.87	8.00	6.70	8.71
Total Factor Productivity	2.99	3.10	1.25	1.94	1.15

As previously noted, this procedure can be applied only when the shares of the individual inputs in the total cost are known. When that is not the case, one must either use judgment in selecting the weights or explore other avenues.

EFFICIENCY

While useful as a relative measure of performance, productivity (whether partial or total) has two major limitations. First, in general, the unit of measurement of the aggregate input is undefined. In the example considered, because both inputs are labor hours, the aggregate input may be interpreted as a weighted labor hour so that the total factor productivity is (in some sense)

number of visits per hour. But no clear interpretation of the total input is possible when the individual inputs are measured in different units like hours (for dentist time) and physical units (like number of operatories). Second, a comparison of productivities of two different practices does not tell us anything about how many visits a particular practice should be able to produce from its actual numbers of dentist and assistant hours. For example, total factor productivity of practice B is 2.48 times the total factor productivity of practice C. This, does not mean, however, that from its observed inputs of 8 hours of dentist's time and 8 hours of assistant's time, practice C should be able to produce 24.8 (i.e., about 25) visits. That is because productivity is a descriptive measure and cannot be used to create a benchmark for production from a given bundle of inputs.

A more appropriate measure of the performance of a practice can be obtained by comparing its actual output (visits) with the maximum level of output producible from its observed bundle of inputs (i.e., the actual dentist and assistant hours). The maximum producible output (call it y^*) is by definition no smaller than the actual output y^0. The level of (technical) efficiency of a practice can be measured as

$$\tau = \frac{y^0}{y^*}.$$

Clearly τ lies between 0 and 1. Technical efficiency is 100% when the output actually produced (y^0) is equal to the maximum level of output that can be produced (y^*) from the inputs actually used by the practice. Obviously, technical efficiency is an index of resource utilization.

In order to operationalize this, however, we need to figure out the maximum quantity of output that can be produced from a particular input bundle. Conceptually, the *production function* defines the maximum output y^* that can be produced from a bundle of inputs (say x_1 and x_2) and is expressed as

$$y^* = f(x_1, x_2).$$

By implication, the measured level of technical efficiency is

$$\tau = \frac{y^0}{y^*} = \frac{y^0}{f(x_1^0, x_2^0)}$$

In the absence of any scientific formula exactly relating output to inputs, one must use an empirical method to construct the production function from observed input-output data.

CONVENTIONAL REGRESSION ANALYSIS

The conventional approach in empirical estimation of a production function is to include a random disturbance term to permit deviations of the actual output produced from any input bundle from what is implied by the corresponding

value of the production function. One starts with the conceptualization of the form

$y = f(x_1, x_2).e^v$ where v is a random disturbance term that can take positive

as well as negative values.

COBB-DOUGLAS PRODUCTION FUNCTION

A widely used specification is the Cobb-Douglas production function

$$f(x_1, x_2) = Ax_1^{\beta_1} x_2^{\beta_2}$$

This yields the regression model

$$\ln y = \alpha + \beta_1 \ln x_1 + \beta_2 \ln x_2 + v.$$

Here, $\alpha = \ln(A)$. One uses the observed values of the inputs (x_1, x_2) and output (y) from the sample practices in a linear regression model to obtain the estimated values $(\hat{\alpha}, \hat{\beta}_1, \hat{\beta}_2)$, which can then be used to get the values of y^* for the individual practices. Of course, when more than two inputs are used the regression model includes the appropriate number of explanatory variables.

A serious limitation of this approach is that linear regression methodology permits some of the observed data points to lie above the fitted line. But that implies that for some observations, the output level actually observed exceeds what is predicted as maximally producible from the corresponding input bundles. This clearly invalidates any interpretation of the fitted function as a *frontier*. The value predicted by the fitted model cannot be used as a benchmark for measuring technical efficiency. One simple and workable (although not the best) solution to this problem is to adjust the intercept by adding to it the largest positive regression residual. No observed data point will lie above this "corrected" frontier, and deviations from this revised frontier will all be either negative or zero. Hence, the output value predicted by this corrected frontier will be a valid benchmark for measurement of efficiency.

STOCHASTIC PRODUCTION FRONTIER ANALYSIS

A more refined approach to measuring efficiency using a frontier production function is to conceptualize the production function itself as shifting up or down due to favorable and unfavorable random shocks. In this specification

$y = y^* e^{-u}$ where $y^* = f(x_1, x_2).e^v$ and $u \geq 0$.

Here, although the maximum output producible from the input bundle (x_1, x_2) varies randomly, because e^{-u} is less than or equal to unity, when u is non-negative, the actual output never exceeds the (unobserved) frontier output. In

the econometric specification, the Cobb-Douglas stochastic frontier production function takes the form

$$\ln y = \alpha + \beta_1 \ln x_1 + \beta_2 \ln x_2 + v - u.$$

Here v is assumed to have the usual Normal distribution, while u is specified to have some one-sided distribution like the Normal distribution truncated from below at 0. One uses maximum likelihood procedures to estimate both the model parameters and the measure of technical efficiency (e^{-u}) for each observation in the sample.

RELATION BETWEEN PRODUCTIVITY AND EFFICIENCY

We now return to the measure of total factor productivity discussed before and take a closer look at the input aggregator function

$$X = f(x_1, x_2) = x_1^{\beta_1} x_2^{\beta_2}; \beta_1 + \beta_2 = 1; \beta_1, \beta_2 > 0.$$

A production function exhibits constant returns to scale when any equi-proportionate change (increase or decrease) in all inputs also results in exactly the same proportionate change in the output. It is easy to see that $f(x_1,x_2)$ in X can be regarded as a Cobb-Douglas production function exhibiting constant returns to scale. This, however, is a consequence of our decision to take a weighted geometric mean of the partial productivities as a measure of total factor productivity. In fact, we could use *any* production function exhibiting constant returns to scale and non-negative marginal productivities to define the aggregate input and derive the productivity index.

It is important to note that if the production function does not exhibit constant returns to scale, higher productivity would not necessarily imply higher efficiency. Suppose, for simplicity, that only one input, x_1, is needed to produce the output y. Suppose that practice #1 uses 4 units of the input to produce 15 units of the output while practice #2 produces 24 units of the output from 9 units of the input. In that case, the average productivity of practice #1 is 3.75, while #2 has a lower average productivity of 2.67. Now suppose that the production function is

$$y^* = f(x_1) = 10\sqrt{x_1}.$$

In that case, the maximum producible output from the input used by practice #1 is 20 and its technical efficiency is $\tau_1 = \frac{15}{20} = 0.75$. On the other hand, the maximum output producible from 9 units of the input is 30 and the technical efficiency of practice #2 is $\tau_2 = \frac{24}{30} = 0.80$. Practice #2 has a lower productivity but higher efficiency than practice #1. This anomaly arises out of the fact that the production function exhibits diminishing returns to scale. Average productivity declines as the input level increases, *even when there is no inefficiency.* Unless constant returns to scale holds, technical efficiency is a better measure than productivity for performance evaluation.

DATA ENVELOPMENT ANALYSIS AND MEASUREMENT OF TECHNICAL EFFICIENCY

Validity of any estimated stochastic production frontier as the benchmark for evaluating the efficiency of an observed input-output bundle crucially depends on the appropriateness of the functional form of the estimated model. Choice of the preferred functional specification is often arbitrary and is driven by computational simplicity and tractability. Additionally, the stochastic distribution of the one-sided inefficiency term (e.g., half-Normal vs. exponential) is a matter of preference for the analyst. The nonparametric method of Data Envelopment Analysis (DEA) requires no parametric specification of the production frontier and relies on a number of fairly general assumptions about the nature of the underlying production technology. DEA uses a sample of actually observed input-output data and a set of assumptions to derive a benchmark output quantity with which the actual output of a firm can be compared for efficiency measurement.

Because the DEA methodology is entirely data driven, it is best explained with a numerical example. Suppose that we observe six different producers (practices) using a single input, x (dentist time), to produce a single output y (visits). The input-output quantities for this example are as shown in the Table A-5.

Table A-5: Hypothetical Input/Output Data for DEA

	Practice 1	Practice 2	Practice 3	Practice 4	Practice 5	Practice 6
Output (y)	8	18	24	25	11	20
Input (x)	4	6	8	10	7	9

Our objective is to evaluate the technical efficiency of practice #5. For this we need to figure out: *What is the maximum quantity of y that can be produced from 7 units of x?*

To answer a question like this we have to make four simple assumptions about the technology:

1. All actually observed input-output pairs are feasible. That is, if we find any producer (or practice) producing output y^0 using input x^0, then any other practice could do the same.

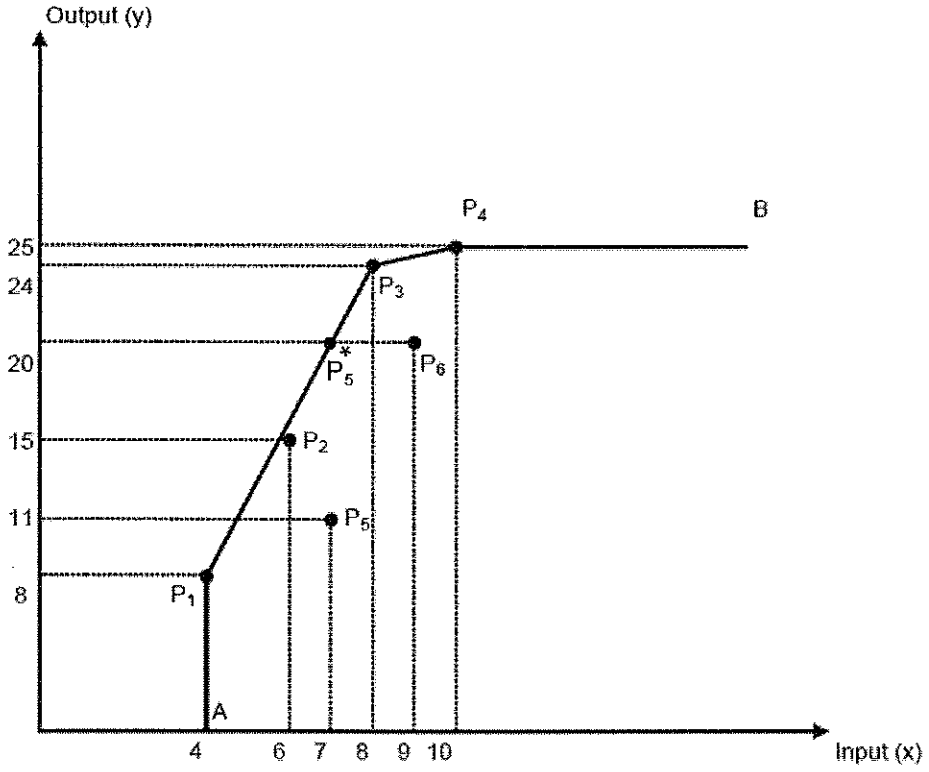
2. Increasing the input quantity would not lower the output.

3. A lower level of output can always be produced from a given input bundle by leaving some of the input less than fully utilized.

4. If two input-output bundles are feasible, then any weighted average of the input quantities can produce at least the corresponding weighted average of the corresponding output quantities.

We can construct the frontier using the data in Table A-5 and assumptions 1 through 4 as shown in Figure A-1.

Figure A-1



In this diagram, points P_1 through P_6 show the observed input-output quantities of the individual practices reported in Table A-5. The empirically constructed frontier is shown by the broken line $AP_1P_3P_4B$. The set of feasible input-output combinations are the points on or below the frontier. The point P_1 is an actually observed input-output combination and is therefore feasible. The vertical segment AP_1 consists of points where the input remains the same as in P_1 but the output is lower. Hence, all such points are feasible by assumption 3. All points on the P_1P_3 segment of the frontier are weighted averages of the points P_1 and P_3. Hence, by assumption 4, they are feasible. Similar reasoning holds for points on the P_3P_4 segment. Next, every point on the horizontal segment P_4B represents greater quantities of the input but no more output than what is observed at point P_4. Hence, by assumption 2, they are all feasible points. Finally, any point below the frontier represents either less output but no less input or more input but no more output when compared with some point on the frontier.

As argued above, all points on the frontier are feasible input-output bundles; interior points are also feasible by assumptions 2 and 3. This frontier, constructed using only the observed data and assumptions 1 through 4, is called a nonparametric frontier because we do not specify an explicit form (e.g., Cobb-Douglas) of the production frontier.

We now return to the question of measuring the technical efficiency of practice #5. The benchmark for comparison would be the point P_5^* on the frontier where the input quantity used 7 (as in the case of practice #5) but the output produced is 20. It can be seen that the input-output bundle at P_5^* (*x=7, y=20*) is the weighted average of the input and output quantities of practice #1 (*x=4, y=8*) and practice #3 (*x=8, y=24*). The weights attached are 0.25 to practice #1 and 0.75 to practice #3. A nonparametric measure of the technical efficiency of practice #5 is

$$\tau_5 = \frac{y_5}{y_5^*} = \frac{11}{20} = 0.55.$$

This implies that the actual output of practice #5 is only 55% of the maximum output that could be produced from the input quantity that it is using.

DEA WITH MULTIPLE INPUTS

The 1-input/1-output example considered above is simple enough to be shown graphically. But what happens when the number of inputs and outputs exceeds three? A simple graphical analysis will not be possible anymore. But we can set it up as an algebraic problem to be solved by an optimization method known as linear programming. For an example we return to the data shown earlier in Table A-2. Suppose that we wish to evaluate the efficiency of practice C which produces 10 visits using 8 hours of dentist time and 8 hours of assistant time. Visual inspection shows that if we created a (*2/3, 1/3*) weighted average of the input-output bundles of practices A and D, the benchmark input bundle would include $(\frac{2}{3}.4 + \frac{1}{3}.7) = 5$ dentist hours, $(\frac{2}{3}.9 + \frac{1}{3}.6) = 8$ assistant hours, and would produce $(\frac{2}{3}.15 + \frac{1}{3}.10) = \frac{43}{3} = 14\frac{1}{3}$ visits. Note that the benchmark input bundle would use strictly fewer dentist hours and just as many assistant hours as practice C and would still produce $14\frac{1}{3}$ visits compared to 10 visits actually produced by C. Hence, C should be able to produce at least as many visits from its observed input bundle. Thus, a measure of the technical efficiency of C would be no more than $\frac{30}{43} = 0.697$.

The question is: *Is this the maximum output producible from the input bundle of C?* Is there some other weighted average of actual input-output bundles that could produce an even higher output quantity without increasing any input compared to C? To answer this question, we solve the following linear programming (LP) problem:

Max φ

Subject to

$$15\lambda_A + 12\lambda_B + 10\lambda_C + 13\lambda_D + 10\lambda_E \geq 10\varphi;$$
$$4\lambda_A + 5\lambda_B + 8\lambda_C + 7\lambda_D + 9\lambda_E \leq 8;$$

$$9\lambda_A + 2\lambda_B + 8\lambda_C + 6\lambda_D + 8\lambda_E \leq 8;$$

$$\lambda_A + \lambda_B + \lambda_C + \lambda_D + \lambda_E = 1;$$

$\lambda_A, \lambda_B, \lambda_C, \lambda_D, \lambda_E \geq 0; \varphi$ unrestricted.

Here, the λs are the weights assigned to the input-output bundles of the individual practices. They are restricted to be non-negative and are constrained to add up to 1 (or 100%). The left-hand sides of the three inequalities are the output and input quantities of the benchmark bundle that is created by taking a weighted average. Our objective is to seek the weights that lead to the highest value of the left-hand side of the first inequality (call it y_C^*) without violating the other two inequality constraints. Note that y_C (the actual output of C) is 10. Hence, the implied technical efficiency of C would be

$$\tau_C = \frac{y_C}{y_C^*} = \frac{1}{\varphi}.$$

In the present example, the optimal weights are:

$$(\lambda_A = 0.857, \lambda_B = 0.143, \lambda_C = \lambda_D = \lambda_E = 0).$$

The maximum value of φ is 1.4571. Thus, the technical efficiency of C is

$$\tau_C = \frac{y_C}{y_C^*} = \frac{1}{\varphi}. = 0.686.$$

Thus, a (0.857;0.143) weighted average of the bundles of A and B will produce 14.571 units of the output while using just as many assistant hours as C and no more dentist hours than C uses. In fact, it would actually use only 4.143 (i.e., 3.857 fewer) dentist hours compared to the 8 hours used by C and would still produce this higher output level.

A Multiple Output Multiple Input Case

One of the main advantages of DEA is that unlike the frontier production function analysis, it can easily handle multiple output technologies. It is useful to illustrate this with an example. For this, we modify the input-output data shown in Table A-2 by considering two different kinds of visits: endodontic (EN) and diagnostic/restorative (DR). The revised data are presented in Table A-6.

Table A-6: Data for Two-Output Two-Input DEA Application

	Practice A	Practice B	Practice C	Practice D	Practice E
Visits:					
Endodontic	6	4	3	5	6
Restorative/Diagnostic	9	8	7	8	4
Hours:					
Dentist Hours	4	5	8	7	9
Assistant Hours	9	2	8	6	8

As in the preceding example, we measure the technical efficiency of practice C. This time, we search for the *maximum rate at which both outputs can be increased at the same time* without requiring any additional input of either dentist or assistant hours. The relevant DEA problem for this multiple-output multiple-input case is:

Max φ

Subject to

$$6\lambda_A + 4\lambda_B + 3\lambda_C + 5\lambda_D + 6\lambda_E \geq 3\varphi;$$

$$9\lambda_A + 8\lambda_B + 7\lambda_C + 8\lambda_D + 4\lambda_E \geq 7\varphi;$$

$$4\lambda_A + 5\lambda_B + 8\lambda_C + 7\lambda_D + 9\lambda_E \leq 8;$$

$$9\lambda_A + 2\lambda_B + 8\lambda_C + 6\lambda_D + 8\lambda_E \leq 8;$$

$$\lambda_A + \lambda_B + \lambda_C + \lambda_D + \lambda_E = 1;$$

$\lambda_A, \lambda_B, \lambda_C, \lambda_D, \lambda_E \geq 0; \varphi$ unrestricted.

This time, there are two separate constraints for the two distinct outputs. As before, we select the λs as weights to create a benchmark input-output bundle for comparison with the actual bundle of practice C. The left-hand sides of the first four constraints are the two output quantities and the two input quantities in this benchmark bundle, call them $(y^*_{1C}, y^*_{2C}; x^*_{1C}, x^*_{2C})$. We require that x^*_{1C} and x^*_{2C} should be no greater than the actual inputs of C (x^C_1, x^C_2). Further, we seek the largest value of φ that is less than both $\frac{y^*_{1C}}{y^C_1}$ and $\frac{y^*_{2C}}{y^C_{2C}}$. That is, $\varphi = \min\left\{\frac{y^*_{1C}}{y^C_1}, \frac{y^*_{2C}}{y^C_2}\right\}$. The optimal weights for this problem are $(\lambda_A = 0.857, \lambda_B = 0.143, \lambda_C = \lambda_D = \lambda_E = 0)$ as in the single output (total visits) problem. That, however, is a coincidence and usually the two sets of weights would be different. But, even though the optimal weights are the same as before, the optimal value of φ is 1.2653. The benchmark bundle would have

5.714 units of output 1 (endodontic visits) and 8.857 units of output 2 (diagnostic/restorative visits). Both outputs can be increased by 26.53% while output 2 can be increased by another 1.9183 units. In this example, the technical efficiency of C is

$$\tau_C = \frac{1}{1.2653} = 0.7903.$$

INPUT-ORIENTED MEASURES OF TECHNICAL EFFICIENCY

In the foregoing analysis, the primary focus has been on the maximum quantity of output producible from a given input bundle. An implicit assumption behind this is that there is no demand constraint. In reality, however, a practice might be producing less than the maximum output (visits) simply because there is not enough demand. In that case, an output-oriented measure of efficiency would be an inappropriate index of its performance. When output is exogenously given, either by market demand or as an assigned task, efficient utilization of resources lies in producing the target output with as little input use as possible.

For a simple example of input-oriented technical efficiency, consider again the data shown in Table A-6 above. This time, we want to evaluate practice D. It is clear that the observed output bundle of practice D $(y_{1D} = 5, y_{2D} = 8)$ can be produced with less of both inputs than practice D is using. Take the simple average of the input-output bundles of practice A and practice B. This average bundle would produce, from 4.5 units of x_1 (dentist's time) and 5.5 units of x_2 (assistant's time), 5 units of y_1 (endodontic visits) and 8.5 units of y_2 (preventive/restorative visits). Because this output bundle meets or exceeds both of D's observed outputs, it would be a feasible input bundle for producing D's outputs. As can be seen, compared to D's actual inputs, x_1 could be scaled down by a factor of 0.643 and x_2 could be scaled down by a factor of 0.917. Hence, while both inputs could be reduced by at least 8.3%, the dentist input could be reduced even further. Thus, D's input-oriented efficiency is no more than 91.7%. But this is not the best we can do. To find the maximum reduction in the inputs possible, we solve the following input-oriented DEA linear programming model:

Min θ

Subject to

$$6\lambda_A + 4\lambda_B + 3\lambda_C + 5\lambda_D + 6\lambda_E \geq 5;$$

$$9\lambda_A + 8\lambda_B + 7\lambda_C + 8\lambda_D + 4\lambda_E \geq 8;$$

$$4\lambda_A + 5\lambda_B + 8\lambda_C + 7\lambda_D + 9\lambda_E \leq \theta 7;$$

$$9\lambda_A + 2\lambda_B + 8\lambda_C + 6\lambda_D + 8\lambda_E \leq \theta 6;$$

$$\lambda_A + \lambda_B + \lambda_C + \lambda_D + \lambda_E = 1;$$

$$\lambda_A, \lambda_B, \lambda_C, \lambda_D, \lambda_E \geq 0; \theta \text{ unrestricted.}$$

The optimal solution for this problem is

$$(\lambda_A = 0.4, \lambda_B = 0.5, \lambda_C = \lambda_D = 0, \lambda_E = 0.1; \theta = 0.9).$$

The benchmark input-output bundle $(x_{1D}^* = 5, x_{2D}^* = 5.4; y_{1D}^* = 5; y_{2D}^* = 8)$ is a 40%, 50% and 10% weighted average of the bundles of A, B, and E, respectively. Both of D's output targets are met. Both inputs can be reduced by at least 10%. The dentist input can be reduced further by another 1.3 units. The technical efficiency measure is

$$\theta^* = \max\left\{\tfrac{5}{7}; \tfrac{5.4}{9}\right\} = 0.90.$$

It should be noted that compared to a benchmark constructed as the simple average of the input-output bundles of A and B, this weighted average of A, B, and E is superior *only in the sense that it allows a greater reduction in all inputs simultaneously.* When there is no prior information about the market valuation of the individual inputs, reducing each input would have equal priority. When we do have price information, reducing the more expensive input would get a higher priority. The objective then would be to find the least expensive bundle that could produce the target output bundle. One might even want to *increase* some input that would allow a reduction in the other inputs in a way that *reduces the total cost.* In the present example, when the cost of a dentist's time is $150 per hour and the assistant's time is $60 per hour, the simple average of the bundles of A and B costs $1050 and represents the cost efficient bundle. Although the weighted average bundle is the most technically efficient for D, when input prices are considered, it is not the most cost efficient one.

DETERMINANTS OF TECHNICAL EFFICIENCY: THE ROLE OF OTHER FACTORS

The actual output produced by a firm from a given bundle of inputs depends on a number of factors that affect its ability to efficiently utilize the inputs. Some of these factors are favorable and enhance efficiency. Others may be detrimental and hinder efficient utilization of resources. In the context of dental care, a practice serving a well educated, upper middle class, suburban clientele would have fewer missed appointments compared to a practice located in an urban district where a majority of the clients are low income, often without personal means of transportation, and with little or no insurance coverage. These are factors that affect how many visits or how much gross billings could be generated from the same bundle of resources. While it is agreed that such factors should be taken into account explicitly, there are two different ways to model the production process to include these attributes.

One approach would specify the production frontier as $y^* = f(x,a)$, where x is the input bundle and a is the set of attributes affecting output. The actual output is then related to the frontier as

$$y = f(x,a)\cdot\tau;\ 0 \le \tau \le 1.$$

Here, τ is the measure of technical efficiency of the firm. In this conceptualization, the set of attributes shifts the production function outwards (if favorable) and inwards (if detrimental). The level of technical efficiency of a firm (i.e., a practice) would be measured relative to a frontier appropriately positioned in light of its observed attributes.

In the alternative approach, these attributes are treated as facilitating or hindering resource utilization relative to a given frontier production function that does not depend on the attributes. In this approach, actual output relates to the frontier as

$$y = f(x)\cdot\tau(a);\ 0 \le \tau(a) \le 1.$$

Here, the frontier production function $y^* = f(x)$ does not depend on a. The attributes only affect the technical efficiency, τ.

In DEA, the first approach would involve specifying a linear programming problem that incorporates constraints for the individual attributes along with the constraints for the input quantities. By implication, the frontier itself depends on the attributes. The other approach, which is the more popular one, leaves the attributes out of the DEA specification and, once the efficiency scores are obtained, a second stage k-variable regression model

$$\tau = \beta_0 + \beta_1 a_1 + \beta_2 a_2 + ... + \beta_k a_k + u$$

is estimated to determine how any individual attribute, a_j, affects the DEA efficiency scores.

An advantage of the 2-stage approach is that one need not specify beforehand whether any individual attribute enhances or hinders efficiency.

RETURNS TO SCALE

None of the four assumptions that we made about the technology had anything to do with returns to scale. "Returns to scale" is a property of the frontier of the production possibility set. When a small equi-proportionate increase in all inputs causes a more than proportionate increase in all outputs along the frontier, locally increasing returns to scale prevail. Similarly, locally diminishing returns to scale occur when the proportionate increase in outputs is lower than the proportionate increase in inputs. In the case of constant returns to scale, outputs and inputs increase (or decrease) by the same proportion along the frontier. It is possible that the technology exhibits increasing, constant, or

decreasing returns to scale along different segments of the frontier. This *Variable Returns to Scale (VRS)* is the more general assumption about the production technology. If, however, one assumes that *Constant Returns to Scale (CRS)* holds everywhere along the frontier, definition of the production possibility set and the resulting measure of technical efficiency will change. An implication of the (global) CRS assumption is that if any input-output bundle *(x, y)* is feasible, then the bundle *(tx, ty)* is also feasible for any non-negative *t*. As explained by Ray (2004), under the assumption of CRS, the corresponding construction of the production possibility set would be

$$S^C = \left\{(x,y) : x \geq \sum_{j=1}^{N} \lambda_j x^j ; y \leq \sum_{j=1}^{N} \lambda_j y^j ; \lambda_j \geq 0 \, (j = 1,2,..., N)\right\}.$$

Here, the superscript *C* indicates that CRS has been assumed. Note the absence of the constraint for λs to sum to 1. This equality constraint will also be removed from the output- or input-oriented DEA linear programming problems when CRS is assumed. Note that the removal of the constraint makes the CRS DEA problems less restrictive than the corresponding VRS models. As a result, φ^* will either be higher or stay the same when compared with the optimal solution of the VRS problem. Similarly, θ^* from the CRS problem will be either strictly lower or equal to what is obtained under VRS. This means that measured technical efficiency under CRS will be less than or equal to what is obtained under the VRS assumption. Moreover, when CRS is assumed, the input- and output-oriented measures will be identical. This is not the case under the VRS assumption. Note that the technical efficiency is strictly lower under the CRS assumption. Further, the λ-weights do not sum to 1 in this case.

Appendix C

According to the information provided to the research team, your dental practice is a solo incorporated general dental practice with four fully equipped operatories and seven dental auxiliaries.

EFFICIENCY SCORE OF YOUR PRACTICE

Using the following characteristics of your practice as well as those of a sample of 116 Colorado general dental practices:

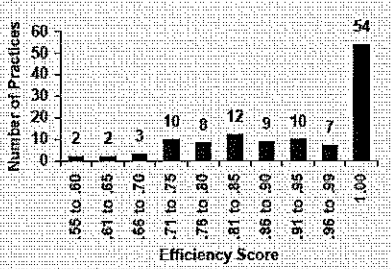
- 2005 gross billings;
- Dentist hours;
- Dental hygienist hours;
- Chairside staff hours;
- Other staff hours;
- Square feet of office space;
- Number of operatories;
- Laboratory expenses;
- Expenses for supplies;

and Data Envelopment Analysis (DEA), a sophisticated mathematical programming model, five actual dental practices from this sample of 116 other practices have been identified by the model as your benchmark practices. The weighted average of these benchmark practices constitutes the benchmark practice relative to which your practice is assessed. Specifically, the DEA evaluates the "efficiency" of your practice by comparing its actual dental input and output (dental services) quantities with the selected benchmark practice inputs and output.

Based on this evaluation, your efficiency score in gross billings was estimated to be 0.861—or 86.1%. Your efficiency score is the ratio of the annual gross billings you indicated on the survey to that of the benchmark practice.

Figure 1 below displays the range of efficiency scores across 117 Colorado practices.

Figure 1



In addition to the *efficiency score* estimate of your practice, DEA allows for estimates of the required quantities of each input for the benchmark practice to produce the *maximum* ($882,700) and the *reported* ($760,000) level of gross billings. The "used" column in Table 1 displays the reported input levels used by your practice, the "**needed**" column indicates the input levels needed by the benchmark practice to produce the annual gross billings you reported on the survey, and the "potential" column indicates the input levels required to produce the higher gross billings of the benchmark practice.

Table 1

Your efficiency score = 0.861 or 86.1%
Your practice gross billings = $760,000
Maximum gross billings of benchmark practice = $882,700

Inputs	Used	Needed	Potential
Dentist hours	1344	1210	1344
Dental hygienist hours	2400	1914	1954
Chairside assistant hours	2545	2290	2545
All other staff hours	2370	2133	2127
Square feet of office space	2000	1583	1825
Number of operatories	4	3	4
Laboratory expenses	69157	61976	69157
Dental supply expenses	48819	43936	48819

It should be noted that the efficiency score and the comparison between inputs *used*, *needed* and *potential* reflects your personal preferences and practice philosophy as well as the market conditions in which your practice operates (e.g., location, fees, and patients' characteristics).

CONTRIBUTION OF EACH INPUT

Production function analysis is often used to describe the technical relation between the output of a firm and the production inputs used to produce it—i.e., it estimates how output will vary when different amounts of various inputs are utilized. Using this type of analysis and all data from the practices that responded to the survey, we estimated the contribution of key inputs to the output—measured by 2005 gross billings—of a dental practice. **These estimates reflect mean values rather than specific values for your practice.** The key inputs used in the estimation are listed in Table 2 along with the percent change in gross billings associated with a 10% change in each input. For example, a 10% increase in dentist hours would increase output by 3.99%.

Table 2

10% increase in input:	Percent increase in gross billings
Dentist hours	3.99%
Non-dentist staff hours	5.74%
Office space	1.71%

LEVEL OF DELEGATION

Two questions on the survey instrument dealt with delegation. In one question (Q20), dentists were asked if they currently use, or at one time used, expanded function auxiliaries in their primary practice locations. The results across all respondents are shown in Table 3. Clearly, over 62% of the sampled practices delegate some activities to their auxiliary.

Table 3

Q20: Do you currently use, or at one time used, expanded function auxiliaries in your primary practice location?

	N	Percent
Yes, currently use	102	62.2%
Yes, once used but have discontinued	21	12.8%
No, never used	41	25.0%

In another question (Q23), dentists were also asked to indicate the level of delegation across many specific activities. Tables 4A-4H show the results across all these activities.

Table 4A: Diagnostic/Preventive/Adjunctive

Take PA or BW radiographs	(95.85%, N=163)
Take panoramic radiographs	(97.01%, N=116)
Provide prophylaxis	(91.88%, N=152)
Place occlusal sealant(s)	(64.16%, N=122)
Administer topical fluoride	(96.69%, N=156)
Apply fluoride varnish	(90.01%, N=106)
Take and pour alginate impressions	(86.56%, N=160)

Table 4B: Operative, Primary and Permanent Teeth

Place wedge/matrix for amalgam	(34.59%, N=78)
Place/finish amalgam (1 surface)	(40.08%, N=66)
Place/finish amalgam (2+ surfaces)	(38.25%, N=64)
Place/wedge matrix for composite	(36.79%, N=89)
Place/finish anterior composite	(39.11%, N=74)
Place/finish posterior composite (1 surface)	(39.44%, N=82)
Place/finish posterior composite (2+ surface)	(35.04%, N=79)
Place temporary filling material	(46.39%, N=119)

Table 4C: Fixed Prosthodontics

Place cord for a C&B impression	(52.58%, N=99)
Take final C&B impression	(38.03%, N=77)
Make temporary crown	(71.48%, N=130)
Cement temporary crown	(69.88%, N=136)
Remove temporary crown	(68.29%, N=129)
Adjust permanent crown before cementation	(48.68%, N=79)
Cement permanent crown	(32.80%, N=65)
Initial placement/adj of stainless steel crown	(24.63%, N=43)
Cement stainless steel crown	(36.07%, N=46)
Make temporary bridge	(67.27%, N=102)
Cement temporary bridge	(69.98%, N=108)
Remove temporary bridge	(65.78%, N=113)
Adjust permanent bridge before cementation	(44.21%, N=72)
Cement permanent bridge	(29.97%, N=63)

Table 4D: Removable Prosthodontics	
Take preliminary RPD impression	(80.71%, N=130)
Take final RPD impression	(49.01%, N=75)
Try RPD framework in mouth	(31.40%, N=63)
Take preliminary CD impression	(75.31%, N=109)
Take final CD impression	(37.20%, N=65)
Take records for CD	(28.82%, N=61)
Adjust RPD or CD	(37.67%, N=85)
Rebase, reline, or repair denture	(37.82%, N=72)

Table 4E: Periodontics	
Place subgingival medicaments	(75.93%, N=108)
Scaling, root planing, and/or curettage	(89.50%, N=136)

Table 4F: Endodontics	
Medicate root canal	(10.16%, N=45)
Obturate root canal	(1.19%, N=42)

Table 4G: Oral Surgery	
Place suture	(0.22%, N=46)
Remove suture	(46.15%, N=103)

Table 4H: Other	
Adjust orthodontic appliance	(26.55%, N=29)
Place or remove orthodontic brackets/wires	(44.13%, N=23)
Local anesthesia	(18.41%, N=97)
Perform brush biopsy	(23.75%, N=40)

Based on the reported percent delegation of the procedures listed in Tables 4A-4H, two overall indices of delegation were created:

- The first is the simple average across all activities with a mean value of 31.43%.
- The second is a weighted average (the weights being the shares in gross billings of category of services) across all activities with a mean value of 23.39%.

CONTRIBUTION OF DELEGATION

Using information from both Q20 and Q23, we have assessed the impact of delegation on **gross billings, value added** (gross billings minus expenses for supplies and commercial labs), **visits, and efficiency**. The results indicate that delegation matters on all these dimensions (i.e., gross billings, value added, visits and efficiency). Table 5 displays the impact of delegation on gross billings using three measures of delegation. **These estimates reflect mean values rather than specific values for your practice.**

The first measure uses information from Q20 (see Table 3 for question text). As shown in Table 5, the gross billings of those who said they currently used expanded function auxiliaries when responding to Q20, were on average 10.7% higher compared to those who picked either of the other two responses of "*Yes, once used but have discontinued*," and "*No, never used*."

The estimated impact of delegation on gross billings using either the simple average or the weighted average depends on the level of delegation. Table 5 provides estimates of this impact at mean values of delegation. For practices with higher (lower) values of delegation, the estimated impact would be higher (lower) than indicated in Table 5.

Table 5

Delegation measure	Percent change in gross billings
Delegation yes=1, no=0*	10.7%
Index simple, at mean value	17.0%
Index weighted, at mean value	4.8%

* In the analysis assessing the impact of delegation, the categories of "Yes, once used but have discontinued," and "No, never used" in Q20 were combined to indicate no delegation.

YOUR LEVEL OF DELEGATION

When asked: "*Do you currently use, or at one time used, expanded function auxiliaries in your primary practice location?*" You answered: "*Yes, currently use.*" Using the percentages you indicated for the level of delegation across the specific activities listed in Q23 and Tables 4A-4H:

Your simple average delegation index was: 12.76
Your weighted average delegation index was: 1.31

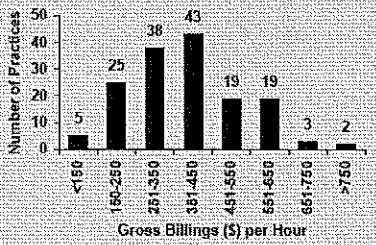
OUTPUT PER DENTIST HOUR

Below are three key indicators for your practice based on selected information you provided.

Practice gross billings per hour:	$565.48
Value added per hour:	$477.70
Visits per hour:	1.43

Figure 2 displays the range of practice gross billings across all practices who responded.

Figure 2



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Appendix L

Cost-effectiveness and productivity: Lobene R, Kerr A. The Forsyth Experiment: An Alternative System for Dental Care (Cambridge, MA: Harvard University Press, 1979).
http://www.modental.org/docs/advocacy/workforce/literaturereviewmidlevel.pdf
Results from the Forsyth Experiment indicated that a solo practice dentist using hygienist-assistant teams to provide restorative care could charge lower fees and increase his net income. All patients in the study actually received free treatment, so therefore the income that could have been generated was calculated using the dollar charges for specific dental procedures listed in the 1974 Massachusetts welfare fee schedule and the 1972 schedule of usual fees for New England dentists.

Title: Effects of expanded function dental auxiliaries (EFDAs) in dental practice in Kentucky:
a statewide dental demonstration project : annual report project period:
December 1, 1978-November 30, 1979
Author: Raynor Mullins
Publisher: Dept. of Community Dentistry, University of Kentucky
Original from the University of Michigan -- Digitized - Jul 17, 2008
Length: 20 pages

Cited by 2 PubMed Central articles:
Delegation of expanded functions to dental assistants and hygienists.[Am J Public Health. 1985]
Chapko MK, Milgrom P, Bergner M, Conrad D, Skalabrin N.Am J Public Health. 1985 Jan; 75(1):61-5.
Are larger dental practices more efficient? An analysis of dental services production.[Health Serv Res. 1986]

Are larger dental practices more efficient? An analysis of dental services production.
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Appendix M

Ref. #1

Measuring Dental Assisting Excellence®

Dental Assisting National Board, Inc.

2011 CDA Exam Application Packet

This packet includes applications for the following exams:

- **Certified Dental Assistant** (CDA®)
  GC, RHS and ICE component exams taken in the same test administration
- **General Chairside Assisting** (GC)
- **Radiation Health and Safety** (RHS®)
- **Infection Control** (ICE®)
- **RHS®/ICE®**
  RHS and ICE exams taken in the same test administration

DANB accepts 2011 exam applications through **March 31, 2012.**

Dental Assisting National Board, Inc.
444 N. Michigan Ave., Suite 900, Chicago, IL 60611-3985
1-800-367-3262 Fax: 312-642-8507 E-mail: danbmail@danb.org
www.danb.org

Welcome.

Congratulations on taking the first step toward becoming a DANB Certified Dental Assistant. This DANB application packet includes the exam applications for the Certified Dental Assistant (CDA) exam and the three component exams that make up the CDA exam: Radiation Health and Safety (RHS) exam, Infection Control exam (ICE), and General Chairside Assisting (GC) exam. Candidates may take the full CDA exam all at once, take the RHS and ICE exams at the same test administration (RHS/ICE), or take and pass the component exams separately within a five-year period to become DANB Certified.

There are no eligibility requirements to take the RHS and ICE exams. After passing the RHS and ICE exams, a candidate receives a Certificate of Competency for each exam passed. The RHS exam is recognized or required in 20 states and the District of Columbia to expose radiographs. The CDA exam is recognized or required in 29 states for either radiography or for performing expanded functions. Currently, a total of 38 states, the District of Columbia, the U.S. Air Force and the Department of Veterans Affairs recognize or require DANB exams for dental assisting practice. If you are unsure which exams are required or recognized in a particular state, visit DANB's website at www.danb.org for state-specific information, or contact DANB or the state board of dentistry (see page 26).

There are eligibility requirements to take the GC or CDA exams. A candidate can be eligible under one of three pathways. Read pages 12-13 to determine which pathway you will be eligible for and the documentation necessary for each.

DANB Certification is current for one year. To maintain Certification, DANB Certified Assistants must renew their certification annually. *DANB's 2011 Recertification Requirements* include mandatory, current DANB-accepted CPR certification, completing at least 12 credits of Continuing Dental Education (CDE) and paying an annual renewal fee.

Please be sure to sign and date the application, answer the Background Information questions, attach the proper documentation and include the payment. If you have any questions, please contact DANB's Client Service Representatives at 1-800-367-3262. DANB is here to help you through the process of becoming a DANB Certified Assistant.

There are currently more than 33,000 proud dental professionals who call themselves DANB Certified Assistants! I wish you the best as you advance in the dental assisting profession.

Sincerely,

Cynthia C. Durley

Cynthia C. Durley, M.Ed., MBA
DANB Executive Director

Dental Assisting National Board, Inc.

About DANB

Since its inception in 1948, the Dental Assisting National Board, Inc. (DANB) has worked within and has had the support of the dental community. The American Dental Association recognizes DANB as the national certification board for dental assistants.

The following organizations assist DANB in developing its dental assisting exams by recommending subject matter experts to DANB's Exam Committees:

- American Dental Association
- Academy of General Dentistry
- Academy of Oral and Maxillofacial Radiology
- American Association of Orthodontists
- Organization for Safety, Asepsis and Prevention

DANB's nine-member Board of Directors is elected by DANB from a slate of candidates nominated by:

- American Association of Dental Boards
- American Dental Education Association
- American Dental Assistants Association
- American Dental Association
- DANB Certificants
- The Public

DANB's Mission

The Dental Assisting National Board, Inc. (DANB) is a nonprofit organization. DANB's mission is to promote the public good by providing credentialing services to the dental community.

We accomplish and measure the success of this mission through the creation of valid dental assisting exams; recertification requirement integrity; and valuable, visible and accessible DANB exams, certificates and certifications.

We also provide testing services to the oral healthcare community, and information services and resources related to dental assisting credentialing to support DANB's mission. In order to accomplish these critical outcomes, DANB is committed to a properly governed, financially secure and administratively sound organization.

DANB Certifications

Dental assistants who meet the eligibility and examination requirements may earn DANB Certification in the following areas:

- Certified Dental Assistant – CDA®
- Certified Orthodontic Assistant – COA®
- Certified Preventive Dental Assistant – CPDA™

In addition to these national certifications, DANB offers Certificates of Competency in:

- Radiation Health and Safety (RHS®)
- Infection Control (ICE®)
- Coronal Polish (CP)
- Sealants (SE)
- Topical Fluoride (TF)
- Topical Anesthetic (TA)

Passing each of these exams allows a dental assistant to demonstrate knowledge-based competency in these respective areas, which are important to the health and safety of oral healthcare workers and patients alike. The RHS and ICE exams are components of the CDA exam. ICE is also a component of the COA exam.

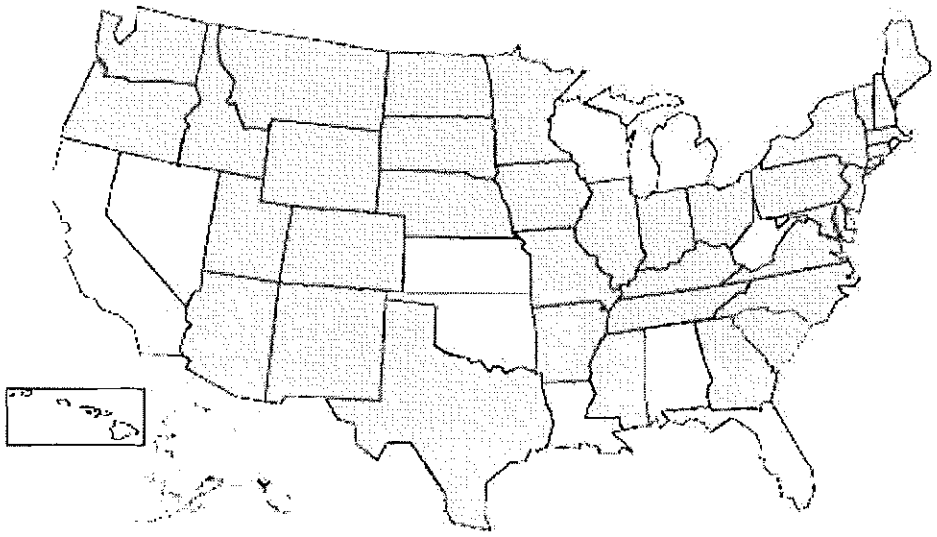
DANB Certification and exams leading to Certificates of Competency are currently recognized by 38 state boards of dentistry, the District of Columbia and other state dental regulatory agencies.

Information and applications for COA and CPDA Certification exams and CPDA component exams (CP, SE, TF and TA) can be found in separate DANB exam application packets. Visit www.danb.org or call 1-800-367-3262.

DANB is a member of the Institute for Credentialing Excellence. The National Commission For Certifying Agencies (NCCA), an Institute for Credentialing Excellence commission with responsibility for accrediting certification programs, has evaluated DANB national certification programs (CDA and COA), including DANB component exams (RHS, ICE, GC and OA), and finds that DANB programs meet NCCA's highest standards, thus helping to assure validity, reliability and objectivity in the testing process. DANB Executive Director Cindy Durley, M.Ed., MBA, completed a six-year term on the NCCA (Chair in 2003 and 2004) and five years as an Institute for Credentialing Excellence Board Director, serving as President in 2006. DANB Chief Operating Officer Liz Koch, M.P.H., M.Ed., began her first three-year term as an NCCA Commissioner in 2009.

Recognition of DANB Exams

DANB's CDA, RHS and ICE exams are recognized or required in 38 states, the District of Columbia, the Department of Veterans Affairs and the U.S. Air Force.



Meet State Requirements

DANB's CDA, RHS, and ICE exams are recognized or required in 38 states, plus the District of Columbia. Learn more about meeting dental assisting requirements by visiting the state-specific information section of DANB's website at www.danb.org

Recognition of DANB's CDA Exam

DANB's CDA exam is recognized or required in 29 states. DANB's CDA exam is recognized or required to perform expanded functions* in Arkansas, Georgia, Idaho, Illinois, Iowa, Maine, Maryland, Massachusetts, Minnesota, Missouri, New Hampshire, New Jersey, New Mexico, New York, North Carolina, North Dakota, Ohio, Oregon, Rhode Island, South Dakota, Tennessee, Texas, Vermont, Virginia and Washington.

DANB's CDA exam meets state requirements to expose radiographs* in Arkansas, Indiana, Minnesota, Mississippi, Nebraska, Ohio, South Dakota, Tennessee, Texas, Vermont and Wyoming.

DANB's State-Specific Exams

DANB administers state-specific expanded functions exams in Arizona, Delaware, Maryland, Missouri, New Jersey, New Mexico, New York, Oregon and Washington. To download state applications, visit www.danb.org.

Recognition of DANB's RHS Exam

DANB's Radiation Health and Safety exam is recognized or required in 20 states, plus the District of Columbia. A passing score on DANB's RHS exam earns the candidate a Certificate of Competency, which meets state requirements to expose radiographs* in Arizona, Colorado, Connecticut, Indiana, Iowa, Kentucky, Maine, Maryland, Massachusetts, Montana, New Hampshire, New Jersey, New Mexico, North Carolina, North Dakota, Oregon, Pennsylvania, South Carolina, Utah and Virginia, and the District of Columbia.

Recognition of DANB's ICE Exam

DANB's Infection Control (ICE) exam is one component of the CDA exam. A passing score on the ICE exam earns the candidate a Certificate of Competency, which meets state requirements for infection control* in Iowa, New York and North Dakota.

U.S. Military and Federal Agencies Recognition

DANB's CDA exam and RHS Certificate of Competency meet the Department of Veterans Affairs requirement for expanded duties dental assistant designation. The Indian Health Services and all branches of the U.S. Military encourage DANB Certification. DANB's CDA exam is approved for the GIs-to-Jobs program under the Montgomery Bill.

DANB is collaborating with the Air Force Dental Service (AFDS) to administer the RHS and ICE exams, leading to Certificates of Competency in these two important areas of dental assisting.

*Additional requirements may apply. Visit www.danb.org or check with the state dental board for more information.

DANB's Exam Review Materials

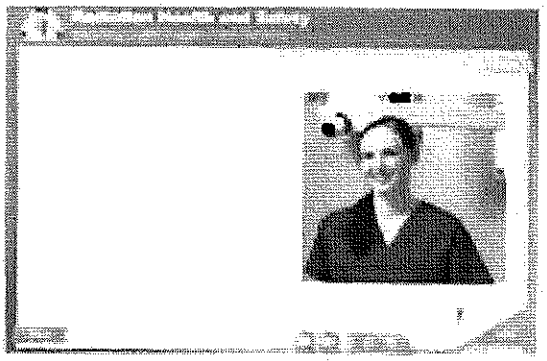
DANB is proud to announce that its e-learning offerings are now available.
DANB's e-learning courses will soon be offered as products through the DALE Foundation.

To learn more or to purchase DANB's e-learning offerings, visit www.danb.org.

DANB's Radiation Health and Safety (RHS) Review Course

Seat Time: Approx. 12 hours
DANB CDE Credits: 12

Course overview
DANB's RHS Review Course covers important topics related to both conventional and digital dental radiation health and safety. The self-paced, interactive review course covers basic anatomical landmarks, radiation biology and safety issues, elements of radiographic exposure equipment, errors encountered in radiographic exposure, radiographic labeling, and infection control techniques. The course is intended for chairside assistants or dental assisting students with varying degrees of dental radiography knowledge.



Coming in summer 2011:
DANB's Infection Control (ICE) Review Course

DANB's Conventional Dental Radiography Review Course

Seat Time: Approx. 4 hours
DANB CDE Credits: 4

Course overview
This review course covers conventional dental radiography, using film rather than digital images. This course is intended for chairside assistants or dental assisting students with varying degrees of dental radiography knowledge. Learners should have some background in dental radiography and possess at least a basic understanding of professional vocabulary related to dental radiography and general dental assisting duties.

Blueprints for each exam are available for free at www.danb.org.

For Front Office Managers

DANB offers Assessment-Based Certificate Programs (ABCPs) for front office managers:

- DANB's ABCP: Accounts Receivable
- DANB's ABCP: Human Resources Fundamentals

The DALE Foundation

DANB's Board of Directors has established a separately incorporated nonprofit foundation named the Dental Auxiliary Learning and Education (DALE) Foundation. The DALE Foundation Board of Trustees has identified the DALE Foundation's mission as the following: *The DALE Foundation, an independent affiliate of DANB, benefits the public by providing quality education and conducting sound research to promote oral health.* Current e-learning offerings are branded under DANB. Re-branding of these offerings, unveiling the website and launch of the DALE Foundation to the public are expected to occur by spring of 2011.

DANB's Review Publications

DANB offers two print publications to help candidates prepare for DANB exams:

The DANB Review, 3rd edition
An exam preparation tool for DANB's General Chairside Assisting, Radiation Health and Safety, Infection Control, and Orthodontic Assisting exams, *The DANB Review* features practice questions, answers, rationales and references.

DANB's Glossary of Dental Assisting Terms
DANB's Glossary of Dental Assisting Terms is a comprehensive guide to applied practical and clinical dental terminology. This reference tool will help familiarize the candidate with vocabulary he or she might encounter on the DANB examinations as well as in the office/clinical setting.

Visit www.danb.org
to learn more or to order.

Table of Contents

Testing with DANB: An Overview

3-4 week processing/ mailing time

1. Candidate mails/faxes exam application, documentation and fees to DANB.
2. DANB processes candidate exam application.
3. If the exam application is accepted as complete, DANB mails exam candidate a Test Admission Notice.

60-day window to schedule and take exam

4. Candidate schedules exam location, date and time with testing vendor Pearson VUE.
5. Candidate sits for DANB exam. An unofficial pass/fail report will be provided after completing the exam.

3-4 weeks from exam date

6. DANB mails exam candidate an Official Score Report. Certificates of Competency will be mailed upon passing the RHS and ICE exams. A CDA Certificate will be mailed if all three component exams are passed.

Applying for a DANB Exam

Exam Prerequisites

The Certified Dental Assistant (CDA) exam is made up of three component exams: Radiation Health and Safety (RHS), Infection Control (ICE), and General Chairside Assisting (GC), which are taken together in the same test administration. To become DANB Certified, a candidate may take and pass the CDA exam or take and pass all three components separately within a five-year period. There are no eligibility requirements to take the RHS and ICE component exams. The RHS and ICE component exams can be taken together in the same test administration or separately. Specific eligibility requirements must be met by a candidate applying for the full CDA exam or the GC component exam. A candidate must qualify under one of three pathways (see pages 12-13).

Test Center Locations

DANB has contracted with Pearson VUE to administer computer-based DANB exams year-round (see page 18). This allows the candidate flexibility in scheduling location, dates and times. There are no application deadlines. The applications in this packet will be accepted through March 31, 2012.

Submitting an Exam Application

The exam applications begin on page 14 and can be mailed or faxed to DANB. Each candidate should read this packet carefully to ensure that the application is submitted accurately and all the required documents and fees are included. Information on specific exam fees is on page 11.

Signing and dating the application is required. By signing and dating the application, the candidate affirms that the application and materials submitted are accurate and that the candidate agrees to abide by all applicable DANB policies as described in this DANB application packet and the Application Statements (see page 9). The signature also allows DANB to release test results to state regulatory agencies.

Payment Instructions

DANB accepts payment by check, money order or credit card (VISA, MasterCard, American Express or Discover). Mail or fax applications with complete credit card payment information or mail applications with check/money order payment (payable to DANB). The application is a contract to test, and the check or credit card authorization is the contract to pay. If paying by check, the candidate should put his or her exam and name on the check. Listing the exam acronym on the check helps DANB to appropriately allocate funds. It is not used to verify that the candidate completed the correct application, nor is it used to schedule candidates for a particular exam. DANB only accepts U.S. currency.

Background Information Policy

DANB national exam applications contain three Background Information questions that all exam candidates must answer. These questions require that a DANB national exam candidate discloses to DANB if he or she has had any felony convictions within the last five years, has ever been disciplined by a regulatory board or credentialing agency, has ever been dismissed by an educational institution for an ethical violation or has ever been declared mentally incompetent by a court of law. DANB will review each response and make a determination, in consultation with legal counsel, on a case-by-case basis. For detailed information, see page 10.

Military Discount

Military personnel may apply to sit for a DANB exam at pre-approved DANTES test site locations. There is a fee reduction for active military personnel who provide appropriate documentation. Contact DANB's Senior Coordinator, Testing for military site locations at 1-800-367-3262, ext. 452.

Checks With Non-Sufficient Funds (NSF)

If a candidate has applied for an exam with a check that does not have sufficient funds to cover the fee, the candidate will be notified that he or she will not be allowed to take the exam until a cashier's check or money order for the full application and exam fee plus a $25 Non-Sufficient Funds (NSF) fee has been received. If full payment has not been received within 30 days, the application will be null and void. If the candidate reapplies to take the exam, the full application and exam fee in addition to both a $25 NSF fee and $50 nonrefundable processing fee will be required.

Incomplete Applications

It is the candidate's responsibility to ensure that the application is complete. Incomplete applications are returned to the sender along with a letter indicating that the application is incomplete.

A refund of the exam fee, minus the $50 nonrefundable application fee, is sent within 30 days of notice of the incomplete application. Refunds will be made only to the payer, regardless of whether it is the applicant.

The reasons an exam application is considered incomplete include, but are not limited to:

- The application is not completed in full (e.g., candidate and payment information. Background Information questions, appropriate pathway indicated, etc.)
- The proper pathway eligibility documentation as defined for each exam application is not enclosed
- There is no date or signature on the exam application
- The military documentation is not enclosed, if applicable
- Inadequate payment (check/money order/purchase order) or credit card information was submitted
- The exam application has expired

Incomplete applications will be returned to the sender and DANB will issue a refund within 30 days of notice of the incomplete application, minus the $50 nonrefundable application fee.

DANB's Refund Policy

Only a registered candidate may cancel an exam and/or application or request a refund, regardless of who paid for the exam. Refund requests must be made in writing by faxing or mailing a cancellation request form to DANB. Forms can be downloaded at www.danb.org. Refunds will be made only to the payer, regardless of whether it is the applicant.

DANB will issue a refund for duplicate exam applications when two applications are received for the same exam. A candidate may submit applications to take multiple component exams at any time. However, if two applications are received for the same exam, completed applications will be accepted, and any duplicate and/or incomplete applications will be returned minus the $50 nonrefundable application fee.

For all refunds for payments made by credit card, DANB will credit the payer's credit card for the balance remaining after the $50 nonrefundable application fee is deducted within 30 days of the refund request.

For all refunds for payments made by check, DANB will hold payment a minimum of 10 days from the date of DANB receipt to ensure that the check clears. DANB will issue refunds (minus the $50 nonrefundable application fee) within 30 days of refund request.

Group Testing

DANB offers group scheduling at Pearson VUE Test Centers for groups of four or more candidates who want to take any of the DANB Certification exams or component exams on the same day, at or around the same time. Contact DANB at 1-800-367-3262, ext. 452, for a group testing form or download it from www.danb.org.

Candidates With Disabilities

DANB exams are designed to provide an equal opportunity for each candidate to demonstrate his or her clinical knowledge. The exam will be administered to best ensure that it accurately reflects a candidate's aptitude, achievement levels or other skills intended to be measured, rather than reflecting a candidate's impaired sensory, manual or speaking skills except where those skills are factors the examination purports to measure.

DANB adheres to the provisions outlined in the Americans with Disabilities Act. In accordance with this act, DANB will make every reasonable effort to offer the exams in a manner that is accessible to people with disabilities. If auxiliary aids or alternative arrangements are required, DANB will attempt to make the necessary provisions, unless providing such would fundamentally alter the measurement of skills and knowledge the exam is intended to test, would result in undue burden, or would provide an unfair advantage to the disabled candidate.

To allow sufficient time to make the necessary arrangements for modifications or auxiliary aids, the candidate must submit the *Reasonable Accommodations Form* (see page 19) along with the exam application and required documentation. specifying exactly what aid or modification is requested from a physician or psychologist. DANB will only accept the form found on page 19.

DANB reserves the right to authorize the use of auxiliary aids or modifications in such a way as to maintain the exam integrity and security. DANB examinations are administered only in the English language. Modifications will not be approved for a candidate who requests accommodations because English is a second language. Call 1-800-367-3262, ext. 452, for complete guidelines.

DANB's Nondiscrimination Policy

DANB does not discriminate in application, examination or certification activities on the basis of age, sex, gender identity, marital status, race, color, religion, national origin, sexual orientation or disability.

Taking the Same Exam in a 12-Month Period

A candidate or Certificant may take and pass different certification (CDA, COA) or component exams (GC, RHS, ICE, OA) within the same 12-month period. However, a candidate or Certificant is only allowed to pass a DANB national certification exam or component exam once within a 12-month period. Any DANB candidate or Certificant who

applies to take a DANB national certification (CDA, COA, CPDA) exam or component exam (GC, RHS, ICE, OA, CP, SE, TF, TA), and has previously passed the same exam (as a standalone component, as part of a national certification exam [CDA, COA, CPDA] or taken with another component exam in the same test administration [RHS/ICE exam]) in the previous 12-month period, will be in violation of this policy and will have his or her application denied and returned, and will be assessed the $50 nonrefundable application fee.

If the candidate is from the state of New Mexico and applying for the DANB RHS exam, he or she will be allowed to take and pass the RHS exam no more than two times in a 12-month period. The state of New Mexico requires successful completion of a state clinical radiological exam within six months of passing the New Mexico state radiation health and safety exam, or the DANB national RHS exam.

Any DANB candidate or Certificant from the state of New Mexico who applies for the DANB RHS exam and has previously passed the RHS exam twice within the previous 12-month period, will be in violation of this policy and will have his or her application denied and returned, and will be assessed the $50 nonrefundable application fee.

Scheduling a DANB Exam

Receiving the Test Admission Notice

Within four weeks after the completed exam application is received and processed, the candidate will receive a Test Admission Notice in the mail from DANB, providing all the information necessary to schedule the exam through Pearson VUE by going to www.vue.com/danb, or by calling a special toll-free hot line (available 7 a.m. to 7 p.m. CST, Monday through Friday). To find the nearest testing center, follow the prompts at www.vue.com/danb or see page 18 in this packet. Changes to test centers may occur without notice. DANB cannot guarantee the availability of specific test center locations, dates or times. The Test Admission Notice is confirmation that the candidate is registered to take a DANB exam.

Double Check the Test Admission Notice

Any and all errors on the Test Admission Notice should be reported to DANB immediately upon receipt of the Test Admission Notice by calling 1-800-367-3262. The name on the Test Admission Notice must match the ID that the candidate will bring to the test center. The candidate will be turned away from testing if the ID does not match the information on the Test Admission Notice. **The candidate will be required to reapply, with a full fee.**

Call DANB immediately if:

- The exam the candidate intended to register for is not the one listed on the Test Admission Notice
- The candidate's name is spelled incorrectly
- The candidate's ID reflects a different name than the one used to register to test (married, maiden, hyphenated, etc.)

The middle name does not need to be spelled out, but the initial must match (e.g., "M" on the ID and "Mary" on the Test Admission Notice is acceptable, and vice versa).

The 60-Day Eligibility Window

Exams must be scheduled and completed within the 60-day eligibility window listed on DANB's Test Admission Notice. If the exam is not taken within this period and the candidate does not cancel an exam appointment according to DANB policies and procedures, the entire application and exam fee will be forfeited. All appointments are scheduled on a first-come, first-served basis. Although candidates taking an exam are allowed a 60-day window within which to test, appointments may be limited. The candidate should make a testing appointment upon receipt of the Test Admission Notice. Candidates who submit CPR certification that expires before the 60-day eligibility window ends will be given a shortened window based on the CPR expiration date.

Rescheduling an Exam

Rescheduling Within the 60-Day Window

DANB allows candidates to reschedule or cancel exams. The required forms to reschedule or cancel an exam are available on DANB's website at www.danb.org. Regardless who paid for an exam, only a registered candidate may reschedule or cancel an exam and request a refund. DANB returns the refund to the individual who paid for the exam.

Candidates who have scheduled an appointment and wish to reschedule at a later date within their 60-day eligibility window must contact Pearson VUE. The candidate can reschedule the appointment up to 24 hours before his or her scheduled exam time. Pearson VUE's website, www.vue.com/danb, is available 24 hours a day, seven days a week to reschedule appointments. Pearson VUE's special toll-free hot line (noted on the Test Admission Notice) is available to reschedule appointments from 7 a.m. to 7 p.m. CST, Monday through Friday. The appointment will be rescheduled within the 60-day eligibility window at no additional fee.

Extending the 60-Day Window

If a candidate cannot schedule or reschedule an exam within the 60-day eligibility window and would like to reschedule the exam window for a fee of $35, he or she must complete the following steps:

STEP 1: Cancel the exam. If an exam appointment has been scheduled, the candidate must cancel his or her appointment with Pearson VUE at least 24 hours before the scheduled exam time. Pearson VUE's website, www.vue.com/danb, is available 24 hours a day, seven days a week to cancel appointments. Pearson VUE's special toll-free hot line (noted on the Test Admission Notice) is available to cancel appointments from 7 a.m. to 7 p.m. CST, Monday through Friday. Failure to cancel a scheduled exam will result in forfeiture of

Scheduling a DANB Exam

the full application/exam fees, and the application becomes null and void.

STEP 2. Request to reschedule the exam. Mail or fax the *Request to Reschedule an Exam Eligibility Window* form to DANB, along with a $35 rescheduling fee so that it is received by DANB **up to 60 days after the end of the 60-day eligibility window**. Go to www.danb.org to download the form. Within three weeks, the candidate will receive a new Test Admission Notice with a new 60-day eligibility window. Note: A candidate may reschedule an exam up to three times. After the third reschedule, a current exam application with full fee must be submitted.

Rescheduling Due to an Emergency

If a candidate experiences a personal emergency and is not able to take an exam, the candidate must submit a *Request to Reschedule Due to an Emergency* form explaining the nature of the emergency that prevented the candidate from taking a scheduled exam, including documents supporting the emergency claim. The request must be received by DANB (via mail or fax) within 30 days of the scheduled exam date. Call 1-800-367-3262 with any questions about what constitutes an emergency and appropriate supporting documentation. Approved requests will be rescheduled at no additional fee.

Cancelling an Exam

If a candidate has submitted an application for an exam but does not wish to test or has not made an appointment and does not wish to reschedule, the candidate must submit a *Request to Cancel an Exam* form so that it is **received by DANB (via mail or fax) at least two business days before the end of his or her eligibility window to receive a refund.** DANB will then issue a refund minus the $35 cancellation fee and $50 nonrefundable application processing fee (a total of $85 retained by DANB). This form is available on DANB's website at www.danb.org.

If a candidate has already scheduled an exam appointment and wishes to cancel the appointment to test and does not wish to reschedule the exam or eligibility window, the candidate must **also** cancel the appointment with Pearson VUE at least 24 hours before the scheduled exam time. Pearson VUE's website, www.vue.com/danb, is available 24 hours a day, seven days a week to cancel appointments. Pearson VUE's special toll-free hot line (noted on the Test Admission Notice) is available to cancel appointments from 7 a.m. to 7 p.m. CST, Monday through Friday. Failure to cancel a scheduled exam will result in forfeiture of the full application/exam fees and the application is null and void, regardless of whether DANB has been contacted.

When Pearson VUE or DANB Cancels an Exam

While all efforts are made to hold the exams as scheduled, in the event of weather or other emergency, Pearson VUE will try to notify candidates by phone of a cancellation and will reschedule at no additional fee.

Taking a DANB Exam

What to Bring to the Exam Site

Bring the Test Admission Notice, along with one form of ID. The ID must be a currently valid, non-expired government or school-issued photo and signature-bearing ID, in Roman characters. Acceptable forms of ID are a driver's license, valid passport, military ID card, state ID card, U.S. government issued permanent resident card or a current school year ID card. Test centers may use an electronic fingerprinting/palm vein/photographic security system for identification purposes only. Test centers may use a video/audio recording system to enhance exam security.

What Not to Bring to the Exam Site

The candidate must not bring any reference materials or notes into any exam area. The candidate will be provided with an erasable noteboard and pen to use during the exam. No visitors or unauthorized individuals will be permitted in any exam area during testing sessions.

Exam Environment

A tutorial on computerized testing will be given before the exam to help the candidate feel comfortable with the computerized format. The time spent on the tutorial will not be counted as part of the exam time period. The tutorial is not a practice test. The tutorial describes how to mark answers and return to questions for review and comment. This tutorial is also available on the DANB website at www.danb.org.

There are no breaks during the exam. Candidates may be excused to visit the restroom, one at a time. During the absence, the exam time clock will continue to run. No additional time will be provided. While there is no requirement for specific clothing, experience has suggested it is a good idea to wear comfortable clothing in layers that may be added or removed to adjust for personal preference and to account for minor fluctuations in room temperature. It is also a good idea to wear soft-soled shoes to allow the candidate to leave his or her seat without disrupting others.

Late Arrival or Failure to Appear

If a candidate arrives more than 15 minutes after a scheduled appointment, the candidate will be accommodated at the discretion of the test center administrator. If the test center administrator is unable to accommodate the candidate, the candidate then forfeits the full application/exam fees, and the application is null and void. The candidate must reapply. If a candidate fails to appear for a scheduled exam, the candidate forfeits the full application/exam fees, and the application is null and void, unless the candidate qualified for an emergency reschedule (see section above).

Candidate Behavior During an Exam

Improper behavior is not acceptable during an exam. DANB seeks to ensure a fair and equitable testing experience for all individuals and to ensure the security and reliability of the process. Examples of behavior that DANB considers improper can be found in *DANB's Disciplinary Policy & Procedures* form, which is available at www.danb.org.

Taking a DANB Exam

The behavior of each candidate taking the exam will be monitored. The candidate is responsible for protecting the integrity of the answers. The test center administrator will notify DANB of anyone who talks during the exam, gives or receives assistance, or otherwise engages or appears to engage in dishonest or improper behavior during the exam. Those candidates may be required to cease taking the exam and leave the test center. The Test Center Administrator will send a report to DANB regarding the incident.

After reviewing a reported incident, DANB will determine whether there is reason to believe that a candidate has engaged in cheating or other improper behavior, or has otherwise violated the security of the exam. If DANB determines that the incident report is valid, it may, at its discretion, pursuant to the procedures set forth in the *DANB Policy & Procedures for Disciplinary Review and Appeal* form, take disciplinary actions, including but not limited to the following:

- Order the candidate to retake the exam at a time and place to be determined by DANB
- Invalidate or refuse to release the score of the candidate
- Deny the candidate's current application for Certification
- Require the candidate to wait a specified period of time before reapplying to take the exam
- Revoke the candidate's eligibility to sit for future exams
- Take a combination of any of the above actions or other action that DANB may deem appropriate

If a test center administrator allows a candidate to take an exam that the candidate is not registered for, those results will not be valid. That candidate will be required to reapply with a new application and payment of the full fee. The original application will be considered null and void, and the full application and exam fee will be forfeited.

Improper behavior is not acceptable during or after the exam. Any individual who removes or attempts to remove testing-related materials from the test center, or who attempts to memorize, distribute or otherwise misuse a test question or any part of a test question from an exam, will be subject to legal action. Any candidate or Certificant who engages in such improper behavior also will be subject to disciplinary action by DANB, which may include denial or revocation of Certification or recertification. ***DANB's Disciplinary Policy & Procedures* document is available at www.danb.org.**

Exam Scores

DANB presents exam results as scaled scores. DANB scaled scores range from 100 to 900, with 400 being required to pass each exam. DANB also provides subtest performance ratings, which provide useful information regarding performance in each of the content areas on the exams. Subtest scores are rated as low average, average or high average. Subtest performance ratings are a reflection on how well a candidate did in a particular content area of the exam and cannot be used in any way to determine overall passing status. Knowledge of an area of weakness is a useful tool to help plan for further study. The passing scores are related solely to each exam in its entirety, and not to any combination of subtest ratings.

Exam Integrity

To ensure a consistently high-quality testing program, each exam is routinely reviewed for reliability and validity. Each exam question is statistically analyzed and evaluated for performance. A small number of pretest questions appear on each DANB national exam. Pretest questions are new test items that DANB includes on each exam as a way to ensure they are accurate measures of candidate knowledge. Pretest questions are randomly distributed throughout the exam and are not counted when the exam is scored. Since the candidate will not know which items will be scored and which will not, the candidate should answer all exam questions to the best of his or her ability.

DANB Exam Committees, with final DANB Board approval, establish passing standards (the minimum score required to pass a particular DANB exam) using standard psychometric procedures for criterion-referenced tests. A candidate is expected to perform at or above the Board-established standard to pass each exam.

After the Exam

Name/Address Changes

It is the candidate's responsibility to notify DANB of name and/or address changes or any spelling errors in the candidate's name. The candidate may contact DANB by phone at 1-800-367-3262 by e-mail at danbmail@danb.org, or by mail at the address on the front cover of this packet. DANB charges a fee for reprinting a certificate for a name or spelling change once the original certificate has been printed. If the candidate would like a different name on the DANB certificate than the one that appears on the Test Admission Notice/ID - for example, if the candidate goes by a middle name, but the official ID shows the first name - the candidate must call DANB immediately after taking the exam to make the change before the score report and certificate are printed to avoid a $25 duplicate certificate fee.

Exam scores and any earned certificates that are returned because of an undeliverable address will be held by DANB contact the candidate by telephone to request a new mailing address. Once the 90-day period expires, DANB will destroy the original results. If a candidate contacts DANB with a name or address change after the 90-day period, DANB will release new results after the candidate submits a *Request for a Duplicate Score Report*, and/or a *Request for a Duplicate Certificate* with a $25 fee for each request.

Hand Scoring

DANB will hand score an exam on request. A candidate must submit a *Request for Hand Scoring of Exam Results* form along with a $25 hand scoring fee so that it is received by DANB (via mail or fax) within 30 days after the official score date printed on the score report or certificate received. The form is available on DANB's website at www.danb.org. Results of the exam are typically completed within 30 days of receipt of a request. If the pass/fail status is reversed as

How to Apply for the Exams

Submit the Application

1. The candidate is responsible for ensuring that his or her application is properly completed and all required documentation (see pages 12-13), including appropriate application and exam fees, is properly submitted to DANB.

2. Mail or fax the completed application and supporting documentation with the proper exam fee or complete credit card information to DANB. Visa, MasterCard, Discover and American Express credit card payments are accepted. DANB accepts checks and money order payment (payable to DANB) with exam applications that are submitted by mail only. The name of the exam being taken must be written on the check or money order.

DANB Exam Fees

Exam	Exam fees	Individual military	Maryland candidates**
CDA	$375	$350	$395
GC	$200	$195	$200
RHS	$175	$170	$195
ICE	$175	$170	$175
RHS/ICE*	$250	$240	$270

All exam fees include a nonrefundable $50 application fee.

* *RHS and ICE exams taken together at the same test administration.*

** *Maryland candidate fees include a Maryland state recording fee for the CDA and RHS exams*

Active Military Personnel

Active military personnel receive a deduction of $25, or $5 if taking the RHS or ICE only, providing the candidate submits appropriate documentation: a photocopy (front and back) of the current/active military ID OR a letter from the commanding officer OR an active military e-mail address (this e-mail address will be verified by DANB upon approval of application). If a letter is provided, it must verify the candidate's name, rank, Social Security number, station (location) and estimated time of separation. If documentation of active duty is not submitted, the application is considered incomplete and will be returned to the sender. DANB will issue a refund within 30 days of notice of the incomplete application, minus the $50 nonrefundable application fee.

Certified Dental Assistant (CDA) Exam

The CDA exam includes all three component exams (GC, RHS and ICE) taken in the same test administration.

General Chairside Assisting (GC) Exam

The GC exam is a component exam of DANB's national CDA exam and may be taken in a separate test administration.

RHS/ICE Exam

This exam administration includes the RHS and ICE component exams taken together in one test administration.

RHS or ICE Exam Only

The RHS and ICE exams are two of the three component exams of the CDA exam and may be taken separately.

Exam Checklist

- ❑ Fill out application completely
- ❑ Sign and date application
- ❑ Include all required pathway documentation
- ❑ Answer Background Information questions and include documentation, if necessary
- ❑ Include proper payment

Certified Dental Assistant (CDA) Exam

The CDA exam consists of 320 multiple-choice items. Testing topics are outlined below. Testing time is four hours. The CDA exam is made up of three component exams (GC, RHS and ICE). The candidate must meet minimum performance standards on each component exam to earn a CDA Certification. These components are:

General Chairside Assisting (GC)

120 multiple-choice items
1½ hours testing time

Topics	% on exam
Collection and recording of clinical data	10
Chairside dental procedures	45
Chairside dental materials (preparation, manipulation, application)	11
Lab materials and procedures	4
Patient education and oral health management	10
Prevention and management of emergencies	14
Office management procedures	6

Radiation Health and Safety (RHS)

100 multiple-choice items
1¼ hours testing time

Topics	% on exam
Expose and evaluate (intraoral, extraoral)	37
Process	16
Mount/label	11
Radiation safety-patient	24
Radiation safety-operator	12

Infection Control* (ICE)

100 multiple-choice items
1¼ hours testing time

Topics	% on exam
Patient and dental healthcare worker education	10
Prevent cross-contamination and disease transmission	20
Maintain aseptic conditions	10
Perform sterilization procedures	15
Environmental asepsis	15
Occupational safety	30

*Questions in this component refer to the 2003 CDC Guidelines.

After the Exam

Official Exam Results

Two copies of an official score report and any earned certificates will be mailed approximately four weeks after each exam administration. A candidate may choose to provide one of the score report copies to an employer or dental assisting program director. Score reports obtained at the testing site upon completion of the exam are preliminary. A candidate is not considered to have passed or failed an exam until DANB generates and mails the official score report. Exam scores and any earned certificates that are returned because of an undeliverable address will be held by DANB for 90 days. An attempt will be made during those 90 days to contact the candidate by telephone to request a new mailing address. Once the 90-day period expires, DANB will destroy the original results. If a candidate contacts DANB with a name or address change after the 90-day period, DANB will release new results after the candidate submits a *Request for a Duplicate Score Report* form and/or a *Request for a Duplicate Certificate* form with a $25 fee for each request.

Retaking an Exam

If a candidate takes the full CDA exam or the RHS/ICE exam in the same test administration, but does not pass all of the component exams, the candidate only needs to reapply and retake the component exams that he or she failed. Certificates of Competency will be issued if the candidate passes the RHS and/or the ICE component exam(s). Component exams (GC, RHS and ICE) may be applied to meet specific DANB CDA exam requirements within five years of passing a component exam. A candidate does not have to retake passed component exams if DANB Certification is completed within a five-year period of passing the first component. State laws may require additional schooling after failed attempts. Check with the state board of dentistry. Go to the state-specific information section of DANB's website at www.danb.org for links to each state's dental board, or see page 26 for websites and phone numbers.

Release of Exam Scores

Exam scores will not be released to employers or any individuals other than the candidate, except on written request of the candidate. DANB does release a candidate's score report or credential verification to some state regulatory agencies in compliance with a state requirement. DANB also releases aggregate (grouped) results to program directors for candidates who are graduates from or students in the program director's dental assisting programs.

Appealing a Decision

If a candidate wishes to appeal a DANB decision relative to eligibility, administrative or exam content issues, he or she may submit a *Request for Reconsideration Under DANB's Review and Appeal Process* form, along with a $25 appeal fee, to DANB's Executive Director within 30 days of the date on the DANB correspondence that prompts the candidate to appeal (e.g., date on the letter indicating the candidate's application was incomplete, date on candidate score report). The policy governing requests for reconsideration is available by contacting DANB's Coordinator, Executive Liaisons, at 1-800-367-3262, ext. 462.

Verification of Certificates and Certification

DANB will verify DANB Certification or Radiation Health and Safety (RHS), Infection Control (ICE) exam passing/failing status and the effective date(s) of Certification by mail or phone to anyone on request, since these items are matters of public record and may be disclosed. A *Request for Credential Verification* form is available at www.danb.org

Only a candidate or employer may request a written credential verification by mail by submitting a *Request for Credential Verification*. A written credential verification is available from DANB for $10. The $10 fee covers one letter which can be used to verify multiple certificates, credentials and/or passing of exams. An official verification letter is not a duplicate certificate.

Duplicate Score Reports

Duplicate Score Reports are available for exams taken within the last five years. An individual must submit a *Request for a Duplicate Score Report* form, along with the $25 fee for each score report request. Exam score reports older than five years are not available, although DANB will verify credentials earned more than five years ago online or by mail or phone.

Duplicate Certificates

Duplicate Certificates are available for $25. An individual who has taken the complete DANB CDA Certification exam may purchase individual RHS and/or ICE certificates for passed components, or duplicate CDA certificates for $25 each. Due to the addition of the ICE component to the CDA exam, for candidates who have allowed their certification to lapse, CDA duplicate certificates may only be requested if the certification was earned on 6/1/93 or later. Because DANB provides several opportunities for a candidate to correct errors, this $25 duplicate certificate fee also applies for any reprint of a certificate due to a spelling error.

Conditional Certificates and Score Reports

In some cases, DANB may grant a conditional authorization to test an exam candidate who answered "yes" to Background Information questions and is in the process of completing court or regulatory agency requirements. Not every person who answers "yes" to a Background Information question will be placed on conditional status. Conditional status will be offered to an exam candidate only in certain circumstances at DANB's discretion. A candidate who has been placed on conditional status will receive a score report and, if earned, a certificate marked "conditional."

If a person is conditionally Certified or has received a conditional RHS or ICE Certificate of Competency or score report, this means that the Certification, Certificate or scores will remain valid only if certain conditions are met in a timely manner. In many cases, the conditions will include fulfillment of all obligations to a court of law or regulatory agency. Full details about conditional Certification and conditional Certificates of Competency and score reports and related processes and procedures will be provided to each individual who is placed on conditional status by DANB.

DANB Certification Maintenance

DANB Certification must be renewed each year. The following steps, briefly described below, are required to maintain DANB Certification. *DANB's 2011 Recertification Requirements* can be downloaded at www.danb.org.

1. Earn Continuing Dental Education (CDE)

CDE is required to renew DANB Certification(s). The table below lists the CDE credits that a Certificant must earn for each number of DANB certifications.

DANB Certifications	Required CDE Credits (including CPR)
1	12
2	18
3	24
4	30
5	36

The Certificant must earn CDE credits for every renewal year, starting with the first year of DANB Certification. There are many ways to earn CDE credits, such as:

- Attend dental related courses, seminars or table clinics
- Complete home study courses
- Read and summarize journal articles
- Take and pass Professional Development Exam Program (PDEP), DANB's take-home exam
- Volunteer in the community related to oral health care
- Take or retake and pass a DANB exam

DANB's 2011 Recertification Requirements contain a complete listing of categories in which CDE may be earned and the maximum number of credits allowed for each.

The Certificant will NOT be required to send in proof of CDE credits with the renewal notice and renewal fee. If the Certificant is audited, DANB will ask for proof of CDE. The Certificant must keep proof of the CDE credits earned in the event that DANB conducts an audit.

Current COMSA and CDPMA Certificants may continue to renew their Certification(s), provided they meet DANB Recertification Requirements.

2. Maintain Current CPR Status

Renewing DANB certification requires that the Certificant's DANB-accepted CPR certification is current. Two-year CPR card holders may only apply the CDE credits toward DANB recertification in the year the CPR was earned. In the second year, CPR credits will not count, and the Certificant must earn the full number of CDE credits from other categories. See page 13 for a list of DANB-accepted CPR providers.

3. Answer the Background Information Questions

The Certificant will be required to answer three Background Information questions and disclose to DANB if he or she has been the subject of any adverse legal or disciplinary action since the candidate last applied for a DANB exam or renewed DANB Certification. Disclosures must be accompanied by a written personal statement and appropriate documentation.

4. Submit Fee and Signed Renewal Notice

Approximately six weeks before the Certificant's expiration date, DANB will mail a renewal notice. The renewal fee is based on the number of DANB certifications that the candidate holds.

DANB Certifications	Renewal Fees* for 2011	Renewal Fees* for 2012
1	$55	$65
2	$80	$90
3	$100	$110
4	$125	$135
5	$145	$155

* Fees shown do not include the $10 late fee.

The Certificant must review and sign the statement on the Renewal Notice attesting to having earned the required number of CDE credits. Along with the signed renewal form and answered Background Information questions, renewal fees may be mailed or faxed. The Certificant may also renew online at www.danb.org.

To avoid a $10 late fee, the Certificant must be sure the signed renewal notice and fee are postmarked or faxed to DANB by the certification expiration date.

5. Certification Will Be Renewed

DANB will mail the new certificate(s) approximately four to six weeks after receiving the Certificant's signed Renewal Notice and renewal fee. A Certificant is given three months after the expiration date to renew his or her Certification (with a $10 late fee) before the Certification is considered lapsed. DANB has a variety of programs available to reinstate CDA and COA Certifications. For more specific information about recertification or lapsed certification, please see *DANB's 2011 Recertification Requirements* at www.danb.org, or call DANB's Assistant Director of Recertification at 1-800-367-3262, ext. 445.

Application Statements

Please read the following Application Statements carefully. The Application Statement applies to all DANB national exams. Candidate's signature on the application indicates understanding and agreement to be legally bound by these statements.

1. I hereby apply to the Dental Assisting National Board, Inc. (DANB) for exam by DANB and issuance to me of a certificate, in accordance with and subject to the procedures and regulations of DANB. Under penalty of perjury, I declare that the information provided on my application is true. I have read and agree to the requirements and conditions set forth in the DANB application packet covering eligibility for and the administration of Certification exams, the Certification process, and DANB policies, including, but not limited to the DANB Code of Professional Conduct. I agree to disqualification from the exam, to denial of Certification, and to forfeiture and return to DANB of any certificate granted me by DANB in the event that any of the answers or statements made by me in this application are false or in the event that I violate any DANB rules or regulations. I authorize DANB to make whatever inquiries and investigations it deems necessary to verify my credentials or professional standing.

2. I hereby release DANB, its directors, officers, examiners and agents from any and all liability arising out of or in connection with any action or omission by any of them in connection with this application, the Certification process, any exam given by DANB, any scoring relating thereto, the failure to issue me a certificate, or any demand for forfeiture or return of such certificate, and I agree to indemnify DANB and said persons and hold them harmless from any lawsuit, complaint, claim, loss, damage, cost or expense, including attorneys' fees, arising out of or in connection with said Certification activities. I UNDERSTAND THAT THE DECISION AS TO WHETHER I QUALIFY FOR A NATIONAL CERTIFICATION OR CERTIFICATE OF COMPETENCY RESTS SOLELY AND EXCLUSIVELY WITH DANB AND THAT THE DECISION OF DANB IS FINAL. Notwithstanding the above, should I file suit against DANB, I agree that any such action shall be governed by and construed under the laws of the State of Illinois without regard to conflicts of law. I further agree that any such action shall be brought in the Circuit Court of Cook County in the State of Illinois, or the United States District Court for the Northern District of Illinois; I consent to the jurisdiction of such state and federal courts; and I agree that the venue of such courts is proper. I further agree that, should I not prevail in any such action, DANB shall be entitled to all costs, including reasonable attorneys' fees, incurred in connection with the litigation

3. I understand that, except as provided below, this application and any information or material received or generated by DANB in connection with this application or the examination process will be kept confidential and will not be released unless I have authorized such release or the release is required by law. I understand that DANB will verify receipt of any DANB exam application and the date received, on request. I further understand and agree that DANB may also provide verification to anyone by phone, by mail or on DANB's website regarding whether I hold any DANB Certifications, including the Certified Dental Assistant (CDA), Certified Preventive Dental Assistant (CPDA), Certified Orthodontic Assistant (COA), Certified Dental Practice Management Administrator (CDPMA), or Certified Oral and Maxillofacial Surgery Assistant (COMSA) Certifications; any DANB Certificates of Competency, including the Radiation Health and Safety (RHS), Infection Control (ICE), Coronal Polish (CP), Sealants (SE), Topical Anesthetic (TA), and Topical Fluoride (TF) Certificates of Competency; and any state-specific certificates administered by DANB on behalf of a state regulatory body, including the Arizona Radiologic Proficiency Certificate, Arizona Coronal Polishing Certificate, Oregon Radiologic Proficiency Certificate, Oregon Expanded Functions Dental Assistant Certificate and Oregon Expanded Functions Orthodontic Dental Assistant Certificate. Phone and mail verification will be provided to anyone upon request and will consist of oral or written confirmation of whether I hold any of the DANB-administered credentials listed above and the effective dates for each credential. Online verification through DANB's website may consist of online display of my name, the DANB-administered credentials I hold and dates earned, current DANB Certification status, and my city and state of residence. My full address will not be posted online by DANB. I further understand and agree that DANB may, from time to time, provide my name and address along with the names and addresses of Certificants and those holding DANB Certificates of Competency to dentists interested in hiring a DANB individual from their area, and to providers of continuing education opportunities. I further understand that this consent will remain in effect unless and until I submit a written request to have this information omitted from release. I understand that if I do not want DANB to display my city and state of residence as part of the online credential verification process, then I must submit a written request for omission of this information to following address: DANB Communications Department, 444 N. Michigan Ave., Suite 900, Chicago, IL 60611. (I understand that my name, credentials held [issued by DANB as described above] and current DANB Certification status will be displayed for everyone; opting out of display of information is only possible for an individual's city and state.)

4. I understand that by providing my e-mail address on the application form, I am consenting to receive e-mail messages from DANB and its affiliates related to their products and services or news affecting the dental assisting profession. I understand that DANB agrees not to provide my e-mail address to any third party without my consent, and that I can request removal from DANB's e-mail distribution list by following the directions contained in the Privacy Policy section of DANB's Terms and Conditions of Use of DANB.org, located at www.danb.org

5. I authorize DANB to release my exam score(s) to state regulatory agencies. I also authorize DANB to use information from my application and exam(s) for statistical analysis, providing that any personal identification is deleted.

6. I understand that I can be disqualified from taking or continuing to sit for an exam, from receiving exam scores and from obtaining Certification if DANB determines through proctor observation, statistical analysis or any other means that I was engaged in collaborative, disruptive or other unacceptable behavior during the administration of or following the exam.

7. I understand that the content of all DANB exams is proprietary and strictly confidential information. I hereby agree that I will not disclose, either directly or indirectly, any question or any part of any question from the exam to any person or entity. I understand that the unauthorized receipt, retention, possession, copying or disclosure of any DANB exam materials, including but not limited to the content of any exam question, before, during or after the exam, may subject me to legal action. Such legal action may result in monetary damages and/or disciplinary action including voiding scores and denial or revocation of Certification.

I understand that for each application submitted DANB will process the appropriate payment. If I fail to show up for an exam for which I have applied, and there is no documented DANB-accepted emergency, and I failed to comply with DANB cancellation policies, I am still obligated to pay the full exam fee. I further understand that taking the exam and then revoking payment constitutes the wrongful use of DANB products and services and I may be subjected to legal action. I am obligated to pay for the exam whether I pass or fail. I agree not to dispute the exam fee. Passing candidates will not be eligible to retain their scores if the exam fee is not paid in full.

Background Information Policy and Questions

Background Information Policy

DANB national exam applications contain three Background Information questions that all exam candidates must answer. These questions require that a DANB national exam candidate discloses to DANB if he or she has had any felony convictions within the last five years, has ever been disciplined by a regulatory board or credentialing agency, has ever been dismissed by an educational institution for an ethical violation, or has ever been declared mentally incompetent by a court of law. DANB will review each response and make a determination, in consultation with legal counsel, on a case-by-case basis. DANB reserves the right, under extraordinary circumstances, to bring individuals for review under *DANB's Policy and Procedures for Disciplinary Review and Appeal.*

Background Information Questions

The candidate must answer each question in the box in the Background Information section on the exam application. Failure to answer the Background Information questions will result in an incomplete application.

1. In the last five years, have you been convicted of, or pled guilty or no contest to, a felony or any crime punishable by confinement in a state or federal prison for any length of time?
   It is not necessary to report misdemeanor convictions. If you are uncertain whether a conviction was for a felony or a misdemeanor, you must mark "yes."

2. Have you ever been the subject of any of the following:
   - Suspension, revocation or voluntary surrender of your dental assisting license, registration or other state-recognized dental assisting credential?
   - Suspension, revocation or voluntary surrender of a license, registration or other state-recognized credential in any profession?
   - Loss of authorization to practice dental assisting or any profession as an employee of the federal government?
   - Loss of authorization to practice dental assisting or any profession in a jurisdiction that does not require registration, licensure or other recognized employment credential?
   - Dismissal from an educational institution for an ethical violation?

3. Have you ever been declared mentally incompetent by a court of law?

Documentation Required if a Candidate Answers "Yes"

If a candidate answers "yes" to any Background Information question, he or she must attach a signed and dated personal statement describing the circumstances surrounding each occurrence, the offense or reason for the conviction or disciplinary action, the date of the adverse action, the penalties imposed, and the dates when penalties for each occurrence were or will be completed.

The candidate must also provide official documentation related to each occurrence, as described in more detail below:

- For felony convictions (i.e., a "yes" answer to the first question), documentation may include a true copy of every police report, judgment of conviction, sentencing order and termination of probation order, if applicable; documents should show the offense underlying each conviction, the date of conviction, the penalties imposed by the court and evidence that all of the requirements imposed by the court were completed
- For regulatory, credentialing or educational disciplinary action (i.e., a "yes" answer to the second question), documentation may include a true and official statement from the disciplining agency or educational institution describing the offense and penalties imposed and, if applicable, providing evidence of completion or expiration of all penalties, including reinstatement of license or credential
- For a court declaration of mental incompetence (i.e., a "yes" answer to the third question), documentation may include true copies of all relevant court orders and related documents

How to Apply for the Exams

Submit the Application

1. The candidate is responsible for ensuring that his or her application is properly completed and all required documentation (see pages 12-13), including appropriate application and exam fees, is properly submitted to DANB.

2. Mail or fax the completed application and supporting documentation with the proper exam fee or complete credit card information to DANB. Visa, MasterCard, Discover and American Express credit card payments are accepted. DANB accepts checks and money order payment (payable to DANB) with exam applications that are submitted by mail only. The name of the exam being taken must be written on the check or money order.

DANB Exam Fees

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* *RHS and ICE exams taken together at the same test administration.*

** *Maryland candidate fees include a Maryland state recording fee for the CDA and RHS exams*

Active Military Personnel

Active military personnel receive a deduction of $25, or $5 if taking the RHS or ICE only, providing the candidate submits appropriate documentation: a photocopy (front and back) of the current/active military ID OR a letter from the commanding officer OR an active military e-mail address (this e-mail address will be verified by DANB upon approval of application). If a letter is provided, it must verify the candidate's name, rank, Social Security number, station (location) and estimated time of separation. If documentation of active duty is not submitted, the application is considered incomplete and will be returned to the sender. DANB will issue a refund within 30 days of notice of the incomplete application, minus the $50 nonrefundable application fee.

Certified Dental Assistant (CDA) Exam

The CDA exam includes all three component exams (GC, RHS and ICE) taken in the same test administration.

General Chairside Assisting (GC) Exam

The GC exam is a component exam of DANB's national CDA exam and may be taken in a separate test administration.

RHS/ICE Exam

This exam administration includes the RHS and ICE component exams taken together in one test administration.

RHS or ICE Exam Only

The RHS and ICE exams are two of the three component exams of the CDA exam and may be taken separately.

Exam Checklist

- ❑ Fill out application completely
- ❑ Sign and date application
- ❑ Include all required pathway documentation
- ❑ Answer Background Information questions and include documentation, if necessary
- ❑ Include proper payment

Certified Dental Assistant (CDA) Exam

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Collection and recording of clinical data	10
Chairside dental procedures	45
Chairside dental materials (preparation, manipulation, application)	11
Lab materials and procedures	4
Patient education and oral health management	10
Prevention and management of emergencies	14
Office management procedures	6

Radiation Health and Safety (RHS)

100 multiple-choice items
1¼ hours testing time

Topics	% on exam
Expose and evaluate (intraoral, extraoral)	37
Process	16
Mount/label	11
Radiation safety-patient	24
Radiation safety-operator	12

Infection Control (ICE)

100 multiple-choice items
1¼ hours testing time

Topics	% on exam
Patient and dental healthcare worker education	10
Prevent cross-contamination and disease transmission	20
Maintain aseptic conditions	10
Perform sterilization procedures	15
Environmental asepsis	15
Occupational safety	30

*Questions in this component refer to the 2003 CDC Guidelines.

CDA and GC Pathway I

1. Graduation (or anticipated graduation) from a Commission on Dental Accreditation (CODA)-accredited dental assisting or dental hygiene program

Required Documentation

For graduates

- ❑ Enter the CODA-accredited program school code number (see pages 20-21) on the application.
- ❑ Enclose a photocopy of the candidate's certificate of completion/diploma or official transcript. (Transcript may not be a copy.) Document must show proof of program completion. If the candidate holds a Registered Dental Hygienist (RDH) license (from any state except Alabama), a copy of the license may be provided.

For students scheduled to graduate within 90 days of application to test

- ❑ Submit an *Intent to Graduate* letter that must be on school letterhead and include:
  - Student's name
  - Date the program director believes the student will complete the dental assisting program (must be within 90 days following the date the letter is signed)
  - Program director's signature and date signed

Scores and certificates will be held by DANB for all candidates who submit an *Intent to Graduate* letter as proof of anticipated graduation, until the *DANB Graduation Documentation for Pathway I* form (see page 15) and required proof of graduation have been received by DANB. Program directors are required to notify DANB in writing should any student for whom this statement was provided fail to graduate. If a candidate fails to submit the required documentation within 90 days from the testing date, GC scores will become null and void, and RHS and ICE scores and certificates will be mailed to the candidate, if applicable.

2. A current Cardiopulmonary Resuscitation (CPR) certificate from a DANB-accepted CPR provider; CPR Certification must be current at the date of application and exam.

Required Documentation

- ❑ Enclose front and back copies of a valid, DANB-accepted CPR card (see page 13).

CDA and GC Pathway II

1. High school graduation or equivalent

Required Documentation

For high school eligibility in the U.S. and Canada

- ❑ Enclose a photocopy of the candidate's high school diploma, GED certificate or official transcript (transcript may not be a copy) indicating graduation (high school or GED institution must be a recognized school in the U.S. education system), or official state agency graduation verification of high school graduation. OR proof of college or post-secondary coursework at an institution accredited by a U.S. Department of Education-recognized agency. Official documents must include a school seal, school stamp indicating the document is official, or must be notarized. For U.S. high school education verification, contact the state board of education. Any cost of such independent verification shall be the responsibility of the candidate. No other documentation will be considered.

For high school eligibility outside the U.S. and Canada

- ❑ Enclose a photocopy of the candidate's high school diploma OR a photocopy of transcript with graduation date OR a photocopy of the postsecondary degree/college transcript AND a photocopy of the document translation.
- ❑ Enclose an official equivalency report from an independent, DANB-accepted evaluator in a sealed envelope from the evaluator. If the equivalency report arrives with the application and is not in a sealed envelope from the evaluator, the application will be considered incomplete and returned, minus the $50 application fee.
- ❑ An international graduate must submit his or her education credentials for evaluation to one of these DANB-accepted providers: **National Association of Credential Evaluation Services** (www.naces.org) or the **American Association of Collegiate Registrars and Admissions Officers** (www.aacrao.org/international/foreignEdCred cfm) at 202-296-3359, ext. 4600, or oies@aacrao.org. All costs shall be the responsibility of the candidate. DANB will return all original international documents to candidates.

2. Minimum of 3,500 hours work experience as a dental assistant, accrued over a period of at least two years (24 months, if employed full-time) to a maximum of four years (48 months, if employed part-time); employment must be verified by a licensed dentist.

Required Documentation

- ❑ Enclose a completed *Employer Work Experience Statement* found on page 16. Dental assisting experience gained outside of the United States/Canada may be used to qualify to take a DANB exam.

3. A current Cardiopulmonary Resuscitation (CPR) certificate from a DANB-accepted CPR provider; CPR Certification must be current at the date of application and exam.

Required Documentation

- ❑ Enclose front and back copies of a valid, DANB-accepted CPR card (see page 13).

CDA and GC PATHWAY III

1. **Status as a current or former DANB CDA or Graduation from a CODA-accredited D.D.S. or D.M.D. program or Graduation from a dental degree program outside of the U.S. or Canada**

Required Documentation

For current or former DANB CDAs:

❑ Enter the candidate's DANB Certification number on the application. For DANB Certification number, call DANB at 1-800-367-3262.

For graduates of a CODA-accredited D.D.S. or D.M.D. program in the U.S. or Canada:

❑ Enclose a photocopy of the candidate's diploma, certificate of completion or dental license.

For graduates of a D.D.S. or D.M.D. program outside the U.S. and Canada:

All non-English language documents must be translated into English and a copy of the document translation submitted with your application.

❑ Enclose a photocopy of the candidate's dental school transcript and the translation OR a photocopy of a diploma and the translation, OR a photocopy of a current dental license and the translation.

2. **A current Cardiopulmonary Resuscitation (CPR) certificate from a DANB-accepted CPR provider; CPR Certification must be current at the date of application and exam.**

Required Documentation

❑ Enclose front and back copies of a valid, DANB-accepted CPR card (see page 13).

CPR Certification: Required Documentation For All CDA/GC Exam Eligibility Pathways

CPR certification must be current (not expired) at the time the candidate applies and takes the exam. A candidate who submits CPR certification that expires before the 60-day eligibility window will be given a shortened window based on the CPR expiration date.

Enclose a photocopy of the candidate's current, signed CPR certification card (front and back) from one of the organizations listed below. The card must be dated and signed or imprinted with the instructor's name and also have the candidate's name or signature on the card. The course must be for CPR, and a hands-on exam must be taken. An exemption will be allowed if a candidate submits a letter from a physician verifying that the individual has a permanent disability that prevents achievement of accepted CPR certification.

DANB only accepts the CPR certifications from the providers below, and only if a hands-on exam is taken. CPR certification from other providers will not be accepted, and exam applications will be returned as incomplete.

DANB-Accepted CPR Providers

Course must be for CPR, and a hands-on exam must be taken.

- American Environmental Health and Safety
- American Heart Association
- American Red Cross
- American Safety and Health Institute
- Canadian Red Cross
- Emergency Care and Safety Institute
- Emergency First Response
- Emergency Medical Training Associates
- Emergency University - **Not all courses include the hands-on exam, so check with provider before taking course to be sure it will be accepted by DANB**
- EMS Safety Services
- Medic First Aid
- Military Training Network
- National Safety Council (Green Cross)
- ProCPR - **Not all courses include the hands-on exam, so check with provider before taking course to be sure it will be accepted by DANB**
- Saudi Heart Association

2011 Certified Dental Assistant (CDA) or General Chairside Assisting (GC) Exam

This 2011 application will be accepted through March 31, 2012.
After March 31, 2012, download a 2012 application packet from www.danb.org.

Please indicate which exam you would like to take. Check only one box.

❑ **CDA exam**
(GC, RHS, ICE exams taken together)

❑ **GC exam only**

1. Complete all items below. It is the candidate's responsibility to ensure that this application is signed, dated, the Background Information questions are answered, and all required documentation and fees are included and properly completed and submitted to DANB. Incomplete applications (see page 3) will be returned with a refund minus the $50 nonrefundable application fee.
2. Mail or fax completed application and supporting documents to DANB. Maryland candidates must also include an additional $20 state recording fee. Checks must include candidate's name and name of exam being taken.

Candidate Information

Must be filled out completely or application will be returned as incomplete.

I am a U.S. citizen. ❑ Yes ❑ No Non U.S. citizens will be provided a temporary number by DANB in lieu of a Social Security #

Candidate's SS#
___-___-____

I work in a state different than the one in which I reside. ❑ Yes ❑ No If yes, what state:_____

English is the language I speak at home. ❑ Yes ❑ No I work in a dental office. ❑ Yes ❑ No

I work in a dental office that uses: ❑ digital radiography ❑ automatic processing ❑ manual processing (check all that apply)

(Please type or print with a pen.)

Name (must match your ID exactly)_____
Last First Middle Name or Initial

Prior Name (if applicable)_____ E-Mail_____

Home Address_____ City_____ State_____ Zip_____

Phone Numbers: Office(___)_____ Home(___)_____ Cell(___)_____ Fax(___)_____

CDA/GC Eligibility Pathway Information

Pathway must be selected with documentation attached or application will be returned as incomplete.

❑ **Pathway I** Program code _____
❑ **Pathway II**
❑ **Pathway III** DANB CDA Certification # _ _ _ _ _ _ _

Employed in MD or NJ ONLY
State Approved School ID #
_____
(see pg. 23-24)

Pathway must be selected with documentation attached, or application will be returned as incomplete. Select the eligibility pathway and provide the appropriate supporting information. Include CPR card copy (front and back) for all pathways.

For office use only: CDA (3605) GC (3635)

Background Information

All three questions in this section must be answered or application will be returned as incomplete.

Read the questions in their entirety on page 10. Failure to answer all three questions will result in the application being returned as incomplete.
If you checked yes for any question, make sure to include documentation.

❑ No ❑ Yes 1. Regarding felony convictions within the last five years

❑ No ❑ Yes 2. Regarding having ever been disciplined by a regulatory board, credentialing agency or an educational institution

❑ No ❑ Yes 3. Regarding ever being declared mentally incompetent by a court of law

Signature and Date

Must be signed and dated or the application will be returned as incomplete.

I hereby affirm that my answers to all questions are true and correct. I have met all eligibility requirements, and will comply with all DANB policies and procedures. I further affirm that I have read and understood the applicable statements contained on page 9 and I intend to be legally bound by them. I understand that the $50 application fee is not refundable under any circumstances.

Signature X_____ Date X_____

CDA/GC Exam Payment Information

Must be filled out completely or application will be returned as incomplete.

Candidate's Name_____ Candidate's SSN ___ ___ ___ - ___ ___ - ___ ___ ___ ___

❑ Traditional candidate: CDA exam fee: $375 GC exam fee: $200
❑ Employed in Maryland: CDA exam fee: $395 GC exam fee: $200
❑ Active military personnel: CDA exam fee: $350 GC exam fee: $195

CDA exam (3605)
GC exam (3635)

❑ Check/Money Order (payable to the Dental Assisting National Board, Inc. or DANB)
❑ VISA ❑ MASTERCARD ❑ DISCOVER ❑ AMERICAN EXPRESS
Include Credit Card Authorization Below: Allows DANB to charge the credit card account

If you receive a DANB refund and reapply, do not submit the DANB refund check with your new application.

Credit Card Number ___ ___ ___ ___ ___ ___ ___ ___ ___ ___ ___ ___ ___ ___ ___ ___ Expiration Date ___/___ Amount $_____

Cardholder's Name_____ Cardholder's Signature X_____

Cardholder's Billing Address_____ City_____

State_____ Zip_____ Daytime Phone number (_____)_____

By signing, the cardholder acknowledges intent to register for the aforementioned DANB exam in the amount of the total shown hereon and agrees to perform the obligations set forth in the cardholder's agreement with the issuer. Furthermore, the cardholder understands that the signature obtained at the exam administration shall be used to evidence receipt of purchase. A candidate who fails to show up for the exam for which he or she registered and has not cancelled the exam as described in this packet is still required to pay for the exam. (See Application Statements, page 9 for further requirements.)

Graduation Documentation for Pathway I

(CDA and GC candidates only)

This 2011 graduation documentation form will be accepted through March 31, 2012.

This form must be completed by candidates (within 90 days from their testing date) who submit Intent to Graduate letters. Contact Jane Hanson with any questions at 1-800-367-3262 ext. 452.

Submit this form and documentation to:
DANB, Attn: Jane Hanson
444 N. Michigan Ave., Suite 900
Chicago, IL 60611
Fax: 312-642-3550

Exam Date:_____ Date Due (90 days):_____
(Must be within 90 days beyond exam date)

DANB's Policy on Submitting Proof of Graduation

Scores and certificates will be held by DANB for all candidates who submit an Intent to Graduate letter as proof of anticipated graduation for Pathway I for the GC or CDA examinations. Once the DANB Graduation Documentation for Pathway I form and required proof of graduation have been received by DANB from the candidate, the DANB exam scores and any certificates earned will be mailed to the candidate. If a candidate fails to submit the required documentation within 90 days from the date of testing, GC scores will become null and void, and RHS and ICE scores and certificates will be mailed to the candidate (if applicable).

Proof of Graduation Documentation

❑ **If the candidate graduated, submit one of the following within the Graduation Documentation for Pathway I form within the 90-day window:**

- A copy of the certificate of completion/diploma
- An official transcript (documentation must show proof of program completion). Official transcripts may not be faxed.
- A graduation verification letter from the program director on school letterhead, including the candidate's name, date of completion from the dental assisting program, program director's signature and date signed.

❑ **If no documents are received within the 90-day window:**
The candidate's RHS and ICE scores and certificates will be released after 90 days (if applicable). The GC scores will become null and void. No refunds will be issued.

Candidate Information

Name (print or type)_____ Candidate's SSN _____--_____--_____

Name, if different, at time of application _____ E-mail _____

Address _____

City _____ State _____ Zip _____

Phone Number(s) Work(____)_____ Home(____)_____ Cell(____)_____ Fax(____)_____

Signature X_____ Date _____

2011 Employer Work Experience Statement (CDA/GC Exam–Pathway II)

This 2011 Employer Work Experience Statement will be accepted through March 31, 2012.

Please print clearly with a pen.

Name of Licensed Dentist (Employer) _____

Dentist's License Number* _____ State _____

**The dentist must be licensed in the U.S., U.S. Territories or Canada in order to verify the candidate has been trained in the functions below. (However, it is acceptable if the dental assisting work experience was completed in another country.)*

Name of Candidate (Assistant): _____

I hereby attest that the above named candidate has been in my employment for (check one):

❑ A minimum of 3,500 hours, accrued over at least two years (24 months, if employed full-time) and a maximum of four years (48 months, if employed part-time. I am verifying all employment even if the candidate has worked for other dentists in prior years.

Indicate dates of employment: From _____ (include month and year) To _____ (include month and year)

❑ Indicate dates of employment: From _____ (include month and year) To _____ (include month and year)

If an assistant has worked for more than one dentist during the required time period, the candidate may attach a letter on office letterhead from all dentists worked for during the minimum of 3,500 hours, accrued over at least two years (24 months, if employed full-time) and a maximum of four years (48 months, if employed part-time). Each letter must contain the license number and signature of the dentist. This form must be completed and included in the application by at least one of your current or former dentists.

Questions? Call 1-800-367-3262.

By signing this form, I further attest to the fact that I have personally trained or can verify that the candidate has been trained in the following areas. During the tenure of employment, if this assistant does not perform all of these functions in the office, he or she must still possess a basic understanding of them in order to increase his or her likelihood of success on the examination. If the candidate has not been trained in or has not demonstrated basic knowledge of all areas listed below, he or she is not eligible to sit for the exam and should not apply until these functions have been performed or knowledge demonstrated.

- ✓ Preliminary examination of patients (intraoral and extraoral)
- ✓ Charting teeth/completing treatment documentation
- ✓ Using diagnostic aids (such as radiographs and impressions for study models)
- ✓ Taking and recording patient's vital signs
- ✓ Four-handed dentistry techniques
- ✓ Preparation and understanding of armamentarium
- ✓ Performing and assisting with intraoral procedures
- ✓ Managing patients
- ✓ Processes and procedures for the laboratory
- ✓ Use, handling, characteristics of dental materials
- ✓ Providing oral health patient education
- ✓ Office operations (inventory, ordering, equipment maintenance and legal)
- ✓ Preventing/managing dental/medical emergencies

X _____
Signature of Licensed Dentist

X _____
Date

This form must be included with the CDA/GC application for Pathway II to be complete.

2011 Radiation Health and Safety (RHS) Exam, Infection Control (ICE) Exam or RHS/ICE Exam

This 2011 application will be accepted through March 31, 2012.
After March 31, 2012, download a 2012 application packet from www.danb.org.

Please indicate which exam you would like to take.

- ❑ **RHS exam**
- ❑ **ICE exam**
- ❑ **RHS/ICE exam**
  (RHS and ICE exam taken together)

1. Complete all items below. It is the candidate's responsibility to ensure that this application is signed, dated, the Background Information questions are answered, and all required documentation and fees are included and properly completed and submitted to DANB. Incomplete applications (see page 3) will be returned with a refund minus the $50 nonrefundable application fee.
2. Mail or fax completed application and supporting documents to DANB. Maryland candidates must also include an additional $20 state recording fee. Checks must include candidate's name and name of exam being taken.

Candidate Information

Must be filled out completely or application will be returned as incomplete.

I am a U.S. citizen. ❑ Yes ❑ No Non-U.S. citizens will be provided a temporary number by DANB in lieu of a Social Security #

Candidate's SS# ___ ___ ___ - ___ ___ - ___ ___ ___ ___

I work in a state different than the one in which I reside. ❑ Yes ❑ No If yes, what state:_____

English is the language I speak at home. ❑ Yes ❑ No I work in a dental office. ❑ Yes ❑ No

I work in a dental office that uses: ❑ digital radiography ❑ automatic processing ❑ manual processing (check all that apply)

(Please type or print with a pen.)

Name (must match your ID exactly)_____
Last First Middle Name or Initial

Prior Name (if applicable)_____ E-Mail_____

Home Address_____ City_____ State_____ Zip_____

Phone Numbers: Office(___)_____ Home(___)_____ Cell(___)_____ Fax(___)_____

Education/Experience Information

This information is optional.

The RHS and ICE exams do not have eligibility pathway requirements. For our records, please indicate your education/experience.

- ❑ CODA-accredited program (dental assisting/hygiene) See page 20 for program numbers.
  Graduation year/Anticipated graduation year _____ Program code _____
- ❑ On-the-job-trained dental assistant Years of experience _____
- ❑ Previous DANB Certificant, U.S. D.D.S./D.M.D., or international dental degree
  Prior DANB Certification number ___ ___ ___ ___ ___ ___
- ❑ Non-CODA-accredited program (dental assisting/hygiene) See www.danb.org for program numbers.
  Graduation year/Anticipated graduation year _____ Program code _____

Employed in MD or NJ ONLY
State Approved School ID #
___ ___ ___ ___
(see pg. 23-24)

RHS (3625) ICE (3630) RHS/ICE (3616)
For office use only

Background Information

All three questions in this section must be answered or application will be returned as incomplete.

Read the questions in their entirety on page 10. Failure to answer all three questions will result in the application being returned as incomplete.
If you checked yes for any question, make sure to include documentation.

❑ No ❑ Yes 1. Regarding felony convictions within the last five years

❑ No ❑ Yes 2. Regarding having ever been disciplined by a regulatory board, credentialing agency or an educational institution

❑ No ❑ Yes 3. Regarding ever being declared mentally incompetent by a court of law

Signature and Date

Must be signed and dated or the application will be returned as incomplete.

I hereby affirm that my answers to all questions are true and correct. I have met all eligibility requirements and will comply with all DANB policies and procedures. I understand that if this exam (or exams on the RHS/ICE application) completes the requirements to earn CDA or COA Certification, I attest to holding a current DANB-accepted CPR card. I further affirm that I have read and understood the application statements contained on page 9, and I intend to be legally bound by them. I understand that the $50 application fee is not refundable under any circumstances.

Signature X_____ Date X_____

RHS/ICE Exam Payment Information

Must be filled out completely or application will be returned as incomplete.

Candidate's Name_____ Candidate's SSN ___ ___ ___ - ___ ___ - ___ ___ ___ ___

	RHS/ICE exam fee	RHS only	ICE only
❑ Traditional candidate.	RHS/ICE exam fee: $260	RHS only: $175	ICE only: $175
❑ Employed in Maryland.	RHS/ICE exam fee: $270	RHS only: $195	ICE only: $175
❑ Active military personnel.	RHS/ICE exam fee: $240	RHS only: $170	ICE only: $170

RHS exam (3625)
ICE exam (3630)
RHS/ICE exam (3616)

❑ Check/Money Order (payable to the Dental Assisting National Board, Inc. or DANB)
❑ VISA ❑ MASTERCARD ❑ DISCOVER ❑ AMERICAN EXPRESS
Include Credit Card Authorization Below. Allows DANB to charge the credit card account.

If you receive a DANB refund and reapply, do not submit the DANB refund check with your new application.

Credit Card Number ___ ___ ___ ___ ___ ___ ___ ___ ___ ___ ___ ___ ___ ___ ___ ___ Expiration Date ___ ___/___ ___ Amount $_____

Cardholder's Name_____ Cardholder's Signature X_____

Cardholder's Billing Address_____ City_____

State_____ Zip_____ Daytime Phone number (_____)_____

By signing, the cardholder acknowledges intent to register for the aforementioned DANB exam in the amount of the total shown hereon and agrees to perform the obligations set forth in the cardholder's agreement with the issuer. Furthermore, the cardholder understands that the signature obtained at the exam administration shall be used to indicate receipt of purchase. A candidate who fails to show up for the exam for which he or she registered and has not cancelled the exam as described in this packet is still required to pay for the exam. (See Application Statements, page 9 for further requirements.)

Mail: DANB, 444 N. Michigan Ave., Suite 900, Chicago, IL 60611 OR Fax: 312.642.3607

Exam Test Center Locations

Testing Center locations are accurate as of June 2011. Deletions and additions may occur. Locations may have limited days and hours of operation. The number in parentheses indicates number of locations in that city.

ALABAMA
Birmingham
Decatur
Dothan
Mobile
Montgomery

ALASKA
Anchorage
Bethel
Dillingham
Fairbanks
Ketchikan
Kotzebue
Seward
Soldotna

ARIZONA
Bullhead City
Flagstaff
Mesa
Phoenix
Tucson

ARKANSAS
Fort Smith
Little Rock
Texarkana

CALIFORNIA
Anaheim
Fresno
Gardena
Milpitas
Oakland
Ontario
Pasadena
Redding
Roseville
Sacramento
San Diego (2)
San Dimas
San Francisco
Santa Maria
WestLake Village

COLORADO
Grand Junction
Greenwood Village
Pueblo
Westminster

CONNECTICUT
Norwalk
Wallingford
Wethersfield

DELAWARE
Dover
Newark

DISTRICT OF COLUMBIA
Washington

FLORIDA
Altamonte Springs
Avon Park
Deerfield Beach
Gainesville
Jacksonville
Miami
Orlando
Plantation
Port Charlotte
Port St. Lucie
St. Petersburg
Tallahassee
Tampa

GEORGIA
Albany (2)
Atlanta (2)
Augusta
Macon
Savannah
Valdosta

HAWAII
Honolulu
Kahului

IDAHO
Boise
Idaho Falls
Pocatello
Twin Falls

ILLINOIS
Chicago (2)
Marion
Peoria
Schaumburg
Springfield

INDIANA
Anderson
Evansville
Fort Wayne
Indianapolis (2)
Kokomo
LaFayette
Merrillville
South Bend
Terre Haute

IOWA
Coralville
Davenport
Sioux City
West Des Moines

KANSAS
Emporia
Hays
Topeka
Wichita

KENTUCKY
Lexington
Louisville

LOUISIANA
Baton Rouge
Metairie
Shreveport

MAINE
Bangor
Westbrook

MARYLAND
Arnold
Baltimore (2)
Bethesda
Columbia
La Plata
Salisbury

MASSACHUSETTS
Boston (2)
Springfield
Waltham
Worcester

MICHIGAN
Ann Arbor
Grand Rapids
Lansing
Marquette
Southfield
Troy

MINNESOTA
Bloomington
Brainerd
Brooklyn Park
Eagan
Hermantown
Rochester
St. Cloud

MISSISSIPPI
Jackson
Meridian
Tupelo

MISSOURI
Columbia
Kansas City (2)
Springfield
St Louis (2)

MONTANA
Billings
Great Falls
Helena
Missoula

NEBRASKA
Hastings
Lincoln
North Platte
Omaha

NEVADA
Las Vegas
Reno

NEW HAMPSHIRE
Concord

NEW JERSEY
Atlantic City
Lyndhurst
Princeton
Somerset

NEW MEXICO
Alamogordo
Albuquerque
Farmington

NEW YORK
Albany
Brooklyn
East Syracuse
Endicott
Islandia
Lake Success
New York (4)
Rego Park
Rochester
Staten Island
Utica
Watertown
White Plains
Williamsville

NORTH CAROLINA
Asheville
Charlotte (2)
Greenville
Raleigh (2)
Sanford
Wilmington
Winston-Salem

NORTH DAKOTA
Bismarck
Fargo

OHIO
Akron
Beachwood
Columbus
Gahanna
Mason
Maumee
Moraine
Westlake

OKLAHOMA
Oklahoma City (2)
Tulsa

OREGON
Beaverton
Bend
Medford
Portland
Salem

PENNSYLVANIA
Allentown
Erie
Harrisburg
Horsham
Lancaster
Philadelphia
Pittsburgh (2)
Scranton
Wayne

RHODE ISLAND
Warwick

SOUTH CAROLINA
Columbia
Conway
Greenville
North Charleston

SOUTH DAKOTA
Sioux Falls

TENNESSEE
Brentwood
Chattanooga
Johnson City
Knoxville
Memphis
Nashville

TEXAS
Abilene
Amarillo
Austin (2)
Bellaire
Corpus Christi
Dallas
El Paso
Harlingen (2)
Houston (2)
Hurst
Lubbock
Midland
Orange
San Antonio (2)
Tyler
Waco

UTAH
Draper
Ogden

VERMONT
South Burlington

VIRGINIA
Alexandria
Chesapeake
Fredericksburg
Lynchburg
Newport News
Richmond
Roanoke
Vienna

WASHINGTON
Bellingham
Renton
Seattle
Spokane Valley
Yakima

WEST VIRGINIA
Bridgeport
Charleston
Morgantown

WISCONSIN
Brookfield
Eau Claire
Green Bay
Kenosha
Madison
Milwaukee

WYOMING
Casper
Riverton

U.S. TERRITORIES

AMERICAN SAMOA
Pago Pago

GUAM
Tamuning

NORTHERN MARIANA ISLANDS
Saipan

PUERTO RICO
San Juan

U.S. VIRGIN ISLANDS
St Thomas

DANTES
Call Pearson VUE for Locations

2011 DANB Exam Reasonable Accommodations Form

For candidates covered by the Americans with Disabilities Act ONLY

To be completed by the candidate's physician, psychologist or another professional qualified to diagnose disabilities. ***A license number must be provided***. Complete and submit all required information with the candidate's application to be considered for **ALTERNATE** arrangements for the test administration. *Contact Jane Hanson with any questions (1-800-367-3262, ext.452).*

DANB requires the following requirements be met and documentation to be provided before reasonable accommodations will be considered for approval:

- Clearly state the diagnosed disability or disabilities
- Describe the functional limitations resulting from the disability or disabilities
- Be current — i.e., completed within the last five years for learning disability (LD), last six months for psychiatric disabilities, or last three years for ADHD and all other disabilities; NOTE: this requirement does not apply to physical or sensory disabilities of a permanent or unchanging nature
- Include complete educational, developmental and medical history relevant to the disability for which testing accommodations are being requested
- Include a list of all test instruments used in the evaluation report and relevant subtest scores used to document the stated disability; this requirement does not apply to physical or sensory disabilities of a permanent or unchanging nature
- Describe the specific accommodations requested: time and a half or double-time, separate room, reader, other
- Adequately support each of the requested testing accommodation(s)
- Be typed or printed on official letterhead and be signed by an evaluator qualified to make the diagnosis; include information about license or certification and area of specialization

DANB reserves the right to authorize the use of modifications in such a way as to maintain the exam integrity and security. DANB exams are administered only in the English language. Reasonable accommodations will not be approved for candidates who request accommodations because English is a second language.

Candidate Information

Please print clearly.

Candidate's Name_____ Candidate's SSN: ___ ___ ___ - ___ ___ - ___ ___ ___ ___

Candidate's Address_____

Candidate's City_____ State_____ Zip_____

Candidate's Phone Number(s): Office (___)_____ Home (___)_____ Cell (___)_____

E-mail: _____

Physician, Psychologist or Other Qualified Professional Information

Name_____ Degree(s) Held _____

Address_____

City_____ State_____ Zip_____

Phone Number(s): Office (___)_____ Home (___)_____

E-mail _____

Reasonable Accommodation Needs

CHECK ALL THAT ARE REQUIRED:

❑ Reader; a separate room will automatically be provided

❑ Separate room (if available); *testing facilities can provide earplugs*

❑ Additional time – Specify the greatest amount of time needed below:

❑ Additional 30 minutes ❑ Time and a half ❑ Double time

❑ Other accommodations (if available) Specify here: _____

FOR DANB USE ONLY

Reviewed by:

_____ initials

_____ date

Signature of physician, psychologist or other professional qualified to diagnose disabilities

License Number ***(must be included)***

Date

If ALL of the above information is not disclosed, required documentation is not included, or this form is not submitted with the candidate's application, DANB WILL NOT consider the request for an accommodation.

Appendix A: CODA-Accredited Dental Assisting Programs

Dental assisting educational programs accredited by the Commission on Dental Accreditation (CODA), as of July 2011, are listed below. Candidates who are students or graduates of any of these programs should mark the number of the program and year of graduation in the spaces provided on the application. For the list of test centers, see page 18 or visit www.vue.com/danb. For the most up-to-date list of CODA-accredited dental assisting programs, go to www.danb.org. If the candidate previously attended a CODA-accredited dental assisting program and it is not included in this list, please call 1-800-367-3262.

ALABAMA

0753 Calhoun Comm. Coll.
0754 Faulkner State Community College
0346 Fortis College
0822 Lawson State Comm. Coll-Bessemer
0864 Trenholm State Technical College
0790 Wallace State Community College

ALASKA

0501 University of Alaska-Anchorage

ARIZONA

0503 Phoenix College
0743 Pima County Community College
0605 Rio Salado College

ARKANSAS

0255 Arkansas Northeastern College
0505 Pulaski Technical College

CALIFORNIA

0511 Cerritos College
0514 Chaffey Community College
0515 Citrus College
0534 City College of San Francisco
0506 College of Alameda
0523 College of Marin
0838 College of the Redwoods
0536 College of San Mateo
0745 Contra Costa College
8 Cypress College
16 Diablo Valley College
0517 Foothill College
0776 Hacienda LaPuente Adult Ed
0257 Heald College-Concord Campus
0259 Heald College-Hayward Campus
0261 Heald College-Stockton Campus
0526 Modesto Junior College
0528 Orange Coast College
0721 Palomar Community College
0529 Pasadena City College
0270 Riverside Community College
0532 Sacramento City College
0512 San Diego Mesa College
0535 San Jose City College
0538 Santa Rosa Junior College

COLORADO

0804 Front Range Comm Coll.-Larimer
0250 IntelliTec Medical Institute
0722 Pickens Technical College
0540 Pikes Peak Community College
0502 Pueblo Community College

CONNECTICUT

0543 A. I. Prince Technical High School
0885 Lincoln College of New England
0925 Porter and Chester Institute-Branford
0931 Porter and Chester Institute-Enfield
0929 Porter and Chester Inst.-Rocky Hill
0933 Porter and Chester Inst.-Stratford
0875 Tunxis Community College
15 Windham Technical High School

FLORIDA

0178 Atlantic Technical Center
0823 Brevard Community College

FLORIDA (cont.)

0778 Broward College
0907 Charlotte Tech. Center
0251 College of Central Florida
0877 Daytona State College
0504 D.G. Erwin Technical Center
0549 Gulf Coast Community College (day)
0591 Gulf Coast Comm Coll (online weekend)
0533 Hillsborough Community College
0839 Indian River State College
0170 Lincoln Technical Institute-Fern Park
0550 Lindsey Hopkins Technical Ed. Ctr.
0852 Lorenzo Walker Inst. of Technology
0551 Manatee Technical Institute
0531 Northwest Florida State College
0805 Orlando Technical Center
0688 Palm Beach Community College
0555 Pinellas Technical Education Center
0915 Robert Morgan Educational Center
0177 Sanford Brown Institute-Ft. Lauderdale
0554 Santa Fe Community College
0530 South Florida Community College
0609 Tallahassee Community College
0723 Traviss Technical Center

GEORGIA

0895 Albany Technical College
0894 Athens Technical College
0965 Atlanta Technical College
0557 Augusta Technical College
0258 Columbus Technical College
0262 Georgia Northwestern Tech. College
0610 Griffin Technical College
0914 Gwinnett Technical College
0901 Lanier Technical College
0800 Medix School-Smyrna
0977 Middle Georgia Technical College
0966 Ogeechee Technical College
0908 Savannah Technical College
0962 Wiregrass Georgia Technical College

HAWAII

0265 Heald College-Honolulu Campus
0785 Maui Community College

IDAHO

0932 Apollo College of Boise
0559 College of Western Idaho-Cosponsor of Boise State University

ILLINOIS

0561 Elgin Community College
0755 Illinois Valley Community College
0891 John A. Logan College
0562 Kaskaskia College
0724 Lewis and Clark Comm. College

INDIANA

0979 C4 Columbus Area Career Connection/Ivy Tech. State
0725 Indiana Univ. School of Dentistry
0729 Ind. U. Sch. of Dentistry-distance
0794 Indiana Univ. Northwest-Gary
0574 Indiana Univ.-Purdue Univ-Ft Wayne
0647 International Business College
0254 Ivy Tech Comm. College-Anderson
0572 Ivy Tech Comm. College-Kokomo

INDIANA (cont.)

0795 Ivy Tech Comm. College-LaFayette
0857 Kaplan College
0573 University of Southern Indiana

IOWA

0577 Des Moines Area Comm. College
0579 Hawkeye Community College
0581 Iowa Western Community College
0582 Kirkwood Community College
0583 Marshalltown Community College
0756 Northeast Iowa Comm. College
0727 Scott Community College
0260 Vatterott College-Des Moines Campus
0584 Western Iowa Tech Comm. Coll.

KANSAS

0585 Flint Hills Technical College
0602 Salina Area Tech. School
0587 Wichita Area Technical College

KENTUCKY

0902 Bluegrass Comm. & Tech. Coll-Leestown Campus
0881 West Kentucky Tech. College

MAINE

0846 University of Maine Augusta/ University College of Bangor

MARYLAND

0616 All-State Career-Healthcare Division
0802 Medix School-Towson
0431 TESST College-Towson

MASSACHUSETTS

0596 Massasoit Community College
0598 McCann Tech. School
0601 Middlesex Community College
0769 Northern Essex Community College
0930 Porter and Chester Inst.-Chicopee
0173 Porter and Chester Inst.-Westborough
0600 Quinsigamond Community College
0726 Southeastern Technical Institute
0606 Springfield Technical Comm. Coll.

MICHIGAN

0171 Baker College-Auburn Hills
0655 Baker College-Port Huron
0608 Delta College
0612 Grand Rapids Community College
0758 Lake Michigan College
0611 Mott Community College
0780 Northwestern Michigan College
0619 Washtenaw Community College
0824 Wayne County Comm. College

MINNESOTA

0620 Central Lakes College
0747 Century College
0648 Dakota County Technical College
0728 Hennepin Technical College
0734 Herzing University
0622 Hibbing Community College
0882 Minneapolis Comm. & Tech. College
0621 Minnesota West Comm. & Tech. Coll.
0760 Minn St Comm & Tech. Coll.-Moorhead

Appendix A: CODA-Accredited Dental Assisting Programs

MINNESOTA (cont.)
0759 Northwest Tech College-Bemidji
0626 Rochester Community & Tech. Coll.
0748 St. Cloud Technical College
3 South Central Tech. College-Mankato

MISSISSIPPI
0627 Hinds Community College
0266 Meridian Community College
0671 Pearl River Community College

MISSOURI
0972 Concorde Career College
0166 Missouri College
0854 Nichols Career Center
0629 Ozarks Tech. Community College
0935 Metropolitan Com. Coll. - Penn Valley
0936 St. Louis Comm College-Forest Park

MONTANA
0633 Montana State Univ.-Great Falls
0816 Salish Kootenai College

NEBRASKA
0634 Central Community College
0172 Kaplan College
0637 Metropolitan Community College
0636 North Platte Community College
0635 Southeast Community College
0798 Vatterott College-Omaha Campus

NEVADA
0969 College of Southern Nevada
0859 Truckee Meadows Comm. College

NEW HAMPSHIRE
9 NHTI, Concord's Community College

NEW JERSEY
0252 Burlington County Inst. of Tech.
0860 Camden County College
0691 Cape May County Tech Institute
0617 Cumberland Cty. Tech. Educ. Center
0893 Fortis Institute
0731 The Institute for Health Education
0764 Technical Inst. of Camden County
0761 University of Med-Dent. of New Jersey

NEW MEXICO
0542 Central NM Community College
0787 Dona Ana Comm. College
0546 Santa Fe Community College
0967 University of New Mexico-Gallup

NEW YORK
0735 Monroe Community College
0646 SUNY Educ Opportunity Ctr.-Buffalo

NORTH CAROLINA
0656 Alamance Community College
0650 Asheville-Buncombe Tech. Comm. Coll.
0692 Cape Fear Community College
0267 Central Carolina Community College
0651 Central Piedmont Community College
0652 Coastal Carolina Community College
0750 Fayetteville Technical Comm. College
0167 Forsyth Technical Comm. College
53 Guilford Technical Comm. College
1 Martin Community College
0201 Miller-Motte College
0268 Montgomery Community College

NORTH CAROLINA (cont.)
0783 Rowan-Cabarrus Community College
0654 Univ of N Carolina Schl. of Dentistry
0928 Wake Technical Community College
0657 Wayne Community College
0658 Western Piedmont Comm. College
0921 Wilkes Community College

NORTH DAKOTA
0659 North Dakota State Coll. of Science

OHIO
0896 Choffin Career and Technical Center
0661 Eastern Gateway Community College
0176 Fortis College-Cuyahoga Falls
0175 Miami-Jacobs Career College
0168 Polaris Career Center

OKLAHOMA
0736 Metro Tech. Center, Health Careers Center
0828 Moore Norman Technology Center
0887 Rose State College
0271 Western Technology Center

OREGON
0663 Blue Mountain Comm. College
0737 Central Oregon Comm. College
0664 Chemeketa Community College
0603 Concorde Career Institute
0665 Lane Community College
0632 Linn-Benton Community College
0668 Portland Community College

PENNSYLVANIA
0263 Bradford School
0939 Commonwealth Tech. Inst. at HGA
0869 Harcum College
0918 Harrisburg Area Comm. College
0870 Luzerne Cty. Community College
0834 Manor College
0738 Westmoreland County Comm. Coll.
0174 YTI Career Institute-Lancaster

PUERTO RICO
0675 University of Puerto Rico, College of Health Related Prof.

RHODE ISLAND
0676 Comm. College of Rhode Island
0624 Lincoln Technical Institute

SOUTH CAROLINA
0926 Aiken Technical College
0678 Florence-Darlington Tech Coll.
0680 Greenville Technical College
0964 Horry-Georgetown Tech. College
0677 Midlands Technical College
0683 Spartanburg Community College
0681 Tri-County Technical College
0682 Trident Technical College
0888 York Technical College

SOUTH DAKOTA
0684 Lake Area Technical Institute

TENNESSEE
0685 Chattanooga State Comm. Coll.
0607 Concorde Career College- Memphis
0625 Kaplan Career Institute
0884 Northeast State Tech. Comm. Coll.

TENNESSEE (cont.)
0982 Tennessee Tech Center-Dickson
0686 Tennessee Tech Center-Knoxville
0687 Tennessee Tech Center-Memphis
0739 Tennessee Tech Center-Murfreesboro
0848 Volunteer State Comm. College

TEXAS
0889 Coleman Coll. of Health Sciences
0690 Del Mar College
0811 El Paso Community College
0730 Grayson County College
0169 Lamar State College-Orange
0693 San Antonio College
0694 Schl. of Health Care Sciences-Air Force
0970 Texas State Tech Coll.-Harlingen
0695 Texas State Tech Coll.-Waco

UTAH
0973 Bridgerland Applied Tech. College
0740 Davis Applied Technology College
0974 Ogden-Weber Applied Tech. College

VERMONT
0919 Center for Technology-Essex

VIRGINIA
0604 Centura College
0762 J. Sargeant Reynolds Comm. Coll.

WASHINGTON
0702 Bates Technical College
0703 Bellingham Technical College
0704 Clover Park Technical College
0904 Lake Washington Tech College
0927 Renton Technical College
0980 Seattle Vocational Institute
0707 South Puget Sound Comm. College
0710 Spokane Community College

WEST VIRGINIA
0975 Mercer County Tech. Ed. Center

WISCONSIN
0853 Blackhawk Technical College
0858 Fox Valley Technical College
0713 Gateway Technical College
0717 Northeast Wisconsin Tech. College
0718 Western Tech. College

DENTAL HYGIENE
0900 All CODA-accredited Dental Hygiene Programs

Appendix B: Maryland-Approved Schools

Approved Schools and Programs for Dental Assistants

*0400	Allegany Community College (Cumberland)
*0401	Catonsville Community College (Catonsville)
0402	Chesapeake College Center for Allied Health (Easton)
0403	Baltimore City Community College (Baltimore)
0404	Essex Community College/The Community College of Baltimore County (Baltimore)
*0405	Frederick Community College (Frederick)
0406	Harford Community College (Bel Air)
*0407	Educational Horizons, Inc. (Bethesda)
0408	Medix School (Towson)
0409	Neibauer Dental Care (Waldorf)
0410	Dr. James A. Forrest Career and Technology Center (Leonardstown)
*0411	Montgomery College (Takoma Park/Silver Spring)
0412	Southern Maryland Dental Society (College Park)
*0413	University of Maryland Dental School (Baltimore)
0414	Hygiene Associates (Bethesda)
0415	Wor-Wic Technical Community College (Salisbury)
*0416	The Carolyn Ianaro Radiology Course (Berlin)
*0417	Howard Community College (Columbia)
0418	Naval Dental School - National Naval Dental Center (Bethesda)
*0419	Frederick County Dental Society (Frederick)
0420	Center of Applied Technology, Edgewater (Edgewater)
0421	Maryland State Dental Association (Columbia)
0422	College of Southern Maryland (LaPlata)
0423	Prince George Community College (Largo)
0424	Anne Arundel Community College (Arnold)
0425	Hagerstown Community College (Hagerstown)
0426	RH Dental Education Concepts (Bethesda)
0427	Kaplan College (formerly Hagerstown Business College) (Frederick)
0428	DATS (Bethesda)
0429	Carroll Community College (Westminster)
0430	Allegany College of Maryland
0431	TESST College (Towson)

*Schools no longer provide courses, but received prior Maryland Board Approval.

Appendix C: New Jersey Approved Schools

Approved Radiology Schools and Programs for Dental Assistants

2165	Advantage Career Institute
2102	Atlantic County Vocational School
2302	Bergen County Vocational School
2319	Brookdale Community College
2151	Burlington County Institute of Technology
2318	Camden County College
2109	Cape May County Tech
2150	Center for Dental and Medical Training
2140	Central Career School
2133	Cumberland County Tech. & Voc. C. Ctr.
2164	Dental Assisting Career Center
2141	Dental Assistant Services
2115	Essex County Vocational Schools
2132	Everest Institute- South Plainfield
2144	Fortis Institute- Lawrenceville
2104	Fortis Institute- Wayne (formerly Berdan Institute)
2321	Institute for Continuing Education/Dental Studies
2160	Institute for Health Education
2310	Mercer County Community College
2311	Middlesex County College
2324	NJ Health Professionals Development Institute
2103	NJ Premier Institute for Medical and Dental Training
2101	NJ School of Dental Assisting (Forked River)
2325	NJ School of Dental Assisting (New Brunswick)
2146	Ocean County College
2106	Ocean County Voc-Tech School (Adult Education)
2315	Ocean County Voc–Tech School (day)
2162	Quality Dental School of Technology
2159	Raritan Valley Community College
2108	Technical Institute of Camden County
2131	UMDNJ (CDA)
2139	UMDNJ (Radiology only)
2145	Warren CCC Ctr. for Career & Personal Development

2400	All other programs* *This includes closed schools and schools not located in New Jersey

Appendix D: Exam Reference Materials

DANB Exam Committees use the list of textbooks and other reference materials below in constructing the exams. These lists do not include all textbooks and materials that are available for the study of dental assisting; they are simply the resources that the Exam Committee subject matter experts have determined to provide the latest information covering the knowledge needed to match or surpass a determined level of competency in the practice of dental assisting.

Making the lists available is intended to be helpful to the candidate in preparing for the exams. It is not intended to be an endorsement for any of the publications listed. It is not necessary to use any of these books in order to pass the exam; conversely, reading all of these books will not guarantee that you will pass the exam.

Candidates should prepare for the DANB Certification and component exams using as many different preparatory sources as possible. Candidates may obtain the reference materials listed by contacting the publisher directly or through various bookstores; some are available online.

Blueprints for each exam are available for free at www.danb.org.

Reference Materials Appropriate for All Exams

1. Bird, D. and Robinson, D. *Torres and Ehrlich Modern Dental Assisting*, 8th edition. Philadelphia, PA: Elsevier (Saunders) Publishing Company, 2005; 9th edition, 2009. (www.us.elsevierhealth.com)
2. Phinney, D.J. and Halstead, J.H. *Dental Assisting: A Comprehensive Approach*, 2nd edition. Albany, NY: Delmar Learning (Thorson Corp), 2004; 3rd edition, 2008. (www.delmarlearning.com)
3. Robinson, D. and Bird, D. *Essentials of Dental Assisting*, 4th edition. Philadelphia, PA: Elsevier (Saunders) Publishing Company, 2007. (www.us.elsevierhealth.com)

General Chairside Assisting Exam Reference Materials

1. Hatrick, Eakle, and Bird. *Dental Materials: Clinical Applications for Dental Assistants and Dental Hygienists*. 2nd edition, 2001. St. Louis, MO: Elsevier (Saunders) Publishing Company. www.us.elsevierhealth.com
2. Little, J.W. and Falace, D.A. *Dental Management of the Medically Compromised Patient*. 7th edition, 2008. St. Louis: Elsevier (Mosby) Publishing Company. www.us.elsevierhealth.com
3. Malamed, S.F. *Medical Emergencies in the Dental Office*. 6th edition, 2007. St. Louis: Elsevier (Mosby) Publishing Company. www.us.elsevierhealth.com
4. Gaylord, L. *The Administrative Dental Assistant*. 2nd edition, 2007. St. Louis. MO: Elsevier (Saunders) Publishing Company. www.us.elsevierhealth.com
5. Metivier, A.P. General Chairside Assisting: A Review for a National Chairside Exam (Course #613). Chicago: American Dental Assistants Association, 2001. www.dentalassisting.org

Appendix D: Exam Reference Materials

Infection Control Exam Reference Materials

1. Miller, C and Palenik, C. *Infection Control and Management of Hazardous Materials for the Dental Team*, 3rd edition. St. Louis, MO: Elsevier (Mosby) Publishing Company, 2005; 4th edition, 2010. (www.us.elsevierhealth.com)
2. Molinari, J.A. and Harte, J.A. *Cottone's Practical Infection Control in Dentistry*, 3rd edition. Philadelphia, PA: Lippincott, Williams & Wilkins, 2010.
3. Centers for Disease Control and Prevention. "Guidelines for Infection Control in Dental Health-Care Settings 2003." Vol. 52, RR 17, accessed Dec. 19, 2003, www.cdc.gov.
4. Organization for Safety, Asepsis and Prevention. *CDC's Guidelines, From Policy to Practice by OSAP*. OSAP: 2004, www.osap.org.
5. U.S. Department of Labor, Occupational Safety and Health Administration, www.osha.gov.
    - "Hazard Communication Guidelines for Compliance" (Publication 3111)
    - "Hazard Communication Standard (Code of Federal Regulations #29, Part 1910)
    - "Bloodborne Pathogens Standard" (1910.1030)
6. U.S. Public Health Service. Guidelines for Post Exposure Management.
    - www.cdc.gov/mmwr/preview/mmwrthml/rr5217a1.htm
    - www.osha.gov
    - www.cdc.gov/mmwr/preview/mmwrhtml/00052722.htm
    - www.cdc.gov/od/oc/media/pressrel/fs021025.htm
    - www.cdc.gov/oralhealth/infectioncontrol
7. Cuny, E. and Palenik, C. *Infection Control in the Dental Office: A Review for an Infection Control Exam Course #0906*. Chicago, IL: American Dental Assistants Association, 2009. (www.dentalassistant.org)
8. Dickson, S.; Bebermeyer, R.; and Ortolano, K. *Guidelines for Infection Control in Dental Health Care Settings, Course #0904*. Chicago, IL: American Dental Assistants Association, 2009. (www.dentalassisting.org)

Radiation Health and Safety Exam Reference Materials

1. Frommer, H.H. and Stabulas-Savage, J.J. *Radiology for the Dental Professional*, 8th edition. St. Louis, MO: Elsevier (Mosby) Publishing Company, 2005; 9th edition, 2011. (www.us.elsevierhealth.com)
2. Ianucci, J.; Harring, I.; and Howerton, L.J. *Dental Radiography Principles and Techniques* (with CD-ROM), 3rd edition. Philadelphia, PA: Elsevier (Saunders) Publishing Company, 2006. (www.us.elsevierhealth.com)
3. Johnson, O. and Thomson, E.M. *Essentials of Dental Radiography for Dental Assistants and Hygienists*, 8th edition. Upper Saddle River, NJ: Pearson Education (Prentice Hall), 2007. (www.phdirect.com)
4. Miles, D. and VanDis, M. *Radiographic Imaging for the Dental Team*, 4th edition. St. Louis, MO: Elsevier (Saunders) Publishing Company, 2009. (www.us.elsevierhealth.com)
5. Langland, O.; Langlais, R.; and Preece, J. *Principles of Dental Imaging*, 2nd edition. Philadelphia, PA: Lippincott, Williams and Wilkins, 2002. (www.lww.com)
6. Development Committee. "An Introduction to Basic Concepts in Dental Radiography," Course #715. Chicago, IL: American Dental Assistants Association, 2007. (www.dentalassistant.org)

The following pamphlets are offered by Eastman Kodak Company, Rochester, NY.
(Access links to these pamphlets at www.danb.org)

7. Eastman Kodak Company. *Exposure and Processing for Dental Film Radiography*, Pamphlet #N-413. Rochester, NY: 2005.
8. Eastman Kodak Company. *Radiation Safety in Dental Radiography*, Pamphlet #N-414. Rochester, NY: 2005.
9. Eastman Kodak Company. *Successful Intraoral Radiography*, Pamphlet #N-418. Rochester, NY: 2005.
10. Eastman Kodak Company. *Successful Panoramic Radiography*, Pamphlet #N-406. Rochester, NY: 2006.
11. Eastman Kodak Company. *Quality Assurance in Dental Radiography*, Pamphlet #N-416. Rochester, NY: 2005.
12. Eastman Kodak Company. *Guidelines for Prescribing Dental Radiographs*, Pamphlet N#-80A. Rochester, NY: 2005.

Appendix E: State Dental Associations/State Dental Boards

Alabama Dental Association (www.aldaonline.org)
Alabama Board of Dental Examiners 205-985-7267

Alaska Dental Society (www.akdental.org)
Alaska State Board of Dental Examiners 907-465-2542

Arizona Dental Association (www.azda.org)
Arizona State Board of Dental Examiners 602-242-1492

Arkansas State Dental Association (www.arkansasdentistry.org)
Arkansas State Board of Dental Examiners 501-682-2085

California Dental Association (www.cda.org)
Dental Board of California 916-263-2300

Colorado Dental Association (www.cdaonline.org)
Colorado Board of Dental Examiners 303-894-7800

Connecticut State Dental Association (www.csda.com)
Connecticut State Dental Commission 860-509-7603

Delaware State Dent. Soc. (www.delawarestatedentalsociety.org)
Delaware Board of Dentistry and Dental Hygiene 302-744-4500

District of Columbia Dental Society (www.dcdental.org)
District of Columbia Board of Dentistry 202-724-4900

Florida Dental Association (www.floridadental.org)
Florida Board of Dentistry 850-245-4474

Georgia Dental Association (www.gadental.org)
Georgia Board of Dentistry 478-207-2440

Hawaii Dental Association (www.hawaiidentalassociation.net)
Hawaii State Board of Dental Examiners 808-586-3000

Idaho State Dental Association (www.isdaweb.org)
Idaho State Board of Dentistry 208-334-2369

Illinois State Dental Society (www.isds.org)
Illinois State Board of Dentistry 217-782-8556

Indiana Dental Association (www.indental.org)
Indiana State Board of Dentistry 317-234-2054

Iowa Dental Association (www.iowadental.org)
Iowa Dental Board 515-281-5157

Kansas Dental Association (www.ksdental.org)
Kansas Dental Board 785-296-8400

Kentucky Dental Association (www.kyda.org)
Kentucky Board of Dentistry 502-429-7280

Louisiana Dental Association (www.ladental.org)
Louisiana State Board of Dentistry 504-568-8574

Maine Dental Association (www.medental.org)
Maine Board of Dental Examiners 207-287-3333

Maryland State Dental Association (www.msda.com)
Maryland State Board of Dental Examiners 410-402-8500

Massachusetts Dental Society (www.massdental.org)
Massachusetts Board of Registration in Dentistry 617-973-0971

Michigan Dental Association (www.smilemichigan.com)
Michigan Board of Dentistry 517-335-0918

Minnesota Dental Association (www.mndental.org)
Minnesota Board of Dentistry 612-617-2250

Mississippi Dental Association (www.msdental.org)
Mississippi State Board of Dental Examiners 601-944-8822

Missouri Dental Association (www.modental.org)
[illegible]

Montana Dental Association (www.mtdental.com)
Montana Board of Dentistry 406-841-2390

Nebraska Dental Association (www.nedental.org)
Nebraska Board of Dentistry 402-471-2118

Nevada Dental Association (www.nvda.org)
Nevada State Board of Dental Examiners 702-486-7044

New Hampshire Dental Society (www.nhds.org)
New Hampshire Board of Dental Examiners 603-271-4501

New Jersey Dental Association (www.njda.org)
New Jersey State Board of Dentistry 973-504-6405

New Mexico Dental Association (www.nmdental.org)
New Mexico Board of Dental Health Care 505-476-4650

New York State Dental Association (www.nysdental.org)
New York State Board of Dentistry 518-474-3817

North Carolina Dental Society (www.ncdental.org)
N. Carolina State Board of Dental Examiners 919-678-8223

North Dakota Dental Association (www.nddental.com)
North Dakota State Board of Dental Examiners 701-258-8500

Ohio Dental Association (www.oda.org)
Ohio State Dental Board 614-466-2580

Oklahoma Dental Association (www.okda.org)
Oklahoma Board of Dentistry 405-524-3592

Oregon Dental Association (www.oregondental.org)
Oregon Board of Dentistry 971-673-3200

Pennsylvania Dental Association (www.padental.org)
Pennsylvania State Board of Dentistry 717-783-7162

Rhode Island Dental Association (www.ridental.com)
Rhode Island St. Board of Examiners in Dentistry 401-222-2827

South Carolina Dental Association (www.scda.org)
South Carolina Board of Dentistry 803-896-4665

South Dakota Dental Association (www.sddental.org)
South Dakota State Board of Dentistry 605-224-1282

Tennessee Dental Association (www.tenndental.org)
Tennessee Board of Dentistry 615-532-3202

Texas Dental Association (www.tda.org)
Texas State Board of Dental Examiners 512-463-6400

Utah Dental Association (www.uda.org)
Utah Dental & Dental Hyg. Licensing Board 801-530-6628

Vermont State Dental Society (www.vsds.org)
Vermont State Board of Dental Examiners 802-828-2390

Virginia Dental Association (www.vadental.org)
Virginia Board of Dentistry 804-367-4538

Washington State Dental Association (www.wsda.org)
Washington State Dental Health Care Quality Assurance Commission 360-236-4700

West Virginia Dental Association (www.wvdental.org)
West Virginia Board of Dental Examiners 877-914-8266

Wisconsin Dental Association (www.wda.org)
Wisconsin Dentistry Examining Board 608-266-8098

Wyoming Dental Association (www.wyda.org)
Wyoming Board of Dental Examiners 307-777-6529

[illegible]

Abbreviated Version*

DANB Code of Professional Conduct

To promote quality and ethical practice and to assist DANB Individuals** in understanding their ethical responsibilities to patients; employers; professional colleagues, including fellow DANB Individuals; the dental assisting profession; and the public, DANB has established the following *DANB Code of Professional Conduct*. The *DANB Code of Professional Conduct* includes a DANB Individual's responsibilities to patients, employers, colleagues, the profession, the public and DANB.

All DANB Individuals must abide by the *DANB Code of Professional Conduct*, and must maintain high standards of ethics and excellence in all areas of professional endeavor.

Violating the *DANB Code of Professional Conduct*, including but not limited to commission of any act specifically prohibited in *DANB's Disciplinary Policy and Procedures*, may result in disciplinary action and the imposition of sanctions.

Individual Autonomy and Respect for Human Beings

The dental assistant has a duty to respect each patient's individuality, humanity and autonomy in decision making.

Health and Well-Being of Patients and Colleagues

The dental assistant has a duty to refrain from harming any patient, to promote each patient's welfare, and to protect the health and well-being of colleagues.

Justice and Fairness

The dental assistant has a duty to treat people fairly.

Truth

The dental assistant has a duty to communicate truthfully.

Confidentiality

The dental assistant has a duty to respect each patient's right to confidentiality.

Responsibility to Profession, Community, Society and DANB

The dental assistant has a duty to know the law (which, in this context, also includes DANB Policies and Procedures), to act within the law and to report to the proper authorities those who fail to do so.

* Visit www.danb.org for the full version.

** DANB Individuals is an inclusive term that refers to all DANB examination applicants, DANB examination candidates, DANB Certificants (CDAs, COAs, CDPMAs, COMSAs, CPDAs) and those who hold DANB Certificates of Competency (RHS, ICE, CP, SE, TF, TA). See Defini-

Appendix N

Ref. #2

State-Specific Comparison of Selected Expanded Duties (Coronal Polish, Topical Fluoride, Sealants) & Levels of Supervision: Updated August 9, 2011

(Source: www.danb.org)

STATE	CORONAL POLISH #9	SUPERVISION PERSONAL,DIRECT, INDIRECT,GENERAL	FLUORIDE #18	SUPERVISION PERSONAL,DIRECT INDIRECT,GENERAL	SEALANTS #40	SUPERVISION PERSONAL,DIRECT INDIRECT,GENERAL	LICENSING REGISTRATION CERTIFICATION	Expanded Duties
Alabama	N	-	Y	D	N	-	N	Y
Alaska	Y	D	Y	D	Y	I	C	Y
Arizona	Y	G	Y	D	Y	D	C	Y
Arkansas	Y	P	y	-	N	-	R	Y
California	Y	D/G	Y	D	Y	D	L	Y
Colorado	Y	D/I	Y	D/I	y	D/I	N	Y
Connecticut	N	-	N	-	N	-	N	N
Delaware	N	-	N	-	y	D	N	N
District of Col.	N	-	y	D/G	y	D/G	R	N
Florida	Y	D	Y	I	Y	I	N	Y
Georgia	Y	D	Y	D	y	-	N	Y
Hawaii	N	-	N	-	N	-	N	N
Idaho	Y	D	Y	D	y	-	N	Y
Illinois	Y	S	y	-	Y	S	N	Y
Indiana	Y	D	Y	D	N	-	N	Y
Iowa	y	-	N	-	N	-	R	Y
Kansas	Y	D	y	-	y	-	N	Y
Kentucky	Y	D	Y	D	Y	D	N	Y
Louisiana	Y	D	Y	D	Y	D	N	Y
Maine	Y	D	Y	D	Y	D	N	Y
Maryland	N	-	Y	D	N	-	N	Y
Massachusetts	Y	G	Y	G	Y	Immed.	R	Y
Michigan	y	-	Y	D	y	-	R, L	Y
Minnesota	Y	I	Y	I	Y	I	L	Y
Mississippi	y	-	y	-	y	-	N	Y
Missouri	Y	D	N	-	N	-	N	Y
Montana	Y	D	Y	D	Y	D	N	Y
Nebraska	Y	D	y	-	y	-	N	Y
Nevada	Y	S	Y	S	Y	S	N	Y
New Hampshire	Y	D	Y	D	Y	D	N	Y
New Jersey	Y	D	Y	D	Y	D	L	Y
New Mexico	Y	G,I	Y	G	Y	G,I	C	Y
New York	N	-	Y	D	N	-	L	Y
North Carolina	Y	D	Y	D	Y	D	N	Y
North Dakota	Y	I	Y	I	Y	D	R	Y
Ohio	Y	D	Y	D	Y	D	C,R	Y
Oklahoma	Y	D	Y	D	Y	D	N	Y
Oregon	Y	I	y	-	Y	I	C	Y
Pennsylvania	Y	D	Y	D	y	-	C	Y
Rhode Island	N	-	Y	D	Y	D	N	Y
South Carolina	Y	D	y	-	Y	D	N	Y
South Dakota	Y	D	Y	D	Y	D	L	Y
Tennessee	Y	D	Y	D	Y	D	C	Y
Texas	Y	D	Y	D	Y	D	R	Y
Utah	Y	S	y	-	y	-	N	N
Vermont	Y	D	y	-	Y	D	R	Y
Virginia	Y	D	Y	D	Y	D	R	Y
Washington	Y	D	Y	D	Y	D	R	Y
West Virginia	Y	D	y	-	Y	D	N	Y
Wisconsin	y	-	N	-	N	-	N	N
Wyoming	Y	D	Y	I	N	-	N	Y

Dental Assistant Job Titles by State (from www.danb.org)

Updated: August 9, 2011

STATE	DENTAL ASSISTANT JOB TITLES	RHS	IC	BLS CPR
Alabama	• Dental Assistant	N	N	N
Alaska	• Dental Assistant • Dental Assistant qualified in coronal polishing procedures • Dental Assistant qualified in restorative functions	N	N	N
Arizona	• Dental Assistant • Dental Assistant qualified in coronal polishing procedures • Dental Assistant with certificate in radiologic proficiency	Y	N	NY
Arkansas	• Dental Assistant • Registered Dental Assistant (RDA)	N	N	N
California	• Unlicensed Dental Assistant • Registered Dental Assistant (RDA) • Registered Dental Assistant in Extended Functions (RDAEF) • Orthodontic Assistant (OA) • Dental Sedation Assistant	N	Y	N
Colorado	• Dental Assistant • Expanded Duties Dental Assistant (EDDA)	Y	N	N
Connecticut	• Dental Assistant	Y	N	N
Delaware	• Dental Assistant	N	N	N
Distr. of Columbia	• Dental Auxiliary • Dental Auxiliary qualified in designated expanded functions	Y	N	N
Florida	• Dental Assistant • Expanded Functions Dental Assistant (EFDA)	N	N	N
Georgia	• Dental Assistant • Expanded Duty Dental Assistant (EDDA)	N	N	Y
Hawaii	• Dental Assistant	N	N	N
Idaho	• Dental Assistant • Expanded Functions Dental Assistant (EFDA)	N	N	N
Illinois	• Dental Assistant • Dental Assistant qualified in expanded functions	N	N	N
Indiana	• Dental Assistant • Dental Assistant qualified in coronal polishing • Dental Assistant qualified in fluoride administration	Y	N	N
** Iowa	• Dental Assistant Trainee • Registered Dental Assistant (RDA) • Registered Dental Assistant with expanded duties training	Y	Y	N

STATE	DENTAL ASSISTANT JOB TITLES	RHS	IC	BLS CPR
Kansas	• Dental Assistant • Dental Assistant with expanded duties training	N	N	N
Kentucky	• Dental Auxiliary • Dental Assistant qualified in coronal polishing • Registered Dental Assistant (RDA)	Y	N	N
Louisiana	• Dental Assistant • Expanded Duty Dental Assistant (EDDA)	N	N	N
Maine	• Dental Assistant • DANB Certified Dental Assistant (CDA) • Expanded Functions Dental Assistant (EFDA)	Y	N	N
** Maryland	• Dental Assistant • Dental Assistant Qualified in General Duties • Dental Assistant Qualified in Orthodontics	Y	Y	N
Massachusetts	• On-the-Job Trained Dental Assistant • Formally Trained Dental Assistant • DANB Certified Dental Assistant (CDA) • DANB Certified Orthodontic Assistant (COA) • Expanded Function Dental Assistant (EFDA)	Y	N	N
Michigan	• Dental Assistant • Registered Dental Assistant (RDA) • Registered Dental Assistant qualified in expanded functions	N	N	N
*** Minnesota	• Dental Assistant • Licensed Dental Assistant (LDA)	N	Y	Y
Mississippi	• Dental Assistant	N	N	N
Missouri	• Dental Assistant • Dental Assistant qualified in expanded functions • DANB Certified Dental Assistant (CDA)	N	N	N
Montana	• Dental Auxiliary	Y	N	N
Nebraska	• Dental Assistant • Dental Assistant qualified in coronal polishing	N	N	N
Nevada	• Dental Assistant	N	N	N
New Hampshire	• Dental Assistant • DANB Certified Dental Assistant (CDA) • Graduate Dental Assistant (GDA) • Dental Assistant qualified to perform expanded functions	Y	N	N
New Jersey	• Unregistered Dental Assistant • Registered Dental Assistant (RDA)	Y	N	N

STATE	DENTAL ASSISTANT JOB TITLES	RHS	IC	BLS CPR
New Mexico	• Dental Assistant • Dental Assistant with state certification in expanded functions	Y	N	N
New York	• Unlicensed Dental Assistant • Dental Assistant with a Limited Permit • NY state-licensed "certified dental assistant" • DANB Certified Dental Assistant (CDA) •	N	N	N
North Carolina	• Dental Assistant I (DA I) G • Dental Assistant II in training (DA II in Training) • Dental Assistant II (DA II)	Y	N	N
North Dakota	• Dental Assistant • Qualified Dental Assistant (QDA) • Registered Dental Assistant (RDA) • Registered Dental Assistant qualified to apply pit and fissure sealants	Y	N	N
Ohio	• Basic Qualified Personnel • Dental Assistant Radiographer • DANB Certified Dental Assistant (CDA) • Ohio certified dental assistant • Expanded Functions Dental Auxiliary (EFDA)	N	N	N
Oklahoma	• Dental Assistant • Expanded Duty Dental Assistant (EDDA)	N	N	N
Oregon	• Dental Assistant • Expanded Functions Dental Assistant (EFDA) • Expanded Functions Orthodontic Dental Assistant (EFODA) • Anesthesia Assistant	Y	N	N
Pennsylvania	• Dental Assistant • Expanded Functions Dental Assistant (EFDA)	Y	N	N
Rhode Island	• Dental Assistant • DANB Certified Dental Assistant (CDA)	N	N	N
South Carolina	• Dental Assistant • Expanded Duty Dental Assistant (EDDA)	Y	N	N
South Dakota	• Dental Assistant • Advanced Dental Assistant	N	N	N
Tennessee	• Practical Dental Assistant • Registered Dental Assistant (RDA) • Registered Dental Assistant qualified to perform expanded functions	N	N	N
** Texas	• Dental Assistant • Registered Dental Assistant (RDA) • Dental Assistant qualified to perform expanded functions	N	N	Y

STATE	DENTAL ASSISTANT JOB TITLES	RHS	IC	BLS CPR
** Utah	• Dental Assistant	Y	N	Y
Vermont	• Traditional Dental Assistant (TDA) • DANB Certified Dental Assistant (CDA) with state certification • Expanded Functions Dental Assistant (EFDA)	N	N	N
Virginia	• Dental Assistant I (DA I) • Dental Assistant II (DA II)	Y	N	N
Washington	• Registered Dental Assistant • Expanded Functions Dental Auxiliary (EFDA)	N	Y	N
West Virginia	• Dental Assistant • Dental Assistant qualified in expanded functions	N	N	N
Wisconsin	• Dental Assistant	N	N	N
Wyoming	• Dental Assistant	N	N	N

 # Sates that allow dental assistants to perform expanded functions allowable for a dental assistant - 41

 # States that allow or do not expressly prohibit Coronal Polishing - 44

 # States that allow or do not expressly prohibit Fluoride - 45

 # States that allow or do not expressly prohibit Sealants - 38

 # States that recognize or require RHS - 20

 # States that require Infection Control - 3

 # States that require CPR - 5

Appendix O

Ref. #3

Every Smile Counts

The Oral Health of Connecticut's Children

Connecticut Department of Public Health

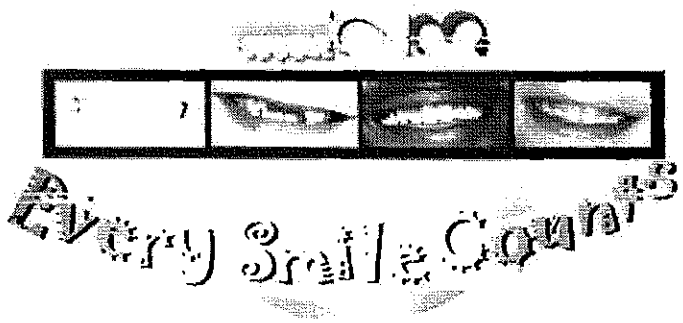
Office of Oral Public Health

410 Capitol Avenue MS #11DNT

Hartford, CT 06134

December 2007

Every Smile Counts
The Oral Health of Connecticut's Children



J. Robert Galvin, M.D., M.P.H., M.B.A.
Commissioner

Norma Gyle, R.N., Ph.D.
Deputy Commissioner

Connecticut Department of Public Health Office of Oral Health
410 Capitol Avenue MS #11DNT
Hartford, CT 06134-0308

http://www.ct.gov/dph

December 2007

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The Oral Health of Connecticut's Children

Table of Contents

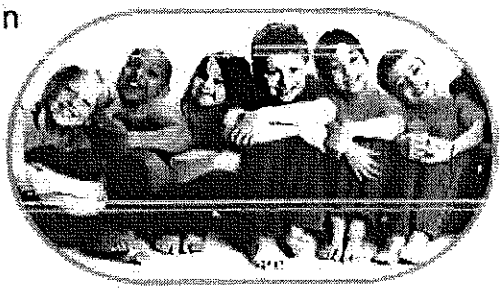
Executive Summary

Dental caries (tooth decay) is an infectious disease process affecting both children and adults. Even though the prevalence of tooth decay has declined in the U.S. over the last 30 years, it remains the most prevalent and yet easily preventable disease known to man. Certain groups suffer disproportionately including both low-income and minority children. Unfortunately, those individuals at highest risk of tooth decay are also the least likely to have access to routine professional dental care. The public perception among many is that tooth decay is a natural and minor occurrence that deserves little attention or dollars. If left untreated, however, tooth decay can lead to needless pain and suffering; difficulty in speaking, chewing, and swallowing; lost school days; increased cost of care; the risk of other systemic health problems; and loss of self-esteem. Additionally, emerging connections have been identified between bacterial infections of the mouth and diabetes, heart disease, and adverse pregnancy outcomes.[1] The good news is that tooth decay is largely preventable through early risk assessment and comprehensive prevention strategies at the community and practice level.

During the 2006-2007 school year, the Connecticut Department of Public Health, Office of Oral Health completed Every Smile Counts, a statewide oral health survey of Connecticut's Head Start and elementary school children. More than 600 children in Head Start and 8,700 children in kindergarten and third grade received a dental screening. Seven key findings were identified.

Key Findings

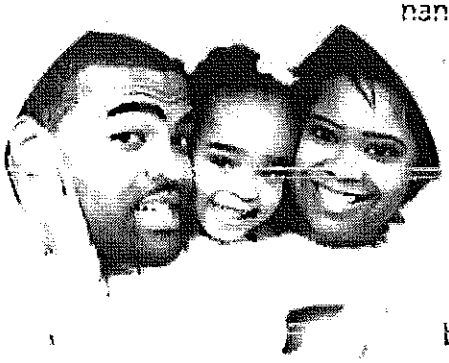
1. Dental decay is a significant public health problem for Connecticut's children.
2. Many children in Connecticut do not get the dental care they need.
3. More than 60 percent of children in Connecticut do not have dental sealants, a well accepted clinical intervention to prevent tooth decay in molar teeth.
4. There are significant oral health disparities in Connecticut with minority and low-income children having the highest level of dental disease and the lowest level of dental sealants.



5. The oral health of Connecticut's children differs by County
6. Connecticut has met the Healthy People 2010 objectives for reducing the prevalence of decay experience and untreated tooth decay among elementary school children, but has not met the Healthy People 2010 objective for increasing the prevalence of dental sealants.
7. Early prevention is essential to reduce the prevalence of early childhood dental caries.

Key Strategies

Several key strategies have been identified to improve the oral health of children in Connecticut:



- Expand comprehensive decay prevention to include pregnant women, infants and toddlers all through the lifespan.
- Provide anticipatory guidance to prevent dental disease to parents in health and social service settings
- Teach parents how to use the dental health care system and advocate for oral health for themselves and their children
- Increase the number of dental insurance (private and public) enrollees who use their annual exam benefits for themselves and their children
- Promote annual dental exams as a minimum standard of dental care, particularly for high-risk children by one year of age
- Increase access to dental insurance for high-risk children and adults.
- Establish access to preschool dental programs and expand community and school-based dental programs.
- Increase the number of dental providers in under-served areas.
- Educate medical care providers about the relationship between oral health and general health
- Build capacity in dental public health.
- Increase the number of dentists participating in public insurance programs.
- Increase the provision of dental sealants in schools, safety nets and private dental practices.
- Develop an ongoing campaign to promote oral health as part of general health and well-being
- Increase private and public sector participation in mobilizing resources and developing policy to pursue and sustain these strategies.

Every Smile Counts Oral Health Survey
The Oral Health of Connecticut's Children
AT-A-GLANCE

Overall — **Oral Health Status**

Decay Experience: 34% of children have decay experience

Untreated Dental Decay: Of those with decay experience, 17% have untreated decay

Rampant Caries: Of those with decay experience, 12 % have rampant decay (5 or more treated or untreated decayed teeth).

Need for Care: 12% of children are in need of treatment.

Grade — **Oral Health Status**

Head Start

Decay Experience
- 31% of Head Start children have experienced dental decay

Untreated Dental Decay:
- Of those with decay experience, 20% have untreated decay.

Rampant Caries:
- Of those with decay experience, 14% have rampant decay.

Need for Care:
- 18% of Head Start children are in need of treatment.

Kindergarten

Decay Experience
27% of kindergarten children have experienced dental decay

Untreated Dental Decay:
- Of those with decay experience, 16% have untreated decay.

Rampant Caries:
- Of those with decay experience, 9% have rampant decay

Need for Care:
- 12% of kindergarten children are in need of treatment.

Third Grade

Decay Experience:
- 41% of third grade children have experienced dental decay

Untreated Dental Decay:
- Of those with decay experience, 18% have untreated decay

Rampant Caries:
- Of those with decay experience, 14% have rampant decay

Need for Care:
- 12% of third grade children are in need of treatment.

Dental Sealants:
- 38% of third graders have dental sealants.

The Importance of Oral Health

Dental caries (tooth decay) is an infectious disease process affecting both children and adults. It is probably the most widespread disease known to man.[2] During childhood, tooth decay is the single most common chronic disease, five times more common than asthma.[3] Tooth decay still affects more than half of all children by the third grade; by the time children finish high school, about 80% have tooth decay.[4] The public perception is largely that tooth decay is a natural and minor occurrence that deserves little attention or dollars.[1] If left untreated, however, tooth decay can lead to difficulty in speaking, chewing, and swallowing, increased cost of care, loss of self-esteem, needless pain, and lost school days.

Former Surgeon General David Satcher, 2000

The results of not treating decay[5]

- **Pain:** Dental decay can hurt a lot and hurt constantly. Many children do not know that teeth are not supposed to hurt.

- **Infection:** Infected teeth are reservoirs of bacteria that flood the rest of the body, leaving the child prone to many other childhood infections, including ear infections and sinus infections. Antibiotic therapy is often not successful for other infections when dental decay is not treated.

- **Nutrition Problems:** Chronically painful and infected teeth make chewing and swallowing an uncomfortable and difficult chore. Children with dental disease often do not get the nutrition they need to grow.

- **Tooth loss:** Chronic childhood dental disease often makes children's "baby" teeth fall out before their adult teeth are ready to take their place.

- **Sleep deprivation:** Children with chronically painful teeth have trouble getting a good night's sleep.

- **Attention problems:** Children with infected and painful teeth have a hard time relaxing, sitting still and paying attention in class.

Slower social development: Ugly or missing teeth can make it difficult to talk and can greatly effect a child's self esteem. When a child's front teeth are damaged or missing in their very crucial early years of development, they often can't form words correctly and tend to retreat into shyness and silence.

Missed school days: Children with infected and painful teeth miss more school days than other children, again disrupting their educational and social experiences and cost school districts money.

In 1996, children between 5 to 17 years of age missed 1,611,000 school days due to acute dental problems - an average of 3.1 days per 100 students.[6]

The mouth reflects general health and well-being. Recent studies point to associations between oral diseases and diabetes; heart disease; stroke; and preterm, low-weight births.

The Importance of Oral Health

While the prevalence and severity of tooth decay has, in fact, declined among U.S. school-aged children, it remains a significant problem in some populations - particularly certain racial and ethnic groups and low-income children.[7]

National data indicate that 80% of tooth decay in children is concentrated in 25% of the child population, with low-income children and racial/ethnic minority groups having more untreated decay than the U.S. population as a whole.[8]

We hope that by recognizing and understanding the oral health needs of Connecticut's children, we will be able to contribute to policies that will ensure all children receive the oral health care they need. The answers to effective policies to protect children's oral health lie in a few sound principles outlined in the 2000 Oral Health in America: A Report of the Surgeon General. Some of the approaches to promote oral health include:

Change perceptions regarding oral health and disease so that oral health becomes an accepted component of general health.

Build an effective oral health infrastructure that meets the oral health needs of all Americans and integrates oral health effectively into overall health.

Remove known barriers between people and oral health services.

Use public-private partnerships to improve the oral health of those who still suffer disproportionately from oral diseases.

This survey demonstrates that Connecticut still has many barriers to overcome to improve the oral health of Connecticut's children. We are seeing more dental disease among children, and we need more effective ways to provide essential preventive and restorative services. In order to reverse these trends, we need to mobilize resources, including both public and private health care sectors.

The Oral Health of Connecticut's Children

To describe the oral health of Connecticut's children, the Department of Public Health, Office of Oral Health conducted Every Smile Counts, a statewide oral health survey. During the 2006-2007 school year, two different groups of children were screened; (1) kindergarten and third grade children enrolled in public elementary schools and (2) low-income preschool children enrolled in Head Start. More than 600 children in Head Start and 8,700 children in kindergarten and third grade were screened. Detailed information on the design of the 2006-2007 oral health survey can be found in the Survey Methods section of this report.

Findings from Every Smile Counts have been organized into the following seven key findings. These findings highlight the current oral health of Connecticut's children and disparities in oral health within Connecticut.

Dental decay is a significant public health problem for Connecticut's children.

Many children in Connecticut do not get the dental care they need.

More than 60 percent of third grade children in Connecticut do not have dental sealants, a well-accepted clinical intervention to prevent tooth decay in molar teeth.

There are significant oral health disparities in Connecticut with minority and low-income children having the highest level of dental disease and the lowest level of dental sealants.

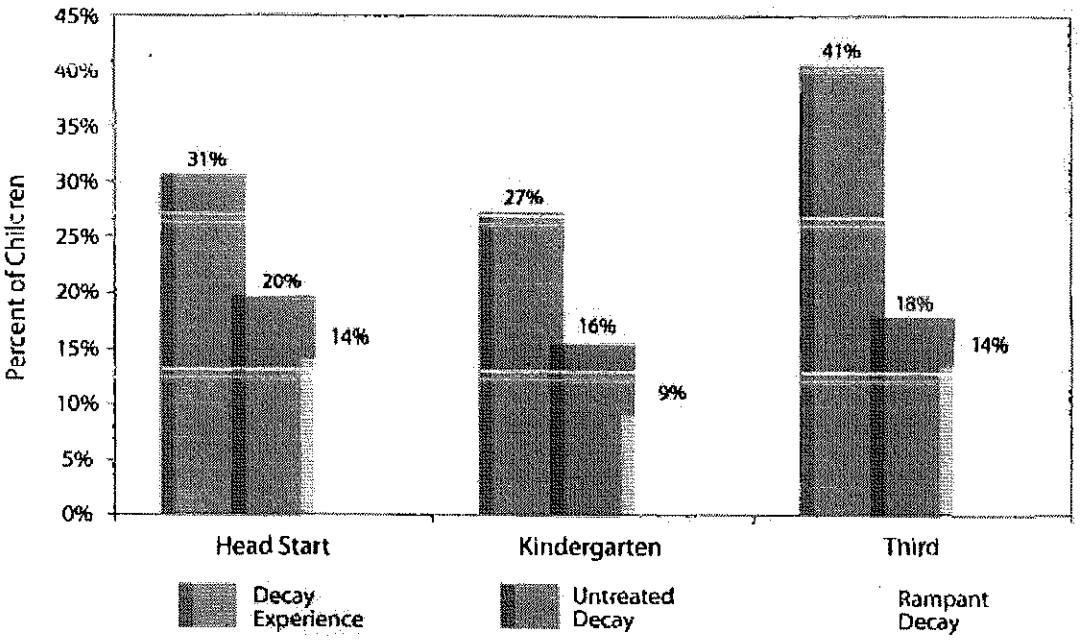
The Oral health of Connecticut's children differs by County.

Connecticut has met the Healthy People 2010 objectives for reducing the prevalence of decay experience and untreated tooth decay among elementary school children, but has not met the Healthy People 2010 objective for increasing the prevalence of dental sealants.

Early prevention is essential to reduce the prevalence of early childhood dental caries.

Key Finding #1: Dental Decay Is A Significant Public Health Problem For Connecticut's Children

Percent of Connecticut Children with Decay Experience and Untreated Tooth Decay, 2006-2007

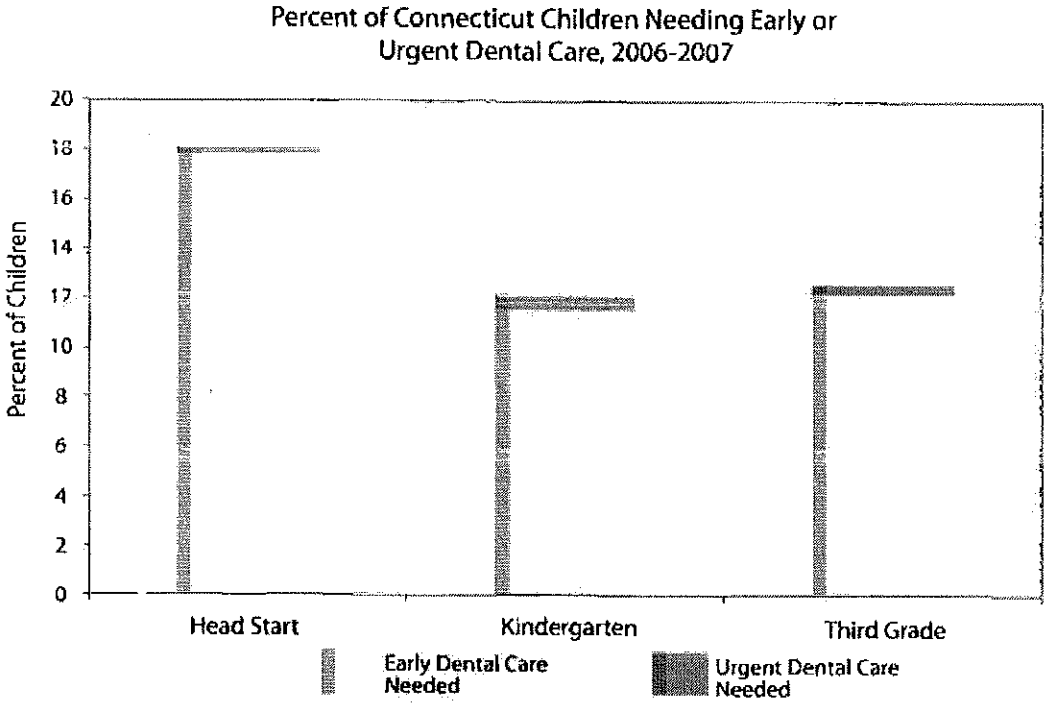


Note: Untreated decay and rampant decay are subsets of decay experience

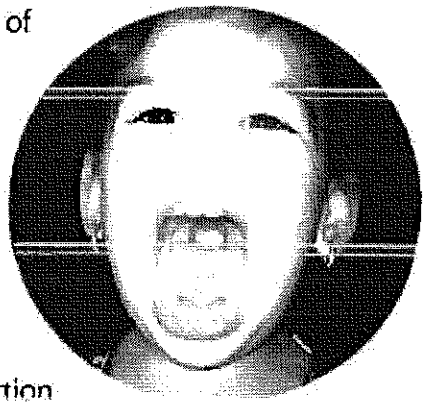
Decay experience means that a child has had tooth decay in the primary (baby) and/or permanent (adult) teeth in his or her lifetime. Decay experience can be past (fillings, crowns, or teeth that have been extracted because of decay) or present (untreated tooth decay or cavities). In Connecticut, over 30% of the 3 to 5 year old children in HeadStart already have decay experience and 1 out of 5 have untreated tooth decay. By third grade, more than 40% of Connecticut's children have experienced tooth decay and more than 1 out of 6 have untreated tooth decay, and 14% have rampant decay.

Untreated tooth decay hurts, and it introduces infection into the body, but it does more than that. Left untreated, tooth decay often has serious consequences, including needless pain and suffering, difficulty chewing (which compromises children's nutrition and can slow their development), difficulty speaking (which can slow their intellectual and social development), and lost days in school.[9]

Key Finding #2: Many Children In Connecticut Do Not Get The Dental Care They Need.



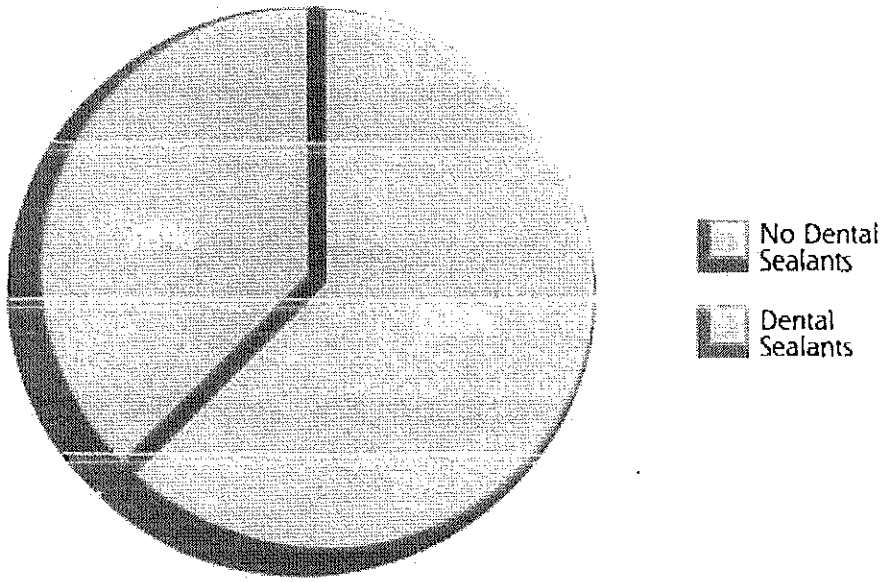
Eighteen percent of the Head Start children and about 12% of the elementary school children screened had a need for dental care with about 1% needing urgent dental care because of pain or infection. In 2006-2007 there were about 85,000 kindergarten and 3rd grade children in Connecticut. If 1% are in urgent need of dental care, this means that 850 kindergarten and 3rd grade children are in the classroom in pain or with an oral infection. That's just those two grades. If this percentage is extrapolated to all elementary school children in Connecticut, about 3,000 children may need urgent dental care because of pain or infection.



For the Every Smile Counts Survey we did not do complete diagnostic dental examinations. We did dental screenings - "Say 'Ah,'" a look inside with a dental mirror, a set of questions, no x-rays, none of the more advanced diagnostic tools. So we probably missed some problems. It is reasonable to assume that these numbers actually underestimate the proportion of children needing dental care.

Key Finding #3: More Than 60 Percent of Third Grade Children in Connecticut Do Not Have Dental Sealants, a Well Accepted Clinical Intervention to Prevent Tooth Decay on Molar Teeth.

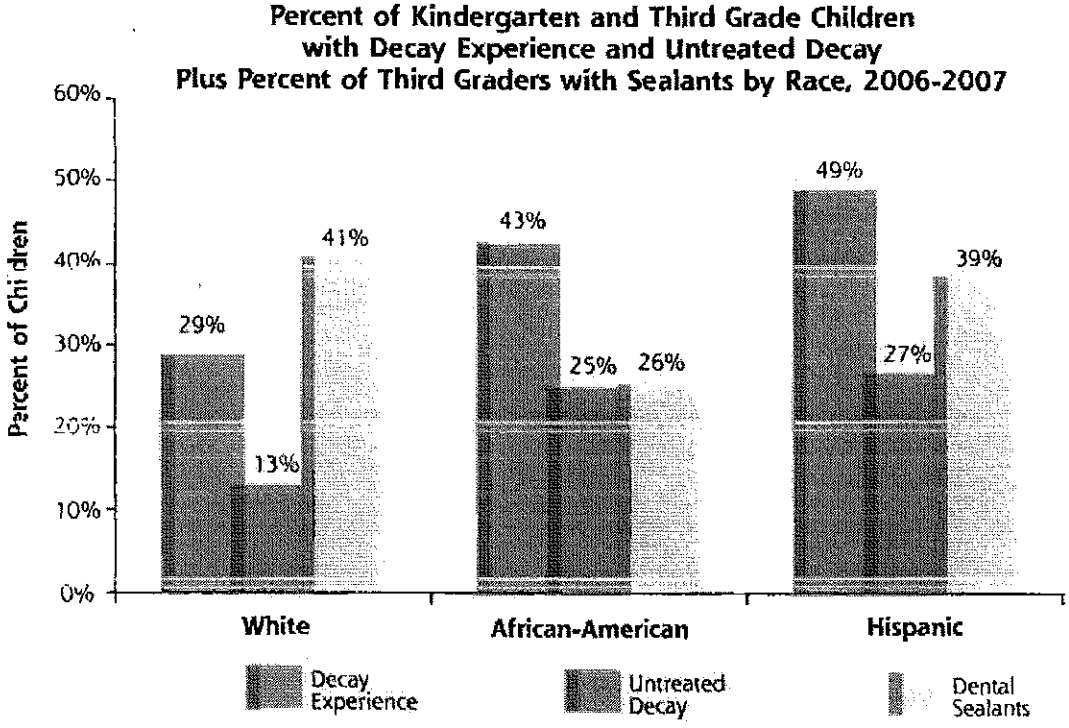
Percent of Connecticut's Third Grade Children with Dental Sealants, 2006-2007



Dental sealants are a plastic coating applied to the chewing surfaces of the back teeth. They are a safe, effective way to prevent tooth decay among schoolchildren. Sealants have been shown to significantly reduce a child's risk for having untreated decay. In some cases, sealants can even stop tooth decay that has already started.[10] In Connecticut, only 38% of the third grade children screened had dental sealants.

Note: Kindergarten children were not screened for dental sealants.

Key Finding #4: There Are Significant Oral Health Disparities in Connecticut With Minority and Low-income Children Having the Highest Level of Dental Disease and the Lowest Level of Dental Sealants.

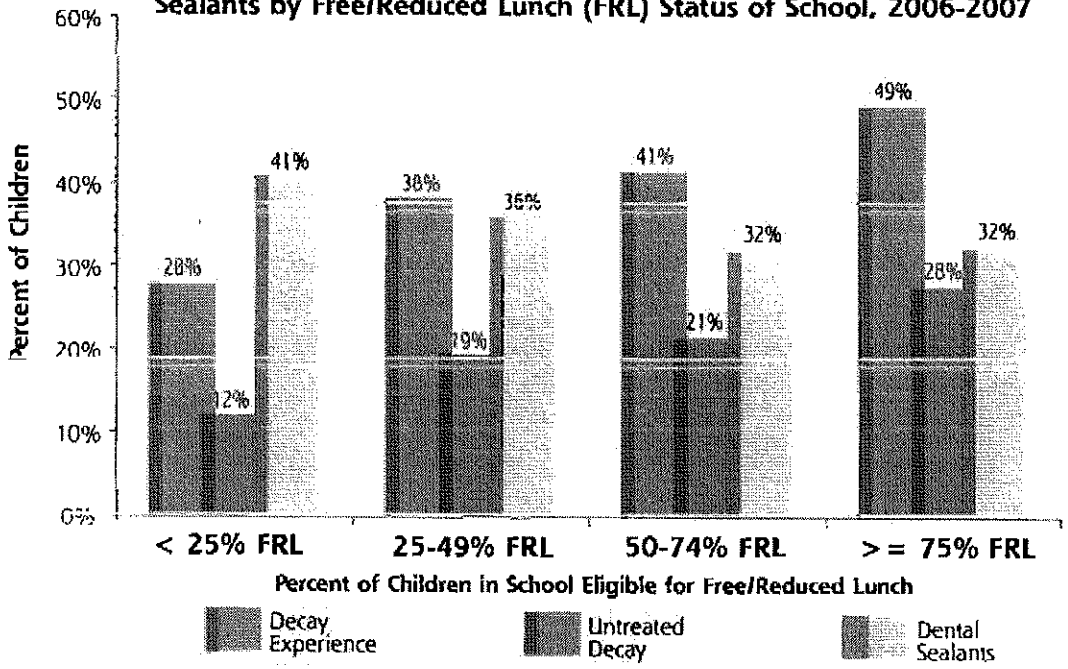


In Connecticut, African American and Hispanic children are more likely to have decay experience and untreated decay when compared to non-Hispanic white children. In fact, the prevalence of untreated decay is twice as high among minority children. Minority children, especially African-American children, are less likely to have the benefit of dental sealants.

Oral health disparities between racial/ethnic groups in Connecticut are further affected by socioeconomic status. Eighty-one percent of the children in the higher income schools were white non-Hispanic while only 10 percent of the children in the lower income schools were white non-Hispanic.

Key Finding #4: (Cont.): There Are Significant Oral Health Disparities in Connecticut With Minority and Low-income Children Having the Highest Level Of Dental Disease and the Lowest Level of Dental Sealants.

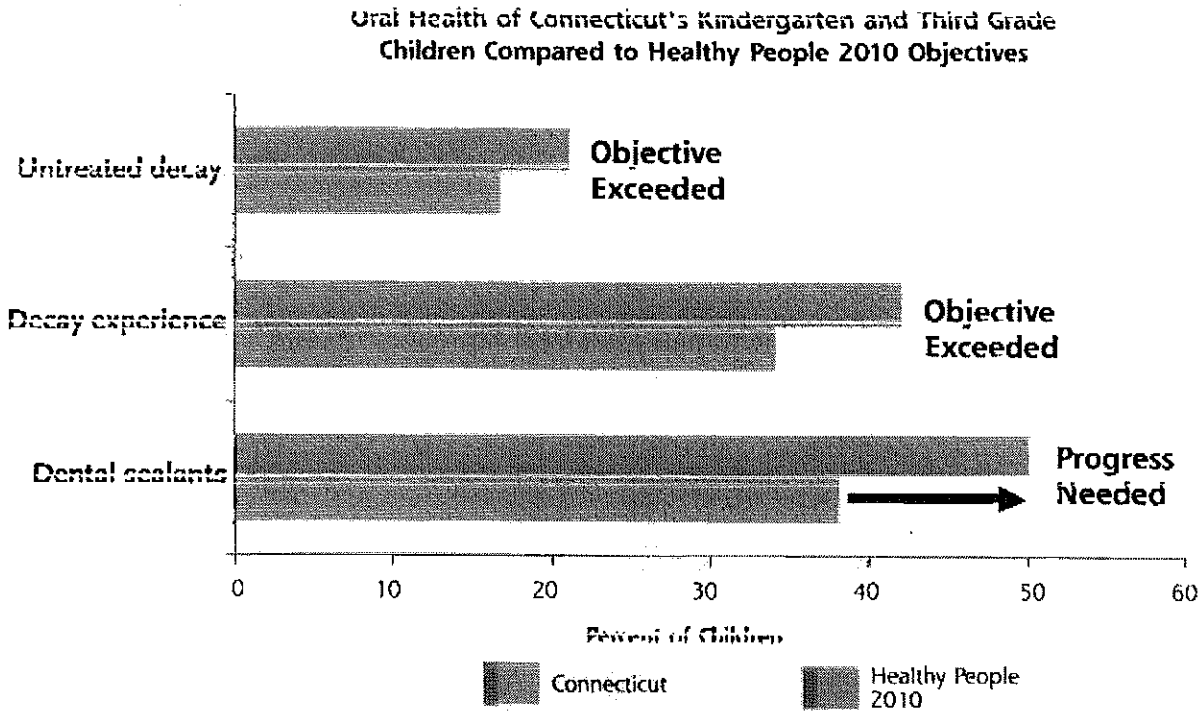
Percent of Kindergarten and Third Grade Children with Decay Experience and Untreated Decay Plus Percent of Third Graders with Sealants by Free/Reduced Lunch (FRL) Status of School, 2006-2007



Eligibility for the free and/or reduced price lunch (FRL) program is often used as an indicator of overall socioeconomic status. To be eligible for the FRL program during the 2006-2007 school year, annual family income for a family of four could not exceed $37,000.[11] Information on an individual child's participation in the FRL program was not available; however, the percentage of children participating in the FRL program in each school was known. Compared to children from "higher income" schools (< 25%), children in schools where 25 percent or more of children participate in the FRL program had a significantly higher prevalence of decay experience and untreated decay. Although third grade children in lower income schools were less likely to have dental sealants, the difference was not statistically significant.

If you are a child in Connecticut, the poorer you are, the more likely it is that your teeth hurt – and it is especially likely if you are African-American, Hispanic, or a member of some other racial or ethnic minority.

Key Finding #5: Connecticut Has Met the Healthy People 2010 Objectives For Reducing The Prevalence of Decay Experience and Untreated Tooth Decay Among Elementary School Children, But Has Not Met the Healthy People 2010 Objective For Increasing the Prevalence of Dental Sealants.

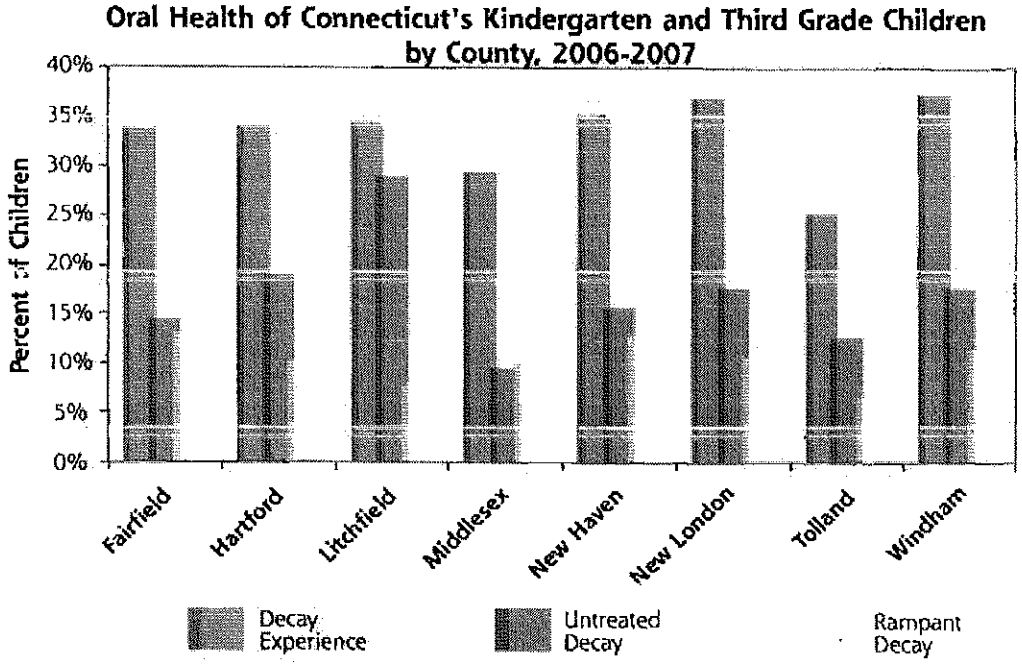


Healthy People 2010 outlines several oral health status objectives for elementary school children. These include:

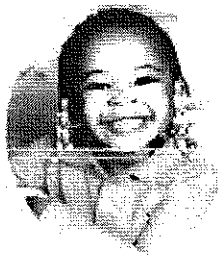
Decrease the proportion of 6-8 year olds with untreated tooth decay to 21%.
Decrease the proportion of 6-8 year olds with decay experience to 42%.
Increase the proportion of 8 year olds with dental sealants to 50%.

Connecticut has met the Healthy People 2010 objectives for both decay experience and untreated decay but must make substantial progress to meet the objective for preventive dental sealants. Dental sealants are a covered service under Medicaid/SCHIP Programs in Connecticut affording availability of sealants to low income children. Most private dental insurers also cover sealants. Both education of providers and patients about the effectiveness of dental sealants and better accessibility to sealants through school programs will increase the number of children receiving dental sealants. Children are 4 times more likely to receive dental sealants in schools where school dental sealant program exists.[12]

Key Finding #6: The Oral Health Of Connecticut's Children Differs By County



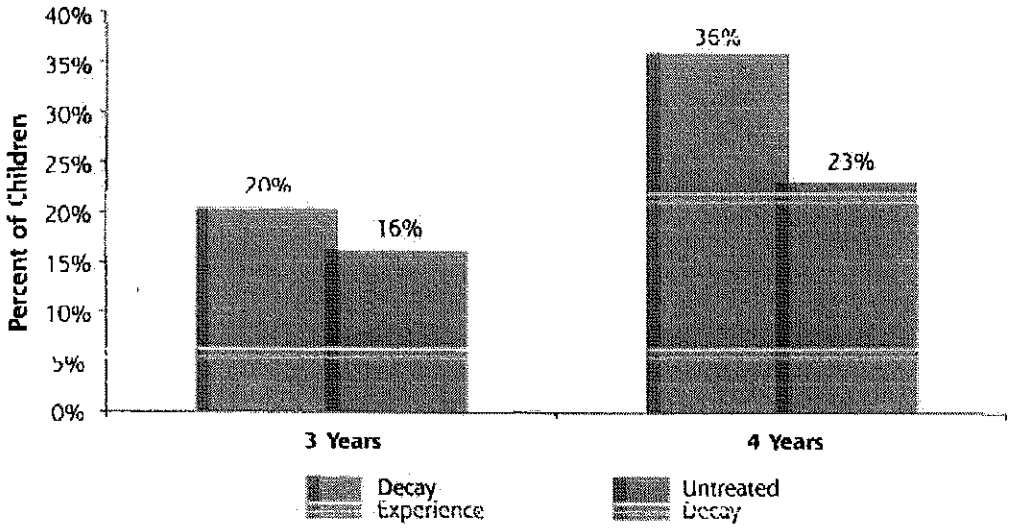
Information on the oral health status of Connecticut's kindergarten and third grade children by county is presented in the Data Tables section of this report. Middlesex County had the lowest prevalence of untreated decay (10%) while Litchfield County had the highest prevalence (29%) (See Table 1.15) Among the third grade children, New Haven County had the lowest prevalence of dental sealants (27%) and New London the highest (45%). (See Table 1.14)



Windham had the smallest difference between white (37%) and nonwhite (40%) children for caries experience next to Litchfield and Middlesex Counties. Hartford County had the largest difference (white 28%, nonwhite 45%) next to Fairfield and New Haven Counties (See Tables 1.16A and 1.16B).

Key Finding #7: Early prevention is essential to reduce the prevalence of early childhood dental caries.

Oral Health of Head Start Children by Age, 2006-2007



If we want to eradicate dental disease in Connecticut's children, we have to get them started right with early prevention efforts. Look at the graph: More than 20% of 3-year old Head Start children in Connecticut already have decayed teeth - and the percentage with a history of decay rises with age. To prevent this infectious disease from occurring and spreading, we have to start before the age at which children already have the disease. That means, the medical and dental professions must focus dental disease prevention efforts on children less than 2 years of age because two is too late. The American Dental Association, the American Academy of Pediatric Dentistry and the American Academy of Pediatrics all recommend preventive dental care by age one and parent education.

The American Academy of Pediatric Dentistry recommends several strategies, focused on the mother (or the primary caregiver) and the infant.[12] Mothers need to learn about: the use of fluoride in water and toothpaste, oral hygiene starting in infancy, proper diet, treatment of decay, and how cavity-causing bacteria get transmitted from mother to child.

For high-risk children, dental decay prevention strategies should be an integral part of health care messages given by physicians, particularly pediatricians, nurses, health department staff, teachers, health educators, and day-care providers.

Oral Health Resources in Connecticut

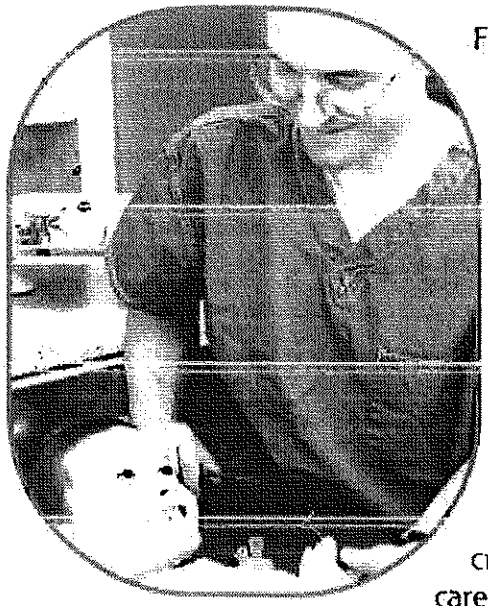
Connecticut is in an excellent position to make long lasting and profound improvements in the oral health status of children. Recent initiatives concerning oral health in the state include:

The development the Oral Health Improvement Plan 2007-2012

Allocation of state bond funds to expand dental facilities across the state to provide care to under-served populations

Increased funding to community and school-based health centers to include oral health services.

Increase funding to improve reimbursement rates for dental providers that accept Medicaid



The establishment of eight community-based Oral Health Collaboratives to implement action plans to improve oral health in the towns and regions they serve.

Federal funding to educate parents, and medical providers about the importance of oral health

Model medical/dental home initiative to increase age one dental visits for at risk children

Establishment of an ABC Program to reimburse physicians to conduct oral disease prevention services including fluoride varnish application.

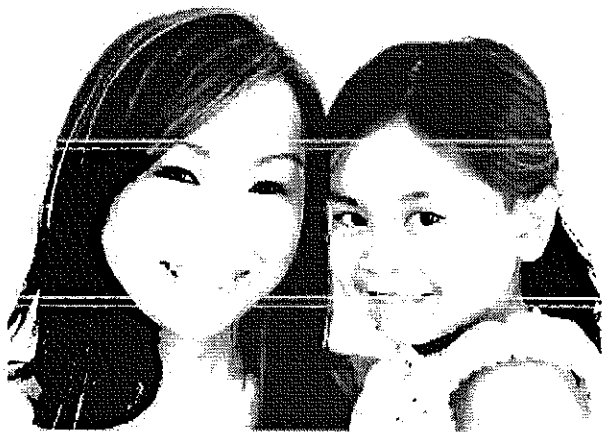
In 2006, there were 3,121 dentists with a Connecticut license. Connecticut does not suffer from an inadequate supply of dentists; however, dentists are not adequately distributed to serve all populations in need. Approximately 12% of towns (more than 60,000 residents) in Connecticut have no professionally active dentists and almost 45% of towns in Connecticut have five or fewer dentists.

Fifteen (15) percent of dentists in 2005 accepted Medicaid and 595 dentists had at least one paid claim during that period. The number of professionally active dentists has stopped growing and, since 1991, has started to decline. The demand for dental services is strong, and this has caused significant increases in private dental fees. Because of continued decreases in numbers of dentists and increases in fees, access to dental care is likely to become more difficult for the entire population, particularly for the working poor, ethnic and racial minorities, the elderly, children and those with public dental insurance.[14]

In 2007, there were 22 dental clinics associated with community health centers located in 18 of the 169 towns. In 9 towns in the state, there are 17 school-based dental clinics and 13 freestanding dental clinics that provide care to students. While dental services is also available through the use of mobile vans and portable dental equipment, the degree to which dental services are offered within these modalities varies from only preventive services to comprehensive care.

Patients

Several key strategies have been identified to improve the oral health of children in Connecticut:



Patients

Expand comprehensive decay prevention to include pregnant women, infants and toddlers through the lifespan.

Provide anticipatory guidance to parents to prevent dental disease in health and social service settings.

Teach parents how to use the dental health care system and advocate for oral health for themselves and their children.

Increase the number of dental insurance (private and public) enrollees who utilize their annual exam benefits for themselves and their children.

Several key strategies have been identified to improve the oral health of children in Connecticut:

Providers

Increase the number of dental providers in under-served areas.

Educate non-dental health care providers about the relationship of oral health and general health and their role in oral health prevention.

Increase the number of dentists participating in Medicaid/SCHIP

Increase the number of dentists that have skills in treating young children and vulnerable groups.

Increase the number of dental professionals providing dental sealants.

Several key strategies have been identified to improve the oral health of children in Connecticut:

Systems

Develop preschool dental programs and expand the number of dental programs in community and school-based centers.

Promote annual dental exams as a minimum standard of dental care, particularly for high-risk children by one year of age.

Increase access to dental insurance for high risk children and their parents.

Increase the provision of dental sealants in schools and safety nets.

Build capacity in dental public health at the state and local levels.

Develop an ongoing campaign to promote oral health as part of general health and well-being.

Table 1.1
Elementary School Participation in Oral Health Survey

	Number of Schools	Number Enrolled	Number Screened	Response Rate
Sample Schools	78	11,113	8,755	78.8%
Participating Schools	76	10,843	8,755	80.7%

*Source: The number of children enrolled in each participating schools was obtained from the school on the day of the screening. The enrollment figure for the non-participating schools was obtained from the Connecticut State Department of Education's website (accessed 05-15-07).

www.csde.state.ct.us/public/cedar/edfacts/enrollment/enrollment_public_pk_to_g12_by_school_by_district_2006.xls

Table 1.2
Enrollment, Free/Reduced Lunch Program Participation, and Race/Ethnicity of Children in Connecticut Elementary Schools in Sampling Frame, Sample Schools and Participating Schools

	K & 3rd Grade Enrollment	Percent on FRL	Percent White	Percent Hispanic	Percent African-American	Percent Other Race
CT Schools in Sampling Frame (n=634)	84,816	35.0	63.5	17.2	15.1	4.1
Sample Schools (n=78)	11,113	35.4	66.5	16.2	13.2	4.0
Participating Schools (n=76)	10,843	36.7	66.2	16.9	13.0	3.9

Source: The number of children enrolled in the participating schools was obtained from the school on the day of the screening. All other data was obtained from Connecticut State Department of Education (2004-2005 School Year).

Survey Methods

Every Smile Counts sampled children in Head Start, kindergarten and third grade. The survey methods were developed to collect statewide and regional data only.

For Head Start, 20 centers were randomly selected using implicit stratification by county. For the elementary school survey, all public elementary schools with at least 25 children in kindergarten and/or third grade were included in the sampling frame (634 schools with 41,810 kindergarten and 43,006 3rd grade students). The sampling frame was stratified by county then ordered within each county by percent of children that participate in the free/reduced school lunch (FRL) program. In Fairfield, Hartford, New Haven, and New London Counties, 10 percent of the schools were selected. For Litchfield, Middlesex, Tolland, and Windham Counties, 6 schools per county were selected.

If a school refused to participate, a replacement school within the same sampling strata was randomly selected. If the sample school plus the replacement school refused to participate, no data were collected in that sampling stratum. Of the 78 elementary school strata, data are available for 76.

Letters in English and Spanish were sent home to parents explaining the goals of the survey. Parents were asked to return signed forms only if they did not want their child to be surveyed.

All children enrolled and present on the day of the screening were examined unless a parent/guardian returned a consent form specifically requesting that the child not take part in the survey.

Dental hygienists completed the screenings using gloves, penlights, and disposable mouth mirrors. The diagnostic criteria outlined in the Association of State and Territorial Dental Director's publication *Basic Screening Surveys: An Approach to Monitoring Community Oral Health* were used. The screeners attended a full-day training session, which included a didactic review of the diagnostic criteria along with a visual calibration session.

Information on age was obtained from the child or the child's teacher while the screener determined gender and race.

The data were adjusted to account for the complex sampling scheme and non-response. Data analysis was completed using SAS and Epi Info.

Table 1.3
Age, Gender, and Race/Ethnicity of Kindergarten & 3rd Grade Children Screened

Variable	Kindergarten	Third Grade	Kindergarten & 3rd Grade
Number Screened	**4,315**	**4,440**	**8,755**
Age			
Mean	5.2	8.3	6.8
Median	5 years	8 years	8 years
Mode	5 years	8 years	5 years
Range	4-7 years	7-11 years	4-11 years
Gender			
% Male	51.3	52.4	51.8
% Female	48.7	47.6	48.2
Race/Ethnicity+			
% White	63.2	64.2	63.7
% Black	10.7	10.7	10.7
% Hispanic	9.8	9.8	9.8
% Asian	2.0	1.9	2.0
% American Indian	0.1	0.2	0.1
% Other/Unknown	14.2	13.1	13.6

+ Race/ethnicity was determined by the screener.

Table 1.4
Oral Health Status of Connecticut's Kindergarten & 3rd Grade Children

Variable	Number Screened	Percent	95% CI
% caries free	8,755	65.9	63.1 – 68.6
% with caries experience - primary and/or permanent teeth	8,755	34.1	31.4 – 36.9
% with untreated decay	8,755	16.7	14.2 – 19.1
% with rampant caries	8,755	11.5	9.9 – 13.0
Treatment Need	8,755		
% with no obvious problem		87.6	85.5 – 89.7
% needing early dental care		11.8	9.8 – 13.9
% needing urgent dental care		0.5	0.3 -0.7

Table 1.5
Oral Health Status of Connecticut's Kindergarten & 3rd Grade Children Stratified by Grade

	Kindergarten		3rd Grade	
	Number	Percent	Number	Percent
% caries free	4,315	72.7	4,440	59.4
% with caries experience – primary and/or permanent teeth	4,315	27.3	4,440	40.6
% with caries experience - permanent teeth	NA	NA	4,440	9.7
% with untreated decay – primary and/or permanent teeth	4,315	15.5	4,440	17.8
% with untreated decay – permanent teeth	NA	NA	4,440	17.8
% with rampant caries	4,315	9.1	4,440	13.6
% with dental sealants	NA	NA	4,440	38.1
Treatment Need				
% with no obvious problem		87.8		87.5
% needing early dental care	4,315	11.6	4,440	12.1
% needing urgent dental care		0.6		0.5

NA – Not applicable, most kindergarten children do not have permanent teeth

Table 1.6
Oral Health Status of Connecticut's Kindergarten & 3rd Grade Children Stratified by Age*

	5 Years (n=3,390)	6 Years (n=884)	8 Years (n=3,117)	9 Years (n=1,245)
% caries free	73.6	70.4	61.4	55.3
% with caries experience – primary and/or permanent teeth	26.4	29.6	38.6	44.7
% with caries experience – permanent teeth	NA	NA	7.8	13.4
% with untreated decay – primary and/or permanent teeth	15.4	14.8	16.3	20.6
% with untreated decay – permanent teeth	NA	NA	2.3	4.5
% with rampant caries	8.4	11.3	12.5	16.0

* Note: The sample was designed to be representative of grade not age; these data should be viewed with caution.
NA = Not applicable; most 5 and 6 year old children do not have permanent teeth

Table 1.7
Oral Health Status of Connecticut's Kindergarten Children Stratified by Race/Ethnicity Percent of Children

Variable	White (n=2,727)	African American (n=462)	Hispanic (n=422)	Asian (n=87)	Other /Unknown (n=613)
% with caries experience	22.4	35.3*	35.1*	34.3	33.6*
% with untreated decay	11.9	22.2*	21.9*	17.8	19.6
% with rampant caries	5.5	13.3*	14.7*	17.7*	15.1*
% needing treatment	9.4	17.4*	16.7*	14.3	15.4

* Significantly different ($p < 0.05$) from white children

Table 1.8
Oral Health Status of Connecticut's Third Grade Children Stratified by Race/Ethnicity Percent of Children

Variable	White (n=2,852)	African American (n=476)	Hispanic (n=437)	Asian (n=86)	Other /Unknown (n=581)
% with caries experience – primary and/or permanent	34.7	49.9*	62.9*	49.6*	42.1
% with caries experience – permanent teeth	7.5	13.5*	17.8*	7.5	11.3
% with untreated decay – primary and/or permanent	14.0	27.7*	31.6*	19.7	16.2
% with untreated decay – permanent teeth	2.5	6.4	4.0	2.9	2.1
% with rampant caries	10.0	19.5*	24.0*	18.5	17.3*
% with dental sealants	40.9	25.5*	38.8	44.7	35.0
% needing treatment	8.8	22.1*	24.9*	16.4	12.2

* Significantly different ($p < 0.05$) from white children

Table 1.9
Oral Health Status of Connecticut's Kindergarten and Third Grade Children Stratified by Race/Ethnicity Percent of Children

Variable	White (n=5,579)	African American (n=938)	Hispanic (n=859)	Asian (n=173)	Other/ Unknown (n=1,194)
% with caries experience	28.9	42.8*	49.3*	42.0*	37.8*
% with untreated decay	13.0	25.0*	26.9*	18.8	18.0
% with rampant caries	7.9	16.4*	19.5*	18.1*	16.2*
% needing treatment	9.1	19.8*	20.9*	15.3	13.8

* Significantly different ($p < 0.05$) from white children

Table 1.10
Oral Health Status of Connecticut's Kindergarten Children Stratified by Free/Reduced Lunch (FRL) Status of School

	"Higher Income" < 25% FRL (n=2,371)	25-49% FRL (n=831)	50-74% FRL (n=601)	"Lower Income" > 75% FRL (n=512)
% white	81.2	57.4	30.9	11.9
% with caries experience	20.6	31.6*	36.3*	38.1*
% with untreated decay	10.2	20.7*	19.5	25.3*
% with rampant decay	5.1	11.2*	15.5*	15.5*

* Significantly different ($p < 0.05$) from the higher income schools

Table 1.11
Oral Health Status of Connecticut's Third Grade Children Stratified by Free/Reduced Lunch (FRL) Status of School

	"Higher Income" < 25% FRL (n=2,722)	25-49% FRL (n=1753)	50-74% FRL (n=362)	"Lower Income" > 75% FRL (n=603)
% white	81.6	59.9	20.3	9.0
% with caries experience – primary and/or permanent	33.8	45.6*	49.8*	58.6*
% with caries experience – permanent teeth	7.4	11.3	15.5	4.3*
% with untreated decay – primary and/or permanent	14.1	18.0	24.6	29.5*
% with untreated decay –permanent teeth	2.3	2.3	5.4	5.6
% with rampant decay	10.2	17.4*	18.6*	21.5*
% needing treatment	8.4	15.7*	20.8*	21.9*
% with dental sealants	41.0	35.8	31.8	32.2

*Significantly different ($p < 0.05$) from the higher income schools

Table 1.12
Oral Health Status of Connecticut's Kindergarten and Third Grade Children Stratified by Free/Reduced Lunch (FRL) Status of School

	"Higher Income" < 25% FRL (n=5,093)	25-49% FRL (n=1,584)	50-74% FRL (n=963)	"Lower Income" > 75% FRL (n=1,115)
% white	81.4	58.6	26.8	10.3
% with caries experience	27.9	38.3*	41.4*	49.2*
% with untreated decay	12.3	19.4*	21.4	27.6*
% with rampant decay	7.9	14.2*	16.7*	18.8*
% needing treatment	7.9	17.8*	17.6*	20.0*

*Significantly different ($p < 0.05$) from the higher income schools

Table 1.13
Oral Health Status of Connecticut's Kindergarten Children Stratified by County

	Fairfield (n=925)	Hartford (n=830)	Litchfield (n=231)	Middlesex (n=365)	New Haven (n=1,050)	New London (n=242)	Tolland (n=381)	Windham (n=291)
% with caries experience	26.3	24.9	33.4	22.9	30.6	28.5	19.8	27.9
% with untreated decay	12.8	15.1	29.9	8.1	16.5	20.0	12.0	18.5
% with rampant caries	10.0	6.3	5.0	5.8	12.7	7.8	5.4	9.4
% needing treatment	13.0	9.5	14.0	5.5	13.6	17.4	11.2	9.3

Table 1.14
Oral Health Status of Connecticut's Third Grade Children Stratified by County

Variable	Fairfield (n=1,126)	Hartford (n=942)	Litchfield (n=343)	Middlesex (n=323)	New Haven (n=854)	New London (n=268)	Tolland (n=272)	Windham (n=312)
% with caries experience - primary and/or permanent	40.2	42.1	35.1	36.9	40.7	43.8	32.5	45.5
% with caries experience - permanent teeth	11.5	8.7	8.7	6.9	11.0	6.3	6.0	6.3
% untreated decay primary and/or permanent	15.8	22.6	28.2	11.2	14.7	15.7	13.6	16.8
% needing treatment - permanent teeth	2.5	4.6	7.6	1.6	2.0	1.5	1.9	1.4
% with rampant caries	15.7	13.4	9.5	15.0	12.9	13.1	8.6	13.1
% with dental sealants	42.8	39.4	41.3	38.1	27.2	45.1	37.0	38.4
% needing treatment	12.6	13.2	12.7	8.0	12.9	11.0	13.3	11.4

Table 1.15
Oral Health Status of Connecticut's Kindergarten and Third Grade Children Stratified by County

Variable	Fairfield (n=2,051)	Hartford (n=1,772)	Litchfield (n=574)	Middlesex (n=688)	New Haven (n=1,904)	New London (n=510)	Tolland (n=653)	Windham (n=603)
% white	54.9	62.4	83.3	75.9	49.8	68.6	91.9	74.8
% of children in schools - with <25% students in FRL	55.2	61.2	74.7	73.8	39.8	63.1	88.4	46.9
% with caries experience	33.9	34.1	34.4	29.3	35.3	36.9	25.2	37.4
% with untreated decay	14.4	19.1	28.9	9.5	15.7	17.6	12.7	17.6
% with rampant caries	13.1	10.1	7.8	10.0	12.8	10.7	6.7	11.4
% needing treatment	12.8	11.5	13.2	6.7	13.3	13.9	12.1	10.4

Table 2.1
Head Start Participation in the Connecticut Oral Health Survey

	Number of Sites	Enrollment	Number Screened	Response Rate
All Head Start Sites in Connecticut	114	6,476	NA	NA
Participating Sites	70	893	609	68.2%

Table 2.2
Age, Gender, and Race/Ethnicity of the Head Start Children

Variable	Number of Children With Valid Data	Mean or Percent
Age		
Mean	609	3.8
Median		4 years
Mode		4 years
Range		2-5 years
Gender		
% Male	609	49.6
% Female		50.4
Race/Ethnicity +		
% White	609	16.6
% Black		24.8
% Hispanic		32.5
% Asian/Pacific Islander		0.2
% American Indian		0.0
% Other/Unknown		25.9

+ Race/ethnicity was determined by the screener or obtained from the teacher

Table 2.4
Oral Health Status of Connecticut's Head Start Children Stratified by Age Percent of Children

	3 Years (n=192)	4 Years (n=334)
% caries free	79.7	64.1
% with caries experience	20.3	35.9
% with untreated decay	16.1	23.1
% with rampant decay	8.9	15.0
% needing dental treatment	15.1	21.0

Table 2.5
Oral Health Status of Connecticut's Head Start Children Stratified by Race/Ethnicity - Percent of Children

	White (n=101)	African American (n=151)	Hispanic (n=198)	Other/ Unknown (n=158)
% with caries experience	21.4	30.6	27.2	41.2
% with untreated decay	11.0	22.7	17.3	24.2
% with rampant caries	6.1	17.1	11.6	18.8
% needing treatment	11.0	21.8	16.5	20.4

Table 2.6
Oral Health Status of Connecticut's Head Start Children Stratified by Race/Ethnicity

Variable	White Non-Hispanic (n=101)		Minority, Other & Unknown (n=508)	
	Percent	95% CI	Percent	95% CI
% with caries experience	21.4	11.5 – 31.2	32.2	25.0 – 39.4
% with untreated decay	11.0	3.3 – 18.8	21.0	16.9 – 25.0
% with rampant caries	6.1	1.6 – 10.5	15.4	8.1 – 22.7
% needing treatment	11.0	3.3 – 18.8	19.3	15.0 – 23.6

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Definitions of Terms

Caries - A dental disease process that can result in tooth decay (cavity).

Decay Experience - The presence of an untreated cavity, a filling or a permanent molar tooth that is missing because it was extracted as a result of caries.

Dental Sealants - Transparent or opaque plastic coatings on the tops of first permanent molar teeth.

FRL - Free and Reduced Lunch Program available in schools to eligible children.

Need for Care - Caries (dental decay) without any signs of pain, swelling, and infections.

Rampant Caries - Five or more teeth that are untreated and/or have fillings.

Untreated Decay - A cavity or hole in the tooth that is at least 1/2mm in size and has brown to dark-brown coloration of the walls of the cavity.

Urgent Care - Signs or symptoms of pain, infection, swelling, or soft tissue ulceration.

Resource List

Connecticut Association of School Based Health Centers
http://www.ctschoolhealth.org
School based dental services

Connecticut Dental Hygienists' Association
http://www.cdha-rdh.com
(860) 688-7307
Dental Hygiene promotion

Connecticut Department of Public Health, Office of Oral Health
http://www.ct.gov/dph
(860) 509-7797
Connecticut Oral Health information and technical assistance
"Every Smile Counts" oral health survey
Open Wide program
State Oral Health Plan
List of Connecticut Safety Net Providers

Connecticut Department of Public Health
http://www.ct.gov/dph
(860) 509-8000
State Loan Repayment Program

Connecticut Department of Social Services
http://www.ct.gov/dss
(800) 842-1508
Medicaid/Husky (SCHIP)
List of Medicaid/Husky providers

Connecticut Health Foundation
http://www.cthealth.org
(860) 224-2200
Statewide Oral Health Collaboratives

Connecticut Oral Health Initiative
http://www.ctoralhealth.org
(860) 246-2644
Oral Health Advocacy

Resource List

Connecticut Primary Care Association
http://www.ctpca.org
(860) 667-7820
Community health centers in Connecticut

Connecticut State Dental Association
http://www.csda.com
(860) 378-1800
Private dental practices in Connecticut
"Give Kids a Smile Day"
Mission of Mercy (MOM)

National Health Service Corps
http://nhsc.bhpr.hrsa.gov
(800) 221-9393
National loan repayment program

Tunxis Community College, School of Dental Hygiene
http://tunxis.commnet.edu
(860) 255-3500
Dental hygiene school
Preventive dental outreach

University of Bridgeport, Fones School of Dental Hygiene
http://www.bridgeport.edu/pages/3243.asp
(203) 576-4138
Dental hygiene school
Preventive dental clinic and outreach

University of Connecticut School of Dental Medicine
http://sdm.uchc.edu
(860) 679-2000
Dental school
Dental clinic

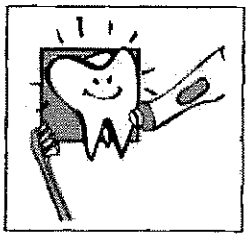
University of New Haven, School of Dental Hygiene
http://www.newhaven.edu/show.asp?durki=226
(203) 932-7319
Dental hygiene school
Preventive dental clinic and outreach

Appendix P

Ref. #4

ORAL DISEASE PREVENTION

www.ct.gov/dph



PREVENTING TOOTH DECAY

Sealants

The top surfaces of the back teeth have deep pits and fissures. These are difficult to keep clean and are vulnerable to decay. One way to help prevent decay on these surfaces is with sealants. Sealants are safe coatings that help prevent decay. They are easy to apply and are placed on permanent molars as soon as they erupt. Talk to your dentist or dental hygienist about sealants.

Fluoride

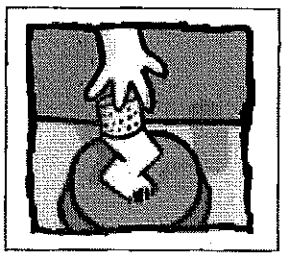
Fluoride is a mineral that strengthens the outside of teeth. Strong teeth resist decay. Tooth decay can be reduced by 50–70%with ingestion of proper amounts of fluoride. Many community water supply systems (in Connecticut close to 90%) add fluoride to their water.

Well water, bottled water, and filtered water usually do not contain the right amounts of fluoride to help strengthen teeth. Some local water supplies are not fluoridated. If your water source is not fluoridated, a dental professional should be consulted to arrange for other ways to provide fluoride.

PREVENTING ORAL CANCER

Stopping tobacco use, limiting alcohol consumption and protection from over exposure to sunlight will help reduce the risk of developing oral cancer. Individuals should routinely examine their mouth, tongue and lips and feel the area around the face and neck for any changes, lumps or discoloration.

Early detection is key to effectively treating oral cancer. When detected early, 76% of those diagnosed with oral cancer will be alive five years later compared to 19% diagnosed at a later stage. The longer it is left undiagnosed, the greater the chance the cancer will spread deep into surrounding tissue and into the lymph glands of the neck. Be concerned about:



- A persistent sore or irritation that doesn't heal.
- Color changes: red or white lesions.
- Pain, tenderness or numbness in the mouth or lips.
- A lump, thickening, rough spot, crust or small eroded area.
- Difficulty chewing, swallowing, speaking or moving the tongue & jaw.
- Change in bite.

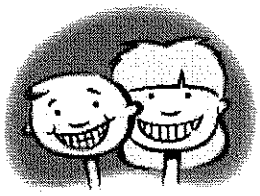
PREVENTING ORAL AND FACIAL INJURIES

There are many ways to make playgrounds and sports events safer. According to the National Program for Playground Safety, caregivers should ensure that there is proper supervision at all times, that equipment is age-appropriate, that playground surfaces are cushioned, and that the equipment is safe. Caregivers should also ensure that the proper protective equipment is used, provided and required by all organized sports activities.

ORAL HEALTH PROMOTION

PROPER NUTRITION AND SELF CARE

Teeth, like bones, benefit from a diet with the right amount of calcium. Eating high amounts of sweets and regularly snacking between meals promotes tooth decay. Having a balanced diet improves overall good health. Oral health is no exception to this rule.

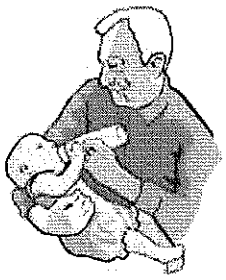


To prevent tooth decay, babies should never be put to bed with a bottle and should not be allowed to drink beverages containing sugars (even milk) all day long. Children should use a cup rather than a bottle as soon as they are able to sit up alone. Both children and adults should avoid snacking between meals and visit the dentist every six months for cleaning and a checkup.

A program of daily brushing and flossing helps prevent oral health problems. The teeth should be brushed using a soft bristle brush at least twice a day. Flossing between the teeth is just as important and should be done at least once per day. It is important not to forget the back teeth and other difficult places to reach when brushing and flossing.

FIRST YEAR = FIRST VISIT

Building a foundation for good oral health must start early. Children should have an oral health exam before their first birthday. During these early visits, the dentist and dental hygienist will assess proper tooth development and check for other problems. By starting early, caregivers can learn steps to ensure good oral hygiene for their children. Through example, children will learn the importance of oral health care and will see that the oral health visit is a very positive experience.



ORAL HEALTH AS WE AGE

Paying special attention to our oral health is a critical part of feeling good and preserving our quality of life as we age. Continuing to brush, floss and visit the dentist are important steps. We should also learn about the impact of aging on our oral health and take the necessary steps to meet these challenges. Caregivers, dental professionals and medical professionals must remember that the oral health of seniors is just as important as the oral health of children. It is important to take oral health into consideration when planning and establishing treatments for problems associated with aging.

PROTECTION

Stopping tobacco use, limiting alcohol consumption and protection from over exposure to sunlight will help reduce the risk of developing oral cancer. Individuals should routinely examine their mouth, tongue and lips and feel the area around the face and neck for any changes, lumps or discoloration.

Most sports related injuries happen because of poor protection. People who participate in sports should use the proper protective equipment. Mouth and face guards are very effective in preventing injuries to the mouth, head and neck. The American Dental Association reports that over 200,000 football oral-facial injuries are prevented as a result of proper protection. For other sports the numbers are not so good. In baseball, where the use of mouth and face guards is not common or required, 41 percent of all injuries involved the face and head.

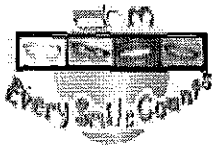
Appendix Q

Ref. #5

Office of Oral Health

Welcome to the Office of Oral Health

Good oral health is essential to general health and well-being!



Our Mission

The Office of Oral Health promotes the oral health of Connecticut residents and the reduction of disease and health disparities to ensure the public's overall health and well-being.

Our Vision

To provide leadership and expertise in dental public health and maintain a strong and sustainable infrastructure to support essential public health activities related to oral health.

Our Goals

GOAL I: ASSESSMENT
Collect, analyze and report oral health data and implement an oral health surveillance system to identify and detect disease, inform policy, plans and evaluate programs. STRATEGIES

GOAL II: POLICY DEVELOPMENT
Provide leadership in developing plans and policies through a collaborative process and mobilize community partnerships to identify and implement solutions to address oral health needs. STRATEGIES

GOAL III: ASSURANCE
Inform and empower the public regarding oral health problems and solutions, support access to quality oral health services and promote laws and regulations that protect the public's well being. STRATEGIES

Appendix R

US Army Medical Dept. Journal
Jan-March 2006

Ref. #6

The Expanded Function Dental Assistant Training Program

by John W. Luciano, Larry G. Rothfuss, Ann S. von Gonten

Introduction

The purpose of this article is to provide a brief genesis and current status of one of the US Army Dental Command's (DENCOM) most cost-effective strategic initiatives, the Expanded Function Dental Assistant (EFDA) training program. This article provides a historical perspective, describes the needs that drove the program's establishment, and presents a limited background on how the program was organized and funded. This article also addresses the return on investment of the initiative and discusses a number of lessons learned.

Historical Perspective

The EFDA program is a labor-substitution initiative aimed at increasing the output of general dentistry teams. The practice of using specially trained dental assistants to perform reversible dental restorative procedures (placing fillings) and limited oral hygiene procedures came into vogue in the late 1970s (1-3) and early 1980s. At that time the United States faced a national shortage of dentists.

The Army trained a number of these civilian, expanded-duty dental assistants, referred to as Dental Therapy Assistants (DTAs), in a formal 1-year program. These individuals, trained in the mid to late 1970s, proved highly effective and tended to stay in government service. Due in large part to the high retention rate of these individuals and the relatively high cost of the formal 1-year training program, DTA training met a relatively quick demise. By the mid 1980s the national shortage of dentists reversed into a glut of dentists as the effects of government-sponsored increases in dental school enrollment began to impact the workforce. This glut of dentists dampened the national enthusiasm for training ancillaries in expanded functions.

Training of enlisted Soldiers in expanded functions, except hygiene procedures, was also terminated, although not until the 1990s. The cost and training time required to bring these Soldiers to a level of clinical competency was not in line with the relatively short utilization period experienced in the field. A common perception among Soldiers was the belief that they would not remain competitive for promotion if their primary duty consisted of direct patient care. This factor may have contributed to their short clinical life as practicing expanded-function dental assistants.

By the late 1990s the majority of DTAs remaining in the system was engaged in providing oral hygiene services in response to the national shortage of dental hygienists. The enlisted expanded-function dental assistants, referred to as X2s, were also providing hygiene services. Using these individuals to provide hygiene support to those patients requiring less extensive hygiene care allowed the number of available registered dental hygienists to focus on patients with more advanced needs.

Need For Increased Access to Care

Unmet patient needs for access to timely, cost-effective routine care drove the Dental Corps to put in place the Dental Care Reengineering Initiative (4) (DCRI), in 1997. DCRI was designed by a team of dentists at the direction of MG James J. Cuddy, then the Deputy Surgeon General and Chief of the Dental Corps. The DCRI team conferred with a number of civilian consulting groups as well as the Indian Health Service (IHS). The resulting dental care delivery model incorporated a number of best practices from the private sector and lessons learned from the IHS.

One of the more salient features of the DCRI delivery model was the use of multichair, multiancillary primary care teams led by general and/or comprehensive dentists. Even using conventional dental assistants, the literature documents significantly higher production for providers using multiple dental care delivery units (dental chairs) and multiple ancillaries. (5,6)

As DCRI matured and incorporated lessons learned, enhanced optimization opportunities emerged. In 2001, a site visit to the US Navy dental facilities at Pearl Harbor served to greatly refine the optimization concept. The Navy dental commander, CAPT Robert Hutto, was experimenting in training Navy enlisted dental technicians in expanded duties. These assistants were then placed in multiancillary teams consisting of two EFDAs and one conventional dental assistant. When compared to conventional treatment teams of one provider and one dental assistant, the EFDA teams showed productivity increases of between 92% and 155% over baseline. (7) The increased productivity translated to faster access to care for beneficiaries at Pearl Harbor. The information gleaned from the observations and briefings allowed DCRI to evolve into a new program named Dental Care Optimization (DCO).

The New Army EFDA Program

The Navy experience re-energized the DENCOM into pursuing the reintroduction of expanded duty dental assistants into primary care teams. Unlike the Navy, the Army decided to focus on training civilians. As past experience with the DTAs trained in the 1970s indicated, Army trained civilian ancillaries tend to remain in government service, fully engaged in

patient care for their entire career. The Army experience with enlisted ancillaries had proven to be just the opposite. To ensure the maximum return on training dollars, the Army decided to train civilian ancillaries in advanced functions. The DENCOM looked at various options for training a Beta test cohort of students. After investigating a number of civilian training options, the DENCOM partnered with the IHS, who had trained EFDAs since the 1970s. The IHS training model calls for a basic skills, 1-week didactic course followed by a year of on-the-job training and utilization. Following mastery of the basic skills and one year of experience, the student was eligible to attend another week-long course focused on placing more advanced dental restorations. (8)

This was a major change from the year-long training model used by the Army to train the earlier generation of EFDAs/DTAs. The fact that the IHS had been using this model successfully for so long did not lessen the anxiety of the staff in the Department of Dental Sciences at the Army Medical Department Center and School (AMEDDC&S). Dr. Terry Haney of the IHS taught the Beta test course in August 2001. The Department of Dental Sciences staff observed the training and was pleasantly surprised at the initial skills developed by students. The students returned home to a locally designated training mentor. The mentor, a practicing dentist, was charged with evaluating all the restorations placed by the student and ensuring safe, quality care for the patient. Students performed only those procedures that were clinically reversible.

In partnership with the MEDCOM Civilian Personnel Office and the Department of Dental Sciences, the DENCOM developed its own EFDA training program with the IHS program as the model. The training flow is depicted in Figures 1 and 2. [FIGURES 1-2 OMITTED]

A business case analysis seeking funding from the MEDCOM Venture Capital Program (VCP) was compiled and submitted almost simultaneously with the DENCOM-funded Beta test. The rules of engagement for VCP provided 3 years of funding for initiatives that would prove self-sufficiency at the end of the 3-year period, or for initiatives that did not necessarily move to self-sufficiency but that did correct a clinical deficiency.

The DENCOM's VCP submission targeted the production of a pilot program cohort of 60 EFDAs. The program also sought to build multiancillary primary treatment teams by funding a replacement dental assistant once the student selected for training successfully reached the first EFDA promotion point. The Navy's experience and previously cited references stressed the importance of having multiple ancillaries on the team. A team with an EFDA and a dentist and no other ancillaries proved to be ineffective.

Return On Investment

The success of the EFDA program is demonstrable through the program's return on investment (ROI). During FY 2005, the DENCOM's centrally-managed EFDA program produced 235,719 Dental Weighted Values (DWVs) of treatment. This is equivalent to $23.5 million of dental treatment. DENCOM spent $3.84 million to support the program. The DENCOM acquired approximately $6 of dental care for every dollar funding the program. The ROI was even larger during FY 2004. DENCOM received about $10 in productivity for every dollar funding the program.

The Dental Corps' EFDA program has proven itself to be so extremely cost-effective that it was fully funded via the Program Objective Memorandum (POM) for FY 2006-2011 which covers training costs for over 140 EFDAs as well as a number of backfill contract, conventional dental assistants. The demonstrated ROI provided an undeniable case for POM insertion. The summary of consolidated EFDA productivity for October 2005 is presented in the Table.

EFDA-trained personnel are completely embedded in several key Army dental initiatives. EFDAs are used extensively in Dental Care Optimization (DCO). DCO is an initiative aimed at increasing access to care by using best clinical practices. The First Term Dental Readiness Program ensures that newly accessed Soldiers from all three Army components receive dental care that will allow them to be deployable upon graduation from Advanced Individual Training. EFDAs are also used extensively to expedite the surge requirements for dental care generated by mobilizations.

The current Army EFDA inventory is 142 employees dispersed among various CONUS installations. DENCOM plans to train up to 32 new EFDAs in FY 2006. The planned future end point for EFDA program sustainment is approximately 200 EFDAs used throughout DENCOM.

Lessons Learned

The short length of this article precludes presentation of the numerous lessons learned. The following are three of the more significant of those insights that might be applicable to other clinical strategic initiatives:

1. Fairness of the selection process must be ensured for any competitive program that offers a limited number of training seats. The DENCOM used central selection boards held in San Antonio versus a local selection process at the operational level. The EFDA selection boards have clearly defined procedures designed to select those who will both successfully complete this challenging training and work well in multiancillary treatment teams. The board consists of five

or six voting board members and two nonvoting members. The nonvoting member representatives from the MEDCOM Equal Employment Opportunity Office and the MEDCOM Civilian Personnel Division ensured a fair and consistent selection process.

2. The EFDA program relies heavily on the clinical mentor/designated trainer to refine and expand the student's clinical skills. To guarantee the success of this critical relationship, the provider selected for this important role must believe in the value of the program, fully understand the training requirements, and be willing to commit the time and effort required to train the students. The local command must ensure that students have educational continuity through an individual designated trainer, rather than be shifted from clinician to clinician.

3. Rather than start de novo, DENCOM elected to build on an existing, already highly successful IHS program. This partnership with another federal service allowed for the rapid development and fielding of the Army program. Other federal services face healthcare issues similar to those of the Army. When addressing corporate healthcare challenges, it is always worthwhile to investigate how other federal healthcare organizations are responding to the same situations.

Conclusion (Department of Dental Services)

All three DoD dental services face the twin challenges of preparing large numbers of service members for deployment with a shrinking pool of general dentists. The DENCOM's EFDA program has been and continues to be a proven, highly successful method for leveraging the productivity output of general and comprehensive dentists to better meet the needs of our service members.

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COL Rothfuss is currently on staff at the United States Army Dental Command, Fort Sam Houston, TX. He is the Program Manager for Expanded Function Dental Assistant Program and First Term Dental Readiness.
COL von Gonten is currently on staff at the United States Army Dental Command, Fort Sam Houston, TX and serves as the Dental Consultant.

COL W. John Luciano, DC, USA COL Larry G. Rothfuss, DC, USA COL Ann S. von Gonten, DC, USA

Summary of EFDA * Productivity for October 2005 (Source: DENCOM Workload and Scheduling Database)

Total DWVs ([dagger])	23,670.68
Number of EFDAs	142
DWVs attributed to dental prophylactic services	2,985.91
DWVs attributed to dental restorative services	20,689.77
Average workload per EFDA per month	166.69 DWVs
Average dollar value of prophylactic care provided per EFDA per month	$2,103.00

Average dollar value of restorative care provided per EFDA per month	$14,567.00

* Expanded function dental assistant

([dagger]) Dental weighted values of treatment

Bibliography for: "The Expanded Function Dental Assistant training program"

John W. Luciano "The Expanded Function Dental Assistant training program". U.S. Army Medical Department Journal. FindArticles.com. 23 Jun, 2011. http://findarticles.com/p/articles/mi_m0VVY/is_2006_Jan-March/ai_n17213723/

U.S. Army Medical Department Journal

Articles in Jan-March, 2006 issue of U.S. Army Medical Department Journal

- Correction
- A policy perspective for Army dentists performing posterior restorations
  by Nicholas Coppola
- The Expanded Function Dental Assistant training program
  by John W. Luciano
- US Army Dental command "Puts More 'Bite' Into Health Promotion"
  by Pamila Richter
- Army Reserve Components dental readiness—a historical review since the First Gulf War
  by Mark B. Bodenheim
- Evolving education trends in Graduate Dental Education
  by Ann Sue von Gonten
- Perspective
  by George W. Weightman
- Investigation into use of Digital Imaging Fiber-Optic Trans-illumination in caries detection
  by Jerry Carbone
- 2005 Spurgeon Neel Writing Competition winners
- Prosthodontic rehabilitation of a patient with amelogenesis imperfecta: a clinical report
  by Minaxi I. Patel
- Major General Joseph G. Webb, Jr
- Provisional restorations: an overview of techniques and materials
  by Matthew S. Thunberg
- Army Dental Service support in a theater of operations
  by Timothy K. Jones
- Implant site preparation with distraction osteogenesis
  by Philip J. Pandolfi
- Patient satisfaction in US Army dental treatment facilities
  by Jeffrey G. Chaffin
- Xylitol chewing gum: a recommended addition to the MRE package
  by Albert E. Scott, Jr.

Appendix S

The Dental Assistant · Ref. #7
Journal of the ADAA

THE ARMY GOES ROLLING ALONG...

DENCOM TRAINS EFDAs

By SGM Stephen E. Spadaro
COL W. John Luciano
COL Dennis E. Jennings

The United States Army Dental Command (DENCOM) has a chronic shortage of military dentists and efforts at recruiting and retaining civilian contract dentists are not meeting the military dental staff shortfall. Coupled with this staff shortage, soldiers coming into the Army have a high level of dental need. In 1994, 33 percent of all Army recruits entered service with acute, active dental disease (Dental Fitness [DF] class 3-a potential emergent dental patient); in 2000, 42 percent were in DF class 3). As the number of soldiers on active duty increases and federalization of National Guard and activation of Reserve Component soldiers continues, the need now exceeds our capacity.

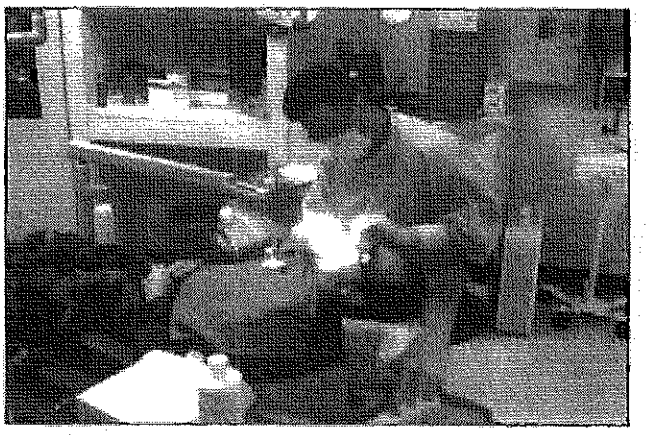
The war on terrorism will require the DENCOM to continue to provide care for a significant number of mobilizing and demobilizing nonactive duty soldiers. With this increase in demand, the system has been forced to focus primarily on soldier readiness. Routine and specialty dental care for soldiers will face continued curtailment unless the system changes its core business principles to utilize all its personnel to deliver optimal and quality dental care.

The Expanded Function Dental Assistant (EFDA) Program's primary objective is to address this issue. By design, the program provides current dental assistants with advanced training, allowing them to place and contour final restorative materials that increases the dentists' overall efficiency. As efficiency improves, both access to care and costs per procedure simultaneously improve.

Labor Substitution is the mechanism through which an EFDA working under the direct supervision of a licensed provider can optimize the productivity of the primary dental provider. The DENCOM began training EFDAs in March of 2002 and now has 112 EFDAs at different levels of training. The goal is to double this number within the organization over the next three years. Results are preliminary at this junction but the collected data so far point very dramatically to the success of the program. Dentists working with an EFDA provider are 40 percent more productive than their counterparts working without an EFDA. As an EFDA completes a two-year training cycle, the expectation is that a dentist working with two EFDAs and one ancillary (a Dental Care Optimization Team) will be 80 percent more efficient with no compromise in quality.

The Indian Health Service developed a program that the DENCOM used as a template for success. However, the training process and procedures are evolutionary. "Continuous Quality Improvement" is the guiding principle to make sure the program does not stagnate but adapts to new training and end-user's requirements. The selected candidates enter into a multi-year, progressive training program designed to minimize didactic training time and maximize hands-on clinical competencies.

Continued on page 32



Mr. Edward Normura with patient.

Ms. Virginia Randazzo, EFDA, assisted by Ms. Igneri-Stewart.

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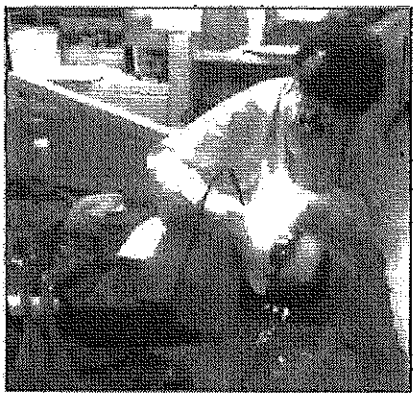

Ms. *Ngovet Domenech with patient.*

The didactic phases consist of a week-long course at the beginning of the training cycle and a two-week-long course at the eighteen-month mark. Prior to attending each didactic course, the candidate completes distance learning material required to successfully understand and facilitate the didactic portion of the course. The didactic phases focus on dental materials and the reasons for different restorations. Following each didactic phase is an in-depth clinical mentorship at the candidate's home station. The clinical mentorship focuses on the candidate's ability to implement concepts learned in the didactic phases. During the mentorship phase, each EFDA receives direct feedback on all restorations by his/her Designated Trainer (DT).

An EFDA enters the Government Civilian Personnel system at a GS-4 level. An EFDA career training program allows for a noncompetitive promotion to GS-5 (after six months) with a target promotion to GS-6 after successful completion of the EFDA program (two years). The selection process is conducted by an impartial selection board convened to select the highest quality applicants based on the applicant's work experience, letters of recommendation and intent, and a chalk carving demonstration given to evaluate the applicant's manual dexterity and attention to detail.

The tangible benefit of this program is its ability to save the government over ten million dollars in purchased dental care by the 36th month of the EFDA program and over $18 million annually thereafter. Since its inception 24 months ago, EFDA's combined workload totals over $12 million in direct patient care. The intangible benefits are the pride and job satisfaction the program instills in our EFDAs. No longer are they just valued team members, they are now directly responsible for the process that makes our soldiers fit and ready for duty. Below are just a few of the feelings our EFDAs have about their training and their ability to provide this valuable service for their patients:

Margo Pate from Fort Bragg, NC, writes, "After being a CDA for 12 yrs, what I considered a dream, came true and after applying and qualifying, I went to phase I EFDA training at Fort Sam Houston, TX... I think I have the best of both 'dental worlds.' I can do my part in restoring teeth, by placing and finishing restorations, and I can help with hygiene services by performing prophylaxes. EFDAs are greatly appreciated in the clinics... I love my job of being an EFDA!"

Connie Montano from Fort Hood, TX, writes, "The EFDA Training program in San Antonio, TX, was exciting and fast paced. After graduation, we were released backed to our Dental Clinics... and put on teams from the start of our training and were supervised from the clinic's volunteer doctor and DTA to evaluate and grade our restorations in all procedures. As an EFDA student, I was treated with respect by my colleagues. I've learned to do the best possible restorations I can do, and continue to learn daily. Much satisfaction is gained when soldiers are greatly pleased with my treatment and thank me when the work is done."

Marilyn Mackeprang from Fort Bragg, NC, writes, "...in the EFDA program, it's figuring how and learning why and looking forward and thinking high. It's been about 1½ years since I joined the EFDA program. The greatest feeling is to give a patient their smile back by cleaning or restorative care. By serving and giving and doing your best, that is what I call success EFDA style."

Harry Rogers from Fort Knox, KY, writes, "EFDA has allowed me to function in all aspects of chairside dental assisting with great pride and accuracy. The EFDA Program is a win-win situation. The patient wins – they receive more excellent patient care in an even more timely manner – the EFDA wins by advancing."

Sandra Gilmore from Fort Knox, KY, writes, "Before I entered into the EFDA program, I debated on returning to school to become a hygienist. Now, I no longer have that desire. In fact, being an EFDA has allowed more of a variety in this field of work. I can't think of anything I enjoy doing more. This position as an EFDA has been truly an enhancement to my life."

Robin L. Williams from Fort Hood, TX, writes, "I value the experience and cherish the opportunity I was given when selected for the EFDA program. I was impressed with the strong support network that I found while attending."

Allison R. Lascano from Fort Bliss, TX, comments on the quality of training when she writes, "When I returned to my permanent duty station and started to treat patients my doctor (Designated Trainer) was very impressed with my carving abilities and how well the anatomy of the tooth restorations were. That is when I understood why the instructors were so meticulous about my restorations; at that moment I was extremely grateful to the instructors. Being an EFDA has made me more confident in my role as a care provider. I feel as though I am a real asset to the Army Dental Care System."

Sophia Osorio from Hunter Army Airfield, GA, writes, "The EFDA training experience has opened the door for an opportunity that I could not achieve without further education. This program has made me part of a great team providing service to our soldiers... and the level of my job satisfaction has increased tremendously."

If you'd like to be part of this expanding program, please read the advertisement for Government Job Opportunities on the preceding page. EFDAs are now a vital part of the Army Dental Care System's business practices for the future.

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Appendix T

Ref. #8

CHAPTER 376c.
RADIOGRAPHERS AND RADIOLOGIC TECHNOLOGISTS

Sec. 20-74aa. Definitions. As used in subsection (c) of section 19a-14 and sections 20-74aa to 20- 74cc, inclusive, and 20-74ee:

(1) "Commissioner" means the Commissioner of Public Health.

(2) "Department" means the Department of Public Health.

(3) "Medical x-ray system" means an x-ray system designed for the irradiation of any part of the human body for diagnostic or therapeutic purposes.

Sec. 20-74bb. Licensure. Qualifications. Examination requirements. Fee. (a) No person shall operate a medical x-ray system unless such person has obtained a license as a radiographer from the department pursuant to this section. Each person seeking licensure as a radiographer shall make application on forms prescribed by the department, pay an application fee of two hundred dollars and present to the department satisfactory evidence that Such person (1) has completed a course of study in radiologic technology in a program accredited by the Committee on Allied Health Education and Accreditation of the American Medical Association or its successor organization, or a course of study deemed equivalent to such accredited program by the American Registry of Radiologic Technologists, and (2) has passed an examination prescribed by the department and administered by the American Registry of Radiologic Technologists.

(b) A radiographer licensed pursuant to this chapter may operate a medical x-ray system under the supervision and upon the written or verbal order of a physician licensed pursuant to chapter 370, a chiropractor licensed pursuant to chapter 372, a natureopath licensed pursuant to chapter 373, a podiatrist licensed pursuant to chapter 375, a dentist licensed pursuant to chapter 379 or a veterinarian licensed pursuant to chapter 384.

(c) Licenses shall be renewed annually in accordance with the provisions of section 19a-88. The fee for enewal shall be one hundred dollars.

(d) No license shall be issued under this section to any applicant against whom professional disciplinary action is pending or who is the subject of an unresolved complaint in this or any other state or territory.

(e) No person shall use the title "radiographer" unless he holds a license issued in accordance with this section.
(f) Notwithstanding the provisions of subsection (a) of this section a graduate of a course of study approved pursuant to subdivision (1) of said subsection may operate a medical x-ray system for a period not to exceed one hundred twenty calendar days after the date of graduation, provided such graduate is working in a hospital or similar organization where adequate supervision is provided. If the person practicing pursuant to this subsection fails to pass the licensure examination, all privileges under this subsection shall cease.

(g) Notwithstanding the requirements of this section, the commissioner shall grant a license to any person who submits satisfactory evidence that such person has a degree in radiography or identical field of study under a different designation from an institution of higher education authorized to grant degrees by the state or country where located, has a minimum of ten years' experience in the field of radiography, has a temporary license from the Department of Public Health and applies for licensure prior to January 1, 1998.

Sec. 20-74cc. Disciplinary action. The department may take any action set forth in section 19a-17 if a person issued a license pursuant to section 20-74bb fails to conform to the accepted standards of the radiographer profession, including, but not limited to, the following: Conviction of a felony; fraud or deceit in the practice of radiography; illegal conduct; negligent, incompetent or wrongful conduct in professional activities; emotional abuse or excessive use of drugs, including alcohol, narcotics or chemicals; willful falsification of entries into any disorder or mental illness; physical illness including, but not limited to, leterioration through the aging process patient record pertaining to radiography; misrepresentation or concealment of a material fact in the obtaining or reinstatement of a radiographer license; or violation of any provisions of subsection (c) of section 19a-14 and sections 20-74aa and 20-74bb, this section and section

20-74ee. The commissioner may order a license holder to submit to a reasonable physical or mental examination if his physical or mental capacity to practice safely is the subject of an investigation. The commissioner may petition the superior court for the judicial district of Hartford-New Britain* to enforce such order or any action taken pursuant to section 19a-17. Notice of any contemplated action under said section, the cause of the action and the date of a hearing on the action shall be given and an opportunity for hearing afforded in accordance with the provisions of chapter 54.

Sec. 20-74dd. Performance of venipuncture and administration of intravenous medication. A radiologic technologist licensed by the Department of Public Health, may perform venipuncture and administer medication for diagnostic procedures.

Sec. 20-74ee. Construction of chapter. (a)(1) Nothing in subsection (c) of section 19a-14, sections 20-74aa to 20- 74cc, inclusive, and this section shall be construed to require licensure as a radiographer or to limit the activities of a physician licensed pursuant to chapter 370, a chiropractor licensed pursuant to chapter 372, a natureopath licensed pursuant to chapter 373, a podiatrist licensed pursuant to chapter 375, a dentist licensed pursuant to chapter 379 or a veterinarian licensed pursuant to chapter 384.

(2) Nothing in subsection (c) of section 19a-14, sections 20- 74aa to 20-74cc, inclusive, and this section shall be construed to require licensure as a radiographer or to limit the activities of a dental hygienist licensed pursuant to chapter 379a provided such dental hygienist is engaged in the taking of dental x-rays under the general supervision of a dentist licensed pursuant to chapter 379.

(3) Nothing in subsection (c) of section 19a-14, sections 20-74aa to 20-74cc, inclusive, and this section shall be construed to require licensure as a radiographer or to limit the activities of a dental assistant as defined in section 20-112a, provided such dental assistant is engaged in the taking of dental x-rays under the supervision and control of a dentist licensed pursuant to chapter 379 and can demonstrate successful completion of the dental radiography portion of an examination prescribed by the Dental Assisting National Board, or (B) a dental assistant student, intern or trainee pursuing practical training in the taking of dental x-rays provided such activities constitute part of a supervised course or training program and such person is designated by a title that clearly indicates such person's status as a student, intern or trainee.

(4) Nothing in subsection (c) of section 19a-14, sections 20- 74aa to 20-74cc, inclusive, and this section shall be construed to require licensure as a radiographer or to limit the activities of a Nuclear Medicine Technologist certified by the Nuclear Medicine Technology Certification Board or the American Registry of Radiologic Technologists, provided such individual is engaged in the operation of a bone densitometry system under the supervision, control and responsibility of a physician licensed pursuant to chapter 370.

(5) Nothing in subsection (c) of section 19a-14, sections 20-74aa to 20-74cc, inclusive, and this section shall be construed to require licensure as a radiographer or to limit the activities of a podiatric medical assistant, provided such podiatric assistant is engaged in taking of podiatric x-rays under the supervision and control of a podiatrist licensed pursuant to chapter 375 and can demonstrate successful completion of the podiatric radiography exam as prescribed by the Connecticut Board of Podiatry Examiners.

(b) No provision of subsection (c) of section 19a-14, sections 20-74aa to 20-74cc, inclusive, and this section shall be construed to prohibit students enrolled in a course of study in radiologic technology in a program accredited by the Committee on Allied Health Education and Accreditation of the American Medical Association or its successor organization from performing such work as is incidental to their course of study.

Sec. 20-74ff. Continuing education: Definitions; contact hours; attestation; record-keeping; exemptions, waivers and extensions; reinstatement of void licenses,

(1) "Commissioner" means the Commissioner of Public Health;

(2) "Contact hour" means a minimum of fifty minutes of continuing education activity;
(3) "Department" means the Department of Public Health;

(4) "Licensee" means any person who receives a license from the department pursuant to chapter 376c of the general statutes; and

(5) "Registration period" means the one-year period for which a license renewed in accordance with section 19a-88 of the 2006 supplement to the general statutes, is current and valid.

(b) Except as otherwise provided in this section, for registration periods beginning on and after October 1, 2008, a licensee applying for license renewal shall either maintain registration as a radiographer or radiation therapy technologist issued by the American Registry of Radiologic Technologists, or its successor organization, or earn a minimum of twenty-four contact hours of continuing education within the preceding twenty-four-month period. Such continuing education shall (1) be in an area of the licensee's practice; and (2) reflect the professional needs of the licensee in order to meet the health care needs of the public. Qualifying continuing education activities include, but are not limited to, courses, including on-line courses, offered or approved by the American College of Radiology, American Healthcare Radiology Administrators, American Institute of Ultrasound in Medicine, American Society of Radiologic Technologists, Canadian Association of Medical Radiation Technologists, Radiological Society of North America, Society of Diagnostic Medical Sonography, Society of Nuclear Medicine Technologist Section, Society for Vascular Ultrasound, Section for Magnetic Resonance Technologists, a hospital or other health care institution, regionally accredited schools of higher education or a state or local health department.

(c) Each licensee applying for license renewal pursuant to section 19a-88 of the 2006 supplement to general statutes shall sign a statement attesting that he or she has maintained registration as a radiographer or radiation therapy technologist issued by the American Registry of Radiologic Technologists, or has satisfied the continuing education requirements of subsection (b) of this section on a form prescribed by the department. A licensee who fails to comply with the requirements of this section may be subject to disciplinary action pursuant to section 20-74cc or 19a-17 of the general statutes. Each licensee shall retain records of attendance or certificates of completion that demonstrate compliance with the continuing education requirements of subsection (b) of this section for a minimum of three years following the year in which the continuing education activities were completed and shall submit such records to the department for inspection not later than forty-five days after a request by the department for such records.

(d) A licensee applying for the first time for license renewal pursuant to section 19a-88 of the 2006 supplement to the general statutes is exempt from the continuing education requirements of this section.

(e) A licensee who is not engaged in active professional practice in any form during a registration period shall be exempt from the continuing education requirements of this section, provided the licensee submits to the department, prior to the expiration of the registration period, a notarized application for exemption on a form prescribed by the department and such other documentation as may be required by the department. The application for exemption pursuant to this subsection shall contain a statement that the licensee may not engage in professional practice until the licensee has met the continuing education requirements of this section.

(f) In individual cases involving medical disability or illness, the commissioner may, in the commissioner's discretion, grant a waiver of the continuing education requirements or an extension of time within which to fulfill the continuing education requirements of this section to any licensee, provided the licensee submits to the department an application for waiver or extension of time on a form prescribed by the department, along with a certification by a licensed physician of the disability or illness and such other documentation as may be required by the commissioner. The commissioner may grant a waiver or extension for a period not to exceed one registration period, except that the commissioner may grant additional waivers or extensions if the medical disability or illness upon which a waiver or extension is granted continues beyond the period of the waiver or extension and the licensee applies for an additional waiver or extension.

(g) Any licensee whose license has become void pursuant to section 19a-88 of the 2006 supplement to the general statutes and who applies to the department for reinstatement of such license pursuant to section 19a-14 of the 2006 supplement to the general statutes, as amended by this act, shall submit evidence documenting successful completion of twelve contact hours of continuing education within the one-year period immediately preceding application for reinstatement.

REGULATIONS OF CONNECTICUT STATE AGENCIES CONCERNING EVALUATION OF CANDIDATES WITH PREVIOUS LICENSURE

Section 19a-14-1 to 19a-14-5

19a-14-1. A person previously licensed in Connecticut whose license has become void pursuant to section 19-88 of the Connecticut General Statutes, may apply for licensure under the terms of these regulations. In determining the qualifications of such a candidate, pursuant to section 19a-14 of the Connecticut General Statutes, the Department of Health Services shall refer the application to the appropriate Board or Commission for review, evaluation, and recommendations. If no Board or Commission exists for the profession in question, the Department of Health Services may make the review and evaluation.

19a-14-2. When reviewing and evaluating applications pursuant to section 19a-14-1 of these regulations, the Board, Commission or Department shall consider at least the following: (1) credentials presented for initial licensure; (2)length of practice as a licensed professional; (3) time elapsed since leaving active practice; (4) whether the candidate had been the subject of complaints, investigations or disciplinary actions as a licensed professional; and (5) any continuing education undertaken by the candidate. The Board, Commission or Department must determine whether or not these factors, taken together, meet current licensure requirements.

19a-14-3. After completion of the review prescribed in section 19a-14-2 of these regulations, the Board or Commission shall make recommendations to the Department regarding the acceptability for licensure of the candidate. At its discretion, the Department may, after considering all licensure requirements and make recommendations of the Board or Commission, grant licensure to the candidate.

19a-14-4. No license shall be issued if there is a compliant awaiting adjudication against the applicant in another state or with the Department of Health Services until such a time as it is resolved in favor of the candidate.

19a-14-5. An applicant whose license has been suspended or revoked pursuant to section 19a-17 of the Connecticut General Statutes cannot reapply for licensure under the terms of these regulations.

STATEMENT OF PURPOSE: To allow persons previously licensed in Connecticut to have their work experience as a licensed person be considered when applying for a new license in Connecticut in the same profession.

Appendix U

Ref. #10

Substitute House Bill No. 7097
Substitute House Bill No. 7097
PUBLIC ACT NO. 93-249

AN ACT CONCERNING X-RAY SAFETY.

Section 1. (NEW) As used in this act:

(1) "Commissioner" means the commissioner of health services.

(2) "Department" means the department of health services.

(3) "Medical x-ray system" means an x-ray system designed for the irradiation of any part of the human body for diagnostic or therapeutic purposes.

Sec. 2. (NEW) (a) No person shall operate a medical x-ray system unless he has obtained a license as a radiographer from the department pursuant to this section. Each person seeking licensure as a radiographer shall make application on forms prescribed by the department, pay an application fee of one-hundred dollars and present to the department satisfactory evidence that he (1) has completed a course of study in radiologic technology in a program accredited by the Committee on Allied Health Education and Accreditation of the American Medical Association or its successor organization, or a course of study deemed equivalent to such accredited program by the American Registry of Radiologic Technologists and (2) has passed an examination prescribed by the department and administered by the American Registry of Radiologic Technologists.

(b) From October 1, 1993, until January 1, 1994, a person seeking licensure pursuant to this section may present to the department satisfactory evidence that he has, from October 1, 1988, until October 1, 1993, practiced as a radiographer for at least thirty-six months, provided that any license issued pursuant to this subsection shall become void on October 1, 1997, unless the person has, on or before that date, presented to the department satisfactory evidence that he has met the requirement of subdivision (2) of subsection (a) of this section.

(c) A radiographer licensed pursuant to this act shall operate a medical x-ray system under the supervision and upon the written order of a physician licensed pursuant to chapter 370 of the general statutes, an osteopathic physician licensed pursuant to chapter 371 of the general statutes, a chiropractor licensed pursuant to chapter 372 of the general statutes, a natureopath licensed pursuant to chapter 373 of the general statutes, a podiatrist licensed pursuant to chapter 375 of the general statutes, a dentist licensed pursuant to chapter 379 of the general statutes, or a veterinarian licensed pursuant to chapter 384 of the general statutes.

(d) Licenses shall be renewed annually in accordance with the provisions of section 19a-88 of the general statutes. The fee for renewal shall be fifty dollars.

(e) No license shall be issued under this section to any applicant against whom professional disciplinary action is pending or who is the subject of an unresolved complaint in this or any other state or territory.

(f) No person shall use the title "radiographer" unless he holds a license issued in accordance with this section.

Sec. 3. (NEW) The department may take any action set forth in section 19a-17 of the general statutes if a person issued a license pursuant to section 2 of this act fails to conform to the accepted standards of the radiographer profession, including, but not limited to, the following: Conviction of a felony; fraud or deceit in the practice of radiography; illegal conduct; negligent, incompetent or wrongful conduct in professional activities; emotional disorder or mental illness; physical illness including, but not limited to, deterioration through the aging process; abuse or excessive use of drugs, including alcohol, narcotics or chemicals; wilful falsification of entries into any patient record pertaining to radiography; misrepresentation or concealment of a material fact in the obtaining or reinstatement of a radiographer license; or violation of any provisions of this act. The commissioner may order a license holder to submit to a reasonable physical or mental examination if his physical or mental capacity to practice safely is the subject of an investigation. The commissioner may petition the superior court for the judicial district of Hartford-New Britain* to enforce such order or any action taken pursuant to section 19a-17 of the general statutes. Notice of any contemplated action under said section, the cause of the action and the date of a hearing on the action shall be given and an opportunity for hearing afforded in accordance with the provisions of chapter 54 of the general statutes.

Sec. 4. (NEW) (a) Nothing in this act shall be construed to require licensure as a radiographer or to limit the activities of a physician licensed pursuant to chapter 370 of the general statutes, an osteopathic physician licensed pursuant to chapter 371 of the general statutes, a chiropractor licensed pursuant to chapter 372 of the general statutes, a natureopath licensed pursuant to chapter 373 of the general statutes, a podiatrist licensed pursuant to chapter 375 of the general statutes, a dentist licensed pursuant to chapter 379 of the general statutes, or a veterinarian licensed pursuant to chapter 384 of

the general statutes. Nothing in this act shall be construed to require licensure as a radiographer or to limit the activities of a dental hygienist licensed pursuant to chapter 379 of the general statutes provided that such dental hygienist is engaged in the taking of dental x-rays under the general supervision of a dentist licensed pursuant to chapter 379 of the general statutes. Nothing in this act shall be construed to require licensure as a radiographer or to limit the activities of a dental assistant as defined in section 20-112a of the general statutes, provided such dental assistant is engaged in the taking of dental x-rays under the supervision and control of a dentist licensed pursuant to chapter 379 of the general statutes and can demonstrate by January 1, 1995, successful completion of the dental radiography portion of an exam prescribed by the Dental Assisting National Board.

(b) No provision of this act shall be construed to prohibit students enrolled in a course of study in radiologic technology in a program accredited by the Committee on Allied Health Education and Accreditation of the American Medical Association or its successor organization from performing such work as is incidental to their course of study.

Sec. 5. Subsection (c) of section 19a-14 of the general statutes is repealed and the following is substituted in lieu thereof:

(c) No board shall exist for the following professions which are licensed or otherwise regulated by the department of health services:

(1) Speech pathologist and audiologist;

(2) Hearing aid dealer;

(3) Nursing home administrator;

(4) Sanitarian;

(5) Subsurface sewage system installer or cleaner;

(6) Marital and family therapist;

(7) Nurse-midwife;

(8) Certified independent social worker;

(9) Respiratory care practitioner;

(10) Asbestos contractor and asbestos consultant; [and]

(11) Massage therapist; AND

(12) RADIOGRAPHERS.

The department shall assume all powers and duties normally vested with a board in administering regulatory jurisdiction over said professions. The uniform provisions of this chapter and chapters 368v, 369 to 381, inclusive, 383 to 388, inclusive, 393a, 395, 398 and 399, including but not limited to standards for entry and renewal; grounds for professional discipline; receiving and processing complaints; and disciplinary sanctions, shall apply, except as otherwise provided by law,

to the professions listed in this subsection.

Sec. 6. (a) The sum of one hundred forty-three thousand nine hundred thirty dollars of the amount of the fees collected by the department of health services pursuant to subsections (a) and (d) of section 2 of this act, during the fiscal year ending June 30, 1994, shall, upon deposit in the general fund, be credited to the appropriation to the department of health services for said fiscal year.

(b) The sum of one hundred eighty-one thousand nine hundred six dollars of the amount of the fees collected by the department of health services pursuant to subsections (a) and (d) of section 2 of this act during the fiscal year ending June 30, 1995, shall, upon deposit in the general fund, be credited to the appropriation to the department of health services for said fiscal year.

Sec. 7. Sections 19a-63 to 19a-67, inclusive, of the general statutes are repealed.

Ref. #11

STATE OF CONNECTICUT

Substitute Bill No. 5443

LCO No.

General Assembly

February Session, A.D., 1992

AN ACT CONCERNING THE REGULATION OF DENTAL HYGIENISTS.

Be it enacted by the Senate and House of Representatives in General Assembly convened:

Section 1. Section 20-111 of the general statutes is repealed and the following is substituted in lieu thereof:

[(a) Licensed dental hygienists may remove calcareous deposits, accretions and stains from the supragingival and subgingival surfaces of the teeth by scaling and root planing, may apply topical solutions to exposed portions of the teeth, may mark charts indicating defective teeth, may apply pit and fissure sealants and may perform such dental procedures as a licensed dentist may deem advisable, but such procedures shall be performed under said dentist's supervision and control and said dentist shall assume responsibility for such procedures; provided such dental hygienists shall not engage in: (1) Diagnosis or treatment planning or any procedures requiring professional judgment and skill; (2) the cutting or removal of any hard or soft tissue or suturing; (3) the prescribing of drugs or medication which require the written or oral order of a licensed dentist or physician; (4) the administration of injected local anesthetic of any nature in connection with a dental operative procedure; (5) the taking of any impression of the teeth or jaws or the relationship of the teeth or jaws for the purpose of fabricating any appliance or prosthesis; (6) the placing, finishing and adjustments of temporary or final restorations, capping materials and cement bases. They may operate in any office of any licensed dentist or in any public or private institution or in any convalescent home under the general direction of a licensed dentist. The dental commission may suspend or revoke the license of any licensed dentist who permits any dental hygienist operating under his direction to perform any operation other than that permitted under the provisions of this section. Each dental hygienist applying for a license shall present a statement, from the state board of education, that he or she has completed a four-year course at an approved high school or has an equivalent academic education. No license shall be issued by the department to any dental hygienist unless he or she presents a diploma or other certificate of graduation from an educational institution teaching dental hygiene which is approved by the dental commission with the consent of the commissioner of health services. No dental hygienist shall be permitted to practice before having obtained a license from the department of health services. The commissioner of health services, with advice and assistance from the dental commission shall make such regulations as may be necessary for the examination of dental hygienists. The department shall establish a passing score for examinations with the consent of the commission. The department may accept and approve, in lieu of the written examination herein required, the results of an examination in dental hygiene given by the National Board of Dental Examiners. Said department may, upon a satisfactory examination, issue its license to any applicant therefor who furnishes proof satisfactory to said

department that he or she has been licensed to practice as a dental hygienist and has practiced as such in another state after full compliance with the requirements of its dental laws, provided his or her professional education shall not be less than that required in this state. The examination fee shall be seventy-five dollars. The dental commission may take any of the actions set forth in section 19a-17 upon a showing of good cause. No license shall be issued without examination under this section to any applicant against whom professional disciplinary action is pending or who is the subject of an unresolved complaint. The department shall inform the commission annually of the number of applications it receives for licensure without examination under this section.]

(a) AS USED IN THIS SECTION, "GENERAL SUPERVISION OF A LICENSED DENTIST" MEANS SUPERVISION THAT AUTHORIZES DENTAL HYGIENE PROCEDURES TO BE PERFORMED WITH THE KNOWLEDGE OF SAID LICENSED DENTIST, WHETHER OR NOT THE DENTIST IS ON THE PREMISES WHEN SUCH PROCEDURES ARE BEING PERFORMED.

(b) THE "PRACTICE OF DENTAL HYGIENE" MEANS THE PERFORMANCE UNDER THE GENERAL SUPERVISION OF A LICENSED DENTIST, OF EDUCATIONAL, PREVENTIVE AND THERAPEUTIC SERVICES INCLUDING: COMPLETE PROPHYLAXIS; THE REMOVAL OF CALCEROUS DEPOSITS, ACCRETIONS AND STAINS FROM THE SUPRAGINGIVAL AND SUBGINGIVAL SURFACES OF THE TEETH BY SCALING, ROOT PLANING AND POLISHING; THE APPLICATION OF PIT AND FISSURE SEALANTS AND TOPICAL SOLUTIONS TO EXPOSED PORTIONS OF THE TEETH; DENTAL HYGIENE EXAMINATIONS AND THE CHARTING OF ORAL CONDITIONS; DENTAL HYGIENE ASSESSMENT, TREATMENT PLANNING AND EVALUATION; AND COLLABORATION IN THE IMPLEMENTATION OF THE ORAL HEALTH CARE REGIMEN.

(c) NO PERSON SHALL PRACTICE DENTAL HYGIENE AS DEFINED IN SUBSECTION (b) OF THIS SECTION UNLESS SUCH PERSON IS LICENSED BY THE DEPARTMENT OF HEALTH SERVICES. A DENTAL HYGIENIST LICENSED UNDER THIS ACT SHALL BE KNOWN AS A "DENTAL HYGIENIST" AND NO OTHER PERSON SHALL ASSUME SUCH TITLE OR USE THE ABBREVIATION "R.D.H." OR ANY OTHER WORDS, LETTERS OR FIGURES WHICH INDICATE THAT THE PERSON USING THE SAME IS A LICENSED DENTAL HYGIENIST. ANY PERSON WHO EMPLOYS OR PERMITS ANY OTHER PERSON EXCEPT A LICENSED DENTAL HYGIENIST TO PRACTICE DENTAL HYGIENE SHALL BE SUBJECT TO THE PENALTIES PROVIDED IN SECTION 20-126. LICENSED DENTAL HYGIENISTS MAY PROVIDE DENTAL HYGIENE SERVICES IN ANY OFFICE OF A LICENSED DENTIST OR IN ANY PUBLIC OR PRIVATE INSTITUTION OR IN ANY CONVALESCENT HOME UNDER THE GENERAL SUPERVISION OF A LICENSED DENTIST.

(d) A LICENSED DENTAL HYGIENIST SHALL IN NO EVENT PERFORM THE FOLLOWING DENTAL SERVICES: (1) DIAGNOSIS FOR DENTAL PROCEDURES OR DENTAL TREATMENT; (2) THE CUTTING OR REMOVAL OF ANY HARD OR SOFT TISSUE OR SUTURING; (3) THE PRESCRIBING OF DRUGS OR MEDICATION WHICH REQUIRE THE WRITTEN OR ORAL ORDER OF A LICENSED DENTIST OR PHYSICIAN; (4) THE ADMINISTRATION OF LOCAL, PARENTERAL, INHALATION OR GENERAL ANESTHETIC AGENTS IN CONNECTION WITH ANY DENTAL OPERATIVE PROCEDURE; (5) THE TAKING OF ANY IMPRESSION OF THE TEETH OR JAWS OR THE RELATIONSHIP OF THE TEETH OR JAWS FOR THE PURPOSE OF FABRICATING ANY APPLIANCE OR PROSTHESIS; (6) THE PLACING, FINISHING AND ADJUSTMENTS OF TEMPORARY OR FINAL RESTORATIONS, CAPPING MATERIALS AND CEMENT BASES.

[(b) Effective with the registration period commencing the January first following the effective date of the regulations

adopted pursuant to this section, all] (e) ALL licensed dental hygienists applying for license renewal shall be required to participate in continuing education programs. The commissioner shall adopt regulations in accordance with the provisions of chapter 54 to: (1) Define basic requirements for continuing education programs; (2) delineate qualifying programs; (3) establish a system of control and reporting; and (4) provide for waiver of the continuing education requirement by the commissioner for good cause.

Sec. 2. (NEW) Each application for a license to practice dental hygiene shall be in writing and signed by the applicant and accompanied by satisfactory proof that such person has received a diploma or certificate of graduation from a dental hygiene program with a minimum of two academic years of curriculum provided in a college or institution of higher education the program of which is accredited by the Commission on Dental Accreditation or such other national professional accrediting body as may be recognized by the United States Department of Education, and a fee of seventy-five dollars.

Sec. 3. (NEW) Each applicant for a license to practice dental hygiene shall be examined by the department of health services as to his professional knowledge and skill before such license is granted. All examinations shall be given at least once per year and at other times prescribed by the department. Such examination shall be conducted in the English language. The commissioner of health services may accept and approve in lieu of the written examination herein required the results of an examination given by the National Board of Dental Examiners or comparable national examination subject to such conditions as the department may prescribe; and the commissioner of health services may accept and approve in lieu of the written and practical examination herein required the results of regional testing agencies as to written and practical examinations subject to such conditions as the department of health services may prescribe. Passing scores shall be prescribed by the department of health services. The department shall grant licenses to such applicants as are qualified.

Sec. 4. (NEW) The department of health services may without examination, issue a license to any dental hygienist who has provided evidence of professional education not less than that required in this state and who is licensed in some other state or territory, if such other state or territory has requirements of admission determined by the department to be similar to or higher than the requirements of this state, upon certification from the board of examiners or like board of the state or territory in which such dental hygienist was a practitioner certifying to his competency and upon payment of a fee of seventy-five dollars to said department. No license shall be issued under this section to any applicant against whom professional disciplinary action is pending or who is the subject of an unresolved complaint.

Sec. 5. Section 20-112a of the general statutes is repealed and the following is substituted in lieu thereof:

A licensed dentist may delegate to [trained] DENTAL assistants such dental procedures as he may deem advisable, but such procedures shall be performed under his supervision and control and he shall assume responsibility for such procedures; provided such [trained] assistants may not engage in: (1)

Diagnosis [or treatment planning or any procedures requiring professional judgment and skill] FOR DENTAL PROCEDURES OR DENTAL TREATMENT; (2) the cutting or removal of any hard or soft tissue or suturing; (3) the prescribing of drugs or medication which require the written or oral order of a licensed dentist or physician; (4) the administration of [injected local anesthetic of any nature] LOCAL, PARENTERAL, INHALATION OR GENERAL ANESTHETIC AGENTS in connection with [a] ANY dental operative procedure; (5) the taking of any impression of the teeth or jaws or the relationship of the teeth or jaws for the purpose of fabricating any appliance or prosthesis; (6) the placing, finishing and adjustments of temporary or final restorations, capping materials and cement bases; (7) the [removal of calcareous deposits, accretions and stains from the surfaces of the teeth or the polishing of the teeth] PRACTICE OF DENTAL HYGIENE AS DEFINED IN SECTION 20-111, AS AMENDED BY SECTION 1 OF THIS ACT.

Sec. 6. Section 20-114 of the general statutes is repealed and the following is substituted in lieu thereof:

(a) The dental commission may take any of the actions set forth in section 19a-17 for any of the following causes: (1) The presentation to the department of any diploma, license or certificate illegally or fraudulently obtained, or obtained from an institution that is not reputable or from an unrecognized or irregular institution or state board, or obtained by the practice of any fraud or deception; (2) proof that a practitioner has become unfit or incompetent or has been guilty of cruelty, incompetence, negligence or indecent conduct toward patients; (3) conviction of the violation of any of the provisions of this chapter by any court of criminal jurisdiction, provided no action shall be taken under section 19a-17 because of such conviction if any appeal to a higher court has been filed until the appeal has been determined by the higher court and the conviction sustained; (4) the employment of any unlicensed person for other than mechanical purposes in the practice of dental medicine or dental surgery subject to the provisions of section 20-122a; (5) the violation of any of the provisions of this chapter or of the regulations adopted hereunder or the refusal to comply with any of said provisions or regulations; (6) the aiding or abetting in the practice of dentistry, [or] dental medicine OR DENTAL HYGIENE of a person not licensed to practice dentistry, [or] dental medicine OR DENTAL HYGIENE in this state; (7) designating a limited practice, except as provided in section 20-106a; (8) engaging in fraud or material deception in the course of professional activities; (9) the effects of physical or mental illness, emotional disorder or loss of motor skill, including but not limited to, deterioration through the aging process, upon the license holder; or (10) abuse or excessive use of drugs, including alcohol, narcotics or chemicals. A violation of any of the provisions of this chapter by any unlicensed employee in the practice of dentistry OR DENTAL HYGIENE, with the knowledge of his employer, shall be deemed a violation thereof by his employer. The commissioner of health services may order a license holder to submit to a reasonable physical or mental examination if his physical or mental capacity to practice safely is the subject of an investigation. Said commissioner may petition the superior court for the judicial district of Hartford-New Britain*

to enforce such order or any action taken pursuant to section 19a-17.

(b) For purposes of subdivision (8) of subsection (a), fraud or material deception shall include, but not be limited to, the following practices: (1) Submission of a claim form to a third party intentionally reporting incorrect treatment dates for the purpose of assisting a patient in obtaining benefits under a dental plan, which benefits would otherwise be disallowed; (2) increasing a fee to a patient for a DENTAL PROCEDURE OR DENTAL HYGIENE service in excess of the fee generally charged by the dentist for such PROCEDURE OR service solely because the patient has dental insurance; (3) intentionally describing a dental procedure incorrectly on a third-party claim form in order to receive a greater payment or reimbursement or intentionally misrepresenting a dental procedure not otherwise eligible for payment or reimbursement on such claim form for the purpose of receiving payment or reimbursement; and (4) intentionally accepting payment from a third party as payment in full for patient services rendered when (A) the patient has been excused from payment of any applicable deductible by the license holder and (B) such license holder fails to notify the third party of such action.

Sec. 7. Section 20-122 of the general statutes is repealed and the following is substituted in lieu thereof:

No person, except a licensed and registered dentist, and no corporation, except a professional service corporation organized and existing under chapter 594a for the purpose of rendering professional dental services, and no institution shall own or operate a dental office, or an office, laboratory or operation or consultation room in which dental medicine, dental surgery or dental hygiene is carried on as a portion of its regular business; but the provisions of this section shall not apply to hospitals, CLINICS OPERATED BY A PRIVATE NONPROFIT CORPORATION, public or parochial schools, or convalescent homes, or institutions under control of an agency of the state of Connecticut, or the state or municipal board of health, or a municipal board of education; or those educational institutions treating their students, or to industrial institutions or corporations rendering treatment to their employees on a nonprofit basis, provided permission therefor has been granted by the state dental commission. Such permission may be revoked for cause after hearing by said commission.

Sec. 8. Section 20-123 of the general statutes is repealed and the following is substituted in lieu thereof:

Any person who owns or carries on a dental practice or business, or who, by himself or by his servants or agents or by contract with others, performs any operation in or makes examination of, with intent of performing or causing to be performed any operation in, the mouth and surrounding and associated structures, or who describes himself by the word "Dentist" or letters "D.D.S." or "D.M.D.", or in other words, letters or title in connection with his name which in any way represents such person as engaged in the practice of dentistry, or who diagnoses or treats diseases or lesions of the mouth and surrounding and associated structures, replaces lost teeth by artificial ones, attempts to diagnose or correct malposition thereof, or who, directly or indirectly, by any means or method,

furnishes, supplies, constructs, reproduces or repairs any prosthetic denture, bridge, appliance or any other structure to be worn in the human mouth, except upon the written direction of a licensed dentist, or who places such appliance or structure in the human mouth or attempts to adjust the same, or delivers the same to any person other than the dentist upon whose direction the work was performed, or who sells or distributes materials, except to a licensed dentist, dental laboratory or dental supply house, with instructions for an individual to construct, repair, reproduce or duplicate any prosthetic denture, bridge, appliance or any other structure to be worn in the human mouth, or who advertises to the public, by any method, to furnish, supply, construct, reproduce or repair any prosthetic denture, bridge, appliance or other structure to be worn in the human mouth, or gives estimates on the cost of treatment, or who advertises or permits it to be done by sign, card, circular, handbill or newspaper, or otherwise indicates that he, by contract with others or by himself, will perform any of such operations, shall be deemed as practicing dentistry or dental medicine within the meaning of this chapter. Any person who, in practicing dentistry or dental medicine, as defined in this section, employs or permits any other person except a licensed dentist to so practice dentistry or dental medicine shall be subject to the penalties provided in section 20-126. The provisions of this chapter shall not prevent any practicing physician or surgeon from treating lesions or diseases of the mouth and jaws or from extracting teeth. No provision of this section shall be construed to prevent regularly enrolled students in and graduates of dental schools approved as provided in this chapter or medical schools approved as provided in chapter 370 from receiving practical training in dentistry under the supervision of a licensed dentist or physician in a dental or medical school in this state or in any hospital, infirmary, clinic or dispensary affiliated with such school; or to prevent any regularly enrolled student in or graduate of an accredited school of dental hygiene from receiving practical training in dental hygiene under the supervision of a Connecticut licensed dentist or a Connecticut licensed dental hygienist in any approved school of dental hygiene in the state or in any hospital, infirmary, clinic or dispensary affiliated with such school or to prevent controlled investigations or innovative training programs related to the delivery of dental health services within accredited dental schools or schools of dental hygiene, provided such programs are under the supervision of a licensed dentist or physician AND ARE CONDUCTED WITHIN A PROGRAM WHICH IS ACCREDITED BY THE COMMISSION ON DENTAL ACCREDITATION OR SUCH OTHER NATIONAL PROFESSIONAL ACCREDITING BODY AS MAY BE RECOGNIZED BY THE UNITED STATES DEPARTMENT OF EDUCATION.

Sec. 9. Section 20-124 of the general statutes is repealed and the following is substituted in lieu thereof:

No person shall falsely claim to hold a certificate of registration, license, diploma or degree granted by a society, SCHOOL or by the board of dental commissioners, or, with intent to deceive the public, pretend to be a graduate of any dental college, DENTAL HYGIENE PROGRAM OR COLLEGE, or append the letters "D.D.S." or "D.M.D." or "M.D.S." OR "R.D.H." to his name, without having the degree indicated by such letters conferred upon him by

diploma from a college, a school or a board of examiners empowered to confer the same.

Sec. 10. Section 20-119 of the general statutes is repealed.

STATEMENT OF LEGISLATIVE COMMISSIONERS: Obsolete language was removed from section 1 and section 3 and section 4 of the original bill were combined for clarity.

Committee Vote: Yea 23 Nay 0

Ref. #13

Public Health Committee
JOINT FAVORABLE REPORT

Bill No.: HB-6549

Title: An Act Concerning The Department Of Public Health's Oversight Responsibilities Relating To Scope Of Practice Determinations For Health Care Professions.

Vote Date: 3/30/2011

Vote Action: Joint Favorable Substitute

PH Date: Joint Favorable Substitute

File No.: 538

SPONSORS OF BILL: Public Health Committee

REASONS FOR BILL:
To establish a formal process in order to resolve scope of practice issues for health care professionals. This will be under the auspices of the Department of Public Health.
The Substitute Language:
- Insert in Sec. 2 line 95 after commission, "If no such board or commission exists, the commissioner, when selecting a committee member, may consult with any professional association representing the health care profession making the request."
- Insert in Sec. 2 line 99 after ..professions, "(A)"
- Insert in Sec. 2 line 103 after.. commission; "(B) if no such board or commission exists the commissioner, when selecting a committee member, may consult with any professional association representing a health care profession opposing the request; and (C) no health care profession opposing a scope of practice may have more than one person appointed to represent such profession on the committee;"
- Insert in Sec. 2 line 108 after ... committee. "Prior to appointing any member of the committee pursuant to subdivision (3) or (4) of this subsection, the Commissioner of Public Health shall consult with the proponent of the scope of practice request and the opponents of such request."
- Insert in Sec. 2 line 110 after .. subsection. " any person appointed to serve on a committee pursuant to subdivision ((3) or (4) of this subsection shall only serve on one committee during any three-year period. Any physician appointed to the committee pursuant to this subsection shall be licensed in accordance with the provisions of chapter 370 of the general statutes and in active practice."

RESPONSE FROM ADMINISTRATION/AGENCY:
Jennifer L. Filippone, Health Care Systems Branch, Department of Public Health (DPH): DPH supports the development of specific criteria that would provide common standards for submitting scope of practice requests to the legislature and establishing time frames for the submission of such requests as well as any statements of opposition.

DPH is willing to continue to informally meet with professionals to discuss scope of practice issues. In addition to overseeing the process and participating in committee meetings as an ex-officio member, DPH would clearly be responsible for providing administrative direction and support to the scope of practice review committees. DPH cannot absorb the costs associated with this process within our current budget allotment.

NATURE AND SOURCES OF SUPPORT:
Scott A. Bialik, D.D.S.: Deliberating on a request to change a professional scope of practice is an arduous, time consuming, and sometimes an emotionally charged endeavor. H.B. 6549 appears to the vehicle needed to defuse emotions by creating a standardized framework that asks questions and looks at evidence. Evidence is important to determine the impact on quality, safety, access to care, and the cost associated with such a change.

Connecticut's Oral Health Initiative, the Dental Hygiene Association, the Dental Assistance Association, the Connecticut State Dental Association, and the Connecticut Health Foundation have discussed this bill and all have agreed to support it.

Ken Ferrucci, Senior Vice President for Government Affairs, Connecticut State Medical Society (CSMS): CSMS and many national physician medical specialty societies and organizations support the establishment of state-based scope of practice review committees to address what best can be described as scope of practice matters.

The creation of state-based review committees that assess scope of practice requests prior to their introduction to the legislature may serve to expose such requests to the scrutiny necessary to ensure that they are in the best interest of public health and provide the General Assembly additional information for making an informed decision.

CSMS wants to work with the Public Health Committee to ensure that representation on the review committees is appropriate for the proposal submitted, because the present language may not provide for the inclusion of a practicing physician on all matters impacting the practice of medicine.

CSMS also believes that the bill should contain language that clearly delineates the ability for impacted medical specialties to play a role either on the committee itself or to have the opportunity to present any concerning or supportive testimony before the committee.

Christine H. Farber, Director, Connecticut Psychological Association Board (CPA): CPA supports the proposed legislation and any formalized process that aims to make changes to the scope of practice of health care professionals both more objective and more transparent. We support the involvement within the process of the health care professionals whom the changes would affect. Furthermore, we believe that a process marked by objectivity, transparency, and comprehensive disclosure of related information will best protect both the public and the appropriate practice of the professionals involved.

Connecticut Speech-Language-Hearing Association, Inc. (CSHA): CSHA appreciates the effort to make revisions to licensed health care professionals' scope of practice a more orderly and standardized process. Set time lines and the requirement that specific data be provided will guide professional groups in considering proposed scope of practice revisions carefully.

We want to be ensured that different disciplines cannot open another's scope of practice without communication between the professions and the challenging profession bringing to the discussion the same documentation that a profession would need to collect to propose a change in their own scope of practice.

Regarding the composition and function of the Scope of Practice Committee as defined in Section 2 (a); we need to know more about the committee before we can support the concept. We are concerned that initially professions with licensure boards could be overrepresented on the committee because those board members are an existing pool of candidates and the Department of Public Health would have little time to develop procedures for selecting other professionals.

We are concerned that with two professionals included with no personal or professional interest in the scope of practice request may result in recommendations being made by people who do not understand the professional skills of the group seeking the change.

Carolyn J. Malon, DDS: HB 6549 provides a mechanism to ensure that the expansion of scope is necessary and appropriate.

John J. Mooney, DMD: HB 6549 sets forth a process with formal protocols that will allow legislators to make informed decisions on requests for increased scopes.

The establishment of committees to review scope requests is appropriate as long as the members of the committee have the background and specific expertise to effectively adjudicate each request. It is not clear that the language as it is currently written, clearly incorporates the need for such expertise. I support a committee structure that will find the proper balance of impartiality and expertise, and will have access to the most current and accurate information available.

Bruce Tandy, D.M.D., Past President, Connecticut State Dental Association (CSDA): The bill establishes a process to take the emotion out of the scope of practice debates for all professions, develops evidence based parameters for decision making, involves impartial committee members, and will ultimately help guide the final decision making by the Public Health Committee and the Connecticut State Legislature.

Jonathan B. Knapp, D.M.D.: The implementation of an evidence-based methodology to address the increasing scope of practice requests would be a very positive step forward. I favor the provisions that require the submission of appropriate supporting documentation when an increase of scope is requested. In addition to the breadth of required input, I ask that the process establish standards for determining the validity of the information submitted.

The establishment of committees to review the scope requests is appropriate as long as the members of the committee have the background and specific expertise to effectively adjudicate each request. It is not clear that the language as it is currently written, incorporates the need for such expertise.

This is a most unusual "win/win/win" proposal. The legislature wins because these issues are handled thoughtfully, efficiently, and with expertise. The professions win for the same reason, and most importantly, the citizens of Connecticut win when changes in scope of practice are made appropriately and for the right reasons.

Allen Hindin, DDS, MPH: I have frequently participated in writing proposed regulations and bills related to dental care in Connecticut. It is from this perspective that I have grown to appreciate how difficult a task legislators have making decisions related to scope of practice. I believe that a mechanism for objectively evaluating proposals would be helpful; and H.B. 6549 is that mechanism.

Justin LeDuc, Connecticut Athletic Trainers' Association: This bill would relieve the legislature of having to make decisions about scope of practice, which many members often feel unqualified to make, particularly when there is disagreement among professions about the requested changes. It would make the process much more equitable for emerging professions and those without deep pockets.

The proposed process would allow for scope requests to be evaluated in a more objective fashion by members of multiple health care professions and a member of the public, while allowing both the profession requesting the change and others who oppose the change to be heard in a formal manner. By requiring the issues between professions that arise when there are scope of practice requests to be resolved prior to these requests reaching the legislature, the onus for resolving such conflicts is taken off legislators.

College graduates should be able to find opportunities to practice to the fullest extent of their education and training without having to leave the state. When professional practice evolves, and practice standards change, the statutes must also change to keep up.

Connecticut ENT Society, Connecticut Urology Society, Connecticut Society of Eye Physicians, Connecticut Dermatology and Dermatologic Surgery Society: We believe Connecticut's citizens will be best served if all scope of practice issues are determined after consideration of objective, well documented criteria with the ultimate goal of protecting the safety of all patients. The deliberative process needs to be transparent, impartial, and free of special interest or personal influence. We encourage the requirement of notification to DPH prior to legislative session when scopes of practice issues are being considered. We also strongly support the concept that demonstrating a verifiable, compelling need for any change proposed. The presumption should be that the scope of practice should not change; placing the burden of proof on the petitioner to demonstrate a need that justifies further action by the legislature. We encourage further use of mediation.
We believe the bill can be strengthened further with the adoption of additional requirements for changing any scope of practice:

- Education purported to support the petition for expansion should be explicitly detailed.
- It should be required that practitioners fully identify themselves by degree and qualification when presenting themselves to patients prior to providing health care services.
- The exclusionary language for the at-large professional and public members, stating that they have no "personal or professional interest" in the proposed change, should not be interpreted too broadly.
- It is appropriate for one member of the panel to be designated to represent the specific respondent (opposition) specialty as they often have specific insight and experience that would be helpful in the discussion of scope of practice issues.
- Encourage the inclusion of a representative from the two medical schools in the state to be included on the panels, as they would provide insight regarding current medical education.
- Section b (8) should include malpractice data where it is available.
- Section b (10) needs a longer time frame. We recommend a period of at least 30 days for review.
- The deadline date for the rebuttal for the applicant should also be at least 30 days.

Dr. Linda Erlanger, Advocacy Consultant, Connecticut Oral Health Initiative (COHI): The bill proposes a fair and balanced process to evaluate evidence for the requested changes to a scope of practice. This evidence

is important to determine the impact on quality, safety and access to care if, or when, scope of practice advancements are recommended for legislative review.

John Satterfield, M.D., President, Connecticut State Society of Anesthesiologist (CSSA): Legislators do not have the time or resources to completely understand the implications of each scope of practice proposal. Additionally, any requested change needs to be thoroughly evaluated, in an unbiased fashion, to ensure patient safety.

The creation of a state level scope of practice review committee that assesses scope of practice initiatives prior to submission of legislation, would serve to create a level playing field for discussion. This process would allow for ample time for DPH's review committee to make assessments before the legislative session begins.

Stephen Karp, MSW, Executive Director, National Association of Social Workers (NASW) Connecticut: We feel that having a process at the front end before legislation is offered that requires professions to address issues of need and impact is a reasonable requirement that should lead to better legislation.

We recommend the following language modifications:
- Section 1 (5); we urge that the language *"and the impact that the request will have on current regulatory oversight"* be deleted.
- Section 1 (11) (d): We recommend a 30 day response period with an October 15th deadline.

Connecticut Speech-Language-Hearing Association, Inc. (CSHA): CSHA appreciates efforts to revise the process for making scopes of practice changes a more orderly and standardized process; setting time lines and the requirement that specific data be provided.

However we have some questions about the bill:
- We want to ensure that different disciplines cannot open another's scope of practice without communication between the professions and the challenging profession bringing to the discussion the same documentation that a profession would need to collect to propose a change in their own scope of practice.
- Section 2 (a) regarding the composition and function of the Scope of Practice Committee – we need to know more about the committee before we can support the concept. What process will the DPH use to identify potential committee members from those professions that do not have licensure boards?
- What preparation or guidance will members be given prior to participating on the committee?

NATURE AND SOURCES OF OPPOSITION:
Connecticut Academy of Physician Assistants (ConnAPA): We have concerns with the list of 11 pieces of information that professions seeking a change in their scope of practice would be required to provide to DPH. They cannot feasibly be provided by any person or entity, acting on behalf of a health care profession. We are especially concerned with Items 8 and 9 on the list. In addition we do not feel item 7 is relevant.

Physician assistants embrace a physician-delegated scope of practice. Supervising physicians should delegate services to a PA based on the experience and skill of the individual PA, the nature of the physician's practice and the complexity of the patient population.

Dr. Brian T. Lynch, Connecticut Association of Optometrists (CAO): When legislation is proposed, a public hearing is held and all involved parties are able to make their case and educate legislators regarding the nuances of the proposal. A decision is then made. It may be uncomfortable at times and may not produce the desired outcome, but the process is a democratic one.

Scope of practice issues are viewed as "turf battles" between the professional groups. Legislators are left in the middle trying to sift through volumes of information to determine the best outcome for Connecticut's citizens. This is not unlike "non-scope" issues that are handled regularly.

Should every legislative committee faced with issues they aren't experts in refer the decision to a committee of experts?

Should HB 6549 become law, only non-MD providers would be bound to adhere to this proposed process. Since all non-MDs are legislated professionals where new technologies, new techniques or contemporary education exceeds our statutory abilities, we would have to argue our case to this appointed committee, potentially comprised of one professional seeking expansion, one layperson and 6 MDs. As a non-MD provider I'm skeptical about my chances before this committee.

The bill is an obstacle to the growth of all non-MD providers. You are embroiled in a turf battle about turf battles.

Gina M. Carucci, President, Connecticut Chiropractic Association (CTChiro): We believe the process proposed in the bill is flawed. The composition of the ad-hoc committee to deliberate the merits of the request is what we take exception to.

We believe this proposed process would make it very easy for the medical profession to squash any attempts at scope change by Chiropractors". The petitioning profession could in effect, be blocked from even submitting legislation, something we view as very un-democratic. The composition of this panel invites anti-competitive behavior.

Our opposition to this measure occurs in context of historical precedent.

Dr. Mary Jane Williams, Connecticut Nurses Association: Decisions should not be made related to change based on controversy but ultimately what is good for the public we serve.
The current proposed legislation does not reflect best practice regarding scope of practice procedures. It will create a system that will be time intensive and subjective at best.

If we recognize nursing as a profession, based on the tenets of a profession, that nursing is autonomous and self regulating we must also make regulations for nurses and its members that facilitate its determination of scope of practice without the current impediments that continue to inhibit nurses from functioning at their level of education and current scope of practice.

AFT Connecticut: The current practice of defining scope of practice in statute and amending them through the legislative process has allowed health care professionals and policy experts to share experiences and recommendations with the legislature. We strongly believe that this part of the process must be maintained and perhaps, enhanced.

While the legislative process can be slow, and legislators, as part-time lawmakers, may not have in-depth knowledge about a particular practice area, the General Assembly, like no other entity, has the ability and the resources to gather input from relevant experts and stakeholders statewide. Through this process AFT Connecticut, like other professional organizations, has been able to share concerns with decision makers about how changes to a practice act would impact practitioners and their ability to deliver safe, quality health care services.

Without including a process to solicit feedback and expertise from all stakeholders, any method for altering practice acts would be doomed to fail. For this reason, AFT Connecticut encourages the Public Health Committee to maintain an avenue for health care professionals and their advocates to engage in meaningful discussion that will result in scopes of practice that accurately reflect the needs of the workers, consumers and the health care industry.

Mary Denise Moller, Associate Professor of Nursing, Yale School of Nursing, CT State Chapter of the American Psychiatric Nurses Association (APNA): The bill will have serious ramifications on Connecticut's system of care and access to care for many underserved citizens for years to come.

The process should allow for, and welcome comments by those in support of a request, and they also should have a place at the table.

Section 1 (f) appears to be delineating a process to avoid all requests going to DPH. As a matter of good public policy I urge you to expand the criteria to reflect a basis decision that is in tune with scope decisions. Something like:
Identify those requests that do not represent any significant change in scope, but rather represent the formalization of changes already occurring in education or practice within a profession, due to the results of research, advances in technology and changes in healthcare demands, among other things; and that from a regulatory perspective, clearly meet appropriate requisite training, poses no health or safety issue, benefits the public, and has no negative impact on access to care.

Dianne Murphy, RN, APRN, CRNA, MS, Connecticut Association of Nurse Anesthetists (CANA): The proposal is flawed. The thrust of much of the work on Scope of practice reform by the Institute of Medicine and others is to make it easier for all health care professionals to practice to the full extent that their education and skill allow. Their goal is to make Scope of Practice decisions less contentious and to move away from a model

where all changes are seen as turf battles and toward a more inclusive view where increasingly there will be areas of overlap among the Scopes of Practice of healthcare professionals.

The proposal still appears to be grounded in the dated assumption that all non-physician scope of practice issues are attempts to encroach upon a physicians' scope of practice, rather than viewing the issues as the efforts by a set of healthcare professionals to practice to the full extent of their skills and education.
Additional concerns:

- The question of exactly what constitutes a scope of practice change what entity determines it is not addressed.
- There is a very physician-centric view of the complex healthcare field, when this is no longer the dominant viewpoint among forward looking policy leaders.
- Physicians who broaden their practice are not affected by the requirements of this bill.
- It is too closely modeled on the American Medical Association Scope of Practice Campaign Advocacy Resource Center's document "Creation of State-based Scope of Practice Review Committees Legislative Template".
- The AMA's public position is to oppose any scope of practice change as an "expansion" by non-physician health professionals. The AMA attempts to stifle efforts by non-physician health professionals to make any changes in their scopes of practice.
- Reporting on the economic impact on the profession creates a double standard. Physicians who already have all-encompassing scopes of practice do not need to request a change and therefore never have economic interest evaluated. Conversely, all other professionals have motives dissected. It is anticompetitive.
- Who determines what profession would be impartial?

Tri-Council for Nursing: Our organization endorses the Institute of Medicine report on the future of nursing which calls for collaboration among stakeholders to advance nursing.

Reported by: Randall Graff **Date:** 3/31/2011

Ref. #14

Human Services Committee
JOINT FAVORABLE REPORT

Bill No.: HB-5355
Title: AN ACT CONCERNING AN ADVANCED DENTAL HYGIENE PRACTICE PILOT PROGRAM.
Vote Date: 3/23/2010
Vote Action: Joint Favorable Substitute
PH Date: 3/2/2010

SPONSORS OF BILL:
Human Services Committee, Rep. Nardello

REASONS FOR BILL:
To establish a pilot program to provide advanced dental hygienist practitioner services in public health facilities located in the City of Bridgeport.
Amendment A passed and modified Section 1, subsection (b), lines 29 and 72, to replace the word "Hartford" with the word "Bridgeport" because the University of Bridgeport will be undertaking the program.
The substitute bill extends the following dates:
- *Section 13(g) Each insurance company that issues professional liability insurance, as defined in subsection (b) of section 38a-393 of the general statutes, shall, on and after January 1, 2013 render to the Commissioner of Social Services a true record of the names of persons issued professional liability insurance ..."*
- *Section 13(h) The pilot program shall commence on or before January 1, 2013, and shall terminate not later than January 1, 2014.*
- *Section 13(i) The Commissioner of Social Services, in consultation with the Commissioner of Public Health, shall report, in accordance with section 11-4a of the general statutes, to the joint standing committees of the General Assembly having cognizance of matters relating to public health and human services not later than July 1, 2014, concerning the results of such pilot program."*

RESPONSE FROM ADMINISTRATION/AGENCY:
Michael P. Starkowski, Commissioner, Department of Social Services, testified, "This bill is a scope of practice bill that expands the role of dental hygienists. The activities and licensure practices in the State of Connecticut are under the Department of Public Health (DPH) and do not fall within the jurisdiction of the Department of Social Services. We feel that the pilot program contemplated in this bill has inappropriately been placed under the Department of Social Services."
"Moreover, this type of pilot program is not fundable as a Medicaid service and would not qualify for federal match. This pilot should be funded as a grant under the direction of DPH."
If the pilot were successful, and the scope of practice of dental hygienists were expanded, this could be included as a Medicaid covered service and might be cost-effective. However, this would have to be examined more carefully."

Jennifer Filippone, Health Care Systems Branch, Department of Public Health, testified:
"To be considered an advanced dental hygiene practitioner, a licensed dental hygienist would be required to present documentation to the Department of Public Health of having graduated from a master's degree program in advanced dental hygiene from an institution of higher learning that is accredited by the Department of Higher Education. However, the bill does not require the licensed hygienist to pass a competency examination or maintain continued competency related to advanced dental hygiene practice similar to that which is required for other midlevel health practitioners such as physician assistants or advanced practice registered nurses. Additionally, the bill does not include requirements for education, training and competency demonstration related specifically to the administration of local anesthesia and prescriptive authority. The Department would also like to highlight the following additional concerns:
- The bill requires the dental hygienist to submit evidence of completion of a master's degree to the Department, but it is not clear whether the Department would be required to review and approve the coursework.

• The bill does not address the frequency in which collaborative agreements between advanced dental hygiene practitioners and dentists would be reviewed. The Department recommends that such agreements be reviewed on at least an annual basis.
• It should be noted that controlled substances can only be prescribed by practitioners who hold a controlled substance permit issued by the Department of Consumer Protection. This bill does not authorize the Department of Consumer Protection to issue or establish eligibility requirements to issue controlled substance permits to advanced dental hygiene practitioners.
• The bill does not make it clear that disciplinary action can be taken against an advanced dental hygiene practitioner's dental hygiene for practice related issues, nor is clear that action can be taken against a dentist's license related to the collaborative practice agreement.
• The bill requires the pilot program to begin on or before 7/1/2011. The Department has confirmed with the Department of Higher Education that there are no advanced dental hygiene programs that have been approved in Connecticut. As such, there are no programs that would graduate students before July 2011. (*Writers note: The substitute language changed the pilot program to commence on or before January 1, 2013.)*"
"The Department of Public Health has worked with the Public Health Committee as well as interested stakeholders concerning this proposal in the past and would be pleased to continue to do so moving forward."

Vickie O. Nardello, State Representative, testified in favor of this bill, stating "Unfortunately, as we sit here today there are still 50% of HUSKY eligible children that receive no dental treatment", and asked the committee to "consider amending the language to establish the mid level dental practitioner in law without a pilot. A pilot program will take 18-24 months and result in six practitioners. Without the pilot we estimate a class of thirty who would then be ready to practice in the same time frame. Fifty three countries have a mid level dental provider. In the 1970's Forsyth School of Dental Hygiene trained dental hygienists to be mid level providers through the Rotunda Project. Evaluations of those participating lauded the quality of the work as compared to dental students and yet the participants were never allowed to practice because of concerns from the dental community."

NATURE AND SOURCES OF SUPPORT:
Laurel Risom, RDH, MPH, CDHA Vice President, Clinical Assistant and Community Professor, University of Bridgeport, Fones School of Dental Hygiene, testified, "We refer people for necessary dental treatment, but many of these people have limited access to care, an inability to get to the care, and limited financial resources to seek their needed dental treatment. This bill will serve our citizens in underserved public health settings, such as adult day care, nursing homes, senior centers, mental health facilities, etc."

Meg Zayan, RDH, MPH, EdD, Dean, University of Bridgeport – Fones School of Dental Hygiene, testified, "When it comes to the educational program in support of patient services, the ADHP educational framework is similar to that of a dental curriculum in areas where similarities occur, thereby providing comparable patient and public safety. The implementation of a pilot program requires baseline statistics and post statistics. All required statistics will measure the degree of success of the pilot program."

Lisa Reynolds, Executive Director, Connecticut Oral Health Initiative (COHI), testified, "COHI supports increased access to oral health services. Since the settlement of the Carr v. Wilson lawsuit, Connecticut has made tremendous strides in providing oral health care, particularly to children covered by Medicaid. In less than two years we've increased the number of providers in the Connecticut Dental Health Partnership from a few hundred to well over 1,000. Governor Rell, in her latest deficit mitigation plan, has called for the suspension of non-emergency dental services for adults covered by Medicaid and SAGA. These are routine, affordable services that actually save money, ensure appropriate care and are matched by federal dollars. Connecticut has already lost opportunities to bring federal funding into our state; we cannot afford to lose any more."
"As you ponder the merits of Bill 5355, you may wish to consider these two points. First, while the bill provides a baseline for the parameters of the collaborative management agreement, what would happen in the actual daily practice should a problem arise that the hygienist cannot immediately handle? And the second point is malpractice. Is that risk shared by both the hygienist and the dental management partner,

who in turn could become a party to a potential lawsuit? COHI applauds the intent of this bill to create a larger pool of qualified health care providers, which in turn fosters oral health for all. Equally important is the provision of oral health services, including non-emergency dental care for adults covered by Medicaid and SAGA."

Mary Farnsworth, Manager of Community Health and Wellness Programs for the Community Health Center, Inc., testified, "For the children enrolled in our mobile dental program their barriers to accessing regular, preventive dental care are essentially eliminated. We cannot say the same for follow-up care. In our program, over 30% of the children need additional care, but only between 14-25% come to the dentist to complete their care. We have experimented with adding dentists to the mobile program, who will get into the schools to provide restorative dental care and were able to treat 100% of the children with decay in those instances. However, we have been unable to identify a cadre of dentists and a sustainable model, even after 9 months of recruitment. We have had no such trouble recruiting hygienists for our program. If we were able to have well qualified, advanced dental hygienists with master's level training complete simple restorative care, we could solve the access crisis for restorative dental care for low income children the same way that we have been able to solve it for preventative dental services for children in our mobile dental program. We would simply complete all simple restorative work at the school."

Celeste Baranowski, RDH, Connecticut Dental Hygienists' Association (CDHA), testified that she supports this bill with the following amendments: "1) The geographic area should not be limited; but if there needs to be a limit – limit it to existing Public Health Dental Hygiene programs – where there is a proven need for this cost effective workforce model; and, 2) I did not envision the need for a pilot program. The ADHP Master's is an 18 month program, so the time may need to be amended to 2 or 3 years. This safe and cost effective workforce model will be built on a licensed professional, the Registered Dental Hygienist. This legislation would be asking working, licensed dental health professionals to spend time and money without the guarantee or the possibility of return on their investment. The certification is extensive. There will be funding concerns for the universities that offer the ADHP Masters and certification. We commend the committee's proposal for this pilot, however, the pilots have already been successfully done - twice in Massachusetts at Forsyth School of Dental Hygiene and also at the University of Kentucky."

Diane Dimmock, RDH, MEd, testified, "When I worked in the school-based dental clinics, I routinely saw small lesions grow into large ones, and what could have been a simple procedure too often became a pulpotomy or even an extraction – all due to the inability of the few dentists we had on board to "get to" all the kids – prioritization meant that the most severe decay had to be treated first and the smaller, less severe decay had to wait. Despite the fact that Connecticut does have many dentists, the reality is that there are not enough in the safety-net facilities where the problems lie, nor is there any likelihood that this reality will significantly change. It will be cost-effective to employ ADHP's whose salaries will be comparable to nurse practitioners. According to my documentation in the HPS, 3 years ago, it cost 38% more to employ a dentist than a mid-level provider (nurse practitioner or ADHP). These savings translate into increased services for the underserved."
Jody Bishop-Pullan, RDH, BS, testified, "Even with the increase in the number of dentists taking the HUSKY insurance, the percentage of children receiving care was up only three percentage points from last year."

Katherine S. Yacavone, President/CEO, Southwest Community Health Center, Bridgeport, testified, "Our dental hours of operation for 2 sites include expanded evening hours twice a week until 8:00pm and Saturdays from 9:00am to 1:00pm. The Southwest oral health providers tell me that there is "never enough" time in the day to meet the clients' demand for care. The addition of practitioners, working side by side with dentists, would expand the range of palliative and therapeutic services, which, in turn, would allow the dentists to devote their clinical time to the treatment of more advanced restorative procedures."

The following people provided similar testimony supporting this bill:
Christel Autori, RDH
Wanda M. Nelson, RDH, MS

NATURE AND SOURCES OF OPPOSITION:
The **American Dental Association (ADA)** provided written testimony: "Proper financing of Medicaid and SCHIP dramatically increases access to care and therefore applaud the significant progress lawmakers instituted in 2008 to increase funding for dental Medicaid services. **The ADA welcomes the appropriate expansion of services by dental assistants as one approach to the access problem. Appropriately educated and trained dental assistants are proven assets to the dental team and help dentists to deliver care more efficiently, permitting more people to receive the comprehensive oral health care they deserve.** However, the ADA cannot support any call for the development of an "advanced" dental hygiene position that would work ostensibly without the involvement of a dentist. Further, some proposals make a grave error by attempting to establish education programs that are not accredited by the Commission on Dental Accreditation (CODA) which is the recognized accrediting body for dental, advanced dental and allied dental programs across the nation. The ADA would urge lawmakers to reject any attempts to circumvent the established system of accreditation that has, and continues to, serve the public well."

Bruce Tandy, President of the Connecticut State Dental Association (CSDA), testified, "Access to care in Connecticut has taken a leap forward following the settlement of a 7 year lawsuit to increase Medicaid reimbursement for children under the age of 21. Dentist participation increased to over 1000 providers bringing the capacity in the system to its highest level in a decade. Utilization has increased to one of the highest levels in the nation with the increase in case workers and school based programs. The PEW Foundation has just awarded the state of CT an "A" in handling access to care for children, one of only 6 states in the nation. All of this has been accomplished in a collaborative effort by the CSDA, oral health collaborative groups, and the state government agencies of DPH, DSS and the legislature. The CSDA has found that access to care and scope of practice is really mutually exclusive. Increasing scopes of practice has **not shown to increase access** to dental care for the target populations in applications internationally and domestically except in highly specific instances where major government funding was provided. This bill provides no measurements and presupposes a specific outcome."

Jon Davis, D.M.D., President Elect of the Connecticut State Dental Association (CSDA), testified , "The pilot study has no stated outcome objectives and no procedures to measure the outcome but states that after one year the report shall include, but not be limited to recommendations to expand the pilot to other geographic areas of the state. So the legislation already concludes the pilot will be successful before it is even done and expansion is a foregone conclusion. Connecticut enjoys the second highest ratio of dentists to population in the country. Utilization rates are 41% for Husky children compared to 65% for children with private insurance. With increased funding for school based clinics, utilization could be increased further."

Doug Keck, Connecticut State Leader of the American Academy of Pediatric Dentistry/Office of Head Start Dental Home Initiative, testified, "Some of the procedures proposed in the legislation of the pilot program would require more training and supervision than is specified in this bill." "I am concerned with specific language in the bill that mentions that the providers in this pilot would work with Head Start programs. Thus far, I have recruited more than 50 providers across the State to assist in providing "dental homes" for Head Start students. The CT State Dental Association has recruited more than 1,000 providers to treat "Husky" patients across Connecticut. It seems we are making progress in this difficult task without adding a pilot program that has no outcome metrics or by adding another member to the dental "team"."

Fred Thal, D.D.S., testified, "This legislation is not needed, would be expensive to implement, would not result in improved access to care for the underserved, and would require a new layer of regulation. There are several approaches that are already being taken: 1) The CSDA supports the expansion of school-based dental services; 2) The DPH's Oral Health Office is developing and implementing the Home By One program which recruits and trains dentists to see children by their first birthday in order to prevent some of the dental disease seen in young children. Much of this service can be performed by Registered Dental Hygienists (RDH) under the general supervision of a licensed dentist; and, 3) The American Academy of Dentistry for Children (AAPD) has a project that is being developed in Connecticut and in other selected states to bring oral health services to children in the Head Start program."

"School-based services resolve several of the major barriers to dental care. Services are provided in a setting which is familiar and comfortable to children. Parents do not have to take time off work to take children to dental appointments."

Kurt Koral, D.D.S., Acting Chief and Chief of Dentistry, Yale New Haven Hospital, testified, "The average pay, including benefits, of dental hygienists at Yale New Haven Hospital is approximately $85,000 a year. A mid-level practitioner will be paid a significantly higher salary. Dental residents are paid approximately $49,000 a year at Yale New Haven Hospital and their salary is fully reimbursed by Medicare. Thus, using the mid-level dental hygiene practitioner at Yale New Haven Hospital would not be cost effective and would make access even more difficult."

Ann Marie Mancini, DMD, testified that there is a discrepancy in the bill: "In one instance the bill purports to give an "advanced dental hygiene practitioner" the power to "perform nonsurgical extraction[s]" yet, in another instance the bill would allow "advanced dental hygienist practitioner[s]" to "place and remove sutures"; sutures being among a class of surgical procedures. This discrepancy begs the question, if "advanced dental hygiene practitioner[s]" are to be performing "nonsurgical extractions" why would they have the need to employ any surgical procedures to close the wound? For this reason, the bill is conceding that extractions are indeed surgical procedures. A practitioner's lack of knowledge as to the risks would result in a situation where the patient's life could be threatened or where the patient could suffer potential harm."

Tina Liang, DMD, testified, "Licensed dentists must successfully complete a 4 year accredited dental school program with passing many levels of written and clinical proficiency examinations. As a former Director for a level-one trauma hospital based General Practice Residency Program, I have concerns about the same level of provider in performing extractions ... many "simple extractions" become surgical extractions after treatment begins. The outcome is unpredictable and I envision potential serious complications such as bleeding, swelling and infection for the patients."

Jonathan Knapp, D.M.D, testified, "Last year, the General Assembly chose to charge the Program Review and Investigation Committee (PRI) with the task of researching and providing recommendations on ways that the legislature can manage "scope" issues. The PRI research has occurred and has resulted in a bill that is making its way through the legislative process. Until that journey is complete, consideration of HB 5355 is premature."

Albert A. Natelli, Jr., DDS, and Town Councilor in Southington, testified that he was concerned as to how this bill will be funded when there are "unfunded mandates that need to be looked at" while the state is "nearly $500 million in debt this year and nearly $1 billion next year".

Scott Bialik, D.D.S, testified, "The Department of Oral Health, a division of the Connecticut Department of Public Health, has determined that there are a sufficient number of dentists in Connecticut to meet the needs of the population. What we lack is funding for the adult population. Prior to solving a problem by instituting this particular model of health care provider, perhaps it would be a good idea to decide what problem exists. Currently there is no evidence available from any state that shows expanding the scope of practice of Hygienist improves access to care."

Anianette W. Giertsen, DDS, MS, testified, "Before attending dental school, I was a dental hygienist for 15 years. Stated frankly, I did not know what I did not know. Now having 11 years (4 years to attain a BA, 4 years to attain a DDS degree, and 3 years to attain a certificate in endodontics) of tertiary education, including related degrees and certificates, I see the minimal education requirements of the proposed Advanced Dental Hygiene Practitioner (ADHP) as inadequate. For example, the clinical curriculum of the proposed ADHP program contains 1 credit hour in Management of Dental Emergencies and Urgent Care. That is 45 clock hours of exposure in developing these competencies. Dental emergencies and urgent care are an integral part of my specialty practice, which again, required 11 years of tertiary education. The equivalent of 1 week of education in said area of dentistry is in no doubt inadequate."

The following people provided similar testimony opposing this bill:

Lawrence J. Singer, DDS, Past President, Connecticut State Dental Association
Frank L. Kuzmin, DMD
John P. Kelly, DMD, MD, Chief of Oral and Maxillofacial Surgery and Director of the Residency Training Program in Oral and Maxillofacial Surgery at the Hospital of St. Raphael
William A. MacDonnell, D.D.S.
Gary K. Dubin, D.D.S
Kevin McLaughlin, D.D.S
Jeffrey Rosow, DMD
Elise M. Cozzi, DMD
David P. Bell, DMD
Barry J. Weiss, D.M.D., President, New Haven Dental Association; member Board of Governors, Connecticut State Dental Association; President, Connecticut Society of Periodontists
Steve Hall, DMD
Allen Hindin, DDS, MPH
Jack Mooney, DMD
Carolyn J. Malon, D.D.S.
John R. Gagne, DDS, FICD
Dr. Jeanne Strathearn
Dr. Peter Katz
Dr. Lance Banwell
Dr. Elliot Berman
Dr. Marty Ungar

Reported by: Barbara DeMaio **Date:** 3/31/10

Ref.
#15

General Assembly

Raised Bill No. 5258

February Session, 2010

LCO No. **1161**

01161_____PRI

Referred to Committee on Program Review and Investigations

Introduced by:

(PRI)

AN ACT IMPLEMENTING THE RECOMMENDATIONS OF THE PROGRAM REVIEW AND INVESTIGATIONS COMMITTEE CONCERNING SCOPE OF PRACTICE DETERMINATIONS FOR HEALTH CARE PROFESSIONS.

Be it enacted by the Senate and House of Representatives in General Assembly convened:

Section 1. (NEW) (*Effective July 1, 2010*) (a) Not later than September 1, 2010, and annually thereafter, any person or entity, acting on behalf of a health care profession that seeks to advance legislation in the following year's legislative session that would result in a statutory change to such profession's scope of practice or the enactment of new statutory provisions setting forth the scope of practice, shall submit a written scope of practice request to the Department of Public Health.

(b) Any written scope of practice request submitted to the Department of Public Health shall include the following information:

(1) A plain language description of the request;

(2) Public health and safety benefits that the requestor believes will be achieved should the request be implemented and, if applicable, a description of any harms to public health and safety should the request not be implemented;

(3) The impact that the request will have on public access to health care;

(4) A summary of state or federal laws that govern the health care profession making the request;

(5) The state's current regulatory oversight of the health care profession making the request and the impact that the request will have on current regulatory oversight;

(6) All current education and training requirements applicable to the health care profession making the request;

(7) All scope of practice changes either requested or enacted concerning the health care profession in the five-year period preceding the date of the request;

(8) The number and types of complaints, professional disciplinary actions and malpractice claims brought against the health care profession in the five-year period preceding the date of the request;

(9) The anticipated economic impact to the health care professions affected by the request;

(10) Regional and national trends concerning licensure of the health care profession making the request and a summary of relevant scope of practice provisions enacted in other states; and

(11) Identification of any health care professions that can reasonably be anticipated to oppose the request, the possible nature of opposition to the request and efforts made by the requestor to secure support for the request from other health care professions, including identification of areas of agreement between any affected health care professions.

(c) Not later than September 15, 2010, and annually thereafter, the Department of Public Health shall: (1) Provide written notification to the joint standing committee of the General Assembly having cognizance of matters relating to public health of any health care profession that has submitted a scope of practice request to the department pursuant to this section; and (2) post any such request on the department's web site, such posting shall include the name and address of the requestor.

(d) Not later than October 1, 2010, and annually thereafter, any person or entity, acting on behalf of a health care profession that opposes a scope of practice request submitted

pursuant to this section may submit to the department a written statement in opposition to the scope of practice request. Any such person or entity opposing a scope of practice request shall indicate the reasons for opposing the request taking into consideration the criteria set forth in subsection (b) of this section and shall provide a copy of the written statement in opposition to the scope of practice request to the requestor. Not later than October 15, 2010, the requestor shall submit a written response to the department and any person or entity that has provided a written statement of opposition to the scope of practice request. The requestor's written response shall include a description of areas of agreement and disagreement between the respective health care professions.

(e) Any health care profession that fails to comply with the provisions of this section in making a scope of practice request shall be prohibited from seeking legislative action on the scope of practice request until such time as the health care profession is in full compliance with the provisions of this section.

Sec. 2. (NEW) (*Effective July 1, 2010*) (a) On or before November 1, 2010, and annually thereafter, the Commissioner of Public Health shall establish and appoint members to a scope of practice review committee for each timely scope of practice request submitted to the department pursuant to section 1 of this act. Committees established pursuant to this section shall consist of the following members: (1) One member representing the health care profession making the scope of practice request, provided if a state professional board or commission exists under subsection (b) of section 19a-14 of the general statutes for the health care profession making the request, the member shall be selected from such board or commission, (2) in the event that one or more persons or entities, acting on behalf of health care professions, have submitted a written statement pursuant to subsection (d) of section 1 of this act, the commissioner shall appoint one member to represent such health care professions, provided if a state professional board or commission exists under subsection (b) of section 19a-14 of the general statutes for any of the professions opposing the request, the member shall be selected from such board or commission, (3) two health care professionals licensed in this state who have no personal or professional interest in the scope of practice request, (4) a member of the general public who has no personal or professional interest in the scope of practice request, and (5) the Commissioner of Public Health or the commissioner's designee, who shall serve as an ex-officio, non-voting member of the committee. The committee shall select its chairperson from among the members appointed pursuant to subdivisions (3) or (4) of this subsection. Members of such committee shall serve without compensation.

(b) Any committee established pursuant to this section shall review and evaluate the scope of practice request, subsequent written responses to the request and any other information the committee deems relevant to the scope of practice request. The committee, when carrying out the duties prescribed in this section, may seek input on

the scope of practice request from the Department of Public Health and such other entities as the committee determines necessary in order to complete its written assessment and recommendations as described in subsection (c) of this section.

(c) The committee, upon concluding its review and evaluation of the scope of practice request, shall provide a written assessment of the scope of practice request and, if applicable, suggested legislative recommendations concerning the request to the joint standing committee of the General Assembly having cognizance of matters relating to public health. The committee shall provide the written assessment and any legislative recommendations to said joint standing committee not later than the February first following the date of the committee's establishment. The committee shall terminate on the date that it submits its written assessment and any legislative recommendations to said joint standing committee.

Sec. 3. (NEW) (*Effective July 1, 2010*) On or before September 1, 2013, the Commissioner of Public Health shall evaluate the processes implemented pursuant to sections 1 and 2 of this act and thereafter report to the joint standing committee of the General Assembly having cognizance of matters relating to public health, in accordance with the provisions of section 11-4a of the general statutes, on the effectiveness of such processes in addressing scope of practice requests.

This act shall take effect as follows and shall amend the following sections:		
Section 1	*July 1, 2010*	New section
Sec. 2	*July 1, 2010*	New section
Sec. 3	*July 1, 2010*	New section

Statement of Purpose:

To implement the recommendation of the Legislative Program Review and Investigations Committee concerning scope of practice determinations for health care professionals.

[Proposed deletions are enclosed in brackets. Proposed additions are indicated by underline, except that when the entire text of a bill or resolution or a section of a bill or resolution is new, it is not underlined.]

Ref. #16

General Assembly
January Session, 2009

Committee Bill No. 5630

LCO No. **4680**

*04680HB05630PH_*

Referred to Committee on Public Health
Introduced by: (PH)

AN ACT CONCERNING THE ESTABLISHMENT OF LICENSURE FOR AN ADVANCED DENTAL HYGIENE PRACTITIONER.

Be it enacted by the Senate and House of Representatives in General Assembly convened:

Section 1. Section 20-126*l* of the general statutes is repealed and the following is substituted in lieu thereof *(Effective October 1, 2009)*:

(a) As used in this section:

(1) "General supervision of a licensed dentist" means supervision that authorizes dental hygiene procedures to be performed with the knowledge of said licensed dentist, whether or not the dentist is on the premises when such procedures are being performed;

(2) "Public health facility" means an institution, as defined in section 19a-490, a community health center, a group home, a school, a preschool operated by a local or regional board of education or a head start program; and

(3) The "practice of dental hygiene" means the performance of educational, preventive and therapeutic services including: Complete prophylaxis; the removal of calcerous deposits, accretions and stains from the supragingival and subgingival surfaces of the teeth by scaling, root planing and polishing; the application of pit and fissure sealants and topical solutions to exposed portions of the teeth; dental hygiene examinations and the charting of oral conditions; dental hygiene assessment, dental hygiene diagnosis, treatment planning and evaluation; dental triage; the administration of local anesthesia in accordance with the provisions of subsection (d) of this section; and collaboration in the implementation of the oral health care regimen.

(b) No person shall engage in the practice of dental hygiene unless such person (1) has a dental hygiene license issued by the Department of Public Health and (A) is practicing under the general supervision of a licensed dentist, or (B) has been practicing as a licensed dental hygienist for at least two years, is practicing in a public health facility and complies with the requirements of subsection (e) of this section, (2) has an advanced dental hygiene practice license issued by the department and is practicing under a collaborative management agreement with a licensed dentist, or [(2)] (3) has a dental license.

(c) A dental hygienist licensed under sections 20-126h to 20-126w, inclusive, shall be known as a "dental hygienist" and no other person shall assume such title or use the abbreviation "R.D.H." or any other words, letters or figures which indicate that the person using such words, letters or figures is a licensed dental hygienist. Any person who employs or permits any other person except a licensed dental hygienist to practice dental hygiene shall be subject to the penalties provided in section 20-126t.

(d) A licensed dental hygienist may administer local anesthesia, limited to infiltration and mandibular blocks, under the indirect supervision of a licensed dentist, provided the dental hygienist can demonstrate successful completion of a course of instruction containing basic and current concepts of local anesthesia and pain control in a program accredited by the Commission on Dental Accreditation, or its successor organization, that includes: (1) Twenty hours of didactic training, including, but not limited to, the psychology of pain management; a review of anatomy, physiology, pharmacology of anesthetic agents, emergency precautions and management, and client management; instruction on the safe and effective administration of anesthetic agents; and (2) eight hours of clinical training which includes the direct observation of the performance of procedures. For purposes of this subsection, "indirect supervision" means a licensed dentist authorizes and prescribes

the use of local anesthesia for a patient and remains in the dental office or other location where the services are being performed by the dental hygienist.

(e) A licensed dental hygienist shall not perform the following dental services: (1) Diagnosis for dental procedures or dental treatment that is outside the scope of practice of a licensed dental hygienist; (2) the cutting or removal of any hard or soft tissue or suturing; (3) the prescribing of drugs or medication which require the written or oral order of a licensed dentist or physician; (4) the administration of parenteral, inhalation or general anesthetic agents in connection with any dental operative procedure; (5) the taking of any impression of the teeth or jaws or the relationship of the teeth or jaws for the purpose of fabricating any appliance or prosthesis; (6) the placing, finishing and adjustment of temporary or final restorations, capping materials and cement bases.

(f) Each dental hygienist practicing in a public health facility shall (1) refer for treatment any patient with needs outside the dental hygienist's scope of practice, and (2) coordinate such referral for treatment to dentists licensed pursuant to chapter 379.

(g) All licensed dental hygienists applying for license renewal shall be required to participate in continuing education programs. The commissioner shall adopt regulations in accordance with the provisions of chapter 54 to: (1) Define basic requirements for continuing education programs, (2) delineate qualifying programs, (3) establish a system of control and reporting, and (4) provide for waiver of the continuing education requirement by the commissioner for good cause.

Sec. 2. Section 20-112a of the general statutes is repealed and the following is substituted in lieu thereof (*Effective October 1, 2009*):

(a) As used in this section:

(1) "Direct supervision" means that a licensed dentist has authorized that certain procedures be performed on a patient by a dental assistant with such dentist remaining on-site in the dental office while such procedures are performed and that, prior to the patient's departure from the dental office such dentist reviews and approves the treatment performed by the dental assistant;

(2) "Dental assistant" means an entry level dental assistant, certified dental assistant, noncertified dental assistant and an expanded function dental assistant;

(3) "Certified dental assistant" means a person who passes the certified dental assistant or certified orthodontic assistant examination of the Dental Assisting National Board and maintains a current Dental Assisting National Board Certified Dental Assistant or Certified Orthodontic Assistant credential. Documentation of current certification shall be maintained on the premises by the employing dentist and made available to the Department of Public Health upon request;

(4) "Entry level dental assistant" means a person who has completed on-the-job training in dental assisting under the direct supervision, control and responsibility of an employing, licensed dentist and who successfully completes the infection control examination of the Dental Assisting National Board not later than six months after the date of commencing employment, provided any person employed as an entry level dental assistant on or before October 1, 2009, shall successfully complete said examination not later than October 1, 2010. An affidavit that supports the successful completion of said examination by any such entry level dental assistant shall be maintained on the premises by the employing dentist and made available to the Department of Public Health upon request;

(5) "Expanded function dental assistant" means a certified dental assistant or dental hygienist licensed under chapter 379a who has successfully completed an expanded function dental assisting program at an institution that offers an education program accredited by the Commission on Dental Accreditation of the American Dental Association that includes: (A) Not less than seventy hours of clinical and laboratory instruction and not less than forty-three hours of clinical instruction; (B) a comprehensive clinical examination; and (C) a standardized comprehensive written and clinical proficiency examination in expanded functions according to Dental Assisting National Board standards; provided prior to working as an expanded function dental assistant, the employing dentist shall verify that the expanded function dental assistant has successfully completed the required education and training and passed the required examinations. Documentation that the expanded function dental assistant has met such requirements shall be maintained on the premises by the employing dentist and made available to the Department of Public Health upon request; and

(6) "Noncertified dental assistant" means a person who has successfully completed a dental assistant education program accredited by the Commission on Dental Accreditation of the American Dental Association, or a person who has no less than three thousand hours of experience as an entry level dental assistant, and who has passed the infection control examination and the radiation health and safety examination of the Dental Assisting National Board. An affidavit that supports the successful completion of said examinations by any such noncertified level dental assistant shall be maintained on the premises by the employing dentist and made available to the Department of Public Health upon request.

(b) A licensed dentist may delegate to dental assistants such dental procedures as the dentist may deem advisable, including the taking of dental x-rays if the dental assistant can demonstrate successful completion of the dental radiography portion of an examination prescribed by the Dental Assisting National Board, but all such procedures shall be performed under the dentist's supervision and control and the dentist shall assume responsibility for all such procedures; provided such assistants may not engage in: (1) Diagnosis for dental procedures or dental treatment; (2) the cutting or removal of any hard or soft tissue; [or suturing;] (3) the prescribing of drugs or medications that require the written or oral order of a licensed dentist or physician; (4) the administration of local, parenteral, inhalation or general anesthetic agents in connection with any dental operative procedure; (5) the taking of any impression of the teeth or jaws or the relationship of the teeth or jaws for the purpose of fabricating any appliance or prosthesis; (6) the placing, finishing and adjustment of [temporary or] final restorations, capping materials and cement bases; [or] (7) the practice of dental hygiene as defined in section 20-126*l*, as amended by this act; or (8) coronal polishing, unless the dental assistant is certified as an expanded function dental assistant and the procedure is not represented or billed as prophylaxis.

(c) An expanded function dental assistant shall: (1) Maintain in good standing certified dental assisting status with the Dental Assisting National Board or a state dental hygiene licensure as prescribed in chapter 379a; (2) conspicuously display such certification or licensure in the place of employment where such expanded function dental assistant services shall be performed; (3) maintain professional liability insurance or other indemnity against liability for professional malpractice while employed in such capacity in an amount that is not less than five hundred thousand dollars for one person, per occurrence, with an aggregate of not less than one million five hundred thousand dollars; and (4) limit his or her practice to a public health facility as defined in section 20-126*l*, as amended by this act, or a dental health professional shortage area as designated by the federal Health Resources and Services Administration.

(d) The Commissioner of Public Health, in consultation with the State Dental Commission, shall adopt regulations, in accordance with chapter 54, to implement the provisions of this section. Such regulations shall minimally: (1) Identify the types of procedures that may be performed by a certified dental assistant, entry level dental assistant, expanded function dental assistant and a noncertified dental assistant; (2) delineate the levels of supervision required for such procedures; and (3) prescribe that a dental assistant may work under the supervision of a licensed dental hygienist in a public health facility as defined in section 20-126*l*, as amended by this act.

Sec. 3. Section 20-13j of the general statutes is repealed and the following is substituted in lieu thereof (*Effective January 1, 2010*):

(a) For the purposes of this section:

(1) "Department" means the Department of Public Health; and

(2) "Health care provider" means: (A) A physician licensed under this chapter; (B) a dentist licensed under chapter 379; (C) a chiropractor licensed under chapter 372; (D) an optometrist licensed under chapter 380; (E) a podiatrist licensed under chapter 375; (F) a natureopath licensed under chapter 373; (G) a dental hygienist licensed under chapter 379a; (H) an advanced dental hygiene practitioner licensed in accordance with sections 4 and 5 of this act; (I) an advanced practice registered nurse licensed under chapter 378; or [(I)] (J) a physical therapist licensed under chapter 376.

(b) The department, after consultation with the Connecticut Medical Examining Board, the Connecticut State Medical Society, or any other appropriate state board, shall, within available appropriations, collect the following information to create an individual profile on each health care provider for dissemination to the public:

(1) The name of the medical or dental school, chiropractic college, school or college of optometry, school or college of chiropody or podiatry, school or college of natureopathy, school of dental hygiene, school of physical therapy or other school or institution giving instruction in the healing arts attended by the health care provider and the date of graduation;

(2) The site, training, discipline and inclusive dates of any completed postgraduate education or other professional education required pursuant to the applicable licensure section of the general statutes;

(3) The area of the health care provider's practice specialty;

(4) The address of the health care provider's primary practice location or primary practice locations, if more than one;

(5) A list of languages, other than English, spoken at the health care provider's primary practice locations;

(6) An indication of any disciplinary action taken against the health care provider by the department, the appropriate state board or any professional licensing or disciplinary body in another jurisdiction;

(7) Any current certifications issued to the health care provider by a specialty board of the profession;

(8) The hospitals and nursing homes at which the health care provider has been granted privileges;

(9) Any appointments of the health care provider to a Connecticut medical school faculty and an indication as to whether the health care provider has current responsibility for graduate medical education;

(10) A listing of the health care provider's publications in peer reviewed literature;

(11) A listing of the health care provider's professional services, activities and awards;

(12) Any hospital disciplinary actions against the health care provider that resulted, within the past ten years, in the termination or revocation of the health care provider's hospital privileges for a professional disciplinary cause or reason, or the resignation from, or privileges at a hospital taken in lieu of or in settlement of a pending disciplinary case related to professional competence in such hospital;

(13) A description of any criminal conviction of the health care provider for a felony within the last ten years. For the purposes of this subdivision, a health care provider shall be deemed to be convicted of a felony if the health care provider pleaded guilty or was found or adjudged guilty by a court of competent jurisdiction or has been convicted of a felony by the entry of a plea of nolo contendere;

(14) To the extent available, and consistent with the provisions of subsection (c) of this section, all professional malpractice court judgments and all professional malpractice arbitration awards against the health care provider in which a payment was awarded to a complaining party during the last ten years, and all settlements of professional malpractice claims against the health care provider in which a payment was made to a complaining party within the last ten years;

(15) An indication as to whether the health care provider is actively involved in patient care; and

(16) The name of the health care provider's professional liability insurance carrier.

(c) Any report of a professional malpractice judgment or award against a health care provider made under subdivision (14) of subsection (b) of this section shall comply with the following:

(1) Dispositions of paid claims shall be reported in a minimum of three graduated categories indicating the level of significance of the award or settlement; (2) information concerning paid professional malpractice claims shall be placed in context by comparing an individual health care provider's professional malpractice judgments, awards and settlements to the experience of other health care providers licensed in Connecticut who perform procedures and treat patients with a similar degree of risk; (3) all judgment award and settlement information reported shall be limited to amounts actually paid by or on behalf of the health care provider; and (4) comparisons of professional malpractice payment data shall be accompanied by (A) an explanation of the fact that health care providers treating certain patients and performing certain procedures are more likely to be the subject of litigation than others and that the comparison given is for health care providers who perform procedures and treat patients with a similar degree of risk; (B) a statement that the report reflects data for the last ten years and the recipient should take into account the number of years the health care provider has been in practice when considering the data; (C) an explanation that an incident giving rise to a professional malpractice claim may have occurred years before any payment was made due to the time lawsuits take to move through the legal system; (D) an explanation of the effect of treating high-risk patients on a health care provider's professional malpractice history; and (E) an explanation that professional malpractice cases may be settled for reasons other than liability and that settlements are sometimes made by the insurer without the health care provider's consent. Information concerning all settlements shall be accompanied by the following statement: "Settlement of a claim may occur for a variety of reasons that do not necessarily reflect negatively on the professional competence or conduct of the health care provider. A payment in settlement of a professional malpractice action or claim should not be construed as creating a presumption that professional malpractice has occurred."

(d) Pending professional malpractice claims against a health care provider and actual amounts paid by or on behalf of a health care provider in connection with a professional malpractice judgment, award or settlement shall not be disclosed by the department to the public. This subsection shall not be construed to prevent the department from investigating and disciplining a health care provider on the basis of professional malpractice claims that are pending.

(e) Prior to the initial release of a health care provider's profile to the public, the department shall provide the health care provider with a copy of the health care provider's profile. Additionally, any amendments or modifications to the profile that were not supplied by the health care provider or not generated by the department itself shall be provided to the health care provider for review prior to release

to the public. A health care provider shall have sixty days from the date the department mails or delivers the prepublication copy to dispute the accuracy of any information that the department proposes to include in such profile and to submit a written statement setting forth the basis for such dispute. If a health care provider does not notify the department that the health care provider disputes the accuracy of such information within such sixty-day period, the department shall make the profile available to the public and the health care provider shall be deemed to have approved the profile and all information contained in the profile. If a health care provider notifies the department that the health care provider disputes the accuracy of such information in accordance with this subsection, the health care provider's profile shall be released to the public without the disputed information, but with a statement to the effect that information in the identified category is currently the subject of a dispute and is therefore not currently available. Not later than thirty days after the department's receipt of notice of a dispute, the department shall review any information submitted by the health care provider in support of such dispute and determine whether to amend the information contained in the profile. In the event that the department determines not to amend the disputed information, the disputed information shall be included in the profile with a statement that such information is disputed by the health care provider.

(f) A health care provider may elect to have the health care provider's profile omit information provided pursuant to subdivisions (9) to (11), inclusive, of subsection (b) of this section. In collecting information for such profiles and in the dissemination of such profiles, the department shall inform health care providers that they may choose not to provide the information described in said subdivisions (9) to (11), inclusive.

(g) Each profile created pursuant to this section shall include the following statement: "This profile contains information that may be used as a starting point in evaluating a health care provider. This profile should not, however, be your sole basis for selecting a health care provider."

(h) The department shall maintain a web site on the Internet for use by the public in obtaining profiles of health care providers.
(i) No state law that would otherwise prohibit, limit or penalize disclosure of information about a health care provider shall apply to disclosure of information required by this section.
(j) All information provided by a health care provider pursuant to this section shall be subject to the penalty for false statement under section 53a-157b.
(k) Except for the information in subdivisions (1), (2), (10) and (11) of subsection (b) of this section, a health care provider shall notify the department of any changes to the information required in subsection (b) of this section not later than sixty days after such change."

Sec. 4. (NEW) (*Effective October 1, 2009*) No person shall engage in advanced dental hygiene practice unless such person holds and maintains a dental hygiene license in good standing and an advanced dental hygiene practice license issued by the Department of Public Health. An advanced dental hygiene practice license issued under section 5 of this act shall be renewed annually in accordance with the provisions of section 19a-88 of the general statutes, as amended by this act.

Sec. 5. (NEW) (*Effective October 1, 2009*) (a) Each application for an advanced dental hygiene practice license shall be in writing on forms prescribed by the Department of Public Health, signed by the applicant and accompanied by an application fee of two hundred dollars. An applicant shall have graduated from a master's degree program in advanced dental hygiene practice from an institution of higher learning accredited by the Board of Governors of Higher Education in accordance with the provisions of section 10a-34 of the general statutes. Any such master's degree program accredited by the Board of Governors of Higher Education shall include a curriculum that incorporates advanced dental hygiene practice competencies as adopted by the American Dental Hygienists' Association.

(b) An applicant for an advanced dental hygiene practice license shall be examined as to his or her professional knowledge and skill prior to the granting of such license, through a comprehensive, competency-based examination, prescribed by the Department of Public Health and administered independently of any institution of higher education that offers a master's degree program in advanced dental hygiene practice.

Sec. 6. (NEW) (*Effective October 1, 2009*) (a) As used in this section:

(1) "Advanced dental hygiene practitioner" means a licensed dental hygienist who satisfies the requirements of sections 4 and 5 of this act and is authorized to perform all services set forth in section 20-126*l* of the general statutes, as amended by this act, pursuant to a collaborative management agreement;

(2) "Collaborative management agreement" means a written agreement between an advanced dental hygiene practitioner and a dentist, licensed in accordance with the provisions of chapter 379 of the general statutes, that outlines a mutually agreed upon relationship in which the advanced dental hygiene practitioner and the dentist393 agree to the parameters of practice provided by such advanced dental hygiene practitioner; and

(3) "Public health facility" means an institution, as defined in section 19a-490 of the general statutes, a community health center, group home, school, preschool operated by a local or regional board of education or head start program.

(b) Pursuant to a collaborative management agreement with a licensed dentist, an advanced dental hygiene practitioner may:

(1) Formulate an individualized care plan based on scientific rationale, evidence-based standards of care, and practice guidelines in collaboration with the patient and multidisciplinary health care team;

(2) Administer local anesthesia;

(3) Diagnose and treat for oral diseases and conditions within the advanced dental hygiene practitioner scope of practice;

(4) Provide diagnostic, educational, palliative, therapeutic, prescriptive and minimally invasive restorative oral health services including: (A) Preparation and restoration of primary and permanent teeth using direct placement of appropriate dental materials; (B) temporary placement of crowns and restorations; (C) placement of preformed crowns; (D) pulpotomies on primary teeth; (E) direct and indirect pulp capping in primary and permanent teeth; and (F) placement of atraumatic temporary restorations;

(5) Prescribe, dispense and administer the following drugs within the parameters of the collaborative management agreement and within the scope of practice of the advanced dental hygiene practitioner: Analgesics, anti-inflammatories and antibiotics;

(6) Perform nonsurgical extractions on mobile, exfoliating, primary and permanent teeth;

(7) Place and remove sutures;

(8) Prevent or intercept potential orthodontic problems and parafunctional habits by early identification of such problems, space maintenance services and appropriate referral to other health care professionals;

(9) Provide temporary reparative services to patients with defective prosthetic appliances;
(10) Consult, collaborate and coordinate care with other health care professionals;

(11) Provide referrals to patients as needed for further dental procedures or other health care needs;

(12) Utilize emerging technologies in assessment, evaluation, diagnosis, prognosis, intervention and prevention of disease or conditions that impair oral or systemic health and wellness; and

(13) Use electronic technology to transfer digital radiography, photography, clinical assessment data and fiber optic imaging in collaboration with other health care professionals when warranted for the health of the patient.

(c) An advanced dental hygiene practitioner, licensed in accordance with the provisions of sections 4 and 5 of this act, shall practice pursuant to a collaborative management agreement only in a public health facility or a dental health professional workforce shortage area as designated by the federal Health Resources and Services Administration.

(d) A collaborative management agreement entered into in accordance with the provisions of this section shall be in writing, signed by the parties to the agreement and maintained by the advanced dental hygiene practitioner at the location where such practitioner is employed and shall be available for inspection upon the request of the Department of Public Health. A collaborative management agreement shall be reviewed by the parties involved on an annual basis and shall minimally include: (1) A description of the supervisory relationship between the advanced dental hygiene practitioner and the licensed dentist; (2) specific protocols for prescribing, administering and dispensing medications, including, the types of medications to be prescribed, administered and dispensed and the conditions and circumstances under which such medications are to be prescribed, dispensed and administered; and (3) an emergency protocol that addresses situations under which the following shall occur: (A) Consultation with a licensed dentist or other health care provider; (B) transfer of patient care to a licensed dentist or other licensed health care provider; (C) the provision of emergency care; (D) methods for disclosing the relationship covered by such agreement to the patient; and (E) methods for reviewing patient outcomes.

(e) All licensed advanced dental hygiene practitioners shall participate in continuing education programs.

Sec. 7. (NEW) (*Effective October 1, 2009*) An advanced dental hygiene practitioner's license along with such practitioner's dental hygiene license for the current year shall be displayed conspicuously in the public health facility, office, place of business or place of employment of such practitioner. Each licensed advanced dental hygiene practitioner shall promptly notify the department of any change of address or employment subsequent to his or her licensure.

Sec. 8. (NEW) (*Effective October 1, 2009*) (a) The Department of Public Health may take any of the actions set forth in section 19a-17 of the general statutes for any of the following causes: (1) The presentation to the department of any diploma or license illegally or fraudulently obtained, obtained from an institution that is not accredited or from an unrecognized or irregular institution or state board, or obtained by the practice of any fraud or deception; (2) illegal conduct; (3) negligent, incompetent or wrongful conduct in

professional activities; (4) conviction of the violation of any of the provisions of sections 20-126h to 20-126w, inclusive, of the general statutes, as amended by this act, by any court of criminal jurisdiction; (5) the violation of any of the provisions of said sections or of the regulations adopted hereunder or the refusal to comply with any of said provisions or regulations; (6) the aiding or abetting in the practice of advanced dental hygiene of a person not licensed to practice in this state; (7) engaging in fraud or material deception in the course of professional activities; (8) the effects of physical or mental illness, emotional disorder or loss of motor skill, including, but not limited to, deterioration through the aging process, upon the license holder; (9) abuse or excessive use of drugs, including alcohol, narcotics or chemicals; (10) failure to comply with mandatory continuing education requirements; (11) failure to maintain professional liability insurance; (12) practicing without a collaborative management agreement; (13) failure to properly supervise dental assistants; or (14) failure to provide information to the Department of Public Health required to complete a health care profile, as set forth in section 20-13j of the general statutes, as amended by this act. A violation of any of the provisions of sections 4 to 14, inclusive, of this act, by any unlicensed advanced dental hygiene practitioner, with the knowledge of such practitioner's employer, shall be deemed a violation thereof by such employer. The Commissioner of Public Health may order a license holder to submit to a reasonable physical or mental examination if his or her physical or mental capacity to practice safely is the subject of an investigation. Said commissioner may petition the superior court for the judicial district of Hartford to enforce such order or any action taken pursuant to said section 19a-17.

(b) For purposes of subdivision (7) of subsection (a) of this section, fraud or material deception shall include, but not be limited to, the following practices: (1) Submission of a claim form to a third party intentionally reporting incorrect treatment dates for the purpose of assisting a patient in obtaining benefits under a dental plan, which benefits would otherwise be disallowed; (2) increasing a fee to a516 patient for a service in excess of the fee charged solely because the patient has dental insurance; (3) intentionally describing a procedure incorrectly on a third-party claim form in order to receive a greater payment or reimbursement or intentionally misrepresenting a procedure not otherwise eligible for payment or reimbursement on such claim form for the purpose of receiving payment or reimbursement; and (4) intentionally accepting payment from a third party as payment in full for patient services rendered when (A) the patient has been excused from payment of any applicable deductible by the license holder, and (B) such license holder fails to notify the third party of such action.

Sec. 9. (NEW) (*Effective October 1, 2009*) No person shall falsely claim to hold a license, diploma or degree granted by a society, school or by the Department of Public Health, or, with intent to deceive the public, pretend to be a graduate of any advanced dental hygiene practice program or college, or append the letters "A.D.H.P." to his or her name, without having the degree indicated by such letters conferred upon him by diploma from a college, a school, a board of examiners, or other agency empowered to confer the same.

Sec. 10. (NEW) (*Effective October 1, 2009*) Payment for advanced dental hygiene practice care rendered to patients in chronic and convalescent hospitals or convalescent homes shall be made directly to the licensed advanced dental hygiene practitioner rendering such care. The Commissioner of Social Services shall not be required to recognize the cost of employing or contracting with an advanced dental hygiene practitioner in the rates established for convalescent homes pursuant to section 17b-340 of the general statutes.

Sec. 11. (NEW) (*Effective October 1, 2009*) Any person who violates any provision of sections 4 to 14, inclusive, of this act shall be fined not more than five thousand dollars in aggregate. Any person who continues to practice as an advanced dental hygiene practitioner or engage as an advanced dental hygiene practitioner, after his or her license or authority to so do has been suspended or revoked and while such disability continues, shall be fined not more than five thousand dollars in aggregate. For purposes of this section, each instance of patient contact or consultation which is in violation of any provision of this section shall constitute a separate offense. Failure to renew a license in a timely manner shall not constitute a violation for the purposes of this section.

Sec. 12. (NEW) (*Effective October 1, 2009*) Nothing in sections 4 to 14, inclusive, of this act shall be construed to: (1) Allow a licensed advanced dental hygiene practitioner to practice beyond the parameters of the collaborative management agreement with the collaborating licensed dentist; or (2) prevent a licensed dentist from providing advanced dental hygiene practice services.

Sec. 13. (NEW) (*Effective October 1, 2009*) (a) Each licensed advanced dental hygiene practitioner who provides direct patient care services shall maintain professional liability insurance or other indemnity against liability for professional malpractice. The amount of insurance that each such person shall carry as insurance or indemnity against claims for injury or death for professional malpractice shall not be less than five hundred thousand dollars for one person, per occurrence, with an aggregate of not less than one million five hundred thousand dollars.

(b) Each insurance company that issues professional liability insurance, as defined in subdivisions (1), (6), (7), (8) and (9) of subsection (b) of section 38a-393 of the general statutes, shall, on and after January 1, 2010, render to the Commissioner of Public Health a true record of the names, according to classification, of cancellations of and refusals to renew professional liability insurance policies and the reasons for such cancellations or refusal to renew said policies for the year ending on the thirty-first day of December next preceding.

Sec. 14. (NEW) (*Effective October 1, 2009*) The Commissioner of Public Health shall adopt regulations, in accordance with chapter 54 of the general statutes, to: (1) Define basic requirements for continuing education programs; (2) delineate qualifying programs; (3)

establish a system of control and reporting; (4) provide for waiver of the continuing education requirement by the commissioner for good cause; and (5) implement the provisions of sections 4 to 14, inclusive, of this act.

Sec. 15. Subsection (c) of section 19a-14 of the general statutes is repealed and the following is substituted in lieu thereof (*Effective October 1, 2009*):

(c) No board shall exist for the following professions that are licensed or otherwise regulated by the Department of Public Health:
(1) Speech and language pathologist and audiologist;
(2) Hearing instrument specialist;
(3) Nursing home administrator;
(4) Sanitarian;
(5) Subsurface sewage system installer or cleaner;
(6) Marital and family therapist;
(7) Nurse-midwife;
(8) Licensed clinical social worker;
(9) Respiratory care practitioner;
(10) Asbestos contractor and asbestos consultant;
(11) Massage therapist;
(12) Registered nurse's aide;
(13) Radiographer;
(14) Dental hygienist;
(15) Dietitian-Nutritionist;
(16) Asbestos abatement worker;
(17) Asbestos abatement site supervisor;
(18) Licensed or certified alcohol and drug counselor;
(19) Professional counselor;
(20) Acupuncturist;
(21) Occupational therapist and occupational therapist assistant;
(22) Lead abatement contractor, lead consultant contractor, lead consultant, lead abatement supervisor, lead abatement worker, inspector and planner-project designer;
(23) Emergency medical technician, emergency medical technician intermediate, medical response technician and emergency medical services instructor;
(24) Paramedic;
(25) Athletic trainer; [and]
(26) Perfusionist; and
(27) Advanced dental hygiene practitioner.

The department shall assume all powers and duties normally vested with a board in administering regulatory jurisdiction over such professions. The uniform provisions of [this chapter] sections 4 to 14, inclusive, of this act and chapters 368v, 369 to 381a, inclusive, 383 to 388, inclusive, 393a, 395, 398, 399, 400a and 400c, including, but not limited to, standards for entry and renewal; grounds for professional discipline; receiving and processing complaints; and disciplinary629 sanctions, shall apply, except as otherwise provided by law, to the professions listed in this subsection.

Sec. 16. Subsection (a) of section 19a-88 of the general statutes is repealed and the following is substituted in lieu thereof (*Effective October 1, 2009*):

(a) Each person holding a license to practice dentistry, optometry, midwifery, [or] dental hygiene or advanced dental hygiene practice shall, annually, during the month of such person's birth, register with the Department of Public Health, upon payment of the professional services fee for class I, as defined in section 33-182*l* in the case of a dentist, except as provided in sections 19a-88b and 20-113b, the professional services fee for class H, as defined in section 33-182*l* in the case of an optometrist, five dollars in the case of a midwife, and fifty dollars in the case of a dental hygienist, on blanks to be furnished by the department for such purpose, giving such person's name in full, such person's residence and business address and such other information as the department requests. Each person holding a license to practice dentistry who has retired from the profession may renew such license, but the fee shall be ten per cent of the professional services fee for class I, as defined in section 33-182*l*. Any license provided by the department at a reduced fee pursuant to this subsection shall indicate that the dentist is retired.

Sec. 17. Subsection (a) of section 19a-12a of the general statutes is repealed and the following is substituted in lieu thereof (*Effective October 1, 2009*):

(a) As used in this section and section 19a-12b: (1) "Chemical dependency" means abusive or excessive use of drugs, including alcohol, narcotics or chemicals, that results in physical or psychological dependence;
(2) "Department" means the Department of Public Health;

(3) "Health care professionals" includes any person licensed or who holds a permit pursuant to chapter 370, 372, 373, 375, 375a, 376, 376a, 376b, 376c, 377, 378, 379, 379a, 380, 381, 381a, 383, 383a, 383b, 383c, 384, 384a, 384b, 384c, 384d, 385, 398 or 399 or sections 4 to 14, inclusive, of this act;

(4) "Medical review committee" means any committee that reviews and monitors participation by health care professionals in the assistance program, including a medical review committee described in section 19a-17b; and

(5) "Assistance program" means the program established pursuant to subsection (b) of this section to provide education, prevention, intervention, referral assistance, rehabilitation or support services to health care professionals who have a chemical dependency, emotional or behavioral disorder or physical or mental illness.

This act shall take effect as follows and shall amend the following sections:
Section 1 *October 1, 2009* 20-126*l*
Sec. 2 *October 1, 2009* 20-112a
Sec. 3 *January 1, 2010* 20-13j
Sec. 4 *October 1, 2009* New section
Sec. 5 *October 1, 2009* New section
Sec. 6 *October 1, 2009* New section
Sec. 7 *October 1, 2009* New section
Sec. 8 *October 1, 2009* New section
Sec. 9 *October 1, 2009* New section
Sec. 10 *October 1, 2009* New section
Sec. 11 *October 1, 2009* New section
Sec. 12 *October 1, 2009* New section
Sec. 13 *October 1, 2009* New section
Sec. 14 *October 1, 2009* New section
Sec. 15 *October 1, 2009* 19a-14(c)
Sec. 16 *October 1, 2009* 19a-88(a)
Sec. 17 *October 1, 2009* 19a-12a(a)

Statement of Purpose:

To increase access to dental care for underserved populations through use of advanced dental hygiene practitioners.

[Proposed deletions are enclosed in brackets. Proposed additions are indicated by underline, except that when the entire text of a bill or resolution or a section of a bill or resolution is new, it is not underlined.]

Co-Sponsors: REP. NARDELLO, 89th Dist.; REP. HORNISH, 62nd Dist.
H.B. 5630

Ref.
#17

STATE OF CONNECTICUT

General Assembly
January Session, 2009

Proposed Bill No. 5630
LCO No. **1961**

Referred to Committee on Public Health
Introduced by:
REP. NARDELLO, 89th Dist.

AN ACT CONCERNING THE ESTABLISHMENT OF LICENSURE FOR AN ADVANCED PRACTICE DENTAL HYGIENE PRACTITIONER.

Be it enacted by the Senate and House of Representatives in General Assembly convened:

That chapter 379a of the general statutes be amended to: (1) Establish licensure for an advanced practice dental hygiene practitioner; and (2) expand the scope of functions that may be performed by dental assistants.

Statement of Purpose:

To increase access to dental care for underserved populations.

Ref. #18

Substitute House Bill No. 5701

Public Act No. 08-184

AN ACT CONCERNING REVISIONS TO STATUTES PERTAINING TO THE DEPARTMENT OF PUBLIC HEALTH. Effective Oct. 1, 2008

Be it enacted by the Senate and House of Representatives in General Assembly convened:

Sec. 37. Subdivision (3) of subsection (a) of section 20-74ee of the general statutes is repealed and the following is substituted in lieu thereof (*Effective from passage*):

(3) Nothing in subsection (c) of section 19a-14, sections 20-74aa to 20-74cc, inclusive, and this section shall be construed to require licensure as a radiographer or to limit the activities of: (A) a dental assistant as defined in section 20-112a, provided such dental assistant is engaged in the taking of dental x-rays under the supervision and control of a dentist licensed pursuant to chapter 379 and can demonstrate successful completion of the dental radiography portion of an examination prescribed by the Dental Assisting National Board, or (B) a dental assistant student, intern or trainee pursuing practical training in the taking of dental x-rays provided such activities constitute part of a supervised course or training program and such person is designated by a title which clearly indicates such person's status as a student, intern or trainee.

Ref. #19

Substitute House Bill No. 6819

Public Act No. 05-213
AN ACT CONCERNING ACCESS TO ORAL HEALTH CARE.

Be it enacted by the Senate and House of Representatives in General Assembly convened:
Section 1. Section 19a-88b of the general statutes is repealed and the following is substituted in lieu thereof (*Effective October 1, 2005*):

(a) (1) Notwithstanding section 19a-14 or any other [provisions] provision of the general statutes relating to continuing education or refresher training, the Department of Public Health shall renew a license, certificate, permit or registration issued to an individual pursuant to chapters 368d, 368v, 370 to 378, inclusive, 379a to 388, inclusive, 393a, 395, 398, 399, 400a and 400c [which] that becomes void pursuant to section 19a-88, as amended by this act, or 19a-195b while the holder [thereof] of the license, certificate, permit or registration is
on active duty in the armed forces of the United States, [within] not later than six months from the date of discharge from active duty, upon completion of any continuing education or refresher training required to renew a license, certificate, registration or permit [which] that has not become void pursuant to section 19a-88, as amended by this act, or 19a-195b. A licensee applying for license renewal pursuant to this section shall submit an application on a form prescribed by the department and other such documentation as may be required by the
department.

(2) Notwithstanding section 19a-14 or any other provision of the general statutes relating to continuing education, the Department of Public Health shall renew a license issued to an individual pursuant to
chapter 379 that becomes void pursuant to section 19a-88, as amended by this act, while the holder of the license is on active duty in the armed forces of the United States, not later than one year from the date
of discharge from active duty, upon completion of twelve contact hours of continuing education that meet the criteria set forth in subsection (b) of section 11 of this act. A licensee applying for license renewal pursuant to this subdivision shall submit an application on a form prescribed by the department and other such documentation as may be required by the department.

(b) The provisions of this section [shall] do not apply to reservists or National Guard members on active duty for annual training that is a regularly scheduled obligation for reservists or members of the National Guard for training [which] that is not a part of mobilization.

(c) No license shall be issued under this section to any applicant against whom professional disciplinary action is pending or who is the subject of an unresolved complaint.

Sec. 2. Section 20-108 of the general statutes is repealed and the following is substituted in lieu thereof (*Effective October 1, 2005*):

(a) Except as provided in section 20-110 and subsection (b) of this section, each applicant for a license to practice dental medicine or dental surgery shall be examined by the Department of Public Health, under the supervision of the Dental Commission as to his or her professional knowledge and skill before such license is granted. Such examination shall be conducted in the English language. The Dental Commission may, with the consent of the Commissioner of Public Health, accept and approve, in lieu of the written examination [herein]
required by this section, the results of an examination given by the Joint Commission on National Dental Examinations, subject to such conditions as the commission may prescribe, and the Dental Commission with the consent of the Commissioner of Public Health, may accept and approve, in lieu of the written and practical
examination [herein] required by this section, the results of regional testing agencies as to written and practical examinations, subject to such conditions as the commission, with the consent of the Commissioner of Public Health, may prescribe. Passing scores shall be established by the department with the consent of the commission.

(b) In lieu of the practical examination required by subsection (a) of this section, an applicant for licensure may submit evidence of having successfully completed not less than one year of graduate dental training as a resident dentist in a program accredited by the Commission on Dental Accreditation, provided at the end of such year of graduate dental

training as a resident dentist, the supervising dentist provides documentation satisfactory to the Department of Public Health attesting to the resident dentist's competency in all areas tested on the practical examination required by subsection (a) of this section. Not later than December 1, 2005, the Dental Commission, in consultation with the Department of Public Health, shall develop a form upon which such documentation shall be provided.

Sec. 3. Section 20-123 of the general statutes is repealed and the following is substituted in lieu thereof (*Effective October 1, 2005*):

[Any person who owns or carries on a dental practice or business, or who, by himself or by his servants or agents or by contract with others, performs any operation in or makes examination of, with intent of performing or causing to be performed any operation in, the mouth and surrounding and associated structures, or who describes himself by the word "Dentist" or letters "D.D.S." or "D.M.D.", or in other words, letters or title in connection with his name which in any way represents such person as engaged in the practice of dentistry, or who diagnoses or treats diseases or lesions of the mouth and surrounding and associated structures, replaces lost teeth by artificial ones, attempts to diagnose or correct malposition thereof, or who, directly or indirectly, by any means or method, furnishes, supplies, constructs, reproduces or repairs any prosthetic denture, bridge, appliance or any other structure to be worn in the human mouth, except upon the written direction of a licensed dentist, or who places such appliance or structure in the human mouth or attempts to adjust the same, or delivers the same to any person other than the dentist upon whose direction the work was performed, or who sells or distributes materials, except to a licensed dentist, dental laboratory or dental supply house, with instructions for an individual to construct, repair, reproduce or duplicate any prosthetic denture, bridge, appliance or any other structure to be worn in the human mouth, or who advertises to the public, by any method, to furnish, supply, construct, reproduce or repair any prosthetic denture, bridge, appliance or other structure to be worn in the human mouth, or gives estimates on the cost of treatment, or who advertises or permits it to be done by sign, card, circular, handbill or newspaper, or otherwise indicates that he, by contract with others or by himself, will perform any of such operations, shall be deemed as practicing dentistry or dental medicine within the meaning of this chapter. Any person who, in practicing dentistry or dental medicine, as defined in this section, employs or permits any other person except a licensed dentist to so practice dentistry or dental medicine shall be subject to the penalties provided in section 20-126. The provisions of this chapter shall not prevent any practicing physician or surgeon from treating lesions or diseases of the mouth and jaws or from extracting teeth. No provision of this section shall be construed to prevent regularly enrolled students in dental schools approved as provided in this chapter or medical schools approved as provided in chapter 370 from receiving practical training in dentistry under the supervision of a licensed dentist or physician in a dental or medical school in this state or in any hospital, infirmary, clinic or dispensary affiliated with such school; or to prevent a person who holds the degree of doctor of dental medicine or doctor of dental surgery or its equivalent and who has been issued a permit in accordance with section 20-126b from receiving practical training under the supervision of a licensed dentist or physician in an advanced dental education program conducted by a dental or medical school in this state or by a hospital operated by the federal government or licensed pursuant to subsection (a) of section 19a-491; or to prevent any regularly enrolled student in or graduate of an accredited school of dental hygiene from receiving practical training in dental hygiene under the supervision of a Connecticut licensed dentist or a Connecticut licensed dental hygienist in any approved school of dental hygiene in the state or in any hospital, infirmary, clinic or dispensary affiliated with such school or to prevent controlled investigations or innovative training programs related to the delivery of dental health services within accredited dental schools or schools of dental hygiene, provided such programs are under the supervision of a licensed dentist or physician and are conducted within a program which is accredited by the Commission on Dental Accreditation or such other national professional accrediting body as may be recognized by the United States Department of Education.]

(a) No person shall engage in the practice of dentistry unless he or she is licensed pursuant to the provisions of this chapter. The practice of dentistry or dental medicine is defined as the diagnosis, evaluation, prevention or treatment by surgical or other means, of an injury, deformity, disease or condition of the oral cavity or its contents, or the jaws or the associated structures of the jaws. The practice of dentistry does not include: (1) The treatment of dermatologic diseases or disorders of the skin or face; (2) the performance of microvascular free

tissue transfer; (3) the treatment of diseases or disorders of the eye; (4) ocular procedures; (5) the performance of cosmetic surgery or other cosmetic procedures other than those related to the oral cavity, its contents, or the jaws; or (6) nasal or sinus surgery, other than that related to the oral cavity, its contents or the jaws.

(b) No person other than a person licensed to practice dentistry under this chapter shall:

(1) Describe himself or herself by the word "Dentist" or letters "D.D.S." or "D.M.D.", or in other words, letters or title in connection with his or her name which in any way represents such person as engaged in the practice of dentistry;

(2) Own or carry on a dental practice or business;

(3) Replace lost teeth by artificial ones, or attempt to diagnose or correct malpositioned teeth;

(4) Directly or indirectly, by any means or method, furnish, supply, construct, reproduce or repair any prosthetic denture, bridge, appliance or any other structure to be worn in a person's mouth, except upon the written direction of a licensed dentist, or place such appliance or structure in a person's mouth or attempt to adjust such appliance or structure in a person's mouth, or deliver such appliance or structure to any person other than the dentist upon whose direction the work was performed;

(5) Sell or distribute materials, except to a licensed dentist, dental laboratory or dental supply house, with instructions for an individual to construct, repair, reproduce or duplicate any prosthetic denture, bridge, appliance or any other structure to be worn in a person's mouth;

(6) Advertise to the public, by any method, to furnish, supply, construct, reproduce or repair any prosthetic denture, bridge, appliance or other structure to be worn in a person's mouth; (7) Give estimates of the cost of dental treatment; or

(8) Advertise or permit it to be advertised by sign, card, circular, handbill or newspaper, or otherwise indicate that such person, by contract with others or by himself or herself, will perform any of the functions specified in subdivisions (1) to (7), inclusive, of this subsection.

(c) Notwithstanding the provisions of subsection (a) of this section, a person who is licensed to practice dentistry under this chapter, who has successfully completed a postdoctoral training program that is accredited by the Commission on Dental Accreditation or its successor organization, in the specialty area of dentistry in which such person practices may: (1) Diagnose, evaluate, prevent or treat by surgical or other means, injuries, deformities, diseases or conditions of the hard and soft tissues of the oral and maxillofacial area, or its adjacent or associated structures; and (2) perform any of the following procedures, provided the dentist has been granted hospital privileges to perform such procedures: (A) Surgical treatment of sleep apnea involving the jaws; (B) salivary gland surgery; (C) the harvesting of donor tissue; (D) frontal and orbital surgery and nasoethmoidal procedures to the extent that such surgery or procedures are associated with trauma.

(d) Any person who, in practicing dentistry or dental medicine, as defined in this section, employs or permits any other person except a licensed dentist to so practice dentistry or dental medicine shall be subject to the penalties provided in section 20-126.

(e) The provisions of this section do not apply to:

(1) Any practicing physician or surgeon who is licensed in accordance with chapter 370;

(2) Any regularly enrolled student in a dental school approved as provided in this chapter or a medical school approved as provided in chapter 370 receiving practical training in dentistry under the supervision of a licensed dentist or physician in a dental or medical school in this state or in any hospital, infirmary, clinic or dispensary affiliated with such school;

(3) A person who holds the degree of doctor of dental medicine or doctor of dental surgery or its equivalent and who has been issued a permit in accordance with section 20-126b and who is receiving practical training under the supervision of a licensed dentist or physician in an advanced dental education program conducted by a

dental or medical school in this state or by a hospital operated by the federal government or licensed pursuant to subsection (a) of section 19a-491;

(4) Any regularly enrolled student in or graduate of an accredited school of dental hygiene who is receiving practical training in dental hygiene in an approved school of dental hygiene in the state or in any hospital, infirmary, clinic or dispensary affiliated with such school, under the supervision of a dentist licensed pursuant to this chapter or a dental hygienist licensed pursuant to chapter 379a; or

(5) Controlled investigations or innovative training programs related to the delivery of dental health services within accredited dental schools or schools of dental hygiene, provided such programs are (A) under the supervision of a dentist licensed pursuant to chapter 379 or physician licensed pursuant to chapter 370, and (B) conducted within a program accredited by the Commission on Dental Accreditation or such other national professional accrediting body as may be recognized by the United States Department of Education.

Sec. 4. Subsection (a) of section 20-74ee of the general statutes is repealed and the following is substituted in lieu thereof (*Effective October 1, 2005*):

(a) (1) Nothing in subsection (c) of section 19a-14, sections 20-74aa to 20-74cc, inclusive, and this section shall be construed to require licensure as a radiographer or to limit the activities of a physician licensed pursuant to chapter 370, a chiropractor licensed pursuant to chapter 372, a natureopath licensed pursuant to chapter 373, a podiatrist licensed pursuant to chapter 375, a dentist licensed pursuant to chapter 379 or a veterinarian licensed pursuant to chapter 384.

(2) Nothing in subsection (c) of section 19a-14, sections 20-74aa to 20-74cc, inclusive, and this section shall be construed to require licensure as a radiographer or to limit the activities of a dental hygienist licensed pursuant to chapter [379] 379a, provided [that] such dental hygienist is engaged in the taking of dental x-rays under the general supervision of a dentist licensed pursuant to chapter 379.

(3) Nothing in subsection (c) of section 19a-14, sections 20-74aa to 20-74cc, inclusive, and this section shall be construed to require licensure as a radiographer or to limit the activities of a dental assistant as defined in section 20-112a, provided such dental assistant is engaged in the taking of dental x-rays under the supervision and control of a dentist licensed pursuant to chapter 379 and can demonstrate [by January 1, 1996,] successful completion of the dental radiography portion of an examination prescribed by the Dental Assisting National Board.

(4) Nothing in subsection (c) of section 19a-14, sections 20-74aa to 20-74cc, inclusive, and this section shall be construed to require licensure as a radiographer or to limit the activities of a Nuclear Medicine Technologist certified by the Nuclear Medicine Technology Certification Board or the American Registry of Radiologic Technologists, provided such individual is engaged in the operation of a bone densitometry system under the supervision, control and responsibility of a physician licensed pursuant to chapter 370.

(5) Nothing in subsection (c) of section 19a-14, sections 20-74aa to 20-74cc, inclusive, and this section shall be construed to require licensure as a radiographer or to limit the activities of a podiatric medical assistant, provided such podiatric assistant is engaged in taking of podiatric x-rays under the supervision and control of a podiatrist licensed pursuant to chapter 375 and can demonstrate successful completion of the podiatric radiography exam as prescribed by the Connecticut Board of Podiatry Examiners.

Sec. 5. Section 20-107 of the general statutes is repealed and the following is substituted in lieu thereof (*Effective October 1, 2005*):

(a) Each application for [such] a license to practice dentistry shall be in writing and signed by the applicant and no license shall be issued to any person unless he or she presents a diploma or other certificate of graduation from some reputable dental college or from a department of dentistry of a medical college conferring a dental degree, or unless he or she is practicing as a legally qualified dentist in another state having requirements for admission determined by the department to be similar to or higher than the requirements of this state.

(b) The Dental Commission [is authorized] may, with the consent of the Commissioner of Public Health, [to] determine the colleges which shall be considered reputable dental or medical colleges for the purposes of this chapter. The

commission shall consult [where] when possible with nationally recognized accrediting agencies when making such determinations. [Each applicant for such license shall also present a certificate from the State Board of Education that he has completed a four-year course at an approved high school, or has an equivalent academic education, but this requirement shall not apply to an applicant who is practicing as a legally qualified dentist in another state as above provided.]

(c) Notwithstanding the provisions of subsections (a) and (b) of thissection, the department may issue a license to practice dentistry to any applicant holding a diploma from a foreign dental school, provided the applicant (1) is a graduate of a dental school located outside the United States and has received the degree of doctor of dental medicine or surgery, or its equivalent; (2) has passed the written and practical examinations required in section 20-108, as amended by this act; (3) has successfully completed not less than two years of graduate dental training as a resident dentist in a program accredited by the Commission on Dental Accreditation; and (4) has successfully completed, at a level greater than the second postgraduate year, not less than two years of a residency or fellowship training program accredited by the Commission on Dental Accreditation in a community or school-based health center affiliated with and under the supervision of a school of dentistry in this state, or has served as a full-time faculty member of a school of dentistry in this state pursuant to the provisions of section 20-120 for not less than three years.

Sec. 6. Section 20-112a of the general statutes is repealed and the following is substituted in lieu thereof (*Effective October 1, 2005*):

A licensed dentist may delegate to dental assistants such dentalprocedures as [he] the dentist may deem advisable, including the taking of dental x-rays if the dental assistant can demonstrate successful completion of the dental radiography portion of an examination prescribed by the Dental Assisting National Board, but such procedures shall be performed under [his] the dentist's supervision and control and [he] the dentist shall assume responsibility for such procedures; provided such assistants may not engage in: (1) Diagnosis for dental procedures or dental treatment; (2) the cutting or removal of any hard or soft tissue or suturing; (3) the prescribing of drugs or medications [which] that require the written or oral order of a licensed dentist or physician; (4) the administration of local, parenteral, inhalation or general anesthetic agents in connection with any dental operative procedure; (5) the taking of any impression of the teeth or jaws or the relationship of the teeth or jaws for the purpose of fabricating any appliance or prosthesis; (6) the placing, finishing and adjustment of temporary or final restorations, capping materials and cement bases; or (7) the practice of dental hygiene as defined in section 20-126*l*, as amended by this act.

Sec. 7. Section 20-126*l* of the general statutes is repealed and the following is substituted in lieu thereof (*Effective October 1, 2005*):

(a) As used in this section:
(1) "General supervision of a licensed dentist" means supervision that authorizes dental hygiene procedures to be performed with the knowledge of said licensed dentist, whether or not the dentist is on the premises when such procedures are being performed;

(2) "Public health facility" means an institution, as defined in section 19a-490, a community health center, a group home, a school, a preschool operated by a local or regional board of education or a head start program; and

(3) The "practice of dental hygiene" means the performance of educational, preventive and therapeutic services including: Complete prophylaxis; the removal of calcerous deposits, accretions and stains from the supragingival and subgingival surfaces of the teeth by scaling, root planing and polishing; the application of pit and fissure sealants and topical solutions to exposed portions of the teeth; dental hygiene examinations and the charting of oral conditions; dental hygiene assessment, treatment planning and evaluation; the administration of local anesthesia in accordance with the provisions of subsection (d) of this section; and collaboration in the implementation of the oral health care regimen.

(b) No person shall engage in the practice of dental hygiene unless such person (1) has a dental hygiene license issued by the Department of Public Health and (A) is practicing under the general supervision of a licensed dentist, or (B) has been practicing as a licensed dental hygienist for at least two years, is practicing in a public health facility and complies with the requirements of subsection (e) of this section, or (2) has a dental license.

(c) A dental hygienist licensed under sections 20-126h to 20-126w, inclusive, shall be known as a "dental hygienist" and no other person shall assume such title or use the abbreviation "R.D.H." or any other words, letters or figures which indicate that the person using such words, letters or figures is a licensed dental hygienist. Any person who employs or permits any other person except a licensed dental hygienist to practice dental hygiene shall be subject to the penalties provided in section 20-126t. [Licensed dental hygienists may provide dental hygiene services in any office of a licensed dentist or in any public or private institution or in any convalescent home under the general supervision of a licensed dentist.]

(d) A licensed dental hygienist may administer local anesthesia, limited to infiltration and mandibular blocks, under the indirect supervision of a licensed dentist, provided the dental hygienist can demonstrate successful completion of a course of instruction containing basic and current concepts of local anesthesia and pain control in a program accredited by the Commission on Dental Accreditation, or its successor organization, that includes: (1) Twenty hours of didactic training, including, but not limited to, the psychology of pain management; a review of anatomy, physiology, pharmacology of anesthetic agents, emergency precautions and management, and client management; instruction on the safe and effective administration of anesthetic agents; and (2) eight hours of clinical training which includes the direct observation of the performance of procedures. For purposes of this subsection, "indirect supervision" means a licensed dentist authorizes and prescribes the use of local anesthesia for a patient and remains in the dental office or other location where the services are being performed by the dental hygienist.

[(d)] (e) A licensed dental hygienist shall [in no event] not perform the following dental services: (1) Diagnosis for dental procedures or dental treatment; (2) the cutting or removal of any hard or soft tissue or suturing; (3) the prescribing of drugs or medication which require the written or oral order of a licensed dentist or physician; (4) the administration of [local,] parenteral, inhalation or general anesthetic agents in connection with any dental operative procedure; (5) the taking of any impression of the teeth or jaws or the relationship of the teeth or jaws for the purpose of fabricating any appliance or prosthesis; (6) the placing, finishing and adjustment of temporary or final restorations, capping materials and cement bases.

[(e)] (f) Each dental hygienist practicing in a public health facility shall (1) refer for treatment any patient with needs outside the dental hygienist's scope of practice, and (2) coordinate such referral for treatment to dentists licensed pursuant to chapter 379.

[(f)] (g) All licensed dental hygienists applying for license renewal shall be required to participate in continuing education programs. The commissioner shall adopt regulations in accordance with the provisions of chapter 54 to: (1) Define basic requirements for continuing education programs, (2) delineate qualifying programs, (3) establish a system of control and reporting, and (4) provide for waiver of the continuing education requirement by the commissioner for good cause.

Sec. 8. Section 20-113b of the general statutes is repealed and the following is substituted in lieu thereof (*Effective October 1, 2005*):

Any person who practices dentistry for no fee, for at least onehundred hours per year at a public health facility, as defined in section 20-126*l*, as amended by this act, and does not otherwise engage in the practice of dentistry, shall be eligible to renew a license, as provided in subsection (a) of section 19a-88, as amended by this act, [for a fee of one hundred dollars] without payment of the professional services fee specified in said subsection (a).

Sec. 9. Subsection (a) of section 20-114 of the general statutes is repealed and the following is substituted in lieu thereof (*Effective October 1, 2005*):

(a) The Dental Commission may take any of the actions set forth in section 19a-17 for any of the following causes: (1) The presentation to the department of any diploma, license or certificate illegally or fraudulently obtained, or obtained from an institution that is not reputable or from an unrecognized or irregular institution or state board, or obtained by the practice of any fraud or deception; (2) proof that a practitioner has become unfit or incompetent or has been guilty of cruelty, incompetence, negligence or indecent conduct toward patients; (3) conviction of the violation of any of the provisions of this chapter by any court of criminal jurisdiction, provided no action shall be taken under section 19a-17 because of such conviction if any appeal to a higher court has been filed until the appeal has been determined by the

higher court and the conviction sustained; (4) the employment of any unlicensed person for other than mechanical purposes in the practice of dental medicine or dental surgery subject to the provisions of section 20-122a; (5) the violation of any of the provisions of this chapter or of the regulations adopted hereunder or the refusal to comply with any of said provisions or regulations; (6) the aiding or abetting in the practice of dentistry, dental medicine or dental hygiene of a person not licensed to practice dentistry, dental medicine or dental hygiene in this state; (7) designating a limited practice, except as provided in section 20-106a; (8) engaging in fraud or material deception in the course of professional activities; (9) the effects of physical or mental illness, emotional disorder or loss of motor skill, including but not limited to, deterioration through the aging process, upon the license holder; (10) abuse or excessive use of drugs, including alcohol, narcotics or chemicals; [or] (11) failure to comply with the continuing education requirements set forth in section 11 of this act; or (12) failure of a holder of a dental anesthesia or conscious sedation permit to successfully complete an on-site evaluation conducted pursuant to subsection (c) of section 20-123b. A violation of any of the provisions of this chapter by any unlicensed employee in the practice of dentistry or dental hygiene, with the knowledge of [his] the employer, shall be deemed a violation [thereof] by [his] the employer. The Commissioner of Public Health may order a license holder to submit to a reasonable physical or mental examination if his or her physical or mental capacity to practice safely is the subject of an investigation. Said commissioner may petition the superior court for the judicial district of Hartford to enforce such order or any action taken pursuant to section 19a-17.

Sec. 10. Section 20-126i of the general statutes is repealed and the following is substituted in lieu thereof (*Effective October 1, 2005*):

(a) Each application for a license to practice dental hygiene shall be in writing and signed by the applicant and accompanied by satisfactory proof that such person has received a diploma or certificate of graduation from a dental hygiene program with a minimum of two academic years of curriculum provided in a college or institution of higher education the program of which is accredited by the Commission on Dental Accreditation or such other national professional accrediting body as may be recognized by the United States Department of Education, and a fee of seventy-five dollars. (b) Notwithstanding the provisions of subsection (a) of this section, each application for a license to practice dental hygiene from an applicant who holds a diploma from a foreign dental school shall be in writing and signed by the applicant and accompanied by satisfactory proof that such person has (1) graduated from a dental school located outside the United States and received the degree of doctor of dental medicine or surgery, or its equivalent; (2) passed the written and practical examinations required in section 20-126j; and (3) enrolled in a dental hygiene program in this state that is accredited by the Commission on Dental Accreditation or its successor organization and successfully completed not less than one year of clinical training in a community health center affiliated with and under the supervision of such dental hygiene program.

Sec. 11. (NEW) (*Effective October 1, 2005*) (a) As used in this section:

(1) "Commissioner" means the Commissioner of Public Health;
(2) "Contact hour" means a minimum of fifty minutes of continuing education activity;
(3) "Department" means the Department of Public Health;
(4) "Licensee" means any person who receives a license from the department pursuant to chapter 379 of the general statutes; and
(5) "Registration period" means the one-year period for which a license renewed in accordance with section 19a-88 of the general statutes and is current and valid.

(b) Except as otherwise provided in this section, for registration periods beginning on and after October 1, 2007, a licensee applying for license renewal shall earn a minimum of twenty-five contact hours of continuing education within the preceding twenty-four-month period. Such continuing education shall (1) be in an area of the licensee's practice; (2) reflect the professional needs of the licensee in order to meet the health care needs of the public; and (3) include at least one contact hour of training or education in infectious diseases, including, but not limited to, acquired immune deficiency syndrome and human immunodeficiency virus, access to care, risk management, care of special needs patients and domestic violence, including sexual abuse. Qualifying continuing education activities include, but are not limited to, courses, including on-line courses, offered or approved by the American Dental Association or state, district or local dental associations and societies affiliated with the American Dental Association; national, state, district or local dental specialty organizations or the American Academy of General Dentistry; a hospital or other health care institution; dental schools and other schools of higher education accredited or

recognized by the Council on Dental Accreditation or a regional accrediting organization; agencies or businesses whose programs are accredited or recognized by the Council on Dental Accreditation; local, state or national medical associations; a state or local health department; or the Accreditation Council for Graduate Medical Education. Eight hours of volunteer dental practice at a public health facility, as defined in section 20-126*l* of the general statutes, as amended by this act, may be substituted for one contact hour of continuing education, up to a maximum of ten contact hours in one twenty-four-month period.

(c) Each licensee applying for license renewal pursuant to section 19a-88 of the general statutes shall sign a statement attesting that he or she has satisfied the continuing education requirements of subsection (b) of this section on a form prescribed by the department. Each licensee shall retain records of attendance or certificates of completion that demonstrate compliance with the continuing education requirements of said subsection (b) for a minimum of three years following the year in which the continuing education activities were completed and shall submit such records to the department for inspection not later than forty-five days after a request by thedepartment for such records.

(d) A licensee applying for the first time for license renewal pursuant to section 19a-88 of the general statutes, as amended by this act, is exempt from the continuing education requirements of this section.

(e) A licensee who is not engaged in active professional practice in any form during a registration period shall be exempt from the continuing education requirements of this section, provided the licensee submits to the department, prior to the expiration of the registration period, a notarized application for exemption on a form prescribed by the department and such other documentation as may be required by the department. The application for exemption pursuant to this subsection shall contain a statement that the licensee may not engage in professional practice until the licensee has met the continuing education requirements of this section.

(f) In individual cases involving medical disability or illness, the commissioner may, in the commissioner's discretion, grant a waiver of the continuing education requirements or an extension of time within which to fulfill the continuing education requirements of this section to any licensee, provided the licensee submits to the department an application for waiver or extension of time on a form prescribed by the department, along with a certification by a licensed physician of the disability or illness and such other documentation as may be required by the commissioner. The commissioner may grant a waiver or extension for a period not to exceed one registration period, except that the commissioner may grant additional waivers or extensions if the medical disability or illness upon which a waiver or extension is granted continues beyond the period of the waiver or extension and the licensee applies for an additional waiver or extension.

(g) Any licensee whose license has become void pursuant to section 19a-88 of the general statutes, as amended by this act, and who applies to the department for reinstatement of such license pursuant to section 19a-14 of the general statutes shall submit evidence documenting successful completion of twelve contact hours of continuing education within the one-year period immediately preceding application for reinstatement.

Sec. 12. Subsection (a) of section 19a-88 of the general statutes is repealed and the following is substituted in lieu thereof (*Effective October 1, 2005*):

(a) Each person holding a license to practice dentistry, optometry, midwifery or dental hygiene shall, annually, during the month of such person's birth, register with the Department of Public Health, upon payment of the professional services fee for class I, as defined in section 33-182*l* in the case of a dentist, except as provided in section 19a-88b, as amended by this act, and section 20-113b, as amended by this act, the professional services fee for class H, as defined in section 33-182*l* in the case of an optometrist, five dollars in the case of a midwife, and fifty dollars in the case of a dental hygienist, on blanks to be furnished by the department for such purpose, giving such person's name in full, such person's residence and business address and such other information as the department requests.

Approved July 6, 2005

Public Act No. 05-213

Ref. #20

OLR Bill Analysis

sHB 6819

AN ACT CONCERNING ACCESS TO ORAL HEALTH CARE

SUMMARY:

This bill revises the scope of practice for dentists, dental hygienists, and dental assistants, including establishing conditions under which licensed dentists can practice oral and maxillofacial surgery. It allows a candidate for a dentist's license to substitute a year of post-graduate training for the practical portion of the licensing exam and provides a way for foreign-trained dentists to become licensed as dentists or dental hygienists. And it creates continuing education requirements for dentists.

EFFECTIVE DATE: October 1, 2005

DENTAL SCOPE OF PRACTICE (§ 3)

General Scope

The bill redefines a dentist's scope of practice as the diagnosis, evaluation, prevention, or treatment, by surgery or other means, of an injury, deformity, disease, or condition of the oral cavity or its contents or the jaws or structures associated with them. (The oral cavity is the area of the mouth behind the teeth and gums that is bounded above by the hard and soft palettes and below by the tongue and mucous membrane connecting it to the inner part of the jaw.) Under current law, a dentist examines, diagnoses, treats diseases or lesions of, and performs operations in, the mouth and surrounding and associated structures.

The bill specifies that dentistry does not include:

1. treating dermatological diseases or disorders of the skin or face;

2. performing microvascular free tissue transfer;

3. treating eye diseases or disorders or performing ocular procedures;

4. performing cosmetic surgery or other cosmetic procedures anywhere but the oral cavity, its contents, or the jaws; or

5. nasal or sinus surgery unrelated to the oral cavity, its contents, or the jaws.

It exempts licensed physicians from the dental scope of practice law. Current law permits physicians to treat lesions or diseases of the mouth and remove teeth.

Oral-Maxillofacial Practice

The bill permits a licensed dentist who successfully completes a post-doctoral training program in his practice specialty to:

1. diagnose, evaluate, prevent, or treat, surgically or by other means, injuries, deformities, diseases, or conditions of the hard and soft tissues of the oral and maxillofacial area (the maxillofacial area covers the upper portion of the face);

2. perform surgical treatment of sleep apnea involving the jaws;

3. perform salivary gland surgery;

4. harvest donor tissue; and

5. perform frontal and orbital surgery and nasoethmoidal procedures to the extent they are associated with trauma.

In order to perform sleep apnea, salivary gland, frontal, or orbital surgery or harvest tissue, the dentist must have hospital privileges permitting him to do so. By law, a dentist must complete at least two years of advanced or post-doctoral education in a specialty area approved by the American Dental Association before he can designate that he is limiting his practice to that specialty.

The bill requires qualifying post-doctoral training programs to be accredited by the Commission on Dental Accreditation or its successor.

CONTINUING EDUCATION FOR DENTISTS (§§ 11, 1, & 9)

Requirements

Dentists must renew their licenses every year during their birth month. The bill requires dentists applying to renew a license after October 1, 2007 to show they have completed at least 25 contact hours of continuing education during the previous 24 months. Under the bill, a "contact hour" is 50 minutes or more.

All continuing education must be in an area of the dentist's practice and reflect his professional needs in order to meet the public's health care needs. At least one of the 25 contact hours must be in infectious diseases, which can include HIV and AIDS; access to care; risk management; care for special needs patients; and domestic violence, including sexual abuse. A dentist can substitute eight hours of volunteer work at a public health facility (any licensed health care institution such as a hospital, nursing home, outpatient clinic, or substance abuse treatment facility; community health center; group home; school or public school-operated preschool; or Head Start center) for one contact hour, up to 10 contact hours during a 24-month period.

Qualifying continuing education activities under the bill include courses, including on-line courses, offered or approved by:

1. the American Dental Association or its state, district, or local affiliates;

2. the American Academy of General Dentistry or national, state, district, or local specialty organizations;

3. dental schools and other colleges accredited or recognized by the Council on Dental Accreditation or a regional accrediting agency;

4. hospitals and other health care institutions;

5. agency or business programs accredited or recognized by the Council on Dental Accreditation;

6. local, state, or national medical associations;

7. state or local health departments; and

8. the Accreditation Council for Graduate Medical Education.

The bill makes failure to comply with its continuing education requirements grounds for the Dental Commission to discipline a dentist.

Procedures

A dentist applying for license renewal must attest in writing on a form the Department of Public Health (DPH) prescribes that he has satisfied these continuing education requirements. He must maintain attendance records or certificates of course completion for at least three years after the year in which the activity occurred and must submit them to DPH for inspection within 45 days if it asks for them.

A dentist who applies to have his license reinstated after it has lapsed must show DPH that he completed 12 contact hours during the preceding year. The bill gives a dentist whose license lapsed while he was on active military service one year from his date of discharge to complete 12 contact hours. Under current law dentists and other health care providers must complete all continuing education requirement within six months of discharge.

Exemptions

The bill exempts from its continuing education requirements first-time license renewal applicants and dentists who are not engaged in active practice. The latter must submit a notarized exemption application to the DPH plus any other documentation DPH requires before the end of the month when he must renew his license. The exemption application, which must follow a form DPH prescribes, must state that the individual will not practice until he has met the bill's continuing education requirements.

The bill permits the DPH commissioner to waive continuing education requirements or extend the time for fulfilling them for a dentist who is ill or disabled. The individual must submit a waiver application and other documentation the commissioner may require. A waiver or extension can be for up to one year, and the commissioner can grant additional waivers or extensions if the illness or disability continues and the dentist applies again.

OTHER DENTAL LICENSURE PROVISIONS (§§ 2, 5, 8)

Post-Graduate Training in Lieu of Testing

The bill allows a person to use successful completion of a year of postgraduate training as a dental resident to qualify for a license instead of taking the practical portion of the dental licensing exam. The training must be at a program accredited by the Commission on Dental Accreditation, and the resident's supervising dentist must attest that he (the resident) is competent in all areas tested in the practicum. The bill requires the Dental Commission, by December 1, 2005 and in consultation with DPH, to develop a form that applicants can use to submit documentation.

Foreign-Trained Dentists

The bill allows someone trained in a foreign dental school to obtain a Connecticut dentist license. The individual must:

1. have received a doctor of dental medicine or dental surgery degree or its equivalent;

2. pass Connecticut's written and practical dentistry exam;

3. successfully complete at least two years of graduate training as a resident in a program accredited by the Commission on Dental Accreditation; and

4. (a) successfully complete at least two more years of training as a resident or fellow, at a third year or higher postgraduate level, in a program accredited by the Commission on Dental Accreditation in a community- or school-based health center affiliated with or supervised by the UConn Dental School or (b) serve for at least three years as a full-time faculty member at UConn Dental School. (By law, a graduate of a foreign dental school can work in a state institution only if the Dental Commission finds that he has exceptional qualifications.)

Volunteer Dentists

The bill eliminates the $ 100 reduced license renewal fee for a dentist who provides at least 100 hours a year of free care at a licensed health care institution such as a hospital, nursing home, outpatient clinic, or substance abuse treatment facility; community health center; group home; school or public school-operated preschool; or Head Start center. The regular license renewal fee is $ 450.

High School Graduation

The bill eliminates the requirement that applicants for a dentist's license show proof that they graduated from high school or have an equivalency diploma unless they have been practicing dentistry in another state.

DENTAL HYGIENISTS (§§ 7, 10)

Scope of Practice

The bill permits licensed dental hygienists to administer certain kinds of local anesthesia—infiltration and mandibular blocks—under a dentist's indirect supervision. "Indirect supervision," under the bill, means that the dentist prescribed the use of the anesthetic and is in the office or location where the hygienist is administering it. In all other situations hygienists work under a dentist's "general supervision," which means that a dentist knows what procedures the hygienist is performing but does not have to be on the premises while the hygienist performs it.

The bill specifies the training a hygienist must complete before being allowed to administer these local anesthetics. He must successfully complete a course containing basic and current concepts of local anesthesia and pain control in a program accredited by the Commission on Dental Accreditation or its successor. The course must include:

1. 20 hours of classroom training in psychology of pain management, anatomy, physiology, anesthetic pharmacology, emergency precautions and management, client management, and safe and effective anesthetic administration, among other topics and

2. eight hours of clinical training that includes direct observation of students' performance.

The bill eliminates the statutory restriction on where dental hygienists can practice. Current law limits their practice locations to dentists' offices, institutional settings, and convalescent homes. By eliminating the locational restriction, the bill appears to permit hygienists to practice anywhere, as long as they work under a dentist's general supervision.

Foreign-Trained Dentists

The bill allows someone trained in a foreign dental school to obtain a Connecticut dental hygienist license. The person must show he has (1) received a doctor of dental medicine or surgery degree or its equivalent; (2) passed Connecticut's written and practical dental hygienist exam; (3) enrolled in a dental hygiene program in Connecticut accredited by the Commission on Dental Accreditation; and (4) successfully completed at least one year of clinical training in a community health center affiliated with or supervised by that program.

DENTAL ASSISTANTS (§ 6)

The bill allows a dental assistant who has passed the dental radiography portion of an exam prescribed by the Dental Assisting National Board to take dental x-rays. The dentist under whom the assistant works must supervise and control the procedure.

COMMITTEE ACTION

Public Health Committee

Joint Favorable Substitute

Yea 24 Nay 2

Ref. #21

REPORT ON BILLS FAVORABLY REPORTED BY COMMITTEE

COMMITTEE: **Public Health Committee**

File No.:

Bill No.: HB-6819

PH Date: 3/21/2005

Action/Date: JFS / 4/4/2005

Reference Change: Floor

TITLE OF BILL:

AN ACT CONCERNING ACCESS TO ORAL HEALTH CARE.

SPONSORS OF BILL:

Public Health Committee

REASONS FOR BILL:

To improve access and quality of oral health care.

RESPONSE FROM ADMINISTRATION/AGENCY:

Wendy Furniss, Bureau Chief of the Bureau of Healthcare Systems – Department of Public Health, supports the bill but asked for certain revisions. This bill reflects most of the recommendations of the ad hoc committee that assisted the Commissioner of Public Health in evaluating possible statutory change with regard to access to and quality of oral health care. The new definition of dentistry is a result of mediation.

The Department wants subsection (c) of Section 4 to be deleted, as the requirement is redundant. Also, the Department would like to require foreign trained dentists who become faculty members at a Connecticut dental school to be employed for "no less than three years" to qualify for licensure.

With regard to dental hygienists administering anesthesia, the Department offers changes to lines 338 and 360, detailed in their testimony.

Evidence-based continuing education should be a part of all dentists' license renewal. Some hours of education would be waived for dentists that provide volunteer services in community or school-based health centers. The license renewal fee would also be waived for dentists who practice at least 100 hours per year in a public health facility. Section 19a-88 of the General Statutes would need to be revised.

Prohibiting the Department from renewing licenses of dentists who have not completed the continuing education requirements would have a fiscal impact relating to collecting, maintaining and reviewing the documentation of over 3,100 dentists. The Department wants substitute language that is cost-neutral but still holds dentists accountable. The Department of Public Health and local health departments should be in the list of qualifying continuing education providers. They request substitute language regarding the reinstatement of a lapsed license.

NATURE AND SOURCES OF SUPPORT:

Gary Price, President-Elect of the Connecticut State Medial Society, testified in support of the bill, stating that the bill was the result of a six-month negotiation process. Changes made to the definition of dentistry accommodate special circumstances within the scope of current dental practice, and has a primary regard for patient safety.

He requests a change to line 158, removing the two subsection (D)'s and replacing them with: (D) frontal, orbital, and nasoethmoidal procedures to the extent that such procedures are associated with trauma. This reflects the intent to associate all of these procedures with the context of trauma care.

Denis Lafreniere, President-Elect of the Connecticut Ear, Nose and Throat Society, supports the bill, as it is a true compromise between the medical and dental communities.

Line 158 should be altered so that it reads: (D) frontal and orbital surgery; and nasoethmoid procedures to the extent that such procedures are associated with trauma.

Robert Slate, Executive Director of the Connecticut Oral Health Initiative, testified in support of the bill, as it could lead to increased access to oral health care for underserved populations. The expansion of duties for dental assistants and hygienists could allow for the treatment of more HUSKY clients. Requiring foreign-trained dentists to work for two years in community health centers will help address staffing shortfalls.

Marcia Lorentzen, Associate Director of the Fones School of Dental Hygiene, supports the bill, as without local anesthesia, dental hygienists often compromise care due to inability to scale the teeth because of pain and discomfort for the patient. Thirty-five states allow for administration of local anesthesia by dental hygienists.

The dental hygiene licensing of foreign-trained dentists will allow for greater access to oral health care.

Prasad Sureddi, President of the Connecticut Society of Plastic and Reconstructive Surgeons, testified in favor of the bill, as it is the result of many months of debate and

negotiation. Both sides made concessions in the bill, but they will sign off on the bill as it ensures access to oral and maxillofacial services within the hospital trauma setting.

The CSPRS has concerns about the issue of cosmetic surgery and the resulting patient safety issues. They do not feel it wise to expand the definition by including cosmetic surgical procedures.

Alicia Zalka, President of the Connecticut Dermatology Society and representing the Connecticut Society of Eye Physicians, supports the bill because of the lengthy negotiation process that resulted in the bill. She does mention the same error in line 158 as discussed above.

The Connecticut State Dental Association submitted testimony with several language suggestions that are detailed in their testimony.

Mary Moran Boudreau, Legislative Chair of the Connecticut Dental Hygienists' Association, supports the bill, as it will allow dental hygienists to provide high quality oral care to a greater number of people through their ability to administer local anesthesia. Often, treatment is avoided due to the discomfort or pain caused by disease prevention therapy. Hygienists can do these procedures more thoroughly with local anesthesia. Thirty-five states and the District of Columbia currently allow licensed dental hygienists to administer local anesthesia.

She recommends some language changes that are detailed in her testimony.

David Perkins, DMD, testified in support of the bill, as it does not contain language regarding PGY-1. The issue of access to care is very serious, but has many different factors that are not solved with PGY-1. Dentists that fail clinical exams should not be given licenses based only on the fact that they completed a residency program.

If mandatory post-graduate training is deemed appropriate, he asks that successful completion of a criteria based clinical examination on a live patient be administered by an independent third party.

NATURE AND SOURCES OF OPPOSITION:

Jeremiah Lowney, DDS, opposes the bill, as it will allow the licensing of foreign-trained dentists, assuming that they will improve access to dental care. Currently, foreign-trained dentists must complete 3-4 years of dental school, and he asks that this practice be continued. The legislation is vague on how these dentists will be examined for licensure.

The proposed two year clinical residency requirement is not enough, as there is minimal or no supervision and no didactic requirements. Nor is the 3 year faculty requirement any better, as no one tests the dentists' qualifications.

In order to improve access, he suggests that there be student loan forgiveness for young dentists who treat Medicaid patients and better reimbursement for Medicaid patients (at least a break even fee).

Kirt Koral, Legislative Chair of the Council on Legislation – Connecticut State Dental Association, opposed the bill, as it is necessary to have a minimum PGY-1 training program for dental school graduates. With this training, residents gain experience, speed

without sacrificing quality, and greatly increase the number of procedures performed. They also learn how to treat patients with special needs that are rarely encountered in dental school.

More PGY-1 training programs would increase access to care. Currently the Dental Commissioners believe that a one day examination provides an essential evaluation of clinical skills, while Yale-New Haven Hospital provides intense clinical evaluation of all of its residents every day of the year.

He urges the reinstatement of the PGY-1 portion of the bill.

Laurence Loeb, DDS, opposes the bill due to its lack of direct clinical supervision of foreign-trained dentists working towards licensure in community health centers. This bill creates a two-tired system of dental practice – one for those in need of public assistance and the traditional system.

A solution to dental access should have a determination of the foreign-trained dentists' dedication to public service in it. These dentists could be encouraged to have 90 days of paid service in a public needs service each year. This requirement for re-licensure to be met in sites other than the sites specifically prescribed in this bill would have a true impact on access to care. A second requirement would be to make a certain percentage of a foreign-trained dentists practice available to Medicaid patients.

Ian Shedd 4/5/2005

Reported by Date

Ref. #22

Substitute House Bill No. 5636

Special Act No. 04-7

AN ACT CONCERNING ORAL HEALTH CARE.

Be it enacted by the Senate and House of Representatives in General Assembly convened:

Section 1. (*Effective July 1, 2004*) (a) The Commissioner of Public Health shall establish an ad hoc committee for the purpose of assisting the commissioner in examining and evaluating possible statutory changes that would improve (1) access to oral health care, particularly by persons who are underinsured, uninsured or on Medicaid, and (2) the quality of oral heath care. The committee shall hold its first meeting not later than July 15, 2004. The committee shall focus on examining statutory changes that would meet the goals of improving access to and quality of oral health care by facilitating the use of dental hygienists as midlevel providers in public settings, considering the administration of local anesthesia and nitrous oxide by dental hygienists, expanding the functions of dental assistants, requiring continuing education for dentists, revising the definition of dentistry, considering a post-graduate year as an alternative to an examination as a requirement for licensure for dentists. Other topics may be included at the discretion of the commissioner.

(b) (1) The ad hoc committee shall be appointed by the commissioner and shall consist of (A) two members of the Department of Public Health, (B) four dentists recommended by the Connecticut Dental Association, one of whom works in private practice, one of whom works in a public practice, one of whom is an educator and one of whom is a maxillofacial surgeon, (C) four dental hygienists recommended by the Connecticut Dental Hygienists Association, one of whom works in private practice, one of whom works in a public practice, one of whom is an educator and one of whom works in a school-based dental setting, and (D) a representative from a regionally accredited institution of higher education that offers a program for dental assistants. The Commissioners of Public Health and Social Services, or their designees shall be ex-officio members with full voting rights.

(2) The Commissioner of Public Health may expand the membership of the ad hoc committee to include representatives from related fields if the commissioner decides such expansion would be useful.

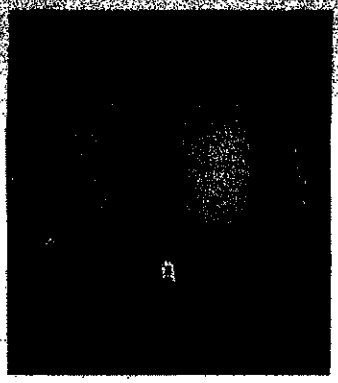
(c) On or before December 1, 2004, the Commissioner of Public Health shall submit, in accordance with section 11-4a of the general statutes, the results of the examination, with

specific recommendations for statutory changes, to the Governor and the joint standing committee of the General Assembly having cognizance of matters relating to public health.

Approved May 21, 2004

Appendix V

Ref. #23



ADAA President Visits Fort Sam Houston Dental Activity

By SFC Katherine F. Carrasco, MS, RDH
DENCOM Operations Sergeant

The United States Army Dental Command (DENCOM) and The Fort Sam Houston Dental Activity recently hosted a visit from Cathy Roberts, President of the American Dental Assistants Association. Ms. Roberts was extended the invitation by the DENCOM Sergeant Major, Richard Orona in order to facilitate her understanding of the Army's innovative strategic initiatives.

On May 24th, Ms. Roberts gratefully accepted the challenge of "suiting up" in personal protective equipment at the Rhodes Dental Clinic where she exhibited her professional pride by assisting an expanded functions dental (EFDA) team during a routine dental appointment. An EFDA team is usually comprised of one dentist, two dental assistants and one expanded functions dental assistant. It is this unique blend of team dentistry that enables the military dental system to efficiently and effectively render much needed dental therapy to our nation's most precious resource, our sons and daughters. The Army Dental Care system has termed this use of team dentistry as Dental Care Optimization (DCO). It is a business practice that is funded at 14 dental clinic sites within the Army Dental Care System (ADCS). The additional funding is utilized to provide the necessary auxiliary staff required to ensure the success of the program. A functioning DCO team will utilize two or possibly three dental operatories, allowing maximum access to dental care for the beneficiary population served. The success of the DCO initiative is incumbent upon a cohesive, well trained and enthusiastic professional work force. Ms. Roberts certainly fit in very well with our established protocol.

The US Army Dental Care System (ADCS) trains qualified employees as expanded function dental assistants. Employees may submit applications and also be administered a chalk carving test in order to evaluate their manual dexterity. Their packets are reviewed by a board of ADCS personnel. The most qualified applicants are selected to attend training. During the 18-month training period, each applicant will develop skills necessary to assist in the provision of direct patient care. The training consists of didactic, direct supervision and clinical on the job training. Target terminal skills for the EFDA include: placement of direct restorations following restoration preparation by a dentist; provision of supragingival hygiene services for patients (ideally, diagnosed with periodontal screening and recording (PSR) scores of 0-2); and various other miscellaneous, reversible procedures in support of dental care. The entire course may extend to 30 months, depending upon the progress of the EFDA trainee. The course combines distance learning (DL), direct instruction from the Department of Dental Science, Army Medical Department Center and School, and close, individual mentorship by designated trainers in the clinical phase of training.

The EFDA training program exists to support the strategic initiative of Dental Care Optimization (DCO) by providing efficient and effective dental care. The role of the EFDA is limited and defined within the ADCS; it does not include the performance of irreversible procedures. The EFDA is utilized as an auxiliary oral health care provider under the supervision of a dentist, and engages in patient treatment only with the consent of the dentist, after completion of the examination, treatment plan, and risk assessment.

Ms. Roberts' spent almost two hours at Rhodes Dental Clinic. She not only assisted during a procedure, but also met with all of the staff. MSG Claudio Carrasco, the Fort Sam Houston Dental Activity Senior Dental NCO, accompanied Ms. Roberts and SGM Orona on their tour of the facility. Overall, the visit was a rousing success and will greatly enhance the relationship between the ADAA and the ADCS for years to come.

MSG Claudio Carrasco (L) and Cathy Roberts hold the DENCOM SGM coin, recently presented to Ms. Roberts by SGM Richard Orona (R).

Appendix W

Ref. #26

CHART 37 - REGULATION OF DENTAL ASSISTANTS/EXPANDED FUNCTIONS ALLOWED

Regulation of Dental Assistants: What Expanded Functions Are Allowed?

State	X-Ray	Coronal Polish	Fabricate, Fit & Place Temporary Crowns	Place Sealants	Place Temporary Restorative Material	Place & remove matrix retainers	Polish Amalgam Restorations	Take Final Impression	Place & Carve Permanent Restoration	Other
AL	Y	N	Y	N	Y	Y	N	N	N	
AK		Y						N	Y	Permitted to apply topical preventive agents or pit and fissure sealants when delegated by licensed dentist
AZ	Y	Y	Y	Y	Y	Y	N	N	N	(08/04) New laws on coronal polishing; requires Board approved exam
AR	Y	Y	Y	N	Y	Y	Y			Monitor N20
CA	Unanswered									
CO	Unanswered									
CT	Y	Must pass required portion of DANB								
DE	Must contact Board for State Regulations									
DC	Not regulated									
FL	Y	Y	Y	Y	N	Y	Y	N	N	Rule 6485-16.005
GA	Y	(Not prophy)	Y	Y	Y	Y	Y			Rule 150-9-.02
HI	Y	N	N	N	N	Y	N			Rule 16-79-68.1
ID	Y	Y	Y	Y	Y	Y	Y			Monitor Nitrous Oxide
IL		Y		Y						
IN	Not Applicable									
IA	Y	Y	Y	N	Y			Y		See Ch 20.3 (3)
KS	Y	Y	Y	Y	Y	Y	Y	Y	Y	**Monitor nitrous oxide after course and CPR; supragingival scaling after course**
KY	Y*	Y*	Y	Y	Y	Y	Y			*Must pass approved course
LA	Y	Y	Y	Y	Y	Y	Y			Certain duties are prohibited
ME	Y-radiographers license only	To prepare for the ortho banding only	CDA Re-cement temp only; EFDA-Y cement temp crowns	Y-after eval by dentist	CDA emergency only; EFDA-y prior to final setting and/or casting	Y	Y			Some ortho; assisting function limited
MD	Y-certified dental radiation tech	N	N-unless by a DA qualified in general duties	N	N-unless by a DA qualified in general duties	N-unless by a DA qualified in general duties	N	N	N	
MA	Y			Y						With certification
MI	Y	Y	Select, fit and place	Y	Y	Y	Y			
MN	Y	Y	Fabricate and place	Y	Y	Y	No unless certified in restorative function			Numerous permissable duties under various levels of supervision
MS	Y	Y	Y	Y	Y	N	Y	N	N	
MO	Y-not an expanded function; no permit required	Y - air		Not addressed						19 expanded functions plus can monitor nitrous oxide
MT	Y*	Y	Y-fabricate and fit	Y	Y	Y	Y			*With certification
NE		Y								List Available

CHART 37 - REGULATION OF DENTAL ASSISTANTS/EXPANDED FUNCTIONS ALLOWED

State	X-Ray	Coronal Polish	Fabricate, Fit & Place Temporary Crowns	Place Sealants	Place Temporary Restorative Material	Place & remove matrix retainers	Polish Amalgam Restorations	Take Final Impression	Place & Carve Permanent Restoration	Other
NV	Y*	Y	Y	Y	N	N	N			Under direct supervision of licensed dentists; some duties under direct supervision of licensed dental hygienist; educating students must comply with state CPR and CE requirements see regulations NAC 631.220; *dentist must certify training
NH	Y	Y	Y	Y	Y	Y	N	Y	Place (Y); Carve (N)	Monitor Nitrous Oxide: preliminary inspection of oral cavity; orthodontic duties; tooth whitening
NJ	Y-with NJ Dep Lic	N	Y	N	Y	Y	N			See Regulations
NM	Y	Y	N	Y	N	N	N			Topical Fluoride -Y
NY	Y	N	Y	N	Y	Y	N			
NC	Y	Y-DA II	Y	Y	Y	Y	N	N	N	
ND	Y	Y	Y	Y	Y	Y	Y	N	N	Contact Board for specifics: various levels of supervision required
OH	Y- DAR only		Y	Y	Y	Y	Y	N	N	** Permitted by statute
OK	Y			Y						Assist Nitrous Oxide
OR*	Y	Y	Y	Y	Y	Y	Y		Y	Refer to Board rules *Training and exam required for certification to perform these functions
PA	Y*	**	**	**	**	**	**	**	**	*Must pass PA exam ** Scope of Practice outlined in Board's regulations
PR	Y	Y	N	Y	Y	Y	Y	Y	Y	
RI	General duties and expanded duties outlined in Rules and Regulations									
SC	Y		Y	N	Y	Y	Y			
SD	If licensed	Y**	Y	Y	Y	Y	N	N	N	Administer nitrous oxide if licensed
TN	Y- additional permit	Y	Y	Y-Addl permit	Y	Y	Y-with coronal polishing permit	Y- additional permit	Y- additional permit	Monitoring Nitrous Oxide Permit; scope of practice in rules
TX	Y	Y	Y	Y						
UT	Y									
VT	If trained in a function that does not constitute the practice of dentistry or dental hygiene									
VA	Y	Y	Y	Y	Y		Y			
VI	Unanswered									
WA	Y	Y	Y	Y	Y	Y	Y			See New Legislation 2007
WV	Y	Y	Y	Y	Y	Y	N	Y*	N	*With final evaluation by the supervising dentist
WI										
WY	Y	Y				Y	Y-Rubber cup			

Appendix X

DENTAL ASSISTING NATIONAL BOARD
DANB
Measuring Dental Assisting Excellence™

Certified Press

Volume 26 Issue 4 • Fall 2007

Understanding Dental Assisting Job Titles/Roles Assists in Career Options

In October 2006, the American Dental Association's (ADA's) House of Delegates passed resolutions supporting the development of two new workforce models for dental auxiliaries: Oral Prevention Assistant (OPA) and Community Dental Health Coordinator (CDHC). Developed by the ADA's Workforce Task Force, these two new job titles have caused a good deal of conversation as groups and individuals within the oral healthcare community are evaluating if the current designation of job functions in their state best serve the public and if the new models can result in benefits to access to care.

While the OPA and CDHC are at this time two models suggested by the ADA, this serves as a reminder to dental assistants to understand what job titles and allowable functions for that title are currently designated in his/her state dental practice act.

Within the past year alone, California and Washington have passed legislation adding new job title designations that are currently scheduled to take effect in 2008. In September 2006, California passed a law establishing four new job titles: Registered Orthodontic Assistant, Registered Restorative

state's administrative rules, noted specifically, or implied by definition. In an effort to see a pattern, there is an overlay column on the left-hand side of the chart entitled, Standardized National Job Titles from the ADAA/DANB Position Paper (see side-bar story below, left). By positioning a standardized job title structure as a ruler, per se, one can attempt to discern if a national view of career ladder patterns for dental assistants might exist.

Attempting to view a "national road map of job titles" by referencing this chart is misleading, however. The flaw in such a chart is that a dental assistant's job title varies, even if he or she is allowed to perform the same duty, depending on the state in which the dental assistant is employed.

For example, to be considered qualified to perform coronal polishing procedures, here are the various titles a dental assistant must be qualified to hold, depending on the state in which this coronal polishing procedure was being performed:

- Advanced Dental Assistant (ADA) (SD)
- Certified Ohio Dental Assistant (CODA) (OH)
- DANB Certified Dental Assistant (CDA) (MA, MO, NC, OH)
- Dental Assistant II (DA II) (NC)
- Dental Assistant Qualified in Coronal Polishing (DA Qualified in Coronal Polishing) (AZ, KY, NE, NM, KS, IL)
- Dental Assistant Qualified in Expanded Functions (DAQEF) (MO, NH)

Continued on page 3

Dental Assisting Job Titles in the U.S.

Standardized National Job Titles from the ADAA/DANB Position Paper

Expanded Function(s) Dental Assistant-EFDA (FL, ID, ME, OH, OR, PA, VT)

Registered Dental Assistant Qualified In or To Perform Expanded/Extended Duties/Functions (CA, MI, MN, TN)

Registered Dental Assistant with Expanded Duties Training (IA)

Expanded Duties Dental Assistant-EDDA (CO, GA, LA, OK, SC)

Registered Restorative Assistant in Extended Functions

Dental Assistant Qualified in or To Perform

to re[illegible]certification and lapsed Certificants the ability to rei[illegible]ate DANB credentials.

Designed with the busy professional in mind, PDEP is taken at home and submitted to DANB for scoring within three months. Renewing credentials with PDEP is an efficient way to stay current with the latest information and challenge one's own dental assisting comprehension and knowledge. By taking and passing the PDEP, the dental assistant professional will earn 12 continuing dental education (CDE) hours per module. Those who pass the exam will receive a Certificate of Completion. This document serves as proof of meeting the DANB Recertification Requirements.

DANB Certificants whose credentials have expired between four and 12 months after the three-month grace period may use PDEP as one of the options to satisfy the requirements of 12 CDE hours needed for recertification. DANB Certificants whose credentials have expired between 13 and 30 months after the three-month grace period are now able to reinstate the credential by passing a PDEP module and providing proof of completion of all past and current required CDE hours. (Contact DANB to determine which PDEP module can be used to reinstate your credential.) Payment of past-due renewal, reinstatement, and PDEP fees are required for all reinstatement requests.

Report Says Melatonin Shows Promise in Fight Against Periodontal Diseases

Melatonin may promote bone formation and stimulate the body's immune response, which are two factors that can affect a person's periodontal health according to a literature review in the June 2007 (Vol. 78, No. 6) issue of the *Journal of Periodontology*.

The authors of the study conducted an extensive review of literature to evaluate the potential effects of melatonin on the oral cavity, such as: melatonin as an antioxidant and free radical scavenger; melatonin as a promoter of bone formation; and melatonin and periodontal disease. The review found strong evidence that melatonin may play a key role in periodontal health by helping to maintain bone levels in the oral cavity through suppressing the cells that work during bone resorption, and enhancing the body's host response to the periodontal bacteria. One of the most devastating effects of periodontal disease is bone loss in the jaw that often leads to tooth loss.

tion on each o[illegible]e opportunities.

That's all I have time to report for now.
I'd best get back to the meeting. Until next time...

Recent studies have shown that salivary melatonin levels may actually vary according to the degree of periodontal disease, indicating that melatonin may act to protect the body from periodontal bacteria and inflammation.

DANB in the News

DANB made the news recently – the Academy of General Dentistry's news. A letter-to-the-editor from Executive Director Cindy Durley appeared in *AGD Impact*, the June 2007 edition. The topic was infection control in response to a March 2007 article that said it can be difficult for dentists to take charge of all aspects of the dental office's infection control program. Ms. Durley said she agreed with the article and that the writer's assertion was borne out by research DANB conducted. The DANB research, a survey, showed that a full 60 percent of credentialed dental assistants perform infection control duties and 19 percent said they act as the office's Occupational Safety and Health Administration (OSHA) compliance officer.

Ms. Durley said DANB helps dentists make sure that their staff members meet national and federal infection control and occupational safety standards by offering what is the only national examination to assess oral healthcare workers' knowledge-based competency in infection control and occupational safety – the 100-question Infection Control Examination (ICE). She went on to explain that the ICE exam assesses the dental assistant's ability to understand and apply current OSHA standards and Centers for Disease Control and Prevention (CDC) guidelines.

Possible Link Between Bone Drugs and Mandibular Health

According to an article in the *Chicago Tribune* a new study discovered a link between bisphosphonates (drugs used to treat bone cancer, osteoporosis and other diseases) and serious mandibular problems. Researchers from the University of Texas Medical Branch in Galveston identified more than 14,000 people with cancer who had been treated with bisphosphonates in the form of the medications pamidronate or zoledronic acid and more than 28,000 who had not received these medications. After six years about 5.5 percent of those who had used bisphosphonates had undergone facial or mandibular surgery or had inflammation of the mandibular, compared with 0.3 percent of those who did not use them. The study appeared online in the *Journal of the National Cancer Institute*.

Immigrant Tooth Decay/Gingival Infection Linked to Ethnicity/Country of Origin

Ethnicity and country of origin predispose U.S. immigrants to tooth decay and gingival disease according to findings by a New York University College of Dentistry research team. The largest-ever study on the oral health of immigrants to the U.S. analyzed caries and periodontal disease rates in more than 1,500 Chinese, Haitian, Indian, West Indian, and Puerto Rican, Dominican, and Central and South American immigrants of Hispanic origin living in New York City. The research team leader, Dr. Gustavo D. Cruz said the differences are deeply rooted in an immigrant's country of origin where early cultural influences can set the stage for oral health problems later in life. The findings were presented at the annual scientific meeting of the International Association for Dental Research in New Orleans in the spring.

Appendix Y

Measuring Dental Assisting Excellence™

Certified Press

Volume 23 Issue 3 • Summer 2005

DANB/ADAA Core Competency Study Supports A National Career Ladder For Dental Assisting

There are four main issues that recur in the Dental Assisting National Board, Inc.'s (DANB's) conversations with stakeholders:

- Access to oral healthcare;
- Recruitment, retention, and job satisfaction of dental assistants;
- The increased mobility of the U.S. population; and
- The wide variation in dental assisting duties and requirements across all 50 states.

This article will describe how DANB and the ADAA (American Dental Assistants Association) are working together to address these issues.

Current Issues of Concern in the Oral Healthcare Community

Dental assistants tell DANB that they are more likely to stay in the dental assisting field if they have mobility within their profession and if they are able to perform more complex duties as they gain experience (and education and credentials, if required by the state).

With the increased mobility of the U.S. population, if dental assistants who are qualified to perform certain duties in one state are recognized as competent in other states, recruitment and employment of qualified assistants will improve.

Because the 50 states' individual dental practice acts currently vary widely from state to state regarding which tasks dental assistants are legally allowed to perform, interstate mobility of qualified dental assistants is restricted.

State dental boards frequently contact DANB when they consider modifying dental assistant requirements in their state's dental practice act to find out what other states consider to be expanded functions, and the requirements they establish to perform them.

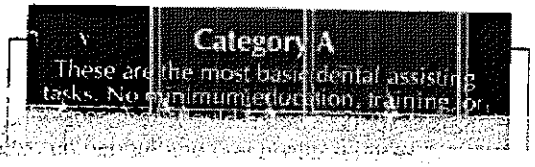
Defining a national career ladder for dental assistants that is based on one set of core dental assisting tasks, levels, and requirements will help states to address the following issues: access to oral health care; actions that influence recruitment, retention, and job satisfaction of dental assistants; and the increased mobility of the U.S. population.

In *Oral Health in America: A Report of the Surgeon General*, published in May 2000, then United States Surgeon General David Satcher, MD, PhD called attention to a silent epidemic of oral diseases, and asked oral healthcare professionals to

Defining the duties of dental assistants, identifying educational/training requirements, and providing a legally defensible and psychometrically sound way to demonstrate competency will strengthen the dental team, making it more efficient, more cost-effective, and better able to meet the oral healthcare needs of the public.

While the concept of a national set of dental assisting tasks has been considered periodically over the years, the initiation of such an undertaking came about in 2000, when DANB teamed up with the ADAA to form the ADAA/DANB Alliance (formally the Ad Hoc Committee to Enhance the Dental Assisting Profession). Formed to address many issues related to the dental assisting profession, one of the primary goals of this collaboration was to define and rank core dental assisting competencies (from most basic to most complex) in support of one national set of tasks, levels, and minimum requirements to perform these tasks, and to reinforce the concept of a viable career ladder for assistants.

The Alliance determined that quantitative research was necessary to support qualitative "think tank" studies conducted by the ADAA in the early 1990s (*Position Paper of the ADAA Task Force To Investigate Mandatory Education and Credentialing for Dental Assistants*, 1994). Because the ultimate goal of the DANB/ADAA study was to define and rank order dental assistant



COA • COMSA Dental Assisting Nationa

the task (though the task may require a short orientation to perform it). In order to perform a task in Category A, the assistant needs only to be provided with short, one-time verbal instructions or read a short instruction sheet.

- Receive and prepare patients for treatment, including seating, positioning chair and placing napkin
- Prepare procedural trays/armamentaria set-ups

between people and dental health services."

A career ladder of dental assisting tasks and requirements to perform those tasks will enable dentists to delegate identified tasks to dental assistants who have met educational/training requirements and have demonstrated competency on the tasks. This will allow dentists to focus on dentistry and assistants to perform delegated duties, with appropriate education, training, and credentialing (if required), thus increasing access to care.

responsibilities, the definitions had to be fairly defined by experience level, yet sufficiently broad in the educational requirements to reflect the fact that an estimated 75% to 90% of dental assistants receive all or the majority of their training on the job.*

Continued on page 3

Category B

These tasks are of low to moderate complexity, requiring less than 2 years of full-time or up to 4 years of part-time dental assisting work experience *OR* up to 12 months of formal education or training.
(These tasks in Category B are appropriate for relatively new On-the Job Trained Assistants (OJTs) and students currently enrolled in a formal dental assisting education program.)

Passing DANB's RHS, ICE, and a state-specific jurisprudence exam and/or a state-specific expanded functions exam, constructed according to nationally accepted psychometric standards, could fulfill Category B requirements

- Process dental radiographs
- Perform sterilization and disinfection procedures
- Transfer dental instruments
- Mount and label dental radiographs
- Apply topical anesthetic to the injection site
- Mix dental materials
- Provide pre- and post-operative instructions
- Apply topical fluoride
- Demonstrate understanding of the Centers for Disease Control and Prevention (CDC) Guidelines
- Clean and polish removable appliances and prostheses
- Demonstrate understanding of the OSHA Hazard Communication Standard
- Identify features of rotary instruments
- Maintain field of operation during dental procedures through the use of retraction, suction, irrigation, drying, placing and removing cotton rolls, etc.
- Demonstrate knowledge of ethics/jurisprudence/patient confidentiality
- Take and record vital signs
- Provide patient preventive education and oral hygiene instruction
- Demonstrate understanding of the OSHA Bloodborne Pathogens Standard
- Chart existing restorations or conditions
- Recognize basic dental emergencies
- Select and manipulate gypsums and waxes
- Take preliminary impressions
- Recognize basic medical emergencies
- Using the concepts of four-handed dentistry, assist with basic restorative procedures, including prosthodontics & restorative dentistry
- Monitor vital signs
- Pour, trim, and evaluate the quality of diagnostic casts
- Expose radiographs
- Using the concepts of four-handed dentistry, assist with basic intraoral surgical procedures, including extractions, periodontics, endodontics, and implants
- Fabricate custom trays, to include impression and bleaching trays, and athletic mouthguards
- Respond to basic dental emergencies
- Identify intraoral anatomy
- Place and remove dental dam
- Remove temporary crowns and cements
- Remove post-extraction dressings

Category C

These tasks are of moderate complexity, requiring 2+ years of full-time or 4+ years of part-time work experience (or some combination of full- and part-time experience) OR at least 12 months of formal education. (Tasks in Category C are appropriate for dental assistants who have completed a formal dental assisting education program or who are highly experienced OJTs.)

Passing DANB's CDA exam or a state-specific CDA exam, constructed according to nationally accepted psychometric standards, could fulfill Category C requirements.

- Remove periocontal dressings
- Place and remove matrix bands
- Place orthodontic separators
- Remove sutures
- Place post-extraction dressings
- Remove permanent cement from supragingival surfaces
- Perform coronal polishing procedures
- Monitor & respond to post-surgical bleeding
- Dry canals
- Perform vitality tests
- Evaluate radiographs for diagnostic quality
- Apply pit and fissure sealants
- Monitor nitrous oxide/oxygen analgesia
- Place temporary fillings
- Tie in archwires
- Place and remove retraction cord
- Fabricate and place temporary crowns
- Size and fit stainless steel crowns
- Place periodontal dressings
- Size and place orthodontic bands & brackets
- Place liners and bases
- Remove temporary fillings
- Take final impressions

**Estimates based on the average number of graduates from dental assisting programs accredited by the American Dental Association's (ADA's) Commission on Dental Accreditation (CODA) and those programs in institutions accredited by other agencies recognized by the U.S. Department of Education, multiplied by an average 6 years in working as a dental assistant (reflecting the average*

DANB Briefs

AGD/ADAA/AAWD Annual Meeting

The Academy of the General Dentistry (AGD)/American Dental Assistants Association (ADAA)/American Association of Women Dentists (AAWD) Annual Meeting will be held on July 13-17 in Washington, DC.

This event offers continuing education opportunities, special events (such as the AGD Convocation Ceremony, recognizing more than 300 dentists with Fellowship and Mastership awards; and the ADAA Convocation Ceremony, recognizing 10 dental assistants with Fellowship and Mastership awards), and the chance to visit over 200 vendors serving the oral healthcare community.

DANB publications (*The DANB Review, 3rd Edition; DANB's Glossary of Dental Assisting Terms, 2nd Edition; Task Analysis, 9th Edition,* and *DANB's Item Writing Guide*) will be available for purchase in the AGD Member Merchandise area.

Medical Practice Monitor Survey Results

One in five dentists in private practice say maintaining a dual role as dentist and business owner is "extremely challenging," and virtually all (96%) say it is extremely important for dental students to learn business skills in dental school, according to the first-ever Medical Practice Monitor by OPEN from American Express, the company's division that focuses exclusively on providing financial products and services for small business owners.

"Dentists are largely undeterred by the challenges of having to juggle the practice of dentistry with their role as business owners. Only one in 10 say they would not have opened their own dental practice if they fully understood the business challenges of running a practice when they began their careers," said J. Max Reddoch, DPA, dental practice management consultant and CEO of the Coker Group. However, 95% of dentists say they aspire to having more time to practice dentistry, rather than run their businesses.

National Board, Inc.

A Word from the Chair

Esther R. Scherb, DMD, JD
Chair, DANB Board of Directors

We at DANB are excited to be delivering an expanded issue of *Certified Press*, filled with news of the results of the *DANB/ADAA Study to Define and Rank Order Core Competencies for Dental Assistants*, and its potential implications for the greater oral healthcare community. Phase IV of the study has been completed, giving us comparable data from a population of DANB Certified Dental Assistants (CDAs) and Program Directors from dental assisting programs accredited by the American Dental Association's (ADA's) Commission on Dental Accreditation (CODA). These Phase IV data were combined with data from Dentist/Employers (from Phase III).

At the same time, *DANB's State-by-State Career Ladder Templates for Dental Assistants* is currently in development, using information from state practice acts and regulatory rules, listing which tasks the state will allow (or not allow) dental assistants to perform, in addition to the level of education or training needed. Designed in a quick-read format, this publication is due in the fall of 2005, at the same time as Volume 3 of *DANB's State Fact Booklet*.

The DANB Career Ladder Templates define what is, while the results of the DANB/ADAA Core Competency Study define what could or should be. With publication and delivery of the data from the Study to communities of influence in the dental assisting arena, DANB and ADAA hope to see this research serve as an invaluable tool to influence productivity, quality and safety issues in the delivery of oral healthcare.

DANB is also pleased to report on our contact by the U.S. Health Resources and Services Administration to assist the agency in identifying a national registry of credentialed professionals, to enable our nation to better respond to future natural or manmade emergencies.

August 2005 will mark my last meeting as Chair of DANB Board of Directors. It has been both an honor and a pleasure to participate in a group so dedicated to excellence in not only the profession of dental assisting, but in how this profession is enhanced though DANB Certification. On a daily basis, DANB staff join our Board in delivery of excellence through DANB's mission "to promote the public good by providing credentialing services to the dental community."

Three new individuals will join the DANB Board at the close of the August meeting: Richard Hunt, DDS (ADA Representative), Donna M. Kotyk, RDH, CDA, MA (ADEA Representative) and Marlene W. Lutterman (Public Member), replacing Thomas Harrison, DDS, Lynn Redman Smith, CDA and me, respectively. The next issue of *Certified Press* will highlight the background of each of these three new representatives to the DANB Board.

tice dentistry, rather than run their businesses.

The Medical Practice Monitor is based on online interviews conducted by Harris Interactive with a nationally representative sample of medical doctors, oncologists, rheumatologists, urologists, and dentists.

New Organizations Available for Dental Practice Administrators/Office Managers

The American Association of Dental Office Managers (AADOM) is a new professional organization targeting those employed as dental practice managers (DPMs) or office managers. Offering networking opportunities to DPMs of general and specialized dental practices, the AADOM has accepted 450 new members since January 1, 2005. For more information, visit www.dentalmanagers.com.

The JAWS Society is a new organization designed to promote the professional development of the Oral and Maxillofacial Surgery Administrator/Office Manager through peer interaction and educational programs. For more information, email info@jawssociety.org.

The American Association of Dental Assistants (ADAA) also has a membership category for these front office professionals. For more information, email iguillen@adaa1.com.

MouthPower for Kids

The ADA and the National Museum of Dentistry and Colgate have introduced the MouthPower Traveling Oral Health Education Program, geared for children ages 8-11. MouthPower incorporates key messages about the importance of good oral hygiene, balanced nutrition, and regular dental visits, as well as topics such as mouthguard use and tobacco avoidance. A special feature is the incorporation of the history of dental instruments and use of a role-play to educate children about the dental team and dental office visits. Dentists can use the program kit, which includes a leader's guide and props, to conduct presentations in schools and community organizations. The kit will be pilot tested in two states in the fall and, pending a successful outcome, the goal is to work toward a national rollout in 2006.

My Best Wishes.....

Esther R. Ackerb DMD, JD

ADA Announces Alliance with Patient Documentation System: Dental Record

ADA Member Advantage has announced a new alliance with The Dental Record, an easy-to-use system that helps dental practices to document their patients' treatment. Since the Wisconsin Dental Association created the system almost two decades ago, thousands of practices all over the U.S. have incorporated The Dental Record into their offices and are reporting increased productivity and lower malpractice risk. For more information or to order a starter kit, call (800) 243-4675 or visit www.dentalrecord.com.

"Meth Mouth" on the Rise

Most people know that methamphetamine abuse carries serious legal and medical ramifications. However, not everyone is aware of a phenomenon called "meth mouth," the symptoms of which include gum disease, broken and cracked teeth, and tooth decay. Methamphetamine reduces the amount of a person's saliva, which allows bacteria to build up to ten times normal levels. A combination of mouth acids and meth users' frequent cravings for high-sugar drinks causes cavities. In addition, meth use often results in anxiety, which leads to tooth grinding. As a result of the high level of "meth mouth" in prisons, many states are experiencing a rise in the cost of inmate dental care.

Orthodontic Treatment = Good Dental Health

Today's adults are taking better care of their teeth, according to a survey released by the National Institute of Dental and Craniofacial Research. It reveals that the rate of toothlessness among people ages 55-64 has dropped 60% since 1960.

This rise is related to the increased numbers of adults seeking orthodontic treatment. One in five orthodontic patients today is an adult, which can be partly attributed to the fact that braces and similar treatments are increasingly affordable and less physically noticeable. Orthodontic treatment improves both the patient's smile and his or her overall dental health. For example, misalignment of teeth makes plaque difficult to remove. Correcting this problem increases the likelihood that teeth will last for a lifetime.

ADEA Membership Now More Cost-Effective

The American Dental Education Association's Section on Dental Assisting Education has recently revised its membership structure in order to make active membership more cost-effective for allied dental programs in community and technical colleges. When an institution subscribes to membership, individual memberships will be extended to all allied dental staff, full-time and/or part-time faculty, and students at no additional fee. Institutional membership dues will remain $945 per year.

DANB is a member of the National Organization for Competency Assurance (NOCA). The National Commission For Certifying Agencies (NCCA), a NOCA Commission with responsibility for evaluating credentialing programs, has accredited DANB national certification exam programs (CDA, COA, and CDPMA), including DANB component exams (RHS, ICE, GC, and OA) and found DANB programs meet NCCA's highest standards, thus helping to assure validity, reliability, and objectivity in the testing process.

Core Competency Survey

Continued from page 1

Launching the Core Competency Survey

The DANB/ADAA Study to Define and Rank Order Core Competencies for Dental Assistants, hereafter "Core Competency Study," began in March of 2002. The Exam Committee for DANB's national General Chairside exam developed a survey based on task development groundwork accomplished by the ADAA/DANB Alliance, using DANB's *Task Analysis* as a reference point. This survey was mailed to CDAs and Program Directors from dental assisting programs accredited by the American Dental Association's (ADA's) Commission on Dental Accreditation (CODA), hereafter "ADA-accredited dental assisting programs." Phase II consisted of a similar survey sent later in the year to non-CDAs. Phase III of the study was conducted in 2003-4 with a survey sent to dentists.

The surveys used in Phases I & II of the study listed 70 tasks and asked the participants to rate each task in terms of training, education and/or experience they believe should be (not what currently is) required to perform the task. Respondents ranked each task in one of four predefined categories of dental assisting: Entry Level, Dental Assistant, CDA/RDA, and EFDA. The results of Phases I & II were published in DANB's *Certified Press*, Winter 2003 issue.

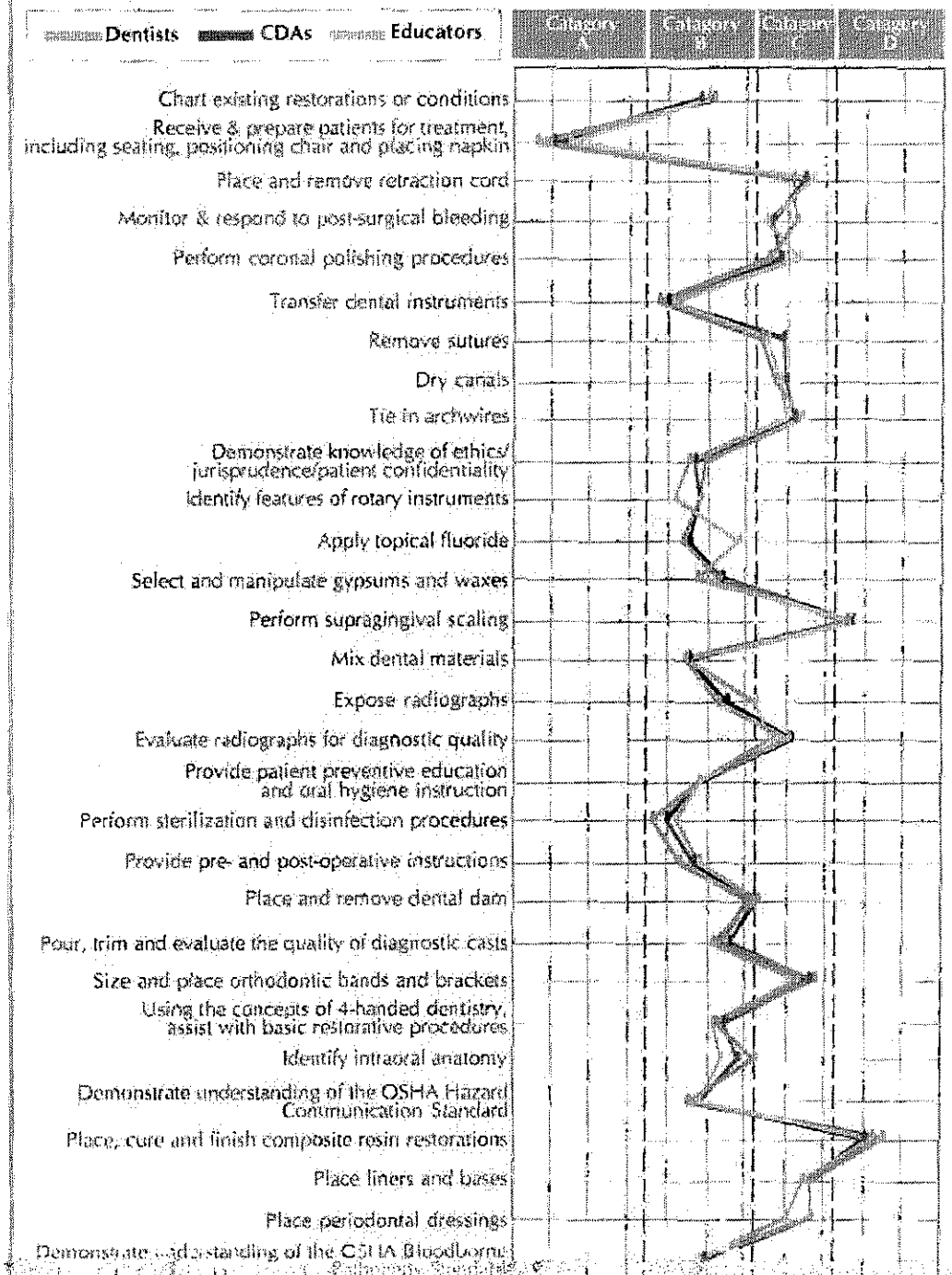
The survey for Phase III of the study listed the same 70 tasks but presented different category names to identify the levels of dental assisting. The Alliance determined that the terms originally used to describe the categories for Phases I & II had preconceived meanings to individuals in the dental profession. Using the category designations EFDA, CDA, or RDA might have influenced the responses of Phases I & II, so these terms were replaced with the following generic identifiers: Category A, B, C, or D. These category definitions were parallel to the categories used in the surveys for Phase I & II. The results of Phase III of the study were published in DANB's *Certified Press*, Summer 2004 issue..

While the consistency in results among Phases I, II, and III was extremely encouraging, a direct statistical comparison could not be made because the rating scale of descriptors in Phases I & II were not identical to those in Phase III.

Therefore, in order to meet the ADAA/DANB Alliance's goal of presenting psychometrically defensible research, a final survey was mailed to the same populations surveyed in Phases I and II (CDAs, CDAs who also direct ADA-accredited dental assisting

Core Competency Survey Rating Results

DANB Certified Dental Assistants, Educators and Dentists



programs, and non-certified dental assistants. In this re-survey, DANB used the same category descriptors (A-D) that were used in Phase III, in order to place dentist, CDA, and dental assisting educator (Program Director) results data on the same scale.

Phase IV Survey & Results

In January 2005, a total of 2,500 Core Competency Survey packets were mailed to a random sample of CDAs employed in a dental practice and those serving as Program Directors in ADA-accredited dental assisting programs. Using the same category system as the survey sent to dentists in Phase III, participants were instructed to rate each task in terms of the training, education, and/or experience they believe should be required to perform it. Additionally, in an attempt to reach non-CDAs, a postcard was mailed to 2,500 individuals inviting their participation in the study.

A total of 728 completed surveys were returned to DANB from CDAs, a return rate of 29%. The majority of the respondents work in private practice (78%), assisting in general dental offices (71%). Fifty-eight percent have been in the dental assisting field for more than 10 years. Fifty-eight percent believe their employer supports certification.

A total of 112 completed surveys were returned to DANB from educators, a return rate of 41%. Eighty-four percent of respondents have been in practice for more than 10 years. Sixty-three percent believe that their employers/educational institutions support DANB Certification.

Due to a small number of responses from non-CDAs, the data from these surveys will not be analyzed at this time. DANB will attempt to resurvey non-CDAs at a later date to gain a larger sample size.

As a whole, the results of Phases III and IV indicate that there are two main levels of dental assisting (Categories B & C), along with a subset of specialized functions.

Category A

Most basic tasks (no minimum experience, training, education, or exam should be required). Two tasks fell into this category.

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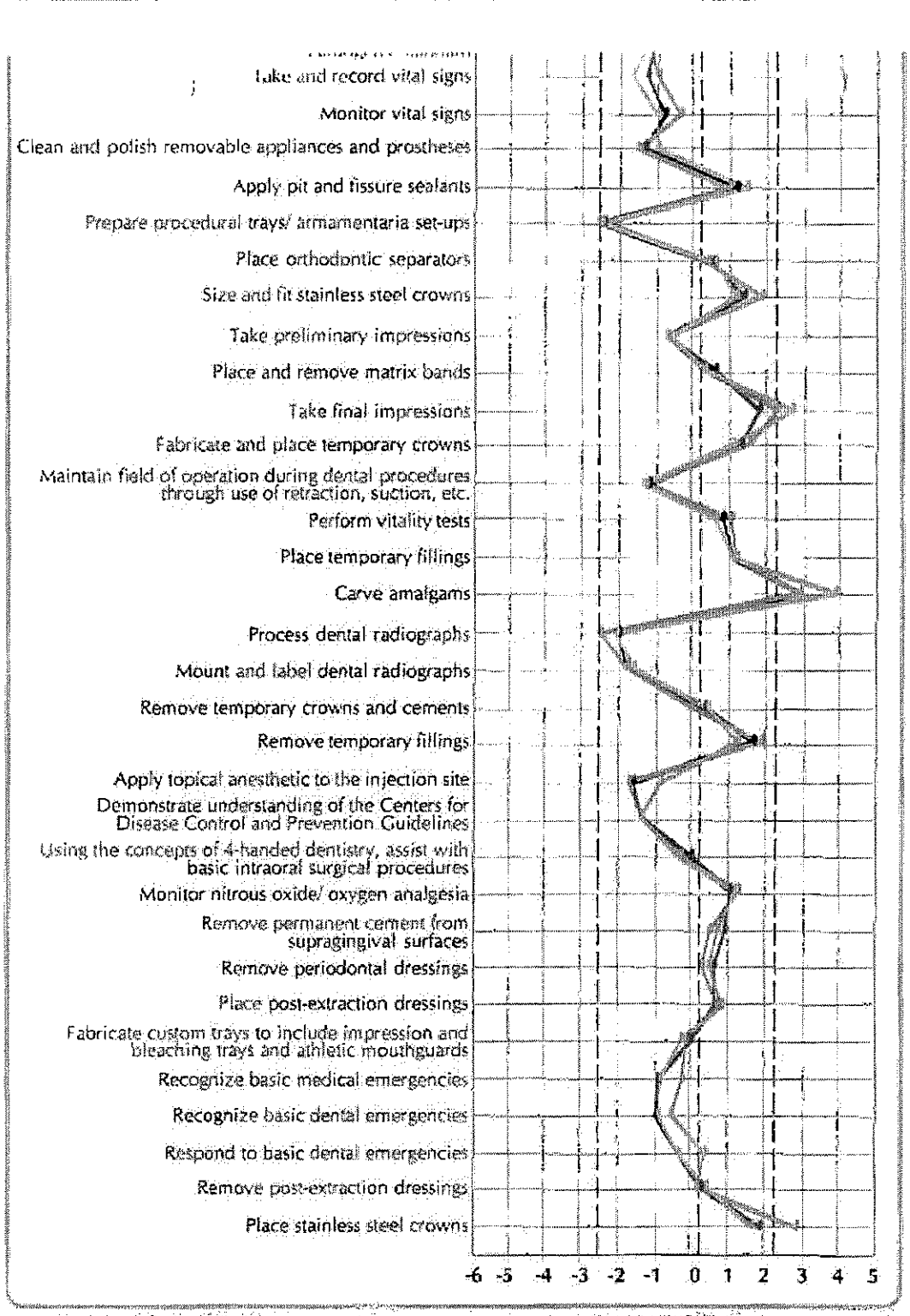
For a complete copy of the results of Phase IV of the Dental Assisting Core Competencies Study conducted by the ADAA/DANB Alliance, visit the Alliance section of the DANB website at www.danb.org.



Core Competency Survey

Continued from page 3

Category B

Low to moderate complexity tasks (requiring less than 2 + years full-time or 4 + years part-time dental assisting work experience or up to 12 months of formal education or training). Approximately half (33) of the overall tasks were placed in Category B. For tasks in this category, the research supports the contention that a credential less than the full CDA be recommended to perform these tasks. Passing DANB's RHS and ICE exams, and a state-specific jurisprudence exam or state-specific exams on a few of these functions (currently considered to be "expanded" duties in some states), could fulfill the requirements for this category.

Category C

Moderate complexity tasks (requiring 2 + years of part-time dental assisting work experience or at least 12 months of formal education or training). Approximately one-third (23) of the tasks fell into this category. These results support the contention that successful performance on DANB's CDA exam (comprised of three component exams: Radiation Health & Safety, Infection Control, and General Chairside Assisting) be recommended before a dental assistant is allowed to perform these tasks. In lieu of the CDA exam, a state might opt to require a state-specific RDA exam, which could meet public protection needs as long as it was developed and administered in accordance with nationally accepted psychometric methods, principles, and standards. (For more information on nationally accepted psychometric standards, or for a copy of *Credentialing Concepts*, contact Wade Delk, Executive Director of the National Organization for Competency Assurance, via email at wdelk@smithbucklin.com.)

Category D

Most complex tasks (specific advanced education or training required). Four tasks fell into this category. The research results would support advanced competency testing to evaluate an assistant's ability to perform these four expanded functions.

Category D

These tasks are most complex. In order to perform Category D tasks, the dental assistant would require specific, advanced education or training required in addition to or beyond the level required for Category C tasks.

Passing competency tests in the expanded functions, constructed according to nationally accepted psychometric standards, could fulfill Category D requirements.

- Place, cure, and finish composite resin restorations
- Carve amalgams
- Place stainless steel crowns
- Perform supragingival scaling

Next Steps

The position paper will be delivered to the following audiences:

- State Boards of Dentistry,
- State Dental Associations,
- Organized dentistry groups such as:
  - American Dental Assistants Association's state and local constituents or components,
  - American Dental Association,
  - American Dental Education Association,
  - Academy of General Dentistry,
  - American Association of Oral and Maxillofacial Surgery,
  - American Association of Orthodontists,
- Federal Agencies such as the office of the U.S. U.S. Surgeon General and the Health and Human Services department,
- National Organization for Competency Assurance
- Dental-related corporations,
- Dental schools, dental assisting and dental hygiene programs accredited by ADA's Commission on Dental Accreditation (CODA),
- ADA-accredited dental assisting programs,
- Non-ADA-accredited dental assisting programs,
- High school tech-prep coordinators/workforce educators,
- Upon request, members of the oral healthcare team (specifically, dentists), high school career counselors, and consumers.

Both organizations plan to create a Communications Plan to provide information to oral healthcare stakeholders on the levels of Dental Assisting Core Competency interested in developing a systematic in-office training protocol for dental assistants will likely be part of the Plan for those assistants performing the more basic tasks. (Note that both DANB and ADAA support attendance at ADA-accredited dental assisting programs, while realizing that most assistants are trained on the job.) Another idea is to develop an Executive Summary and provide it and/or the white paper to media outlets and oral healthcare stakeholders.

Submitting this research for publication in the journals of organizations such as American Dental Association, American Dental Education Association, and Academy of General Dentistry would provide good exposure to valuable stakeholders. Developing and distributing press releases, public service announcements, etc. will also help to gain exposure in the oral healthcare community.

Drawing upon the data collected during the Core Competency Survey, DANB is creating state-by-state Career Ladder templates, which contain individual listings of dental and orthodontic assisting requirements for each of the 50 states. Offering a vast amount of information in a single, easy-to-use volume, this resource will prove invaluable to assistants who plan to move out of state, who are interested in continuing their educations, or who seek to develop their professional responsibilities and skills. It will also assist State Dental Board members and officials who are interested in comparing their state's requirements to others. DANB intends to publish *DANB's State-by-State Career Ladder Templates* in the fall of 2005.

DANB's State-by-State Career Ladder Templates will reflect "what is;" the results of the Core Competency Survey describe "what could or should be." The development of one set of dental assisting core competency tasks, with recommendations for education, examinations and credentials is an ambitious goal. The ADAA/DANB Alliance has taken the first step by identifying the need for national competency requirements, launching the survey, and alerting dental communities to the project. Now, researchers, lawmakers, professionals, and many other individuals will need to join forces in

four expanded functions.

Next Steps

The ADAA/DANB Alliance plans to use the results of the Core Competency research to develop a "white paper" (position paper) defining and rank ordering core competencies for dental assistants and recommending minimum requirements for performing these competencies.

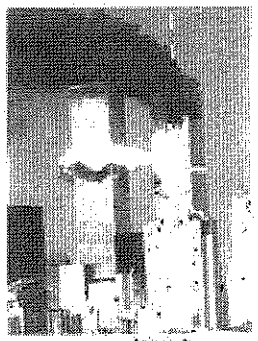
Plan to provide information to oral healthcare stakeholders on the levels of [illegible] Dental Assisting Core Competencies and information about providing clinical services credentials recommended by this research. Ideas are being considered for inclusion in the Communications Plan based on what would best serve the communities of interest. Creating a resource booklet based on these results to serve as a set of guidelines to those

project. Now, researchers, investigators, [illegible] and many other individuals will need to [illegible] in order to carry this endeavor to completion. The ADAA appreciates the support it has received thus far and looks forward to continued success as it works to enhance access to oral healthcare in America, provided by appropriately educated and credentialed professionals at all levels of the oral healthcare team.

DANB Supports the Development of a National Emergency Response Registry

The United States Health Resources and Services Administration (HRSA) has contacted DANB to request assistance in its efforts to develop a registry of health professionals who are willing to volunteer in the event of a disaster or bioterrorist attack. The development of this advanced registration system is mandated by Federal law as part of planned and coordinated disaster and emergency response on a national scale and is known as the Emergency System for Advance Registration of Volunteer Health Professionals (ESAR-VHP).

The terrorist acts of September 11, 2001, and the anthrax attacks that immediately followed, increased the national attention given to public health emergency preparedness. These events underscored the need for an emergency "surge" or supplemental health care workforce that can be mobilized to respond immediately to a mass casualty event.



©2001 Time Inc.

Hospital administrators involved in responding to the World Trade Center tragedy reported that they were unable to use medical volunteers when they were unable to verify the volunteer's basic identity, licensing, credentials (training, skills, and competence), and employment.

As a result, Congress authorized the development of the ESAR-VHP program and HRSA was delegated the responsibility of carrying out this legislation. HRSA is assisting each state (and territory) in establishing a standardized volunteer registration system. Each system will [illegible] information regarding the volunteer's identity, licensing, or other credentialing and practice privileges in hospitals or other medical facilities. The establishment of these standardized state systems will give each state the ability to quickly identify and better utilize health professional volunteers in emergencies and disasters. These state systems will, ultimately, enable the sharing of these pre-registered and credentialed health care professionals across state lines and even nationally.

The HRSA has requested information from DANB about the licenses, registrations, certifications, and other credentials that are required for or are available to dental assistants. This information will be used to identify the types of credentials that states need to collect and verify in order to ensure that the individual volunteers are qualified.

Developing the registry will also allow states to classify volunteers into one of several labels based on the information the volunteer provides and the state can verify. This method of classifying health professionals will not only accelerate the call-up for volunteers and ensure that appropriate resources are dispatched, but will become a national standard that will facilitate the exchange of health care volunteers across state lines.

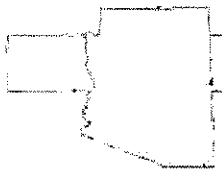
This project is particularly significant to DANB in light of the fact that our organization consistently champions the need for a national standard of dental assisting and strives to make that goal a reality. To that end, DANB publishes the annual *DANB's State Fact Booklet* that contains excerpts from each state's dental practice act and administrative rules that relate to regulation of the practice of dental assisting in that state. (It also includes [illegible] across the [illegible] dental assisting [illegible] in that state, what DANB exams are recognized or required, and how many individuals are current DANB CDAs, COAs, CDPMAs, and COMSAs, or hold RHS and/or ICE certificates of knowledge-based competency.)

This document provides detailed descriptions of what dental assistants are allowed to do (and/or what they cannot do) in each state, the designated level of supervision for each task, and a list of required exams and/or education, among other information.

In the fall of 2005, DANB will publish a companion piece to *DANB's State Fact Booklet: DANB's State-by-State Career Ladder Templates for Dental Assistants*. We are currently reviewing the information in *DANB's State Fact Booklet* and organizing it by state to reflect what tasks, if any, an individual can perform as a dental assistant without any education, training, or exams; under what level of supervision; and what the assistant is called at this entry level in that state. The template then defines what an assistant would need to do (for example, coursework or exams) to move up the career ladder, what functions they could then perform, under what level of supervision, and what they are called at that level.

DANB welcomes the opportunity to contribute to our country's safety by collaborating with national efforts such as the ESAR-VHP program. However, it will be difficult for disaster and emergency response teams to call on appropriately educated and credentialed dental assistants in those states that either do not have such requirements, or have such requirements but do not keep registries of qualified dental assistants. DANB is proud to support this goal, and continues to seek opportunities to provide better, healthier dental care across the nation.

State of the States



Arizona

CDAs	278
COMSAs	1
CDPMAs	3
COAs	7

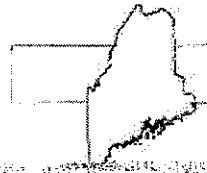
In 2004, the Arizona State Board of Dental Examiners (ASBDE) revised a rule in its state practice act allowing dental assistants to perform coronal polishing under the general supervision of a licensed dentist if they have passed a Board-approved exam. The ASBDE established a subcommittee to determine how to implement this new rule.

In April 2005, DANB's Executive Director, Cynthia Durley, MBA, MEd, addressed the ASBDE subcommittee. DANB and the ASBDE will be working together to develop and administer such an exam for Arizona.

Connecticut

CDAs	411
COMSAs	4
CDPMAs	8
COAs	23

In March, DANB's Executive Director, Cynthia Durley; DANB's Director, Testing and Measurement, Liz Koch; and ADAA Trustee Natalie Kaweckyj led a full-day course on "The Nationwide Status of and Models for Expanded Functions for Dental Assistants" for the Connecticut State Dental Association and the Connecticut Dental Assistants Association. DANB and ADAA highlighted nationwide trends in expanded functions, discussed the variations of dental assisting categories across the nation, and also some changes proposed by state dental boards to dental practice acts in a variety of states. Ninety-three individuals attended the event.



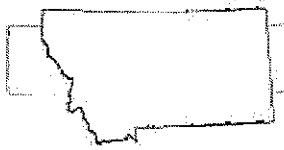
Maine

CDAs	101
COMSAs	6

Missouri

CDAs	511
COMSAs	5
CDPMAs	11
COAs	151

The Missouri Dental Association is investigating the possibility of defining a new level of dental assistant: the Dental Scaling Assistant. The Missouri Dental Board currently accepts DANB's Missouri Basic Exam (MOB) as meeting a portion of this board's dental assisting requirements, as assistants work toward earning a state designation to allow them to perform expanded functions.



Montana

CDAs	133
COMSAs	1
CDPMAs	4
COAs	1

In June, the Montana Board of Dentistry voted to eliminate the clinical radiological proficiency exam requirement. Montana dental assistants will continue to be required to pass DANB's RHS exam. The Board has instructed DANB to continue the MTCIRad exam until this proposed change in regulations goes through the public hearing process.

New York

CDAs	1004
COMSAs	5
CDPMAs	11
COAs	76

The New York State Dental Association has contacted DANB regarding proposed changes to the state dental practice act as they pertain to dental assistants. New York has legislation pending (NY State Assembly Bill A7369, Version B) that would eliminate the state's current list of certified dental assisting duties and replace it with an exclusionary statement prohibiting certain duties, and allowing dentists to delegate to New York state licensed "certified dental assistants" all duties not prohibited. In order to become a "licensed dental assistant" in New York, an individual must meet New York education requirements and pass DANB's CDA exam or DANB's RHS, ICE, and NYPDA exams.

Important Dentalworkers.com Employment Site Update Information

Exciting updates have been made to the Internet employment search site, www.dentalworkers.com. This site, which is accessible via a link on the DANB website, helps dental assistants to find work in the oral healthcare profession.

You may now specify your work location requests by city and driving distance, save your favorite job ads, find externships for students, create multiple resumes, track your statistics, enter and save your continuing education courses, and more!

In addition, Dentalworkers has added specific questions regarding dental assisting on the resume builder. These questions concern state requirements for exposing x-rays, completing DANB Radiation Health and Safety Exams, and completing DANB In-

post a resume on www.dentalworkers.com would have their credentials prominently displayed by DANB emblems on the first page of the resume.

Because of all of these exciting updates, the site needs your help by updating your resume(s). Once your resumes are created, you may store them in *Manage My Resumes*.

NOTE: If you previously had a resume on Dentalworkers.com, it has been transferred from the old site onto this new site. You need to update and re-publish this resume in order for employers to view your resume and for you to contact employers regarding jobs.

If you already had a Dentalworkers.com account,

Maine

CDAs	101
COMSAs	6
CDPMAs	6
COAs	18

The Maine legislature has passed Bill 146,which describes expanded functions for dental assistants. The bill requires a dental assistant to have an RDH license or the DANB CDA in order to perform these duties: placing and removing rubber dams and matrices; placing and contouring amalgam, composite,a nd other restorative materials; applying sealants; supragingival polishing; and other reversible procedures approved by the Maine State Board of Dental Examiners. DANB provided relevant information to the dental liaison to the Maine Dental Board.

Michigan

CDAs	1037
COMSAs	15
CDPMAs	31
COAs	74

In June 2005, the Michigan Board of Dentistry (MDA) approved a resolution settting forth a recommendation that the Michigan Dental Association and the Michigan Dental Assistants Association (MDAA) work together to investigate and implement into the Public Health Code, a second level of "credentialed" dental assistant, which includes a requirement for continuing education and CPR. A task force is in the process of being formed. The Michigan Dental Assistants Association is recommending that DANB be named as a consultant to this task force.

Call for DANB Exam Item Writers

DANB is seeking item writers for its examinations. These volunteers contribute their content and field experience to generate hundreds of items annually. Exam Committee members review the items to determine whether they will be added to the Computer Adaptive Testing system item bank for current and future DANB exams. Anyone interested in submitting potential items may contact Lillian Davis, Coordinator, Testing and Measurement, at [illegible]@DANB.org.

In addition, Dentalworkers has added specific questions regarding dental listing on the resume builder. These questions concern state requirements for exposing x-rays, completing DANB Radiation Health and Safety Exams, and completing DANB Infection Control exams—information that employers will want to know.

DANB's Information Systems Services (ISS) staff is working with Dentalworkers' ISS staff so that all assistants who have passed a national DANB exam and re-publish this resume in order for employers to view your resume and for you to contact empl s regarding jobs.

If you already had a Dentalworkers.com account, please click http://www.dentalworkers.ws/login_form.asp. If you are looking for a job and do not have an existing account, please click http://www.dentalworkers.com. If you know someone who is looking for a job, please click http://www.dentalworkers.ws/order.asp.

Notable DANB Dates for 2005

Be sure to visit the DANB booth at upcoming conventions and meetings listed below. Bring your current DANB wallet card and receive your credential ribbon and a special gift.

DANB Headquarters Closed for Independence Day—July 4th

2005 Convention/Host	Location/Contact Info	Dates
Pacific Northwest Dental Conference Washington State Dental Association(WSDA)	Seattle, WA www.wsda.org	July 14-15
ACD/ADAA/AAWD Annual Meeting Academy of General Dentistry (AGD) American Dental Assistants Assn. (ADAA) American Association of Women Dentists (AAWD) DANB/ADAA Forum—Friday, July 15, 7:30-9AM, Omni Diplomat Ballroom	Washington D.C. www.agd.org www.dentalassistant.org www.womendentists.org	July 14-17
National Conference of State Legislatures National Conference of State Legislatures (NCSL)	Seattle, WA www.ncsl.org	August 16-19

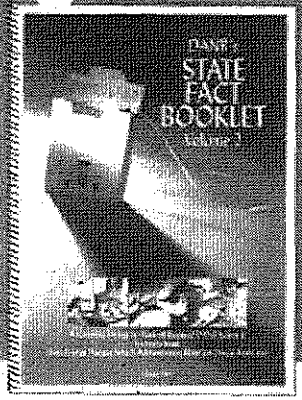
DANB Headquarters Closed for Labor Day—September 5th

American Dental Assn. Annual Meeting	Philadelphia, PA www.ada.org	October 6-9
NESO Annual Meeting Northeastern Society of Orthodontists On-site administration of COA exam—Friday, November 11, 8:15AM-12:30PM	New York, NY www.nesortho.org	November 10-13

DANB Headquarters Closed for Thanksgiving—November 24-25th

Greater New York Dental Meeting	New York, NY www.gnydm.com	November 25-30

National Board, Inc.



Order The Latest Volume of DANB's *State Fact Booklet* Today!

DANB's *State Fact Booklet: A Complete Listing by State of Required DANB Examinations and Excerpts from State Practice Acts* is updated every year. Currently in its second edition, this exclusive resource guide holds essential information pertinent to the dental assisting profession. Designed to function as an "information encyclopedia," DANB's *State Fact Booklet* contains state-specific references and data. Each volume provides the following information for each state:

- Excerpts from the state dental practice acts, or administrative rules pertaining to dental assistants,
- General information on expanded functions & radiography requirements,
- Accepted DANB exams by each state,
- State Board of Dentistry contact information,
- ADAA contact information,
- List of the ADA-accredited dental assisting programs,
- DANB Certified Assistant counts,
- DANB Certificates of Completion counts, and
- Salary statistics by state as compared to the national average of DANB Certified assistants versus non-DANB Certified assistants

The second volume offers the most up-to-date State Practice Acts and rules and regulations for the radiology and expanded functions specific to each state. ADA-accredited school listings have been updated and the latest statistics on DANB Certificants by state are included. Results of DANB's 2004 Salary Survey are represented in each state listing.

To order DANB's State Fact Booklet, call 1-800-FOR-DANB to request an order form or download the order form at www.danb.org.

Ready To Go.

RENEWING YOUR CERTIFICATION

Your initial certificate is valid for one year. The expiration date is listed on the certificate. If you do not renew, you are no longer certified and may not use the designation or credential. A renewal notice will be mailed approximately 6 weeks prior to the expiration date. Certificants are asked to sign a statement attesting that CDE and CPR requirements have been met, and to return the statement with the appropriate renewal fee to DANB. **Renewal fees are not refundable.**

Credentials	CDE Hours (including CPR)	Renewal Fee*
One (1)	12 Hours	$45
Two (2)	18 Hours	$70
Three (3)	24 Hours	$90
Four (4)	30 Hours	$115

*A late fee of $10 will be assessed after the Certificate expiration date, but within the 3-month grace period.

If DANB does not receive a response to renewal statement(s) within three (3) months of your expiration date, you are no longer certified and cannot use the CDA, COA, COMSA, or CDPMA acronym.

A sample timeline illustrates the DANB Certification renewal process. In this example, the individual's CDA expires January 15, 2005

December 1, 2004	A renewal notice is sent to Certificant.
January 15, 2005	Signed statement and fee are due by this date or DANB Certification expires.
January 16, 2005	Grace period begins. $10 late fee assessed. If fee not received, 2nd notice sent.
March 15, 2005	Grace period continues. If fee not received, Final notice (Drop Back In postcard) sent
April 16, 2005	Fees and signed statement are not received. Grace period ends. Individual is no longer DANB Certified. Call 1-800-FOR-DANB for reinstatement options.

Please note that due to feedback from DANB Certificants, the number of renewal notices being sent before the renewal deadline has been reduced from three (3) to one (1).

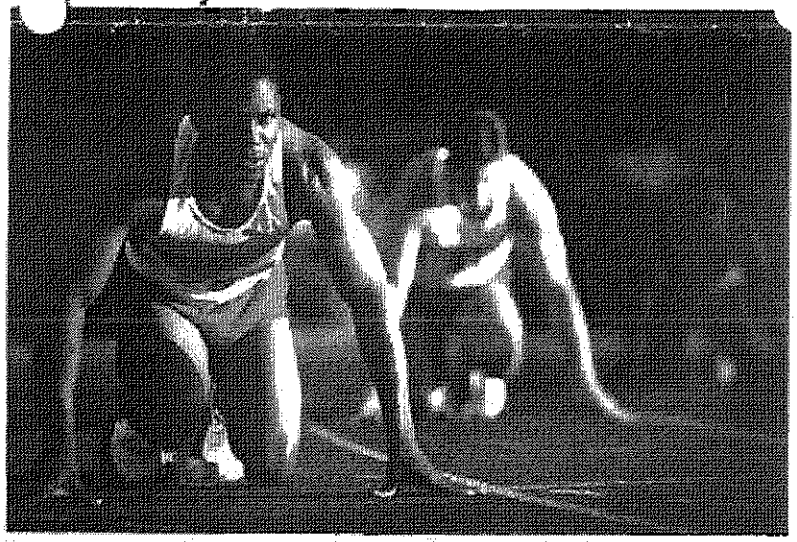
DANB RECERTIFICATION POLICY

I. **All continuing dental education must directly relate to the practice of dentistry or dental assisting to maintain or improve dental assisting knowledge or skill.** Note: Except for Home Study Courses, CDE does **not** need to be pre-approved by DANB in order to be accepted as meeting DANB Recertification requirements. Call DANB prior to participation in education if you have questions about content.

II. Programs must be at least 45 minutes in length in order to qualify for one (1) CDE credit. Credit for a CDE course will be calculated in 15 minute increments (i.e., 1 ½ hours = 1.5 CDE credits, 2 ¾ hours = 2.75 CDE credits).

Dental Assisting

Ready To Go.



Two new modules are being added to DANB's Professional Development Examination Program (PDEP) to make renewing your DANB Certification through this home study exam program better than ever!

A new General Chairside (GC) PDEP module is now available and a brand new Radiation Health & Safety (RHS) PDEP module is expected to be released in the fall of 2005! An Infection Control (ICE) PDEP module is still part of the team, ready for action.

This convenient, in-home testing program, available only to current or former DANB Certificants, challenges you to advance your professional knowledge using pertinent content materials researched and selected by DANB's Exam Committees.

Because PDEP allows you to control your own testing pace and offers scoring by DANB on a monthly schedule, you are able to manage which renewal year your 12 CDE hours apply under Category 7 (DANB exams) of the DANB Recertification Guidelines. PDEP hours only apply to your renewal requirements *AFTER* passing PDEP.

For more information, call 1-800-FOR-DANB and speak to a Client Service Representative or visit www.danb.org.

PDEP

hours = 1.5 CDE credits, 2 ¾ hours = 2.75 CDE credits).

III. Education dated prior to initial certification date cannot be used to meet DANB CDE requirements. Certificants must earn appropriate number of CDE hours during the first year of certification to maintain certification.

IV. Education has a two- (2) year lifespan. Certificants who carry over credits into the next renewal year must retain proof of 24 hours of CDE over a two-year period.

V. **Multiple Certification:** It is possible to be certified in each of four areas: CDA, COA, COMSA and CDPMA. Renewal requirements are set at approximately 50% increase over basic requirements for each additional credential maintained.

VI. **Renewal Timing and Expiration:** A three-month grace period is granted if the required CDE hours are not accumulated and appropriate fee is not received by the expiration date. An individual is considered certified during this three-month grace period, however a late fee of $10 will be assessed. If DANB does not receive a response to renewal statement(s) within three (3) months of your expiration date, you are no longer certified and cannot use the CDA, COA, COMSA, or CDPMA acronym. Misuse of any DANB credential is grounds for discipline under DANB's Discipline Policies and Procedures (contact DANB for a copy). For reinstatement of a credential, contact DANB by phone at 1-800-FOR-DANB, ext. 445 or by email at recert@danb.org.

VII. **Emeritus Status:** DANB Certified Assistants may apply for Emeritus status if they have maintained continuous current Certification for four (4) of the five (5) years immediately preceding application and have : become totally and permanently disabled, *or* retired from the field of dentistry/dental assisting at age 60 years or older *or* retired from the field of dentistry/dental assisting with 35 years of continuous (without any breaks) DANB Certification. Please visit the danb website (at www.danb.org/recert/recertrecognition.asp) to view the complete DANB Policy on "Emeritus Status" or contact DANB at 1-800-FOR DANB, extension 411. Once Emeritus Status is earned, Certificants must use this designation; i.e., Sue Smith, CDA-Emeritus.

DANB verifies your certification status by mail or phone to anyone upon request, since the fact that you have or have not been certified and the effective date(s) of your certification(s) are a matter of public record and may be disclosed.

In addition, unless you choose not to allow it, from time to time, DANB will provide the names and addresses of certificants to dentists interested in hiring a DANB Certificant (CDA, COA, CDPMA, COMSA) or someone who has passed the Radiation Health and Safety or Infection Control examination from their area, and to providers of continuing education opportunities. DANB may also post current certificant status (certificant name, certification(s) earned, state in which certificant resides, and date of certification) on DANB's website.

If you do NOT wish to receive non-DANB mailings at your home address (i.e., current job opportunities, continuing education offerings, etc.), or you do NOT agree to allow DANB to publish your certification status (your name, certification(s) earned, state in which you reside, and date of your certification) on DANB's website, **you must** send a written request to have this information omitted from release or publication to: DANB Marketing Coordinator, DANB,

DANB recog[illegible] the dynamic and emerging roles of Certified Assistants in providing quality care t[illegible]dents in a dental setting. DANB assists Certified Dental Assistants (CDAs), Certified Orthodontic Assistants (COAs), Certified Oral and Maxillofacial Surgery Assistants (COMSAs), and Certified Dental Practice Management Administrators [illegible]PMAs) in meeting these ever changing roles by requiring Continuing Dental E[illegible]cation [illegible] hours. DANB's credentials are known in the dental community as a mark[illegible]ental assisting excellence. This measure of excellence can be maintained only if each Certificant is able to demonstrate competence.

CONTINUING DENTAL EDUCATION (CDE) REQUIREMENTS / AUDIT PROCEDURES

To renew a certificate, the Certificant must earn and retain proof of twelve (12) hours of acceptable CDE by the expiration date. A recertification notice will be mailed approximately 8 weeks prior to the expiration date. The Certificant will be asked to sign a statement attesting that CDE requirements have been met, and to return the statement to DANB with the appropriate renewal fee. Renewal fees are not refundable.

Some DANB Certificants will be randomly selected for verification (audit) of their CDE hours and CPR. Those selected for verification (audit) will be considered certified during the time that they are providing proof of their continuing education. Specific instructions will be sent to those audited.

Upon successful completion of the audit, certification will be instated for the full year. Proof of continuing education should be retained for two years, in case of subsequent audit. Certificants not selected for audit will have their certification renewed for a full year.

DO NOT SEND DOCUMENTATION UNLESS REQUESTED. MATERIALS WILL NOT BE RETURNED OR RETAINED BY DANB.

DENTAL EDUCATION SOURCES/CATEGORIES FOR CDE HOURS

Recertification can be earned through accumulating the required number of CDE hours and paying the appropriate renewal fee. It is the responsibility of the certificant to obtain and retain the documentation that verifies participation in all CDE activities that will be used for renewal credit. All this documentation must indicate name, ID number, name of sponsor, date of course, number of CDE hours, subject matter, program title, and program presenter.

1. MANDATORY CPR CERTIFICATION

CDE Hours: Maximum 4 hours
Accepted Documentation:
Copy of front and back of a signed, current CPR card

NOTE: Two-(2) year CPR card holders can only apply the hours to recertification in the year CPR earned. In the second year, CPR hours will not count and the Certificant must earn the full number of hours from other categories.

Cardiopulmonary resuscitation certification is required for renewal of DANB certification. Certificants may earn **a maximum of four (4) CDE hours annually (hour credit for hour attended)** for successful completion of a CPR certification course that includes both written and hands-on (skills) assessment provided by:

American Red Cross: • CPR for the Professional Rescuer • Adult, Infant and Child CPR • Adult CPR • Infant and Child CPR • Community CPR
American Heart Association: • Heartsaver • Heartsaver AED • Heartsaver FACTS • Healthcare Provider • Advanced Cardiac Life Support (ACLS) • PALS (Pediatric Advanced Life Support) • BLS Instructor (Basic Life Support Instructor)
National Safety Council (Green Cross): • First Aid CPR • Infant and Child CPR • Adult and Child CPR • Standard CPR • Professional Rescuer CPR
American Safety and Health Institute: • CPR Pro
Medic First Aid: • Basic Life Support for Professionals
Canadian Red Cross: • CPR-Level C • CPR for the Professional Rescuer
Courses from organizations other than those approved by DANB or course offerings from approved organizations without both written/skills assessment will not be accepted. Certificants may only count the CDE hours in the year that CPR is earned.

2. CLINICAL COURSES, SEMINARS, TABLE CLINICS & EXHIBITS

CDE Hours: Hour for Hour (no maximum)
Exhibit Hours: Maximum 2 hours (1 hour per meeting)

6. READING

CDE Hours: Maximum 2 hours
Accepted Documentation: Written log of articles and copy of each 50 word article summary or 250 word text book summary or copy of the completed publisher's evaluation form returned to the publisher for any materials evaluated for adoption (see below)

Certificants may earn **a maximum of one (1) CDE hour annually by reading** at least six (6) technical/dental articles published within your renewal period or one (1) dental textbook, published within the past five (5) years. Community libraries, dental offices, and the Internet are convenient sources of books and journals. To record reading activity, a log must be maintained that includes title of book or article, name of journal, author, and date of publication. This written log earns the certificant **one (1) CDE hour.** Certificants may **earn an additional one (1) CDE hour annually** for writing at least a 50-word summary of each article or at least a 250-word summary of the textbook, highlighting the relevance of the information to the dental assisting profession. *(Accepted documentation: written log of articles and copy of each 50 word article summary or 250 word text book summary)*

Dental assisting educators teaching at least half-time may earn a maximum of three (3) CDE credit hours annually by reviewing new reference materials (textbooks, CD ROMs, audiovisuals, etc.) for possible adoption into their curriculum. *(Accepted documentation: copy of the completed publisher's evaluation form returned to the publisher for any materials evaluated for adoption)*

7. DANB EXAMS

CDE Hours: Maximum 12 hours
Accepted Documentation:
Copy of Certificate or Official DANB Score Report

Twelve (12) CDE hours are awarded for each DANB-administered examination successfully completed, excluding the first time a certification exam is passed. These examinations include any DANB national examination, DANB Professional Development Examination Program (PDEP), or any DANB state or agency-contracted examination that consists of at least 100 items. **Four (4) CDE hours are awarded for each DANB-administered** state or agency-contracted examination that is less than 100 items.

2005 DANB Recertific

Accepted Documentation: Certificate of completion, DANB approval code, Letter of attendance/completion, Meeting badge (exhibits), Meeting badge/program page (table clinics or free on-site lecture), CDE printout from meeting, or similar documentation

Clinical courses are those on-site lectures, courses, seminars and/or table clinics that are ***directly related to the clinical practice of dentistry or dental assisting.*** This category includes, but is not limited to attendance at, or participation in ***clinical*** professional development courses that are ***directly related to skills, knowledge and duties that would be chairside:*** dental materials, four-handed dentistry, infection control, radiology, expanded functions and others. See Category 3 for non-clinical practice management information.

For each hour that you attend and/or participate in one of these sessions you will receive one (1) CDE credit. Additionally, **a maximum of one (1) hour** may be earned for reviewing exhibits at dental and/or dental assisting meetings sponsored by recognized dental groups. This can be done a maximum of twice each year **at two (2) different meetings.**

All CDE credits can be clinical in nature.

3. NON-CLINICAL COURSES, SEMINARS & TABLE CLINICS

Formerly called ELECTIVES (including PRACTICE MANAGEMENT)

CDE Hours: Maximum 3 hours for CDAs, COAs & COMSAs
Maximum 6 hours for CDPMAs
Accepted Documentation: Certificate of completion, DANB approval code, Letter of attendance/completion, Meeting badge, Program page (table clinics or free on-site lecture), CDE printout from meeting, or other like documentation

- CDAs, COAs, and COMSAs may earn **a maximum of three (3) CDE hours annually.**
- CDPMAs can earn **a maximum of six (6) CDE hours annually** (as practice management is the focus of CDPMA certification).

This category includes but is not limited to attendance at or participation in ***non-clinical*** professional development courses that are **directly related to *dental practice management/practice communication services:*** practice management, HIPAA, stress management, patient and staff motivation, computer courses (college class, software training, etc.), insurance, claims/billing, foreign language studies, American Sign Language, and non-scientific related college courses.

4. HOME STUDY COURSES: TEXT-AUDIO-VIDEO-INTERNET

CDE Hours: No maximum
Accepted Documentation: Certificate of completion, DANB approval code, Letter of completion, or other like documentation

Home study courses must be pre-approved by DANB. A designated number of hours will be awarded after completing a pre-approved home study course. Home study courses can be obtained from the American Dental Assistants Association and other agencies. To avoid non-acceptance of credits, ask course sponsor if the course is DANB-approved. If not, encourage them to call 1-800-FOR-DANB for course approval.

5. VIDEO OR AUDIO TAPES FROM CONVENTION SEMINARS

CDE Hours: Maximum 3 hours
Accepted Documentation:
Copy of the 250 word essay (highlighting the meeting and course name)

Certificants may earn a maximum of **three (3) CDE hours annually** by viewing or listening to a taped CDE course presented at a local, state, regional, or national dental meeting and writing

[illegible] state or agency-conducted examination that is less than 2.0 units.

8. COMMUNITY PARTICIPATION

CDE Hours: Maximum 3 hours
Accepted Documentation: Certificate of completion, Letter of attendance/participation or similar documentation

Certificants may earn **a maximum of two (2) CDE hours** by participating in dental-related community service and an **additional one (1) CDE hour** for writing at least a 250-word essay on how the volunteer service benefited the certificant's professional growth. Examples include: international/national mission work, voluntary clinic work or dental health presentations to students or groups. Community participation does not include activities such as serving on a dental assisting program advisory committee or as an officer and/or committee chair for a national, state, or local dental assisting organization. Volunteer time should be at minimum two (2) hours. DANB will publically recognize Certificants who complete and provide proof of mission work.

9. COLLEGE COURSES

CDE Hours: No Maximum
Accepted Documentation: Grade report, Transcript, Letter of Verification (from instructor on school letterhead)

CDE hours are awarded for each scientific-oriented college credit/unit successfully completed at the following levels:

- **Three (3) College Credits/Units = Twelve (12) CDE hours**
- **Two (2) College Credits/Units = Six (6) CDE hours**
- **One (1) College Credit/Unit = Three (3) CDE hours**

Courses must directly relate to the practice of dentistry or dental assisting (i.e., dentistry, dental assisting, dental hygiene, anatomy/physiology, all biology, all chemistry, nutrition). To avoid non-acceptance of credits, call DANB to ascertain whether a course is acceptable and at what CDE hour level.

10. SCHOLARLY ACTIVITY

CDE Hours: Maximum 3 hours
Accepted Documentation: Course outline/catalog, copy of program brochure listing the Certificant as Instructor, copy of published article (including name and date of publication), letter from DANB, document from college registrar's office indicating currently enrolled status (see below)

Certificants may earn **a maximum of three (3) CDE hours annually** for each of the following scholarly activities:

- Teach a professional course directly related to dentistry or dental assisting **or** present a continuing dental education program, either of which are outside of the Certificant's normal employment teaching responsibilities. *(Accepted documentation: course outline/catalog, copy of program brochure listing the Certificant as Instructor)*
- Author a published article in a recognized dental or dental assisting journal. *(Accepted documentation: copy of published article, including name and date of publication)*
- Participate in a DANB Exam Committee/validity study/PDEP development (Note: PDEP development participants cannot use PDEP to renew) or receive one (1) CDE hour for every two (2) exam items accepted by DANB. *(Accepted documentation: letter from DANB)*
- Certificants may earn all twelve (12) CDE hours required annually by DANB if they are currently enrolled in a college program to earn an advanced degree, but this option can be used for no more than five consecutive years. Twelve (12) CDE hours per year may be earned if enrolled at least half time (earning 3 or more college credits/units) in

What Makes the ADAA and DANB Unique?

Understanding Our Similarities and Differences through the ADAA/DANB Alliance

The American Dental Assistants Association (ADAA) and DANB share a long and distinguished past. While these are now two separately incorporated organizations, this was not always the case. The ADAA was initially founded in 1921 by Juliette A. Southard as the Education and Efficiency Society. A primary goal of the newly-formed organization was to develop and support study groups to train dental assistants to be more efficient in the dental office.

In 1930, a curriculum committee was formed within the ADAA to develop educational guidelines and training courses for dental assistants. The initial 140-hour course was adopted in 1946. In 1944, the ADAA formed a certification committee to prepare standards and develop a competency examination for dental assistants. The Certifying Board of the ADAA was established in 1948. That same year, the ADAA also developed an accreditation process for dental assisting training programs.

In 1978, the Certifying Board of the ADAA became independently incorporated as the Dental Assisting National Board, Inc. (DANB). From 1948 to the present, more than 175,000 dental assistants have been DANB Certified. While separate organizations, DANB's and ADAA's missions are complementary. Representatives of each of these organizations will highlight their common purposes, differences and the benefits of each.

You Know Them When You See Them

By Anna Nelson, CDA, RDA, MA
Past President, American Dental Assistants Association (ADAA)

There are many fine reasons to join an association ... direct and indirect. By direct, we mean the simple, straightforward benefits that you could present to an accountant (or the IRS) and say "Here. This is what I get for my money."

When a dental assistant chooses to join the American Dental Assistants Association, he or she is met with an array of direct benefits:

- The *Dental Assistant Journal*, published six times each year,
- Discounts on Continuing Education Courses,
- Free CE in two or three issues of the *Journal* each year,
- Professional Liability insurance,
- Accidental Death & Dismemberment insurance,
- Free resume posting on the web through our Internet affiliate,
- [illegible]

offer credit card programs such as ADAA has and only 19% have those scholarship programs so important to Student members and Active members returning to school.

But the really important intangible and the one reason for joining even if there weren't any tangibles to brag about is the professional solidarity that association membership builds. We are a profession that needs a strong voice to speak on our behalf because we have no labor union to stand for us or uniform national laws we can stand behind. By joining and interacting with one another as fellow professionals, we can build the networks we need to seek and find esteem professionally and develop respect from the dental team. Association membership can provide this and is available as a voluntary step one can take.

Many, many of the Certificants of DANB have chosen [illegible]

Carrying Around That DANB Pride

By Judy E. Anolik, CDA, EFDA
Past Chair, Dental Assisting National Board, Inc. (DANB)

When you are lucky enough to be passionate about your profession, you seek ways to not only enhance your career, but also to interact with your peers. Belonging to your professional association gives you the chance to meet and learn with other dental assistants from across the country and even the world. Equally important is earning a national Certification through the Dental Assisting National Board, Inc. (DANB).

Recognized by the American Dental Association (ADA) as the national credentialing agency for dental assistants, DANB serves the public good by increasing the number of demonstrably qualified dental assistants in practice. DANB Certification is a way for dental assistants to demonstrate their level of competency in their chosen vocation.

A common misunderstanding is that a dental assistant can be a *member* of DANB. As a Certification organization, DANB does not have members. It has Certificants who have demonstrated their competency through earning one or more of the national DANB credentials: Certified Dental Assistant (CDA), Certified Orthodontic Assistant (COA), Certified Dental Practice Management Administrator (CDPMA), Certified Oral Maxillofacial Surgery Assistant (COMSA), or earned national certificates of competency in Radiation Health & Safety (RHS) or Infection Control (ICE). Anyone who belongs to a profession and pays dues may be a *member* of that organization; and, of course, there are many tangible and intangible benefits to becoming a [illegible]

g National Board, Inc.

- ...e resume posting on the web through our ...rnet affiliate,
- Discounts on national and other educational meetings closer to home and free access to:
  –*Dental Equipment & Materials*
  –Linda Miles's newsletter *Dynamic Dentistry*,
- Travel and hotel discounts,
- Credit cards, health insurance programs in most states for those qualified,
- and scholarship programs.

But the intangibles can be very important also. For instance, did you know that only 48% of all professional associations provide group insurance programs open to their members? Whereas ADAA has optional programs in most states for those qualified in the field of life, major medical, and disability insurance. And don't forget—our professional liability and accidental death and dismemberment insurance is automatic for all Active members returning to school. Only 15% Many, many of the Co... ...ents of DANB have chosen to affiliate with the ADAA, but just as many have not. Because of the divergent natures of our two organizations, one holding Certification from DANB and membership in the ADAA has made a double-edged statement—first with DANB showing respect for education and respect for the profession being practiced. With ADAA, you are showing personal, professional respect by continuing to uphold that level of education through team-building, esteem-building activities of interaction with your fellow professionals.

So we thank the dental assistants who have taken the steps necessary to become DANB Certified and made the decision to affiliate with the ADAA. To those who have taken one of those two steps, we urge you to round out your committment to professionalism by taking the other step now. Become DANB Certified and join the ADAA. Take advantage of the benefits of both.

organization; and, of course, there are ... tangible and intangible benefits to be ... a member of ADAA, as described in Table 1 of this article. However, in order to become a DANB *Certificant*, one must meet exam eligibility requirements, pass a national DANB Certification exam, and maintain the credential annually.

While I am a dedicated member of ADAA, the professional membership association for dental assistants, I am also a proud Certified Dental Assistant (CDA), my credential earned by taking and passing the DANB CDA exam and maintained by meeting DANB's Recertification requirements.

I keep my Certification current by renewing annually, earning continuing education hours (many courses are offered by the ADAA to meet these requirements), keeping my CPR certification current, and

Continued on page 9

A Closer Look at the ADAA/DANB Alliance

In 2000, the ADAA and DANB formed a joint committee: the ADAA/DANB Ad Hoc Committee to Enhance the Dental Assisting Profession. In 2004, this Committee was renamed the ADAA/DANB Alliance to reflect a long-term commitment to advancements for dental assistants that are mutually beneficial to both organizations and to the profession. The ADAA/DANB Alliance has its own mission statement and goals:

ADAA/DANB Alliance Mission

To come together to advance the dental assisting profession and to enhance the delivery of oral healthcare by presenting a united and strengthened voice that reflects all careers within dental assisting.

ADAA/DANB Alliance Goals

1. *To conduct research to determine the needs of the dental assisting profession at the grassroots level*
2. *To define which of these needs are within the purview of either or both organizations' mission statements*
3. *To attempt to address those needs that fall within either or both organizations' purviews*
4. *To work toward mandatory education and credentialing of dental assistants*
5. *To work together to enhance the delivery of oral healthcare*
6. *To maintain organizational autonomy while accomplishing goals 1 – 5.*

Current Joint Organizational Project

DANB and the ADAA have been working on the Dental Assisting Core Competencies project since 2000. The ***overall purpose*** of this project is as follows:

To protect the public and improve patient access to oral healthcare, dental assistants should have education appropriate for and be able to demonstrate competence in the services delivered. To this end, the ADAA and DANB have developed a four-level list of core competencies for dental assistants, moving from basic support functions to more advanced chairside procedures, performed under the supervision of a licensed dentist.

Specific purposes include to:

1. *Provide empirical evidence of dental assisting competencies from basic to advanced in nature;*
2. *Recommend minimum requirements for performing these competencies;*
3. *Define and reinforce the notion of a viable career ladder for dental assistants.*

DANB and ADAA will soon conclude Phase IV of this four-phase study. DANB and ADAA will then author a position paper focusing on the results of this study as they relate to access to care, increased mobility of the U.S. population, patient safety, and the financial impact of expanded dental assisting duties delegation. This position paper will be provided to the following: American Dental Association, American Dental Education Association, American Association of Dental Examiners,Academy of General Dentistry, U.S. Surgeon General, U.S. Department of Health and Human Services, State boards of dentistry, and State dental associations or societies. DANB and ADAA will continue to work together to enhance the dental assisting profession, the protection of the public, and the delivery of quality oral healthcare.

ADAA Membership

- *The Dental Assistant Journal*, published six times each year
- Free CE in two or three issues of *The Dental Assistant*
- Discounts on dental assisting continuing education
- Twice yearly newsletter for students
- Twice yearly newsletter for educators
- Free resume posting through www.dentalworkers.com
- Professional liability insurance
- Accidental death and dismemberment insurance
- Personal health, life, and disability insurance programs in most states for those qualified
- Discounts on many dental meeting and event registrations including ADAA's Annual Conference
- Free subscription to *Dental Equipment & Materials* magazine
- Free subscription to Linda Miles's newsletter *Dynamic Dentistry*
- Scholarships for members in dental assisting programs
- Participation in ADAA's governance at national, state, and local level
- Recognition through ADAA's annual member awards program
- A voice in state legislation through ADAA state legislative programs
- Increased recognition of ADAA members through industry outreach programs conducted by the American Dental Assistants Association Foundation
- Increased self-confidence and professional respect from peers and employers
- Travel and hotel discounts
- Credit card and financial programs for those who qualify
- Peer networking opportunities through state, local and national meetings.

DANB Certification

- National professional status as a CDA®, COA®, CDPMA®, and/or COMSA® or certificate of competency holder of RHS® or ICE® DANB credentials can increase salary, professional mobility and employment opportunities. DANB credentials are recognized or required in 36 states!
- Greater confidence and respect for the dental assistant's knowledge and skills by peers, employers, and patients
- Increase in professional pride and self-confidence
- Enhanced public safety for those patients treated in an office with an educated and credentialed assistant
- Valuable dental assisting information, including state legislative activities in DANB's *Certified Press* quarterly newsletter
- Recognition as a DANB Certified Assistant (CDA, COA, COMSA, and/or CDPMA) at regional and national dental meetings
- Opportunity to create resumes on www.dentalworkers.com that include DANB credential emblems
- DANB gifts to Certificants who attain anniversary milestones
- Availibilty of a unique professional resource, *DANB's State Fact Booklet*, and quality exam preparation resources: *The DANB Review*, *DANB's Glossary of Dental Assisting Terms*, *Task Analysis*, and *DANB's Item Writing Guide*
- Access to results of DANB research
- Liaison with state and federal legislators, State Dental Boards, and other state regulatory agencies
- Liaisons with other professional organizations, such as American Dental Association, American Dental Assistants Association, Organization for Safety and Asepsis Procedures, Academy of General Dentistry, and American Association of Oral and Maxillofacial Surgeons, among many others
- Official verification for employers and state

People News

Thomas C. Harrison, DDS, has won a state-wide election to the position of President-Elect of the Texas Dental Association. Dr. Harrison was elected to DANB's Board of Directors as an American Dental Association (ADA) representative in 1999; he is currently serving his second of two three-year terms.

Dr. Harrison is a general dentist in Katy, Texas, where he is an owner in a group practice employing 23 dental professionals. He has served as President of the Greater Houston Dental Society and on the advisory committee of the Houston Community College Dental Assisting Training Program. On the national level, he has been a member of the ADA's House of Delegates for the last 13 years. He is also a fellow of the American College of Dentists and the International College of Dentists.

Judy Nix, CDA, has retired from her position as Director of the ADA's Council on Dental Education and Licensure. **Karen Hart,** former Director of ADA's Commission on Dental Accreditation, has accepted the position of Director, Council on Dental Education and Licensure. While saddened to see Judy leave, we are excited that Karen has agreed to accept this position, as she has a wonderful understanding of educational issues of import to dental assistants, and will learn quickly all the intricacies of licensure in the oral healthcare arena.

Robert L. Nelson, MM, CPA, has joined DANB as Director of Administrative and Financial Services. **Katherine Landsberg, BA,** is the new Manager, Executive Liaisons, and **Sarah Atkinson, MA,** is Project Writer, Marketing and Communications. Other new DANB team members include Accounting Coordinator **Yolanda Williams,** Client Representative **Sandra Cervera,** and Office Services Assistant **Lizett Correa.**

Congratulations to Emeritus Certificants

- Peer networking opportunities through state, local and national meetings.

ADAA Mission

To advance the careers of dental assistants and to promote the dental assisting profession in matters of education, legislation, credentialing and professional activities which enhance the delivery of quality dental healthcare to the public.

Please share your ideas by contacting DANB at danbmail@danb.org or ADAA at adaa1@aol.com

and American Association of Oral and Maxillofacial Surgeons, among many others.

- Official verification for employers and state regulatory bodies of an assistant's DANB credential status or his/her passing status on RHS and ICE exams
- Speaker's Bureau on www.danb.org

DANB Mission

To promote the public good by providing credentialing services to the dental community. DANB accomplishes and measures the success of this mission by providing:

- *A properly governed, financially secure, administratively sound organization*
- *Valid dental assisting credentialing examinations*
- *Dental assisting recertification process integrity*
- *Visible, valuable, accessible DANB credentials*
- *Other testing services for groups within the dental community, as deemed appropriate*
- *Information services for the oral healthcare community related to dental assisting credentialing and recertification.*

DANB Pride

Continued from page 8

submitting a fee. Maintaining your DANB Certification is a way of demonstrating a commitment to lifelong learning in the profession.

There are many benefits to earning and maintaining DANB Certification as listed in Table 1. It is important to remember that Certification benefits more than just the dental assistant. Patients benefit, as well as the employers/dentists.DANB Certification provides assurance that the dental assistant has obtained the knowledge and skills to enable him or her to competently provide the patient with quality care. Certification can strengthen a patient's confidence in the dental team—a team that consists of a licensed dentist, a registered hygienist, and a DANB Certified Assistant.

Employers who are concerned about recruiting and building a qualified dental team know that DANB Certification signifies that the dental assistant has met or exceeded the national criterion established dental assisting, and elevates the professional practice standards for dental assistants.

On average, DANB Certified Assistants stay in the dental field nearly three times as long as their non-Certified colleagues—an average of 14.4 years, spending an average of 8.6 years with the same dentist employer! (Visit the DANB website at www.danb.org and download the DANB 2004 Salary Survey for more information.)

For the dental assistant, Certification provides a sense of personal achievement that can boost self-esteem and self-confidence. Being DANB Certified promotes an assistant's professional pride and achievement.

The demand for credentialed assistants is at an all time high and growing! Our profession needs educated, active, dedicated individuals. Be an active participant in YOUR chosen profession! Committed to excellence, we will continue to benefit from both our DANB

Congratulations to Emeritus Certificants

February 16, 2005–June 10, 2005

Name/State	Certification Date
Gail L. Bamer (ID)	7/31/84
Jo A. Collar (MI)	1/1/98
Sherry June Garner (NC)	9/26/94
Sandi Hedinger (OK)	1/1/95
Velma J. Hills (FL)	6/16/65
Darlynne A. Horn (WI)	7/23/96
Lorena Joyner (NJ)	5/24/74
Florine L. Marcell (AZ)	1/6/77
Susan C. Sheeler (CA)	7/23/79
Jennifer A. Smith (KS)	5/4/77
Marjorie Wanamaker (IN)	5/1/67
Merl G. Ward (CA)	7/24/94

For policy regarding Emeritus Status Certificants, see Page 6 of this issue, in the DANB Recertification Guidelines. There are currently 829 DANB Emeritus Status Certificants. For information on earning the Emeritus status, contact Stephanie Hondras, Executive Assistant, at 1-800-FOR-DANB x411.▲

Congratulations to a "You Could Be Next" Winner!

Patricia Mueller (CA), CDA since 1953, belonged to the CE numbers posted in last issue of *Certified Press* and discovered that she was a winner in DANB's *You Could Be Next* contest! She received a check for $50.

New DANB Certificants listings can be

Measuring Dental Assisting Excellence™

The Dental Assisting National Board, Inc.
676 North St. Clair • Suite 1880
Chicago, IL 60611

DANB Details

REACH DANB AT:

676 N. St. Clair, Suite 1880
Chicago, IL 60611

1-800-FOR-DANB or 312-642-3368
Fax: 312-642-1475

BOOKMARK DANB
www.danb.org
e-mail: danbmail@danb.org

Recertification/Audit/CDE.....x445
recert@danb.org
Marketing/Communications.....x444
marketing@danb.org
Test Administration.....x450
examdev@danb.org
Document Review.....x425
register@danb.org
Administration/Finance.....x420
finance@danb.org
Measurement.....x414
research@danb.org
DANB Press.....x415
publications@danb.org
Client Services.....1-800-FOR-DANB
danbmail@danb.org
Executive Assistant.....x411
execasst@danb.org
Speakers Bureau.....x438
danbmail@danb.org

Your phone calls are important to us. Please note that it is DANB's policy to return calls within two (2) business days.

You Could Be Next!

Match your CE number with one of the computerized randomly selected numbers listed below. Notify the DANB Marketing Department within 30 days of this newsletter's mailing to claim your $50 prize. Be sure to include your name, address and CE number.

066580	161038
119235	182480
141028	188527

The DANB Mission

DANB's mission is to promote the public good by providing credentialing services to the dental community. DANB accomplishes and measures the success of this mission through:

- a properly governed, financially secure, administratively sound organization;
- valid dental assisting exams;
- dental assisting recertification process integrity;
- visible, valuable and accessible DANB credentials;
- testing services for groups within the oral healthcare community and
- information services for the oral healthcare community related to dental assisting credentialing and recertification.

DANB National Test Dates

Mark your calendars with these important written exam dates and deadlines for 2005.

Written Exam Date	Application Deadline
October 14 or 15	August 26, 2005

Remember: Computerized exams can be taken year-round and do not have deadlines.

What's News

Appendix Z

Ref #28

Credentialing and the Dental Assisting Profession: A National Perspective

Course presented by CDAA/CSDA
Aquaturf, Plantsville, CT
March 16, 2005

Cynthia C. Durley, MEd, MBA
Executive Director, Dental Assisting National Board, Inc.
President-Elect, National Organization for Competency Assurance

Elizabeth A. Koch, MA, MPH
Director, Testing and Measurement, Dental Assisting National Board, Inc.

Definitions and types of credentials

Credentialing is the process by which an agent qualified to do so grants formal recognition to, or records the recognition status of individuals, organizations, institutions, programs, processes, services or products that meet predetermined and standardized criteria.

Credentialing is the umbrella term that includes the concepts of accreditation, licensure, registration, professional certification, and certificate program (knowledge-based certificate vs curriculum-based certificate vs certificate of attendance or participation – the latter of which is not a credential but is sometimes confused with one).

The **credentialing process** is essentially a method for maintaining quality standards of education and performance, and, in some cases, for stimulating continued self-improvement. Credentialing confers occupational identity.

Accreditation is the voluntary process by which a nongovernmental agency grants a time-limited recognition to an institution, organization, business, or other entity after verifying that it has met predetermined and standardized criteria.

Licensure is the mandatory process by which a governmental agency grants time-limited permission to an individual to engage in a given occupation after verifying that he/she has met predetermined and standardized criteria.

Registration has at least three meanings. (1) One is the governmental process by which a governmental agency grants a time-limited status on a registry, attesting to an individual's current ability and competency, similar to licensure. Its purpose is to maintain a continuous record of past and current achievements of that individual.

(2) In some states, an actual list of Registered Dental Assistants (RDAs) is maintained. In other states, while education and/or examination are required and assistants must be **registered**, the state does not keep track of RDAs, and leaves this to the discretion of the employer dentist.

(3) The third meaning of **registration** is simply a listing of practitioners maintained by a governmental entity, without educational, experiential, or competency-based requirements; for example, maintaining a list of practitioners on a state 'registry.'

Professional certification is the voluntary process by which a non-governmental entity grants a time-limited recognition to an individual after verifying that he or she has met predetermined and standardized criteria. It is the vehicle that a profession or occupation uses to regulate itself, using standards developed through a consensus-driven process, based on existing legal and psychometric requirements. The holder of a professional certification is called a **certificant.**

A potential 'disadvantage' to embarking on the development of a professional certification program is that it is difficult to 'sunset' such a program like an organization might discontinue other programs, services or events, because of long-term obligation to certificants, particularly if the voluntary certification is recognized as mandatory by some regulatory bodies.

Credentialing, in the form of accreditation, licensure, some forms of registration, or a professional certification program, conducted correctly, assures that a highly qualified, objective, recognized third party (the credentialing body) has examined this person, program, product or service and found it to meet defined, published, psychometrically sound, and legally defensible standards.

While the following are types of credentialing, these certificate programs are not held to the objective standards required of the other types of credentialing programs.

A certificate program is a comprehensive training program on a topic for which participants receive a certificate after completion of the coursework and successfully demonstrate attainment of the course objectives. One who completes a professional certificate program is known as a **certificate holder.**

There are three types of certificate programs: **knowledge-based certificate, curriculum-based certificate, and certificate of attendance or participation.**

A **knowledge-based certificate** emphasizes a relatively narrow scope of specialized knowledge used in performing duties or tasks required by a certain profession or occupation. This certificate is issued after the individual passes an assessment instrument.

A **curriculum-based certificate** is issued after an individual completes a course or series of courses and passes an assessment instrument. The content of the assessment is limited to the course content and therefore may not be completely representative of professional practice (and therefore it is not as defensible to use this or the knowledge-based type of certificate for regulatory purposes as compared to a professional certification program).

A **certificate of attendance or participation** is issued after an individual attends or participates in a particular meeting or course. Usually, there is no knowledge assessed prior to issuing this type of certificate. Of all items listed in this report, a certificate of attendance or participation is **not a credential**, because the recipients are not required to meet professional or trade standards.

When establishing minimum passing standards for the assessment of individuals, an organization should engage the services of a psychometrician. Therefore, the definition of psychometrics is also important to the consideration of a credentialing program or process.

Psychometrics: The science and technology of mental measurement, including psychology, behavioral science, education, statistics, and information technology.

A professional **psychometrician** is needed to

A. Design and analyze results of a job analysis or role delineation.
(for professional certification program)
B. Establish exam specifications based on a job analysis or role delineation.
(for professional certification program)
C. Select item format.
(for professional certification program or curriculum-based certificate process)
D. Facilitate exam development.
(for professional certification program or curriculum-based certificate process)
E. Facilitate passing standard study.
(for professional certification program or curriculum-based certificate process)
F. Advise on exam administration policies and procedures.
(for professional certification program or curriculum-based certificate process)
G. Analyze exam results.
(for professional certification program (though curriculum-based certificate process can use these services for ongoing quality assurance of the process))
H. Conduct ongoing research in the areas of reliability and validity.
(for professional certification program)

Comparing a Professional Certification Program and a Curriculum-Based Certificate Process

How else might one <u>generally</u> distinguish between a certification program and a certificate program?
In addition to the differentiating characteristics described above, a major distinction between a certification program and a certificate program is that **certification** includes (or should include) the concept of credential maintenance, or recertification. This process involves the enhancement and/or the evaluation of continued competence, with the emphasis on lifelong professional learning and development.

In contrast, a **knowledge-based or curriculum-based certificate program** often has a short 'shelf life.' To earn the certificate, individuals are exposed to and learn information and/or skills, and then take a test of some type. A professional disadvantage to a certificate program is that the knowledge gleaned to earn the certificate may be too generic to be useful in one's career, or may quickly become outdated. Certificate programs may become insufficient in and of

themselves for moving people forward in their careers. **These two statements are more often true of 'short courses' rather than formal courses of study at community colleges or vocational schools that lead to diplomas or certificates of completion.**

Purposes	Professional Certification Program	Curriculum-Based Certificate Process
A. Protect the public	X	X (depending on program length)
B. Elevate the profession	X	X (depending on whether it is a 'short course' or diploma course)
C. Establish standards of professional practice	X	
D. Ensure consumers that those in the profession have met professional standards	X	
E. Meet gov't regulatory requirements	X	X (sometimes is used, but may be too narrow to be representative of professional practice, and is not based on practice analysis)
F. Help members of an association/organization ward off gov't regulators	X	
G. Generate non-dues revenue	X	X (if 'short course')
H. Develop a customized credential to meet unique marketplace needs • Credential doesn't currently exist • Credential exists, but org wants to differentiate itself from competition • New technologies or procedures have developed into a new scope of practice/body of knowledge	X	
I. Meet the needs of employers to ID the 'best' or at least the 'competent'	X	X (if program leads to a diploma, NOT if 'short course')
J. Further a company's overall business goals – to ensure consumers have	X	X (if 'short course')

access to professionals knowledgeable about company's products		
K. Reflect attainment of knowledge in a rather narrowly defined, specific course of study or of specific technical skills recognized by a manufacturer		X (more true of 'short courses' – though some curricula are more restrictive in information than what is generated from practice analyses)
L. Demonstrate an individual's commitment to lifelong learning	X	

Certification Mark Issued? (i.e., CDA, RDH, etc.)	**Professional Certification Program**	**Curriculum-Based Certificate Process**
	X	

Requires Recertification To maintain the credential?	**Professional Certification Program**	**Curriculum-Based Certificate Process**
	X	

Can program be accredited or endorsed?	**Professional Certification Program**	**Curriculum-Based Certificate Process**
	Accredited - yes (~NCCA) Endorsed – yes (by industry manufacturers, gov't regulatory bodies	Accredited – no (though the institution offering the course may be accredited) Endorsed – yes by industry or manufacturers, and perhaps recognized as meeting *some* govt regulatory requirements

Legal/liability issues?	**Professional Certification Program**	**Curriculum-Based Certificate Process**
	X (relatively more)	**X (relatively less)**

For More Information

1. _____ Certification: A NOCA Handbook, Browning, A., Bugbee, A., and Mullins, M., Editors. National Organization for Competency Assurance, Washington, DC, 1996. (*Note that some chapters, including the section referring to NCCA Standards, are outdated. NOCA is working to develop a second edition, likely to be published in 2006.)*

2. _____ *NCCA Standards for the Accreditation of Certification Programs*, National Organization for Competency Assurance's National Commission for Certifying Agencies, 2003.

3. Early, L.A. Starting a Certification Program, 2nd Edition, National Organization for Competency Assurance's National Commission for Certifying Agencies, Washington, DC, 1998.

4. Jacobs, J.A. and Glassie, J.C. Certification and Accreditation Law Handbook, 2nd Edition, American Society of Association Executives, Washington, DC, 2004.

5. Knapp, L.G. and Knapp, J.E. The Business of Certification: A Comprehensive Guide to Developing a Successful Program, American Society of Association Executives, Washington, DC, 2002.

6. Styles, M.M. "Credentialing as a Global Profession in Progress," in Quality Assurance Through Credentialing, Volume I, Global Perspective, American Nurses Credentialing Center Institute for Research, Education, and Consultation, Washington, DC, 1999.

Appendix AA

Ref. #30

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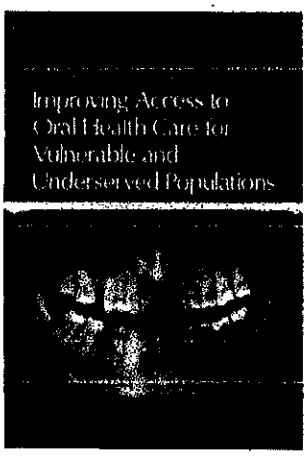
Improving Access to Oral Health Care for Vulnerable and Underserved Populations



Good health requires good oral health, yet millions of Americans lack access to basic oral health care. In 2008, 4.6 million children—1 out of every 16 children in the United States—did not receive needed dental care because their families could not afford it. Children are just one of the many vulnerable and underserved populations that face persistent, systemic barriers to accessing oral health care. While the majority of the U.S. population routinely obtains oral health care in traditional dental practice settings, oral health care eludes many vulnerable and underserved individuals—including racial and ethnic minorities, people with special health care needs, older adults, pregnant women, populations of lower socioeconomic status, and rural populations, among others. Lack of access to oral health care contributes to profound and enduring oral health disparities in the United States. Access is hampered by a variety of social, cultural, economic, structural, and geographic factors, but fortunately, opportunities exist in both the public and private sectors to reduce barriers to care.

Lack of access to oral health care contributes to profound and enduring oral health disparities in the United States.

In 2009, the Health Resources and Services Administration (HRSA) and the California HealthCare Foundation asked the Institute of Medicine (IOM) and the National Research Council (NRC) to convene a committee of experts to address access to oral health care in America for vulnerable and undeserved populations. The committee was charged to assess the current oral health care system, to develop a vision to improve oral health care for vulnerable and underserved populations, and to recommend strategies to achieve the vision.

Vision for Oral Health Care

The committee envisions oral health care in the United States in which everyone has access to quality oral health care across the life cycle.

To be successful, an evidence-based oral health system will:

- Eliminate barriers that contribute to oral health disparities;
- Prioritize disease prevention and health promotion;
- Provide oral health services in a variety of settings;
- Rely on a diverse and expanded array of providers who are competent, compensated, and authorized to provide evidence-based care;
- Include collaborative and multidisciplinary teams working across the health care system; and
- Foster continuous improvement and innovation.

In addition, the committee established two principles to guide its deliberations:

1. Oral health is an integral part of overall health, and therefore, oral health care is an essential component of comprehensive health care.
2. Oral health promotion and disease prevention are essential to any strategies aimed at improving access to care.

Integrating Oral Health Care into Overall Health Care

The committee concludes that the separation of oral health care from overall health care is a factor in limiting access to oral health care for many Americans. With proper training, nondental healthcare professionals, such as nurses, pharmacists, physician assistants, and physicians, could screen for oral diseases and deliver preventive care services. While several nondental health care education programs have made great strides in improving the oral health education and training of their students, these efforts have not spread widely through the professions. Instead of having each profession develop its own set of competencies, the committee recommends that HRSA convene key stakeholders to develop a core set of competencies that could apply to many nondental health professions. Over time, these competencies should be incorporated into certification testing and accreditation requirements to ensure adoption by health professional schools.

Creating Optimal Laws and Regulations

A variety of regulations and policies—such as scope of practice laws—determine who may provide oral health care, how it may be provided, and where. While education and training standards for accreditation are set nationally, regulations defining supervision and scope of practice parameters vary widely among states and even by procedure. Therefore, the committee recommends that state legislatures amend existing state laws to maximize access to oral health care. Changes would allow professionals to practice to the full extent of their education and training in a variety of settings and facilitate technology-based collaboration and supervision.

Improving Dental Education and Training

An improved and responsive dental education system is needed to ensure that current and future generations of dental professionals can deliver quality care to diverse populations in various settings. Providing students with clinical experiences in community-based settings and with patients with complex oral health care needs improves their comfort level in caring for vulnerable and underserved populations and increases

The committee envisions oral health care in the United States in which everyone has access to quality oral health care across the life cycle.

the likelihood that students will care for such populations in their future careers. Dental professional education programs should increase recruitment and support for students from underrepresented minority, lower–income, and rural populations; require student experiences in community based rotations; and recruit and retain faculty with expertise in caring for vulnerable and underserved populations. In addition, the committee recommends that HRSA dedicate Title VII funding to support these efforts as well as expand opportunities for dental residencies in community-based settings.

Reducing Financial and Administrative Barriers

Dental coverage is a major determinant of access to and utilization of oral health care. Publicly-funded programs, such as Medicaid, and the Children's Health Insurance Program (CHIP), are the primary sources of coverage for underserved and vulnerable individuals. Currently, all states are required to provide dental coverage for children enrolled in Medicaid and CHIP, but these same benefits are not required for adults on Medicaid. The committee concludes that dental coverage for all Medicaid beneficiaries is a critical and necessary goal. To examine the impact of expanding Medicaid coverage and determine the best implementation strategies, the committee recommends that the Centers for Medicare and Medicaid Services (CMS) fund and evaluate state-based demonstration projects. In addition, to increase provider participation in public programs, states should raise Medicaid and CHIP reimbursement rates so that beneficiaries have equitable access to services, streamline providers' administrative processes, and increase case management for beneficiaries.

Promoting Research

The committee identified a deficiency in the collection, analysis, and use of data related to oral health. For example, the paucity of oral health quality measures limits the findings that can be drawn regarding the relationship between specific services and procedures and longer-term oral health outcomes. Congress, federal agencies, including HHS, and private foundations should support oral health research and evaluation of: new methods and technologies for the delivery of oral health care to vulnerable and underserved populations; measures of access, quality, and outcomes; and payment and regulatory systems.

Expanding Capacity

State oral health programs play an important role in monitoring and analyzing the burden of oral diseases, which is critical to planning, implementation, and evaluation of dental public health services. The committee recommends that the Centers for Disease Control and Prevention and the Maternal and Child Health Bureau collaborate with states to ensure that each state has the infra-

structure and support necessary to perform core dental public health functions.

Expanding the capacity of Federally Qualified Health Centers (FQHCs) to deliver oral health care is another important way to meet the needs of vulnerable and underserved populations, as these centers are required by law to provide certain preventive oral health services. Therefore, the committee recommends that HRSA help improve the capacity of FQHCs by supporting the use of a variety of oral health care professionals and enhancing financial incentives for their recruitment and retention, providing guidance to FQHCs for best practices, and assisting FQHCs in the provision of oral health care outside of the physical facilities.

Conclusion

This report presents a vision for oral health care in the United States where everyone has access to quality oral health care throughout the life cycle. Realizing this vision will require numerous coordinated and sustained actions, with special attention to the distinct and varied needs of the nation's vulnerable and underserved populations. This will require flexibility and ingenuity among leaders at the federal, state, local, and community levels acting in concert with oral health and other health care professionals. The committee's recommendations provide a roadmap for the important and necessary next steps to improve access to oral health care, reduce oral health disparities, and improve the oral health of the nation's vulnerable and underserved populations.

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Appendix BB

Ref. #31

DPH WORKING DRAFT 12-18-2006

DRAFT An Act Concerning Dental Hygienists and Dental Assistants

Section 1. Subsection (a) of Section 20-126l of the 2006 supplement of the general statutes is repealed and the following is substituted in lieu thereof:

(a) As used in this section: (1) "General supervision of a licensed dentist" means supervision that authorizes dental hygiene procedures to be performed with the knowledge of said licensed dentist, whether or not the dentist is on the premises when such procedures are being performed;

(2) "Public health facility" means an institution, as defined in section 19a-490, a community health center, a group home, a school, a preschool operated by a local or regional board of education or a head start program; and

(3) The "practice of dental hygiene" means the performance of educational, preventive and therapeutic services including: Complete prophylaxis; the removal of calcerous deposits, accretions and stains from the supragingival and subgingival surfaces of the teeth by scaling, root planing and polishing; the application of pit and fissure sealants and topical solutions to exposed portions of the teeth; dental hygiene examinations and the charting of oral conditions; dental hygiene assessment, dental hygiene diagnosis, treatment planning and evaluation; dental triage; the administration of local anesthesia in accordance with the provisions of subsection (d) of this section; and collaboration in the implementation of the oral health care regimen.

(b) No person shall engage in the practice of dental hygiene unless such person (1) has a dental hygiene license issued by the Department of Public Health and (A) is practicing under the general supervision of a licensed dentist, or (B) has been practicing as a licensed dental hygienist for at least two years, is practicing in a public health facility and complies with the requirements of subsection (e) of this section, or (2) has a dental license.
(c) A dental hygienist licensed under sections 20-126h to 20-126w, inclusive, shall be known as a "dental hygienist" and no other person shall assume such title or use the abbreviation "R. D. H. " or any other words, letters or figures which indicate that the person using such words, letters or figures is a licensed dental hygienist. Any person who employs or permits any other person except a licensed dental hygienist to practice dental hygiene shall be subject to the penalties provided in section 20-126t.

(d) A licensed dental hygienist may administer local anesthesia, limited to infiltration and mandibular blocks, under the indirect supervision of a licensed dentist, provided the dental hygienist can demonstrate successful completion of a course of instruction containing basic and current concepts of local anesthesia and pain control in a program accredited by the Commission on Dental Accreditation, or its successor organization, that includes: (1) Twenty hours of didactic training, including, but not limited to, the psychology of pain management; a review of anatomy, physiology, pharmacology of anesthetic agents, emergency precautions and management, and client management; instruction on the safe and effective administration of anesthetic agents; and (2) eight hours of clinical training which includes the direct observation of the performance of procedures. For purposes of this subsection, "indirect supervision" means a licensed dentist authorizes and prescribes the use of local anesthesia for a patient and remains in the dental office or other location where the services are being performed by the dental hygienist.

(e) A licensed dental hygienist shall not perform the following dental services: (1) Diagnosis for dental procedures or dental treatment outside the oral health problem that a licensed dental hygienist is authorized to treat; (2) the cutting or removal of any hard or soft tissue or suturing; (3) the prescribing of drugs or medication which require the written or oral order of a licensed dentist or physician; (4) the administration of parenteral, inhalation or general anesthetic agents in connection with any dental operative procedure; (5) the taking of any impression of the teeth or jaws or the relationship of the teeth or jaws for the purpose of fabricating any appliance or prosthesis; (6) the placing, finishing and adjustment of temporary or final restorations, capping materials and cement bases.

(f) Each dental hygienist practicing in a public health facility shall (1) refer for treatment any patient with needs outside the dental hygienist's scope of practice, and (2) coordinate such referral for treatment to dentists licensed pursuant to chapter 379.

(g) All licensed dental hygienists applying for license renewal shall be required to participate in continuing education programs. The commissioner shall adopt regulations in accordance with the provisions of chapter 54 to: (1) Define basic requirements for continuing education programs, (2) delineate qualifying programs, (3) establish a system of control and reporting, and (4) provide for waiver of the continuing education requirement by the commissioner for good cause.

start

Sec. 2. Section 20-112a of the 2006 supplement of the general statutes is repealed and the following is substituted in lieu thereof:

(a) As used in this section:

(1) "dental assistants" means entry level dental assistants, certified dental assistants, non-certified dental assistants and expanded function dental assistants;

(2) "certified dental assistant" means a person who passes the certified dental assistant or certified orthodontic assistant examination of the Dental Assisting National Board and maintains a current Dental Assisting National Board Certified Dental Assistant credential;

(3) "direct supervision" means that a dentist has authorized the procedures to be performed, remains on-site in the dental office while the procedures are performed and that before dismissal, the dentist has reviewed and approved the treatment performed by the dental assistant;

(4) "entry level dental assistant" means a person who has completed on-the-job training in dental assisting under the direct supervision, control and responsibility of an employing, licensed dentist and who successfully completes the Infection Control Examination of the Dental Assisting National Board within six months employment or if employed prior to the effective date of this section within twelve months of the effective date of this section, an affidavit in support of which shall be kept on file by the employing dentist on the premises;

(5) "expanded function dental assistant" means a certified dental assistant or dental hygienist who has completed additional education and training in expanded functions of dental assisting offered by an institution that offers a dental education program accredited by the Commission on Dental Accreditation of the American Dental Association that includes a comprehensive clinical examination and passed a written proficiency examination in expanded functions according to Dental Assisting National Board standards, and who may only practice in a public

health setting as defined in Section 20-126l of the general statutes or a dental office that is actively participating in the Medicaid program.

(6) "non-certified dental assistant" means a person who has successfully completed a dental assistant education program accredited by the Commission on Dental Accreditation of the American Dental Association or a person who has no less than three thousand hours of experience as an entry-level dental assistant, and who has passed the Infection Control Examination and the Radiation Health and Safety Examination of the Dental Assisting National Board. The Radiation Health and Safety Examination of the Dental Assisting National Board must be successfully completed within 12 months of employment or if employed prior to the effective date of this section within 12 months of the effective date of this section, an affidavit in support of which shall be kept on file by the employment dentist on the premises;

(b) A licensed dentist may delegate to dental assistants such dental procedures as the dentist may deem advisable, including the taking of dental x-rays if the dental assistant can demonstrate successful completion of the dental radiography portion of an examination prescribed by the Dental Assisting National Board, but all such procedures shall be performed under the dentist's supervision and control and the dentist shall assume responsibility for all such procedures; provided such assistants may not engage in: (1) Diagnosis for dental procedures or dental treatment; (2) the cutting or removal of any hard or soft tissue[or suturing]; (3) the prescribing of drugs or medications that require the written or oral order of a licensed dentist or physician; (4) the administration of local, parenteral, inhalation or general anesthetic agents in connection with any dental operative procedure; (5) the taking of any impression of the teeth or jaws or the relationship of the teeth or jaws for the purpose of fabricating any final prosthesis; (6) the placing of direct pulp capping materials; or (7) the practice of dental hygiene as defined in section 20-126*l*. The Commissioner, with the advice and assistance from the state dental commission, shall adopt regulations, in accordance with chapter 54, to identify the type of procedures that may be performed by certified dental assistants, entry level dental assistants, expanded function dental assistants and non-certified dental assistants and delineate the levels of supervision required for such procedures. These regulations that identify the type of procedures that may be performed by certified dental assistants, entry level dental assistants, expanded function dental assistants and non-certified dental assistants and delineate the levels of supervision required for such procedures must be posted for patient and employee notification. In accordance with regulations adopted under this section, dental assistants may (1) work under the supervision of a licensed dental hygienist within a public health facility as defined in Section 20-126l of the general statutes; and (2) place, condense and carve amalgams; fabricate custom trays; perform coronal polishing related solely to restorations; place and cure composite resin restorations; and fit, size and place stainless steel and temporary crowns; and when in a public health facility working under a licensed dental hygienist, place cement bases and pit and fissure sealants, and apply topical fluoride.

Coronal Polishing

* (Based on Georgia rules and regulations)

"Polish the enamel and restorations of the anatomical crown; however, this procedure may only be executed through the use of a slow speed handpiece (not to exceed 10,000 rpm), rubber cup and polishing agent. This procedure shall in no way be represented to patient as a prophylaxis. This procedure shall be used only for the purpose of enamel preparation for: 1) Bleaching, 2) Cementation of fixed restorations, 3) Bonding procedures including supramarginal enamel restorations after removal of orthodontic appliances. No direct charge shall be made to the patient or to any 3rd party payer for such procedure."

(c) The Expanded Function Dental Assistant must:
  (1) maintain certified dental assisting status with the Dental Assisting National Board and/or the dental hygienist expanded function dental assistant maintain RDH licensure in good standing;
  (2) conspicuously display the certificate for expanded function dental assistant in the place of employment where such expanded functions will be exercised;
  (3) maintain professional liability insurance or other indemnity against liability for professional malpractice while employed in such capacity.

A CDA certified in EFDA in another state may practice in Connecticut if the dental assistant meets all criteria and has completed an EFDA program with the minimum requirements listed below and successfully passes a standardized comprehensive written and clinical examination offered at an institution qualified to offer EFDA education in Connecticut:

(a) The candidate's certificate is current and in good standing.
(b) The expanded functions program was taken and successfully completed at an institution with a CODA program.
(c) The program provided a combination of 70 didactic and laboratory hours and 43 clinical hours.

Sec. 3. (NEW) The Commissioner of Public Health shall establish an ad hoc committee for the purpose of assisting the commissioner in examining the use of dental hygienists as midlevel dental providers. Other topics may be included at the discretion of the commissioner. The committee shall hold its first meeting not later than July 15, 2007. The ad hoc committee shall be appointed by the commissioner and shall consist of (A) three members of the Department of Public Health, (B) one representative from the Connecticut State Dental Commission, (C) two dentists recommended by the Connecticut Dental Association, one of whom works in private practice and one of whom works in a public health facility, and (D) three dental hygienists recommended by the Connecticut Dental Hygienists Association, one of whom works in private practice, one of whom works in a public health facility, and one of whom is an educator. (E) three dental assistants recommended by the Connecticut Dental Assistants Association, one of whom works in private practice, one of whom works in a public health facility, and one of whom is an educator. The Commissioner of Public Health shall be an ex-officio member with full voting rights. The Commissioner of Public Health may expand the membership of the ad hoc committee to include representatives from related fields if the commissioner decides such expansion would be useful. On or before January 1, 2008, the Commissioner of Public Health shall submit a report on the progress of the ad hoc committee to the to the joint standing committee of the General Assembly having cognizance of matters relating to public health, in accordance with section 11-4a of the general statutes.

Revised 1/20/2007, 8/12/2008, 12/16/08

Appendix CC

Ref. #32

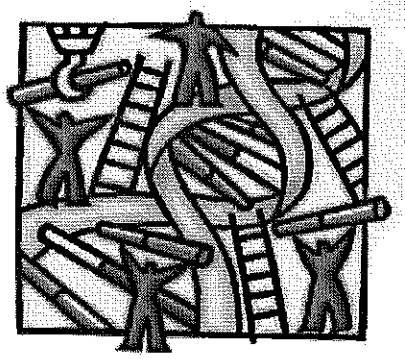
Current Labor Market Statistics For Dental Assistants in Connecticut

Occupation	2002	2012	% Change	Annual Growth	Annual Openings
Dental Assisting	3,460	4,030	16.5%	57	154

Connecticut Department of Labor, January 2005

Providing A Career Ladder For Dental Auxiliary Advancement And Retention

- "The American Dental Assisting Association and The Dental Assisting National Board are proponents of EFDA's as a means of professional growth and advancement to increase employment retention."



Proposed Career Ladder Levels

1. Entry Level DA 1
2. Dental Assistant DA 2
3. Certified Dental Assistant
4. Expanded Functions Dental Assistant

DANB/ADAA Category A

"These are the most basic dental assisting tasks. No minimum education, training, or experience should be required to perform the task (though the task may require a short orientation to perform it). In order to perform a task in Category A, the assistant needs only to be provided with short, one-time verbal instructions or read a short instruction sheet."

Entry Level Dental Assistant

DA Level 1

- Performs the most basic dental assisting tasks;
- No minimum training or education is needed to perform the task – only verbal instruction;
- Must take and successfully pass the DANB ICE within 1 year of initial dental assisting employment (or 1 year of date of this statute) to perform designated services;
- Direct supervision by dentist or registered dental hygienist at all times.

DANB/ADAA Category B

"These tasks are of low to moderate complexity, requiring less than 2 years of full-time or up to 4 years of part-time dental assisting work experience OR up to 12 months of formal education or training. (These tasks in Category B are appropriate for relatively new On-the-job Trained Assistants (OJTs) and students currently enrolled in a formal dental assisting education program.)

Passing DANB's RHS, ICE and a state-specific jurisprudence exam and/or a state-specific expanded functions exam, constructed according to nationally accepted psychometric standards, could fulfill Category B requirements."

Dental Assistant

DA Level 2

- Performs tasks of low to moderate complexity;
- Must have successfully passed DANB ICE and DANB RHS;
- Direct supervision by dentist or dental hygienist except where otherwise noted.

DANB/ADAA Category C

"These tasks are of moderate complexity, requiring 2+ years of full-time or 4+ years of part-time work experience (or some combination of full-time and part-time experience) OR at least 12 months of formal education. (Tasks in Category C are appropriate for dental assistants who have completed a formal dental assisting education program or who are highly experienced OJTs).

Passing DANB's CDA exam or a state-specific RDA exam, constructed according to nationally accepted psychometric standards, could fulfill Category C requirements."

Certified Dental Assistant

DA Level 3

- Performs tasks of moderate complexity;
- Must have successfully passed DANB CDA and maintain CDA credential with DANB (which includes mandatory CEU's);
- Indirect supervision by dentist or registered dental hygienist for most duties except where noted otherwise.

DANB/ADAA Category D

"These tasks are most complex. In order to perform Category D tasks, the dental assistant would require specific, advanced education or training required in addition to or beyond the level required for Category C tasks.

Passing competency tests in the expanded functions, constructed according to nationally accepted psychometric standards, could fulfill Category D requirements."

Expanded Functions Dental Assistant

- Performs the most complex tasks;
- Requires a CDA in good standing who has graduated from a specific, advanced education program for expanded functions of dental assisting (as designated in the attached list of tasks) from an institution with a dental assisting program accredited by CODA and successfully passed clinical examination at the CODA accredited institution and written proficiency examination administered by DANB;
- Registered by State;
- Must maintain CDA certification with DANB;
- Designated supervision on chart by dentist or registered dental hygienist